



Central Indiana



Regional Active Transportation Plan



ACKNOWLEDGMENTS

MPO STAFF TEAM

Andrew Magee, *Senior Planner, Project Manager*

Jen Higginbotham, *Principal Planner*

Danielle Frey, *Engagement Specialist*

Anna M. Gremling, *Executive Director*

PREPARED BY

TOOLE
DESIGN

TAYLOR
SIEFKER
WILLIAMS
design group
landscape architecture | community planning | urban design | visioning | strategic planning

Title VI Statement

The Indianapolis Metropolitan Planning Organization (IMPO) values each individual's civil rights and wishes to provide equal opportunity and equitable service. As a recipient of federal funds, the IMPO conforms to Title VI of the Civil Rights Act of 1964 (Title VI) and all related statutes, regulations, and directives, which provide that no person shall be excluded from participation in, denied benefits of, or subjected to discrimination under any program or activity receiving federal financial assistance from the IMPO on the grounds of race, color, age, sex, sexual orientation, gender identity, disability, national origin, religion, income status or limited English proficiency. The IMPO further assures every effort will be made to ensure nondiscrimination in all of its programs and activities, regardless of whether those programs and activities are federally funded. For any and all inquiries regarding the application of this accessibility statement and related policies, please view the IMPO Title VI page, indympo.org/policies.

Language Access

If information is needed in another language, contact 317-327-5136. Si se necesita información en otro idioma, comuníquese con 317-327-5136.

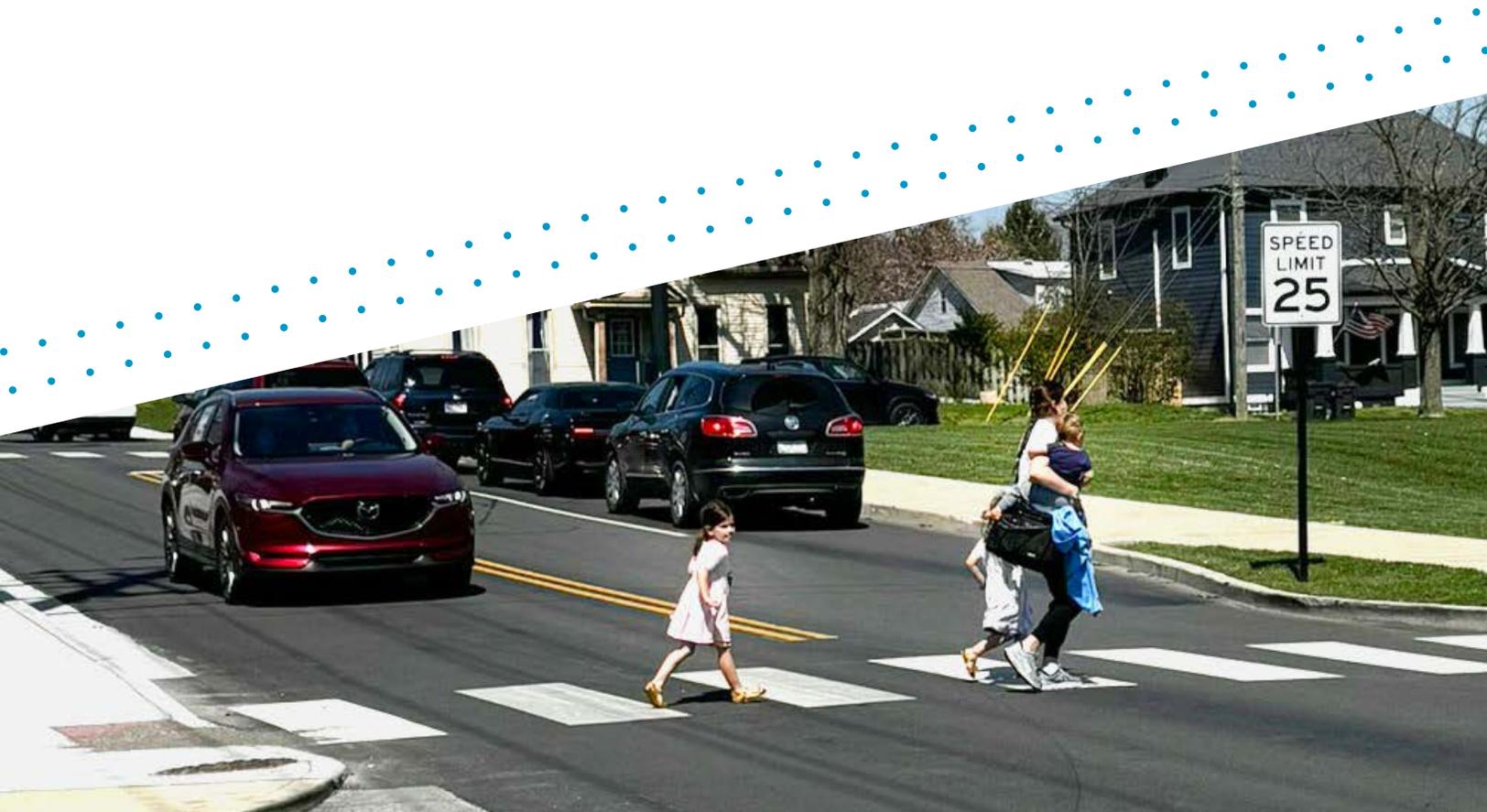
INDOT/FHWA

This plan was prepared in cooperation with the State of Indiana, the Indiana Department of Transportation, and the Federal Highway Administration. This financial assistance notwithstanding, the contents of this document do not necessarily reflect the official view or policies of the funding agencies.



CONTENTS

Introduction.....	4	Recommendations.....	44
Vision and Goals	5	Project Prioritization	45
Previous Plans & Relevant Initiatives	6	Regional Network Priorities	48
Engagement	8	Regional Policy and Program Recommendations	63
Engagement Strategies	9	Local Policy and Program Considerations and Recommendations	66
Engagement Outcomes	12	Implementation.....	68
Existing Conditions.....	14	Facility Selection and Design.....	69
Population and Regional Context.....	15	Regional Key Performance Indicators.....	78
Analyses	23	Funding	79
Network Screening.....	27	Maintenance	81
Safety Analyses	41		
Key Takeaways	43		



CHAPTER 01: INTRODUCTION



Every day, thousands of people across Central Indiana choose to walk, bike, and roll for transportation or recreation. This Active Transportation Plan (ATP) will guide the Indianapolis Metropolitan Planning Organization (The Indianapolis MPO) in developing a safe and connected network for pedestrians and bicyclists that encourages more active transportation across the region.

The purpose of this ATP is to guide Indianapolis MPO staff in implementing a connected network of regional trails, bikeways, and sidewalks and serve as a planning resource for local governments in Central Indiana. The plan identifies priority gaps in the regional active transportation network and includes specific recommendations for policies and programs to support active transportation implementation.

This ATP builds upon the 2020 Regional Pedestrian Plan and 2020 Regional Bikeways Plan (see Section for more detail) and incorporates new analyses and new recommendations for micromobility.

What is Active Transportation?

“Active Transportation” is an umbrella term for all the ways people can get around without using a motorized vehicle – walking or biking, using mobility assistance devices (such as wheelchairs), skating or skateboarding, and more. Active transportation can also include micromobility or lightweight electric-powered devices like e-bikes and e-scooters.

What is Micromobility?

Micromobility refers to lightweight, electric-powered vehicles with relatively low speeds such as electric bicycles (e-bikes) or electric scooters (e-scooters).

Vision and Goals

The ATP is guided by the vision and goals, which were informed by previous planning processes, community input, and stakeholder engagement.

Vision:

A safe, connected, accessible, and world-class active transportation network for people walking, biking, and rolling that supports improved health and economic outcomes for Central Indiana residents.

Goals:

- **Safety** – Protect the lives of Central Indiana residents walking, biking, and rolling anywhere in the region.
- **Equity/Fairness** – Prioritize safe and comfortable active transportation connections for people in under-resourced communities.
- **Health** – Build active transportation networks that enhance the health of Central Indiana residents.
- **Connectivity** – Create a connected regional active transportation network that ties into local neighborhoods.
- **Economic Opportunity** – Prioritize active transportation connections that improve access to education, training, and jobs.
- **Regionalism** – Build strong connections between communities.

Previous Plans & Relevant Initiatives

This ATP is intended to build upon the efforts of the 2020 Regional Pedestrian Plan and 2020 Regional Bikeways Plan. It was also developed in coordination with ongoing multimodal initiatives led by the Indianapolis MPO and IndyGo. This ATP looks to these previous plans and relevant initiatives for existing data, identified challenges and opportunities, and recommendations support. A summary of the key prior and related planning efforts is provided in the following sub-sections.

2020 Regional Pedestrian Plan

The recommendations and implementation strategies in the 2020 Regional Pedestrian Plan were guided by a series of long-term goals and objectives developed with input from community members, Steering Committee members, and local government agencies. The Indianapolis MPO identified and ranked regional priority investment areas for pedestrian improvements using a data-based prioritization process refined through stakeholder feedback.

2020 Regional Bikeways Plan

The 2020 Indianapolis MPO Regional Bikeways Plan included a heavy focus on data analysis. The plan provided a public-facing online map of regional Level of Traffic Stress, an inventory of open and proposed bikeways, and bike count data collection from twenty priority sites around Central Indiana. The identified recommendations were a list of strategies for local governments to implement. They were informed by the aforementioned data analysis, public input, and Steering Committee guidance.

What is Trail Oriented Development (TrOD)?

A compact development pattern clustered around off-street walking and biking infrastructure that is mixed use, residential, and/or commercial. TrOD is walkable & human-scaled, oriented to trail users and intended to create vibrant places that promote active transportation and recreation.

What is Bus Rapid Transit (BRT)?

BRT is a fixed route system of mass transit that is intended to emulate light rail service features in a cost-effective way. BRT service is meant to be frequent, reliable, and comfortable.

Source: <https://indygo.net/bus-rapid-transit/>

Recent Progress

Since the Regional Pedestrian and Bikeways plans were adopted in 2020, the Indianapolis MPO has implemented many of the key recommendations including:

- Increasing the target allocation for pedestrian and bicycle projects in the newest MTP and TIP update
- Maintaining the target allocation for transit funding
- Expanding the regional bikeway network dataset
- Expanding the Ride Guide resource including:
 - » updating the inventory of open and proposed bikeways
 - » adding points of interest for bike and trail amenities like water fountains, public restrooms, bike repair stations, bike shops, bike racks, bike lockers, trailheads and access points
- Collecting and monitoring pedestrian and bicycle crash data

Trail-Oriented Development Plan

Concurrent with this ATP, the Indianapolis MPO developed a Trail Oriented Development Plan and Toolkit to inform transportation and economic development planning in nodes along regionally significant trails. The guidelines include ten typologies and design guidance to promote quality development, mobility, safety, and comfort in these nodes. This includes development aspects relevant to active transportation and micromobility including crossings, lighting, trail design, signage, and active-transportation supportive amenities like benches and shade.

IndyGo BRT Network

IndyGo is in the process of implementing a regional Bus Rapid Transit (BRT) system that connects residents across Central Indiana to the places they need and want to go. The 13-mile Red Line opened in 2019 and was the first BRT project in Indianapolis. IndyGo, local governments, and other relevant regional agencies are currently in the process of designing and implementing two future lines – the 15-mile Purple Line, anticipated to begin service by the end of 2024, and the 24-mile Blue Line. Transit trips often start with walking or biking, making active transportation planning an essential element of preparing for BRT expansion.



CHAPTER 02: ENGAGEMENT



Engagement Strategies

Community engagement was essential to the development of this ATP. Involving the public builds trust in the plan and improves the overall quality of findings. Public and stakeholder input was collected through a number of strategies, including Steering Committee meetings, online web map surveys, focus groups, and community pop-ups.

Public Agency and Community Stakeholder Engagement

Steering Committee Meetings

The ATP planning process was guided by a multijurisdictional Steering Committee of local leaders, local government representatives, and transportation agency stakeholders. The Steering Committee provided input at each key phase – visioning and goals, review of existing conditions, recommendations development, and project prioritization. Steering Committee members are listed in [Appendix A](#).

The Steering Committee met four times over the course of plan development.

- **Meeting 1** was held in March 2023 and kicked off the planning process. The first meeting introduced project purpose and approach. Steering Committee members reviewed summaries of the 2020 Regional Bikeways and Regional Pedestrian Plans and discussed their vision for a safe, walkable, and bikeable Central Indiana. This meeting also included a preliminary discussion of challenges and barriers to ATP implementation, which helped guide the project team in identifying planning process priorities.

- **Meeting 2** was held in July 2023. The group discussed the approach to ATP infrastructure and non-infrastructure recommendations. Steering Committee members provided guidance on how regional projects should be identified and discussed potential active transportation policy and programs to include in the ATP.
- **Meeting 3** was held in November 2023. In this meeting, Steering Committee members reviewed key takeaways from the input received through the online survey, focus groups, and community conversations. They then discussed an updated approach to ATP recommendations development and gave input on project prioritization methodology.
- **Meeting 4** was held in March 2024. The Steering Committee reviewed the final plan content, discussed the results of the data-driven prioritization, and discussed the final regional policy and program recommendations.

Focus Groups

In June 2023, the project team hosted four focus groups. Attendees included stakeholders with various community interests and interdepartmental local government staff from across the region. The focus group structure allowed for in-depth discussion about participants' personal experiences walking and biking in Central Indiana, professional challenges to active transportation planning and implementation, and priorities to include in the Indianapolis MPO ATP.

Focus group participants were invited by the Indianapolis MPO to participate in one of four focus groups:

- **Bicycle and Community Advocates** included community leaders from organizations including Bike Indianapolis, Visit Indy, Health by Design, and Black Girls Do Bike. Participants talked with the project team about the major challenges that Central Indiana residents face when walking and biking; these include lack of connected facilities, maintenance concerns, lack of bike parking, and a dominant culture that is hostile towards people who walk and bike for transportation.

- **Urban Core Communities** were represented by various local agency staff whose work is primarily active transportation related. Participants had in-depth discussion about various challenges like funding and interagency coordination and shared the priorities they want to see addressed in the ATP.
- **Suburban and Rural Communities** were similarly represented by local agency transportation staff. Discussion focused on their unique challenges and priorities including land acquisition, staff capacity limitations, Safe Routes to School needs, and rural connections to regional greenways.
- **Economic Development and Land Use Professionals** provided useful insight on how various communities are currently coordinating active transportation investments with land use and economic development decision-making. They also discussed future trends and priorities such as bikeshare, bike parking policies, proximity to trails, and code updates that support integrated land use and transportation planning.

A list of focus group participants is available in [Appendix B](#).

Check out Olatunji Oboi Reed's Summer Speaker Series presentation on YouTube! https://youtu.be/DDDrbMEoT-8?si=SQEiIGi5A_DPgMDc

Active Transportation Speaker Series

In 2023, the Indianapolis MPO hosted a Summer Speaker Series on varying topics. The active transportation session was hosted in July 2023, where Olatunji Oboi Reed, President and CEO of The Equitcity Racial Equity Movement, was invited to present to local leaders and advocates on how to plan and implement active transportation in a way that centers racial equity. The presentation was well-received and ended with a question-and-answer panel moderated by local advocate and Far Eastside resident Cheria Caldwell.

In addition to his presentation, Oboi held a roundtable discussion with local stakeholders to discuss their specific challenges and share his expertise.

Public Engagement

Community Conversations

In July 2023, the project team hosted two public pop-ups to discuss active transportation in the region. Instead of a public meeting format, these events were hosted in the community at existing events to meet Central Indiana residents where they are. The first pop-up was at a Greenfield Summer Concert event and the second event was in Carmel at Coffee on the Monon.

At the two events, project team members discussed the topics and goals of the ATP and directed community members to the online visioning survey to share additional feedback. Discussion topics at the two events included how the strategies and recommendations will impact funding of projects, overall regional connectivity, and location specific gaps in the local networks.

Online Visioning Survey

In June 2023, the MPO released a public survey to receive input from residents on the local issues and opportunities they would like to see addressed by the Regional Active Transportation Plan. This online survey was open for an entire month, during which time a total of 280 residents completed the survey. The survey was promoted at multiple events including Bike to Work Day and the Earth Day Festival.

The survey included a map component, which allowed survey respondents to indicate specific locations where they have challenges while biking, walking, scootering, or using another mode of transportation. Figure 1 is a map of the locations identified as having challenges by survey respondents.

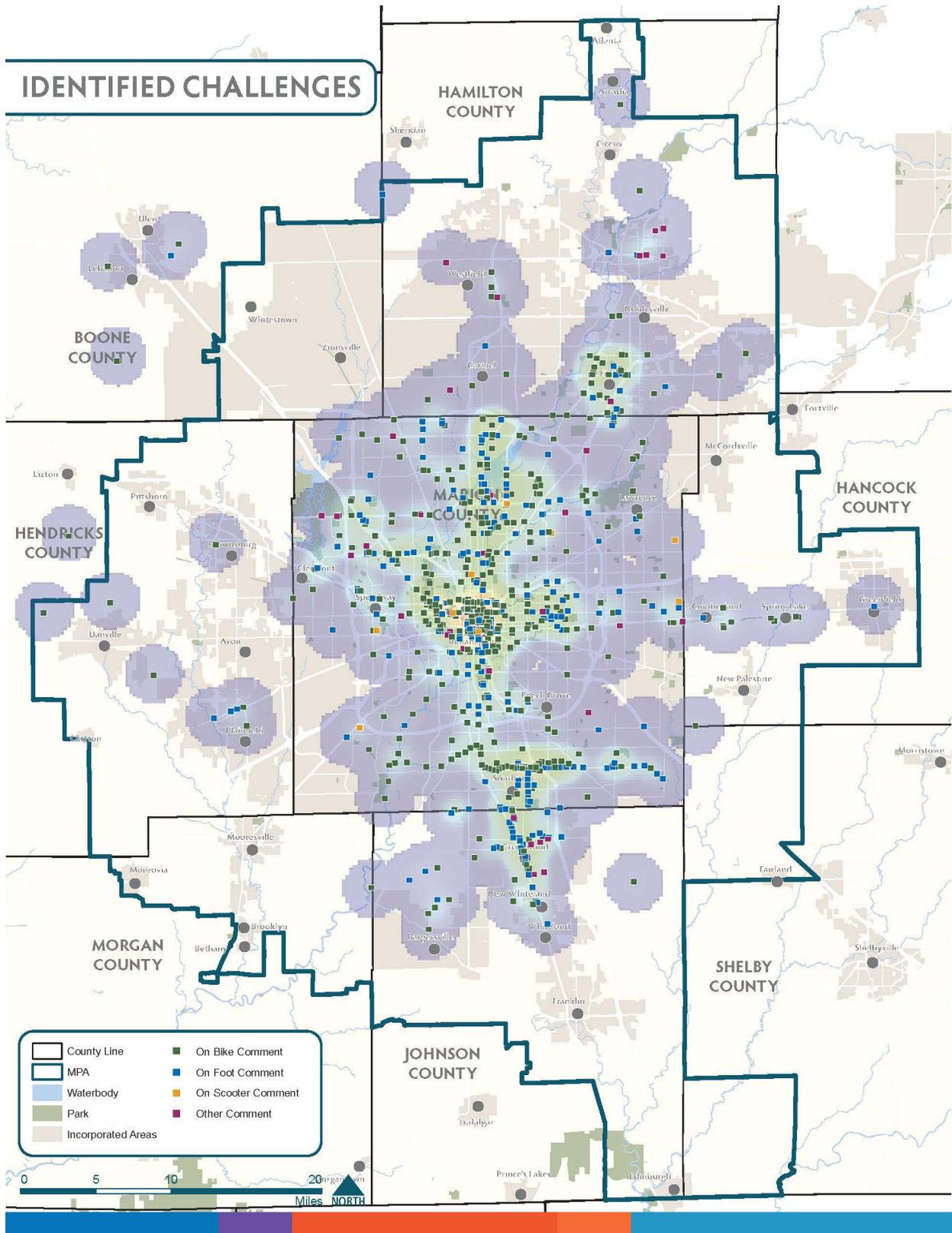


Figure 1: Identified challenges from public online visioning survey

The online visioning survey also asked respondents to provide input on the goal areas of the ATP and how they should be prioritized when the Indianapolis MPO is distributing MPO-managed funds. Responses are shown in Figure 2.

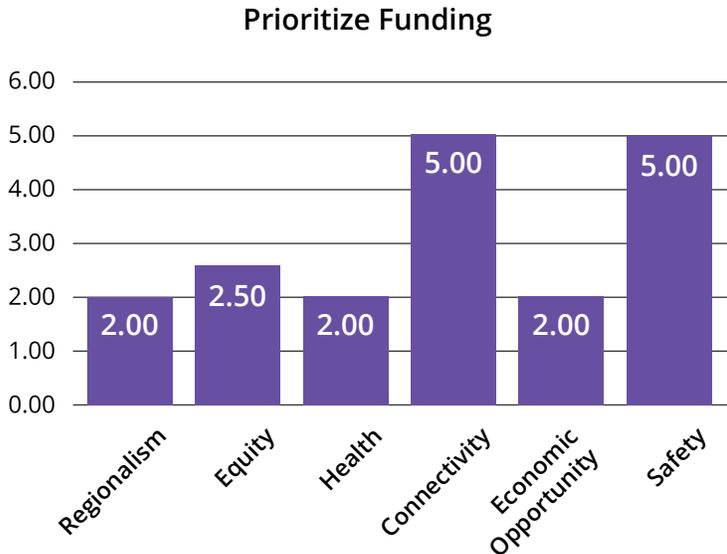


Figure 2: Survey responses to: *How important are the following to you when it comes to funding active transportation projects in Central Indiana?*

Engagement Outcomes

Through the stakeholder and public engagement strategies described above, the project team identified the key themes described below.

Safety is a top priority.

- People feel unsafe when they are unprotected while biking or walking near fast-moving traffic and/or high volumes of vehicle traffic.
- Funding for active transportation in Central Indiana should address the High Injury Network and High Crash Intersections identified in the Safe Streets and Roads for All Action Plan.

Gaps in the regional network prevent Central Indiana residents from accessing the places they need and want to go.

- Whether walking and biking for transportation or recreation, gaps in the regional active transportation network are a barrier for accessing K-12 schools, jobs, grocery stores, transit stops, trailheads, and other local and regional amenities.
- Equitable access for all people regardless of age, disability status, income, or number of vehicles is important to Central Indiana residents.
- Gaps in the sidewalk network present a barrier to safe access to public transportation.

Driver behavior contributes to feelings of discomfort while walking, biking, and using micromobility.

- Speeding and lack of driver awareness are a major barrier to safe walking, biking, and scootering. Central Indiana residents want to see more physical infrastructure to protect bicyclists and pedestrians
- Painted bike lanes are insufficient for people’s needs. There is support for lane reconfigurations, protected intersections, and traffic calming infrastructure like speed bumps.

Amenities like signage and wayfinding, lighting, and parking are also important for improving the experience of walking and bicycling in Central Indiana.

- Lighting is particularly important not just for comfort, but for safety and visibility.

Understanding the Indianapolis MPO’s priorities will help local government agencies better pursue funding.

- The Indianapolis MPO’s leadership on identifying regional active transportation network priorities, supporting local implementation, and guiding multijurisdictional collaboration can help local governments strategize about funding options.

THIS PAGE IS INTENTIONALLY LEFT BLANK.

CHAPTER 03: EXISTING CONDITIONS



This chapter provides an overview of the Central Indiana regional active transportation system. It presents a demographic profile of the Central Indiana region and a plan and policy review summarizing existing active transportation and related efforts to date, framing the current planning process as a logical next step in the evolution of active transportation in the Central Indiana region. This chapter also includes a set of analyses that examine the active transportation system from various perspectives (e.g., equity, safety, connectivity).

Population and Regional Context

Demographic Profile

The Indianapolis Metropolitan Planning Organization is the designated MPO for Central Indiana which consists of urbanized and rural areas in Central Indiana. Counties within the IMPO's planning area include Boone County, Hamilton County, Hancock County, Hendricks County, Johnson County, Marion County, Morgan County, and Shelby County. Indianapolis is the county seat of Marion County, Indiana, and the largest city in the state. The Indianapolis MPO boundary area covers approximately 1,500 square miles and the eight-county area is home to 1.93 million residents¹.

Over the past ten years, the region has experienced economic renewal, resulting in new jobs, and attracting new residents to the region. The Central Indiana region has seen a population growth of 8.2% and job growth of 21.1% from 2010 to 2019. The only comparable region that outperformed Indianapolis in job and population growth during this time period is the Columbus, Ohio region². An Active Transportation Plan complements the further development of the region by identifying where there are opportunities to increase and promote access to

walking and bicycling. Investing in walking and bicycling amenities and facilities will allow the region to retain new employers and residents who value all aspects of quality of life.

The median value of owner-occupied housing in the Indianapolis MPO area in 2022 was \$266,200 compared to \$208,700 statewide. Figure 7 displays the regional population density for the MPA. The largest residential densities of urban townhomes, apartments, multifamily are located within Indianapolis, while the remaining areas within the MPA consists of pockets of very rural, rural, and single-family residency. In terms of income and poverty in the Indianapolis region, there is a slight gap between the average for Indiana and the region with the median household income in the region being \$76,829 compared to \$66,785 statewide and the percentage of persons in poverty being 11.0 percent compared to 12.6 percent statewide³⁴. By improving our active transportation and recreation amenities and increasing access to existing destinations, we can lower the overall household costs for transportation and provide safer active transportation travel for everyone.

Table 1: IMPO Boundary Area Demographics (8-County Area)⁵⁶⁷⁸

Category		Percent	Category		Percent
Race (Total 1,926,957)	White alone	68.51%	Commute Mode Share (Total 966,119)	Drove alone	76.6%
	Black or African American alone	15.97%		Carpooled	8.2%
	American Indian and Alaska Native alone	0.06%		Public transportation (excluding taxicab)	0.7%
	Asian alone	3.97%		Bicycle	0.3%
	Native Hawaiian and Other Pacific Islander alone	0.02%		Walked	1.3%
	Some other race alone	0.46%		Taxicab, motorcycle, or other means	0.9%
	Two or more races	3.42%		Worked from home	12.1%
	Hispanic or Latino	7.58%			
Age (Total 1,926,957)	Under 5 years	6.4%			
	5 to 9 years	6.9%			
	10 to 14 years	7.1%			
	15 to 17 years	4.2%			
	18 and 19 years	2.5%			
	20 years	1.2%			
	21 years	1.2%			
	22 to 24 years	4.0%			
	25 to 29 years	7.2%			
	30 to 34 years	7.2%			
	35 to 39 years	7.2%			
	40 to 44 years	6.5%			
	45 to 49 years	6.3%			
	50 to 54 years	6.2%			
	55 to 59 years	6.4%			
	60 and 61 years	2.5%			
	62 to 64 years	3.3%			
	65 and 66 years	2.0%			
	67 to 69 years	2.7%			
70 to 74 years	3.6%				
75 to 79 years	2.3%				
80 to 84 years	1.4%				
85 years and over	1.6%				
Vehicles Available by Household (Total 750,818)	No vehicle available	5.6%			
	1 vehicle available	32.9%			
	2 vehicles available	40.6%			
	3 vehicles available	14.4%			
	4 or more vehicles available	6.5%			

5-year data from the American Community Survey (2022) provides Race, Age, Car Ownership by Household, and Commute Mode Share percentages for the Indianapolis Region. The results are included in the following figures (Figure 3, Figure 4, Figure 5, and Figure 6) and show that the Indianapolis Region is a diverse and auto-oriented city with 1.6 percent of commuters walking or cycling and 0.7

percent utilizing public transit. The small number of bicyclists, pedestrians, and those taking transit as a form of commuting indicates an opportunity to grow the number of active transportation users. Taking time to understand what prevents residents from walking or cycling will help us address those barriers and shift the community’s culture.

