



CENTRAL INDIANA 2050

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Metropolitan
Transportation
Plan

Indianapolis
Metropolitan
Planning
Organization





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Contents

1 Purpose	5	System Performance	31	Roadway Priorities.....	59
Who We Are.....	5	Transit.....	33	Transit Priorities.....	61
Why We Plan	5	Pavement Condition	34	Recommended Project List	61
The Federal Role	5	Bridge Condition	35	Project List Fiscal Constraint	68
Performance Measures.....	5	Public Opinion	35	Bike and Pedestrian Priorities.....	68
The 2050 Plan.....	6	2020 Census	35	Environmental Justice Analysis ...	69
Our Plan and You	6	4 Next Steps	37	Red Flag Investigations.....	69
Plan Development.....	6	The Vision	37	6 Looking Ahead	71
What is the MPO?	8	Forecasting.....	37	Amendments.....	71
2 An Update	11	Uncertain Future	41	Conclusions	71
From 2045 to 2050	11	Federal Performance Measures ...	42	Recommendations.....	72
Revenue Changes	19	5 A Plan Forward	49	A Appendix: Public Feedback.	73
3 Where We Are	21	Policies.....	49	B Appendix: System Performance	83
Peer Comparisons	21	Congestion Management Process.	49	Report	83
How Do We Compare?	22	IRTIP and the MTP.....	57		
Existing Conditions	23	Available Revenues.....	58		

Amendments & Modifications

Part of	Approval/Mod Date	Description	Conformity Date
Modification 1	2022-02-16	Updated photo label on p.48	N/A
Modification 1	2022-02-16	Revised MPA text on p.8	N/A
Amendment 1	2022-02-16	Added # 2023 to MTP project list	2022-03-17
Amendment 1	2022-02-16	Updated Cost and Time Period in Project list for # 2508, 4209, 5110, 5111. See Amendment #1 for details.	2022-03-17
Amendment 1	2022-02-16	Updated MTP project maps on p.30, 67	2022-03-17
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Modification 2	2022-04-11	Updated description of # 6005 to include previously combined projects	N/A
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Modification 3	2022-07-26	Updated # 6162 description to reference "Decatur Direct"	N/A
Modification 3	2022-07-26	Updated # 5301 description to match proposed alignment	N/A
Modification 3	2022-07-26	Updated # 1301 to include more description detail	N/A
Amendment 2	2022-08-17	Added # 5205 to MTP project list + map update p.30 & p.67	2022-09-13
Amendment 2	2022-08-17	Added # 5206 to MTP project list + map update p.30 & p.67	2022-09-13
Amendment 2	2022-08-17	Updated # 6043 to include additional IMs and update cost	2022-09-13
Amendment 2	2022-08-17	Added # 5011 to MTP project list + map update p.30 & p.67	2022-09-13
Amendment 2	2022-08-17	Added # 1003 to MTP project list + map update p.30 & p.67	2022-09-13
Modification 4	2022-09-22	Removed # 5202 (Greenwood): determined to be exempt + map update p.30/67	N/A
Modification 4	2022-09-22	Marked # 2023 as being on the E&C project list (clean-up) + map update p.30/67	N/A
Modification 4	2022-09-22	Marked # 4508 as being on the E&C project list (clean-up) + map update p.30/67	N/A
Modification 4	2022-09-22	Marked # 5110 as being on the E&C project list (clean-up) + map update p.30/67	N/A
Modification 4	2022-09-22	Marked # 5111 as being on the E&C project list (clean-up) + map update p.30/67	N/A
Modification 4	2022-09-22	Added "Project List Fiscal Constraint" section on p.68	N/A
Amendment 3	2023-02-15	Added # 6045 to MTP project list + map update p.30 & p.67	2023-03-22
Amendment 3	2023-02-15	Updated # 1107 in MTP project list to exclude segment in # 4122 + map update p.30 & p.67	2023-03-22
Amendment 3	2023-02-15	Added # 4122 to MTP project list + map update p.30 & p.67	2023-03-22
Amendment 3	2023-02-15	Moved # 5110 in MTP project list from 2020-2029 (E&C) to 2040-2049 + map update p.30 & p.67 (lost funding commitment)	2023-03-22
Amendment 3	2023-02-15	Moved # 5111 in MTP project list from 2020-2029 (E&C) to 2030-2039 + map update p.30 & p.67 (lost funding commitment)	2023-03-22
Amendment 3	2023-02-15	Deleted # 4508 from MTP project list + map update p.30 & p.67 (erroneously listed)	2023-03-22
Amendment 3	2023-02-15	Updated "Project List Fiscal Constraint" section on p.68	2023-03-22
Modification 5	2023-03-30	Added clarification for projects along UAB border to p.60	N/A
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Modification 5	2023-03-30	Corrected heading size for "Transportation Improvement Program (TIP) and the MTP" p.57, add to TOC	N/A
Modification 5	2023-03-30	Add System Performance Report as Appendix B, p.83	N/A
Amendment 4	2023-10-30	Updated Project Cost in "Project List Fiscal Constraint" section on p.61/68 for # 9006 & # 5003	2023-09-21
Modification 6	2023-10-30	Updated Project Cost in "Project List Fiscal Constraint" section on p.61/68 for # 9008	N/A



Ronald Reagan Parkway under Construction

1 | Purpose

Almost every facet of our daily life is affected by transportation. From goods arriving at our doorstep to our daily commute, transportation plays a central role in our lives. Transportation can provide opportunities, but can also create barriers. Transportation planning seeks to understand how people and goods move around our region, and what projects are needed to achieve that vision.

Who We Are

The Indianapolis Metropolitan Planning Organization (IMPO) is the federally-designated transportation planning organization for central Indiana. The IMPO is guided by the advice of members from its Transportation Policy Committee (TPC). Members (the region's cities, towns, counties and other planning authorities) appoint representatives to this committee. IMPO staff conduct planning and programming activities to understand how best to allocate federal transportation dollars.

Why We Plan

Areas with a population over 50,000 are required to have a metropolitan planning organization. The IMPO's role is to provide a neutral forum for elected officials and technical experts to discuss and approve projects that will affect the region for decades. As a federally-required organization, we conduct planning to understand where infrastructure should be built. We cooperate with local and state officials in all of our planning efforts.

The Federal Role

The IMPO's core products are outlined in federal legislation. As the designated transportation planning organization in Central Indiana, the IMPO is required to adhere to these regulations in order for the region to continue to receive federal transportation dollars. The amount and allocation

of federal funds is determined through legislation. This legislation, commonly referred to as surface transportation acts, outlines national transportation policies and allocates resources to guide them. The latest surface transportation act, the Fixing America's Surface Transportation Act, or FAST-Act, was passed in 2015 and extended through December 11, 2021. The FAST-ACT introduced a new mandate from the United States Congress to track the national transportation system through the use of performance measures.

Performance Measures

Performance measures are useful in tying goals and objectives to metrics and outcomes, which can be tracked over time. The federal government, through the FAST Act and its predecessor, Moving Ahead for Progress in the 21st Century (MAP-21), instituted a series of performance measures to understand how the system is performing and target federal monies to critical measures. These are organized into three performance measures.

- Safety (PM1) - traffic fatalities and serious injuries on all public roads
- Condition (PM2) - the condition of roadways and bridges on the National Highway System (NHS)
- Performance (PM3) - congestion, travel time reliability, environmental sustainability, etc.

Several measures fall under each of these categories, as illustrated at www.fhwa.dot.gov/tpm/plan/. Central Indiana adopted the federal performance measures as part of the 2045 LRTP planning process, as well as several regional-specific measures that can be seen in Chapter 4 of this document. The IMPO will continue to monitor both the federal and regional measures and provide annual updates.

The 2050 Plan

The regional plan for transportation for Central Indiana is the Indianapolis MPO's Metropolitan Transportation Plan, or MTP. Every four years, the region revisits the MTP. The plan will guide the region's transportation network from its present state towards this vision for the system's future, towards 2050.

A significant plan update was completed in 2017 for the 2045 Long Range Transportation Plan (LRTP), including the addition of peer region comparisons, an updated vision and goals for the region, and setting a number of regional transportation performance measures, in addition to the federally required ones established within the Map-21 and Fast Act transportation bills. Much of the policies, goals, and recommendations within that 2045 LRTP has been reviewed and maintained within this 2050 MTP.

Our Plan and You

How does our plan affect you, your family, and your community? Projects that are considered regionally significant must be included in a region's metropolitan transportation plan. Regionally significant projects (also referred to as "capacity expansion") are projects that increase the capacity of the network, like building new roads or adding travel lanes to existing roads.

Plan Development

The 2050 MTP's planning process included the following stages:

- **Understanding Where We Are**
To better understand where we are going, we need to know where the region currently is. By examining existing population, employment, and commuting patterns, we gain a better understanding of our trends.
- **Updating the Goals and Objectives**
Goals and objectives provide the framework for the planning process, helping guide its development.
- **Scenario Planning**
A future preferred scenario for land use and transportation establishes a vision for development to strive for when making investment decisions.
- **Reporting on and Updating Performance Measures**
Performance measures communicate what the region finds the most important and what it should be working towards.
- **Completing a Call for Infrastructure Projects**
Counties, towns, and cities throughout the region conduct transportation planning for their own



jurisdictions and develop project ideas. These proposed projects are collected and serve as the projects that the IMPO staff examines.

- **Determining Finances Available**

The MTP needs to be a realistic document; the plan should be able to be built. Existing state, local, and federal revenues are identified and forecasted, providing a realistic revenue point for the MPO to use to prioritize projects.

- **Update Resource Allocation Goals**

The MTP establishes goals for what percentage of the IMPO’s federal funding should go to project types such as capacity expansion, preservation (repair), bike and pedestrian projects, and transit.

- **Updating and Conducting Project Screening**

Needs exceed revenues for roadways, necessitating a project screening process to prioritize roadways for available funding. Project screening is tied to goals, objectives, and performance measures.

- **Producing the Final Plan**

The final plan includes a list of capacity expansion projects that are regionally significant and regionally prioritized, including major transit and roadway projects. The plan also includes future recommendations for transportation development.

Public Input

Public input is a key part of planning at the Indianapolis MPO. For this plan update, the public was asked to provide input and feedback during two major phases of plan development:

- An early version of the recommended project map was posted online from March 22 - April 2, 2021 and people were encouraged to review it and add comments to specific projects. These comments were shared with the communities who proposed the projects.
- A statistically significant survey was conducted in August 2020. The 2,000 responses collected were proportional to the number of people living in each Central Indiana county. The survey informed the resource allocation that enables the IMPO to generate a fiscally constrained list of proposed future projects, and commenting on the draft plan, and also included

questions to help prioritize transportation concerns and inform plan recommendations.

- A public comment period on the draft 2050 MTP was held from August 30 - October 15, 2021. The comment period was promoted in the teMPO newsletter, social media accounts, and in local newspapers. The IMPO also provided a video describing the plan, in addition to on-site listening sessions at public libraries throughout the region where the concentration of traditionally underrepresented populations is highest. In response to plan changes, a second public comment period was held in November 2021.
- A public hearing on the plan was held at the Transportation Policy Committee meeting on December 15, 2021.

Land Use Advisory Panel

The IMPO met with the Land Use Advisory Panel (LUAP) a total of 6 times during the development of the 2050 MTP update. The group includes representatives of the IMPO’s Transportation Technical and Policy Committee, as well as community planners, non-profits, state government, transit, and other partner agencies throughout the region.

The LUAP was asked to provide key feedback into various processes within the 2050 MTP, including the updated regional performance measures, resource allocation, scoring criteria used to organize the proposed projects list, the scenario planning process including selecting a preferred 2050 future land use and transportation scenario for the region, the regional activity centers (RAC) process which identified existing and emerging key transportation movement locations throughout the region and assigned each a land use type, and more.



Engaging the Land Use Advisory Panel

What is the MPO?

The Indianapolis Metropolitan Planning Organization

The Indianapolis MPO (IMPO) is the regional entity that plans and programs federal transportation funds for highways, transit, non-motorized transportation and other means of moving people and goods in Central Indiana. The IMPO works within federal transportation requirements to guide the development of a multi-modal transportation system within the Metropolitan Planning Area (MPA) - an area that includes urbanized land plus areas expected to urbanize over the next 20 years.

The IMPO's Transportation Policy Committee (TPC) is comprised of over 30 cities, towns, and counties in Central Indiana that pay dues to qualify for project programming and funding from the IMPO. Membership also includes regional transit agencies, the Indiana Department of Transportation, and other planning partners.

8 Counties

Boone, Hamilton, Hancock, Hendricks, Johnson, Marion, Morgan, and Shelby.

11 Cities

Beech Grove, Carmel, Fishers, Franklin, Greenfield, Greenwood, Indianapolis, Lawrence, Noblesville, Southport, and Westfield.

16 Towns

Avon, Bargersville, Brooklyn, Brownsburg, Cicero, Cumberland, Danville, McCordsville, Mooresville, New Palestine, Pittsboro, Plainfield, Speedway, Whiteland, Whitestown, and Zionsville.

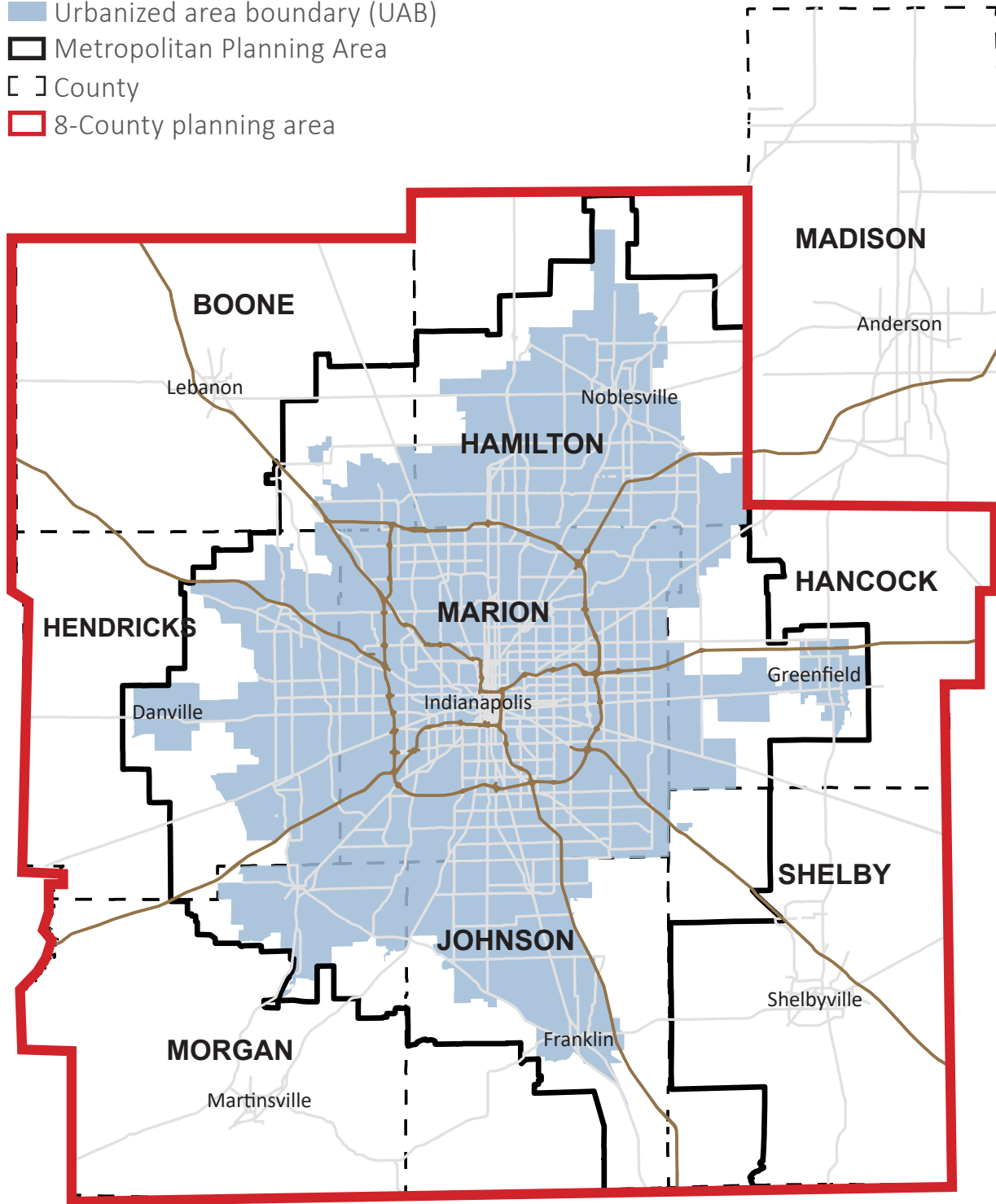
Planning Partners

IndyGo, CIRT, INDOT, Federal Highway Administration, Federal Transit Administration, Indianapolis Airport, and Ports of Indiana.



Indianapolis MPO UAB + MPA

- Urbanized area boundary (UAB)
- Metropolitan Planning Area
- County
- 8-County planning area





Pleasant Run Trail Enhancements

2 | An Update

Since the last long-range plan update in 2017, the region has invested over \$1.1 billion in new projects; Bus Rapid Transit is now operating in the City of Indianapolis; and bikeshare has expanded, both around the core of Indianapolis and within other communities in the region. The region continues to experience population and employment growth, but how that growth will manifest itself may look different than in previous decades. This chapter provides a summary of the major work completed since the 2045 Long Range Transportation Plan (LRTP) was completed in 2017.

From 2045 to 2050

Central Indiana last conducted the long range transportation planning process from 2015-2017, culminating in the 2045 LRTP. The 2045 LRTP included over 200 proposed road projects.

Road Connectivity

From 2015 to 2020, dozens of state and local roadway projects opened to traffic, for a total of \$658 million. These projects continue to address traffic congestion caused by the growing population. Below are just a few of the projects constructed since the passing of the 2045 LRTP:

Westfield - East Street North Extension (196th to SR 38) (1700728)

This 1.3-mile project is a new roadway to connect East Street from 196th to State Route 38. This roadway will become a new commercial and industrial corridor to provide a regional North-South corridor from SR 32 to SR 38. The roadway is being built as a two-lane roadway and will be expandable to four lanes. This project is being built using Westfield's complete street plan to include bicycle and pedestrian users throughout. This project broke ground in October of 2020 and is expected to be complete in the fall of 2021. The \$7.2 million project is being funded with the MPO funding 80% of construction costs using Federal Surface Transportation Block Program (STBG) funds.

Brownsburg - East Northfield Drive (CR 300 North to CR 400 North) (1401647)

This 1.1-mile project is a new road alignment that completes the eastern bypass connecting South Green Street and North Green Street. The improvement with this project includes divided single travel lanes with a center median, curb and gutter, enclosed storm sewers, roundabouts at two intersections, and an ADA compliant multi-use path connecting to the B&O Trail. This \$8.2 million project was funded with the MPO funding 80% of construction costs using Federal Surface Transportation Block Program (STBG) funds.

Carmel - Guilford Road Reconstruction from City Center to Main St (1383180)

This 0.7-mile project is a road reconstruction and rehabilitation improvements from the City Center Drive north to Main Street (131st St). Improvements include a center turn lane, roundabout, storm sewers, curb, sidewalk, and multi-use path. This \$5.2 million project was funded with the MPO funding 80% of construction costs using Federal Surface Transportation Block Program (STBG) funds.

Non-Capacity Projects

The metropolitan transportation plan only highlights projects that add lanes or capacity; between 2015 and 2021, dozens of non-capacity projects were built to enhance movement around Central Indiana. These projects include roundabouts, intersection upgrades, new and better signage, and pavement preservation, as well as non-roadway projects like trails, sidewalks, and transit projects.

Expanded Transit

IndyGo Service Expansion and Red Line Opening

Since passing the Marion County Transit Referendum in 2016, the Indianapolis Public Transportation Corporation (dba IndyGo) has been working to overhaul their transit network and improve both service and rider experience. Hours of service were expanded, headways on some lines have been decreased, and the network has been periodically revised to increase efficiency of resources. To

improve rider experience, IndyGo also instituted a capped fare structure and new technology to make access to electronic ticketing possible.

In conjunction with these service and experience changes, IndyGo also launched the long-anticipated Red Line in September 2019. The Red Line is a Bus Rapid Transit line that operates 15-minute service from Broad Ripple through Downtown Indianapolis to the University of Indianapolis, with extended lower frequency (30 minutes) service to 96th Street to the north and County Line Road to the south. Construction of this line improved pedestrian, roadway, and signal infrastructure, and added dedicated lanes and center-lane stations with raised platforms for level boarding.



During the COVID-19 pandemic that began to impact the global economy and operations in March 2020, IndyGo's overall ridership decreased as many people began either working remotely or experienced job losses. By mid 2021, ridership rates had begun to increase on the most frequent routes in the system, but the increase has been much slower on other routes. There's no estimate currently for when the system ridership will fully rebound.

IndyGo began working on an update of the Comprehensive Operational Analysis (COA) in 2021, to be approved sometime in 2022. This plan will provide an update on the progress IndyGo has made since the 2015 COA (aka "IndyGo Forward") was approved, as well as providing new recommendations for future improvements, including two additional rapid transit routes.

Some of IndyGo's more recent operational investments include:

- The purchase of a new administrative facility approximately 10 miles northeast of Downtown Indianapolis, which will accommodate an expanded fleet of buses, more office space, and eventually become the future headquarters.
- The purchase of property near the outer ends of the Red Line to provide charging locations for the electric vehicles.
- A New Mobility Care Center to house customer service and paratransit operations.
- An on-demand mobility pilot program to serve residents in southeastern Indianapolis. IndyGo approved this project in 2021 and is partnering with rideshare company Via to provide the service.

Coordinated Human Services-Public Transportation Plan Update

The IMPO is managing an update to the Coordinated Human Services-Public Transportation Plan (Coordinated Plan), anticipated for approval by the Transportation Policy Committee in October or December 2021. The last few updates of this plan have been funded by INDOT with IMPO oversight.

The Coordinated Plan is necessary for distribution of FTA's Section 5310 funding for transportation for older individuals and those with disabilities. As part of the planning process, transit providers throughout the region, from non-profits to transit agencies, are asked to identify their needs for the future, including equipment and operational needs. By identifying these needs in the Coordinated Plan, they become eligible to fund with Section 5310 dollars. Significant changes for this update include the addition of individual stakeholder interviews and consolidation of goals and strategies for length and clarity.

Transit-Oriented Development Planning

The IMPO completed documents for the Red Line TOD Strategic Plan Update and Purple Line TOD Strategic Plan. In December 2018 the US Department of Transportation awarded a grant to IndyGo for Transit Oriented Development Planning along the Blue Line Corridor. IndyGo formed a strong partnership with the Indianapolis Department of Metropolitan Development (DMD) and the IMPO for this work. IMPO staff provided insight, based on experience and knowledge from creating the TOD Strategic Plans, throughout the process. The IMPO also provided

an online TOD dashboard, which illustrates the current status of several elements that influence good TOD. A new TOD Overlay District, as well as other TOD-appropriate changes within the zoning ordinance, are anticipated to be approved by the Indianapolis Metropolitan Development Commission in September 2021.

FTA Transit Funding (5307/5311) Transition

In 2017, INDOT contracted RLS & Associates to assess the impact that an expansion of the Indianapolis Urbanized Area boundaries would have on the formula funding structure for the rural and urban transportation operators in the region. The final recommendation was to move the portion of service occurring within the urbanized area from the rural (5311) to urban (5307) Federal Transit Administration (FTA) funding source. In November 2018, INDOT tasked the IMPO with addressing how the 5307 funds will be managed, administered, and allocated among all of the operators in the Indianapolis urban area. The IMPO hired RLS & Associates for this project in December 2019. INDOT agreed to maintain 5311 funding at appropriate levels to the 4 counties of this study (Johnson, Hendricks, Hamilton, and Hancock) through 2021, with the areas transitioning to 5307 funding for the 2022 calendar year.

An initial study was conducted using real past trip data from each of the four not-for-profit (NFP) providers. The trip data was mapped to determine how many trips were entirely within the urban and rural areas, and how many

crossed between them. This was compared to both the 2010 urbanized area and a projected 2020 urbanized area. In all four counties the percent of trips both from and to a rural location (outside the urbanized area) were less than 1%. Hendricks and Morgan Counties had a single transit provider at the time of the study. When the same analysis was applied to those counties jointly, the percentage of trips from and to rural locations was higher, justifying them to continue to request rural (5311) transit funding in the future. The recommendation for the other counties was to use only urban (5307) FTA funding, along with the other non-FTA funding sources they already receive.

RLS also collected financial information for all agencies. The funding provided in 2020, from either 5311 or 5310 sources (considered “current” funding) was compared to projected 5307 funding. The financial analysis determined that the anticipated 5307 funding amount would increase in future years because the counties began submitting urban trip data to the National Transit Database in 2018, but because Central Indiana was receiving a high level of 5311 funding, the 5307 funding increase will not be enough to offset the loss of 5311 funding. This resulted in a recommendation that each agency, including IndyGo, take an equivalent percentage loss of funding beginning with 2022.

IndyGo was selected to be the Direct Recipient for the 5307 funding, taking over INDOT’s previous responsibility for suballocating the funding to the subrecipients. The subrecipients (four counties) must also begin conducting procurement processes for transit providers since 5307 funding can not be directly allocated to not-for-profits the way 5311 funding can. 5307 funding recipients must be selected from a compliant procurement process.

Suburban Transit Efforts

Guilford Township (Hendricks County) Transit Plan

In 2019, the Guilford Township Board of Trustees certified a transit referendum and set the stage for a transit plan for the township, which is largely made up of the City of Plainfield. The Guilford Township Transit Plan was a planning effort led by IMPO staff, in conjunction with HNTB and RLS & Associates as consultants. The main objective of this effort was to create a publicly-developed plan that included repeated stakeholder meetings and several public feedback opportunities, including a public survey and public meetings that presented plan options. The final product was a report that included projections

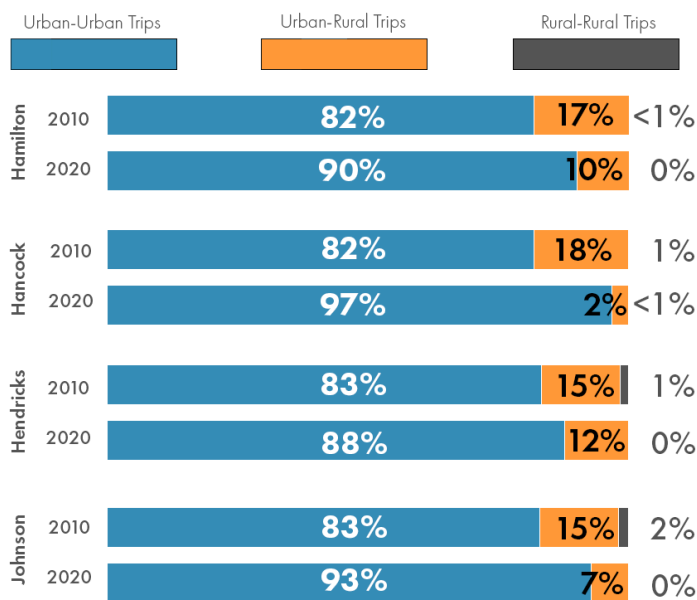


FIG. 2-1 Rural-Urban Area Split for Regional Transit Providers' Trips - 2010 and 2020

of referendum revenue and one recommended transit network for the township. The Guilford Township Board rescinded the referendum at its May meeting in 2020.

Northern Johnson County Transit Plan

The IMPO initiated the Northern Johnson County Transit Plan in early 2021, also with consulting firms HNTB and RLS & Associates. There are three townships eligible to conduct a transit referendum per Indiana Code: White River, Pleasant, and Clark Township. The scope of this plan is much more fluid as no township has certified a transit referendum. The final plan is intended to be out for public comment September 2021 with recommendations for Access Johnson County (the current transit provider) and multiple options using different funding scenarios for Northern Johnson County.

CIRTA Workforce Connectors

The Central Indiana Regional Transit Authority (CIRTA) currently has three workforce connector routes in operation. Two routes serve business/industrial parks in Plainfield, one north and one south of US 40 near Ronald Reagan Parkway). The third route serves business/industrial parks in Whitestown along both sides of I-65 from Whitestown Parkway to Albert S. White Drive. All three routes tie into Marion County at IndyGo stops to expand mobility.

Four additional proposed routes are currently in planning stages and anticipate starting services in 2022/2023. These proposed routes would serve the I-70 and SR 39 warehouse area in Plainfield; Greenwood, Whiteland, and Franklin warehouse districts along I-65 in Johnson County; the Mount Comfort warehouse area and the new adult training center at the old John Marshall High School in Hancock County; and the I-74, Ronald Reagan, and Industrial Drive business districts in Brownsburg. All of these services would also tie into IndyGo stops in Marion County.

My Freedoms Voucher Program

CIRTA continues to provide the My Freedoms Voucher program, working with the Central Indiana Council On Aging (CICOA) on coordinating efforts to move passengers across counties that meet the select criteria. ADA-registered passengers are also approved for this service.

Commuter Connect

Commuter Connect (managed by CIRTA) continues to provide vanpools, carpools, biking options, and

free-ride-home programs. CIRTA conducts regular community engagement to help identify transportation needs, inform people of transportation options, develop new programs, and assess the current system for efficiency and ways to improve rider experiences.

Wins and Losses for Shared Transportation

Bikeshares Rise, Fall, and Rise Again

In 2019, Indianapolis Cultural Trail, Inc. launched an expansion of the Pacers Bikeshare system, which originally launched in 2014. The 2019 expansion included 275 new bicycles and 21 new bike share stations in locations such as Broad Ripple, Garfield Park, Riverside Park, and Newfields, bringing the total number of stations up to nearly 50. Other communities in the region, including Plainfield, Carmel, Westfield, and Noblesville, also launched bikeshare systems since the 2017 approval of the 2045 LRTP. Unfortunately, all of these systems closed during the Covid-19 Pandemic during 2020, but Carmel restarted their bikeshare in the summer of 2021 and other communities are investigating their opportunities for new bikeshare services.

Scooters Come to Central Indiana

In June 2018, dockless electric scooters hit the streets of Indianapolis. Two scooter companies (Bird and Lime) worked with the City of Indianapolis to create a system of responsible management of their scooters and a revenue-share agreement. This revenue share would be used to fund the city's Neighborways bike path program. This



program, and the future of electric scooters in general, were affected by the pandemic, but Lime and Bird are still operating in Indianapolis and additional companies, including Spin, are emerging as well.

Blue Indy Exits

In 2015, The City of Indianapolis, Indianapolis Power and Light (now AES Indiana), and Ballore Logistics (a French transport company) all partnered to launch Blue Indy, an electric car sharing service for the residents of Indianapolis. The program was a membership-based system, and also offered the use of charging stations for private electric cars as well. At its height, Blue Indy had 282 cars on the road and 90 charging stations around the city. Unfortunately, Ballore Logistics claimed that the service’s subscriptions were not growing as fast as they would like to see and that residents were not moving away from private car ownership. The service shut down in May 2020, with the City of Indianapolis currently working to determine the future of leftover electric charging infrastructure installed in street right-of-way.

Autonomous Vehicles Arrive

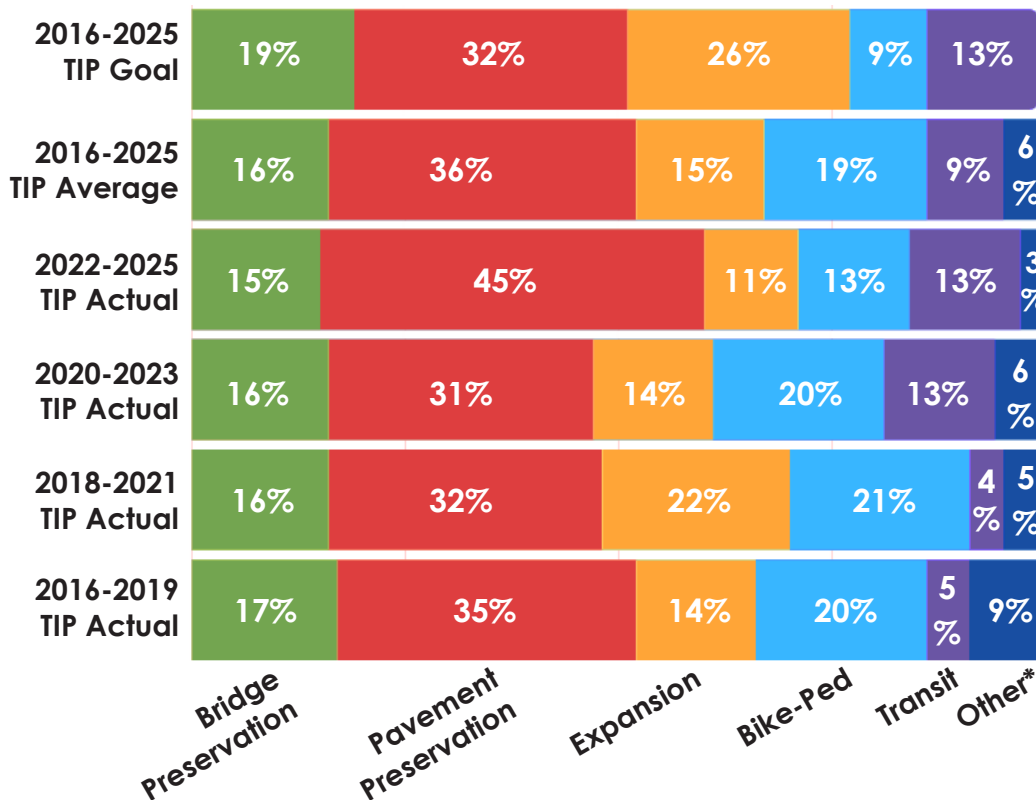
Central Indiana has the opportunity to be a proving ground for autonomous vehicles. Two pilot programs are planned for the region in 2021, coordinated by a partnership

between the Toyota Mobility Foundation, Energy Systems Network, the Indiana Economic Development Corporation, and Michigan-Based May Mobility. The first pilot operates shuttles at 10-15 minute intervals and provides a frequent connection between the IndyGo Red Line, IUPUI, and Indiana University hospitals in central Indianapolis. Another six-month pilot is planned to begin operating in Fishers in November 2021.

Evaluating Budget Allocation

Transportation projects in Central Indiana are constructed with various funding sources, including federal dollars distributed and managed by the IMPO. Projects receiving federal dollars from the IMPO are listed in a short range program called the Indianapolis Regional Transportation Improvement Program (IRTIP or TIP). The TIP includes projects ranging from smaller projects, like new signage, to large projects, like brand new roadways. Some of the projects in the TIP are considered to be “regionally significant” or “capacity expansion” projects¹, and those also need to be listed in the IMPO’s MTP. The Project List can be viewed in Chapter 5 of this document.

With each major update to the region’s MTP, the IMPO reviews past Transportation Improvement Programs to



¹Regionally significant or capacity expansion projects include those that are most likely to have an impact on travel patterns in the region, and in some cases, contribute to a change in the region’s air quality from transportation emissions. These projects typically include new roadways, adding travel lanes to existing roadways, adding new grade-separated interchanges to limited access freeways, and major investments in public transit.

Source: Indianapolis MPO

FIG. 2-2 TIP Spending Analysis

*Includes signals, signage, ped signals, education programs, etc.

see how IMPO funds are actually spent for each project type. This analysis helps inform updates to the Resource Allocation Goals (Chapter 5).

The 2016-2025 TIP Goal shown in Figure 2-2 is based on the resource allocation goals of the 2045 LRTP, adjusted to remove operations and maintenance activities, which the IMPO cannot fund.

Regional Efforts

Planning is never static. Since the adoption of the 2045 LRTP, the Indianapolis MPO has adopted several plans and policies to continue to improve the transportation network for Central Indiana residents and businesses.

Regional Bikeway Plan

The latest iteration of the Regional Bikeways Plan was completed at the end of 2020. The planning effort was guided by a broad steering committee, an online public survey, and small focus groups from across the region.

This process was launched with an update of the regional inventory of open bikeways within the Metropolitan

Planning Area, followed by a review of all available regional bicycle, comprehensive and thoroughfare plans in order to map every publicly approved proposed bikeway. This map of open and proposed bikeways will support a variety of purposes, including providing an easy resource for communities to refer to when trying to see “what’s going on next door.”

The IMPO Regional Bikeways Plan used this inventory primarily to update bikeway scoring, which compares all proposed bikeways in the region. The scoring methodology was updated using the results of a public survey combined with information from focus groups, conversations with community stakeholders and feedback from the IMPO’s Transportation Technical and Policy Committees. This resulted in an updated, prioritized map of all proposed bikeways that can be used as a planning tool or to influence future federal bikeway funding.

A second main component of the Regional Bikeways Plan was an analysis of every roadway in the eight-county area to identify the level of bicycle stress on each road and in each direction, including turning from one roadway to another. This map can be used as a resource for local community bikeway planning. For example, if a community has large, connected areas of low-stress streets for bicycling, but those areas are divided by streets identified as very high-stress, that community could target specific investments to better connect the low-stress bicycling network.

Other Regional Bikeways Plan components available for communities to use and reference include a document with guidance information on creating a bicycle counting program. The IMPO conducted bicycle counts at 20 regional sites chosen based on crash data, IMPO project funding, or community preference.

Regional Pedestrian Plan

In most communities throughout the country, the condition of roads, bridges, streetlights and public safety take priority over pedestrian investments. The Regional Pedestrian Plan, approved in 2020, urges communities to embrace a new way to think about pedestrian facility investments in the Central Indiana region, and provides tools for putting that new thinking into action.

The focus on non-pedestrian assets typically is not intentional, and it is not because communities do not value sidewalks or are not aware of their benefits. It often comes down to a case of limited available funding and



Madison Ave Cycletrack

MPO Federal Funding Sources

Surface Transportation Block Grant (STBG)

The STBG is the largest source of federal funding for the IMPO. Funds can be used for any project type.

Congestion Mitigation and Air Quality (CMAQ)

CMAQ is the second largest source of revenue for projects. Funds can only be used on projects that improve air quality. Project examples include bus purchases, roundabouts, and trails.

Highway Safety Improvement Program (HSIP)

HSIP funds can be used only for projects and plans that improve the safety of the network, including roundabouts, signage projects, and safety studies.

Transportation Alternatives Program (TAP)

A popular funding category, TAP funding primarily serves to fund non-motorized transportation modes. Project examples include trails and streetscape improvements.

higher-priority needs. In many cases, sidewalks are added by property developers, or funded by state or other grant opportunities, and not funded entirely with local dollars.

The IMPO's Regional Pedestrian Plan provides a tool that communities can use to establish their priorities when it comes to sidewalk investment and then apply those priorities to gaps in their sidewalk networks. The plan identifies priorities for sidewalk investment at the regional level (within the Metropolitan Planning Area), and then applies those priorities to an inventory of where sidewalks do and do not exist throughout the region. The resulting "heat map" shows gaps in the sidewalk network and where improvements are most necessary for the sake of public safety, demand, comfort, equity, and wellness.

While used primarily for regional planning, the methodology can be adjusted to apply to a specific community, using that community's sidewalk inventory and established investment priorities. To support this process and encourage communities to engage in it, the IMPO provides special training materials.

Regional Freight Plan

A major update of the Central Indiana Regional Freight Plan began in 2021 and is anticipated for completion in 2022. This plan will include updated information about regional planning needs that will be used to help prioritize multimodal infrastructure improvements and develop policy recommendations that will work to enhance the freight corridors and areas in the region. In addition, the updated version seeks to establish stronger partnerships among leaders in freight operations (air, rail, road, and water), economic development, and government sectors.

Central Indiana is a major hub for freight through-traffic, but also a growing hub for national distribution routes.

The plan will also have new information from StreetLight Data's InSight Advanced Analytics travel data service. This information is derived from data collected from GPS navigation service and user mobile phone applications. GPS navigation, cell phone, and mobile application providers send non-personally identifiable data to StreetLight. StreetLight then aggregates and processes the data they receive to make it useful for planning work. In particular, freight movements, especially automobile movements, can be analyzed using this data.

Vision Zero

A world-wide initiative focused on the belief that every transportation-related death or serious injury is preventable, "Vision Zero" champions efforts to reduce the number of deaths and serious injuries on our roadways to zero. The Federal Highway Administration recognizes this initiative as "The Safe System Approach", which aims to eliminate fatal & serious injuries for all road users through a holistic view of the road system that first anticipates human mistakes and second keeps impact energy on the human body at tolerable levels.

In 2018, the IMPO Policy Committee approved a resolution supporting Vision Zero. In addition, to help communities move in this direction, a Vision Zero Toolkit is under development and anticipated for release by the end of 2021. The IMPO's Vision Zero Toolkit offers a resource for Central Indiana communities in the form of a "choose your own adventure" guide and materials that allow communities to pursue a reduction in transportation deaths and serious injuries in whatever way fits that

community best. With educational materials, short, information-packed brochures and an inspiration guide of design ideas, the Vision Zero Toolkit can be applied to existing trouble areas in a community or community-wide to prevent future deaths and serious injuries.

The IMPO also has placed a renewed and deeper emphasis on safety in recent years. These include efforts such as:

- A Fatality and Serious (Incapacitating) Injury Crash Data Dashboard was created, which displays accurate crash data throughout the region. Anyone can access this dashboard and dynamically display the data for the entire region, individual communities, or by zooming into a specific area.
- Building on the 2016 “Top 50 Most Dangerous Intersections” study, IMPO staff went further by conducting road safety audits of 24 high-crash locations within the Metropolitan Planning Area.

- This 2050 MTP’s recommended project scoring criteria (Chapter 5) includes an assessment of planned safety design elements for projects. Elements that are proven in studies to be highly effective in reducing injuries and deaths, particularly for vulnerable road uses such as pedestrians and cyclists, were weighted more.

Comprehensive Economic Development Strategy

The Central Indiana CEDS is a 2021 effort by the IMPO with support from the Indy Chamber, Indiana Economic Development Corporation, and the Economic Development Administration to develop a regional economic development plan for Boone, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, and Morgan counties. The plan will meet the requirements of the EDA to be a comprehensive economic development strategy and support EDA funding for public works projects.



Other Initiatives

Other activities that were completed since the 2045 LRTP include the following technical activities:

National Highway System (NHS) Update

The National Highway System (NHS) is a collection of all the nationally and regionally significant roadways in the United States. The NHS now also serves as the standard network to evaluate federal performance measures. An update to the NHS was requested in 2021.

Functional Classification System (FCS) Update

All roadways are organized into a hierarchy based on planning factors. This organization is called the Functional Classification System. The IMPO invites communities within the Metropolitan Planning Area to submit requests for FCS updates annually. These are reviewed by IMPO staff, considering all requests together within the larger FCS, and forwards recommendations for appropriate changes to INDOT for consideration and approval. The official FCS map is maintained by INDOT for the entire state.

Indianapolis Regional Intelligent Transportation Systems (ITS) Architecture

The Indianapolis MPO Transportation Policy Committee approved an update for the Central Indiana Regional ITS Architecture in November 2020. While no new ITS technology has been planned for installation that was not already included in the 2014 Central Indiana ITS Inventory Update, some infrastructure that was previously planned have now been implemented. These projects include INDOT's 511 Traveler Information service and the TrafficWise Website, as well as a connection between the Indianapolis Emergency Management Agency and INDOT's Security Monitoring Field Equipment.

Travel Demand Model (TDM) Update

The Travel Demand Model (TDM) is the core technical tool used by the Indianapolis MPO to replicate traffic patterns on major roadways and premium transit. In 2020, a module was integrated into the freight-movement planning tools used by the IMPO, allowing a more accurate simulation of freight truck travel patterns, a key factor in planning for

the impact trucks have on congestion and traffic flow. This will be particularly useful in understanding the changing nature of freight and home delivery in Central Indiana.

Asset Management Plans

In 2020, the Indiana General Assembly passed legislation that allowed the Indianapolis MPO to function as an independent organization. Along with that legislation was a requirement to assess the condition of pavements throughout the region and report back. The IMPO conducted these evaluations and shared them with community partners.

Revenue Changes

Federal Exchange

In August of 2020, the Indianapolis Metropolitan Planning Organization (IMPO) signed an agreement with the Indiana Department of Transportation (INDOT) to exchange the IMPO's annual allocation of Federal transportation program funds for State funds for projects in the Indianapolis Regional Transportation Improvement Program (IRTIP). The IRTIP documents the Federally funded transportation improvements proposed for the Indianapolis Metropolitan Planning Area (MPA) over a four-year period. Under this agreement, the first funding year for the exchange will be for 2025 IRTIP projects, and the Indianapolis MPO would receive 90% of its federal allocation, with INDOT keeping the other 10%. This program is known as the Federal Funds Exchange Program and its policies will affect all future project calls for the IRTIP.

The IMPO pursued this program after careful review of similar programs in other regions and after significant dialogue with regional stakeholders. The IMPO has been actively working to gain more flexibility in programming policy to improve project delivery and reduce risks to the overall transportation funding program. The IMPO Federal Fund Exchange Program is intended to provide eligible local public agencies (LPAs) within the Metropolitan Planning Area with greater flexibility in funding and delivering regional transportation projects.



3 | Where We Are

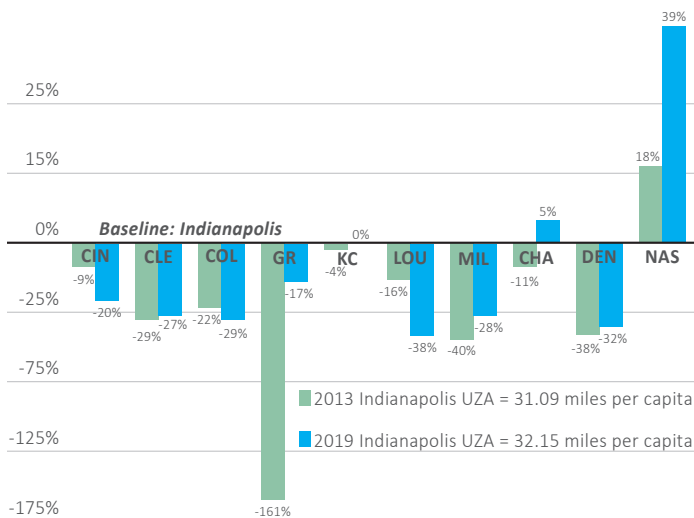
Peer Comparisons

One way to measure progress is to see how similar communities are performing.

The Central Indiana region is a diverse area, encompassing urban communities like Indianapolis to suburban centers like Fishers to smaller towns like Danville. The varying types of communities pose unique challenges to the IMPO as a regional organization.

Not all of the regions included here are for comparison only: some are aspirational communities that Indianapolis can look to for inspiration and as an example. The communities that are used here include:

- Cincinnati, Ohio (CIN)
- Cleveland Ohio (CLE)
- Columbus, Ohio (COL)
- Grand Rapids, Michigan (GR)
- Kansas City, Missouri (KC)
- Louisville, Kentucky (LOU)
- Milwaukee, Wisconsin (MIL)
- Charlotte, North Carolina (CHA) - aspirational
- Denver, Colorado (DEN) - aspirational
- Nashville, Tennessee (NAS) - aspirational



Source: FHWA Highway Statistics, 2013 & 2019; Table HM-71

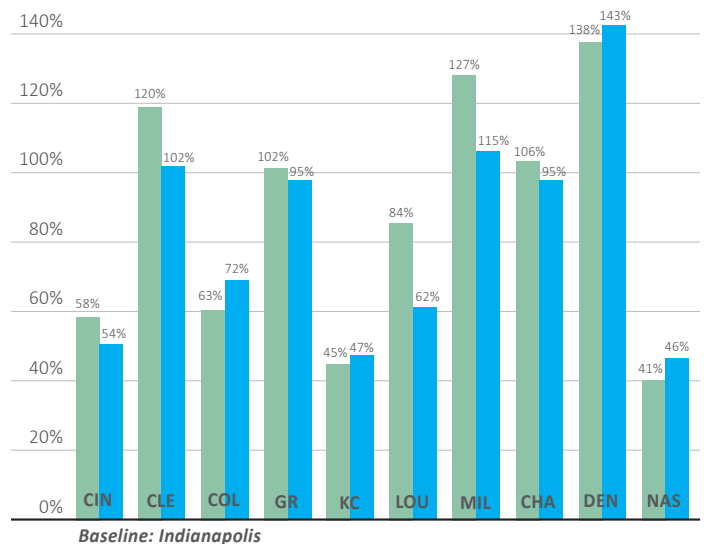
FIG. 3-1 Vehicle Miles Traveled per Capita in Federal-Aid Urbanized Areas

Vehicle Miles Traveled per Capita

Vehicle Miles Traveled (VMT) per capita is a measurement of the number of vehicle miles traveled per person in a region and can be used to evaluate the different land uses or transportation in a region. In the previous LRTP, Nashville, TN was the only area that had higher VMT per capita than the Indianapolis region. For this update, Nashville, TN and Charlotte, NC both had more than Indianapolis in VMT per capita. Kansas City, MO on the other hand has nearly the same amount of VMT per capita compared to Indianapolis. (Fig. 3-1)

Transit Trips per Capita

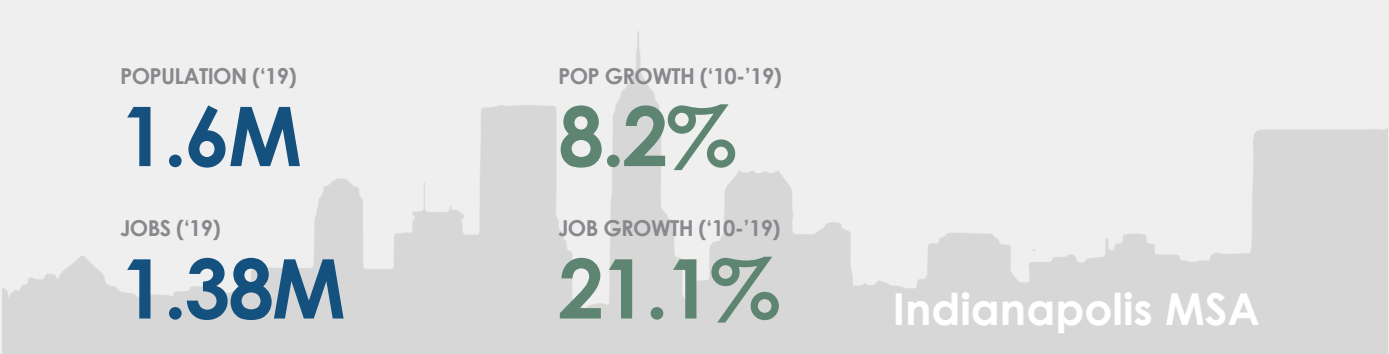
To gain a better understanding of transit use, transit trips per capita is utilized. The Indianapolis region declined in transit trips per capita from the previous plan update to 6,077. Furthermore, each of the peer regions have higher transit trips per capita. Denver, CO has the largest number of transit trips per capita, with 143% more transit trips per capita than the Indianapolis region. (Fig. 3-2)



Source: Federal Transit Administration (FTA) Statistics, 2013 & 2019; Table HM-72

FIG. 3-2 Transit Trips per Capita in Federal-Aid Urbanized Areas

How Do We Compare?

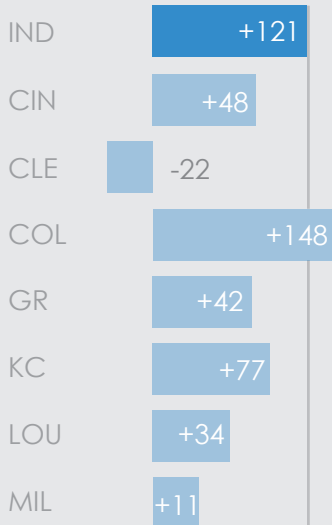


Population and Job Growth

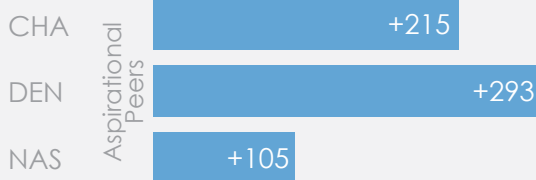
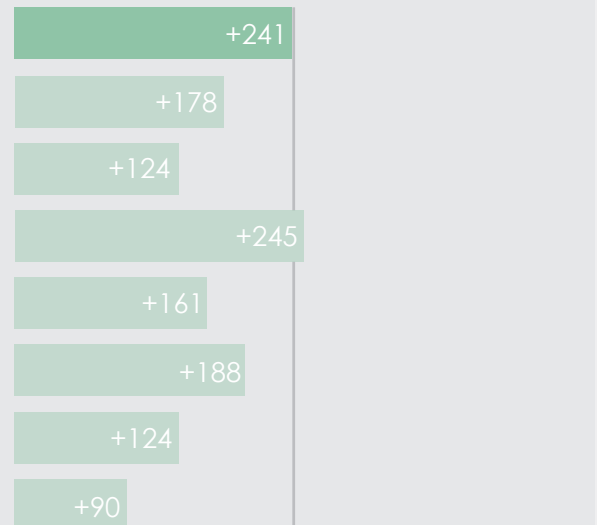
2010-2019

The Indianapolis region is growing at a healthy rate, but some of our peers are outpacing us.

Population Change (Thousands)



Employment Change (Thousands)

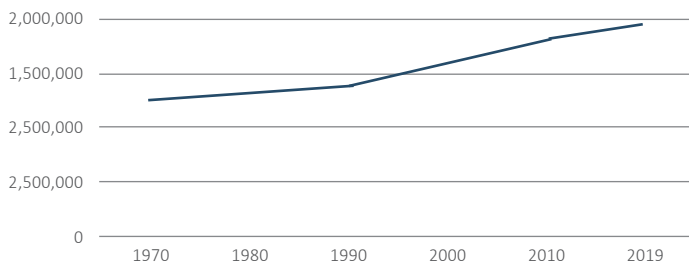


Existing Conditions

Transportation is affected by many factors. It's important to know where we stand to forecast population and employment growth in the future. The Central Indiana region is made up of nine counties and covers 3,552 square miles with a diverse set of communities throughout.

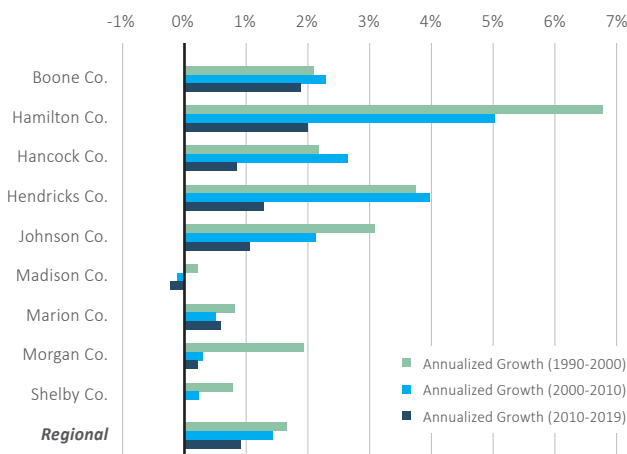
Population

The population in Central Indiana has been steadily increasing over the last five decades and is just under 2 million people. As of 2019, the majority of the Central Indiana population resides in Marion County, accounting for nearly half of the region's population. Boone, Hamilton, and Hendricks County have experienced significant population increases over this time. On the other hand, Madison County has been experiencing population loss since 2000. Shelby and Morgan County have maintained their population for the past 20 years. (Fig. 3-3)



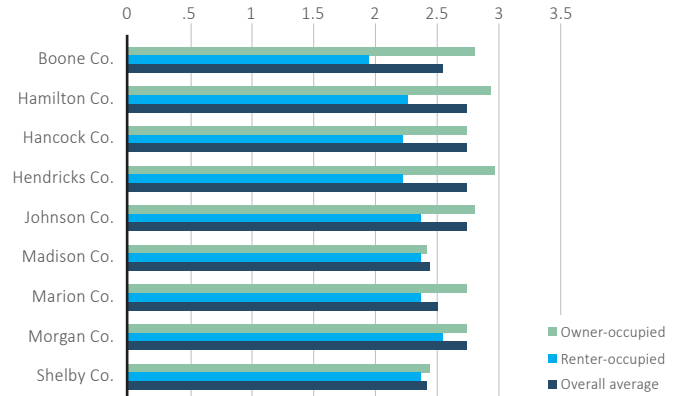
Source: 1970, 1980, 1990, 2000, 2010 Decennial Census; 2015-2019 5 Year ACS Estimates

FIG. 3-3 Central Indiana Regional Population Growth



Source: 1990, 2000, 2010 Decennial Census; 2015-2019 5 Year ACS Estimates

FIG. 3-4 Central Indiana Population Growth by County and Region

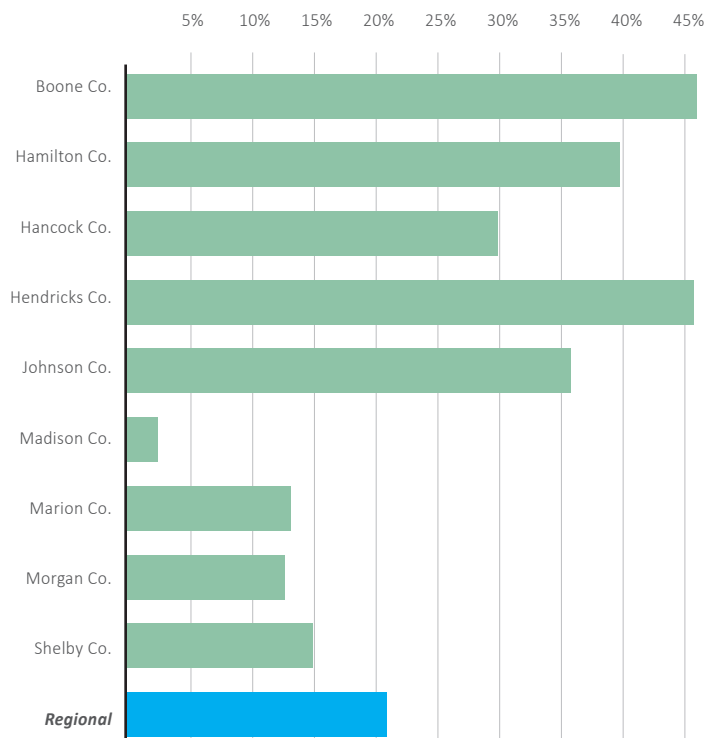


Source: 2015-2019 5 Year ACS Estimates

FIG. 3-5 Central Indiana Average Household Size by County

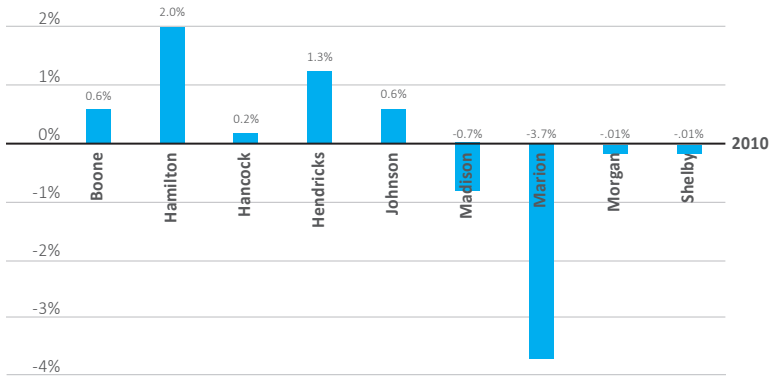
Household Size

The number of people living in a home, or household size, is a good indicator to predict how many transportation trips a household will go on. Throughout Central Indiana, the average household size is larger in owner-occupied homes compared to renter-occupied homes. Hendricks County has the largest average household size at 2.86 for owner-occupied. Madison County has the lowest at 2.44. On the other hand, Morgan County has the largest for renter-occupied at 2.58 and Boone has the lowest at 1.98.