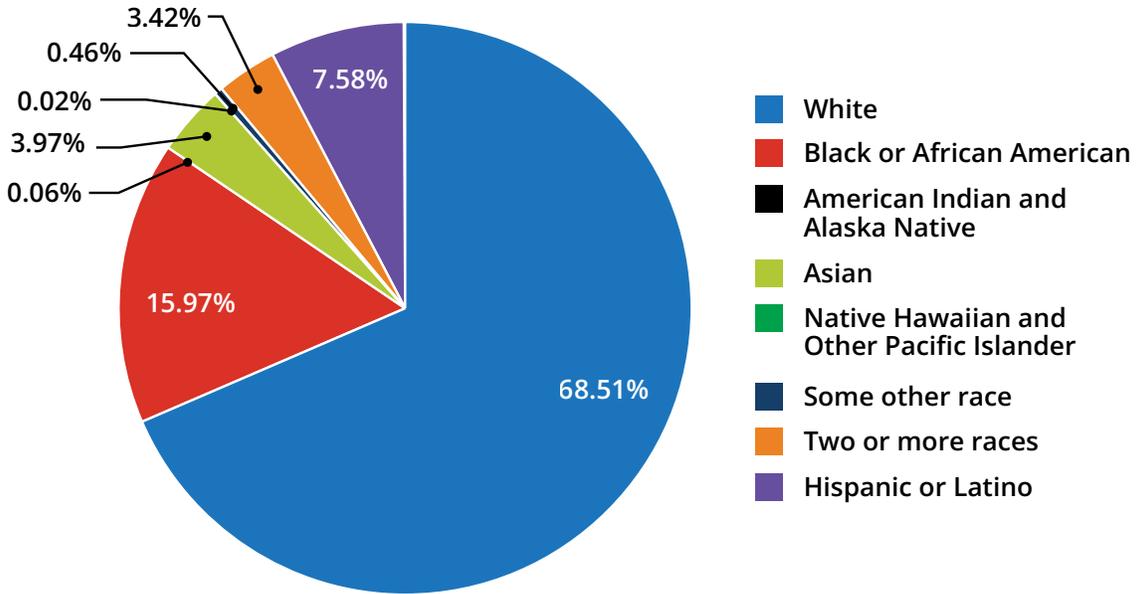


Figure 3: Race and Ethnicity for 8-County Area, Census ACS 2022 5-Year Estimates

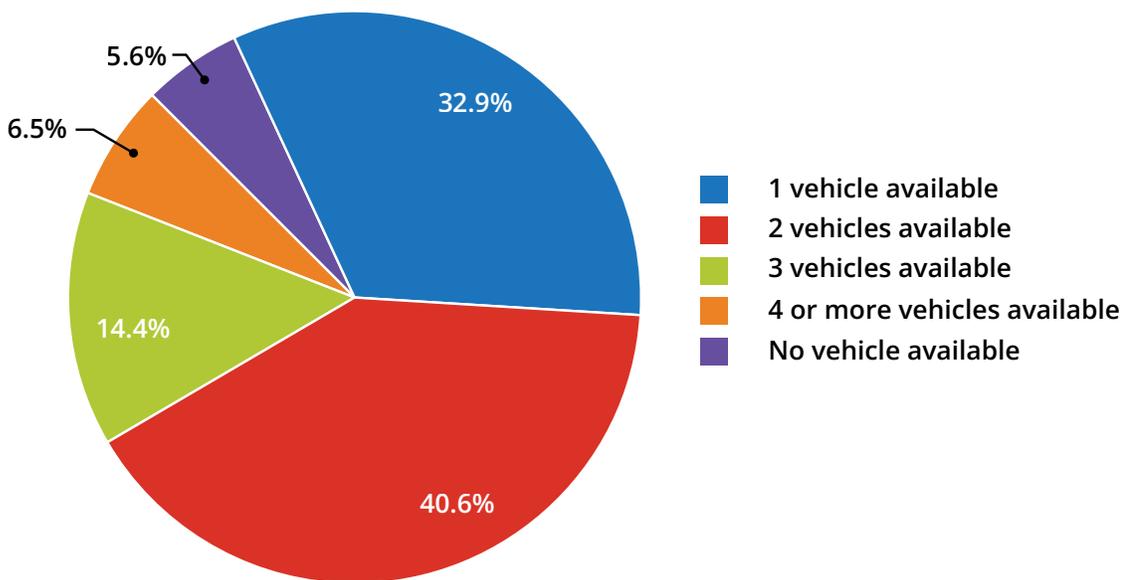


Figure 4: Vehicles Available Per Household for 8-County Area, Census ACS 2022 5-Year Estimates

Means of Transportation to Work, Workers 16 Years and over

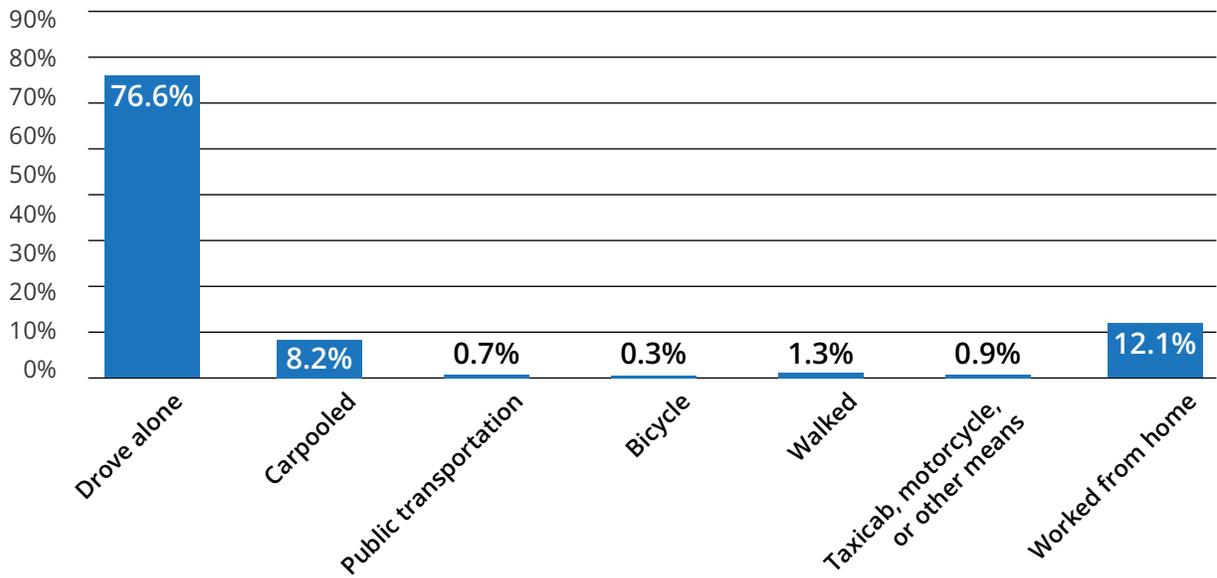


Figure 5: Means of Transportation to Work, Workers 16 Years and Over for 8-County Area, Census ACS 2022 5-Year Estimates

Mode Share

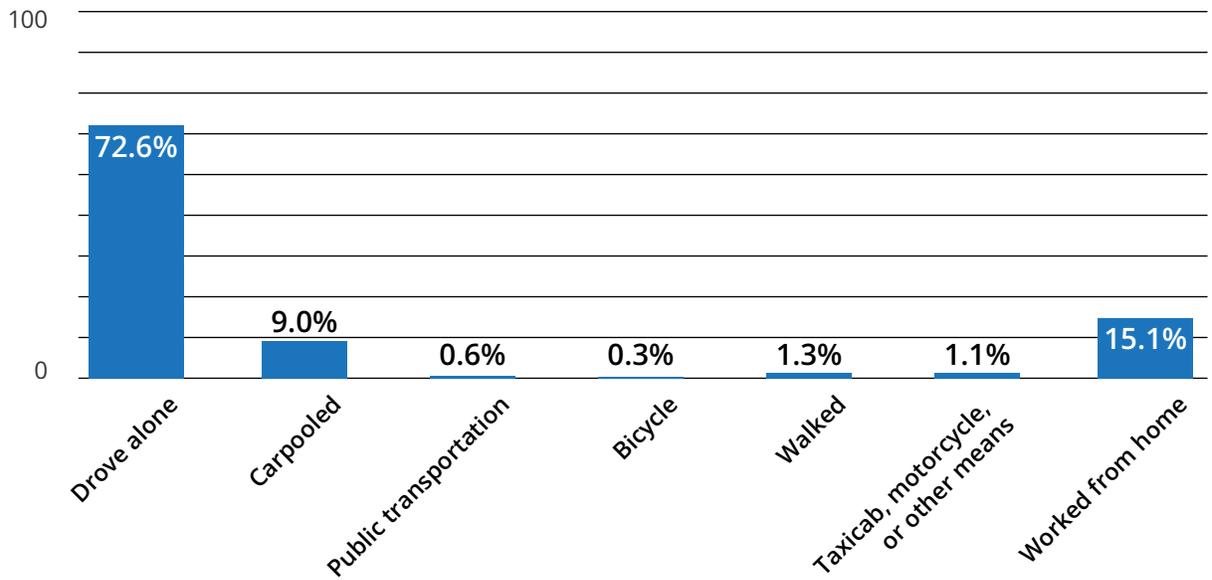


Figure 6: Indianapolis Region Commute Mode Share (2022)

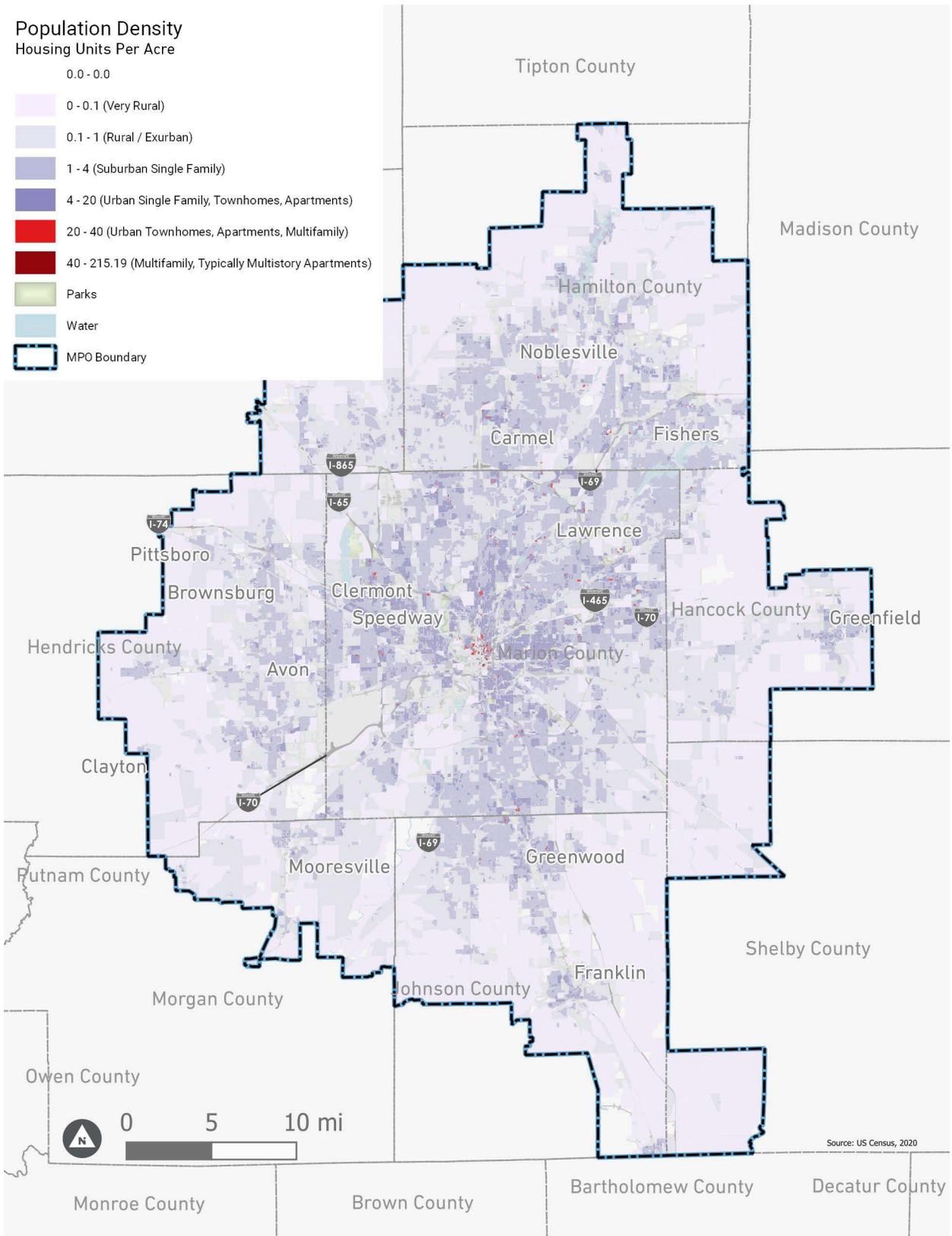


Figure 7: Regional Population Density

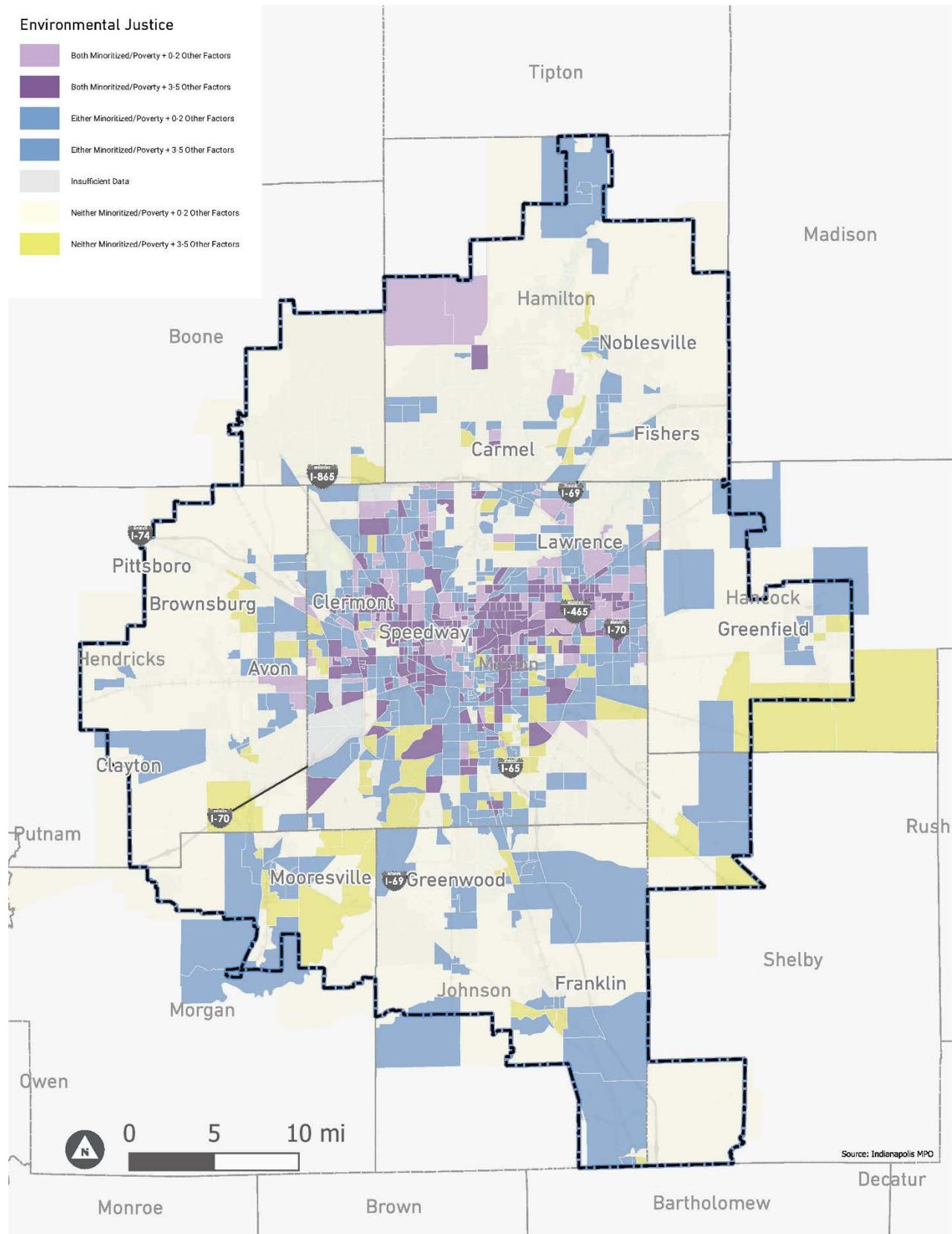


Figure 8: Environmental Justice Areas

Environmental Justice Areas

Central Indiana utilizes the federal government’s definition of environmental justice populations which includes low-income and minoritized⁹ communities. The Indianapolis MPO explains on their website how the environmental justice populations were identified in the region:

Indianapolis MPO has identified Environmental Justice Areas of Attention by using 2020 [Census American Community Survey] Five-Year data to compare the rate of a specific Environmental Justice population within the block group to the rate of the total population in the same area.

The results of the Indianapolis MPO Environmental Justice analysis is shown in Figure 8: Environmental Justice Areas. The Indianapolis MPO went beyond the required Environmental Justice populations of low-income and minoritized populations and also identified five additional Environmental Justice populations including: people with limited English proficiency, people with low educational attainment, households with no automobiles available, people over the age of 65, and people with disabilities.¹⁰

Areas that show up as having a high number of Environmental Justice populations should be prioritized for bicycle and pedestrian improvements because residents in these areas are more likely to rely on active transportation options for getting around. The purple shaded areas in Figure 6 depict high priority census tracts with a concentration of more than one environmental justice population in Indianapolis, Speedway, Beech Grove, Warren Park, and Carmel. Additional priority census tracts with a concentration of at least one environmental justice population are located across the MPA, shown in blue.

Existing Plans, Policies, and Supportive Programs

To support the development of this ATP, the project team reviewed relevant existing plans, policies, and supportive programs from around the region including local active transportation plans, Complete Streets policies, comprehensive plans, and recreation plans. Table 2 and Table 3 presents a list of the documents reviewed and [Appendix B](#) includes summaries and key takeaways from each document.

Table 2: Existing Supportive Programs Reviewed

Program Name	Program lead (organization)	Target Audience
Complete Streets Policies	City of Indianapolis (2012)	Pedestrians and bicyclists
	City of Westfield (2012)	
	Indianapolis MPO (2014)	
	INDOT (2014)	
INDOT’s Common Paths Initiative	Indiana Department of Transportation	All road users
Americans with Disabilities Act (ADA) Transition Plan Development and Oversight	Indiana Department of Transportation	Everyone
Small Communities Sidewalk Program (SCSP)	Indiana Department of Transportation	Pedestrians

Table 3: Existing Plans and Policies Reviewed

Plan/ Policy	Lead Agency	Completed	Plan/ Policy	Lead Agency	Completed
Marion County Complete Streets Policy	Marion County	Ongoing (Adopted in 2012)	Lawrence Bicycle and Pedestrian Master Plan	KYOVA Interstate Planning Commission	2018
2015 Central Indiana regional Bikeways Plan	Indianapolis Metropolitan Planning Organization	2015	Whitestown Bicycle + Pedestrian Master Plan	Town of Whitestown	2018
Greenfield Comprehensive Plan	City of Greenfield	2015	Thrive Indianapolis	City of Indianapolis	2019
Central Indiana Transit Plan	Indianapolis Metropolitan Planning Organization, IndyGo, CIRT	Ongoing (Initiated in 2016)	Regional Bikeways Plan	Indianapolis Metropolitan Planning Organization	2020
Indianapolis / Marion County Pedestrian Plan	City of Indianapolis, Marion County	2016	Regional Pedestrian Plan	Indianapolis Metropolitan Planning Organization	2020
Boone County Thoroughfare Plan	Boone County	2017	Central Indiana 2050 Metropolitan Transportation Plan	Indianapolis Metropolitan Planning Organization	2021
McCordsville Parks and Recreation Master Plan	Town of McCordsville	2017	Indiana Strategic Highway Safety Plan	Indiana Criminal Justice Institute, Traffic Safety Division	2021
2018-2021 Indianapolis Transportation Improvement Program	Indianapolis Metropolitan Planning Organization	2018-2021	Northern Johnson County Transit Plan	Indianapolis Metropolitan Planning Organization	2021
2045 Long-Range Transportation Plan	Indiana Department of Transportation	2018	Safe Streets and Roads for All Safety Action Plan	Indianapolis Metropolitan Planning Organization	2022
Hancock County Trails Plan	Hancock County	2018			
Indy Moves Transportation Integration Plan	City of Indianapolis	2018			

Analyses

After mapping the existing transportation system, the project team performed several analyses to better understand the equity of the network, its connectivity, safety, and infrastructure conditions. The following section provides a summary of each existing conditions analysis.

Data Limitations

Existing conditions analyses were conducted with data provided by the Indianapolis MPO. Analyses were conducted with available data and where relevant, data limitations are acknowledged. To help fill data gaps, this planning process will also rely on stakeholder and general public input.

Summary of Facility Inventory

The Indianapolis MPO promotes walking and bicycling and being able to do so safely is crucial for residents. In 2020 the Indianapolis MPO developed a Regional Bikeways Plan and a Regional Pedestrian Plan. The following sections describe the existing active transportation infrastructure in the Central Indiana region.

Bicycling Infrastructure

Existing regionally significant bicycling routes throughout the region include:

- Monon Trail
- Central White River Trail
- Nickel Plate Trail
- Fall Creek Trail
- Pennsy Trail
- B&O Trail
- Midland Trace Trail
- Indianapolis Cultural Trail

The City of Indianapolis accounts for the majority share of dedicated on-street bicycle infrastructure in the region, such as bike lanes and separated bike lanes. There are a large number of sidepaths, trails, and shared use paths in the cities of Carmel, Noblesville, Fishers, Avon, Brownsburg, and Greenwood. There are a total of 1,216 miles of on and off-street bicycle infrastructure within the Central Indiana region consisting of bike lanes, separated bike lanes, shared lanes (sharrows), side paths, and trails/ shared use paths. There are 102 miles of bike lanes, 9 miles of protected bike lanes, 16 miles of sharrows, 633 miles of side paths, and 457 miles of trails/ shared use paths. See Figure 9 for the regional bicycle network. For the most up-to-date data visit the [Indianapolis MPO Open Data Portal](#).

Sidewalk Infrastructure

The project team mapped existing sidewalks throughout Central Indiana (Figure 10) using an inventory collected in 2020. Sidewalks encompass most of the urbanized Central Indiana areas, specifically Indianapolis, however, between cities and within exurban and rural areas there is a lack of sidewalk infrastructure.