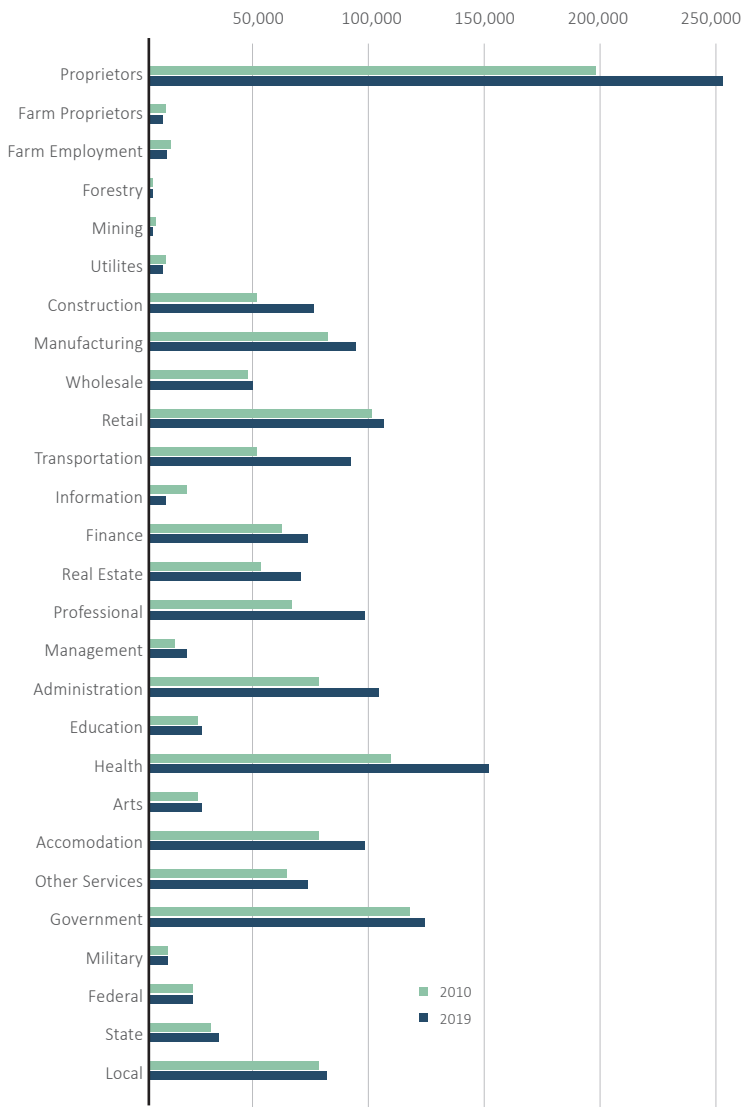
Source: BEA CAEMP25, 2010 & 2019

FIG. 3-6 Percent Change in Jobs by County 2010-2019



Source: BEA CAEMP25, 2010 & 2019

FIG. 3-7 Change in Share of Regional Jobs by County 2010-19



Source: BEA CAEMP25N 2010 & 2019

FIG. 3-8 Employment by Sector in Central Indiana

Employment

Employment Growth

Between 2010 and 2019, the Central Indiana region experienced a 21% increase in number of jobs. Hendricks and Boone County experienced the largest increase, both nearly 47%. Madison County experienced the least at 3%. The share of jobs has changed since 2010. Hamilton County is responsible for 2% more of the region's jobs in 2019 than 2010. Marion County, however, lost almost 4% of the regional shares in jobs in the same timeframe; it still accounts for over half of the region's employment.

Employment Sectors

Overall, in 2019, Health, Government, and Retail were the three largest employment sectors in the region; Forestry, mining, and utilities were the smallest three sectors. Among the 27 sectors, transportation had the highest percent growth (64%) between 2010 and 2019 and Information had the greatest percent loss (-68%).

Commuting

Commute Time

Commute time is largely a result of land use decisions and transportation options and choices. In 2020, the average commute time to work in Central Indiana was 25.8 minutes. Morgan County had the highest (29.1 Minutes) while Boone and Marion County had the lowest (23.7). For Marion County, this is a consequence of the distance from residence to workplace; there are a number of employment clusters in Marion County, decreasing the amount of time required for workers to travel from residences to work places.

County	Commute Time
Morgan	29.1 minutes
Johnson	26.9 minutes
Hendricks	26.8 minutes
Hancock	26.7 minutes
Hamilton	25.4 minutes
Shelby	24.3 minutes
Boone	23.7 minutes
Marion	23.7 minutes

Source: StatsIndiana
Commuting Trends Profile
2019

FIG. 3-9 Average Commute Times by County

County to County

In Central Indiana, like many metropolitan regions, commuting patterns are dominated by travel from historically residential suburban communities to the downtown, financial, and government center. This section records the county-to-county commutes of “regional commuters”, which are commuters that live and work within the IMPO’s 8-county region.

Marion County is the largest receiver of regional commuters (161,000) and the second largest exporter of regional commuters (47,140). Marion County receives anywhere from 50% (Shelby County) to 80% (Hamilton County) of regional commuters leaving their home counties. Hamilton County is the second largest receiver of regional commuters (25,327) and largest exporter of regional commuters (61,441). Hendricks and Johnson are the third and fourth ranked, respectively, for both regional commuter reception and export.

Marion County also has the most commuters that stay within their county of origin. Over 90% (527,533) of commuters that work in Marion County also live in Marion County. The other counties range between 62% and 71% of commuters that stay within their county of residence. Only about 3.3% of all commuters travel to counties outside of Central Indiana.

Shifting Commute Patterns

Traditional commuting patterns are slowly changing as more employment opportunities are developing in traditionally bedroom suburban communities. While Marion County still saw the largest increase in the total number of commuters (4,426), it only had a 2.8% increase in out-of-county commuters. Meanwhile, Boone (23.4%), Hamilton (10.8%), Hancock (28.2%), and Hendricks (18%) all had large increases in the percentage of out-of-county commuters traveling to their counties for work. These same counties also saw large increases in people that both live and work in the same county.

Modes

Driving alone continues to dominate the central Indiana commuting pattern. The percentage of workers aged 16 and over driving alone in the eight-county region rose to 84.6% in 2019 (up from 83.9% in 2015), while carpooling dropped to 8.1% (down from 8.6%). The share of those walking, biking, and using transit all remained relatively unchanged since 2015. However, working from home rose to 5% in 2019, increasing from 3.9% in 2015. Considering

the effect of the 2020 COVID-19 pandemic on remote working opportunities, it is likely that future data will reflect greater increases in the number and percentage of workers who do not commute.

Land Use

The linkage between land use and transportation is strong. Land use is regulated through many mechanisms, including local comprehensive plans and zoning. Maps of current and future land uses can be found on the following page.

Current land use information is obtained from tax information and future information is derived from the comprehensive plans of Central Indiana communities.

Land Use	Square Miles	% of Region
Agriculture	2001.98	66.89%
1-3 Family Residential	556.17	18.59%
4+ Family Residential	18.43	0.62%
Commercial	99.42	3.32%
Industrial / Warehousing	60.41	2.02%
Tax Exempt Property	195.46	6.53%
Undefined	60.37	2.02%
Total	2991.23	


Source: State of Indiana DLGF Data

FIG. 3-10 Current Land Use Split



FIG. 3-11 Current Land Use Split

Source: State of Indiana DLGF Data

- | | |
|--|--|
|  1-3 unit residential |  Industrial/warehouse |
|  4+ unit residential |  Tax exempt property |
|  Agriculture |  Undefined |
|  Commercial | |

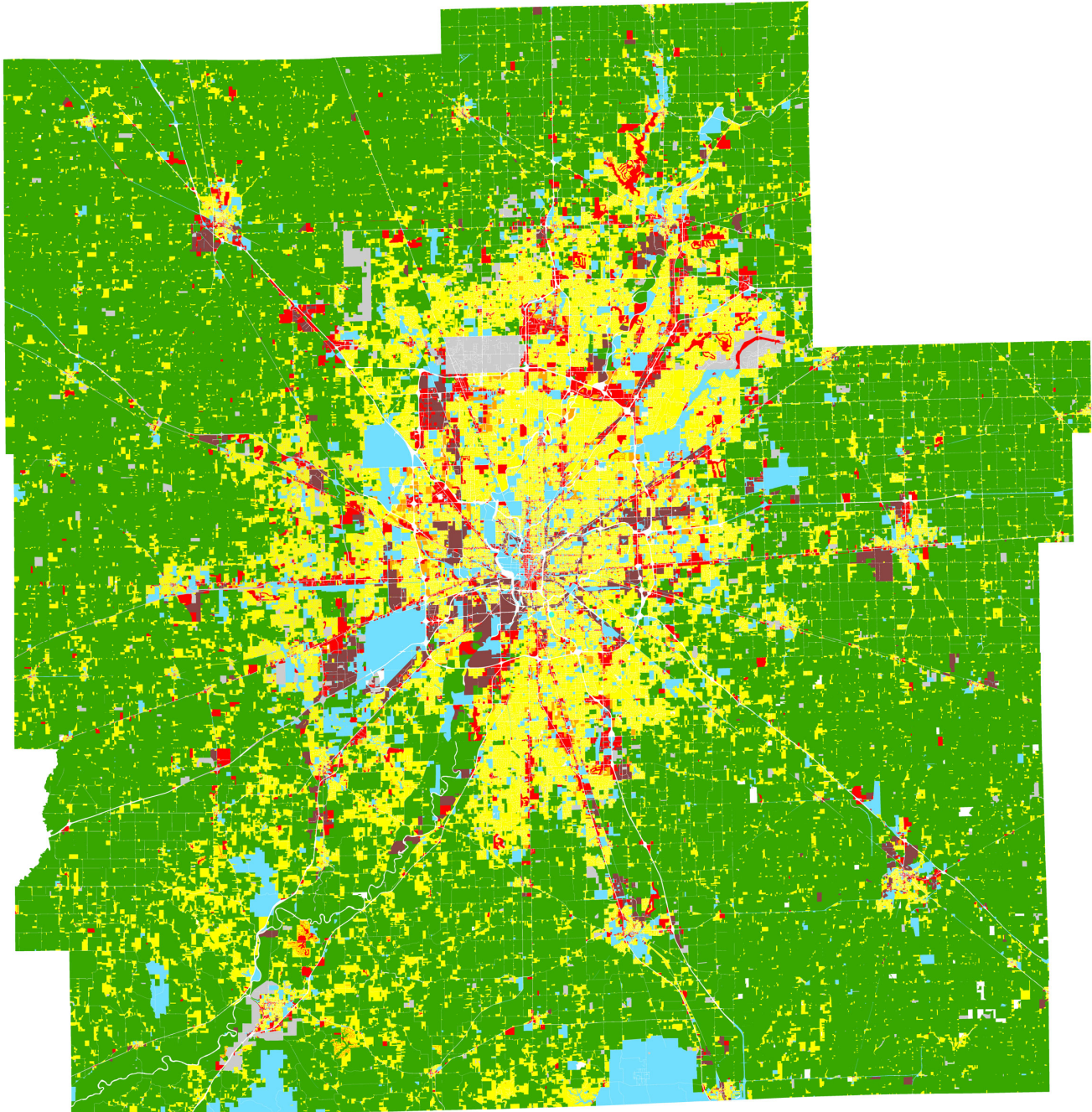
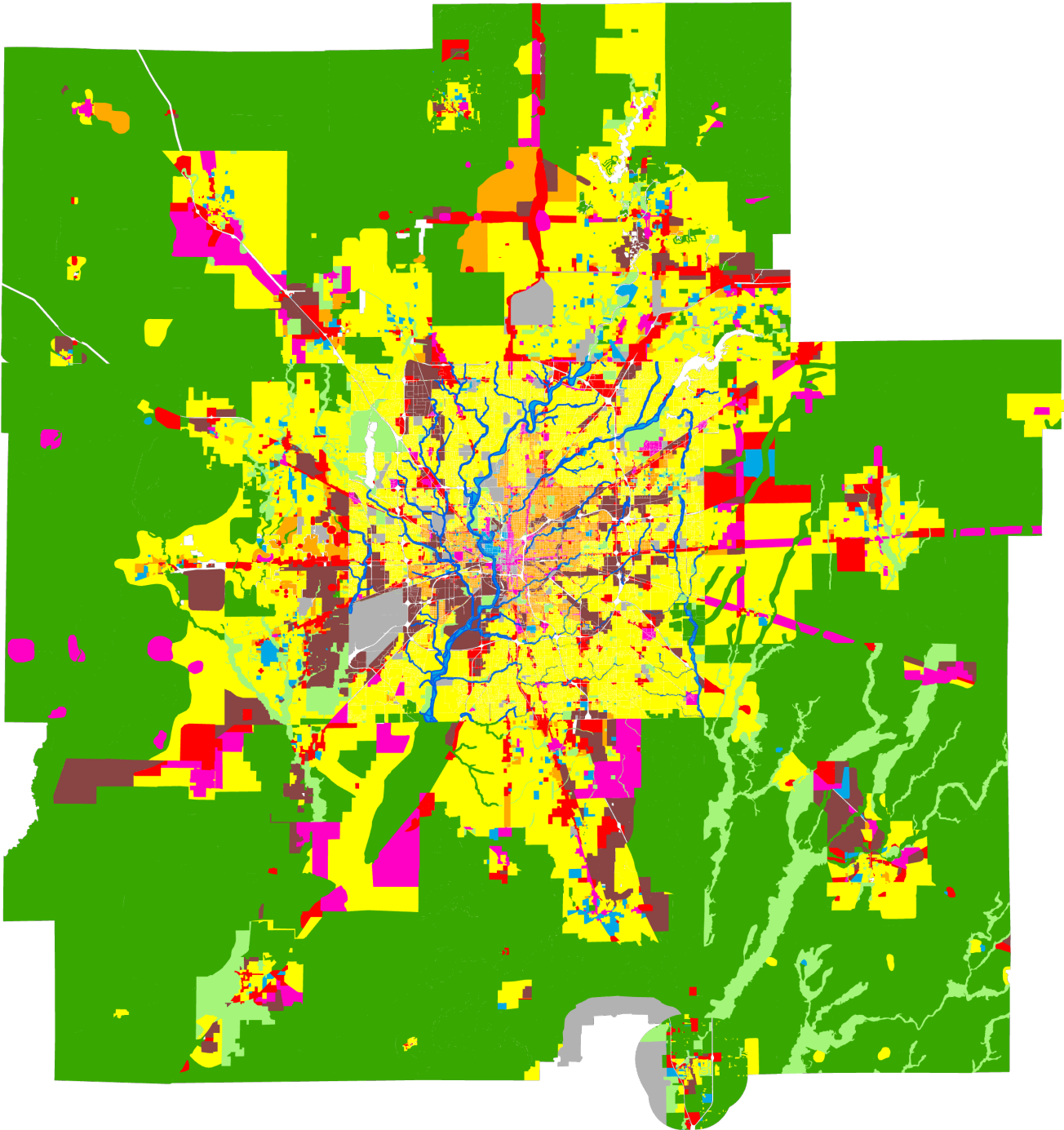


FIG. 3-12 Future Land Use Map

Source: Compilation of Local Future Land Use Maps

- 1-3 unit residential
- 4+ unit residential
- Mixed-use
- Agriculture
- Parks
- Commercial
- Industrial/warehouse
- Tax exempt property
- Undefined



Environmental Justice

A brief note: 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 also that the use of the term “minority” to describe people who are a specific collection of races and ethnicities can be factually inaccurate when this group of people are not an actual measured minority. With the federal requirement and the context in mind, for the purposes of the data reviewed and presented in this plan, “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).

The IMPO seeks to treat disenfranchised, disadvantaged, and underrepresented populations fairly in all planning and programming efforts. Specifically, such populations deserve to receive their fair share of benefits, to shoulder not more than their fair share of burdens, and to be meaningfully and equitably involved in decision-making.

This section discusses the distribution of disenfranchised, disadvantaged, and underrepresented segments of our region’s population. The following analysis uses ESRI’s Community Analyst tool (2014-2019 American Community Survey (ACS) 5-Year Estimate) to locate concentrations of those demographic categories.

Our Methodology

The goal of the IMPO’s Environmental Justice (EJ) analysis is to find concentrations of disenfranchised, disadvantaged, and underrepresented populations (aka “EJ populations”).

The two federally required groups of minoritized people and low-income households are used to define the Areas of Attention. An additional five population groups are also measured and reported on, but not used to define Areas of Attention. These include people with limited English proficiency, no college degree, households with no automobiles

available, people over the age of 65, and people with disabilities. These groups are not federally mandated for consideration, but are indicated here by the IMPO because they can also be disproportionately impacted by transportation projects.

Geographic Areas





Demographics were measured at the block group level. Block groups are areas defined by the Census to include 600-3,000 residents. Block groups are smaller than Census tracts but larger than blocks.

Areas of Attention

Population rates are measured for each EJ population at the block group level. (For example, if a block group has 100 residents and 20 are minoritized people, that is a rate of 20% or 0.20) When a block group’s rate for an EJ category population is higher than the regional rate for that category, it is considered to be a concentration of that population. In block groups where the rate of minoritized people and low income households is higher than the regional rate, that block group is also considered an Area of Attention. Far more of these block groups exist in Marion County than any other county. Marion, Johnson, and Hamilton County also have relatively high numbers of Areas of Attention. Figure 3-13 displays the Areas of Attention.

FIG. 3-13 Central Indiana Areas of Attention

Source: 2015-2019 ACS Census Data

-  Metropolitan Planning Area
-  County
-  Environmental area of attention
-  Other block group

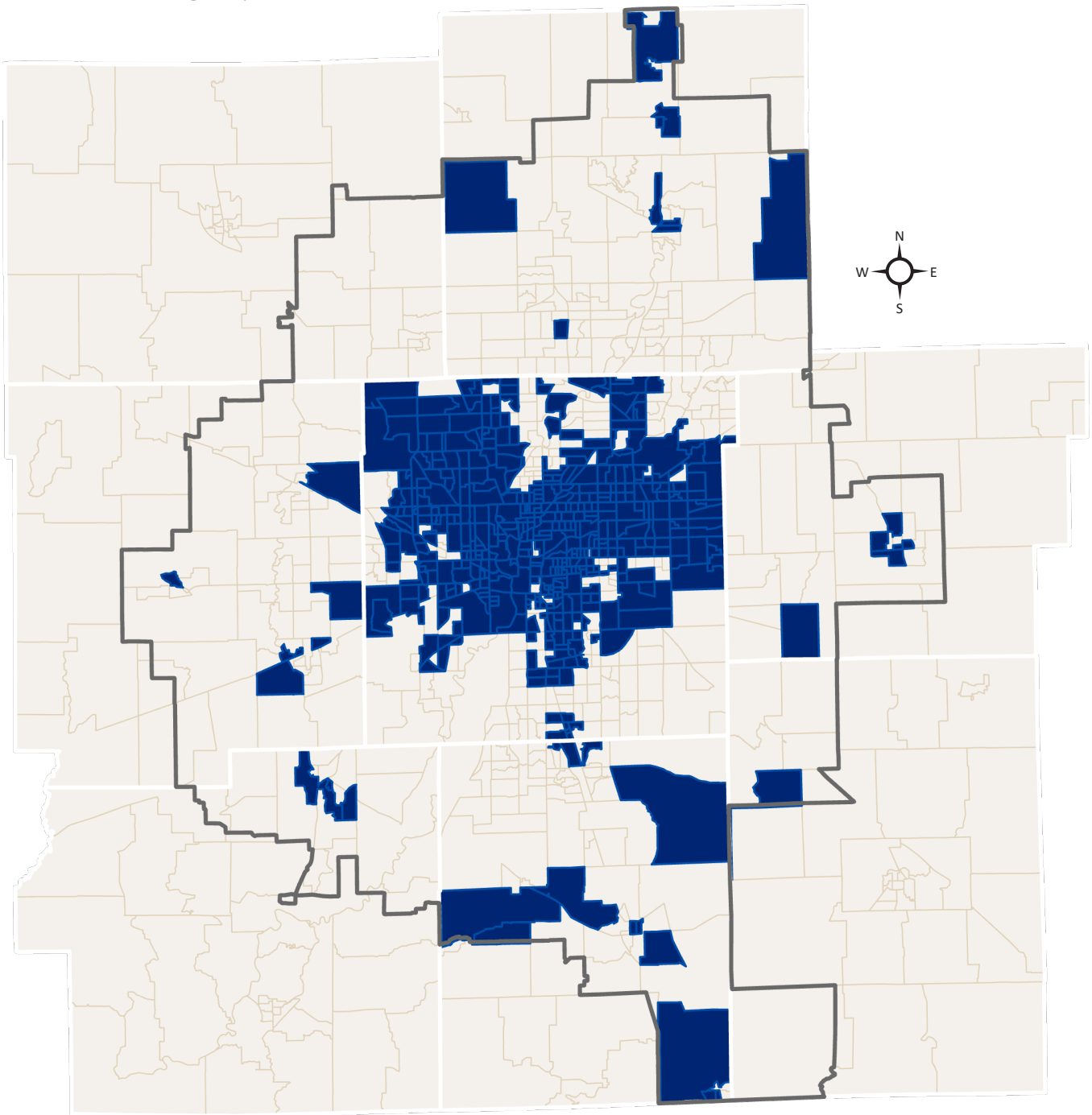
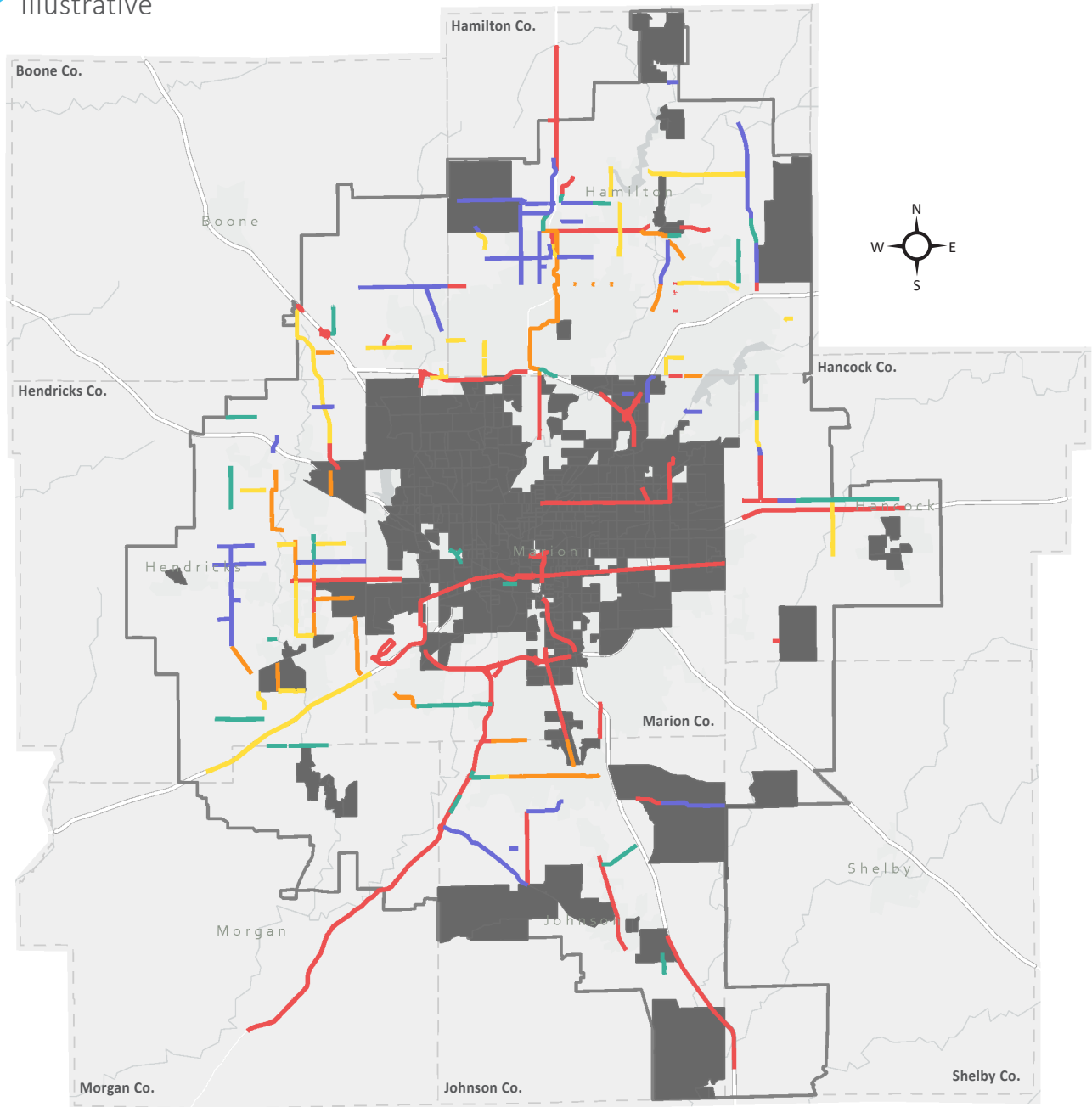


FIG. 3-14 Central Indiana Areas of Attention with 2050 MTP Project Locations

Source: 2015-2019 ACS Census Data, IMPO

- | | |
|--|-----------------------------------|
| 2050 MTP Project List | □ Metropolitan Planning Area |
| — 2020-2029 (E&C) | ▨ County |
| — 2020-2029 | ■ Environmental area of attention |
| — 2030-2039 | |
| — 2040-2049 | |
| — Illustrative | |



Roadway Networks

Functional Classification (FCS)

Streets and highways are organized into a hierarchical system called the Functional Classification System (FCS). Based on its function within the regional road network determines the categorization of the roadway. Access is a key determinant for FCS: the higher a roadway’s classification, the less access to the abutting land uses. Seven categories comprise the current FCS: Interstate, Other Freeways & Expressways, Other Principal Arterial, Minor Arterial, Major Collector, Minor Collector, and Local. A map of the functional classification system can be found at www.indympo.org/fcs.

National Highway System (NHS)

The National Highway System (NHS) is a collection of roadways important to the national movement of goods, people, and defense. Interstates and Other Principal Arterials are two types of FCS roadways included in the NHS. Other subsystems include:

- Strategic Highway Network (STRAHNET): Highways important to the mobility of strategic defense resources within the United States.
- Major Strategic Highway Network Connectors: Highways that provide access between major military installations.
- Intermodal Connectors: Roadways that connect major intermodal facilities to the NHS.

In cooperation with INDOT and FHWA, the IMPO and its local public agency (LPA) partners determined the appropriate system for the central Indiana region, recognizing the federal requirements of NHS roadways. NHS routes typically are state-owned and maintained, although the Intermodal Connectors are usually locally-owned and maintained roadways. The full extent of the NHS in Central Indiana can be found at www.indympo.org/nhs.

In 2021, INDOT proposed an update to the NHS within Central Indiana. This proposed revision is under consideration.

System Performance

Congestion

When facilities are congested, it can potentially impact the economy, particularly on freight corridors. This can also cause reduced travel times, which inflict costs on businesses and residents.

	Congested Lane Miles	Congested Lane Miles %	Congested Link VMT	Congested Link VMT %	Congested VHD
All links	2,892	12%	62M	36%	101,024
NHS	1,916	42%	48.9M	55%	71,068
Non-NHS	976	5%	13M	16%	29,956

Source: IMPO Travel Demand Model

FIG. 3-15 All Congested Links and Lane Miles

Congested Facilities

To measure congestion, the IMPO utilizes data from the travel demand model to calculate the ratio of volume to capacity. When the ratio value is .80 or more during the modeled time period, the link is considered congested. Figure 3-16 shows the congested facilities in the region.