Trails

The Indianapolis Metropolitan Region has a number of regional trails that generally connect from downtown Indianapolis out into surrounding communities as “spokes” in a “hub and spoke” system. These trails tend to follow the White River, Fall Creek, Pogue’s Run, Pleasant Run, and Eagle Creek. Major regional trails include:

- Monon Trail
- Central White River Trail
- Nickel Plate Trail
- Fall Creek Trail
- Pennsy Trail
- B&O Trail
- Midland Trace Trail
- Indianapolis Cultural Trail

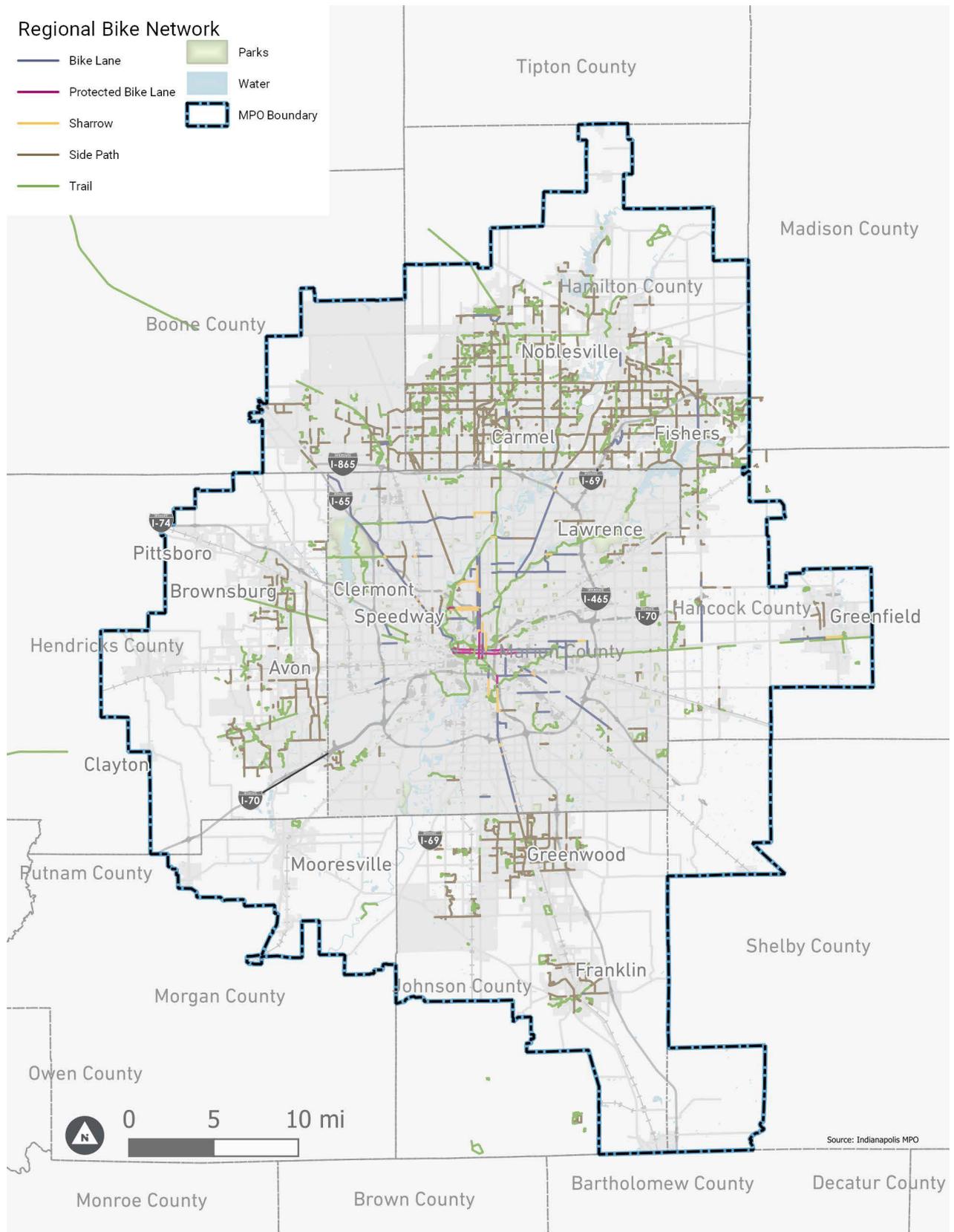


Figure 9: Regional Bicycle Network

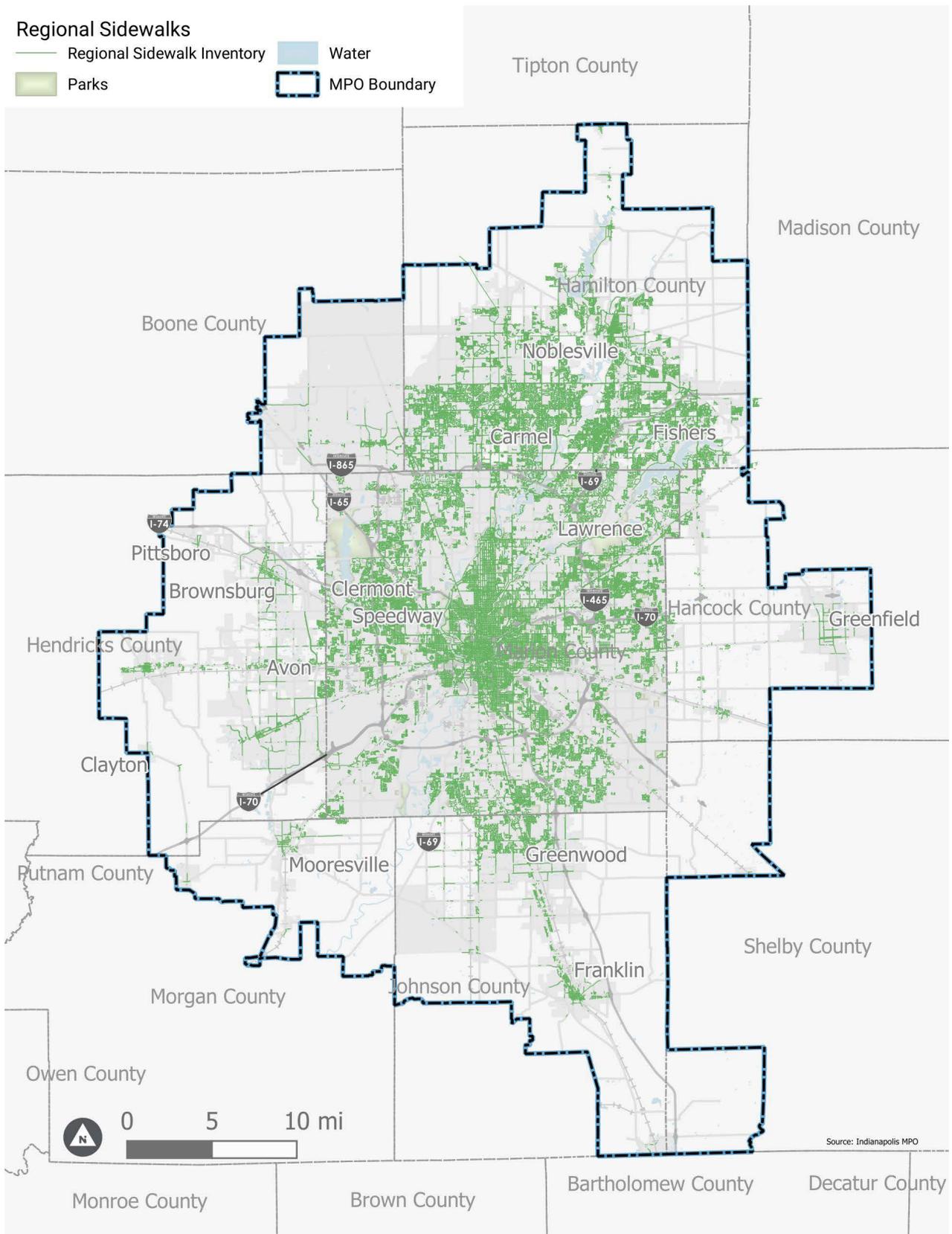


Figure 10: Regional Sidewalk Inventory

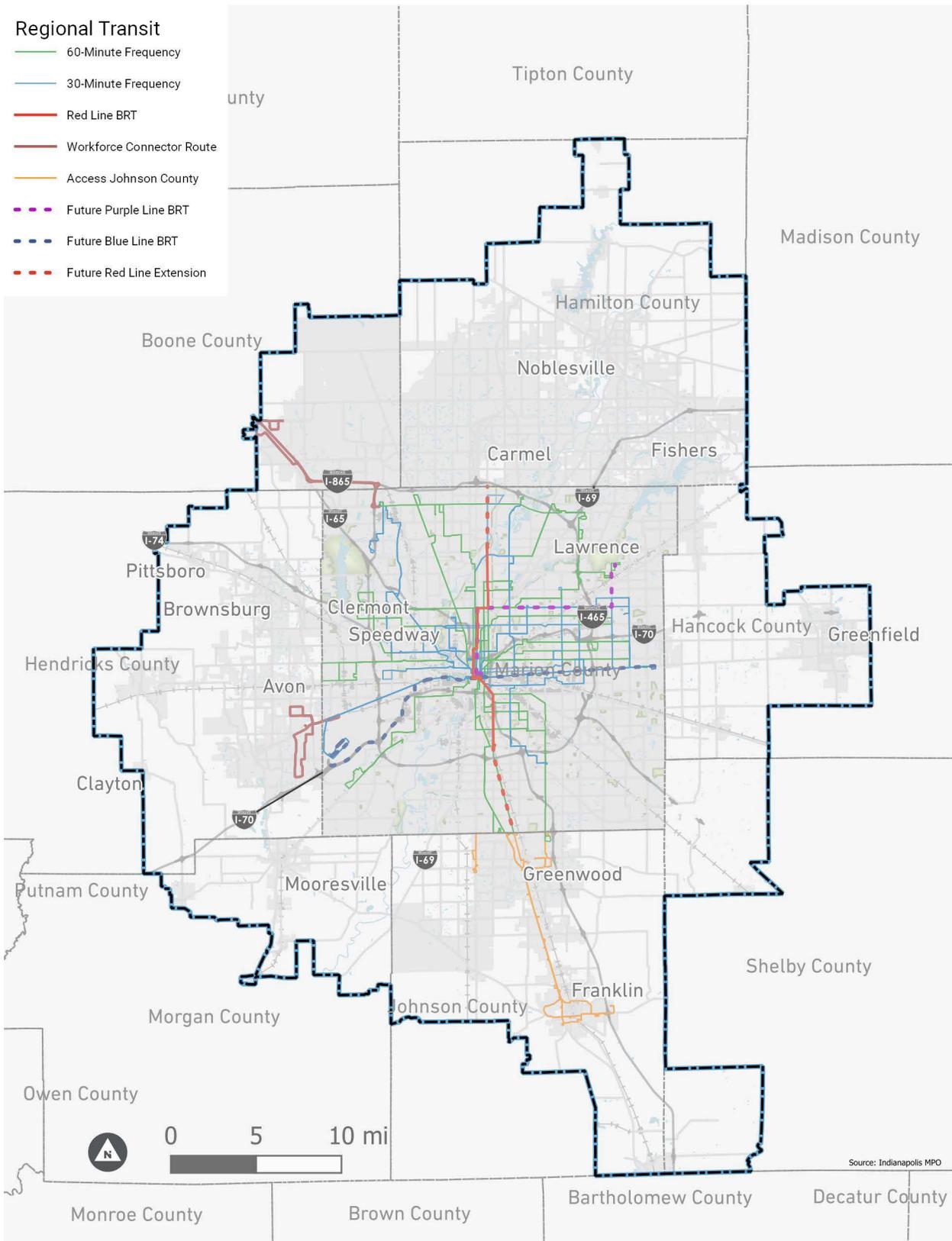


Figure 11: Existing and Future Transit Routes

Public Transit Services

Central Indiana has three fixed-route transit providers.

- The Indianapolis Public Transportation Corporate, aka IndyGo, is the largest public transit provider in the region. IndyGo operates approximately 30 fixed routes and has more than 2,500 bus stops. Figure 11 shows the existing and future transit routes. IndyGo operates in Marion County / Indianapolis, with connection points to Access Johnson County and the CIRTAs Workforce Connectors. Additionally, Bus Rapid Transit has recently been implemented within Marion County including one BRT route, the Red Line that runs through Indianapolis. Future routes consist of:
 - » Purple Line, which will run northeast from Indianapolis up to Lawrence (opens Fall 2024)
 - » Blue Line, which will run west-east through Marion County (opens 2027)
 - » Future expansion of the Red Line, which will complete the north-south route within Marion County
 - The Central Indiana Regional Transportation Authority (CIRTA) provides Workforce Connectors from Indianapolis to Whitestown and Plainfield¹¹.
 - Access Johnson County has six fixed-routes, within and between Greenwood and Franklin.
- Central Indiana is also served by four primary inter-regional transit providers:
- Amtrak (serving Indianapolis)
 - Greyhound (serving Indianapolis)
 - Megabus (serving Indianapolis)
 - Hoosier Ride / Miller Transportation (serving Indianapolis, Westfield, Lebanon, Martinsville, and Fortville)

Network Screening

Micromobility

There are currently 18 cities in Indiana with shared micromobility programs: eight docked systems and ten dockless systems, with ten cities offering bikeshare and ten offering scooter share. Indianapolis/Marion County and South Bend both have e-bikes available as part of their shared micromobility fleet. Pacers Bikeshare in Indianapolis recently started providing free passes to use the system for Marion County residents. More information is available on their website at: <https://pacersbikeshare.org/indyridesfree/>. Cities work with a variety of operators to provide shared micromobility services – most are private companies, although one city (Evansville) works with a non-profit operator. Five jurisdictions, shown in Table 4, are within the MPA and have some type of shared micromobility services.

The City of Indianapolis collects shared micromobility data and provided the team with 2022 annual trip summary data. Figure 12 and Figure 14 show the number of shared micromobility trip starts and trip ends by Census Tract. Figure 14 shows what percentage of shared micromobility trips were made on streets around Indianapolis. The majority of shared micromobility trips take place within downtown Indianapolis and the surrounding neighborhoods. There are also a large number of trips in the Butler University area.

Table 4: Shared Micromobility Programs in Indiana

Jurisdiction	Within IMPO Planning Area	System Type	Micromobility Vehicle(s)	Operator(s)	Program Start
Aurora and Lawrenceburg	No	Docked	Pedal bikes	River Cities Bike Share (Movatic)	2017
Bloomington	No	Dockless	E-scooters	Lime, Bird, Veo	2018
Carmel	Yes	Docked	Pedal bikes	Tandem Mobility	2021
Evansville	No	Docked	Pedal bikes	Upgrade Bikeshare	2016
Gas City	No	Dockless	E-scooters	Morell's	2021
Indianapolis	Yes	Docked	Pedal bikes, e-bikes	Bcycle (Pacers Bikeshare)	2014
		Dockless	E-scooters	Bird, Lime, Veo	2019
Jeffersonville	No	Docked	Pedal bikes	LouVelo (PBSC)	2019
Lafayette	No	Dockless	E-scooters	Bird, Spin	2020
Lawrence	Yes	Docked	Pedal bikes	Tandem Mobility	2021
Marion	No	Dockless	E-scooters	Morell's	2019
Noblesville	Yes	Docked	Pedal bikes	Tandem Mobility	2021
South Bend	No	Dockless	E-scooters, e-bikes	Bird	2017
Valparaiso	No	Docked	Pedal bikes	Tandem Mobility	2017
Wabash	No	Dockless	E-scooters	Morell's	2020
Warsaw	No	Dockless	E-scooters	Morell's	2021
West Lafayette	No	Dockless	E-scooters	Spin	2019

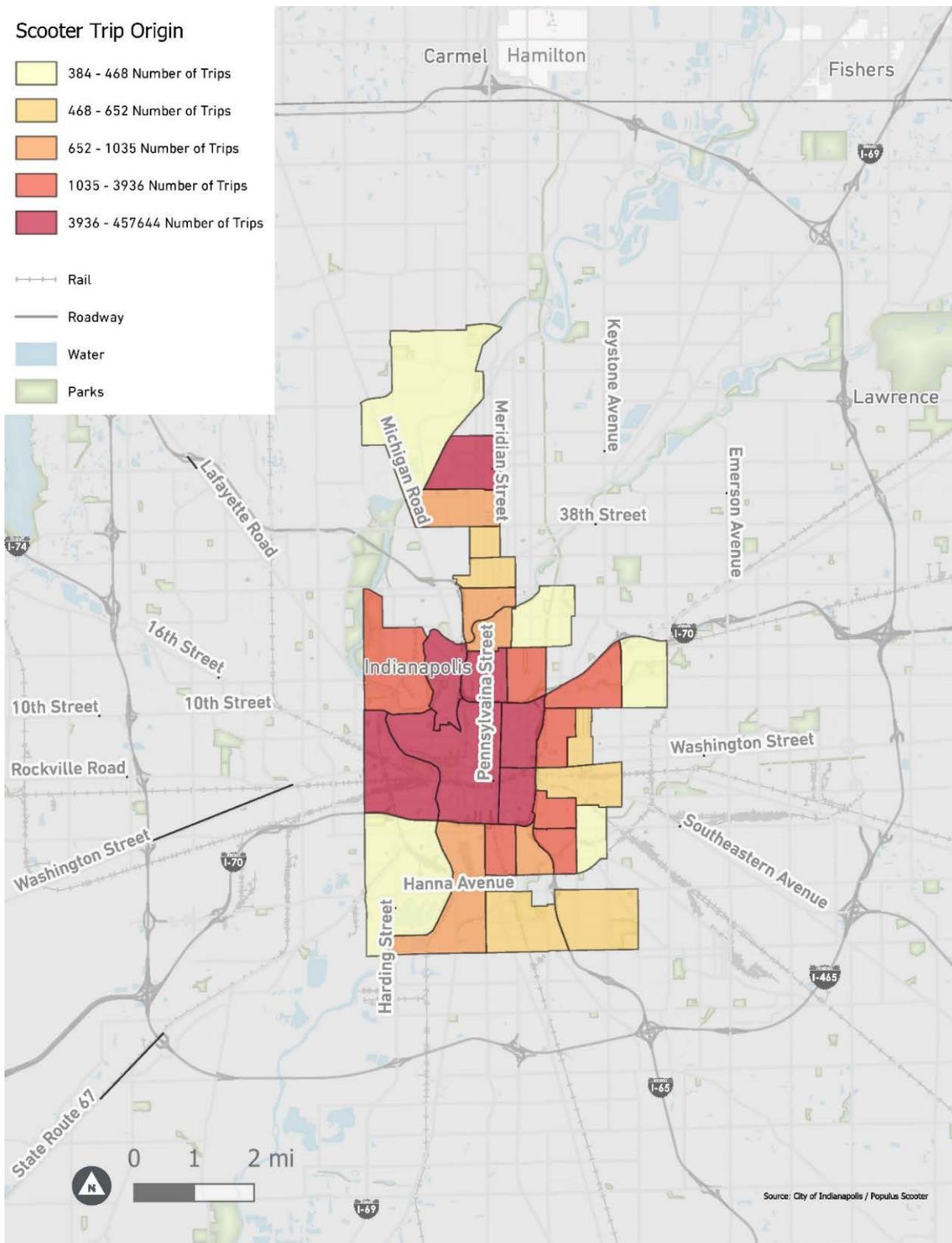


Figure 12: Total Shared Micromobility Trip Starts (Origins), 2022

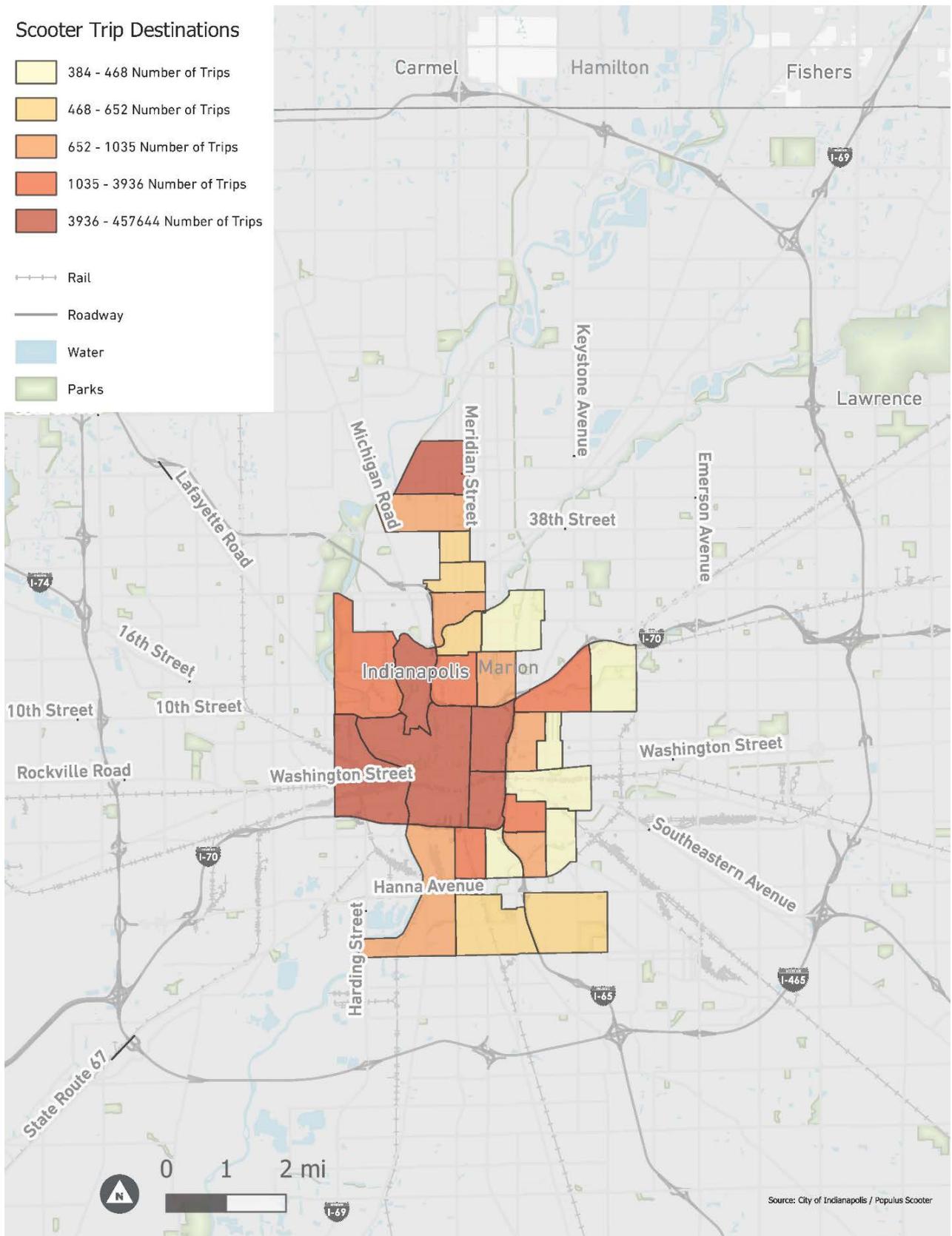


Figure 13: Total Shared Micromobility Trip Ends (Destinations), 2022

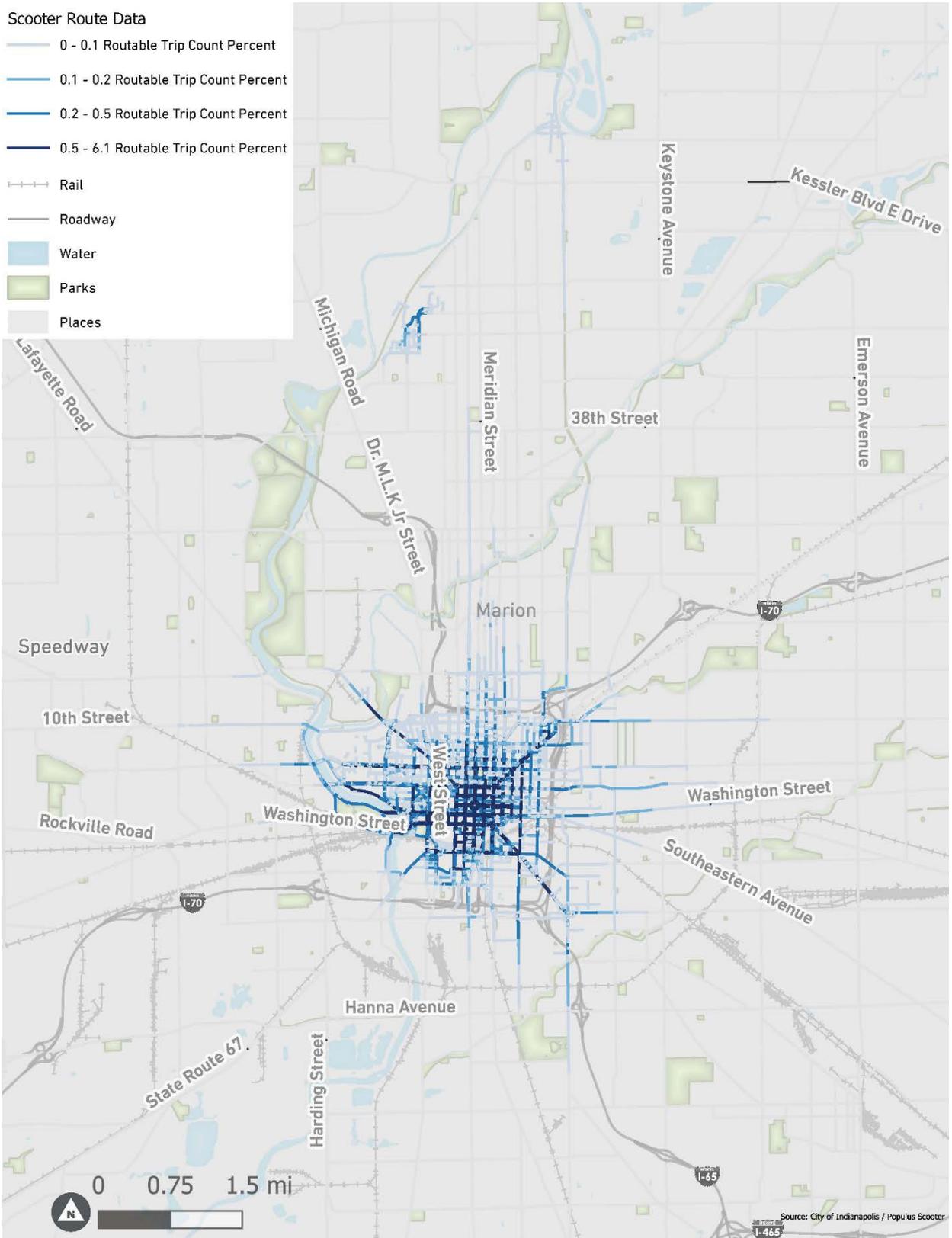


Figure 14: Percentage of Annual Shared Micromobility Trips Made by Street Segment, 2022

Table 5: State of Indiana E-bike Classifications and Laws

		VEHICLE		USER		BIKEWAY ACCESS		
		Pedal Operated	Maximum Motor-Assisted Speed (MPH)	Minimum Age (Years)	Helmet Required	On-Street Bike Lane	Bicycle Path	Multipurpose Path
Vehicle Type	Bicycle	Yes	N/A	N/A	No	Yes	Yes	Yes
	Class 1 E-Bike	Yes	20	N/A	No	Yes	Yes	Yes
	Class 2 E-Bike	No	20	N/A	No	Yes	Yes	Yes
	Class 3 E-Bike	Yes	28	15	17 and under	Yes	No*	No*

*A Class 3 electric bicycle may not be operated on a bicycle path or multipurpose path unless one (1) or more of the following conditions apply:

(A) The bicycle path or multipurpose path is within or adjacent to a highway or roadway.

(B) A local authority or state agency with jurisdiction over the bicycle path or multipurpose path authorizes the use of a Class 3 electric bicycle on the bicycle path or multipurpose path.

Source: <https://iga.in.gov/laws/2022/ic/titles/9#9-21-11-13.1>

Streetlight Bicycle Activity Estimates

Streetlight data was utilized to understand regional bicycle activity within Central Indiana along trails (Figure 15). Streetlight uses cell phone and connected device data to estimate trip patterns and trip volumes within communities around the United States. There are some data limitations in Streetlight data (e.g., it does not collect information from people who are not using cell phones; the assignment of modes to trips is difficult to verify and accuracy appears to vary based on the location of the facility), however in combination with other analyses, public input, and stakeholder guidance it can be a useful tool for understanding general spatial trends around walking and biking activity.

The Streetlight volume estimates show trips from Indianapolis, north to Carmel, and Noblesville along the Monon Trail have the highest daily bicycle activity. Medium amounts of bicycle activity are shown on routes connecting from Indianapolis to Lawrence, Indianapolis to Greenfield, and within Indianapolis, Zionsville, and Noblesville. Figure 15 shows the estimated regional daily bicycle activity based on Streetlight data. The trip data provided here has been limited to trails and greenways which are generally not coincidental with a roadway due to the data constraints.