Travel Time Index

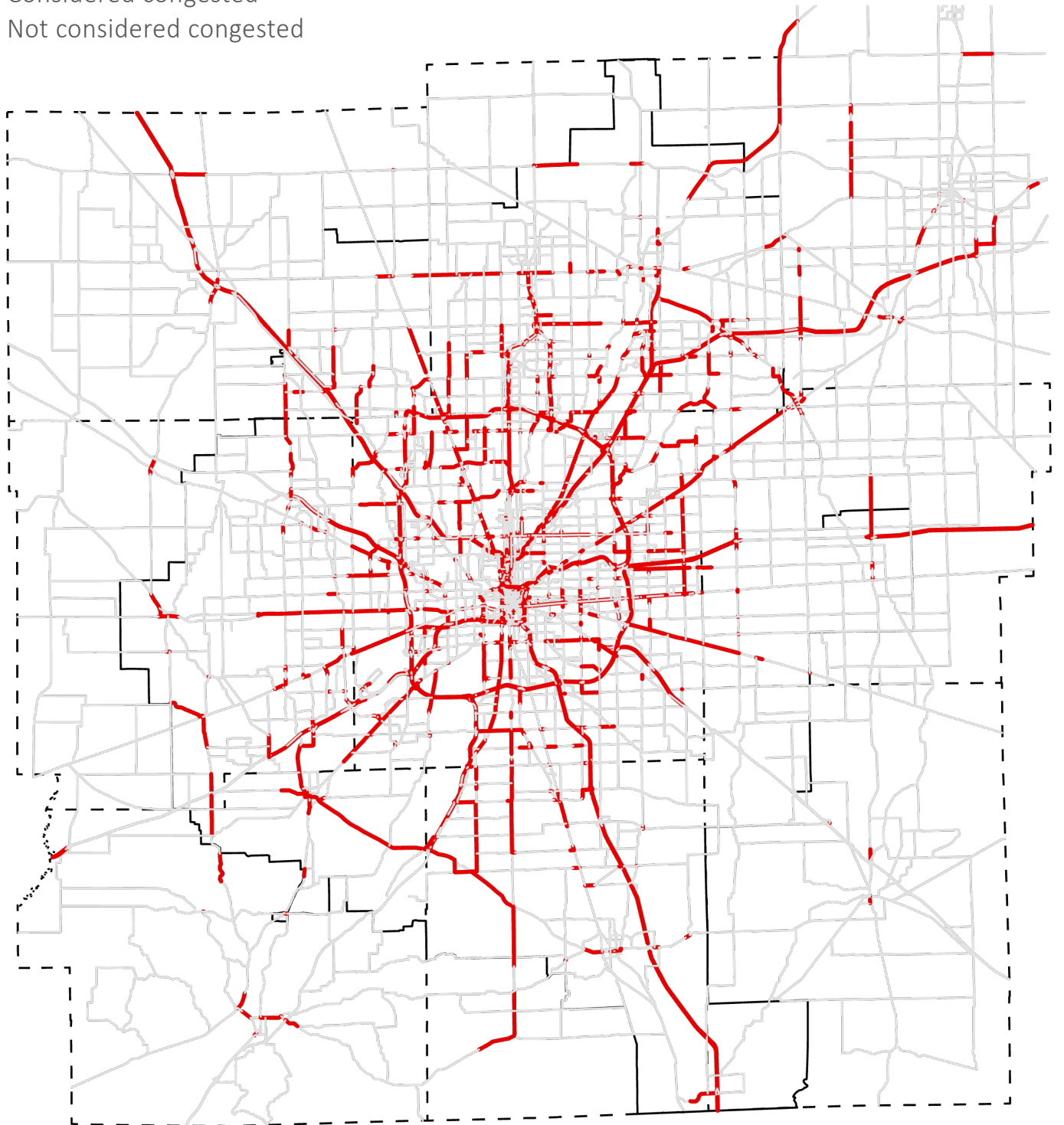
The Travel Time Index (TTI) is another means to measure congestion. This calculation is the ratio between measured or modeled peak hour travel time (6:00-8:00 am and 4:00-6:00 pm) to modeled free flow conditions. For example, if a trip during peak hour travel times takes 26 minutes, but would take only 20 minutes during free flow, that TTI value would be 1.30, indicating that the peak hour trip takes 30% longer than the free flow trip. A well known source for this is generated by Texas A&M’s Transportation Institute. The 2021 TTI in Central Indiana was 1.06. This is lower than in the previous LRTP, 1.181. The rank dropped to 47th in the nation, indicating that while some congestion may occur in Central Indiana, other places in the nation have experienced worsened congestion.

1 2021 Urban Mobility Report Texas A&M Transportation Institute, <https://mobility.tamu.edu/umr/report/>

FIG. 3-16 Congested Facilities

Source: Indianapolis MPO Travel Demand Model

- Metropolitan Planning Area
- County
- Considered congested
- Not considered congested



Safety

Safety of the transportation system is the top priority. Crashes are an unfortunate reality, with those that are incapacitating or fatal requiring more scrutiny from public safety officials. Tracking the number and location of incapacitating injuries and fatalities helps transportation professionals gain insight to what may have contributed to the crash and what can be changed to limit or lessen the severity of future crashes.

Vehicular Incapacitating Injuries and Fatalities

Figure 3-17 shows the number of incapacitating injuries and fatalities over time. In Central Indiana from 2015 to 2020, incapacitating injuries increased by 82.6% and fatalities have increased by 71.9%. It is worth noting that the decreased traffic during much of 2020 due to the impacts of COVID-19 led to higher speeds and numerous regions observed dramatic increases in vehicular injuries and fatalities in 2020 due to this. In Central Indiana, the change from 2019 to 2020 was a 35.4% increase in incapacitating injuries and a 41.5% increase in fatalities.

Year	Incapacitating Injuries	Fatalities
2015	2,674	135
2016	3,376	146
2017	3,230	135
2018	3,292	156
2019	3,605	164
2020	4,882	232

Source: Indianapolis MPO Crash Dashboard, ARIES

FIG. 3-17 Incapacitating Injuries and Fatalities

Pedestrian and Bicycle Safety

Prioritizing automobile movement can create safety challenges for non-motorized transportation users like cyclists and pedestrians. Mileage of sidewalks, separated bikeways, and multi-use paths continue to increase, but the number of injuries and fatalities for cyclists and pedestrians is on an upward trend. Between 2015 and 2020, crashes involving bicyclists have increased 78% and pedestrian crashes increased 53%.

Year	Cyclist Incapacitating Injuries	Cyclist Fatalities	Pedestrian Incapacitating Injuries	Pedestrian Fatalities
2015	44	1	114	34
2016	68	9	161	26
2017	56	3	124	33
2018	50	6	149	28
2019	62	5	146	31
2020	71	9	174	53

Source: Indianapolis MPO Crash Dashboard, ARIES

FIG. 3-18 Cyclist and Pedestrian Incapacitating Injuries and Fatalities

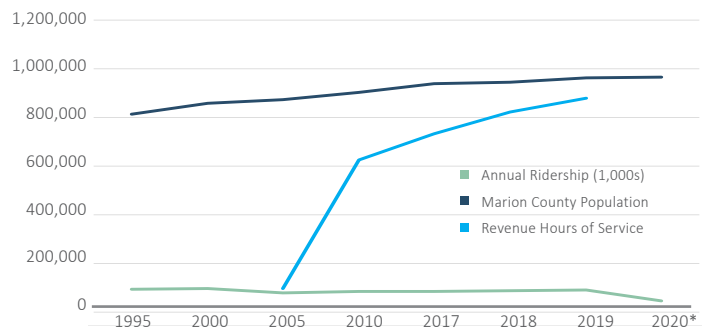
Transit

IndyGo is the largest transit operator in Central Indiana, with routes throughout Marion County and connecting into Johnson County. In addition, the Central Indiana Regional Transportation Authority (CIRTA) and Access Johnson County also operate fixed route services. Several other transit providers in Central Indiana provide on-demand services, some with eligibility requirements and some available to the general public.

The performance of these public transit systems impact the mobility and opportunities that are available to riders. Within the Central Indiana region, there are four types of transit: fixed-route bus, on-demand services, vanpool services, and bus rapid transit.

Ridership

IndyGo ridership has been on the rise since 2010, with the exception of 2020 due to the COVID-19 pandemic. Efforts to address the public health issue resulted in many people



Source: The National Transit Database, IndyGo, IMPO

FIG. 3-19 IndyGo Ridership, Revenue Service Hours, and Marion County Population

either working from home or experiencing job loss. These trends continued for nearly a year as local governments attempted to curb the spread of the virus. By mid 2021, ridership rates had begun to increase on the most frequent routes in the system, but the increase has been much slower on other routes. There’s no estimate currently for when the system ridership will fully rebound.

Ridership overall has increased by 8.7% since 2010. Revenue Service Hours have significantly increased between 2010 and 2019, with a 40% increase. Ridership and Revenue Service Hours have increased at a higher rate than that of the population of Marion County, which increased almost 7%.

Pavement Condition

Pavement condition is imperative to efficient and safe roadway performance. Poor roadway conditions may result in more crashes due to disabled or slowed vehicles, and may create an unnecessary financial burden on residents and businesses, forcing them to spend money on vehicle repairs more often.

State Roadways

INDOT is responsible for maintenance of Interstates, US routes, and state highways within Indiana.

Based on data provided by INDOT, 56.5% of the state-maintained facilities in Indiana are considered to be in “Good” pavement condition. Only 0.5% of the state’s pavement is considered to be in “Poor” condition.

Local Roadways

Local agencies, such as towns, cities, and counties, are responsible for most of the local roadways. Over 14,500 miles of local road network were evaluated within Central Indiana in 2020.

Roads in fair condition show signs of maintenance, which can range from crack filling and patching to grinding down the surface of the road and applying a new top layer. Roads in poor condition pose the most danger to roadway users. Roads in poor condition have deterioration that is so severe, it cannot be fixed with routine maintenance.

There are two different systems of pavement evaluation used on local roadways:

- Pavement Surface Evaluation and Rating (PASER)**
 The Pavement Surface Evaluation and Rating system is a common rating system for Central Indiana agencies. The system relies on trained staff to visually inspect pavement surface conditions.
- Pavement Condition Index (PCI)**
 The Pavement Condition Index is not as common but is used by the City of Indianapolis. The system requires extensive equipment and therefore is more expensive. It relies on a visual inspection of the number and types of distresses in the pavement.

The following table illustrates the 2020 PASER and PCI rating for all IMPO-member municipality local roadways and unincorporated county local roadways in the IMPO’s 8-county region. The data shows that there is a significant percentage of roads rated “poor” that require structural improvements.

Rating	Miles of Roadway	Percentage
Total PCI Miles	3,399.29	
Good (Score 71-100)	754.94	22.21%
Fair (Score 55-70)	812.87	23.91%
Poor (Score 1-54)	1,831.48	53.88%

Source: PCI Pavement Data

FIG. 3-20 PCI Rated Roadways (City of Indianapolis)

Rating	Miles of Roadway	Percentage
Total PASER Miles	11,181.69	
Good (Score 8-10)	2,808.20	25.11%
Fair (Score 5-7)	4,497.87	40.23%
Poor (Score 1-4)	3,875.61	34.66%

Source: PASER Pavement Data

FIG. 3-21 PASER Rated Roadways (IMPO-member municipalities & counties except City of Indianapolis)

Bridge Condition

Bridge condition is another important safety factor in the regional surface transportation system. Bridges are either maintained by the state (Interstates, U.S. Highways, etc.) or a county, except in Marion County where the consolidated city-county government maintains the bridges

NHS Bridges

Indiana bridges on the National Highway System (NHS) have steadily improved in condition since 2013. 48% of INDOT’s bridges are in Good condition, while bridges in Poor condition account for only 2.6%. For more information about the condition of bridges on the NHS, visit the Federal Highway Administration (FHWA)’s National Bridge Inventory at <https://www.fhwa.dot.gov/bridge/nbi.cfm>.

Non-NHS Bridges

As shown in the following table, the percentage of non-NHS bridges in Poor condition has been steadily reduced from 5.2% in 2018 to 3.62% in 2020. As the IMPO continues to track bridge conditions, the data and its variables will be understood.

Year	NHS*: Good	NHS*: Poor	Non-NHS**: Good	Non-NHS**: Poor
2018	49.7%	2.0%	46.48%	5.2%
2019	48%	2.6%	44.78%	4.24%
2020	48.3%	2.6%	45.97%	3.62%

* Statewide data- Source: INDOT, 2020

** Indianapolis MPA data- Source: National Bridge Inventory, 2020

FIG. 3-22 Bridge Condition

Public Opinion

In Summer 2020, a survey was conducted to determine public opinion on a variety of transportation issues. The responses were balanced/weighted by county to reflect the population distribution of the region.

Some key findings in that survey include:

- The highest concern for the region is poor pavement/bridge conditions, followed by safety (speeding, distracted driving, crashes, etc.), and traffic congestion.
- The most important goal is improving safety, followed by providing access to employment, and improving the area’s quality of life.
- The majority felt that fixing and maintaining existing roads and bridges, and safety projects that reduce crashes, should be the highest priorities for project funding.

In light of those results, planning best practices, and feedback from other community partners, the IMPO has increased its focus on safety and infrastructure preservation. You can see some of this focus in Chapter 2, regarding some of the safety studies, plans, and tools the IMPO has produced since 2017, as well as in Chapter 5, where the updated resource allocation goals placed a stronger funding priority on infrastructure preservation.

2020 Census

It’s worth noting that the decennial Census may have an impact on the IMPO’s planning areas and funding in the future. It is normal that the release of demographic and community data from a decennial Census, and conversations about redesignating boundaries, happens two to three years after the Census data collection year. The majority of data shared in this 2050 MTP reflects 2019 values.



Interstate Construction

4 | Next Steps

By 2050, Central Indiana is expected to have a population of over 2.6M residents and 1.9M jobs. This growth must be proactively planned for and accommodated, based on best practices, to avoid future problems and challenges. Looking at current land use trends and creating a preferred land use and transportation growth scenario can help determine how the region will accommodate future growth.

Year	Population	Households	Employment
2019	1,989,863	771,270	1,213,681
2030	2,159,970	834,303	1,520,326
2040	2,396,830	926,727	1,708,157
2050	2,627,441	1,013,158	1,918,296

Source: Woods & Poole Economics, Inc., 2020 data release and InfoGroup, 2020.

FIG. 4-1 Central Indiana Projected Population Growth

The Vision

During the planning process, goals and objectives were assigned to performance measures in order to track the progress of this plan. Most of these were developed in the previous 2045 LRTP and will be tracked over time.

Visioning requires input. During the development of the previous 2045 LRTP, online outreach was conducted and the Steering Committee offered guidance to create a one sentence vision statement.

Vision

Preserve and enhance all available funding sources to develop a comprehensive, multimodal, regional transportation system that safely and efficiently addresses mobility needs over time, is economically viable, cost-effective, environmentally sustainable, supports regional prosperity and healthy lifestyles, and promotes the availability of travel choices throughout the communities in Central Indiana.

Forecasting

In order to forecast travel and land use, existing conditions need to be analyzed and future land use scenario selected. This data is then used in the Travel Demand Model (TDM) which simulates travel demand.

Land Use Forecasting

Land use is a major indicator of transportation use. The IMPO uses a combination of Land Use Scenario Planning and identification of existing and emerging Regional Activity Centers to review and project future land use conditions.

Scenario Planning

In 2020, the IMPO began a scenario planning effort to inform the 2050 Metropolitan Transportation Plan. This effort would use an established, off the shelf, planning tool to develop a preferred future regional growth pattern. The IMPO chose Community Viz, an ArcGIS extension, as the software product for scenario planning. A baseline scenario was developed from the various future land use plans for the jurisdictions in the IMPO counties, which normalized future land use classifications across the multiple jurisdictions and consolidated them into a single map. The future land use plans were developed at different times, with different assumptions and different time horizons, but they were the best available starting point for a regional effort. A suitability analysis was done for residential, commercial, and industrial development to determine the areas that were most (and least) suitable for future development. Three alternative futures were developed and refined through public survey input and input from the members of the IMPO Land Use Advisory Panel. From the input and alternative scenarios, a hybrid scenario was developed and refined into a preferred scenario. This preferred land use scenario was allocated to Travel Analysis Zones (TAZ) and integrated into the Travel Demand Model (TDM) used in scoring projects for the MTP.

The scenario planning was based on a 2050 population and employment forecast. The 2050 population and employment numbers were the same for each of the scenarios,

only the geographic allocation changed between scenarios. All scenarios used the same density assumptions for the placetypes that comprised the scenarios.

The preferred scenario, while focused on transit and building on existing developed areas, shows a considerable increase in the developed area of the region. This is primarily due to the density assumptions underlying the placetypes, the population and employment that need to be accommodated could have a more compact development pattern if the densities for the various placetypes are higher than the modest assumptions included in the analysis.

In order to achieve the preferred scenario, the following policy choices are recommended:

- Implementation of the Marion County Transit Plan, particularly the Purple and Blue BRT lines.
- Development of the Nickel Plate rail trail corridor from Indianapolis to Noblesville.
- Zoning ordinances that support mixed use development, multi-family housing development, and gentle density increases.
- Increasing the bike mode split by improving bicycle travel routes in areas with housing, employment, and destination density.
- Improving walkability with sidewalk investment.
- Preserving parks and open space areas, as well as prime agricultural areas.

Regional Centers

In 2019, the IMPO continued work on developing the population and employment centers used in the 2045 Long Range Transportation Plan (LRTP) into Regional Activity Centers. Regional Activity Centers are major destinations where clusters of employment, residents, and/or visitors are located. Identifying these Activity Centers can help cities, counties and the region focus limited transportation resources and funds towards areas of high activity and most trips generated.

While some areas may be considered an Existing Activity Center based on a combination of metrics and indicators, there are also areas that show signs of becoming an Activity Center. In order to be an Emerging Activity Center, an area must be close to meeting targets for an Existing Activity Center, have a minimum amount of vacant land

available, and have shown a trend of growth in population and/or employment in recent years.

Some areas in the MPA fit the description of multiple Activity Center Types. For this reason, a hierarchy was determined to establish the order in which the Activity Center Types should be viewed and considered. The intent behind allowing an area to be classified as multiple Activity Center Types is to provide the maximum amount of information. The more mixed-use an Activity Center Type is, the higher it resides in the hierarchy in order to capture the nuance of each area.

The hierarchy of Activity Center Types, from top to bottom, is below:

- Downtown Indianapolis
- Regional Mixed-Use Center
- Main Street Center
- Lifestyle Center
- Shopping Center
- Special Use Center
- Manufacturing/Distribution/Logistics Center
- Employment Center

In the MTP the Regional Activity Centers play a role in scoring projects and in the regional connectivity performance measure. Previously both of these used population/employment clusters rather than the more robust Regional Activity Centers methodology.

Other ways the Regional Activity Centers can be used are:
Determining areas for sub-area plans
Identifying emerging areas where transportation investment may be needed in the long-term
Creating regional investment areas for housing, economic development, or quality of place

Travel Forecasting

The Travel Demand Model (TDM) is an advanced 4-step model used to forecast transportation demand. It has recently been updated and validated to reflect the current Base year. Demographics used in the modeling process were updated to be consistent with the IMPO scenario planning process. Using existing demographics for each traffic analysis zone (TAZ), the TDM estimates how much

FIG. 4-2 Central Indiana Existing and Emerging Regional Activity Centers

Source: Regional Activity Centers developed by MIG, Inc. and the Indianapolis MPO

- | | |
|--------------------------------------|--------------------------------------|
| Existing Center Type | Emerging Center Type |
| Downtown Indianapolis | Regional mixed-use |
| Regional mixed-use center | Main street center |
| Main street center | Lifestyle center |
| Lifestyle center | Shopping center |
| Shopping center | Special-use center |
| Special-use center | Manufacturing/distribution/logistics |
| Manufacturing/distribution/logistics | Employment center |
| Employment center | |

- Metropolitan Planning Area
- County boundary
- Interstate
- Other non-local roads
- Rail line
- Waterbody

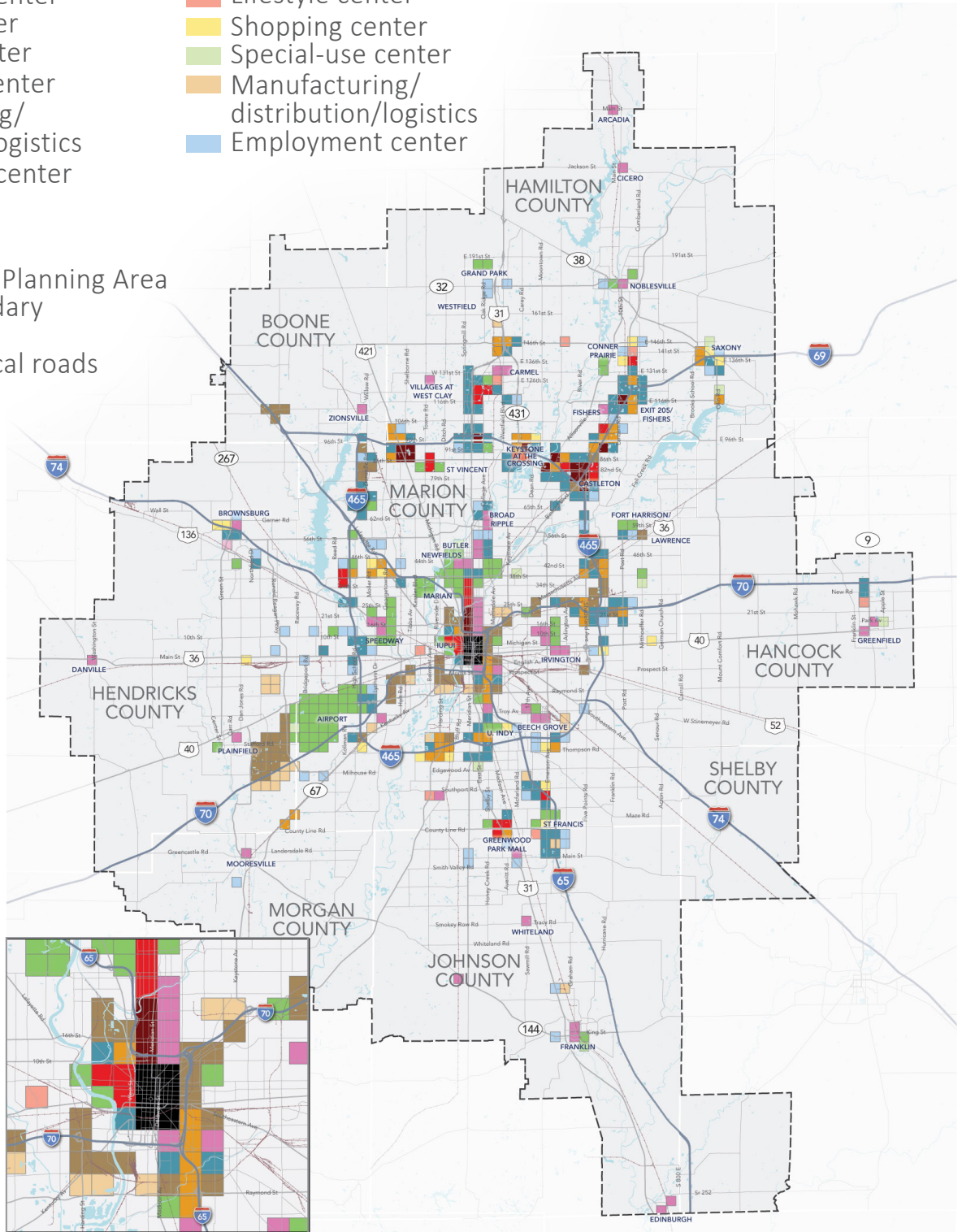




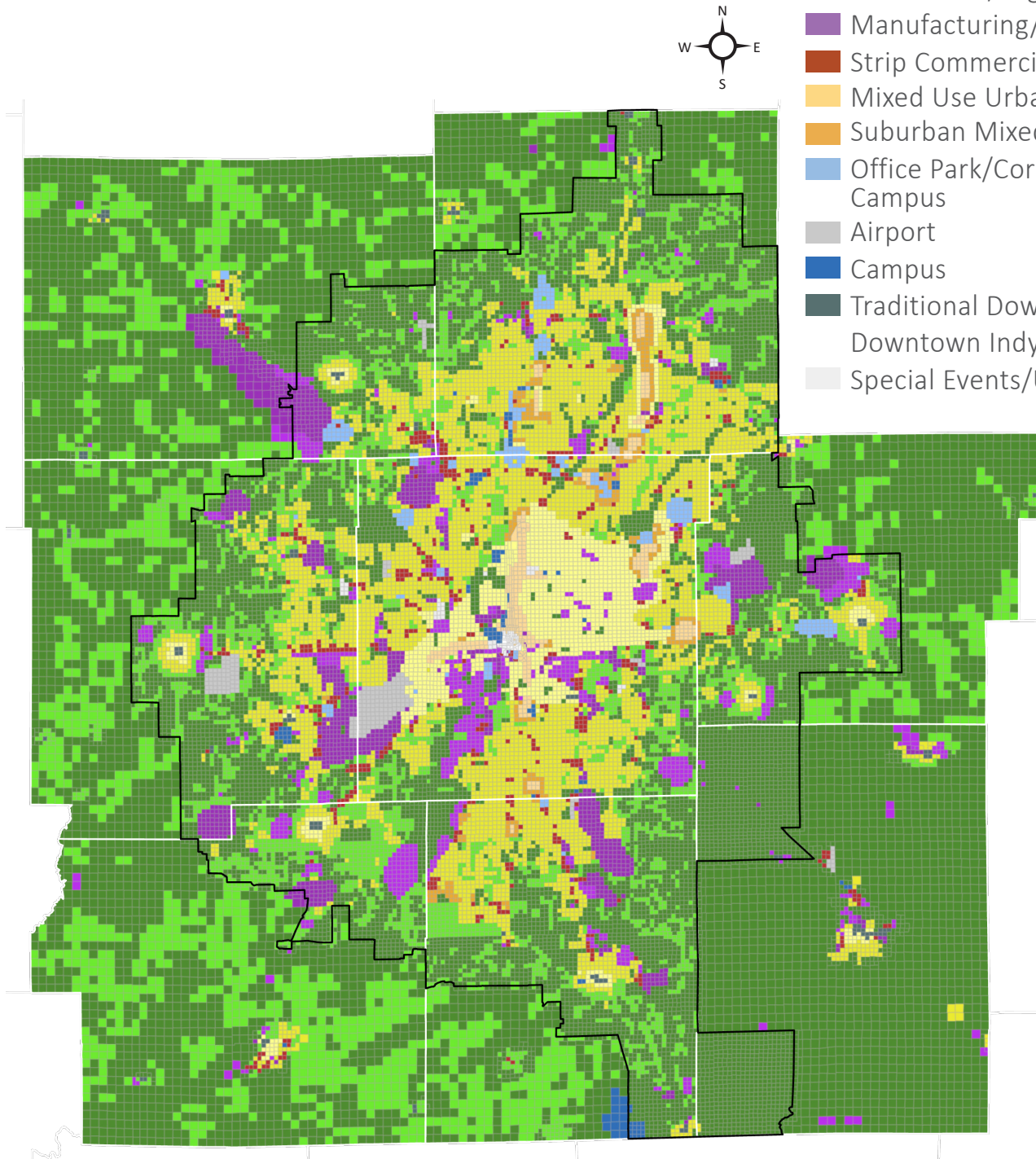
FIG. 4-3 Indianapolis MPA Preferred Scenario

Source: Scenarios Developed by Cambridge Systematics and the Indianapolis MPO

-  Metropolitan Planning Area
-  County

Preferred Scenario

-  Agriculture/Conservation
-  Rural Estate
-  Suburban Residential
-  Walkable Neighborhood
-  Warehouse/Logistics
-  Manufacturing/Mining
-  Strip Commercial
-  Mixed Use Urban Infill
-  Suburban Mixed Use
-  Office Park/Corporate Campus
-  Airport
-  Campus
-  Traditional Downtown
-  Downtown Indy
-  Special Events/Uses



travel will occur in the region between each originating TAZ to the destination TAZ via the model road and transit networks. Once the number of trips to and from each TAZ is calculated, the model then finds the best route and determines the mode for that trip, such as transit or auto. The ITDM also models various types of freight and truck trips that range from trucks driving through the region without stopping, to truck trips traveling to or between multi-modal freight facilities, and more local delivery trips by light commercial vehicles. Various types of truck industry and mobile data were used to update and calibrate the TDM to support the 2050 MTP.

Uncertain Future

Housing Preferences

Aging Baby Boomers are downsizing and looking for housing types that are likely unavailable in Central Indiana. Millennials and Generation Z often make different housing choices than their parents. Cities around Central Indiana are responding to market demand for development that increases housing options. New apartments, condominiums, and town homes are being built in communities across Central Indiana, but demand for housing has outpaced supply. Both housing availability and affordability are concerns that local officials should work to address.

Sharing Culture / Micromobility

A sharing culture has emerged in recent years, in many forms. One is renting out personal items, like short-term rentals of homes or apartments when the owner will be away, or renting out a personal automobile when the owner isn't using it. Another is shared infrastructure, like bikeshare, carshare, scootershare, or even transit systems, as well as services such as Uber or Lyft. These can all impact overall community travel patterns.

Commuter Travel Preferences

Younger generations are increasingly looking for more transportation options, especially for their trips to work. Frequent transit routes and bicycling facilities are in higher demand. Choosing to live closer to where you work provides opportunities to walk. As desires to walk more increase, demand for better sidewalk conditions also increase.

E-Commerce

Instead of delivering a large quantity of goods by truck to stores, internet purchases create a demand for more

distribution centers nationally, and the use of many smaller delivery vehicles traveling directly to the home of each customer. This rapid increase in small-scale freight has adversely impacted roadways by increasing traffic and wear on roadways, and new autonomous delivery could arrive in the region soon.

Autonomous Vehicles

Fully autonomous vehicles are currently rare and primarily still in prototype stages. In order to operate in the real world, they will require significant infrastructure support, like consistent roadway paint and signage, as well as sophisticated on-board communication software. Autonomous vehicles have the potential to significantly disrupt transportation networks in the future, occurring faster in some regions of the country than in others. Case studies from the 2021 autonomous pilots in Central Indiana will be imperative in understanding the issues and challenges that come with this new transportation option.

Climate Change

Environmental changes could challenge the resiliency of the transportation network. Roadways, bridges, and other transportation infrastructure are susceptible to environmental impacts including a higher frequency of flash flooding and unpredictability of pavement freeze-thaw cycles, which could lead to uncertainty of material lifecycles. These impacts have the potential to affect daily regional transportation operations.

Pandemics

The transportation system and how people use it has changed drastically from the start of the COVID-19 pandemic to current day. During early to mid 2020, thousands of commuters stayed home, either as a result of remote work or job loss, opening up wide avenues that used to slow traffic with congestion. Motorist speeds increased during that time and have decreased little as people have started to return to jobs. Alternatively, some road segments in dense areas with higher levels of walking and bicycling were shut down to only allow for pedestrian and cyclist use. This was an economic development tool to create more outdoor space for customers to patronize local businesses and restaurants, which had been impacted especially hard by the effects of the pandemic. Cities, towns, and counties should examine their roadway designs and respond appropriately to the new reality to increase safety and provide more transportation options as we continue into an uncertain future in relation to the effect of the current and future pandemics.

Federal Performance Measures

The intent of Transportation Performance Management (TPM) is to use data to review the safety, condition, and performance of our transportation facilities, and use that to set goals, or “targets” for improving those facilities. The IMPO supports the targets set by INDOT for performance measures set by the Federal Highway Administration. These performance measure targets are updated regularly on the IMPO’s website, and are incorporated by reference into this MTP. Visit www.indympo.org/fpm to learn more about federal performance measures.

PERFORMANCE MEASURES

- **Specific** performance measures target specific areas for improvement.
- **Measurable** performance measures are quantifiable and objective.
- **Available** performance measures use data that can be accessed.
- **Relevant** performance measures are strongly linked to the objectives they support.
- **Timely** performance measures are able to be measured regularly and to be forecasted over the life of the long-range plan.

MOVE



Provide transportation choices for people to easily access homes, jobs, recreation and services by:

- » Enhancing transportation options and choices for all users
- » Implementing strategies that address congested transportation segments

PROSPER



Foster shared economic vitality through strategic investments in regional infrastructure to increase competitiveness and afford ability by:

- » Supporting economic mobility for all Central Indiana residents
- » Improving job access for Central Indiana commuters
- » Ensuring the efficient movement of goods and freight

MAKE SAFE



Support a safe traveling environment for all users by making strategic investments in our region’s infrastructure that preserve and enhance the existing system by:

- » Improving safety for travelers system-wide through project investment
- » Preserving or enhance the existing transportation system in a state of good repair

SUSTAIN



Ensure a convenient transportation network that offers healthy lifestyle options, is accessible to all people, and preserves or enhances the environment by:

- » Minimizing negative impacts to the natural environment
- » Improving connectivity to healthy food choices



GOAL 1: TO ENHANCE TRANSPORTATION OPTIONS AND CHOICES FOR ALL USERS.

Objective 1A: Improve regional connectivity of the roadway system.

PM 1: Regional Vehicle Connectivity

The average travel time between regional activity centers

Objective 1B: Create a connected network of bikeways and pedestrian routes by expanding existing facilities and closing gaps.

PM 1: Percentage of people within the metropolitan who have access to a connected bikeway

The portion of our region's population living close to a connected bikeway

PM 2: Percentage of people within the metropolitan who have access to a connected sidewalk

The portion of our region's population living close to a connected sidewalk

Objective 1C: Support transit initiatives to improve service quality, access to, and reliability of transit.

PM 1: Percent of regional population with access to fixed route transit

The percent of the region's residents who have access to a fixed route transit line

PM 2: Transit ridership per capita along frequent transit routes

The number of transit rides divided by the regional population who have access to frequent route transit lines

GOAL 2: TO IMPLEMENT STRATEGIES THAT ADDRESS CONGESTED SEGMENTS.

Objective 2A: Develop mobility strategies that address system performance and congested transportation segments.

PM 1: Percentage of the Person-Miles traveled on the Interstate that are reliable

The percentage of miles traveled by a person on the Interstate that are reliable



PM 2: Percentage of the Person-Miles traveled on the non-Interstate NHS that are reliable

The percentage of miles traveled by a person on the non-Interstate NHS that are reliable



PM 3: Annual hours of peak hour excessive delay per capita

The annual hours of travel delay experienced by each person at peak travel times



PM 4: Percentage of non-Single Occupant Vehicle travel

The percentage of commuters that are not using a single occupant vehicle



PROSPER



FEDERAL

GOAL 3: TO SUPPORT ECONOMIC MOBILITY FOR ALL CENTRAL INDIANA RESIDENTS.

Objective 3A: Increase opportunities for residents to reduce transportation costs.

PM 1: Transportation costs as a percentage of median income

The share of a median household's income spent on transportation costs

Objective 3B: Assure investments are applied equitably without disproportionately affecting disadvantaged populations.

PM 1: Percent of the Environmental Justice population within 1/2 mile of connected bikeway

The percent of households in poverty and minoritized¹ populations with access to a connected bikeway

PM 2: Percent of the Environmental Justice population within 1/2 mile of frequent transit routes

The percent of households in poverty and minoritized¹ populations with access to frequent transit routes

GOAL 4: TO IMPROVE JOB ACCESS FOR CENTRAL INDIANA COMMUTERS.

Objective 4A: Improve job access.

PM 1: Job Accessibility for Transit Users

The change in the number of jobs that are both within and outside of 1/2 mile of fixed route transit

GOAL 5: TO ENSURE THE EFFICIENT MOVEMENT OF GOODS AND FREIGHT.

Objective 5A: Improve reliability, capacity, and competitiveness for regional freight.

PM 1: Truck Travel Reliability Index (TTTR)

The reliability of truck travel on the National Highway System



¹ 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).

MAKE SAFE



FEDERAL

GOAL 6: TO IMPROVE SAFETY FOR TRAVELERS SYSTEM-WIDE THROUGH PROJECT INVESTMENT.

Objective 6A: Support projects and policies that reduce the number and rate of serious injuries and fatalities for all modes.

PM 1: Number of serious injuries




The number of serious injuries as a result of a vehicular crash



PM 2: Serious injuries per 100 million vehicle miles traveled (VMT)


The rate of serious injuries






<p>PM 3: Number of fatalities The number of fatalities as a result of a vehicular crash</p>	
<p>PM 4: Fatalities per 100 million vehicle miles traveled (VMT) The rate of fatalities</p>	
<p>PM 5: Nonmotorized fatalities, serious injuries The number of pedestrians and bicyclists seriously injured or killed as a result of a vehicular crash</p>	

GOAL 7: TO PRESERVE OR ENHANCE THE EXISTING TRANSPORTATION SYSTEM.





Objective 7A: Preserve or enhance the condition of on- and off- system bridges.

<p>PM 1: Percentage of National Highway System (NHS) bridges in good condition The percentage of bridges on the NHS that are considered in good condition</p>	
<p>PM 2: Percentage of NHS bridges in poor condition The percentage of bridges on the NHS that are considered in poor condition</p>	
<p>PM 3: Percentage of non-NHS bridges in poor condition The percentage of bridges off the NHS that are considered in poor condition</p>	

Objective 7B: Preserve or enhance the quality and condition of transit resources.

<p>PM 1: Percentage of revenue vehicles within a particular asset condition that have met or exceeded their Useful Life Benchmark (ULB) The percentage of vehicles used to transport passengers that had exceeded their useful life</p>	
<p>PM 2: Percentage of facilities with a condition rating below 3 on the FTA Transit Economic Requirements Model (TERM) scale The percentage of facilities that are in need of significant maintenance</p>	
<p>PM 3: Percentage of vehicles that have met or exceeded their Useful Life Benchmark (ULB) The percentage of all vehicles that have exceeded their useful life</p>	

Objective 7C: Preserve or enhance the pavement conditions of the roadway network.

<p>PM 1: Percentage of pavement on the Interstate System in good condition The percentage of pavement on the Interstate system considered in good condition</p>	
<p>PM 2: Percentage of pavement on the Interstate System in poor condition The percentage of pavement on the Interstate system considered in poor condition</p>	
<p>PM 3: Percentage of pavement on the non-Interstate National Highway System in good condition The percentage of pavement on the non-Interstate National Highway System considered in good condition</p>	
<p>PM 4: Percentage of pavement on the non-Interstate National Highway System in poor condition The percentage of pavement on the non-Interstate National Highway System considered in poor condition</p>	
<p>PM 4: Percentage of pavement on major roads in Central Indiana in poor condition The percentage of pavement on major roads in Central Indiana considered in poor condition</p>	



GOAL 8: TO MINIMIZE NEGATIVE IMPACTS OF THE TRANSPORTATION SYSTEM ON THE NATURAL ENVIRONMENT.

Objective 8A: Protect the natural environment through careful consideration of transportation impacts on projects.	
<p>PM 1: Land consumption The acreage of land consumed by development in Central Indiana</p>	
Objective 8B: Support projects that improve air quality.	
<p>PM 1: Total emissions reductions The amount of emissions reduced by projects funded through the Congestion Mitigation and Air Quality program</p>	
<p>PM 2: Percent change in tailpipe CO2 emissions on the National Highway System compared to the Calendar Year 2017 level The percent change in tailpipe emissions on the NHS compared to the calendar year 2017 levels</p>	
<p>PM 3: Improve access to grocery stores from bicycle, pedestrian, and transit options to reduce auto trips Number of residents that can access grocery stores by bike, sidewalk, or transit</p>	



REGIONAL PM TRENDS

2019

2020

2021

Trends

MOVE

Average Travel Time between Regional Activity Centers

New Addition for the 2050 MTP

N/A

Percent of Region's Population with Access to a Connected Bikeway

48%

54%

51%

UP

Percent of Region's Population with Access to a Sidewalk

49%

54%

52%

UP

Percent of Region's Population with Access to Fixed Route Transit

31.4%

25%

38.12%

UP

Transit Ridership per Capita Along Frequent Transit Routes

New Addition for the 2050 MTP

N/A

PROSPER

Share of Median Household's Income Spent on Transportation

24%

24%

24%

SAME

Percent of Region's EJ Population within a Half-Mile of a Connected Bikeway

New Addition for the 2050 MTP

N/A

Percent of Region's EJ Population within a Half-Mile of Frequent Transit Routes

New Addition for the 2050 MTP

N/A

Job Accessibility for Transit Users

New Addition for the 2050 MTP

N/A

MAKE SAFE

Percent of Region's Non-NHS Bridges in Poor Condition

5.2%

4.24%

3.62%

DOWN

Percent of Region's Non-NHS Pavement in Poor Condition

13.87%

13.87%

36.49%*
18.04%**

N/A

SUSTAIN

Acres of Land Developed in the Region

182k

196k

203.5k

UP

Number of Residents with Access to a Grocery Store via Transit

406k

261k

269k

DOWN

Number of Residents with Access to a Grocery Store via Bicycle

585k

591k

362k

DOWN

Number of Residents with Access to a Grocery Store via Walking

65k

152k

179k

UP

* PCI Rating, Marion County

**PASER Rating, Surrounding Municipalities

This table does not include PMs that have been changed for the 2050 MTP. For the full 2045 Regional PM Trend Data, visit the IMPO's Metropolitan Transportation Plan website.



Bridge Rehabilitation, Sycamore St over Eagle Creek in Boone County

5 | A Plan Forward

Implementation of the 2050 vision, goals, and objectives is primarily done in three ways: establishing and enforcing policies that guide responsible transportation development; analyzing the available funds in Central Indiana through 2050; and prioritizing planned and proposed transportation projects to establish a realistic outlook for the future transportation network.

Policies

The Indianapolis MPO approves policies that affect federally-funded transportation projects. These policies mandate certain components to a project or require the disclosure of information about a project. As the Indianapolis MPO, through recommendations from the Transportation Policy and Technical Committees, implements the 2050 MTP, policies additional to those listed here may be considered and adopted.

Complete Streets

Complete Streets are those streets that allow all residents and visitors (whether able or not; whether in a car or not) to use the street. Typically, a complete street infrastructure application is a sidewalk, multi-use path, or bike lane. Complete Streets allows all residents to utilize the transportation network without requiring them to own or operate an automobile.

The Indianapolis MPO Complete Streets policy requires all infrastructure projects submitted to the MPO for STBG funds to include at least a sidewalk on each side of the facility. There are certain exceptions to the rule, including excluding limited access thoroughfares like Binford Boulevard.

Transportation Committee member agencies that submit projects for MPO federal funds continue to meet the policy standard. Compliance to the Complete Streets Policy is ensuring a better transportation network for Central Indiana.

Vision Zero

The IMPO's Transportation Policy committee passed a resolution supporting Vision Zero in 2018. Vision Zero is the concept that all transportation-related injuries and deaths are preventable, and communities should make efforts to reduce the number of injuries and deaths to zero. Vision Zero efforts usually consist of a combination of infrastructure design improvements and community education. The IMPO continues to look for ways to support the region's communities in these efforts.

Congestion Management Process

The concept of a Congestion Management Process or CMP was originally developed by FHWA in the 1990's to provide and promote alternatives to the traditional means of addressing congestion; the expansion of physical road capacity. The IMPO's approach to congestion management includes:

- Define congestion
- Identify where congestion is occurring
- Require local public agencies developing road capacity expansion projects located in congested locations to examine alternatives to that expansion
- Over the years, the CMP concept has expanded from a simple project-by-project evaluation to include region-wide strategies that reduce congestion system-wide. The performance measures in this broader concept of CMP become regional, not simply a project-by-project measure. As such, the CMP has become an integral part of the Metropolitan Transportation Plan process.

In addition to a broadening of the CMP concept, the IMPO has developed several initiatives in recent years that provide alternatives to be considered when addressing congestion relief. The IMPO has adopted a Complete Streets policy, a Regional Bikeways Plan and Regional Pedestrian Plan, and a Regional Transit Plan (Indy Connect) that provide a framework for considering these multimodal options in

regional project development. The IMPO also supports regional ridesharing and van pooling services provided by the Central Indiana Regional Transportation Authority (CIRTA).

Requirements

The IMPO is a Transportation Management Area (MPO's that cover an area with more than 200,000 people) and therefore must meet the requirements within the Code of Federal Regulations, Title 23, Section 450.322 (23 CFR §450.322). These requirements include:

1. Define CMP Network
2. Develop Regional Objectives for Congestion Management & Develop Multimodal Performance Measures
3. Collect Data/Monitor System Performance
4. Analyze Congestion Problems and Needs
5. Identify and Assess Strategies
6. Program and Implement Strategies
7. Evaluate Strategy Effectiveness

Define CMP Network

The Indianapolis MPO's Travel Demand Model (TDM) network will serve as the CMP network. The TDM includes National Highway System (NHS) and some non-NHS free-ways, major arterials, major transit networks, and some other streets required for TDM model execution.

Develop Regional Objectives for Congestion Management & Develop Multimodal Performance Measures

Goals, objectives, and performance measures (PMs) that relate to congestion in the 2050 MTP will serve as the regional objectives for congestion management. Many of the plans objectives and PMs can contribute to the reduction of congestion. The performance measures most closely related to congestion reduction in the 2050 MTP include:

Goal 1: Enhance Transportation Options and Choices for All Users

- Obj. A: Improve regional connectivity of roadway system
 - » PM1: The average travel time between regional activity centers

- Obj. B: Create a connected network of bikeways and pedestrian routes by expanding existing facilities and closing gaps
 - » PM1: Percentage of people within the metropolitan area who have access to a connected bikeway
 - » PM2: Percentage of people within the metropolitan area who have access to a connected sidewalk
- Obj. C: Support transit initiatives to improve service quality, access to, and reliability of transit
 - » PM1: Percentage of people with access to fixed route transit
 - » PM2: Transit ridership per capita along frequent transit routes

Goal 2: Implement Strategies that Address Congested Segments

- Obj. A: develop mobility strategies that address system performance and congested transportation segments
 - » PM1: Percentage of the Person-Miles traveled on the Interstate that are reliable
 - » PM2: Percentage of the Person-Miles traveled on the non-Interstate NHS that are reliable
 - » PM3: Annual hours of peak hour excessive delay per capita
 - » PM4: Percentage of non-Single Occupant Vehicle travel

Goal 4: Improve Job Access for Central Indiana Commuters

- Obj. A: Improve job access
 - » PM1: Job Accessibility for Transit Users

Goal 5: To Ensure the Efficient Movement of Goods and Freight

- Obj. A: Improve reliability, capacity, and competitiveness for regional freight.
 - » PM1: Truck Travel Reliability Index (TTTR)

Collect Data / Monitor System Performance

Output from the Indianapolis MPO TDM will serve as the primary source of data for the CMP. Other data will either be generated by the Indianapolis MPO or provided to it by other agencies. Data used in congestion analysis includes:

- **Link and Corridor Volume/Capacity Analysis (VOC)** - Volume over Capacity ratios from the TDM, comparing

present results to potential future conditions based on proposed regional projects

- **Vehicle Hours of Delay (VHD)** - Difference between freeflow and congested travel times according to the TDM
- **Congested Lane Miles (CLM)** - the change in congested lane miles for specific projects according to the TDM, comparing present to proposed future design conditions
- **Congested Vehicle Miles Traveled (VMT)** - Provided for all links system-wide, broken down by NHS and non-NHS links.

Analyze Congestion Problems and Needs

Using outputs from the TDM, the main metric for congestion is volume over capacity, or VOC ratio, which expresses the number of vehicles in a facility divided by the facility's capacity. The TDM is unable to calculate the level of service (LOS) for facilities, so the VOC is used here as a proxy for facility LOS that is considered "congested". For the purposes of this congestion analysis, congestion occurs when the TDM indicates that a facility has a forecasted VOC ratio at or greater than 0.8 in the AM or PM modeled time periods. The goal is to achieve a forecast for VOC that is

less than 0.8 and to decrease VHD in identified congested locations.

Figure 5-1 summarizes the number of congested links using a 0.8 criteria, which represents severe congestion. These are compared across all congested links, NHS links, and non-NHS links.

	Congested Lane Miles	Congested Lane Miles %	Congested Link VMT	Congested Link VMT %	Congested VHD
All links	2,892	12%	62M	36%	101,024
NHS	1,916	42%	48.9M	55%	71,068
Non-NHS	976	5%	13M	16%	29,956

Source:
Indianapolis MPO
Travel Demand
Model

FIG. 5-1 All Congested Links and Lane Miles



Identify and Assess Strategies

Strategies to reduce congestion fall into four general categories. Depending on the specific project, the implementing agency may choose to use only one of these strategies, or a combination. Local project sponsors should evaluate the strategies in this CMP during the project development process while considering solutions to congestion problems. These strategies should be used as a checklist to consider and document whether or not each strategy has the potential to provide benefit to the corridor or location in question.

- **Reduce Trips and Trip Length:** Transportation and land use are, and always will be, linked. A comprehensive plan and zoning ordinance that supports one form of transportation over another, will inevitably require investment in the supported mode. The CMP is concerned with mitigating congestion, which is best mitigated by reducing generation of vehicular traffic. Good land use policies and investment in areas with a diversity of uses will reduce or eliminate the need for vehicular trips around the region. Managing growth is the most difficult but most powerful of the CMP Strategies.
- **Shift Trips from the Single Occupancy Vehicle:** The CMP is specifically concerned with reducing single occupancy vehicle (SOV) trips. There are several tactics to encourage this shift: public transit capital improvements, public transit operational improvements, encouragement of non-motorized modes,

and transportation demand management (TDM). All four require some sort of public investment, although the costs and time to implement vary. TDM covers a wide gamut of tactics, but the most common include carpooling, vanpooling, parking management, and telecommuting / remote work. These tactics are best paired with strong land use plans that encourage density and diversity of uses. This strategy allows the creation of activity centers, whether they are employment-based, recreation-based, or a mixture.

- **Improve Roadway Operations:** Roadway operations can also be improved to reduce congestion along a corridor. Or, at the very least, increase congestion reliability on a facility. These tactics generally include infrastructure upgrades (design improvements), intelligent transportation systems (signal coordination), incident management, and access management. The type of facility, corridor land use, and financial capacity of the maintenance agency are all determining factors in which roadway operation tactic(s) should be applied.
- **Add Capacity:** Congestion can, for a short time, be mitigated by adding capacity to a specific facility. Limited public right of way and ongoing environmental, financial, and social equity concerns present themselves as challenges to this decades-old tactic of congestion mitigation.



Allisonville Road in Fishers

	Type of Improvement	Specific Strategy	Description	Congestion & Mobility Benefits	Implementation Costs and Other Impacts
Reduce trips / trip length	Growth Management	Update Land Use Plans	City, town, and county comprehensive plans, including the land use portion, outline the public's vision for growth in an area. Zoning ordinances regulate the growth.	» Can reduce vehicle ownership and travel, and increase use of alternative modes	» The cost and time (1-3 years) to develop/ update the plan or ordinance and implement it, with implementation being a long-term endeavor
		Update and Implement Land Use Policies	Specific policies established by a community surrounding land use, like requiring sidewalks and paths in new development.	» Reducing vehicle miles traveled (VMT) » Encouraging alternative modes	» Cost to create and time to implement
Shift Trips from the Single Occupancy Vehicle	Public Transit Capital Improvements	Create Park-and-Ride Lots	These can be used in conjunction with high-occupancy vehicle (HOV) / carpool lanes and/or express bus services. They are particularly helpful for encouraging HOV use for longer distance commute trips.	» Reducing congestion by reducing rate of single occupancy vehicles » Increase mobility options and transit efficiency	» Capital costs for the lots
		Create Rapid Transit (Bus Rapid Transit, Light Rail, etc.) Services	Rapid Transit improves the travel time, comfort, and attractiveness of transit.	» Increase transit ridership » Often generate walkable and bikeable developments at station locations » Reduce daily VMT	» New systems require large upfront capital outlays and ongoing sources of operating revenues, in addition to funds that may be obtained from federal sources
	Public Transit Operational Improvements	Increase Bus Route Coverage	This provides better accessibility to transit to a greater share of the population.	» Increase transit ridership » Reduce daily VMT	» Capital costs per passenger trip » Operating costs per trip » New bus purchases likely
		Increase Bus Route Frequency	Increasing frequency makes transit more attractive to use.	» Increase transit ridership » Decrease travel time » Reduce daily VMT	» Capital costs per passenger trip » Operating costs per trip » New bus purchases likely
		Geometric Improvements for Transit Service	This includes providing transit stops in locations that do not affect the flow of traffic but improve sight lines, and improve merging and diverging of buses and cars.	» Increase mobility » Reduce congestion by improving bottlenecks » Increase traffic flow and improve safety	» Costs vary by type of design
	Encourage non-motorized use	New Sidewalks and Designated Bicycle Lanes on Local Streets	Enhancing the visibility of bicycle and pedestrian facilities increases the perception of safety. In many cases, bike lanes can be added to existing roadways through re-striping. Protected bikeways and separated walkways provide even more safety, security, comfort, and use.	» Increase mobility and access » Increase non-motorized mode shares » Separate slower moving bicycles from motorized vehicles thereby reducing incidents	» Design and construction costs for paving, striping, signals, and signing » Right-of-way (ROW) costs if widening necessary » Bicycle lanes may require improvements to roadway shoulders to ensure acceptable pavement quality
Improve Bicycle Facilities at Transit Stations and Other Trip Destinations		Bicycle racks and bike lockers at transit stations and other trip destinations increase security. Additional amenities such as locker rooms with showers at or near workplaces provide further incentives for using bicycles.	» Increase bicycle mode share » Reduce motorized vehicle congestion on access routes	» Capital and maintenance costs for bicycle racks and lockers, locker rooms	

Type of Improvement	Specific Strategy	Description	Congestion & Mobility Benefits	Implementation Costs and Other Impacts
Shift Trips from the Single Occupancy Vehicle Encourage non-motorized use	Increase Bikeshare Options	Bikeshare services encourage both destination-based and casual ridership by providing a well-maintained, convenient bicycle for a low fee.	<ul style="list-style-type: none"> » Reduce SOV mode share » Reduce VMT emissions 	<ul style="list-style-type: none"> » Cost to purchase and install » ROW necessary to accommodate » Technology to operate
	Create Design Guidelines for Pedestrian-Scale Development	Maximum block lengths, building setback restrictions, and streetscape enhancements are examples of design guidelines that can be codified in zoning ordinances to encourage pedestrian activity.	<ul style="list-style-type: none"> » Increase pedestrian mode share » Discourage motor vehicle use for short trips » Reduce VMT emissions 	<ul style="list-style-type: none"> » Capital costs largely borne by private sector; developer incentives may be necessary » Public sector may be responsible for some capital and/or maintenance costs associated with ROW improvements » Ordinance development and enforcement costs
	Improve Safety of Existing Bicycle and Pedestrian Facilities	Maintaining lighting, signage, striping, traffic control devices, and pavement quality, and installing curb cuts, curb extensions, median refuges, and raised crosswalks can increase bicycle and pedestrian safety.	<ul style="list-style-type: none"> » Increase non-motorized mode share thereby increasing visibility and reducing incidents 	<ul style="list-style-type: none"> » Increased monitoring and maintenance costs » Capital costs of sidewalk improvements and additional traffic control devices
	Build Exclusive Non-Motorized ROW	Abandoned rail ROW, waterways, existing parkland, and even bikeways physically separated from roadway pavement by greenspace can be used for medium- to long-distance bike trails, improving safety and reducing travel times.	<ul style="list-style-type: none"> » Increase mobility » Increase non-motorized mode share » Reduce congestion on nearby roads » Separate slow moving bicycles from motorized vehicles thereby reducing incidents 	<ul style="list-style-type: none"> » ROW Costs » Construction and engineering Costs » Maintenance Costs
	Reduce Transit Fares	This encourages additional transit use, to the extent that high fares can be a barrier to transit. This can be universal fare reduction, or a fare reduction for qualified individuals (low wage-earners, people with disabilities or on fixed incomes, etc.).	<ul style="list-style-type: none"> » Reduce daily VMT » Reduce congestion » Increase ridership » Loss in revenue per rider » Potential increase in capital/operational costs per passenger trip 	<ul style="list-style-type: none"> » Operating costs per passenger trip » Operating subsidies needed to replace lost fare revenue » Alternative financial arrangements need to be negotiated

Type of Improvement	Specific Strategy	Description	Congestion & Mobility Benefits	Implementation Costs and Other Impacts	
Shift Trips from the Single Occupancy Vehicle	Transportation Demand Management	Add HOV / HOT Lanes	This increases corridor capacity while at the same time provides an incentive for single-occupant drivers to shift to ridesharing / carpooling. These lanes are most effective as part of a comprehensive effort to encourage HOVs and high occupancy toll (HOT) lanes, including publicity, outreach, park-and-ride lots, and rideshare matching services.	<ul style="list-style-type: none"> » Reduce congestion by reducing VMT » Reduce regional trips » Increase vehicle occupancy » Improve travel times » Increase transit use and improve bus travel times 	<ul style="list-style-type: none"> » HOV/HOT ROW costs » HOV/HOT barrier separation costs » HOV/HOT contra flow costs » Annual operations and enforcement » Possible environmental and community impacts
		Allow Alternative Work Hours	This allows workers to arrive and leave work outside of the traditional commute period. It can be on a scheduled basis or a true flex-time arrangement.	<ul style="list-style-type: none"> » Reduce peak-period VMT » Reduce recurring congestion » Improve travel time among participants 	<ul style="list-style-type: none"> » No capital costs » Agency costs for outreach and publicity » Employer costs associated with accommodating alternative work schedules
		Allow Telecommuting	This involves employees working at home or an alternative worksite instead of a traditional worksite. This could be a permanent change, or telecommuting could occur only on certain work days.	<ul style="list-style-type: none"> » Reduce work VMT and vehicle hours of delay (VHD) » Reduce vehicle trips 	<ul style="list-style-type: none"> » Technology implementation costs for private-sector
		Provide Resources for Ridesharing	This is typically arranged/ encouraged through employers or transportation management agencies (TMA), which provides ride-matching services.	<ul style="list-style-type: none"> » Reduce work VMT » Reduce vehicle trips 	<ul style="list-style-type: none"> » Fare for carpool and vanpool riders (usually results in net savings) » Costs for vehicle maintenance and storage » Administrative costs
		Establish Congestion Pricing	This involves pricing facilities to encourage off-peak or HOV travel, and includes time-variable road, cordon tolls, HOT lanes, and vehicle-use fees.	<ul style="list-style-type: none"> » Reduce peak period VMT and VHD » Reduce vehicle trips 	<ul style="list-style-type: none"> » Implementation / installation costs for public-sector
Improve Roadway Operation	Traffic Operational Improvements	Improve Traffic Signal Coordination	This improves traffic flow and reduces emissions by minimizing stops on arterial streets.	<ul style="list-style-type: none"> » Improve travel time » Reduce the number of stops » Reduce VMT, VHD and VHT by vehicle miles per day, depending on program 	<ul style="list-style-type: none"> » Operation and maintenance (O&M) costs per signal » Signalized intersections per mile costs are variable
		Expand Highway or Advanced Traveler Information Systems	This provides specific data to travelers, such as real time speed estimates, and transit vehicle schedule progress that can then be used to make trip and route decisions.	<ul style="list-style-type: none"> » Reduce travel times and delay some peak-period travel shift 	<ul style="list-style-type: none"> » Varying design and implementation costs » Varying O&M costs
		Install Reversible Traffic Lanes	These are appropriate where traffic flow is highly directional.	<ul style="list-style-type: none"> » Increase peak direction capacity » Reduce peak travel times » Improve mobility 	<ul style="list-style-type: none"> » Barrier separated costs per mile » Operation costs per mile » Maintenance costs are variable
		Incorporate Ramp Metering	This allows freeways to operate at their optimal flow rates, thereby reducing delays, stopping, and collisions.	<ul style="list-style-type: none"> » Decrease travel & crashes » Improve traffic flow on major facilities 	<ul style="list-style-type: none"> » O&M costs » Technology costs » Infrastructure/ capital costs

	Type of Improvement	Specific Strategy	Description	Congestion & Mobility Benefits	Implementation Costs and Other Impacts
Improve Roadway Operation	Incident Management	Improve Freeway Incident Detection and Management Systems	This is an effective way to alleviate non-recurring congestion. Systems can include video monitoring, dispatch systems, and sometimes roving service patrol vehicles.	<ul style="list-style-type: none"> » Reduce non-reoccurring delay » Reduce crash clearance time » Reduce travel time » Reduce VHT and VHD 	<ul style="list-style-type: none"> » Capital costs variable and substantial » Annual O&M costs
	Access Management	Include Left Turn, Curb Cut, and Driveway Restrictions	Turning vehicles can impede traffic flow and are more likely to be involved in crashes.	<ul style="list-style-type: none"> » Increased capacity and efficiency on arterials » Improved mobility on facility » Improved travel times and reduced delay for through traffic » Fewer crashes 	<ul style="list-style-type: none"> » Implementation and maintenance costs vary; range from new signage and striping to costlier permanent median barriers and curbs
		Include Turn Lanes and New or Relocated Driveways and Exit Ramps	In some situations, increasing or modifying access to a property can be more beneficial than reducing access.	<ul style="list-style-type: none"> » Increased capacity, efficiency » Improved mobility and safety on facility » Improved travel times and reduced delay for all traffic 	<ul style="list-style-type: none"> » Additional ROW costs » Design, construction, and maintenance costs
		Establish Minimum Intersection/ Interchange Spacing	Reduces number of conflict points and merging areas, which in turn reduces incidents and delays.	<ul style="list-style-type: none"> » Increased capacity and efficiency » Improved mobility on facility » Improved travel times and reduced delay for through traffic » Fewer incidents 	<ul style="list-style-type: none"> » Part of design costs for new facilities and reconstruction projects
		Include Geometric Improvements for Roads	This includes widening to provide shoulders, additional turn lanes at intersections, improved sight lines, and auxiliary lanes to improve merging and diverging.	<ul style="list-style-type: none"> » Increase mobility » Reduce congestion by improving bottlenecks » Increase traffic flow and improve safety 	<ul style="list-style-type: none"> » Costs vary by type of design
Add Capacity	Addition of General Purpose Lanes	Create Super Street Arterials	This involves converting existing major arterials with signalized intersections into “super streets” that feature grade-separated intersections.	<ul style="list-style-type: none"> » Increase capacity and improve mobility 	<ul style="list-style-type: none"> » Substantial construction and engineering for grade separation » Variable maintenance costs based on area
		Widen Roads by Adding Lanes	This is the traditional way to deal with congestion.	<ul style="list-style-type: none"> » Increase capacity, reducing congestion in the short term » Long-term effects on congestion depend on local conditions 	<ul style="list-style-type: none"> » Costs vary by type of highway constructed; in dense urban areas can be very expensive » Can create environmental and community impacts

Program and Implement Strategies

Capacity expansion projects submitted for inclusion into the 2050 MTP and into the TIP are reviewed through the CMP lens. Other IMPO plans and programs also consider and contribute to implementation of the CMP strategies.