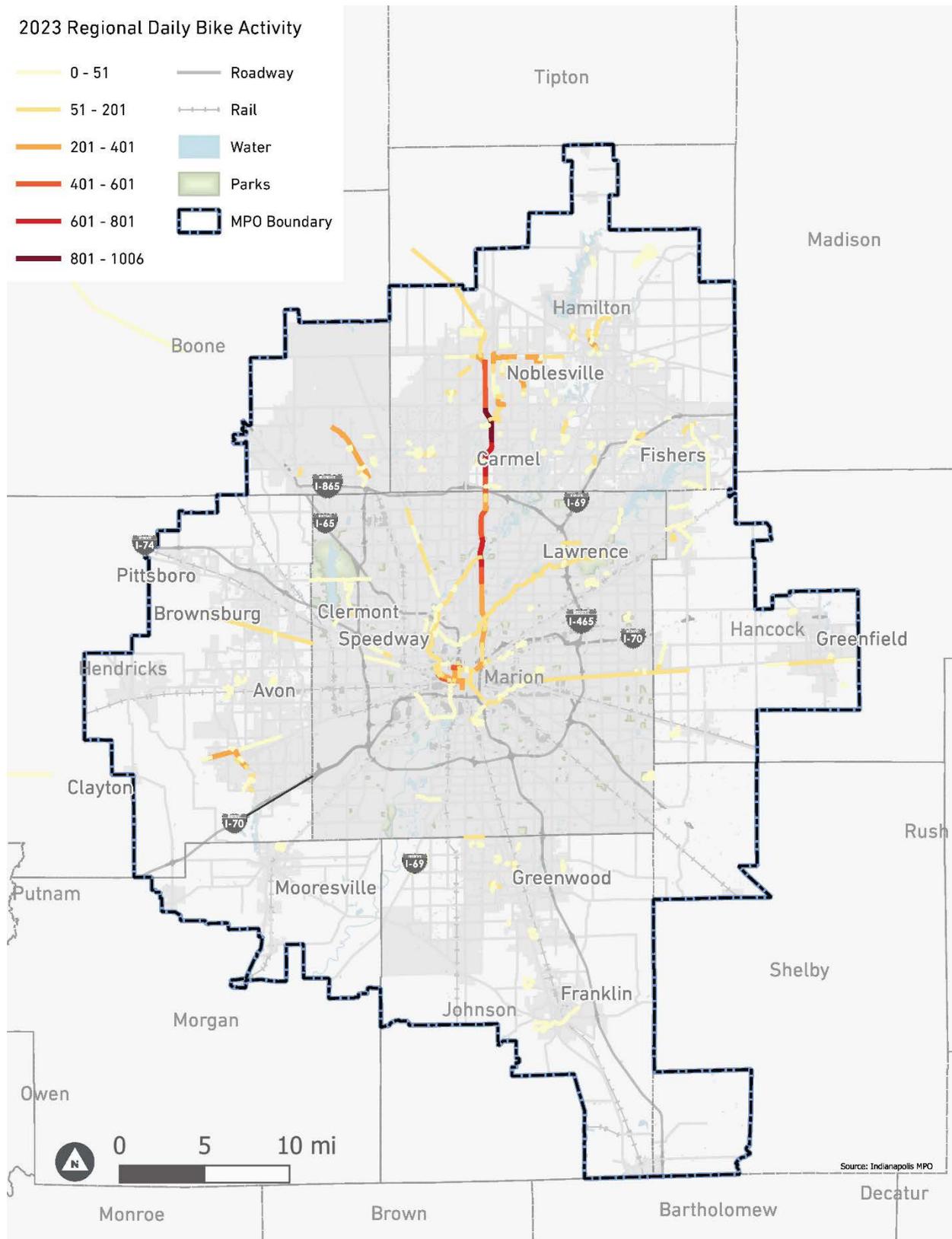


Figure 15: Streetlight Regional Daily Bicycle Activity Estimates (2021)

Level of Traffic Stress Analysis

A Bicycle Level of Traffic Stress (BLTS) analysis was developed for the Central Indiana region using the existing trails and bikeways inventory provided by the Indianapolis MPO combined with the regional roadway dataset in GIS. BLTS measures how stressful it might be to bicycle on streets. The method uses roadway and traffic conditions to assign a score from 1-4. The data used to conduct this analysis includes:

- Traffic Speed
- Traffic Volumes
- Number of Motor Vehicle Travel Lanes
- Existing Bicycle Facility (if present)

Figure 16 below shows examples of streets in cities around the world and how each scores on BLTS:

Figure 17 shows the relative level of stress bicyclists might feel on roadways and off-street trails throughout the region. The northern area of Central Indiana, such as Carmel, Noblesville, and Fishers, has a higher concentration of low stress segments, while areas within Indianapolis, particularly on the east side, Clermont, Speedway, west Greenwood, and Avon have the highest stress segments.



Figure 16: Examples of Streets with Bicycle Facility Types and Their Bicycle Level of Traffic Stress Score

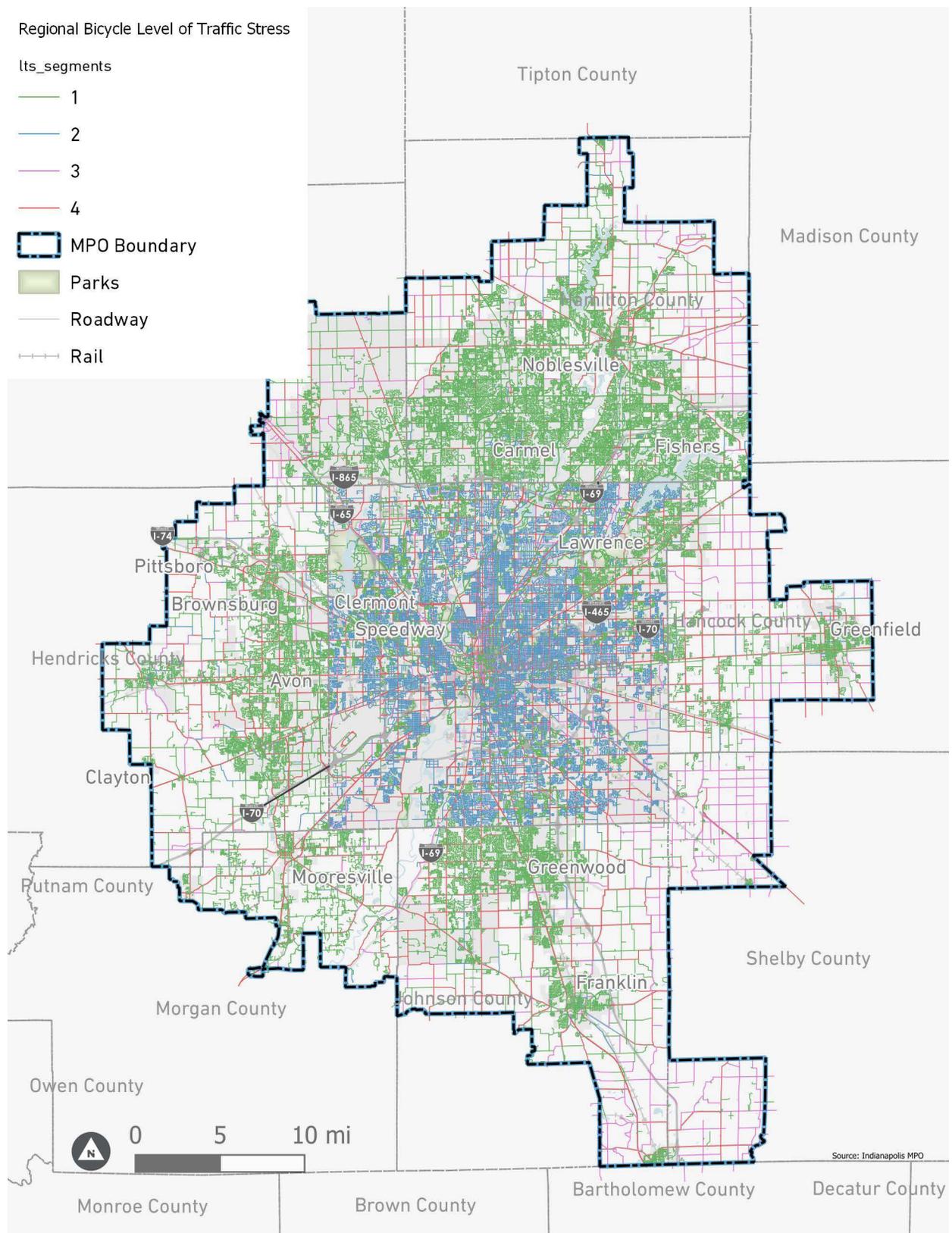


Figure 17: Regional Bicycle Level of Traffic Stress

Why are local streets in Marion County shown as LTS 2?

Marion County's local street speed limit is 30 miles per hour (MPH) which is 5 MPH higher than the other counties in Central Indiana. Due to the LTS methodology, this results in a higher LTS score for local streets in Marion County compared to the rest of the region.

Bicycle Network Analysis

The project team developed a bicycle network analysis to evaluate access to community destinations by bicycle in the Central Indiana region (see Figure 18). The Bicycle Network Analysis method was developed by Toole Design for PeopleForBikes, a bicycle advocacy organization. The method uses the Bicycle Level of Traffic Stress results combined with population estimates at the Census Block level, destinations collected from OpenStreetMap, and employment data from the Census Longitudinal Employer-Household Dynamics (LEHD) program.

The analysis routes people (using population estimates) along the low stress bicycle network (considered any segments that scored BLTS 1 or 2) within 1.5 miles and measures how many community destinations can be accessed within that travel shed. The resulting score highlights where there are strong low-stress bicycle networks and concentrated community destinations within an area. Understanding how these results align with known existing concentrations of community destinations can help identify where gaps in the low-stress bicycle network may be a high priority to remedy.

Areas with a low BNA score (0-20) include rural areas throughout the region that do not have any bicycle facilities. Areas with a high BNA score include areas that have existing facilities or low stress streets. High BNA areas are found mainly in cities such as Carmel, Fishers, Zionsville, Greenwood, Franklin, and portions of Indianapolis.

Bicycle Network Centrality Analysis

The project team developed a Centrality Analysis to better understand the importance of individual street or trail segments included in the regional bicycle network. The Centrality Analysis uses the Bicycle Level of Traffic Stress analysis results combined with population data and network connectivity to measure which street or trail segments have the most importance within the overall bicycle network.

The technical analysis involved assigning each street segment a score using the following steps:

- Calculating the population weight for each intersection using census data and the overlap with the intersection's "area of influence," where any point inside each area is closer to the intersection than any other intersection.
- A connectivity analysis using the shortest paths between all intersections within three miles. Selection of the shortest path was based on length as well as level of stress for bicyclists (segments with higher levels of stress (LTS 3, 4) incurred a penalty of a 20 percent longer length, since research has shown that people are willing to go 15-30 percent out of their way for a low-stress path)¹²¹³.
- Assigning each street segment a centrality score by counting all the shortest paths using the segment weighted by population weight of the origin-destination (OD) intersections for those paths.

Through this method, street segments received higher scores based on being on many shortest paths as well as connecting more densely populated areas. In addition to the centrality scores, segments were also given a score

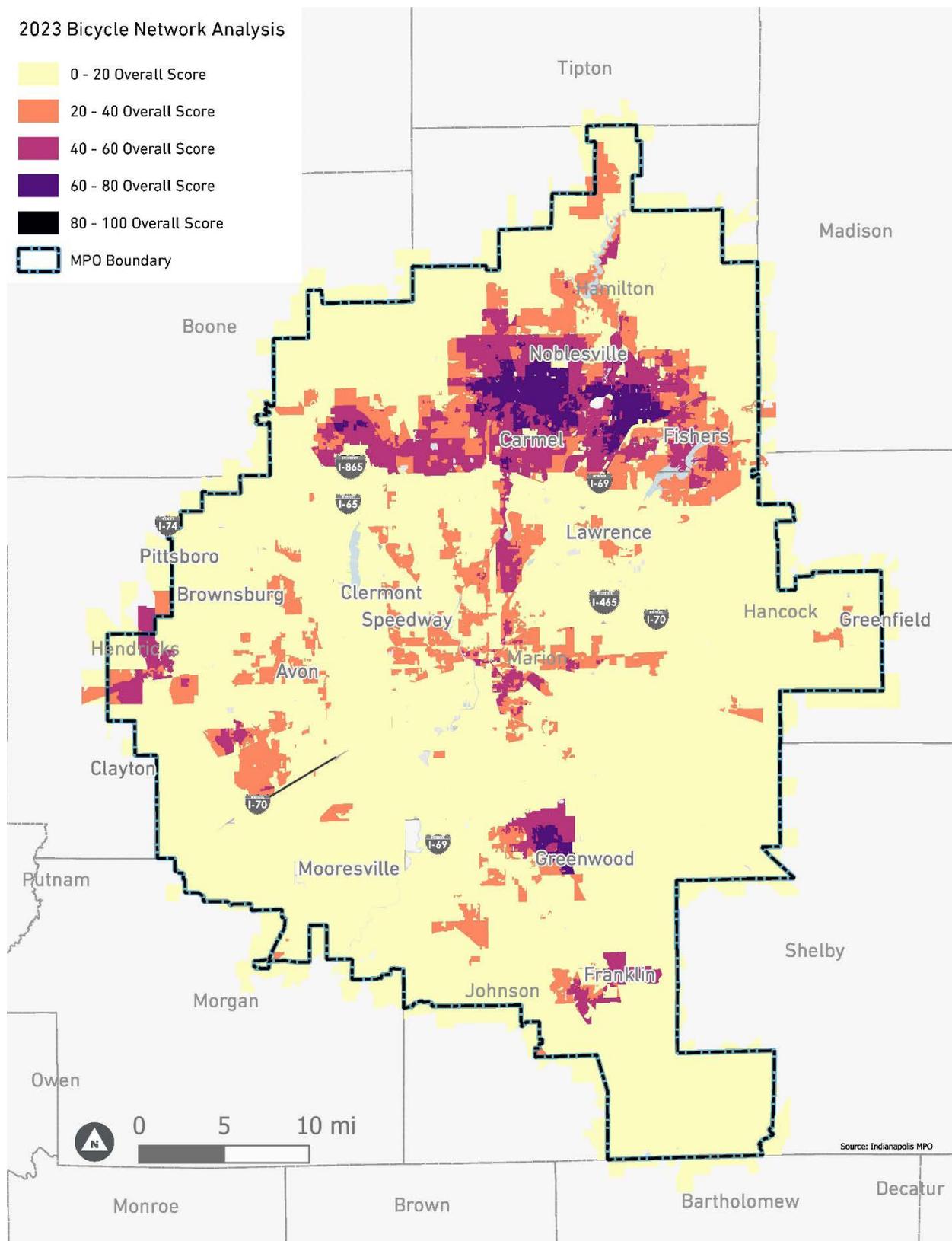


Figure 18: Regional Bicycle Network Analysis

representing the percentile of centrality of the segment when compared against all other segments in its own county.

The analysis also incorporated an equity-focused weight (using data from the Indianapolis MPO [Environmental Justice Areas](#)), which identifies higher concentrations of people with low-incomes, minoritized populations, people with limited English proficiency, low educational attainment, households with no automobiles available, people over the age of 65, and people with disabilities. The Indianapolis MPO's equity analysis identifies census block groups that form areas of attention for environmental justice (EJ). Population in these EJ block groups are weighted twice as much as population in non-EJ block groups. The centrality analysis created four different outputs:

- Raw Centrality Score – Population Weighted
- Raw Centrality Score – Equity Focus Weighted
- County Percentile Score – Population Weighted
- County Percentile Score – Equity Focus Weighted

The raw centrality scores may be used to compare street segments across the region while county percentile scores are used to compare street segments only within a county (and should not be used to compare across multiple counties). The county percentile scores can differ significantly from the raw scores, and this difference is especially pronounced for segments in rural counties, which do not have high raw centrality scores compared to segments in more urbanized counties.

Figure 19 on the following page shows County Percentile Score – Equity Focus Weighted, filtered to show only the top 15 percent most central segments, categorized by whether they have an existing low or high Bicycle Level of Traffic Stress score. The segments that are high stress but have a high centrality score may be existing bicycle network gaps where if the low-stress bicycle network were completed, it would have an impact on a larger number of potential bicycle trips than other potential bicycle network gaps that may not see as much bicycle traffic. High stress segments

shown in Figure 19 are mostly along high volume roadways while low stress segments tend to be along low volume roadways.

Sidewalk Gaps Analysis

The Indianapolis MPO provided an existing regional sidewalk inventory from 2020. In order to understand where there may be gaps in the regional sidewalk network, the project team compared the existing regional roadway dataset to the Indianapolis MPO's sidewalks layer to calculate which street segments may be missing partial sidewalks or may have no sidewalks at all (Figure 20). Streets classified as "Rural" or classified as major arterials or highways in OpenStreetMap were not included in this analysis. The method is a high-level analysis that shows which areas may have sidewalk gaps based on the sidewalk inventory dataset, however, the inventory is out of date or incomplete in parts of the region where there has been recent development/re-development. Additionally, many parts of the region may not require sidewalks due to existing land uses.

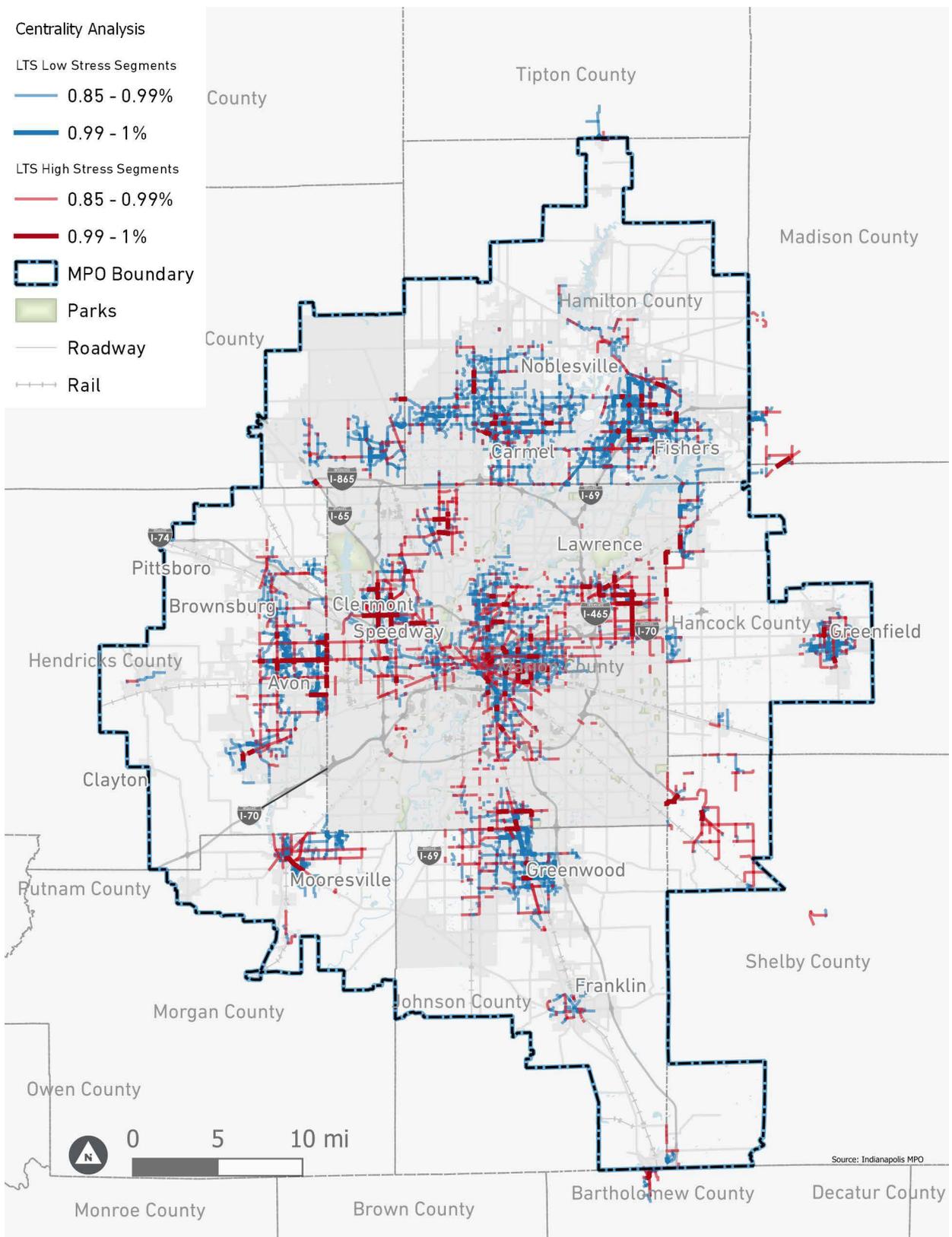


Figure 19: Centrality Analysis – County Percentile, Level of Traffic Stress

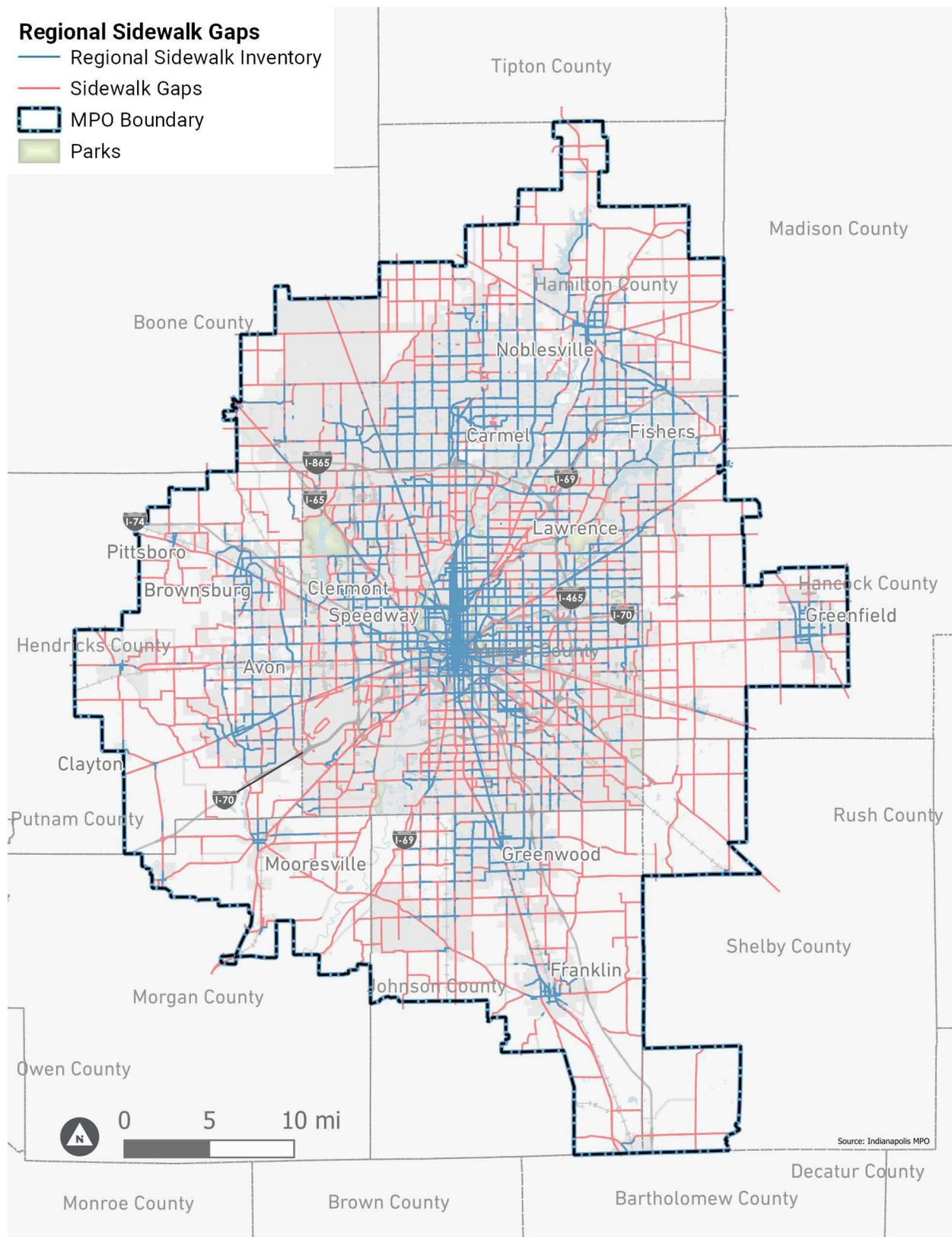


Figure 20: Regional Potential Sidewalk Gaps Map

Safety Analyses

Vision Zero

In 2022 the Indianapolis Transportation Policy Committee approved a new Vision Zero Resolution that updated the 2018 Vision Zero Resolution to include goals and deadlines for reducing fatal and serious crashes. The new Vision Zero Resolution sets a goal of reducing serious and fatal crashes by 35% by the year 2040.

In 2024 the IMPO released a [Vision Zero Toolkit](#). The Toolkit is meant to offer planning, policy, and road design resources to support local cities, towns, and counties in implementing Vision Zero at the local level. While fully eliminating traffic crash deaths and injuries will require action from local policymakers, federal lawmakers, vehicle companies, and healthcare facilities, this toolkit is focused on plans, policies, and strategies that can actually be implemented on the local level. The Toolkit includes information on data collection and benchmarks, planning and policy strategies, design strategies, resources from other communities, and communications guidance.