Metropolitan Transportation Plan

- Includes the full CMP process, including regional definition of / threshold for “congestion”
- Proposed capacity expansion project sponsors were required to fill out the Congestion Management Process Worksheet for each project.
- Proposed capacity expansion projects were incorporated into the TDM to produce congestion data, which was used within the project scoring criteria.
- Any projects being amended into or within the MTP must complete the Congestion Management Process Worksheet

Transportation Improvement Program

- Any capacity expansion project submitted for the TIP must have a completed Congestion Management Process Worksheet as part of inclusion in the MTP.

IMPO Projects that Support the CMP

- **Complete Streets Policies** - The IMPO adopted a Complete Streets Policy for the region in 2014. This policy both encourages and requires the integration of facilities for non-motorized users into transportation projects. The municipalities of Indianapolis, Whites-town, Cumberland, and Westfield also have Complete Streets policies, and many other communities have implemented the ideals of Complete Streets even without adopted policies.
- **Regional Transit Planning** - The IMPO has conducted or provided support for numerous COA updates, community engagement for regional rapid transit planning, support for Human Service transportation providers, land use planning that supports transit, and other activities.
- **Non-Motorized Transportation Planning** - The IMPO has created multiple bikeway and pedestrian plans and updates for the region. Many local communities also have their own bikeway and pedestrian plans.

- **Land Use Planning** - For this update of the MTP, the IMPO created a preferred regional land use scenario (with input of the public and various regional stakeholders). This scenario encourages higher land densities, more transit supportive development, and more sustainable development. The IMPO has also supported local community work to support transit in official land use and transportation plans and ordinances. These efforts and policies all support land development that encourages a mix of transportation modes.
- **Transportation Efficiency and Safety Studies** - The IMPO oversees the region’s Intelligent Transportation Systems inventory and recommendations, and uses the Travel Demand Model to support local and regional data needs for access management, transportation demand and forecasting, and the effects of no-build versus build conditions for proposed projects on traffic, congestion, and air emissions.

Evaluate Strategy Effectiveness

Data collected for the Collect Data/Monitor System Performance activity will be stored over time and used to evaluate changes in congestion in the region, particularly in the locations which were defined as congested in earlier years and where LPAs have executed congestion mitigation projects. The data table presented under “Collect Data” within this document will be the base source of information for evaluation purposes.

IRTIP and the MTP

The Indianapolis Regional Transportation Improvement Program (TIP or IRTIP) is the federally-required short-term programming document for the Indianapolis MPA. Projects funded with federal monies are required to be included in the IRTIP, regardless of size or project type.

The MTP and the IRTIP are required to be consistent. Regionally significant projects (aka “capacity expansion” projects) in the IRTIP must also be identified in the MTP. The IRTIP also maintains consistency with the MTP by referencing the Resource Allocation Goals (Fig. 5-2) when recommending project funding during each annual call for projects, scoring, and selection.

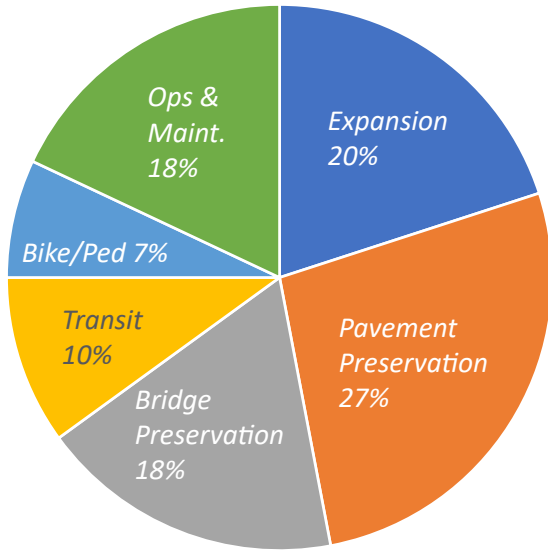


FIG. 5-2 2050 MTP Resource Allocation

Available Revenues

Resource Allocation Goals

The recommended Resource Allocation Goals (Fig. 5-2) for this MTP were updated based on multiple factors:

- An analysis of actual past IRTIP funding indicated that project awards have been fairly closely aligned with the Resource Allocation Goals from the 2045 LRTP. However, funding for capacity expansion projects has typically been less than the goal for various reasons, and funding for bicycle and pedestrian projects has typically been higher.
- A survey was conducted via phone and online participation. This was not a general public survey; it was professionally conducted to be statistically representative of the total population counts for the region’s counties. The results indicated a preference for more emphasis on projects that improve safety and preserving existing infrastructure over building additional.
- The Land Use Advisory Panel were presented the results of the survey, and attendees of that meeting echoed a preference for more spending on walkways, bikeways, and infrastructure preservation.
- A recommended update of the Resource Allocation Goals was presented to the IMPO’s Transportation

Time Period	State	Federal-IMPO-Local	CIRTA	IndyGo
2020-2029	\$7.9 B	\$3.5 B	\$0.0 B	\$1.8 B
2030-2039	\$9.9 B	\$4.2 B	\$0.1 B	\$1.6 B
2040-2049	\$12.1 B	\$5.1 B	\$0.1 B	\$2.0 B
Total	\$29.8 B	\$12.8 B	\$0.2 B	\$5.4 B

FIG. 5-3 Available Resources to Implementing Agencies in Central Indiana

Time Period	Available Revenue
2020-2029	\$699 M
2030-2039	\$843 M
2040-2049	\$1,027 M
Total	\$2,569 M
Already Committed	\$129 M
Available 2020-2029	\$569 M

FIG. 5-4 Forecasted Available Resources for Capacity Expansion

Policy Committee. The Committee approved a reallocation of 5% from capacity expansion funding to infrastructure preservation.

Revenue Forecast

A key component of a metropolitan transportation plan is the revenue forecast. All reasonably available revenues are forecasted to the horizon year of the plan and used to create a fiscally constrained plan. In other words, available resources are determined and projects are included in the plan only if the project costs do not exceed the available resources. The fiscal constraint presents a realistic transportation plan for the region to use in its planning moving forward.

Four revenue forecast scenarios were considered. Based on a wide range of perspectives and opinions of its partners, including conversations with and a survey of LPAs, recent U.S. legislation that provides additional state and local funding, and uncertainties associated with making economic predictions in the current environment (COVID

pandemic and economic effects), the selected revenue forecast assumes a 2% annual increase. This is consistent with the Federal government's long-term inflation target.

Revenues forecasted include revenues available from state sources, local sources, and federal sources. Revenues are grouped by recipient, split between State, Federal-IMPO-Local, Central Indiana Regional Transportation Authority (CIRTA), and IndyGo revenues. The table in Fig. 5-4 provides a snapshot of all the transportation revenue forecasted for the three time periods of the plan.

Roadway Priorities

Fiscal Constraint

In order to establish the amount of money available for roadway capacity projects (Fig. 5-4), the IMPO applied the budget allocation amount of 20% for capacity expansion projects to the total local revenue per period (see Fig. 5-3). Existing and Committed projects (i.e. those that are either under construction or already have committed funding) are deducted from the available amount in the first period (2020-2029). Proposed projects are sorted by score and the highest scoring projects are assigned to the first time period until its remaining projected funding is exhausted. Projects are then assigned to the second, followed by the third time period sequentially, until projected funding for both are exhausted. Projects that were not assigned to any of the three time periods are included in the MTP's Illustrative List of Projects.

Project Scoring Criteria

Criteria for projects were developed in conjunction with the performance measures developed for this plan.

Functional Classification System

The federal functional classification system (FCS) provides criteria to establish a hierarchy of roads from an interstate to a local road. Using the FHWA's FCS guidance criteria, including, but not limited to, number of lanes, traffic volumes, and network role, projects were evaluated based on current or likely future FCS status and scored accordingly. Roads with higher classifications carry larger traffic loads and often have greater impact on regional transportation, and therefore receive higher scores. Those classified as local roads would not qualify for federal funding,

but are sometimes included in the travel demand model in rural areas with fewer roads.

Consistent Number of Lanes

Having a consistent number of travel lanes throughout a roadway helps to reduce choke points and reduces congestion along the corridor. Projects received points if the number of travel lanes at a project's terminus was consistent with the number of travel lanes outside the project limits. Points were given based on the condition at each project terminus.

Change in Vehicle Hours of Delay

Projects were screened to see if they would reduce hours of vehicle delay. This is calculated by the travel demand model and reported by link for both the morning and afternoon peak traffic periods. This measures how much time in delay is experienced on a roadway or portion of it. The project that reduces the most hours of delay received the maximum points while the other projects are scored proportionately based on their impact on delay. Projects that add delay lose points.

Change in Congested Lane Miles

Projects were also examined to determine their impact on congestion between time periods. This is part of the Congestion Management Process (CMP), for the IMPO. If a project in the travel demand model has a forecasted volume over capacity (V/C) ratio greater or equal to 0.80 in the AM or PM modeled time period, the link is considered congested. V/C is the volume of traffic compared to the determined capacity of the facility. Projects are scored based on which reduce congestion miles the most, then proportionately based on their impact. Projects that add congestion lose points.

Proximity to Existing Regional Centers

As part of the 2050 MTP update, Existing Regional Activity Centers (RACs) were identified. These are major destinations where clusters of employment, residents, and/or visitors are located, and therefore generate a high amount of transportation trips. Proposed projects were scored based on their proximity to these Existing RACs, with the exception of Manufacturing, Distribution, and Logistics (MDL) centers, which were incorporated into their own score. Projects closest to Existing RACs received the most points, and those furthest away received no points.

Proximity to Emerging Regional Centers

Similar to Existing RACs, Emerging RACs were also identified. In order to be an Emerging RAC, an area must be close to meeting targets for an Existing RAC, have a minimum amount of vacant land available, and have shown a trend of growth in population and/or employment in recent years. Projects also received points based on their proximity to the Emerging RACs.

Proximity to Freight Centers & Network

A Manufacturing, Distribution, Logistics (MDL) Center can significantly impact traffic as both people and goods are flowing in and out of them. Points were given based on the proximity of the project to both existing and emerging MDL centers. Points were also given based on whether a project is located on the Regional Freight Network, depending on which Tier of the network the project is located on.

Incorporates Safety Countermeasures

Each project was analyzed regarding what, if any, safety countermeasures will be included in the project. Areas of safety considered include addressing curves on the road, intersections, speed, preventing cars from going off the road, signalization, geometric countermeasures, and operational adjustments.

Urbanized Area

Projects that are within the Urbanized Area receive more points than those that are not. This boundary is defined by the U.S. Census Bureau and delineates urban versus rural development. If a project is located partially within the Urbanized Area, points are given based on the percentage of the project within the Urbanized Area boundary. Projects along the UAB border are considered to be inside the UAB.

<i>Scoring Criteria</i>	<i>Possible Points</i>
<i>Functional Classification System</i>	10
<i>Consistent Number of Lanes</i>	10
<i>Change in Congested Lane Miles</i>	10
<i>Change in Vehicle Hours of Delay</i>	5
<i>Proximity to Existing Regional Centers</i>	10
<i>Proximity to Emerging Regional Centers</i>	10
<i>Proximity to Freight Centers & Network</i>	15
<i>Incorporates Safety Countermeasures</i>	20
<i>Urbanized Area</i>	10

FIG. 5-5 Project Scoring Criteria



Transit Priorities

The IMPO assisted in the development of Indy Connect, a transit initiative that developed and refined regional transit opportunities. One aspect of this plan included the implementation of Bus Rapid Transit (BRT) which operates in dedicated lanes and has raised station platforms that are level with the bus for easily entering/exiting the vehicle. Three BRT routes were identified: the Red Line, Blue Line, and Purple Line. Phase I of the Red Line has already been constructed and is now in service. Red Line Phase II and III,

which extends the Red Line service into Hamilton County to the north and Johnson County to the south, and the Blue and Purple Lines are on the Existing and Committed List for time period one (2020-2029).

Recommended Project List

The following project list includes capacity expansion projects submitted for inclusion in the 2050 MTP, as well as Existing and Committed projects. Project Fiscal Constraint information is explained after the project list.

2050 Metropolitan Transportation Plan Recommended Project List

ID	Description	Sponsor	Improvement Type	Total Project Cost	Time Period
1201	CR 875 E from Oak St to CR 550 S	Zionsville	New Road - 2 lanes	\$6,841,000	2020-2029 (E&C)
2018	131st St & SR 37 Interchange	Fishers	New Interchange Construction	\$20,056,500	2020-2029 (E&C)
2018	141st St & SR 37 Interchange	Fishers	New Interchange Construction	\$21,201,000	2020-2029 (E&C)
2018	146th St & SR 37 Interchange	Fishers	New Interchange Construction	\$23,496,500	2020-2029 (E&C)
2104	96th Street ATL + Bridge 165 Widening over Mud Creek	Fishers	Widen from 2 to 4 lanes	\$11,246,350	2020-2029 (E&C)
2112	146th Street - Phase IV Shelborne Road to Hamilton / Boone County Line	Hamilton County	Widen from 2 to 4 lanes	\$13,735,775	2020-2029 (E&C)
2119	146th St & Hazel Dell Parkway	Hamilton County	New/Modified Arterial Interchange	\$43,906,394	2020-2029 (E&C)
2122	146th St & Allisonville Rd Interchange	Hamilton County	Grade Separated Interchange	\$39,219,000	2020-2029 (E&C)
2408	Westfield Blvd Connector	Westfield	New Road - 2 lanes	\$8,673,539	2020-2029 (E&C)
2425	East Street North Extension (196th to SR 38)	Westfield	New Road - 2 lanes	\$11,681,863	2020-2029 (E&C)
2445	SR 32 from Poplar to East St.	Westfield	Widen from 2 to 4 lanes	\$15,000,000	2020-2029 (E&C)
2507	Oilo Rd from Tegler/141st St to 146th St	Noblesville	Widen from 2 to 4 lanes	\$7,800,000	2020-2029 (E&C)
2510	Pleasant St from River Rd to SR 32/Hague Rd intersection	Noblesville	New Road 2 lanes	\$24,023,836	2020-2029 (E&C)
3101	600 W from 300 N to CR400 N (Segment A)	Hancock County	Widen from 2 to 4 lanes	\$7,263,131	2020-2029 (E&C)
3102	600 W from 400 N to 550 N	Hancock County	Widen from 2 to 4 lanes	\$23,937,500	2020-2029 (E&C)
3106	CR 300 N from CR 600 W to CR 700 W	Hancock County	Widen from 2 to 4 lanes	\$9,335,000	2020-2029 (E&C)
3108	CR 300 N from CR 600 W/ Mount Comfort Rd to east of CR 500 W	Hancock County	Widen from 2 to 4 lanes	\$9,550,200	2020-2029 (E&C)
3112	Stinemyer Rd Connection	Hancock County	New Road Construction	\$3,164,750	2020-2029 (E&C)
4122	Ronald Reagan Pkwy from CR 600 N to CR 750 N	Hendricks County	New Road 4 lanes	\$52,472,713	2020-2029 (E&C)
4201	Dan Jones Rd from 100 S to CR 150 S	Avon	Widen from 2 to 4 lanes	\$7,637,170	2020-2029 (E&C)
4204	Dan Jones Rd from CR 100 S to Main Rd	Avon	Widen from 2 to 4 lanes	\$4,578,965	2020-2029 (E&C)
5108	Worthsville Rd Connector from Griffith Rd (CR 325E) to Franklin Rd (CR 440E)	Johnson County	New Road - 2 lanes	\$4,313,210	2020-2029 (E&C)
6116	County Line Rd from SR 37 to Morgantown Rd	Indianapolis DPW	Widen from 2 to 4 lanes	\$39,590,000	2020-2029 (E&C)

ID	Description	Sponsor	Improvement Type	Total Project Cost	Time Period
6163	Market St from Pennsylvania St to Alabama St	Indianapolis DPW	Reconstruction	\$7,093,750	2020-2029 (E&C)
6164	Henry St from Harding St to White River Pkwy W Dr	Indianapolis DPW	New Road 2 lanes	\$4,500,000	2020-2029 (E&C)
6165	Emerson Ave from Co Line Rd to Stop 11 Rd	Indianapolis DPW	Widen from 3 to 5 lanes	\$14,901,875	2020-2029 (E&C)
6166	Emerson Ave from Stop 11 Rd to Southport Crossing	Indianapolis DPW	Widen from 3 to 5 lanes	\$13,585,132	2020-2029 (E&C)
6168	Henry St from Kentucky Ave to Drover St across White River	Indianapolis DPW	New Road 2 lanes	\$32,100,000	2020-2029 (E&C)
1002	I-65/SR 267 Interchange Modification & New Interchange at CR 550 E	INDOT	Interchange Modification / New Interchange	\$33,864,611	2020-2029 (E&C)
2019	US 31 & 236th St Interchange	INDOT	New Interchange Construction	\$22,589,885	2020-2029 (E&C)
2020	SR 32 from 19th St to Presley Dr	INDOT	Widen from 2 to 4 lanes	\$3,169,427	2020-2029 (E&C)
2021	SR 32 from East St to Mensa Rd	INDOT	Widen from 2 to 4 lanes	\$38,300,000	2020-2029 (E&C)
2022	SR 32 ATL between Cicero Creek and SR-38 W Junction	INDOT	Widen from 2 to 4 lanes	\$3,281,714	2020-2029 (E&C)
2023	US 31 Limited Access Upgrade from SR 38 to 286th St	INDOT	Access Control / New Interchange	\$53,570,388	2020-2029 (E&C)
3002	I-70 from 1.0 mi west of Mt Comfort Rd to 1.2 mi east of SR 9	INDOT	Widen from 4 to 6 lanes	\$75,279,000	2020-2029 (E&C)
4002	US 36 From Shiloh Crossing way Rd	INDOT	Widen from 4 to 6 lanes	\$10,676,697	2020-2029 (E&C)
4005	US 36 from Shiloh Crossing to Avon Ave	INDOT	Widen from 4 to 6 lanes	\$42,116,960	2020-2029 (E&C)
5003	SR 135 (Meridian St.) from Stones Crossing to Whiteland Rd	INDOT	Widen from 2 to 5 lanes	\$33,242,869	2020-2029 (E&C)
5004	I-69 Section 6 - SR 39 to I-465 + ATL on I-465	INDOT	New Road Construction	\$1,427,636,953	2020-2029 (E&C)
5008	US 31 from S Main St to Israel Ln	INDOT	Widen from 4 to 5 lanes	\$46,004,096	2020-2029 (E&C)
5011	I-65 Added Travel Lanes from 0.54 miles N of SR 252 to 0.96 miles S of SR 44	INDOT	Widen from 4 lanes to 6 lanes	\$199,318,000	2020-2029 (E&C)
6005	I-69/I-465 IM & ATL on I-69 from 2,000 ft south of 75th St to 86th St & 82nd St IM (Clear Path)	INDOT	Added Travel Lanes & Interchange Modification	\$425,000,000	2020-2029 (E&C)
6036	I-65 Safety & Efficiency Project (from I-465 to I-70 SE side)	INDOT	Widen from 6 lanes to 8 lanes	\$30,386,137	2020-2029 (E&C)
6039	North Split Interchange Modification	INDOT	Interchange Modification, Multi-Level	\$387,638,000	2020-2029 (E&C)
6042	US 36 from Raceway Rd. to Transfer Dr.	INDOT	Widen from 4 to 6 lanes	\$24,576,813	2020-2029 (E&C)
6043	I-465 NW ATL from 86th St to US 31, IM at I-865 & I-465, and IM at US 31 & 106th, 116th	INDOT	Widen from 6 lanes to 8 lanes & Interchange Modification	\$396,400,000	2020-2029 (E&C)
6045	I-465 at US 36/SR 67/Pendleton Pike (Exit 42)	INDOT	Interchange Modification	\$9,281,709	2020-2029 (E&C)
9003	Red Line BRT - Marion Co.	IndyGo	Transit Enhancement Capital Projects	\$146,423,258	2020-2029 (E&C)
9006	Blue Line	IndyGo	Transit Enhancement Capital Projects	\$349,847,524	2020-2029 (E&C)
9007	Purple Line	IndyGo	Transit Enhancement Capital Projects	\$161,950,000	2020-2029 (E&C)
1302	Whitestown Pkwy from CR 475 E to Cozy Ln	Whitestown	Widen from 2 lanes to 4 lanes	\$20,814,768	2020-2029
2120	146th St & Gray Rd	Hamilton County	New/Modified Arterial Interchange	\$43,906,394	2020-2029
2121	146th St & Carey Rd	Hamilton County	New/Modified Arterial Interchange	\$44,499,724	2020-2029
2305	96th Str from Cumberland Rd to Fall Creek Rd	Fishers	Widen from 2 lanes to 4 lanes	\$11,439,911	2020-2029
2306	Allisonville Rd from 131st St to 146th St	Fishers	Widen from 2 lanes to 4 lanes	\$13,005,378	2020-2029
2501	Greenfield Rd from Allisonville Rd to Cumberland Rd	Noblesville	Widen from 2 lanes to 4 lanes	\$30,216,661	2020-2029

ID	Description	Sponsor	Improvement Type	Total Project Cost	Time Period
2508	Pleasant St from 10th St to River Rd	Noblesville	Widen from 2 to 4 lanes; New Road - 2 lanes	\$53,613,445	2020-2029
4107	New road from Miles Rd/US 40 to CR 300 E/CR 350 S	Hendricks County	New Road 2 lanes	\$17,584,133	2020-2029
4203	CR 100 S (Morris St.) from Dan Jones Rd to Ronald Reagan Pkwy	Avon	Widen from 2 lanes to 4 lanes	\$18,738,429	2020-2029
4207	Avon Ave from Northfield Dr to US 36	Avon	Widen from 2 lanes to 4 lanes	\$30,836,960	2020-2029
4208	Dan Jones Rd from CR 150 S to CR 300 S	Avon	Widen from 2 lanes to 4 lanes	\$9,563,395	2020-2029
4209	Dan Jones Rd from US 36 to CR 100 N	Avon	Widen from 2 lanes to 4 lanes	\$11,669,500	2020-2029
4307	Northfield Dr from US 136 to SR 267 (SW) - New segment across White Lick Creek	Brownsburg	New Road 2 lanes	\$96,759,234	2020-2029
4308	CR 900 E from US 136 to 56th St/600 N with bridge over I-74	Brownsburg	New Road 2 lanes	\$18,217,547	2020-2029
4507	Perimeter Pkwy SW/Moon Rd from US 40 to Hadley Rd	Plainfield	Widen from 2 lanes to 4 lanes	\$12,373,620	2020-2029
4509	Ronald Reagan Pkwy from I-70 to Bradford Blvd	Plainfield	Widen from 4 lanes to 6 lanes	\$12,152,470	2020-2029
5112	Smith Valley Rd from Peterman Rd to Restin Rd	Johnson County	Widen from 2 lanes to 5 lanes	\$11,863,415	2020-2029
5203	Smith Valley Rd from SR 135 to S Emerson Ave	Greenwood	Widen from 2 lanes to 4 lanes	\$37,207,163	2020-2029
6160	County Line Rd from Morgantown Rd to SR 135	Indianapolis DPW	Widen from 2 lanes to 4 lanes	\$30,260,000	2020-2029
6162	Decatur Direct: AmeriPLEX Pkwy from SR 67/ Kentucky Ave to Mooresville Rd	Indianapolis DPW	New Road 4 lanes	\$37,519,561	2020-2029
9004	Red Line BRT - Hamilton Co.	IndyGo	Transit New Route/Fixed Guideway	\$40,000,000	2020-2029
9005	Red Line BRT - Johnson Co.	IndyGo	Transit New Route/Fixed Guideway	\$2,965,650	2020-2029
9008	Marion County Transit Plan Local Network Improvements - 2023	IndyGo	Transit Holistic Network Changes	\$22,800,000	2020-2029
1107	Ronald Reagan Pkwy from CR 750 N to SR 267/I-65	Hendricks County	New Road 4 lanes	\$114,149,831	2030-2039
1203	96th St from Zionsville Rd to Hamilton Co. line	Zionsville	Widen from 2 lanes to 4 lanes	\$14,165,231	2030-2039
1208	Complete Bennett Pkwy from 96th St (east of Hoosier Village Dr) to 106th St	Zionsville	New Road 2 lanes	\$26,570,306	2030-2039
1210	Oak St from Ford Rd to Whitestown Limits (just east of Stonegate Dr)	Zionsville	Widen from 2 lanes to 4 lanes	\$47,750,906	2030-2039
2103	206th St from SR 19 to Cumberland Rd	Hamilton County	New Road 4 lanes	\$21,604,667	2030-2039
2105	206th St from Hague/Carrigan Rd roundabout to SR 19	Hamilton County	New Road 4 lanes	\$23,689,873	2030-2039
2108	146th St from SR 37 to Boden Rd	Hamilton County	Widen from 4 lanes to 6 lanes	\$26,113,407	2030-2039
2113	206th St from Cumberland Rd to SR 37	Hamilton County	Widen from 2 lanes to 4 lanes	\$25,443,656	2030-2039
2114	206th St from SR 37 to Olio Rd	Hamilton County	Widen from 2 lanes to 4 lanes	\$25,609,368	2030-2039
2213	Towne Rd from 96th St to 116th St	Carmel	Widen from 2 lanes to 4 lanes	\$42,106,594	2030-2039
2218	116th St from Michigan Rd to Shelborn Rd	Carmel	Widen from 2 lanes to 4 lanes	\$20,451,774	2030-2039
2303	106th St between Lantern Rd and Cumberland Rd	Fishers	Widen from 2 lanes to 4 lanes	\$13,218,185	2030-2039
2308	Lantern Rd from 96th St to 106th St	Fishers	Widen from 2 lanes to 4 lanes	\$24,569,200	2030-2039
2309	126th St from Cyntheanne Rd to Southeastern Pkwy & Florida Rd	Fishers	New Road 3 lanes	\$13,617,535	2030-2039