Safer Streets for All

As part of the Vision Zero commitment, The IMPO created the [Annual Safety Report](#) (updated spring 2023) to provide additional transparency for tracking progress towards this goal, monitoring trends, and addressing safety issues. The plan will be updated as necessary based on best practices and current issues in the region¹⁴. One key component of the plan was the development of a High Injury Network (HIN), showing which streets account for a high level of serious injury crashes throughout the Central Indiana region. This High Injury Network is shown in Figure 21. Roadway scores that are higher have a higher risk of serious injury crashes. Streets and general areas that show up as high risk on the HIN include:

- East of Indianapolis, south of Lawrence
 - 38th Street
 - 46th Street
 - Post Road
 - Shadeland Avenue
 - Main Street
- Martin Luther King, Jr. Street (north of Indianapolis)
- 146th Street (north of Hamilton)
- West of Speedway
 - Ronald Reagan Parkway
 - 10th Street
- Greenwood/Marion Area (north of Johnson)
 - Madison Avenue
 - Emerson Avenue
 - Smith Valley Road
 - County Line Road
 - Main Street

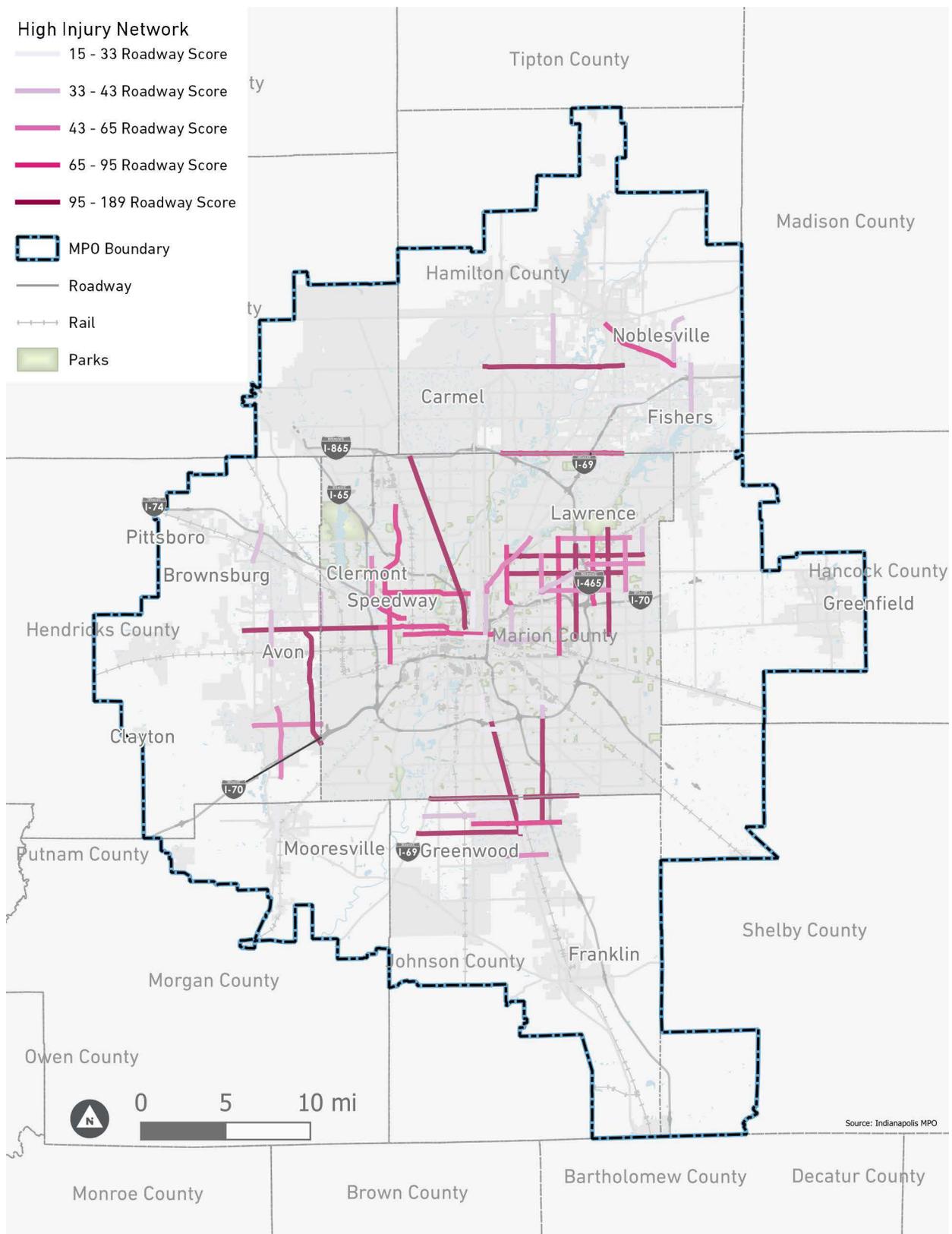


Figure 21: High Injury Network

Key Takeaways

The Central Indiana region has pockets of areas that are highly walkable and bikeable. The existing sidewalk network is fairly complete throughout the city of Indianapolis with some neighborhoods experiencing major gaps in the network. Downtown Indianapolis benefits from the connectivity of the sidewalk network, while the northern portion of the region benefits from the wide array of trails and side paths. Outside of those areas, and between those areas, bicycle and pedestrian infrastructure becomes sparser and more disconnected. At a high level, there are gaps in the bicycle network to the east, west and south of the City of Indianapolis.

The Central Indiana region has produced numerous safety plans and studies such as the Safety Action Plan / Annual Safety Report, regional Complete Streets Policy, Road Safety Audits, and the Vision Zero Toolkit, as well as analyzing Environmental Justice Areas in order to better understand the diverse population and transportation network. The analyses included in this

Existing Conditions chapter help identify where active transportation is working well, and where there may be gaps in the regional network. The data and maps in this chapter will help the project team, stakeholders, and the general public identify additional gaps in the active transportation network and determine how to best prioritize projects to bridge these gaps in the future.

CHAPTER 04: RECOMMENDATIONS



This ATP provides decision-makers with general recommendations on where and how to improve upon and expand the regional active transportation network. This section includes recommendations relevant to policy, programs, and infrastructure.

Infrastructure refers to physical, built projects that will change how roadways are configured to make walking and bicycling safer and more accessible for all users. Policy and program recommendations aim to make active transportation implementation easier and more convenient for local governments through recommendations relevant to education, evaluation, stakeholder engagement, and enforcement.

Policy and program recommendations aim to make walking and bicycling a more convenient, desirable, and safer choice for the Central Indiana community through engagement, education, encouragement, and evaluation.

Project Prioritization

This ATP uses a prioritization process to support decision makers with general recommendations on where to improve upon and expand the regional active transportation network. A data-driven process was developed using spatial datasets to score existing infrastructure gaps in the regional active transportation network.

This section explains the overall approach to prioritization in order to guide communities on where to make investments for pedestrian and bicycle infrastructure. During the initial round of public engagement, people were asked to prioritize funding based on the following goals:

Regionalism

- Considers bike, pedestrian, and mobility connections between communities, creating a major network.

Equity/Fairness

- Considers older, younger, and lower-income people, people of color and minoritized communities, and others who may rely on walking or biking as their primary way to travel.

Health

- Considers bike, pedestrian, and mobility connections to healthcare, grocery stores, and support services, plus opportunities for exercise.

Connectivity

- Considers extending or building new bike, pedestrian, and mobility infrastructure through places that do not have any versus rebuilding or upgrading existing paths, bike lanes, and sidewalks.

Economic Opportunity

- Considers how to connect people to jobs, schools, supportive services, libraries, arts, and entertainment.

Safety

- Considers how to use bike, pedestrian, and mobility projects to address personal safety in places that have high rates of crashes or injuries.

Each of these six goals was incorporated into the project prioritization methodology as a metric.

The weighting for all eight metrics was informed by Steering Committee feedback, and guidance from Indianapolis MPO staff. Table 6 and Table 7 below show the prioritization scoring rubric for bicycle network gaps and sidewalk network gaps.

Table 6: Prioritization Scoring Rubric for Data-Driven Prioritization of Bicycle Network Gaps

Goal	Metric	Scoring Method	Weight
Regionalism	Connections between cities or counties	Projects that are at least 1/2 mile long and connect two cities or two counties receive full points (5 points).	5
	Equity/Fairness	IMPO Environmental Justice dataset	Both Minoritized/Poverty + 3-5 Other Factors (18 points) Both Minoritized/Poverty + 0-2 Other Factors (15 points) Either Minoritized/Poverty + 3-5 Other Factors (12 points) Either Minoritized/Poverty + 0-2 Other Factors (9 points) Neither Minoritized/Poverty + 3-5 Other Factors (6 points) Neither Minoritized/Poverty + 0-2 Other Factors (3 points) Insufficient Data (0 points)
Health	Connections to healthcare facilities	Count the number of hospitals, clinics, or doctor’s offices within 1/2 mile of project extents. Scoring tiers: >99: 13 points 50-99: 10 points 25-49: 7 points 12-24: 4 points 2-11: 2 points 1: 1 point 0: 0 points	13
	Connections to parks and recreational facilities	Count the number of parks, recreational facilities, or museums within 1/2 mile of project extents. Scoring tiers: 39-83: 5 points 23-38: 4 points 12-22: 3 points 4-11: 2 points 1-3: 1 point 0: 0 points	5
Connectivity	Connections to schools and libraries	Count the number of schools and libraries within 1/2 mile of project extents. Scoring tiers: 10-21: 7 points 6-9: 5 points 3-5: 3 points 2: 2 points 1: 1 point 0: 0 points	7
	Connections to existing low-stress bicycle facilities	Use the Bicycle Level of Traffic Stress results to assign full points to any project that connects to an existing LTS 1 or 2 bicycle facility.	10
	Connections to existing and future BRT lines	Any project within a 1/2 mile of the IndyGo BRT lines (existing and future) receives 5 points. Any project within a 1/2 mile of any other fixed transit routes receives 3 points.	5
	Barriers	Count the number of grade-separated highways, streams, rivers, railroad lines, or major/minor arterial streets crossed by the proposed project. Scoring tiers: 10-18: 5 points 6-9: 4 points 3-5: 3 points 2: 2 points 1: 1 point 0: 0 points	5

Goal	Metric	Scoring Method	Weight
Economic Opportunity	Connections to and within IMPO Regional Activity Centers	Projects within Main Street Centers, Downtown, Regional Mixed-Use, Lifestyle, Special Use, Employment centers receive 5 points. Projects in shopping centers receive 3 points. Projects in manufacturing/distribution/logistics (MDL) centers or outside of regional activity centers receive no points.	5
Safety	Projects on the IMPO Regional High Injury Network	Projects that are on the high injury network or on a parallel street receive full points.	12

Table 7: Prioritization Scoring Rubric for Data-Driven Prioritization of Sidewalk Network Gaps

Goal	Metric	Scoring Method	Weight
Regionalism	Connections between cities or counties	Projects that are at least 1/2 mile long and connect two cities or two counties receive full points (5 points).	5
Equity/Fairness	IMPO Environmental Justice dataset	Both Minoritized/Poverty + 3-5 Other Factors (18 points) Both Minoritized/Poverty + 0-2 Other Factors (15 points) Either Minoritized/Poverty + 3-5 Other Factors (12 points) Either Minoritized/Poverty + 0-2 Other Factors (9 points) Neither Minoritized/Poverty + 3-5 Other Factors (6 points) Neither Minoritized/Poverty + 0-2 Other Factors (3 points) Insufficient Data (0 points)	18
Health	Connections to healthcare facilities	Count the number of hospitals, clinics, or doctor's offices within 1/2 mile of project extents. Scoring tiers: >99: 13 points 50-99: 10 points 25-49: 7 points 12-24: 4 points 2-11: 2 points 1: 1 point 0: 0 points	13
	Connections to parks and recreational facilities	Count the number of parks, recreational facilities, or museums within 1/2 mile of project extents. Scoring tiers: >15: 5 points 11-15: 4 points 7-10: 3 points 3-6: 2 points 1-2: 1 point 0: 0 points	5

Goal	Metric	Scoring Method	Weight
Connectivity	Connections to schools and libraries	Count the number of schools and libraries within 1/2 mile of project extents. Scoring tiers: >9: 7 points 6-9: 5 points 3-5: 3 points 2: 2 points 1: 1 point 0: 0 points	7
	Connections to existing and future BRT lines	Any project within a 1/2 mile of the IndyGo BRT lines (existing and future) receives 5 points. Any project within a 1/2 mile of any other fixed transit routes receives 3 points.	5
Connectivity	Barriers	Count the number of grade-separated highways, streams, rivers, railroad lines, or major/minor arterial streets crossed by the proposed project. Scoring tiers: 4-5: 5 points 3: 3 points 2: 2 points 1: 1 point 0: 0 points	5
Economic Opportunity	Connections to and within IMPO Regional Activity Centers	Projects within Main Street Centers, Downtown, Regional Mixed-Use, Lifestyle, Special Use, Employment centers receive 5 points. Projects in shopping centers receive 3 points. Projects in manufacturing/distribution/logistics (MDL) centers or outside of regional activity centers receive no points.	5
Safety	Projects on the IMPO Regional High Injury Network	Projects that are on the high injury network or on a parallel street receive full points.	12

Regional Network Priorities

A map of prioritized gaps in the active transportation network was developed based on the methodology described above. The prioritization process is meant to help Central Indiana’s local governments and transportation agencies understand where transportation funding investments can improve upon and expand the active transportation network. By prioritizing investment in these areas, Central Indiana can advance regionalism, equity, health, connectivity, economic opportunity, and safety goals. The prioritization results are shown on the following pages.

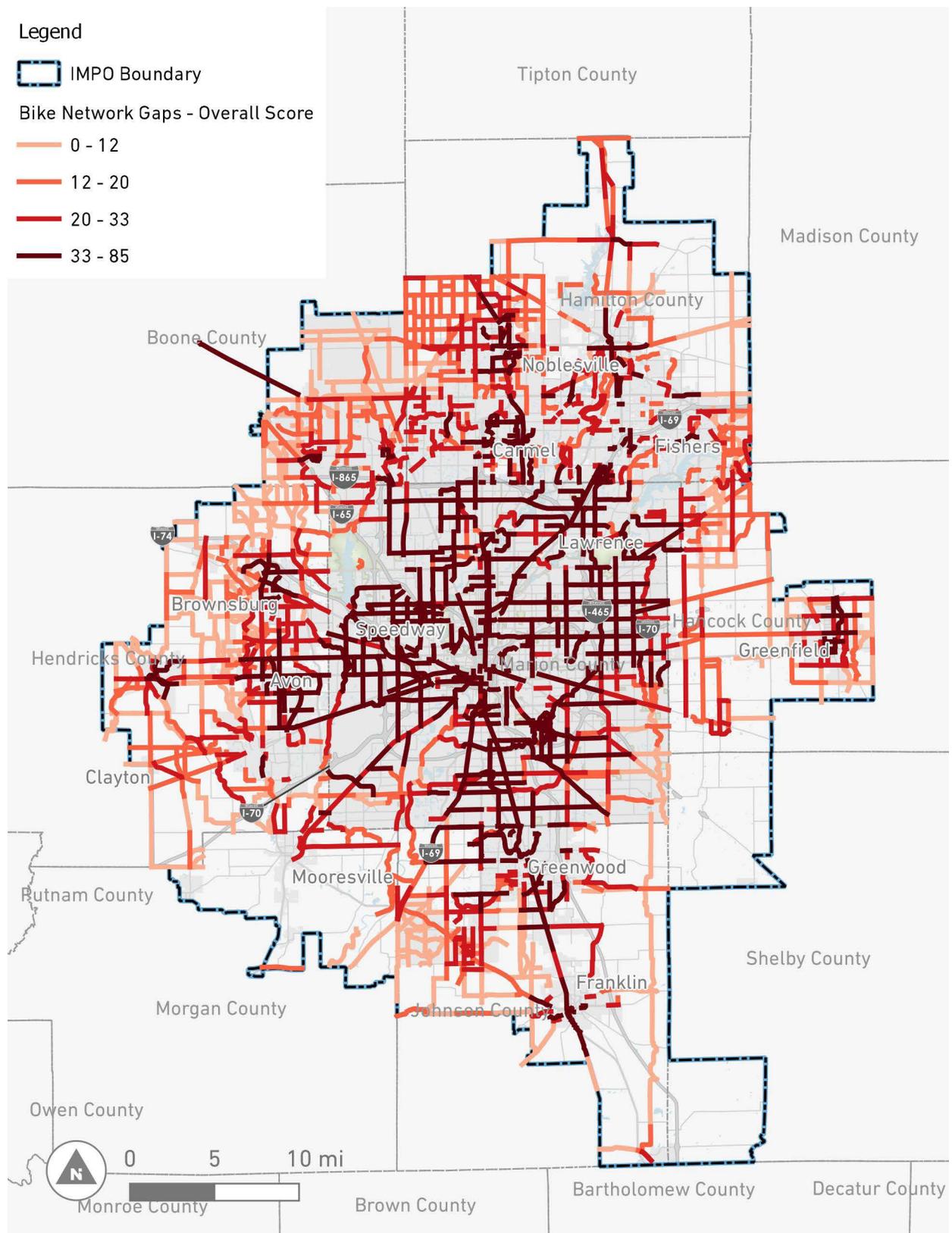


Figure 22: Bike Network Gaps - Overall Score

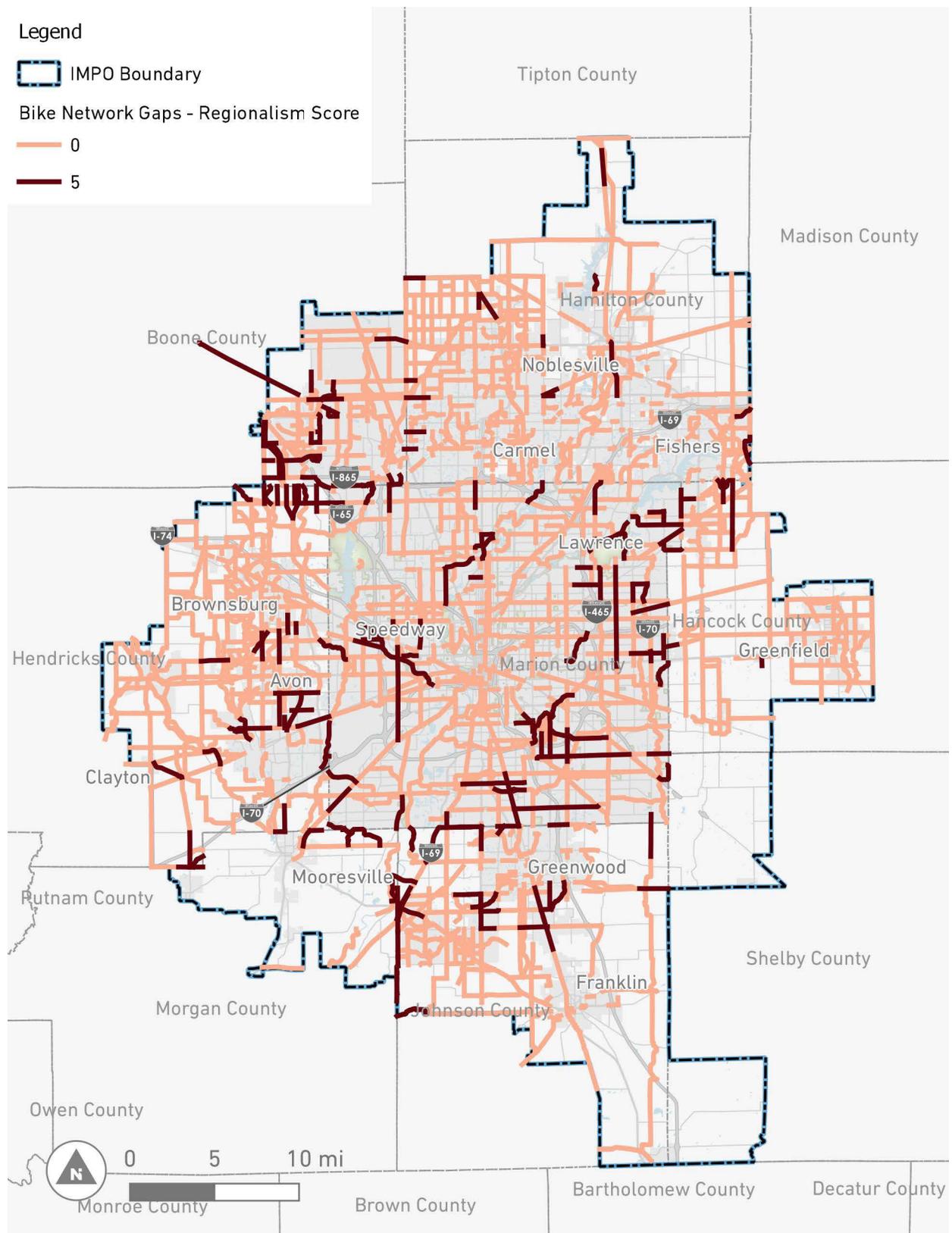


Figure 23: Bike Network Gaps – Regionalism Score

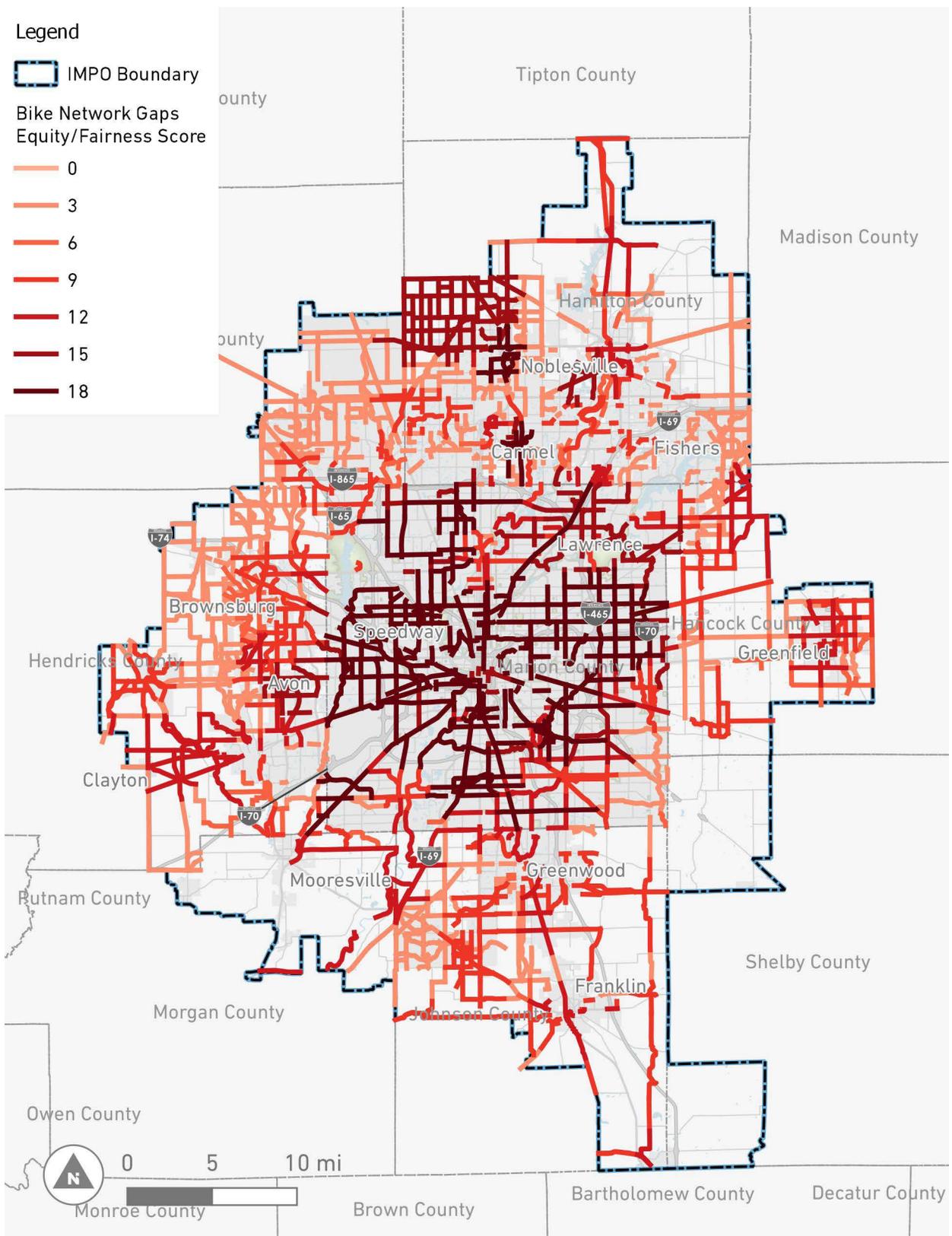


Figure 24: Bike Network Gaps – Equity/Fairness Score

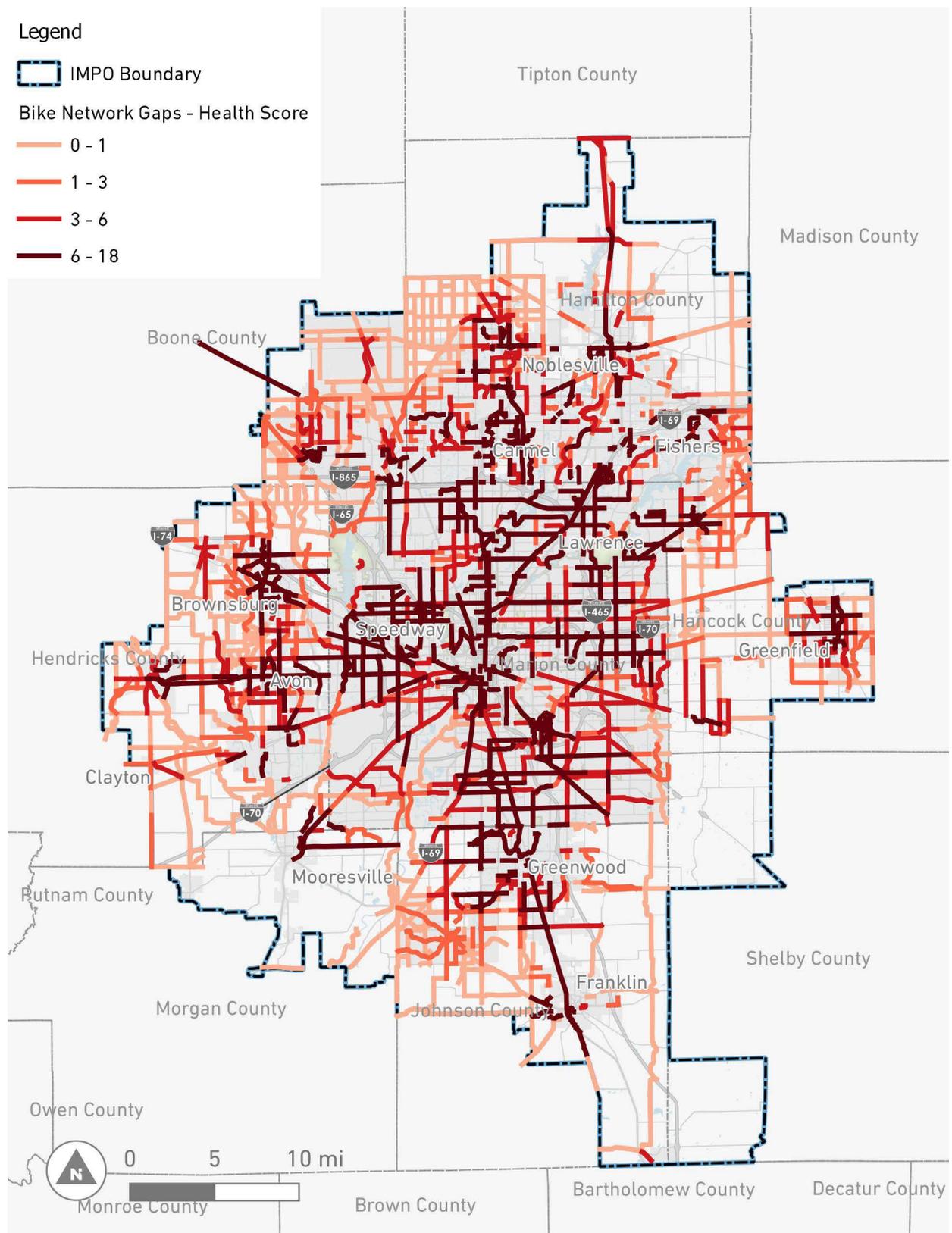


Figure 25: Bike Network Gaps - Health Score

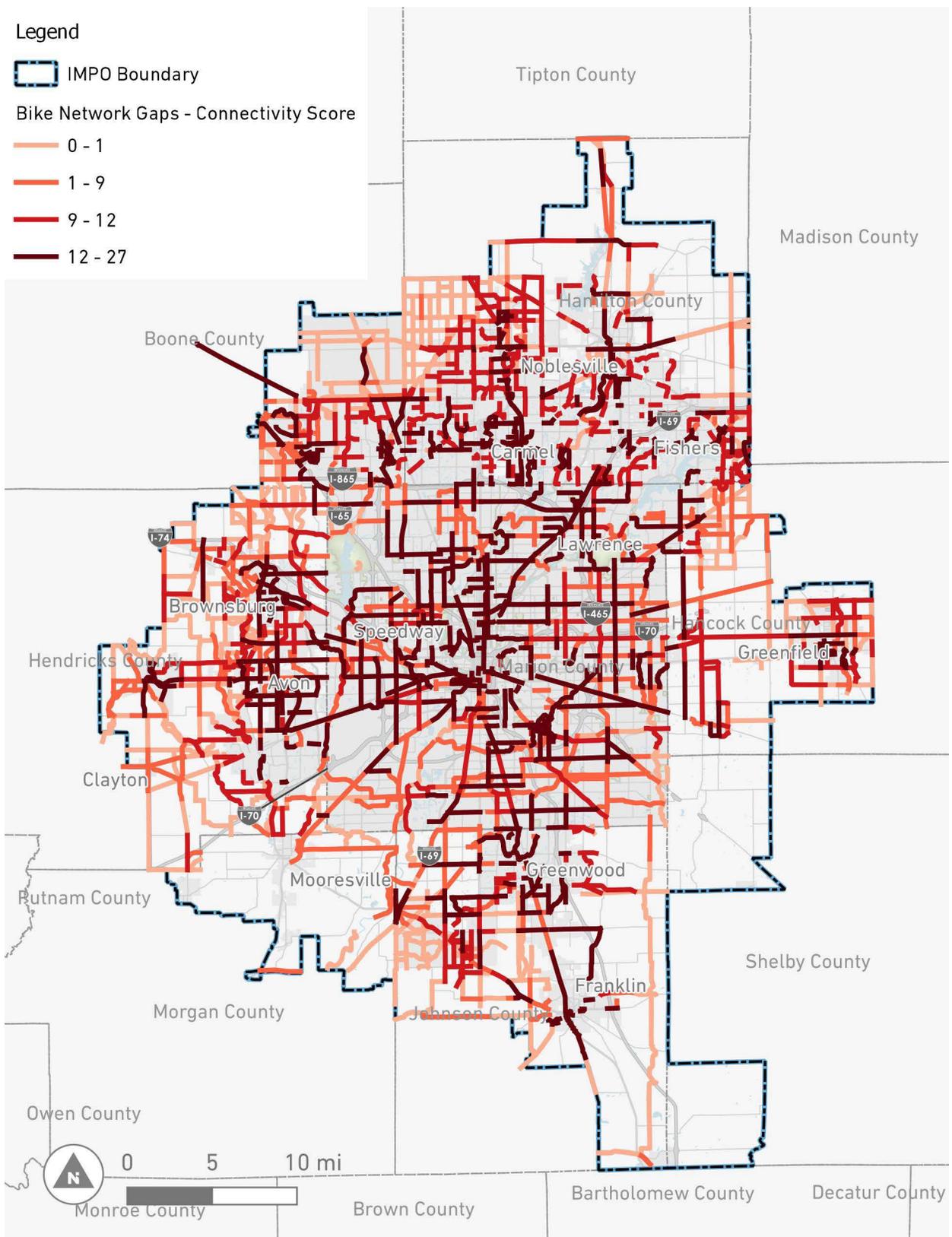


Figure 26: Bike Network Gaps - Connectivity Score

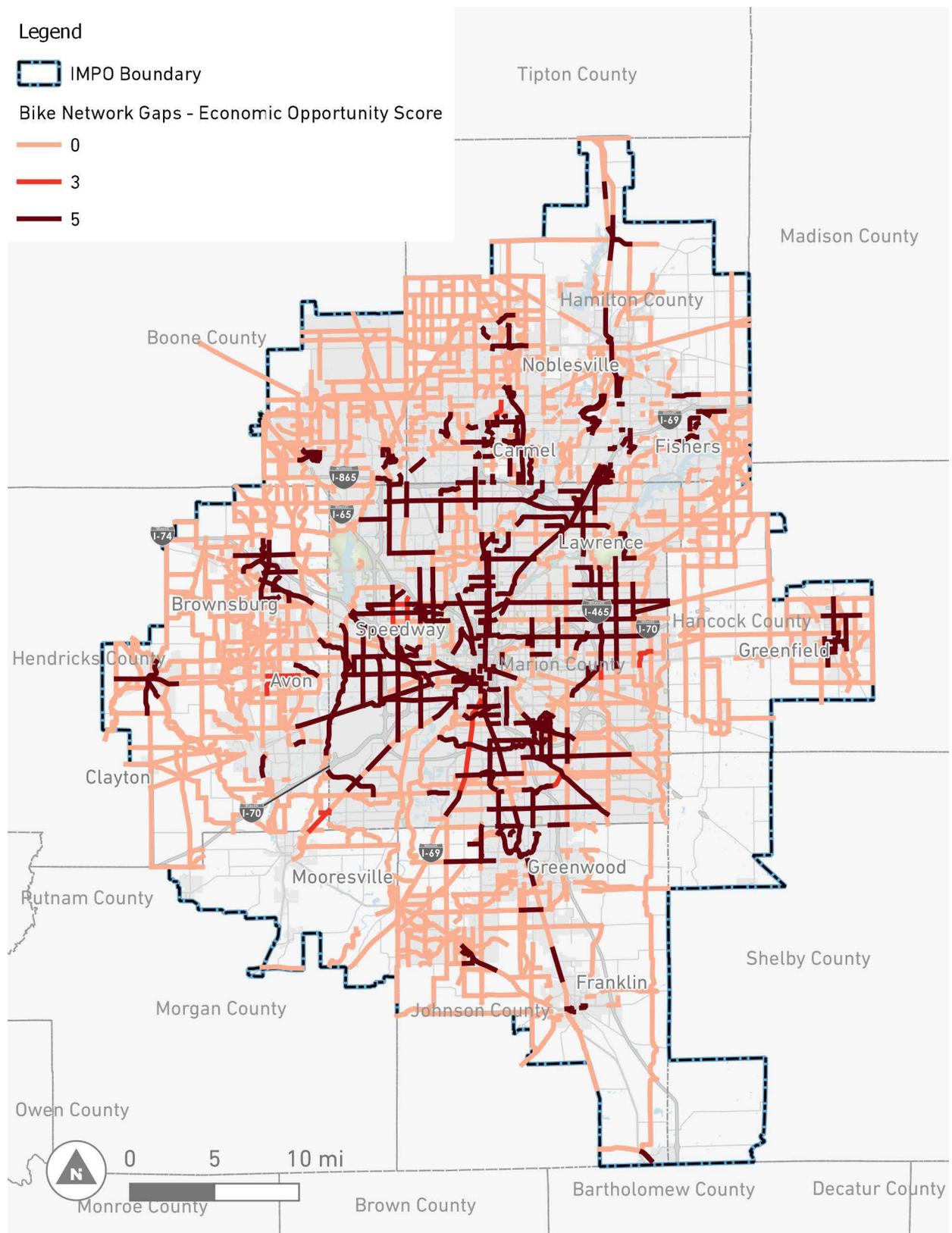


Figure 27: Bike Network Gaps – Economic Opportunity Score

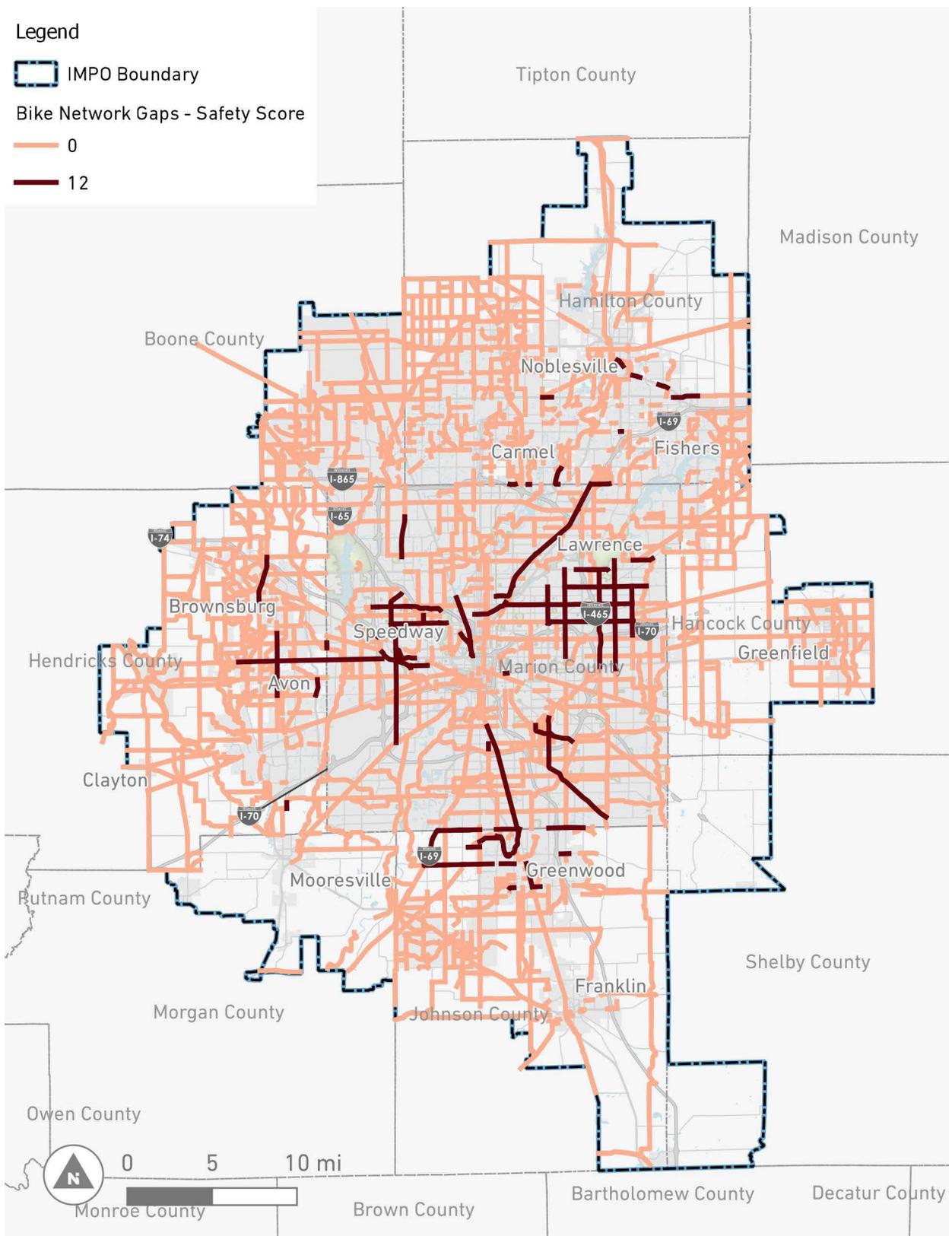


Figure 28: Bike Network Gaps - Safety Score

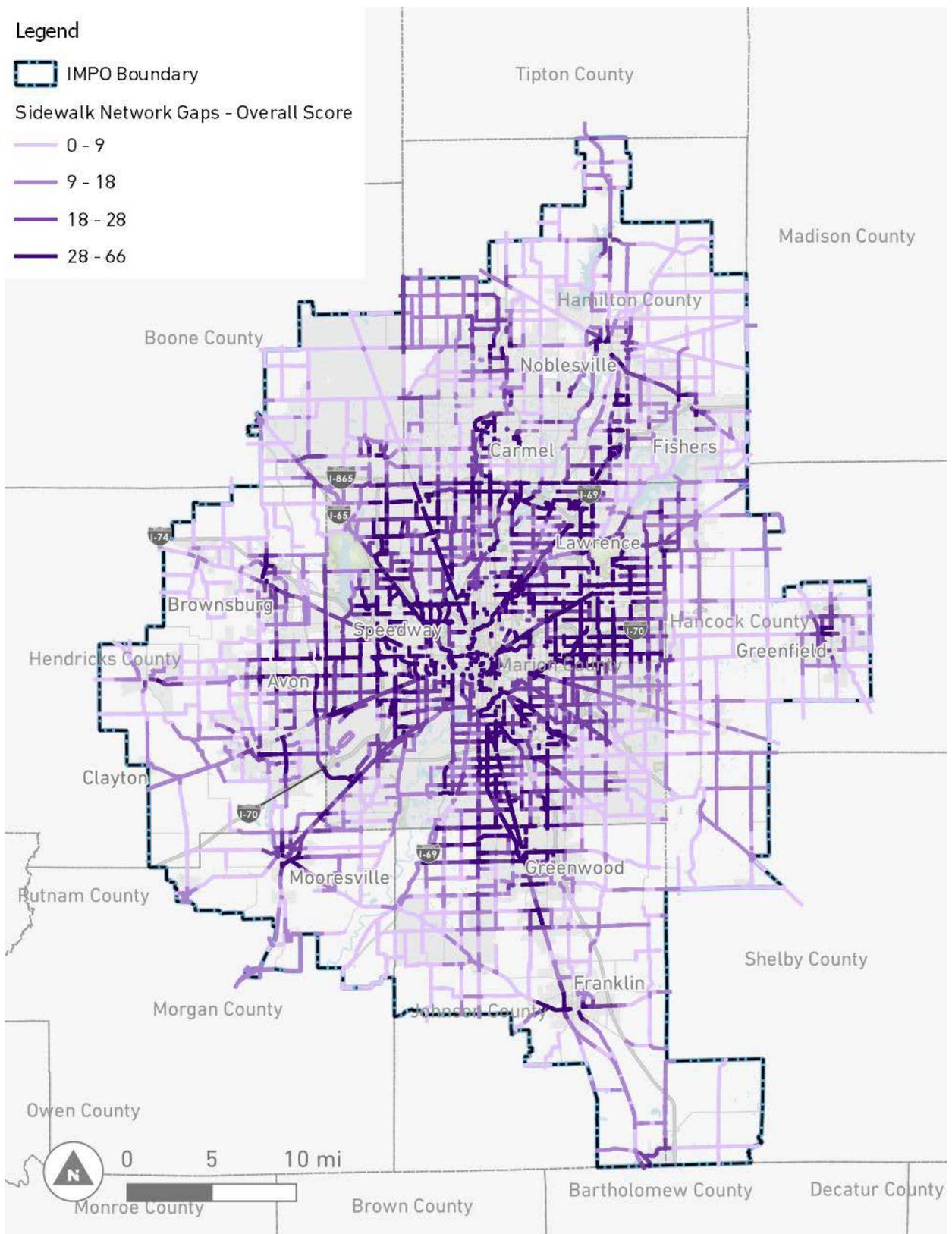


Figure 29: Sidewalk Network Gaps - Overall Score

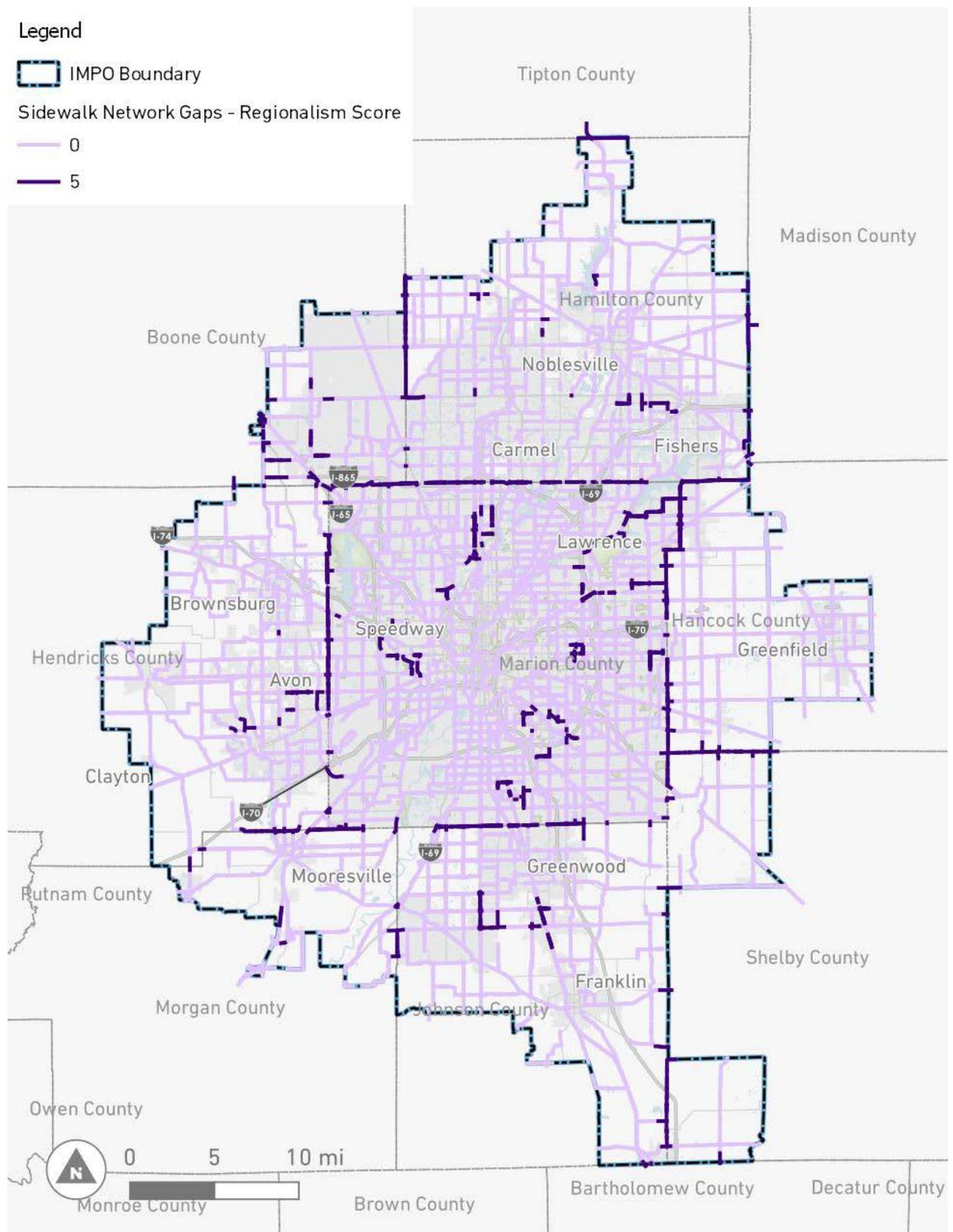


Figure 30: Sidewalk Network Gaps - Regionalism Score

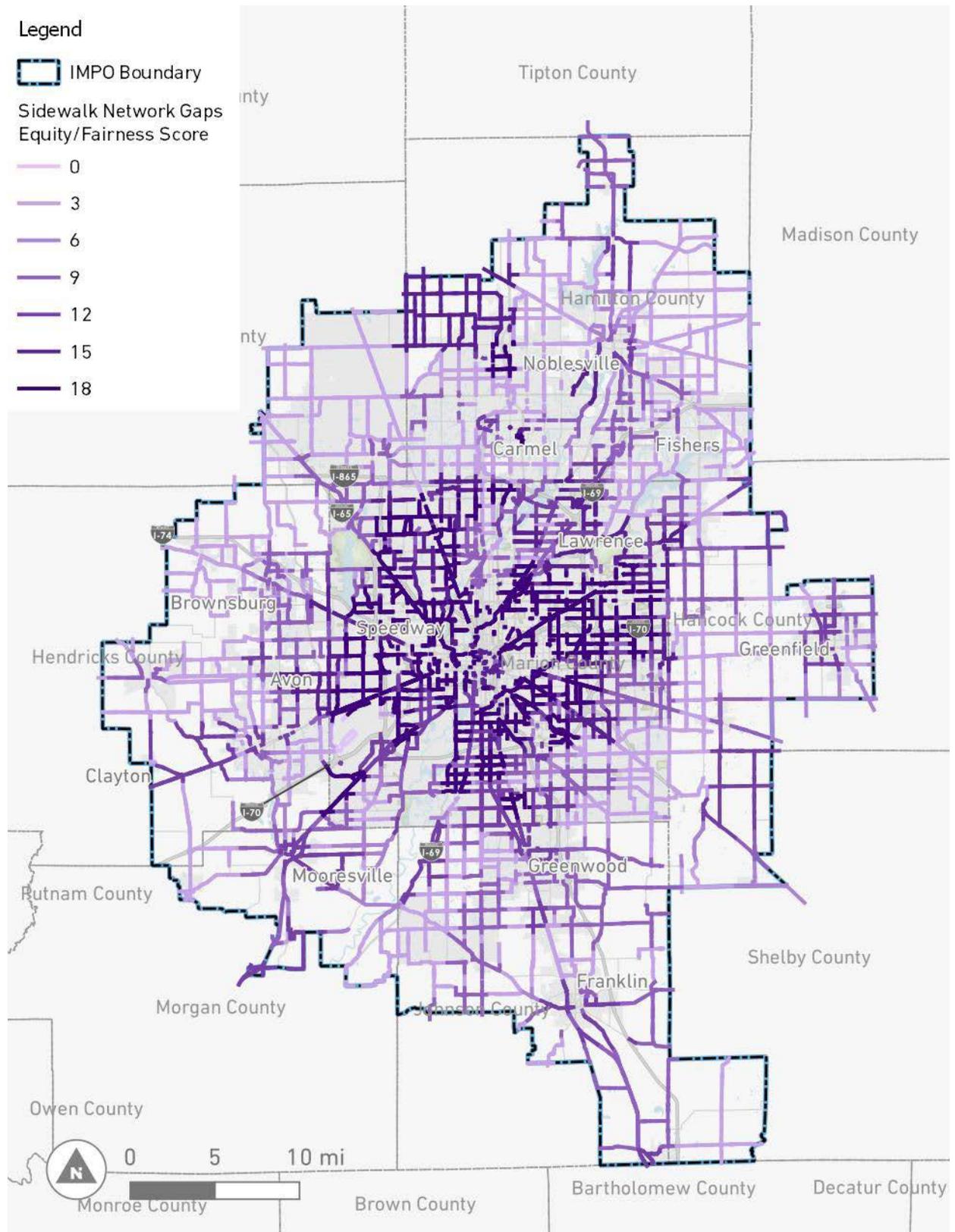


Figure 31: Sidewalk Network Gaps – Equity/Fairness Score

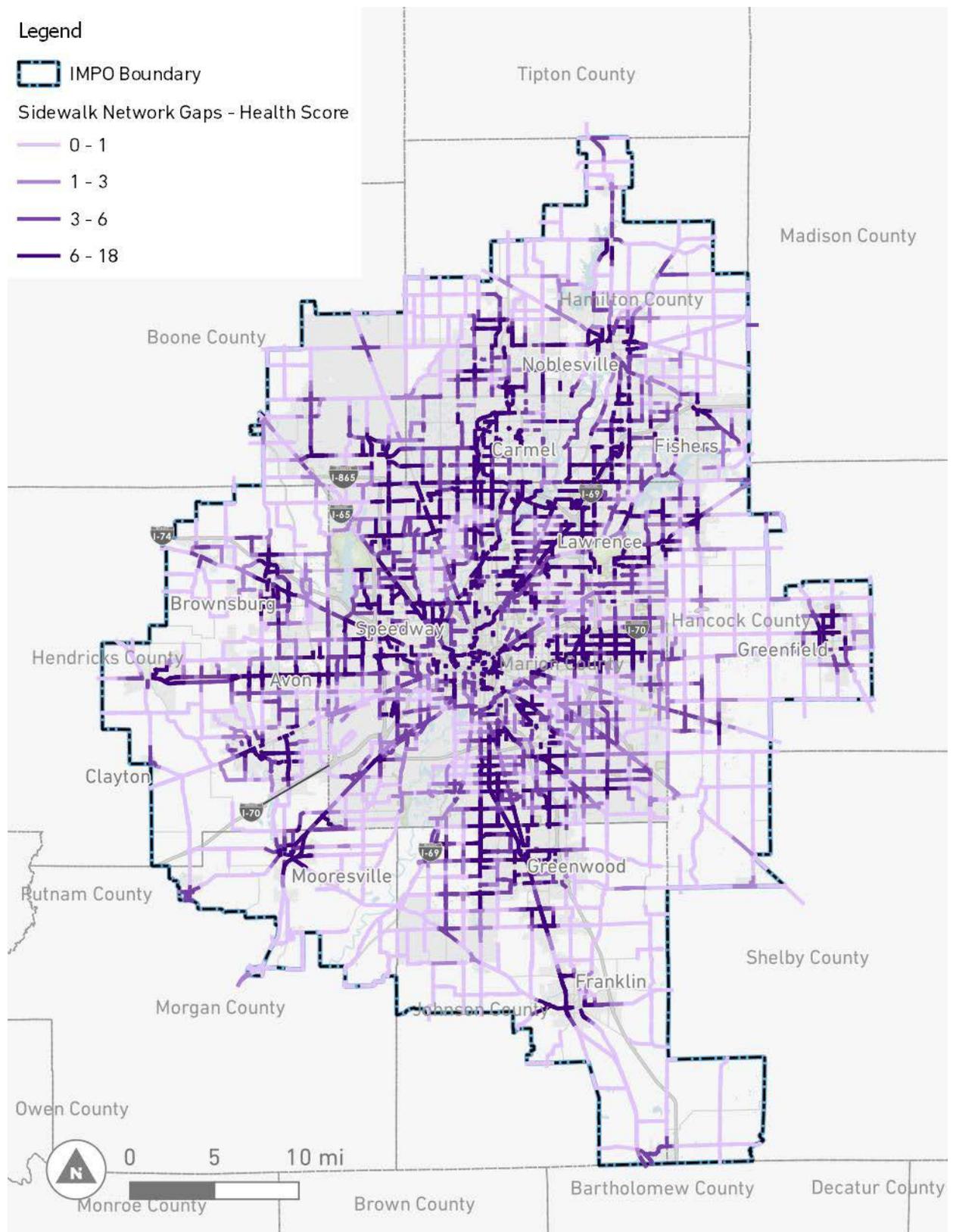


Figure 32: Sidewalk Network Gaps - Health Score

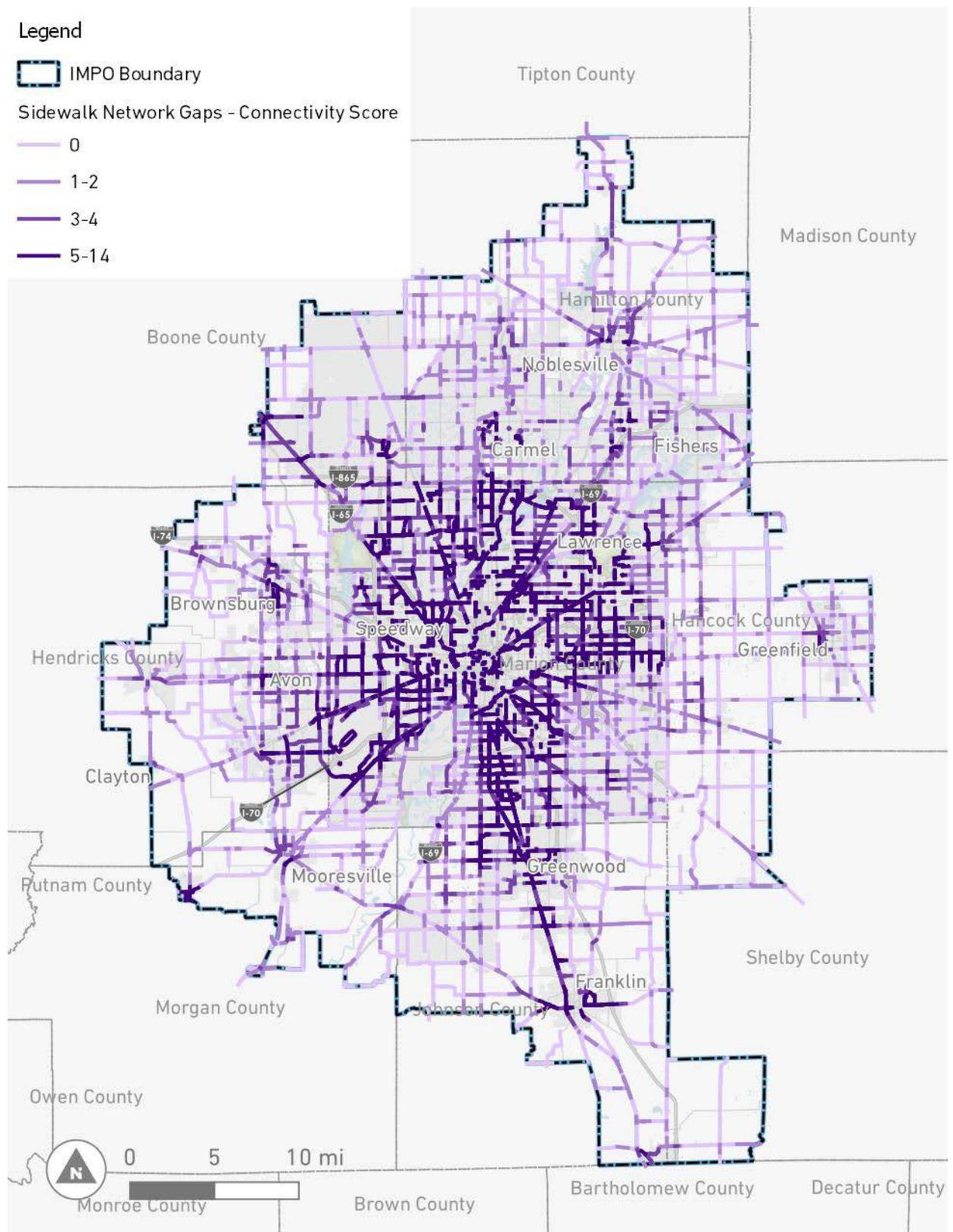


Figure 33: Sidewalk Network Gaps - Connectivity Score

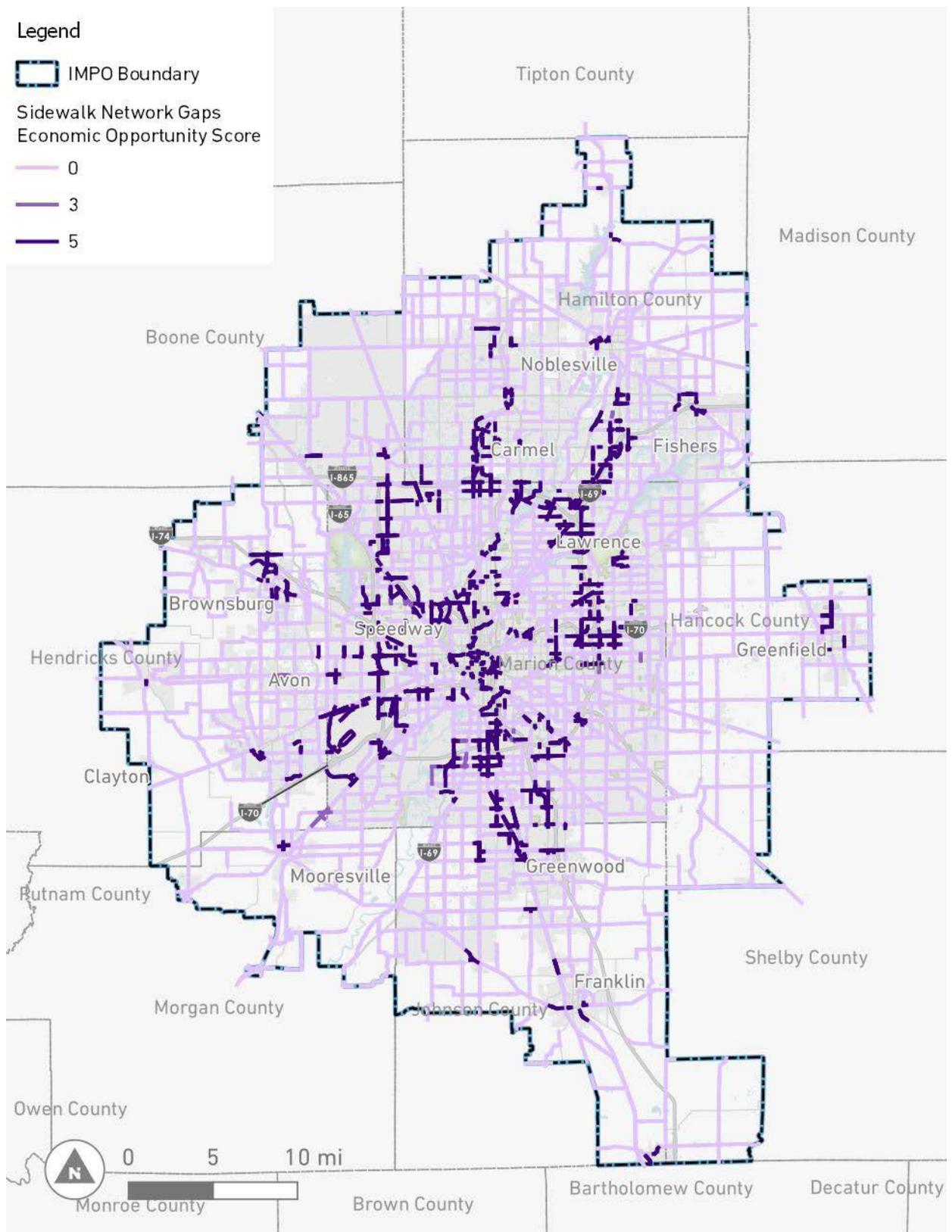


Figure 34: Sidewalk Network Gaps – Economic Opportunity Score

Regional Policy and Program Recommendations

The Indianapolis MPO can support local governments in implementing regional active transportation network infrastructure through policies and programs that provide resources for local governments and transportation agencies through education, collaboration, funding, engagement, and encouragement. The following recommendations are policies and programs that can be implemented by IMPO staff with direction from the Transportation Policy Committee. They are listed in alphabetical order.

The timeframes shown are defined as follows:

- **Short-term:** One year
- **Medium-term:** Two to three years
- **Long-term:** Three years or more

The status of programs and policies should be assessed and updated each time the plan is updated. Status is defined as:

- **New:** A program or policy that is proposed in this Plan.
- **Ongoing:** An existing program or policy that will be continued.

Short-Term:

Active Transportation Data Sharing & Contributions

Status: **Ongoing**

Work with local government agencies to create a standard method for maintaining and sharing active transportation data such as a regional bicycle facility inventory, sidewalk inventory, trail inventory, and bicycle and micromobility parking facilities. Identify a standard timeline for updating the data (e.g., annually, or more frequently if supported by local government needs). The IMPO should pursue regular data contribution

to datasets such as OpenStreetMap; this directly benefits other ongoing efforts such as mobile data collection. Consider aligning updates with the annual deadline for League of American Bicyclists Bicycle Friendly Community applications as well as the summer updates to the PeopleForBikes City Ratings to maximize the efficiency of data consolidation and put the most up-to-date data to good use immediately.

Complete Streets Policy Updates

Status: **Ongoing**

Review the regional Indianapolis MPO Complete Streets Policy to ensure that it prioritizes safety for vulnerable roadway users on all projects. Consider expanding the policy to apply to all Indianapolis MPO funding categories.

Land Use Staff Communication

Status: **New**

Reach out to land use staff for the Indianapolis MPO's local government members to share information about IMPO's funding processes, and discuss regional active transportation resources (data, planning assistance, etc.) available from the IMPO or that the IMPO could consider providing. Share information on other federal or local funding opportunities.

Regional Active Transportation Working Group

Status: **New**

Develop a working group of Indianapolis MPO staff, local government staff, and relevant agency staff such as IndyGo to oversee implementation of the recommendations in this ATP and to promote multijurisdictional collaboration in active transportation planning, programs, and policies. Establish regular meetings and discuss topics such as: identifying potential projects to prioritize for funding applications and implementation, planning for an annual Active Transportation Summit, coordinating active transportation data collection, and reviewing updated bicycle and pedestrian data.

Medium Term:

Active Transportation Planimetric Data Collection

Status: **New**

Coordinate and collaborate with local government agencies on the collection of planimetric data to improve sidewalk, curb ramp, and trail inventory data. Additionally, use the meeting to discuss the collection of other relevant data including edge of pavement data, aerial imagery, and other infrastructure data.

Annual Active Transportation Summit

Status: **New**

Host or support an annual Active Transportation Summit for local government agency staff, bicycle, and pedestrian advocates, and engaged members of the public to discuss recent efforts related to active transportation, collaborate on multijurisdictional projects, and learn best practices from one another. This summit will help build support and visibility for regional active transportation goals and improve local agency's connections with their counterparts in neighboring communities.

Incorporate Active Transportation Plan into IMPO Scoring

Status: **Ongoing**

Use the Metropolitan Transportation Plan's Resource Allocation Goals to guide the amount of IMPO-managed funds that are distributed to standalone bicycle and pedestrian projects for each grant cycle. Consider incorporating regional network priorities into project selection criteria and consider requiring applicants to include bicycle and pedestrian accommodations that align with the IMPO's Complete Streets Policy and Section 5.1 of this ATP (Facility Design recommendations). If design exceptions are needed, refer applicants to the process detailed in the Indianapolis MPO Complete Streets Policy.

ITS Architecture Education

Status: **Ongoing**

Help local governments and relevant agencies understand the background information, requirements, and opportunities for regional collaboration on ITS. Coordinate with the federal government and/or other MPOs to understand best practices. In addition to the user guide, add educational resources to the Indianapolis MPO website. Consider hosting an annual meeting (either in-person or virtual) to provide information on any changes to the regional ITS architecture and/or federal guidance.

Regional First and Last Mile Plan

Status: **Ongoing**

In partnership with IndyGo, support the development of a Regional First and Last Mile Plan that evaluates priority areas for bicycle and pedestrian infrastructure that support travel to and from transit stops. In coordination with local governments, relevant regional agencies, community stakeholders, and the general public, identify a list of strategies that can be implemented across the region. Consider both infrastructure and non-infrastructure recommendations such as education or transportation demand management efforts. This plan should expand existing first and last mile efforts and make recommendations for infrastructure connections between residential areas and transit stops.

Regional Micromobility Programs

Status: **New**

Provide resources and support for regional micromobility programs, particularly in communities outside of the urban core. Coordinate with micromobility providers as appropriate and provide resources and technical assistance for local governments to consider equitable implementation of micromobility options, including in Environmental Justice areas.

Regional Pedestrian and Bicycle Count Program

Status: **Ongoing**

Continue to pursue sources for pedestrian and bicycle count data that can be collected for the full range of facility types within the region and with the ability to provide that data to IMPO member agencies and partners. Understanding how much each trail is currently used and the trends over time can help local communities understand where to invest in additional active transportation projects and help justify the need to fund active transportation projects.

Transportation Equity Program

Status: **Ongoing**

Use the Metropolitan Transportation Plan's Equity Integration strategy to evaluate the investment of IMPO-funded active transportation projects in identified areas of system investment need. Continue to conduct the reviews on an ongoing basis to ensure transportation equity remains a priority.

Long-Term:

Communications Campaign

Status: **New**

Support local, community-based organizations and non-profits in the development of new communications campaigns relevant to active transportation education, encouragement, and engagement. House and share out existing physical and digital communications materials that can be used by various partners to encourage and promote active transportation and multimodal safety. Use data on safety trends to identify areas of specific need such as micromobility, youth safety, or bicycle safety.

Congestion / Demand Management Education

Status: **New**

Educate communities on the existence of and potential uses for the region's Congestion Management Plan (CMP). The CMP includes various strategies for reducing travel in single-occupancy vehicles. Consider convening regional partners in public transportation, local governments, and the business sector to collaborate on solutions for reducing work-related vehicle travel. Recommended activities should include the collection, development, and maintenance of relevant data such as travel demand data or location of active transportation facilities.

Regional Wayfinding

Status: **Ongoing**

Support and coordinate with local government agencies, relevant transportation partners, community stakeholders, and the general public in the development of active transportation regional wayfinding that identifies consistent graphic design, branding, and signing method for trail and on-street wayfinding along regionally significant active transportation corridors. Visit Indy/Tourism Tomorrow and the Central Indiana Community Foundation are currently leading this regional effort with support from the Indianapolis MPO; IMPO should continue providing assistance and resources to this and other future efforts.

Local Policy and Program Considerations and Recommendations

For local governments in Central Indiana, many of the recommended policies from the 2020 Regional Bikeways Plan and 2020 Regional Pedestrian Plan are still relevant. These recommendations are listed in Table 8 on the next page. For more detail on these recommendations, refer to the 2020 plan documents. The Indianapolis MPO can provide resources and support to local agencies for many of these topics.

Table 8: Local policy and program considerations and recommendations

	Local - Pedestrian Policy & Program Considerations	Local - Bikeway Policy & Program Recommendations
Policies / Plans	Complete Streets policies	Adopt a Complete Streets policy
	Local pedestrian advisory committees	Establish a bicycle advisory committee
	Local Pedestrian Safety Action Plans (IMPO created a regional plan in 2022)	Adopt a bicycle master plan.
		Establish dedicated staff for programs and funding for projects
		Adopt a goal to increase bicycling
Parking / Access	Parking policies to support pedestrian activity and safety such as parking pricing, parking cash-outs, discounted or preferential parking, unbundled parking, and bike parking hubs	Reduce car parking
		Require bike parking
		Coordinate bikeshare programs
		Ensure bike-transit integration
Safety	Local Vision Zero Policies (IMPO created a regional plan in 2022)	Adopt a goal to improve safety
	Child safety programs focused on pedestrian youth safety	
	Implement Safe Routes Programs including Safe Routes to School, Safe Routes to Healthy Foods, Safe Routes for Seniors, and Safe Routes to Transit	
Programs / Implementation	Physical activity implementation plans (holistic policy, infrastructure, and encouragement plans)	Continue to expand the regional bikeway network
	Pedestrian education programs	Consider the project prioritization in funding or implementation decisions
	Events like Walk to Work Day	Adopt consistent design guidelines
	Travel toolkit to reduce single-occupancy vehicle trips	Continue to collect and monitor bicycle crash data
		Initiate count programs
		Use the Bike Network Analysis Tool
		Enforce bicycle and motor vehicle laws
		Implement programs to support cycling
		Maintain facilities for user safety and material lifespan

CHAPTER 05: IMPLEMENTATION