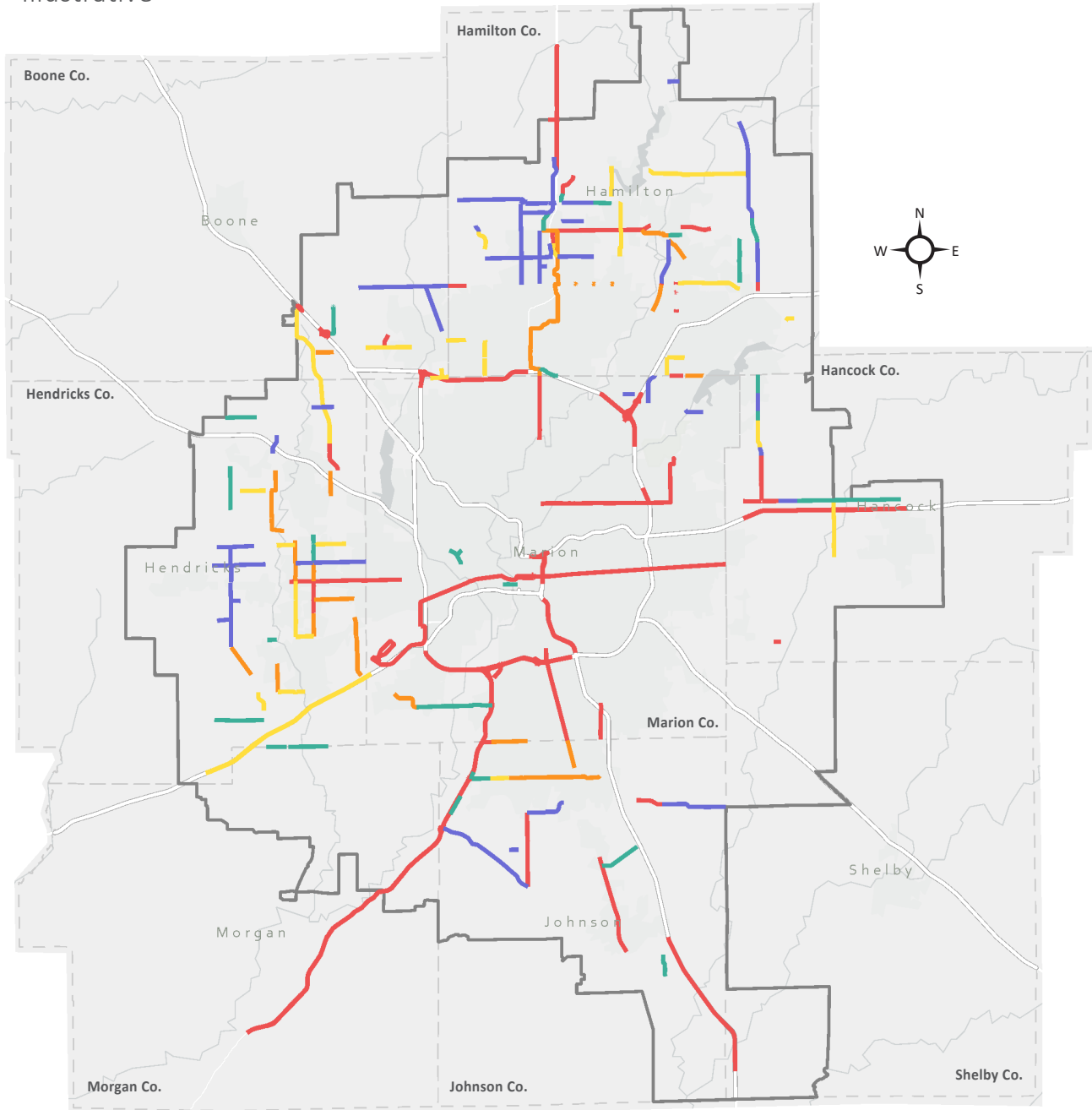
ID	Description	Sponsor	Improvement Type	Total Project Cost	Time Period
2435	Realign Towne Rd from 166th St, across Little Eagle Creek, to new SR 32 intersection east of SR 32 & Centennial Rd/31st St	Westfield	New Road 2 lanes	\$20,704,770	2030-2039
2438	Westfield Blvd from Union St/Westfield Blvd & 161st St to Poplar St & 169th St	Westfield	New Road 2 lanes	\$10,912,135	2030-2039
2505	Little Chicago Rd from SR 38 to Carrigan Rd	Noblesville	Widen from 2 lanes to 4 lanes	\$33,011,158	2030-2039
2506	Mill Cr/Seminole Rd from 161st St to SR 38	Noblesville	Widen from 2 lanes to 3 lanes	\$56,783,887	2030-2039
3110	CR 200 W from CR 300 N to US 40	Hancock County	Widen from 2 lanes to 4 lanes	\$46,319,750	2030-2039
3305	Mt. Comfort Rd/CR 600 W from CR 600 N to CR 750 N	McCordsville	Widen from 2 lanes to 4 lanes	\$23,931,536	2030-2039
4112	CR 200 N from CR 600 E to Avon Ave	Hendricks County	New Road 2 lanes	\$10,957,688	2030-2039
4114	CR 500 N from CR 575 E to CR 400 E	Hendricks County	New Road 2 lanes	\$15,818,566	2030-2039
4202	CR 200 N (21st St) from Dan Jones Rd to Ronald Reagan Pkwy	Avon	Widen from 2 lanes to 4 lanes	\$35,683,260	2030-2039
4205	Avon Ave from CR 100 S to US 36	Avon	Widen from 2 lanes to 4 lanes	\$15,804,757	2030-2039
4206	Avon Ave from CR 300 S to CR 100 S	Avon	Widen from 2 lanes to 4 lanes	\$26,721,017	2030-2039
4504	Perimeter Pkwy NE/CR 300 S from Avon Ave to Dan Jones Rd	Plainfield	Widen from 2 lanes to 4 lanes	\$6,545,613	2030-2039
4505	Perimeter Pkwy SW/CR 600 S from Center St to Moon Rd	Plainfield	Widen from 2 lanes to 4 lanes	\$15,459,524	2030-2039
4510	Miles Rd from Miles Rd & CR 600S to CR 525 E & CR 700 S	Plainfield	New Road 2 lanes	\$14,258,114	2030-2039
5111	Smith Valley Rd from Morgantown Rd to Peterman Rd	Johnson County	Widen from 2 lanes to 5 lanes	\$30,509,433	2030-2039
4006	I-70 from 0.76 mi W of SR 39 to SR 267	INDOT	Widen Widen from 4 to 6 lanes	\$156,760,000	2030-2039
1301	Extend CR 550 S/Meadowview Dr to I-65; New Road from CR 575 E & CR 500 S to CR 550 S/ Meadowview Dr; New Roundabout at CR 575 E & CR 500 S; New Roundabout and Bridge at CR 575 E & CR 400 S/Albert S. White Dr	Whitestown	New Road 4 lanes	\$29,545,283	2040-2049
2107	Olio Rd from SR 38 to SR 32	Hamilton County	New Road 4 lanes	\$39,137,068	2040-2049
2220	96th St extension from Westfield Blvd to College Ave	Carmel	New Road 2 lanes	\$31,193,174	2040-2049
2427	East St from 191st St to 196th St	Westfield	Widen from 2 lanes to 4 lanes	\$9,060,000	2040-2049
2441	Wheeler Rd from SR 32 to 186th St	Westfield	Widen from 2 lanes to 4 lanes	\$16,568,531	2040-2049
2503	191st St from Little Chicago Rd to Moontown Rd	Noblesville	Widen from 2 lanes to 4 lanes	\$22,069,842	2040-2049
2504	Boden Rd from Greenfield Ave/146th St to SR 38	Noblesville	Widen from 2 lanes to 4 lanes	\$21,171,827	2040-2049
2509	Pleasant St from 10th St to 19th St	Noblesville	Widen from 2 lanes to 4 lanes	\$30,637,107	2040-2049
3113	CR 300 N from CR 400 W to SR 9	Hancock County	Widen from 2 lanes to 4 lanes	\$104,531,704	2040-2049
3301	Mt. Comfort Rd/CR 600 W from CR 800 N to CR 750 N	McCordsville	Widen from 2 lanes to 4 lanes	\$50,494,595	2040-2049
3302	Mt. Comfort Rd/CR 600 W from CR 1000 N to CR 900 N	McCordsville	Widen from 2 lanes to 4 lanes	\$21,530,690	2040-2049
4115	CR 750 S from SR 39 to CR 525 E	Hendricks County	New Road 2 lanes	\$31,447,536	2040-2049

ID	Description	Sponsor	Improvement Type	Total Project Cost	Time Period
4118	Hendricks County Rd from CR 525 E to CR 925 E	Hendricks County	Widen from 2 lanes to 4 lanes	\$39,296,162	2040-2049
4120	CR 300 E from CR 400 N to Pittsboro (CR 375 E)	Hendricks County	New Road 2 lanes	\$22,007,972	2040-2049
4121	CR 900 N from CR 275 E to CR 500 E	Hendricks County	New Road 2 lanes	\$24,641,858	2040-2049
4210	Dan Jones from CR 100 N to Northfield Dr.	Avon	Widen from 2 lanes to 4 lanes	\$20,275,617	2040-2049
4506	Perimeter Pkwy NW/Gibbs Rd from Vestal Rd to Saratoga Pkwy	Plainfield	Widen from 2 lanes to 4 lanes	\$6,186,980	2040-2049
5109	CR 450 E from Greensburg Rd to Old US 31	Johnson County	New Road 2 lanes	\$10,394,126	2040-2049
5110	Smith Valley Rd from Mullinix Rd to Morgantown Rd	Johnson County	Widen from 2 lanes to 5 lanes	\$21,142,787	2040-2049
5115	Frontage Rd from Stones Crossing Rd to Olive Branch Rd	Johnson County	New Road 2 lanes	\$15,315,069	2040-2049
5116	Mullinix Rd from Smith Valley Rd to Wakefield Rd	Johnson County	New Road 2 lanes	\$32,905,334	2040-2049
5301	New Road from CR 400 N/Paul Hand Blvd & US 31 to CR 500 N & CR 300 E	Whiteland	New Road 2 lanes	\$75,613,734	2040-2049
6121	Southport Rd from White River to SR 37	Indianapolis DPW	Widen from 2 lanes to 4 lanes	\$54,843,159	2040-2049
6136	New road from Camby Rd/Mooresville Rd to White River	Indianapolis DPW	New Road 4 lanes	\$92,231,029	2040-2049
6172	16th St/Crawfordsville Rd/Holt Rd reconfiguration/roundabout	Indianapolis DPW	New Road 4 lanes	\$38,760,960	2040-2049
1105	CR 300 S From Whitestown limits to Hamilton County Line	Boone County	Widen from 2 lanes to 4 lanes	\$26,857,323	Illustrative
2106	Olio Rd from 146th St to SR 38	Hamilton County	Widen from 2 lanes to 4 lanes	\$48,302,637	Illustrative
2115	256th St from SR 19 to Mt Pleasant Rd	Hamilton County	New Road 4 lanes	\$32,835,187	Illustrative
2116	Olio Rd from SR 32 to 206th St	Hamilton County	New Road 4 lanes	\$70,602,280	Illustrative
2117	Olio Rd from 206th St to Strawtown Ave	Hamilton County	New Road 4 lanes	\$47,065,241	Illustrative
2118	Olio Rd from Strawtown Ave to SR 37/213	Hamilton County	New Road 4 lanes	\$69,665,395	Illustrative
2402	161st St from US 31 to Spring Mill Rd	Westfield	Widen from 2 lanes to 4 lanes	\$22,147,154	Illustrative
2403	161st St from Union St to Gray Rd	Westfield	Widen from 2 lanes to 4 lanes	\$34,407,636	Illustrative
2405	Spring Mill Rd from 146th St to SR 32	Westfield	Widen from 2 lanes to 4 lanes	\$44,996,105	Illustrative
2410	161st St from Spring Mill Rd to Towne Rd	Westfield	Widen from 2 lanes to 4 lanes	\$33,795,142	Illustrative
2412	186th St from Wheeler Rd to Spring Mill Rd	Westfield	Widen from 2 lanes to 4 lanes	\$13,509,014	Illustrative
2413	191st St from East St to Moontown Rd	Westfield	Widen from 2 lanes to 4 lanes	\$29,275,935	Illustrative
2414	New road from 191st St & Horton Rd to 193rd St & Springmill; New road from Springmill & 191st St to Horton Rd; Roundabout at "X" intersection	Westfield	New Road 4 lanes	\$19,157,174	Illustrative
2415	191st St from Tomlinson Rd to Horton Rd	Westfield	Widen from 2 lanes to 4 lanes	\$33,064,765	Illustrative
2416	193rd St from proposed Spring Mill Rd & 191st St roundabout to Joliet Rd	Westfield	Widen from 2 lanes to 4 lanes	\$60,202,376	Illustrative
2420	Centennial Rd/31st St from north of SR 32 to proposed new Towne Rd intersection on SR 32 east of Centennial Rd/31st St	Westfield	New Road 2 lanes	\$4,728,620	Illustrative
2421	Chad Hittle Dr from 191st St to Tomlinson Rd & 186th St	Westfield	New Road 2 lanes	\$5,917,265	Illustrative

ID	Description	Sponsor	Improvement Type	Total Project Cost	Time Period
2422	Dean Rd from 169th St to 161st St	Westfield	New Road 3 lanes	\$8,926,928	Illustrative
2432	Oak Ridge from 146th St to SR 32	Westfield	Widen from 2 lanes to 3 lanes	\$35,535,147	Illustrative
2433	Spring Mill Rd from SR 32 to 191st St	Westfield	Widen from 2 lanes to 3 lanes	\$18,060,000	Illustrative
2436	Western Frontage Road from SR 38 to 216th St (west side of US 31)	Westfield	New Road 3 lanes	\$5,895,308	Illustrative
2437	Western Frontage Road from Chad Hittle Rd & 191st St to SR 38 (west side of US 31)	Westfield	New Road 2 lanes	\$29,518,440	Illustrative
2446	Hoover St from Union St to Shady Nook Rd	Westfield	New Road 2 lanes	\$15,010,000	Illustrative
2502	Allisonville Rd from 146th St to Greenfield Rd	Noblesville	Widen from 2 lanes to 4 lanes	\$54,489,617	Illustrative
3107	CR 300 N from CR 500 W to CR 400 W	Hancock County	Widen from 2 lanes to 4 lanes	\$26,054,884	Illustrative
3303	Mt. Comfort Rd/CR 600 W from CR 900 N to CR 800 N	McCordsville	Widen from 2 lanes to 4 lanes	\$21,990,295	Illustrative
3304	Mt. Comfort Rd/CR 600 W from CR 600 N to CR 500 N	McCordsville	Widen from 2 lanes to 4 lanes	\$19,948,591	Illustrative
4105	CR 100 N (10th St.) from Raceway Rd to SR 267	Avon	Widen from 2 lanes to 4 lanes	\$55,302,763	Illustrative
4108	CR 100 N from CR 200 E to CR 500 E	Hendricks County	Widen from 2 lanes to 4 lanes	\$35,044,823	Illustrative
4109	CR 100 S from CR 300 E to CR 400 E	Hendricks County	New Road 2 lanes	\$5,683,183	Illustrative
4111	CR 200 N from CR 225 E to CR 475 E	Hendricks County	New Road 2 lanes	\$21,901,909	Illustrative
4113	CR 200 S from CR 225 E to CR 300 E	Hendricks County	New Road 2 lanes	\$8,449,647	Illustrative
4116	CR 950 N from CR 800 E to CR 925 E	Hendricks County	New Road 2 lanes	\$14,380,309	Illustrative
4117	CR 300 E from CR 350 S to CR 200 N	Hendricks County	Widen from 2 lanes to 4 lanes	\$38,571,401	Illustrative
4303	CR 625 E / Witham Rd from Northfield Dr to CR 800 N with bridge over I-74	Brownsburg	New Road 4 lanes	\$30,734,830	Illustrative
5103	Clark School Rd from Franklin Rd to east of Harvey Road	Johnson County	New Road 2 lanes	\$20,452,388	Illustrative
5104	CR 144 from I-69 to Whiteland Rd	Johnson County	Widen from 2 lanes to 4 lanes	\$56,704,122	Illustrative
5113	Whiteland Rd from Saddle Club Rd to SR 135	Johnson County	Widen from 2 lanes to 4 lanes	\$20,089,438	Illustrative
5114	CR 144 from Whiteland Rd to SR 135	Johnson County	Widen from 2 lanes to 4 lanes	\$48,231,276	Illustrative
5205	Worthsville Road from Honey Creek Road to S.R. 135 (Section 1)	Greenwood	Widen from 2 to 4 lanes	TBD	Illustrative
5206	Worthsville Road ATL from Averitt Road to Honey Creek Road (Section 2)	Greenwood	Widen from 2 to 4 lanes	TBD	Illustrative
6102	79th St from Fall Creek Rd to Sunnyside Rd	Indianapolis DPW	Widen from 2 lanes to 4 lanes	\$22,796,213	Illustrative
6170	Hague Rd from 82nd St to 96th St	Indianapolis DPW	Widen from 2 lanes to 4 lanes	\$38,495,765	Illustrative
6171	86th St from Center Run Dr to Bash St	Indianapolis DPW	New Road 2 lanes	\$12,310,534	Illustrative
1003	US 421 ATL from 2.91 miles north of the north leg of I-465 to 2.86 miles south of SR 32	INDOT	Widen from 3 to 5 lanes	\$10,000,000	Illustrative

FIG. 5-6 2050 MTP Project Locations

- 2050 MTP Project List
- 2020-2029 (E&C)
 - 2020-2029
 - 2030-2039
 - 2040-2049
 - Illustrative
- Metropolitan Planning Area
- County



Project List Fiscal Constraint

The overall project list is considered to be fiscally constrained, as the estimated project costs/spending do not exceed available revenue.

Each of the projects is placed into a designated time period (2020-2029, 2030-2039, and 2040-2049). The recommended project list reflects the priorities of the region. Those projects that are not listed in a time period are considered the needs list, or the Illustrative List, aka Time Period 2050+. Projects on the Illustrative List would require an amendment to be placed into a designated time period in order to receive federal funding.

IMPO MTP				
Time Period	2020-2029	2030-2039	2040-2049	TOTAL
State Revenues	\$7.9 B	\$9.9 B	\$12.1 B	\$29.9 B
State Spending	\$3.3 B	\$0.2 B	\$0.0 B	\$3.4 B
Fiscally Constrained	✓	✓	✓	✓
Total Local Revenues	\$3.5 B	\$4.2 B	\$5.1 B	\$12.8 B
Local Spending	\$1.0 B	\$0.8 B	\$0.9 B	\$2.7 B
Fiscally Constrained	✓	✓	✓	✓
IndyGo Revenues	\$1.8 B	\$1.6 B	\$2.0 B	\$5.4 B
IndyGo Spending	\$0.7 B	\$0.0 B	\$0.0 B	\$0.7 B
Fiscally Constrained	✓	✓	✓	✓

Spending totals updated as part of this Amendment #4.
Source: Indianapolis MPO. All figures are rounded and in billions.

Bike and Pedestrian Priorities

The Indianapolis MPO does not include projects that do not significantly impact the capacity of the transportation network in its MTP. However, through the IMPO’s budget allocation process and the adoption of supportive plans, the bicycle and pedestrian priorities of Central Indiana are well-represented. The IMPO’s Complete Streets policy reinforces the region’s commitment to bicycle and pedestrian planning and projects.

Bicycle

The IMPO’s Transportation Policy Committee adopted the 2020 Regional Bikeways Plan in December of 2020. The plan contains a snapshot of the existing bikeways network and recommendations for future investment in the bike-ways system.

As documented in the Regional Bike Plan, there are 972 miles of existing bikeway facilities in Central Indiana. A bikeway is defined as a trail, a bike lane (protected or unprotected), or a side path (also known as a multi-use path). The bulk of the current system is located in the north half of Marion County and in Hamilton County. Of the existing network 47% are located in Hamilton County, 24% in Marion County, and 12% in Johnson County.

The region is currently heavily invested in trails and side paths, which are bikeway facilities that are separated from automobile traffic, but some protected bike lanes have been constructed in Indianapolis. While side paths and trails make up 53% and 38% (respectively) of the region’s bike network, bike lanes account for only 9%.

Pedestrian

The Regional Pedestrian Plan was adopted by the IMPO’s Transportation Policy Committee in February 2020. The plan includes guiding policies and procedures to help communities improve the pedestrian network in Central Indiana. It also inventoried the existing and missing segments (aka “gaps”) along roadways within the region with assigned any Functional Classification other than Interstates and local roads. This resulted in 5,452 pedestrian walkway miles, of which 31.3% had existing facilities and 68.7% had no walking facilities (gaps).

The plan analyzed and scored the missing segments / gaps in the pedestrian network of Central Indiana based on various prioritized criteria including Pedestrian Safety, Equity, Wellness, Pedestrian Demand, and Walking Comfort. The plan recommended that communities extend this analysis to prioritize walkway gaps along local roads as well, and to consider the network gaps identified as most needed when considering future walkway investments.

Environmental Justice Analysis

A key concern of the Indianapolis MPO is how the transportation network affects the region’s most historically marginalized communities. As part of the planning process, the IMPO has mapped proposed capacity expansion projects of this plan over EJ Areas of Attention, as identified in Chapter 3. Projects that travel to or through EJ Areas of Attention should be given additional consideration and conduct additional public engagement to ensure participation by these disadvantaged groups.

Red Flag Investigations

A Red Flag Investigation (RFI) is an evaluation of a proposed project area focusing on water resources, community resources, infrastructure, hazardous concerns, and mining/mineral materials within a half-mile of a project. These were originally conducted during the MTP development process but are now conducted when the project is selected for inclusion in the IMPO’s Transportation Improvement Program (TIP). While these are preliminary evaluations, the results provide valuable information about what could impact the scope of work, schedule, and total cost of the project.



A Regional Pedestrian Plan Steering Committee Meeting



Land Use Advisory Panel Meeting

6 | Looking Ahead



IMPO Staff Engaging the Public at an Event

Central Indiana continues to strive for a better quality of life for all of its residents. As the region looks forward, so does the IMPO. Completing the 2050 MTP process allowed the IMPO staff and the Transportation Policy Committee to think about planning activities moving forward.

Amendments

Although the 2050 MTP completed a comprehensive analysis of factors influencing transportation in Central Indiana, projects and assumptions will develop that were not captured in the plan. As such, the 2050 MTP needs to provide an opportunity for amendments with a process that is clear to project sponsors and the general public. The amendment process is available on the IMPO website and by request.

Conclusions

Central Indiana Continues to Invest in Preservation and Maintenance First

By adopting a budget allocation that increases funding for road and bridge preservation, the local leaders on the IMPO's Transportation Policy Committee send a clear message that preservation and maintenance is a regional priority. Maintenance of the existing infrastructure signals to businesses and residents the desire to reduce wear and tear on vehicles and reduces potential bottlenecks due to disabled vehicles.

Performance Measures: Here to Stay and How Track Our Progress

The 2050 MTP continues developing and tracking performance measures, which guided the MTP's development, including prioritization of future projects.

Safety is a Major Priority for Central Indiana

Several factors support safety as a major priority for the region, including the passage of a regional Vision Zero resolution in 2018, the creation of the Crash Data Dashboard in 2019, and a public survey in 2020 that identified safety as both a major concern and an important goal, among other things.

Recommendations

Continue to Develop Performance Measures

Performance measures require accountability. The Indianapolis MPO will continue to track the performance measure by updating the data sets on a regular basis. As demonstrated by the review and update of performance measures during this MTP update, moving forward some performance measures will be dropped and some will be added as necessary. Federal performance measures will be updated annually while regional ones may be evaluated annually or during future MTP or other planning processes.

Expand ways to Use the Identified Regional Activity Centers

The Regional Activity Centers (RACs) identified in this plan could become a larger influence on transportation, and specifically multi-modal, investments in the future.

Continue Visioning for Transit in Central Indiana

Even though a public referendum for transit funding passed in 2016 in Marion County, and the region's first rapid transit line opened in 2019, there are still a lot of opportunities to improve transit access for people throughout the region. The IMPO will continue to educate the public on public transit, and support future transit planning in the region.

Develop and Support Targets for Regional and Federal Performance Measures

The IMPO continues to support the targets proposed by the Indiana Department of Transportation (INDOT) for the federal performance measures. Regarding regional

performance measures, the IMPO will continue to monitor data trends for the regional performance measures until such time that it makes sense to establish targets.

Study the Implications of Emerging Transportation Technologies

In the ever changing technological landscape of the 21st century, there are several technologies promising to forever alter transportation planning: autonomous vehicles, e-commerce, remote working options, and smartphones. Smartphones have made such a significant impact in a small time period. Their presence has shortened the distance between people and businesses, especially e-commerce. Businesses like Amazon are devising new ways for people to avoid shopping in traditional retail stores. This trend is changing traffic patterns and behaviors; fewer shopping malls, more truck trips, more warehouses. Finally, autonomous vehicles are threatening to be the next "it" technology. Autonomous vehicles promise to save lives and save time. Remote working options are allowing more people to modify, reduce, or eliminate their commuting schedules. Beyond that, the verdict on the technology is mixed. The region should continue to monitor and understand the potential impacts of autonomous vehicles and how Central Indiana can lead the state in accommodating the technology.

Monitor Transportation Funding

Despite the increase in transportation funding enabled by the Indiana General Assembly in 2017, future revenue streams for transportation are still in jeopardy. A majority of revenue for transportation in Indiana comes from a tax on gasoline, but there is a growing trend towards cars with high fuel mileage or electric engines. Additionally, if vehicle miles traveled drop, revenue for transportation can be significantly affected. New 2020 Census data may also have an impact on federal transportation funding available to the region in the future, as could a new federal transportation bill. The IMPO should remain aware of and continue to monitor situations that may affect Central Indiana's future transportation revenue streams.

A | Appendix

Public Feedback

The IMPO collected public input in several ways:

- A statistically significant survey was given in May 2021 asking about regional transportation priorities and preferences for the resource allocation (spending goals). Survey responses were ensured to be proportional to the number of people in Central Indiana counties. 2,000 complete responses were received.
- An early version of the recommended project map was posted online from March 22 - April 2, 2021 and people were encouraged to review it and add comments to specific projects. These comments were shared with the communities who proposed the projects.
- A project website was maintained which included digital copies of review materials, input opportunities, and how to submit comments.

The draft 2050 MTP was issued for public comment and feedback from August 30, 2021 – October 15, 2021, and a follow up comment period from November 8 - 22, 2021.

- The comment periods were advertised in the IMPO's teMPO e-newsletter; in advertisements on the Indianapolis Recorder and La Voz websites; and on the IMPO's website.
- The comment periods were advertised on social media (Facebook, Twitter, Instagram) in regular and paid-boosted posts. Some post boosts were directed at Environmental Justice populations, including minoritized (using the Facebook category of "multi-cultural interests" as a proxy) and low income (using the Facebook category of high school diploma or less as a proxy).
- Public comments were encouraged by phone, voice-mail, email, mail, or making an appointment for an in-person discussion. Comments were also collected from social media posts about the 2050 MTP.
- A physical copy of the first draft plan was distributed to every public library in the Metropolitan Planning Area (46 libraries). A flyer was distributed for the second.
- Listening sessions were held at eight libraries in areas with high rates of minoritized and low-income populations, for additional access. For these meetings, hand-

outs and comment sheets were provided. The IMPO also created a simplified overview of the 2050 MTP as a coloring book.

- The IMPO had an on-call translation consultant available for inquiries from individuals with limited English proficiency.
- The IMPO created a short video (available on the IMPO's YouTube channel) on "What is the MTP?" which includes both English and Spanish subtitles.

Public Comment

The following comments were received and responses provided as indicated below.

Twitter Comments:

*In addition to comments below, there were some general comments showing appreciation for the document's cover design.

@nickhasthoughts | Aug 30 | 08:55

nearly every single project shown here (outside of the BRT system which was approved in a 2016 via referendum) is added lanes, what a joke

• @IndyMPO | Aug 30 | 10:24

You are correct, as MTPs are primarily concerned with expansion projects. For other IMPO projects that are multi-modal transportation and safety, check out <https://mitip.indympo.org>

» @nickhasthoughts | Aug 30 | 10:27

apologies for the snarky tone of my original tweet but I still contend that it's unfortunate that a metropolitan transportation plan is "primarily concerned with [road] expansion projects". IMO the multimodal/safety stuff should be baked into the planning process and not an aside. and I realize the structure and operation of MPOs basically keep you hamstrung on what you can do, but a long-range transportation plan without a massive regional transit and bike/ped investment is basically ceding the battle against climate change.

- @acw6165 (Ryan Wilhite) | Aug 30 | 10:40
If you look at the 2035 LRTP, there's a whole chapter on significant regional transit. This could, of course, be put in the plan but it'd be all just visioning. And the IMPO has chosen to focus on projects submitted by its members. There are great regional bike and pedestrian plans adopted by the IMPO that outline significant investments by the members. Note that those aren't listed out in the MTP because only regionally-significant projects are listed out in the MTP. But you can find them on IMPO site. And the IMPO does a resource allocation, meaning targeting its funds for certain types of projects. For the IMPO, it is 20% for expanded roadways and 10% for transit. That may not satisfy some but it's a fantastic split. And note that the IMPO heavily invests in bike/ped.
- @acw6165 (Ryan Wilhite) | Aug 30 | 10:43
the IRTIP is where you can see the rubber meet the road. The real challenge here, and what you're seeing and are upset about, is that preference (forced or otherwise) is affecting land use and transportation and so many of the members have road projects to "meet demand."
 - » @nickhasthoughts | Aug 30 | 10:48
this is a fair assessment and i appreciate you clarifying the details. my beef, which you clearly outlined, is that the preferences of suburbs and exurbs are setting a trajectory that does not face climate change head-on. i realize the MPO can't really change that but it sucks.
 - @acw6165 (Ryan Wilhite) | Aug 30 | 10:52
The IMPO staff can't change what regionally-significant projects are submitted. The IMPO staff works hard, however, to educate its members about the ramifications of their transportation;land use decisions. Great addition to the MTP (which we tried last time) is scenario planning. I don't usually say it, but it can be important to remember certainly a key distinction between IMPO staff and the IMPO, which is the board of members that approve documents. In general, however, I viewed my role as staff was to meet federal regulations and educate.
- @acw6165 (Ryan Wilhite) | Aug 30 | 10:44
Finally, I'd say, that the number of expansion projects in this MTP is lower than the 2045 LRTP, which full disclosure, I worked on. I encourage you to submit

comments, however, as every comment is responded to and can help with the current and future plans.