Implementation of this Regional Active Transportation Plan will occur over time by a variety of partners around Central Indiana. This chapter provides information to help local governments and Indianapolis MPO staff identify the appropriate facility needed to build out a regional network that serves people of all ages and abilities. There is information for facility selection based on the design user, roadway characteristics, and land use characteristics. This chapter also presents information on performance measures, funding sources, and maintenance.

Facility Selection and Design

There are several key factors to consider during bicycle facility selection, such as design users and roadway conditions. One of the priorities of the Indianapolis MPO in developing this ATP is to implement a regional active transportation network that is safe, comfortable, and accessible to people of all ages and abilities. To accomplish this, local governments will need to select and design active transportation facilities that at minimum align with the best practices in key Federal Highway Administration (FHWA) guidance documents including:

- [FHWA Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts](#)
- [FHWA Guidebook for Measuring Multimodal Network Connectivity](#)
- [FHWA Bikeway Selection Guide](#)
- [FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations](#)
- [U.S. Access Board Public Right-of-Way Accessibility Guidelines \(PROWAG\)](#)

This section introduces the FHWA bicycle facility selection matrix that identifies what type of facility is appropriate for most bicyclists based on speed, volume, and context.

Although regional network priorities have been identified in this ATP, each project should go

through additional study to identify the most appropriate and most feasible facility option for each location, with community engagement performed for each project. This section describes the concepts of “facility selection” to guide such processes and outlines potential facility types.

FHWA Proven Safety Countermeasures

The Federal Highway Administration (FHWA) has identified 28 Proven Safety Countermeasures that are research-based and are effective for reducing fatal and serious injury crashes. The resource is available on the FHWA website at: <https://highways.dot.gov/safety/proven-safety-countermeasures>. The Pedestrian and Bicyclist-specific Proven Safety Countermeasures are shown in Table 8 below. Some of the other Proven Safety Countermeasures also apply to pedestrian and bicyclist safety.

What is PROWAG and why is it important?

PROWAG stands for Public Right-of-Way Accessibility Guidelines. The U.S. Access Board recently updated PROWAG in 2023 for the first time in 12 years, representing a major milestone in the disability rights movement and addressing a significant gap in the regulatory framework for implementing the Americans with Disabilities Act of 1990 (ADA).

PROWAG is important because its implementation will result in more accessible streets and sidewalks for people with disabilities and greater consistency and predictability in design, which is especially important for people with disabilities. It is expected that the U.S. Department of Transportation and the U.S. Department of Justice will adopt PROWAG sometime in 2024. Once that happens, all jurisdictions in Central Indiana must comply with PROWAG guidelines when constructing new streets and shared use paths and when reconstructing or modifying existing streets and paths.

Many critical elements of the street design now have accessibility guidelines provided in PROWAG including:

- Pedestrian access routes along streets, sidewalks, and shared use paths
- Alternative pedestrian access routes during construction
- Curb ramps and blended transitions
- Detectable warning surfaces
- Accessible pedestrian signals and pedestrian pushbuttons
- Pedestrian crossing islands
- Roundabouts and channelized turn lanes
- Transit stops and shelters
- Accessible on-street parking
- Passenger loading zones
- Street furniture

The Indianapolis MPO encourages every local municipality in Central Indiana that plans, designs, constructs, owns, operates, and/or maintains transportation facilities to adopt PROWAG into their local ordinances. This can provide more clarity to local contractors and developers in specific cases where there are thresholds or interpretations of rules that may be unclear.

Table 9: FHWA Pedestrian/Bicyclist Proven Safety Countermeasures

Proven Safety Countermeasure	Safety Benefits
Bicycle Lanes	<ul style="list-style-type: none"> • Converting traditional or flush buffered bicycle lanes to a separated bicycle lane with flexible delineator posts can reduce crashes up to 53% for bicycle/vehicle crashes. • Bicycle Lane Additions can reduce crashes up to 49% for total crashes on urban 4-lane undivided collectors and local roads. • Bicycle Lane Additions can reduce crashes up to 30% for total crashes on urban 2-lane undivided collectors and local roads.
Crosswalk Visibility Enhancements	<ul style="list-style-type: none"> • High-visibility crosswalks can reduce pedestrian injury crashes up to 40%. • Intersection lighting can reduce pedestrian crashes up to 42%. • Advance yield or stop markings and signs can reduce pedestrian crashes up to 25%.
Leading Pedestrian Interval	<ul style="list-style-type: none"> • Leading Pedestrian Intervals can reduce pedestrian-vehicle crashes at intersections by 13%.
Medians and Pedestrian Refuge Islands in Urban and Suburban Areas	<ul style="list-style-type: none"> • Median with Marked Crosswalk: 46% reduction in pedestrian crashes. • Pedestrian Refuge Island: 56% reduction in pedestrian crashes.
Pedestrian Hybrid Beacons (PHB/HAWK)	<ul style="list-style-type: none"> • 55% reduction in pedestrian crashes. • 29% reduction in total crashes. • 15% reduction in serious injury and fatal crashes.
Rectangular Rapid Flashing Beacons (RRFB)	<ul style="list-style-type: none"> • RRFBs can reduce crashes up to 47% for pedestrian crashes. • RRFBs can increase motorist yielding rates up to 98% (varies by speed limit, number of lanes, crossing distance, and time of day).
Road Diets (Roadway Reconfiguration)	<ul style="list-style-type: none"> • 4-Lane to 3-Lane Road Diet Conversions can result in a 19-47% reduction in total crashes.
Walkways	<ul style="list-style-type: none"> • Sidewalks: 65-89% reduction in crashes involving pedestrians walking along roadways. • Paved Shoulders: 71% reduction in crashes involving pedestrians walking along roadways.

Pedestrian Crossing Selection Methodology

Pedestrian crossings should be safe, intuitive, and accessible to people with mobility and/or vision disabilities. Both pedestrian and vehicular conditions factor into the design of pedestrian crossings. For example, in areas of high active transportation demand or high need where there is potential for more pedestrian activity, crosswalks and pedestrian queuing areas need enough space to accommodate users; In areas with higher traffic volumes and wider roadways,

additional countermeasures are needed to assist pedestrians using longer crossings.

Countermeasures such as high-visibility crosswalks or pedestrian refuge islands can help address safety issues like drivers not yielding to crossing pedestrians or inadequate visibility. According to the FHWA Proven Safety Countermeasures website, medians with marked crosswalks reduce crashes involving pedestrians by 46% and pedestrian refuge islands by 56%¹⁵. High-visibility crosswalks can reduce pedestrian crashes by up to 40%, intersection lighting by up to 42%, and

advance yield or stop markings/signs by up to 25%¹⁶.

Figure 36 from the [FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossings](#) depicts other safety issues that can be addressed with pedestrian crash countermeasures. This report along with resources like the [National Cooperative Highway Research Program Report 562: Improving Pedestrian Safety at Unsignalized Crossings Appendix A: Guidelines for Pedestrian Crossing Treatments](#) provide best practices for multimodal transportation design standards. See these full resources for further detail on intersection and pedestrian crossing countermeasure selection.

Designing for Bicyclists

Ensuring that bicyclists feel comfortable using a given facility is key to building a safe, convenient, and well-used network. Bicyclists are sometimes classified according to their comfort level, bicycling skill & experience, age, and trip purpose. However, data suggests that certain bicycle facility types can reduce crashes between bicycles and vehicles for all types of bicycle users.

The bare minimum design facility on most streets needs to separate bicyclists from motor vehicle traffic, either using sidepaths/trails/ greenways or protected bike lanes. FHWA notes that adding marked bicycle lanes to roadways can reduce vehicle-bicycle crashes by up to 49%,

Pedestrian Crash Countermeasure for Uncontrolled Crossings	Safety Issue Addressed				
	Conflicts at crossing locations	Excessive vehicle speed	Inadequate conspicuity/visibility	Drivers not yielding to pedestrians in crosswalks	Insufficient separation from traffic
Crosswalk visibility enhancement					
High-visibility crosswalk markings*					
Parking restriction on crosswalk approach*					
Improved nighttime lighting*					
Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line*					
In-Street Pedestrian Crossing sign*					
Curb extension*					
Raised crosswalk					
Pedestrian refuge island					
Pedestrian Hybrid Beacon					
Road Diet					
Rectangular Rapid-Flashing Beacon					

*These countermeasures make up the STEP countermeasure "crosswalk visibility enhancements." Multiple countermeasures may be implemented at a location as part of crosswalk visibility enhancements.

Figure 36: Safety issues addressed per countermeasure (FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations Table 2)

and upgrading those to separated bicycle lanes with flexible delineator posts can reduce crashes by up to 53%¹⁷. The key is to install facilities that physically separate bicycles and vehicles.

Bicycle Facility Selection Methodology

Bicycle networks should be continuous, connect seamlessly across jurisdictional boundaries, and provide access to destinations. Anywhere a person would want to drive to for utilitarian purposes, such as commuting or running errands, is a potential destination for bicycling. As such, planning connected low-stress bicycle networks is not achieved by simply avoiding motor vehicle traffic. Rather, planners should identify solutions for lowering stress along higher traffic corridors so that bicycling can be a viable transportation option for most of the population.

Before projects can be implemented the type of on-street bicycle facility will need to be defined. The [Federal Highway Administration \(FHWA\)'s Bikeway Selection Guide](#) can be used to help determine the best facility for the roadway based on context, speed, and volume. For example, crash data suggests that all bicycle users should have the option to be separated from vehicles. Highly confident riders may choose to mix with vehicles, but “meeting safety and mobility goals are typical objectives for roadway designers. Designers have an ethical obligation to provide for the health, safety, and welfare of the public, which may require a careful evaluation of mobility goals where they have the potential to degrade safety. One user’s convenience or mobility should not be prioritized over another user’s safety.”¹⁸

The guide goes on to note that if sufficient space is not available to provide the preferred bikeway type at the preferred design values, other options can be considered. However, these options may come with trade-offs. For example, wider traffic lanes intended for shared bicycle use can lead to higher vehicle speeds and reduced bicyclist comfort, or

bicycle lanes next to parked vehicles can create door and cyclist conflicts. Another consideration when sufficient space is not available is to locate a parallel route where safe facilities may be provided. Parallel routes may be suitable or may result in lower use (depending on location) or a longer trip. Separated paths may be appropriate where existing roadway space is limited but additional right-of-way is present but could create pedestrian and cyclist conflicts. Road diets, either removing or narrowing traffic lanes, could also be considered to increase space for bicyclists. Studies have found that roadways did not experience an increase in crashes or congestion when travel lane widths were decreased to add a bicycle lane¹⁹. It’s important to consider the context of the roadway, speed and volume of traffic, and local crash data to identify the best facility design.

See the full guide for further detail on facility selection: [Federal Highway Administration \(FHWA\)'s Bikeway Selection Guide](#)

Active Transportation Facility Types

There are numerous facility types which accommodate people of varying abilities and in different environments. Research shows that the provision of low stress, connected bicycle networks improves bicyclist safety and encourages bicycling for a broader range of user types. Pedestrian infrastructure is primarily provided in the form of sidewalks, shared-use paths, and crossing treatments.

Table 10: Pedestrian Facility Types



SIDEWALK

Description

Sidewalks are intended for exclusive use by pedestrians. They are adjacent to but separated from the roadway by a curb and/or buffer, such as a tree lawn. As roadway speeds and volumes increase, more separation is needed to maintain a safe and comfortable walking environment for pedestrians. Common in urban areas, they may also be necessary in rural areas with pedestrian generators, such as schools and businesses. May notably increase levels of walking in areas with high traffic speeds/volumes.

Intended Users:

Pedestrians

Other Considerations

In addition to providing sidewalk space for pedestrians to walk, the space between the curb (or edge of pavement) and the property line can play a significant role in access to properties, on-street parking, transit, space for above ground street utilities, traffic control, streetscaping, and street furniture; and space for outdoor dining, street vendors, and other community life. Designers should carefully consider the various needs of the sidewalk and ensure adequate, accessible, and comfortable space to maintain pedestrian through activity.



SHARED USE PATH

Description

Typically designed as two-way facilities physically separated from motor vehicle traffic and used by bicyclists, pedestrians, and other non-motorized users, shared use paths provide a low-stress and comfortable travel environment for users of all confidence levels. They are used for recreational opportunities in addition to transportation and are located along roadways or completely separated from the road network, sometimes along rivers or old railroad corridors.

Intended Users:

Bicyclists and Pedestrians

Other Considerations

Shared use paths should be at least 10 feet wide (wider where higher bicycle and pedestrian traffic is expected, e.g., urban areas). Special consideration must be given to the design of roadway crossings to increase visibility, clearly indicate right-of-way, and reduce the likelihood of crashes. Alternative accommodations should be sought when there are many intersections and commercial driveway crossings per mile.



CROSSING

Description

A variety of solutions can be employed to make intersections and mid-block crossings safer and more convenient for people walking. These treatments range from painted facilities, such as high-visibility crosswalks, to crossing enhancements and beacons/signals, such as rectangular rapid flashing beacons (RRFB). Painted crosswalks delineate the safest pathway for pedestrians, and RRFBs enhance user safety and convenience at crossing points when full signalization is not warranted.

Intended Users: Other Considerations

Bicyclists and Pedestrians

- Treatments may include:
- High visibility markings
- Advance yield lines and signage
- Curb extensions
- Raised crosswalk
- Rectangular Rapid Flashing Beacons (RRFBs)
- Pedestrian Hybrid Beacons (PHBs)
- Textured intersection pavement

Table 11: Bicycle Facility Types



BICYCLE BOULEVARD

Description

Where traffic volumes and speeds are low, many bicyclists can comfortably share lanes with motor vehicles. Shared lane markings and signs are added to inform people driving that bicyclists may operate in the lane and where to expect bicyclists. Wayfinding signage and traffic calming can help increase user comfort and prioritize bicycle travel.

Intended Users: Other Considerations

Bicyclists and Motorists

May be used in conjunction with wide outside lanes. Explore opportunities to provide parallel facilities for less confident bicyclists. Where motor vehicles are allowed to park along shared lanes, place markings to reduce potential conflicts with opening car doors.

On low speed (<25 mph) low traffic (<3,000 ADT) streets, traffic calming and diversion can be used to slow traffic or create a bicycle boulevard.

Context Posted Speed Limit Motor Vehicle Traffic Volume

Urban and Urban Periphery

10- 20 mph (preferred)

≤1,500 ADT (preferred)

25 mph or lower (acceptable)

≤3,000 ADT (acceptable)



PAVED SHOULDERS

Description

Providing additional pavement width outside of the travel lanes can reduce crashes, aid maintenance, and provide space for bicyclists. Benefits include reducing pavement edge deterioration, accommodating oversize and maintenance vehicles, and providing emergency refuge for public safety vehicles and disabled vehicles. Paved shoulder recommendations should be accompanied by signage.

Intended Users: Other Considerations

Bicyclists

Shoulder width to accommodate bicyclists depends on traffic volume and speed in adjacent motor vehicle lane. Placement of the rumble strip is critical to providing usable space for bicyclists. This could be paired with proven safety countermeasures like wider edge lines²⁰ for better separation.

Context Posted Speed Limit Motor Vehicle Traffic Volume

Rural and Urban Periphery

Any speed (typically 45 mph or higher)

≤ 6,500 ADT (preferred)

Any volume (acceptable)



BIKE LAND AND BUFFERED BIKE LANE

Description

One-way facilities within the roadway demarcated with painted lane lines. Standard bike lanes provide some improvements to bicyclist safety, and can be enhanced with painted buffers, bike lane extensions through intersections, green colored pavement, and regulatory signs.

Intended Users:

Bicyclists

Other Considerations

Intersection designs should promote visibility of bicyclists and raise awareness of potential conflicts. Painted buffers can increase actual and perceived safety and are preferred when feasible. Bike lanes located next to parked cars should have a painted buffer next to the parking lane to prevent “dooring” crashes.

Context

Urban

Posted Speed Limit

25 mph or lower

Motor Vehicle Traffic Volume

≤3,000 ADT (preferred)

≤6,000 ADT (acceptable)



SEPARATED BIKE LANE

Description

One- or two-way facilities within the roadway and physically separated from adjacent travel lanes with vertical elements such as a concrete curb, flex posts or on-street parking. Such facilities reduce the risk of injury and can increase bicycle ridership due to perceived and actual safety and comfort.

Intended Users:

Bicyclists

Other Considerations

Intersection designs should promote visibility of bicyclists and raise awareness of potential conflicts. Separation may be provided through temporary measures such as planters or removable bollards as an interim and low-cost design.

Context

Urban

Posted Speed Limit

Any speed (typically 25 mph or higher)

Motor Vehicle Traffic Volume

Any volume (typically 3,000 ADT or greater)

Regional Key Performance Indicators

Monitoring key performance indicators for local and regional active transportation networks is essential to ongoing success. Bicycle and pedestrian counts, crash records, and other data contribute to a business case for continued improvement of and investment in multimodal infrastructure.

As recommendations are implemented, local and regional governments must be able to identify whether these investments are paying active transportation dividends (i.e., more people walking and bicycling). An affirmative answer reinforces

this Plan’s legitimacy and provides evidence that future investments will also yield positive results.

The key indicators in Table 12 can help local governments and the Indianapolis MPO chart progress towards building safe, connected, and comfortable walking and bicycling networks. With support from the IMPO, local governments should consider establishing baseline targets and revisit these metrics as new plans and priorities arise. Data on these indicators may be documented and published for public review annually. Robust documentation would include establishing baseline data collection frequency, and data collection and analysis responsibility. The list of data indicators is presented for further consideration - it is not a complete or final list.

Table 12: Local and Regional Key Performance Indicators

Goal	Key Performance Indicator	Timeframe
Connectivity	Number of shared-use path projects built	Annually
	Number of sidewalk projects built	
	Number of on-street, all ages and abilities bicycle facility projects built	
	Number of projects implemented that connect to existing network (local and/or regional)	
Safety	Number of intersection improvements implemented	Annually
	Number of speed management treatments implemented on High Injury Network corridors	
	Number of Safe Routes to School countermeasures implemented	Every two years
	Number of crashes involving a pedestrian, bicyclist, and/or person using micromobility device	Annually
Livability	Number of projects implemented within ¼ mile of schools, health care services, libraries, banks, grocery stores, or other services	Annually
	Number of projects implemented connecting to parks or recreational facilities	
	Number of commuters that use active transportation	
	Number of K-12 students that use active transportation to get to school	Every two years
	Number of facilities with routine maintenance	
Accessibility	Geographic distribution of completed regional trail projects	Annually
	Number of ADA curb ramps and accessible crossing signals implemented	
Economic	Number of projects implemented within ¼ mile of employment hubs	Annually
	Number of projects implemented within ¼ mile of regional trail-oriented development corridors	
	Residential property values	

Funding

Funding that provides for a region-wide system of connected bicycle and pedestrian facilities is derived from a variety of sources. Federal transportation programs administered by INDOT or the Indianapolis MPO provide the most reliable funding opportunities for substantial bicycle and pedestrian infrastructure investment, but these resources are best leveraged when they can be augmented by local funding.

This section of the Plan provides a brief description of key funding sources for ATP implementation.

Local Funding Sources

Although federal programs provide the bulk of funding for bicycle and pedestrian projects, local municipalities are responsible for remaining project costs not covered through these sources. This section highlights typical local funding sources, as well as several alternative sources, which can be utilized to implement bicycle and pedestrian projects as either standalone projects or as part of larger projects.

Property taxes. Property taxes are typically the main source for local income and contribute to a city's general fund. Subject to local policies, procedures, and availability, these funds may be used at the discretion of each municipality to help in the funding of infrastructure improvements. Property tax increases can be implemented through a public voting process.

Bonds. To fund bicycle and pedestrian facilities, either general obligation or revenue bonds may be used. Approval is required of these bonds from voting citizens and needs to be paid back to investors over the duration of the bond. To pay off bonds, revenues from property and sales taxes are normally used.

Local Capital Improvement Programs. Local governments use Capital Improvement Programs (CIPs) as an outline for financing upcoming capital projects. Municipalities can decide which projects

should be funded each year based on their projected revenues versus operating costs using a variety of local funding sources including property taxes and sales taxes.

Impact/Developer Fees. To fund infrastructure improvements, development impact fees are another funding source that could be used at the local level. If no such fee currently exists, developer fees require policy modifications at the local level. Where development is impacting the local transportation system, developer fees are intended to ensure that developers pay for their share of improvements. As growth happens in the area, the use of developer fees to fund bicycle and pedestrian improvements ensures that facilities and amenities can support growth. Within the Indianapolis MPO region, Fishers is an example of a community that uses "in-lieu-of" fees in addition to road and bridge impact fees and park impact fees. Fishers requires as part of their Unified Development Ordinance the construction of either a sidewalk or multi-use path for projects that need to obtain an Improvement Location Permit. For projects where this requirement may lead to these new facilities being removed shortly thereafter due to an upcoming road project, the city can require the development to pay a fee (the total cost of that specific new section of trail or sidewalk) into a dedicated city fund for paths and sidewalks in lieu of constructing it directly. The detail of this fee system is explained in the Fishers Unified Development Ordinance under Section 6.12.1.B. Applicability: <https://online.encodeplus.com/regs/fishers-in/doclibrary.aspx?id=9cdd5113-1fc5-4a21-9062-ce18c0f6408a>.

Special Assessments. When the cost is directly controlled by those who benefit from the project, a special assessment, which is a way of getting funds for public infrastructure improvements, can be used. One example would be when neighborhoods coordinate to ensure that a portion of their property tax or an extra fee is used to assist with the funding of bicycle and pedestrian enhancements on their street. To fund specific enhancements within certain locations, one

example of a special assessment is a tax-increment financing district where properties are taxed at an extra amount above the base tax amount. The difference among the extra rate and the base tax rate (i.e., the increment) is usually used to fund those enhancements.

Partnerships. Partnerships with local and regional business, non-profits, and public authorities can be essential to acquiring more funding for bicycle and pedestrian projects, especially when local funding is not readily accessible.

Federal Funding Sources

The Bipartisan Infrastructure Law (BIL) enacted through the Infrastructure Investment and Jobs Act, is the most recent in a series of federal transportation authorization bills that allocates federal funding to various discretionary grant programs. Bicycling and walking projects are broadly eligible for federal transportation program funds. The following federal funding programs are resources for implementing bicycle and pedestrian projects:

Surface Transportation Block Grant (STBG).

STBG funds are the largest source of federal funding for the Indianapolis MPO and are also the most flexible. These funds may be used for road, transit, bike and pedestrian projects, carpool, planning, and many other project types.

Highway Safety Improvement Program (HSIP).

HSIP funds are typically used to implement Proven Safety Countermeasure projects including intersection changes like roundabouts, traffic calming to reduce vehicle speeds, pedestrian infrastructure to make crossing the street safer, guardrails, signage, or Safe Routes to School.

Congestion Mitigation and Air Quality (CMAQ).

CMAQ is a program meant to improve air and reduce congestion including projects that support a shift in modes from personal vehicles to more sustainable options like transit, carpool, and bike projects. It may also fund projects that reduce congestion without adding capacity (and thus

avoiding induced demand) such as roundabouts or projects that improve overall air quality like dust reduction programs.

Transportation Alternatives (TA). The TA program supports active modes of transportation including most bike and pedestrian projects like trails, sidewalks, and safe routes to school. This program may also fund some more unique non-transportation projects including certain historic preservation or tourism projects.

Carbon Reduction Program (CRP). The CRP is a new funding source created in the BIL. The program is intended to reduce transportation emissions from on-road highway sources. Bicycle and pedestrian projects that contribute to reduced transportation emissions (specifically carbon dioxide emissions) are eligible for this funding. The Indianapolis MPO distributes CRP funds through their CMAQ program.

National Highway Performance Program

(NHPP). NHPP funds are administered by INDOT. The NHPP provides support for the maintenance of the National Highway System (NHS), the construction of new facilities on the NHS, and the achievement of performance targets established under INDOT's Transportation Asset Management Plan for the NHS.

Maintenance

The long-term performance of bicycle and pedestrian networks depends on both the construction of new facilities and an investment in continued maintenance. Maintaining bicycle and pedestrian facilities is critical to ensuring those facilities are accessible, safe, and functional.

Frequency

The first step to approaching maintenance is to understand how often maintenance should be performed. Many activities, such as signage updates or replacements, are performed as needed, while other tasks such as snow removal are seasonal (see Table 13). Creating a winter maintenance approach is important to encourage year-round travel by walking and biking. One key component of this approach should be identifying priority routes for snow removal. More information on winter maintenance such as types of equipment needed for different facility types and how to consider snow removal in the design of facilities can be found in Toole Design's [Winter Maintenance Resource Guide](#).

Plan for Maintenance

Creating a strong maintenance program begins in the design phase. The agency that will eventually own the completed project should collaborate with partners to determine the infrastructure placement, final design, and life cycle maintenance cost. Maintenance staff should help identify typical maintenance issues, such as areas with poor drainage or frequent public complaints. They may have suggestions for design elements that can mitigate these issues or facilitate maintenance activities and can provide estimates for ongoing maintenance costs for existing and proposed facilities.

Coordination & Responsibility Between Agencies

Many jurisdictions struggle with confusion around which entity – city, town, township, county, or state – is responsible for the maintenance of trails and other active transportation facilities. Frequently there is no documentation showing who is responsible for maintenance of existing facilities, which can prolong unsafe conditions for trail users. Coordination between government agencies is key for effective maintenance programs. Intergovernmental agreements (IGAs) are used to codify the roles and responsibilities of each agency regarding ongoing maintenance. For example, a local government may agree to conduct plowing, mowing, and other maintenance activities on trails in its jurisdiction that were built by another agency. Clarifying who is responsible for maintenance costs and operations ensures that maintenance problems are resolved in a timely manner.

Maintenance Activities

Different facility types require different types of strategies to be maintained. Table 14. Maintenance Strategy Recommendations breaks down maintenance activities and strategies for each by facility type.

Table 13: Maintenance Activity Frequency

Frequency	Facility Type	Maintenance Activity
As Needed	Shared Use Paths	Tree/brush clearing and mowing
		Replace/repair trail support amenities (parking lots, benches, restrooms, etc.)
		Map/signage updates
		Trash removal/litter clean-up
		Repair flood damage: silt clean-up, culvert clean-out, etc.
		Patching/minor regrading
	Shared Use Paths/ Separated Bike Lanes / Paved Shoulders/ Bike lanes	Sweeping
	Bicycle Boulevards	Sign replacement
Sidewalks	Concrete panel replacement	
Seasonal	All	Snow and Ice control
	Shared Use Paths	Planting/pruning/beautification
		Culvert/drainage cleaning and repair
		Installation/removal of seasonal signage
		Perform walk audits to assess ADA compliance of facilities
Separated Bike Lanes / Paved Shoulders/ Bike lanes	Surface evaluation to determine need for patching/regrading/re-striping of bicycle facilities	
5-year	Shared Use Paths	Repaint or repair trash receptacles, benches, signs, and other trail amenities, if necessary
		Sealcoat asphalt shared use paths
10-year	Shared Use Paths	Resurface/regrade/re-stripe shared use paths
20-year	Shared Use Paths/ Sidewalks	Assess and replace/reconstruct shared use paths/ sidewalks

Table 14: Maintenance Strategy Recommendations

Facility Type	Maintenance Activity	Strategy
Shared Use Paths/ Separated Bike Lanes	Pavement Preservation	Develop and implement a comprehensive pavement management system for the shared use path network.
	Snow and Ice Control	Design shared-use paths to accommodate existing maintenance vehicles.
	Drainage Cleaning/ Repairs	Clear debris from all drainage devices to keep drainage features functioning as intended and minimize trail erosion and environmental damage.
		Check and repair any damage to trails due to drainage issues.
	Sweeping	Implement a routine sweeping schedule to clear shared-use paths of debris.
		Provide trail etiquette guidance and trash receptacles to reduce the need for sweeping.
	Vegetation Management	Implement a routine vegetation management schedule to ensure user safety.
		Trim or remove diseased and hazardous trees along trails.
		Preserve and protect vegetation that is colorful and varied, screens adjacent land uses, provides wildlife habitats, and contains prairie, wetland, and woodland remnants.
	ADA Requirements	Conduct walk and bike audits to assess accessibility of new, proposed, and existing shared-use paths.
Ensure that ADA compliance is incorporated into the design process for new facilities.		
Paved Shoulders/ Bike Lanes	Pavement Markings	Explore approaches to routinely inspect pavement markings for bicycle infrastructure and replace as needed.
		Consider preformed thermoplastic or polymer tape on priority bikeways (identified in this Plan) adjacent to high-volume motor vehicle routes (preformed thermoplastic or polymer tape are more durable than paint and require less maintenance).
	Snow and Ice Control	Clear all signed or marked shoulder bicycle facilities after snowfall on all state-owned facilities that do not have a maintenance agreement with a local governmental unit in place.
	Sweeping	Implement a routine sweeping schedule to clear high-volume routes of debris.
Bicycle Boulevards	Sign Replacement	Repair or replace damaged or missing signs as soon as possible.
Sidewalks	Pavement Preservation and Repair	Conduct routine inspections of high-volume sidewalks and apply temporary measures to maintain functionality (patching, grinding, mud jacking).
		Consider using public agency staff or hiring contractors for sidewalk repairs, rather than placing responsibility on property owner (property owner can still be financially responsible).
	Snow and Ice Control	Educate the public about sidewalk snow clearance.
		Require sidewalk snow clearance to a width of five feet on all sidewalks.
		Establish required timeframes for snow removal.
	Implement snow and ice clearing assistance programs for select populations.	

ENDNOTES

- 1** U.S. Census Bureau. “Sex by Age.” American Community Survey, ACS 5-Year Estimates Detailed Tables, Table B01001, 2022, <https://data.census.gov/table/ACSDT5Y2022.B01001?t=Age%20and%20Sex&g=050XX00US18011,18057,18059,18063,18081,18097,18109,18145&y=2022&d=ACS%205-Year%20Estimates%20Detailed%20Tables> Accessed on March 22, 2024.
- 2** Indianapolis Metropolitan Planning Organization (2022). Central Indiana 2050, Where Are We. Retrieved from <https://d144uep0xgc2gz.cloudfront.net/downloads/MPO/2050-MTP-Peer-Region-Comparison.pdf>
- 3** Census Reporter (2022). Indianapolis, IN Urbanized Area. Retrieved from [<https://censusreporter.org/profiles/40000US41212-indianapolis-in-urbanized-area/>]
- 4** Census Reporter (2022). Indiana. Retrieved from [<https://censusreporter.org/profiles/04000US18-indiana/>]
- 5** U.S. Census Bureau. “Sex by Age.” American Community Survey, ACS 5-Year Estimates Detailed Tables, Table B01001, 2022, <https://data.census.gov/table/ACSDT5Y2022.B01001?t=Age%20and%20Sex&g=050XX00US18011,18057,18059,18063,18081,18097,18109,18145&y=2022&d=ACS%205-Year%20Estimates%20Detailed%20Tables> Accessed on March 22, 2024.
- 6** U.S. Census Bureau. “Hispanic or Latino Origin by Race.” American Community Survey, ACS 5-Year Estimates Detailed Tables, Table B03002, 2022, <https://data.census.gov/table/ACSDT5Y2022.B03002?t=Race%20and%20Ethnicity&g=050XX00US-18011,18057,18059,18063,18081,18097,18109,18145&y=2022&d=ACS%205-Year%20Estimates%20Detailed%20Tables>. Accessed on March 22, 2024.
- 7** U.S. Census Bureau. “Household Size by Vehicles Available.” American Community Survey, ACS 5-Year Estimates Detailed Tables, Table B08201, 2022, <https://data.census.gov/table/ACSDT5Y2022.B08201?t=Household%20Size%20and%20Type&g=050XX00US-18011,18057,18059,18063,18081,18097,18109,18145&y=2022&d=ACS%205-Year%20Estimates%20Detailed%20Tables>. Accessed on March 22, 2024.
- 8** U.S. Census Bureau. “Sex of Workers by Means of Transportation to Work.” American Community Survey, ACS 5-Year Estimates Detailed Tables, Table B08006, 2022, <https://data.census.gov/table/ACSDT5Y2022.B08006?t=Commuting&g=050XX00US-18011,18057,18059,18063,18081,18097,18109,18145&y=2022&d=ACS%205-Year%20Estimates%20Detailed%20Tables>. Accessed on March 22, 2024.
- 9** Executive Order 12898 (February 1994) and related rules from the Federal Highway Administration (FHWA) and U.S. Department of Transportation (DOT) require MPOs to analyze their plans and programs to ensure they do not disproportionately burden low-income households and minority populations. However, the IMPO recognizes the importance of people-first language, and that the use of the term “minority” to describe people who are a specific collection of races and ethnicities can communicate inaccuracies when this group of people are not an actual measured minority. With both the federal requirement and the context in mind, for the purposes of the data reviewed and presented here, “minoritized” will be used to describe the collection of individuals who have reported themselves as part of any of the following races and ethnicities within the data sources used in this plan: Black or African American; Asian; American Indian or Alaska Native; and Native Hawaiian or Other Pacific Islander; Other Race; people of Two or More Races; and any race also identifying as Hispanic or Latino (which includes people of Cuban,

Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin).

10 Indianapolis Metropolitan Planning Organization. (2023). Environmental Justice Areas. Retrieved from [<https://www.indympo.org/maps-and-data/maps/demographics-environmental-justice>]

11 Commuter Connect. (2023). Bus / Workforce Connect. Retrieved from [<https://commuterconnect.us/employees/bus/>]

12 Broach, Joseph & Dill, Jennifer & Gliebe, John. (2012). Where do cyclists ride? A route choice model developed with revealed preference GPS data. *Transportation Research Part A: Policy and Practice*. 46. 1730-1740. <https://doi.org/10.1016/j.tra.2012.07.005>

13 Furth, P. G., Putta, T. V., & Moser, P. (2018). Measuring low-stress connectivity in terms of bike-accessible jobs and potential bike-to-work trips: A case study evaluating alternative bike route alignments in northern Delaware. *Journal of Transport and Land Use*, 11(1). <https://doi.org/10.5198/jtlu.2018.1159>

14 Indianapolis Metropolitan Planning Organization. (2023). Safe Streets and Roads for All Safety Action Plan. Retrieved from [<https://www.indympo.org/whats-underway/regional-safety-action-plan>]

15 <https://highways.dot.gov/safety/proven-safety-countermeasures/medians-and-pedestrian-refuge-islands-urban-and-suburban-areas>

16 <https://highways.dot.gov/safety/proven-safety-countermeasures/crosswalk-visibility-enhancements>

17 <https://highways.dot.gov/safety/proven-safety-countermeasures/bicycle-lanes>

18 https://safety.fhwa.dot.gov/ped_bike/tools_solve/docs/fhwasa18077.pdf#page=28

19 <https://highways.dot.gov/safety/proven-safety-countermeasures/bicycle-lanes>

20 <https://highways.dot.gov/safety/proven-safety-countermeasures/wider-edge-lines>

**A RESOLUTION OF THE TRANSPORTATION POLICY COMMITTEE OF
THE INDIANAPOLIS METROPOLITAN PLANNING ORGANIZATION
TO APPROVE
THE CENTRAL INDIANA REGIONAL ACTIVE TRANSPORTATION PLAN**

Resolution Number 24-IMPO-011

WHEREAS, the Central Indiana Regional Active Transportation Plan provides an update to the IMPO's bicycle and pedestrian project prioritization analysis; and

WHEREAS, the Plan contains additional analysis and recommendations for active transportation in the region; and

WHEREAS, IMPO staff a) formed a project Steering Committee which met four times to discuss and guide the update process, b) involved additional local agencies and stakeholders by holding four focus group sessions, c) engaged the public through local events & a survey, and d) noticed and held a public review period of the final plan; and

WHEREAS, the IMPO is charged with the responsibility of providing for the continuing, cooperative and comprehensive planning process for the Indianapolis Metropolitan Planning Area ("Planning Area"); and

WHEREAS, the IMPO Transportation Policy Committee, a committee of the IMPO, is the approval body for all transportation-related activities of the IMPO for the Planning Area under applicable U.S. Department of Transportation regulations; and

WHEREAS, it is the desire of the Transportation Policy Committee to authorize and approve certain actions as further set forth in this Resolution.

NOW, THEREFORE, BE IT RESOLVED, by the Transportation Policy Committee of the IMPO as follows:

SECTION 1: That the Central Indiana Regional Active Transportation Plan is approved as presented or modified by this Transportation Policy Committee on June 5, 2024.

SECTION 2: That any prior action taken by the Executive Director or any staff necessary in connection with the items approved herein is hereby ratified and adopted as actions on behalf of the IMPO.

SECTION 3: That any officer, including but not limited to the Executive Director of the IMPO, and each of them, is authorized and empowered to execute all agreements, instruments and other documents, in such form and as each of such officer(s) considers necessary or desirable to effectuate the foregoing resolutions and to carry out the purposes thereof; the taking of any such action and execution of any such agreement, instrument or document to be conclusive evidence of the due authorization thereof by the Transportation Policy Committee of the IMPO.

SECTION 4: This Resolution shall be effective immediately upon its passage.

* * * * *

PASSED by the Transportation Policy Committee of the Indianapolis Metropolitan Planning Organization this 5th day of June, 2024.

DocuSigned by:

Mark W. Myers

B3B503D2709F410...

Chair, Indianapolis MPO Transportation Policy Committee

Anna M. Gremling

Anna M. Gremling, Executive Director
Indianapolis Metropolitan Planning Organization