- » @nickhasthoughts | Aug 30 | 10:52
appreciate the good-faith response to my snark. I don't mean to demean the work you guys are doing, I just think it's just not a framework set up to really respond to climate change unfortunately. fully understand that's not really on you guys though.
 - @acw6165 (Ryan Wilhite) | Aug 30 | 10:59
Full disclosure, I don't work at the IMPO anymore. The MTP can certainly be adaptable and if you want my opinion, I think the IMPO staff is great and want to incorporate more policies / tools to use the MTP to help the region become more sustainable.

@thedirte | Aug 31

Only one mention of Climate Change. Page 41. Then the recommended project list from pg 61-66 is basically climate change denialism. A real bleak ctrl+f search is for "widen from". Didn't see a single bike lane or sidewalk project featured in the reco list.

- @IndyMPO | Aug 31
This thread provides more information as to why that is: [refers to thread with @nickhasthoughts above]

@thedirte | Sep 29

I'm sure spending 83% of our available resources over the next 30 years on preserving and expanding our existing streets will ease congestion as the population in the metro area continues to rise, along with the percentage of commuters driving alone. [Included image from page 58 of the draft MTP]

- @thedirte | Sep 29
Your own report states that 90% of Marion county commuters live and work in Marion county (over 500,000 people!) Shifting just 5% away from commuting by "driving alone" could take thousands of cars out of the daily commute. We can't even DREAM of doing that in a 30 year vision?! How many additional lanes for cars do we have to add before we wake up and notice that it's not working? It's like a self-fulfilling prophecy. Over and over and over and over until the planet burns up.
 - » @IndyMPO | October 8
Hi there. Most new roads proposed in the MTP are outside Marion County, in areas growing from rural to urban. Besides the MTP, <http://MiTIP>.

indympo.org shows federally funded projects planned for Marion County, most being bike/ped, transit, safety improvements, & preservation.

- @JosephHBorn | October 8
Given the last 30 years' results, perhaps planners should sit the next 30 years out.

[linked to <https://naptownnumbers.substack.com/p/indygo-by-the-numbers-1>, Author: Joe Born]

Facebook Comments:

- Lorma Baber | Sept 5 | Okay not sure I know enough about this May ask a neighbor who has done work there
- Beth Webber | Sept 14 | I don't think we will be here that long. Pandemic and climate change will take care of all of this.
- Duane Stark | Sept 19 | Go to hell
- Ted Schott | Sept 25 | permeabilitypermeabilitypermeabilityandmorepermeability
- Danny L Davis | Oct 5 | Sounds like more climate change agenda wrapped up in a fancy package. Miss me with your so called plans.
- Danny L Davis | Oct 13 | From the looks of current times. We have lots more government over each censorship and forced medical procedures. Food shortages and immigration issues. Thanks I'll pass on any of your so called plans.
- Ed Gaddie | Oct 15 | \$65, 000,000 bond issues
- Gary W Moody | Oct 15 | *comments on two posts identical to submitted email comment below.*
- Sharon-Shari Moulder Coleman | Nov 13 | I won't be alive.
- Keath Rhymer | Nov 14 | the city will be ruined for transportation as they ruin it with the red line blue line green line orange line etc
- Jane Howard | Nov 14 | Comments on 2050 Vision: bicyclists need to pay their way for making it so hard for cars, etc to make it through Indy. Like many others, I avoid driving downtown whenever possible because of lack of parking, bump-outs eliminating right turn lanes, the destruction of College Ave so that it's dangerous to drive it with all the swerving, millions spent on the Monon and other trails when so any of us can't use them due to crime, gangs of bicycles, strollers and

running groups that force individuals off the trails. Not impressed with the directions taken.

Emailed Comments:

- Gary W Moody | Oct 15

Just as the MPO is, for some reason, headquartered within Indianapolis' City Hall, the draft MTP makes it clear that the MPO and the Plan are dependent upon the City of Indianapolis. In addition, the draft MTP clearly places much reliance for its public transit aspect upon the Indianapolis Public Transportation Corporation (IndyGo).

Within the last year or so, these entities have demonstrated, publicly and repeatedly, that they are not honest and reliable representatives of the public's interests. That is because the City of Indianapolis, through its Department of Public Works, has perpetrated blatant and wanton fraud, waste, abuse, and mismanagement in its Delaware Street reconstruction project. I believe that these misdeeds are so egregious as to be criminal, particularly due to fraudulent public statements made by DPW Director Daniel J. Parker.

Furthermore, DPW officials enlisted IndyGo in this scheme by persuading them to agree to split half the costs of the street reconstruction, which seems to me to be a very unusual, perhaps unique, step for a transit agency to take, at least in Indiana. IndyGo has also attached its "Super Stops" project to DPW's scheme. At least part of the funding for Super Stops has come from the MPO (IndyGo 2019-2025 Capital Plan, p. 13), although I don't know the actual origin of those funds (I'll follow up on that.) See:

<https://www.indygo.net/superstops/>

The Delaware Street reconstruction is wasting well over \$1 million of taxpayer funding, 50% of that being IndyGo's tab. The engineer who designed the project, William Ward, made it clear to me in a conversation that the choice of reconstruction, versus maintenance, was not supported by normal or competent engineering practices. As my investigations and extensive documentation of the project area has shown. That fact was further illustrated by Parker himself before a City Council hearing on August 12, and in statements he and his staff subsequently made to a rather gullible newspaper reporter.

Furthermore, assuming they were being fleeced by the City, I attempted to inform IndyGo's executives and Board repeatedly during the Summer. They ignored me. I asked if that section of Delaware Street would be in IndyGo's Asset Management Plan. They refused to tell me. Finally, I spoke about this to another Council committee on September 16, when the IndyGo executive staff appeared before them with the agency's budget. They didn't respond, again. I went out of my way to get a response, and IndyGo's "Chief Development Officer and VP of Infrastructure, Strategy, and Innovation", Jennifer Pyrz, made it clear to me that none of them cared.

The draft MTP touts Asset Management Plans "to assess the condition of pavements": What good is that if DPW simply says, with zero justification, that a street in Fair condition, that mainly needs resurfacing, is Poor and must instead be entirely removed and replaced, "down to the dirt" as they put it? The draft MTP also touts sustainability: What good is that if DPW, in addition to massive waste of material and money, implements a lengthy boondoggle that needlessly spews construction machinery diesel smoke for months, in addition to causing huge and daily traffic jams that also emit God knows how much pollution month after month? And DPW does all that with impunity, just because they can! "Preservation and Maintenance First"? Not in this case, and Director Parker publicly stated that he intends to stay the course of waste! "Resource Allocation Goals"? That doesn't apply to DPW, and IndyGo is also apparently perfectly happy to waste whatever resources they're told to!

I've made formal complaints about this to the Attorney General, the State Board of Accounts, and the City's Office of Management and Performance. Furthermore, it is incumbent upon state and regional officials, including the MPO, to obtain all the relevant facts of this matter. These facts must also be provided to the relevant federal officials, particularly the FTA and FHWA. I'm available and ready to provide all of the information that I have, which is extensive at this point.

» IMPO Reply: Thank you for your comment. We will take it under consideration.

- Kim Irwin | Health by Design | Oct 15

<<IMPO Responses>>

Attached are our comments on the MTP. Great work by you and the team in managing this process and

putting the plan together! We will provide testimony at next week's meeting. Let me know of any questions for us. Take care!

Thank you for the opportunity to provide input on the Indianapolis Metropolitan Planning Organization's (IMPO) draft of the Central Indiana 2050 Metropolitan Transportation Plan (MTP).

As you know, Health by Design works at the intersection of the built environment and public health, collaborating across sectors and disciplines to ensure Indiana communities have neighborhoods, public spaces and transportation infrastructure that promote active living for all. For the past 15 years, we have advocated for equitable, safe, accessible, convenient, and connected options for walking, biking, and public transit; and we have encouraged responsible land use. We believe that the billions of taxpayer dollars represented in this MTP should be invested in the wisest way possible and should yield a balanced transportation network that meets the needs of all Central Indiana Hoosiers, regardless of their age, ability, income, or how they choose to travel.

Below is a summary of the comments, questions and concerns assembled by our team.

1. This planning document is well organized and designed and makes excellent use of graphics, images, and illustrations.
2. We appreciate the variety of ways that local decision-makers, stakeholders, and the broader public have been engaged throughout the planning process.
3. The integration of other planning components – technical reports, the regional activity centers process, scenario planning, etc. – is extremely important, and we look forward to those elements evolving and being used to inform other ongoing and future planning efforts.
4. We suggest the addition of image descriptions, identifying the location and/or activity in each image.
 - a. As an aside, we're very curious about what was happening in the image on page 48!
5. We commend the decision to further adjust the resource allocation goals and increasingly prioritize safety and infrastructure preservation, but ultimately, this MTP continues to perpetuate overinvestment in system expansion.

a. Our existing transportation network continues to age, with insufficient resources for current maintenance.

i. It is financially prudent to prioritize maintenance costs of existing infrastructure rather than build new roadways that threatens to overburden future taxpayers.

b. System deficiencies have become increasingly dire for the safety of all road users, but especially people walking and biking.

6. It's likely a broader conversation than appropriate for this MTP input, but the definition of 'regionally significant' and the parameters by which that concept influences project scoring and funding must be revisited and, likely, revised in order to better achieve resource allocation goals.

7. The inclusion of the 'Evaluating Budget Allocation' section (p. 15) and graphic is important, and we're glad it's there; but there could be more clarity around what the information means.

a. Is the TIP Goal based on the prior LRTP or showing the intent of this MTP?

<<Clarified in the document: TIP goals are based on the active MTP at the time>>

b. It's referencing TIP allocations; how do those relate to the information here in this MTP?

i. The relationship between the MTP and TIP isn't discussed until later.

<<Clarified in the document: Approved MTP goals are adjusted to remove O&M to create TIP goals>>

1. A visual representation of this relationship (and other related items) may be helpful.

c. What is represented by the 'Other' category in the graph?

<<Clarified in the document: The "Other" category includes the project types: traffic signal replacements, backplates, pedestrian count-down heads and emergency preemption; sign replacements; public education and outreach programs; intelligent transportation system projects; demolitions, and noise abatement strategies.>>

8. In the discussions about Vision Zero (p. 17 and later), it may be worth explaining and using the 'Safe

System(s)' terminology for alignment with Federal Highway Administration language.

<<Added>>

9. With regard to the Environmental Justice (EJ) section (p. 28-31):

a. We appreciate the 'brief note' discussion of language.

i. In alignment with that, we suggest the use of a term other than 'disadvantaged' in later discussion (p. 67), as it neglects to account for the historical intended (and unintended) consequences of disinvestment, mismanagement and harm directed at EJ populations.

<<Replaced with "historically marginalized".>>

b. This section could also be expanded to discuss the opportunity to better distribute benefits across areas of attention (rather than just minimizing burden).

<<Taken into consideration>>

c. With the map on p. 30 (Fig 3-14), how do you explain the apparent lack of investment in areas of attention, given the overarching intent of the Environmental Justice Executive Order.

<<1) These are only the expansion projects. 2) Based on the IMPO's efforts to quantify what exactly is a benefit and what is a burden to EJ communities, it is apparent that benefits and burdens must be considered on project-by-project basis. We identify the overlap and encourage LPAs to make additional effort.>>

i. Why aren't the Blue and Purple Bus Rapid Transit lines represented here?

<<They should have been included and will be added.>>

10. There is value in providing additional detail about the public engagement process, including the public opinion survey methods and results, given the way some of the findings are discussed and used in the plan.

a. How representative were respondents of the region overall and what was their geographic distribution?

<<Clarified in the document. The survey was designed to be representational of / proportionate to the region's total county populations.>>

11. It's important to include the 'Uncertain Future' (p. 41), but it seems the topics warrant additional discussion and additional examples.

a. What data/evidence do we have now on these topics?

i. What has been the impact of COVID-19 (beyond the pandemic section itself)?

<<Taken into consideration>>

12. In the Performance Measures section (p. 42-27):

a. It may be worth noting that the first page is an overview of more detailed info that follows.

b. We propose that the source of data for each performance measure be included, as well.

<<This is a separate document, annual performance measure reporting. Currently at <https://www.indympo.org/whats-underway/lrtp> (after the new document is approved it will be <https://www.indympo.org/whats-underway/mtp>)>>

c. How does 1B PM 2 (or a different measure) account for Americans with Disabilities Act (ADA) accessibility and other access/usage barriers related to the sidewalk network?

<<It only measures proximity, not condition. We do not have condition data.>>

d. Goal 2 measures are likely to shift significantly given the COVID-19 pandemic.

i. How will these changes be accounted for?

<<These measures (all of the ones with the little capitol building symbol) are federally defined PMs. We cannot change these.>>

e. How will 3B PM 2 account for accessibility (sidewalks, bikeways, curb ramps, etc.) to transit routes?

<<It only considers proximity, not condition. We do not have condition data.>>

f. With Goal 6:

i. We will further review the federal performance measure tracking, but it would be helpful to clarify if pedestrians and bicyclists struck by cars are accounted for in PMs 1-4.

<<These are all federal measures, but yes, pedestrians are included. We also track these on the dashboard at www.indympo.org/crash>>

ii. Is it possible to get rate information for pedestrian and bicycle crashes, using data from the Household Travel Survey?

<<Not to my knowledge>>

iii. Pedestrian and bicyclist crashes should be measured separately.

<<These measures (all of the ones with the little capitol building symbol) are federally defined PMs. We cannot change these.>>

iv. Only accounting for fatalities and serious injuries significantly underrepresents the full negative impact that vehicle crashes – and particularly those involving people walking and biking – have on lives, livelihoods, economies, and more.

v. How are scooter crashes counted?

<<As reported to ARIES>>

vi. It would be ideal to show data and trends for ALL performance measures, not just regional ones, in the table on p. 47.

<<The IMPO supports INDOT's trends and targets for the federal measures and does not measure them separately. Those can be found at www.indympo.org/fpm>>

13. On p. 49:

a. The introductory paragraph about Complete Streets is insufficient in properly defining the concept and describing the range of Complete Streets elements.

i. Use of the term 'residents' is limiting.

<<Added "and visitors">>

14. We appreciate the robustness of the Congestion Management Process (CMP) section.

a. Highlighting the intrinsic link between land use policy and transportation is incredibly important.

b. The table of improvements/strategies is very useful and has valuable information.

c. Thank you for noting that adding capacity has only short-term benefits, with corresponding significant costs and negative impacts on the environment and quality of life.

i. How will IMPO policies and practices disincentivize added capacity moving forward?

<<Capacity is limited to the 20% funding goal>>

d. The phrase 'Can create environmental and community impacts' applies in much of the Access Management section and in the 'Super Street' strategy, as well.

<<Taken into consideration>>

e. Despite all of this valuable content, the concept of congestion itself keeps the focus on motor vehicle

travel (comfort, time, level of service, etc.) and prioritizes people driving over those using other modes of travel.

i. What could it mean to consider a different measure and model for success?

<<We would have to look to FHWA for guidance. The federal model can't be redefined by the IMPO but supplemental efforts can take place. As a reminder, we already have policies like our Complete Streets requirements and resolution supporting Vision Zero, as well as several performance measures that look at non-automotive transportation modes. But we do have to continue to look at congestion as defined by federal regulations, particularly with regard to the Congestion Mitigation and Air Quality (CMAQ) project funding program.>>

15. Given discussion throughout the plan about prioritizing preservation/maintenance and multimodal expansion, why does the Recommended Project List (p. 61-65) consist almost entirely of added capacity projects?

a. It is difficult to understand how most of these projects are considered regionally significant (going back to the definition comment above).

<<MTPs are required to include and fiscally constrain projects considered by federal regulations to be "regionally significant" for at least a 20-year horizon. Other project types do not need to be specifically included in the MTP to be eligible for TIP funding. But as you know we also do regional bicycle, pedestrian, and transit planning and those plans can be found at www.indympo.org/bikewalk and <https://www.indympo.org/rtp>>>

We've also identified some needed edits:

<<All identified typos and misprints will be corrected in the draft plan available from November 8-22.>>

- Page 11: Under Carmel-Guilford Road Reconstruction from City Center to Main St (1383180) – Improvements include a center turn lane, roundabout, storm sewers, curb, sidewalk, and multi-use path.
- Page 13: Second paragraph on the right side – The financial analysis determined that the anticipated 5307 funding amount would increase in future years because the counties began submitting urban trip data

to the National Transit Database in 2018, but because Central Indiana was receiving much 5311 funding, the 5307 funding increase will not be enough to offset the loss of 5311 funding.

- Page 31: Consistency issue – second paragraph under “National Highway System” heading, first line, MPO should be IMPO.

- Page 34: Fig. 3-20 and 3-21 appear to have duplicated data, though one is supposed to be Marion County’s PCI-rated roadways and the other is PASER-rated roadways for all other counties in the MPA.

- Page 37: Typo in first paragraph of ‘Scenario Planning’ – “The IMPO chose Community Viz, and ArcGIS extension.”

- Page 54: Table heading on the y-access is missing “Occupancy Vehicle” in “Shift Trips from the Single.”

- Page 57: In the first paragraph under “IMPO Projects that Support the CMP” subheading, the paragraph ends without a period and reads as if there’s an unfinished thought.

- o Also, the Town of Cumberland recently adopted a Complete Streets policy.

- Page 57: Typo in paragraph under “Evaluate Strategy Effectiveness” heading – the word “evaluated” on third line shouldn’t be past tense.

- Page 61: Typo in first paragraph under “Recommended Project List” heading – “Committee” on the third line should be “Committed.”

- Page 63: Typo – Kentucky Ave. misspelled (Project ID 6162, Indy DPW)

- Page 65: Typo – Kentucky Ave. misspelled (Project ID 6168, Indy DPW)

- Page 67: Typo in first paragraph, second column, second line – (aka “gaps) is missing the second quotation mark.

In closing and as always, we appreciate the opportunity to provide public comment. We remain hopeful that there will be meaningful action toward increasing funding for active transportation and in improving roadway safety for people who walk and bike. We look forward to your responses and hope to see this input reflected in the IMPO’s planning and programming processes, decision-making, and implementation. We also remain committed to supporting your efforts in whatever ways are most helpful. Please don’t hesitate to let us know of any questions for us.

- David Doubet | Nov 9
looking forward to 2050; I'm suggesting some additional services for Public Transportation in Indiana. 1st is outside of the Indianapolis area; however, it would need Indiana State Funding; Illinois does not have the revenue of Indiana's State Fair. A Commuter Train from Three Rivers, MI via Elkhart Amtrak station, Mishawaka, South Bend, Four Winds, Valparaiso, Merrillville, Griffith, Thornton junction/South Holland, Harvey, Dixmoor, and Blue Island (2 trains to LaSalle St and one to Millennium/Randolph St.). The second item is the Brown Line BRT: from Whitestown Industrial Park to Brownsburg Industrial Park and The International Motor Speedway. It is debatable as to the need to connect the Brown Line BRT to the Julia Carson TC. The 3rd item; is a Subway from Speedway to the TC and the Fair Grounds, 46th/52nd & Keystone, Glendale Town Center (new apartments), Castleton Mall, Riverview Hospital, and Aquatic Center A second Subway route would include Lucas Oil stadium and University of Indianapolis. The 4th item; is Commuter trains for the State Capitol: a) Lafayette to Eli Lilly Corp Center via Frankfort, Lebanon, Whitestown/Brownsburg, High School Rd, Eli Lilly Industrial Park. b) Muncie, Anderson, Forkville (bus terminal), Lawrence, 30th/Mass Ave. c) Seymour, Columbus, Franklin, Greenwood (2), U of Indy.. d) Bloomington, Switz City, Martinsville, Mooresville, Ameriplex. e) Greencastle, Danville, Avon, Zoo, Amtrak. f) Batesville, Greensburg, Shelbyville, Fairland/Indiana Casino, Acton, Beech Grove.
 - » IMPO Response: Hello David. Thank you for your comment. Enjoy your day!

- Eric A. Harvey | Nov 19
Hello, Could you tell me the current status of this project? I guess the real question is when would the project be u for a funding request? Our three HOA's on Smith Valley and Emerson submitted concerns over the design back in 2018 when it was previously submitted for funding. My thanks in advance. Project: 5203 Smith Valley Rd from SR 135 to S Emerson Ave Greenwood Widen from 2 lanes to 4 lanes \$37,207,163 2020-2029
 - » IMPO Response: Hello Eric, MTP project #5203 to widen Smith Valley Rd is currently a proposed project. The IMPO has not received an application for federal funding for this project to date. But communities can also fund projects with other grants that the IMPO does not administer, or with local funding, so I cannot say whether the project is moving forward or not. But it has not

yet pursued IMPO funds. However, Greenwood did receive IMPO funding to install the now-completed roundabouts at Smith Valley & Yorktown and Smith Valley & Madison. Greenwood has also applied for IMPO funding for roundabouts at Smith Valley & Averitt and Smith Valley & Woodman. Those applications will be evaluated with all other applications the IMPO received for projects in the region. The IMPO will select projects that score the highest and recommend them for 2025/2026 funding to the IMPO's Transportation Policy Committee at one of their meetings in Spring 2022. If you want to know whether those projects make the list, sign up for our teMPO newsletter (www.indympo.org/tempo) to be notified of the announcement. And if you'd like to see the Greenwood projects that have already been selected to receive IMPO funding in the next few years, visit <https://mitip.indympo.org>. You can use the advanced search to look for only Greenwood's projects. I hope this helps!

- Pat Andrews | Nov 22
I'd like to add my comments on a couple of projects listed in the draft Central Indiana 2050 Metropolitan Transportation Plan.
There are three numbered projects in your draft that, combined, would extend Ameriplex Parkway from Kentucky Avenue to the future Southport interchange with I-69. These are:
 - » #6162 Ameriplex Pkwy from SR67/Kentucky Ave to Mooresville Rd; new 4 lane road; \$37.5M 2020-2029
 - » #6136 New road from Camby Rd/Mooresville Rd to White River; new 4 lane road; \$92.2M 2040-2049
 - » #6121 Southport Rd from White River to SR 37; widen from 2-4 lanes \$54.8M; 2040-2049

These are similar to the projects listed in the 2045-L RTP amendment 6, although not quite identical for whatever reason.

Here are my objections to these road projects being included in the recommended project list.

- 1) The group within Decatur Township that had been working with DPW on the extension (the Decatur Township Partnership for Prosperity), rescinded its support of the project by a vote in August, communicated verbally, followed by a formal letter dated

October 1, 2021. This group is composed of representatives of organizations within the Township as well as our local elected officials.

2) IF this project is to proceed, splitting it into segments with different time frames will cause harm to the community. Project #6162 by itself has no logical point of termination and would dump more traffic on two lane local roads that are already overburdened. Given the limited roads budget of the City of Indianapolis, these local roads have little to no chance of being widened to accommodate the traffic dumped there by an ill-conceived terminus of a Parkway. These roads serve neighborhoods primarily, where safety and enjoyment of one's home is paramount.

3) The purpose and needs statement has been "to improve east-west connectivity across the southern part of Marion County and to support future economic development within the southwest portion of Marion County". If the Parkway were extended only to Mooresville Road, and not swiftly followed by at least the extension to the White River, the purpose and need for east-west connectivity would NOT be met.

4) The discussions with the stakeholders has always been of one project from Kentucky Avenue to the White River. To artificially split this is to create a different situation than the one presented at the public meeting in February 2020. In addition, the public was told that the project would not require a tax increase. If the price tags of the three projects is anywhere near accurate, it is difficult to envision how 20% of an \$184M road can be assumed by the City without either increasing taxes or removing tax revenues through the creation of a Tax Increment Finance district. The community is against any more TIF districts in our Township and dislikes tax increases.

For these reasons, I submit that Projects #6121, 6136, and 6162 should be removed from the Recommended Project List.

» IMPO Response: Thank you for your comment Pat. I've forwarded it to Indianapolis DPW and it will be included in our summary of public comment in the final draft of the plan.

• Todd Riggs | Nov 22

It's my hope you documented my comments from a week ago during our conversation. To reiterate, a few of my points, the IndyGo Red Line has been an unequivocal disaster, wasting massive amounts of federal, and local tax dollars. The Red Line's \$96 million price tag

would require a million riders a year, paying a \$4 bus fare, just to break even in 24 years. This does not even factor in, maintenance/upkeep costs. The absurdity continues with the focus now on the second phase IndyGo Blue Line, with a similar projected overall cost of \$95 million, of which \$70 million in federal funding was provided from the former Presidential administration of Trump/Pence. Heinously irresponsible! Fiscal recklessness at its finest! The Blue Line will most assuredly be another cataclysmic boondoggle failure. Lastly, it's my heartfelt hope, that Mayor Hogsett, aka "Mr. Taxpayer Extortion" and "Mr. Stick it to the Taxpayer" will have the common sense to scrap the third phase IndyGo Purple Line entirely! Only time will tell.

Additionally I would like to say that taking public transportation/riding the bus is often an unpleasant experience, standing outside in potentially inclement weather, including high temperatures/rain/ thunderstorms, and especially cold winter months, or waiting for a bus that is not on time. Furthermore, riders are subjected to long commutes, due to frequent stops, cramped/crowded buses on select routes, or individuals that have may offensive body odors.

» IMPO Response: I will include this comment in the document.

Public Hearing

The IMPO's Transportation Policy Committee held a public hearing on the Draft 2050 MTP at their meeting on Wednesday, December 15, 2021 at 9:00am ET at Ivy Tech Culinary and Conference Center, 2820 N Meridian St, Indianapolis, IN 46208.

Public Comments Made:

• Taylor Firestine, Health by Design

Good morning, I'm Taylor Firestine, a Walk & Bike Program Coordinator with Indianapolis-based non-profit Health by Design. As you may know, Health by Design works at the intersection of the built environment and public health to ensure that communities here in Central Indiana and around the state have neighborhoods, public spaces, and transportation infrastructure that promote active living for all. For the past 15 years, we have advocated for equitable, safe, accessible, convenient, and connected options for

walking, biking, and public transit; as well as encouraged responsible land use.

First, thank you for the opportunity to provide public comment on the 2050 Metropolitan Transportation Plan. Health by Design would like to commend IMPO staff and Leadership Committee members who have devoted their expertise and diligence to developing this crucial roadmap for infrastructure investment in our region.

The plan is well-organized and makes excellent use of graphics and photographs that help members of the public better understand often complex content. Likewise, the integration of other planning components with an influence on transportation—like, regional activity centers and scenario planning—are extremely important and we look forward to those elements evolving to inform ongoing and future planning efforts in Central Indiana. We appreciate the variety of ways that local decision-makers, stakeholders, and the broader public were engaged throughout the planning process. Lastly, we're encouraged by the decision to further adjust the resource allocation goals and increasingly prioritize safety and infrastructure preservation.

However, ultimately this MTP still falls short of the paradigm shift required for our region to respond to a host of challenges. These include an unprecedented rise in motor vehicle crashes involving vulnerable road users; the compounding expense of investing in system expansion over maintenance; and the public health and environmental costs of business-as-usual investment. These are not new concerns but are shared with renewed urgency.

- » As our existing transportation network continues to age, it is financially prudent to prioritize maintenance costs of existing infrastructure rather than build new or expanded roadways that threaten to overburden future taxpayers.
- » Generational deficiencies in the way we've built our transportation infrastructure have become dire for the safety of all road users. This is especially urgent since the onset of the COVID-19 pandemic as we've seen an unprecedented increase in the number of people who bike, walk, or drive injured or killed on our roadways—locally and nationally.

- According to the IMPO's Fatality and Serious Injury Crash Data dashboard, over the last six years of data reported for the MPA, there's been a nearly 50% increase in vehicle crashes, 73% increase in pedalcyclist crashes, and 42% increase in pedestrian crashes between 2015 and 2020. Most alarming, there's been a 47% increase in incapacitating or serious injuries and 53% increase in fatal crashes in that same time.
- As transportation professionals, it's incumbent on us to respond to this public health crisis and urge our state and federal leadership to change the underlying policies and systems that dictate our funding priorities as cities, towns, and counties.

In summary, we're encouraged by the evolution of this MTP and the level of engagement and expertise it represents. We encourage individual communities and the region as a whole to further prioritize investments in safety, especially for the benefit of people walking, biking, or taking public transit, and to continue developing systems for monitoring and evaluating their accessibility and effectiveness. We believe that the billions of taxpayer dollars represented in this MTP should be invested in the wisest way possible and should yield a balanced transportation network that meets the needs of all Central Indiana Hoosiers, regardless of their age, ability, income, or how they choose to travel well into the future.

On behalf of the Health by Design team, thank you again for the opportunity to provide input on the 2050 Metropolitan Transportation Plan and we look forward to our continued partnership to improve the health and vitality of our region in the years to come.

System Performance Report

1. Purpose

Updates or amendments to Metropolitan Transportation Plans (MTPs) for metropolitan planning organizations (MPOs) must incorporate a System Performance Report that addresses federal transportation performance management measures and related information.

Transportation performance management requirements can be found in the Code of Federal Regulations (CFR), Title 23 Parts 450 and 490, and Title 49 Parts 625 and 673.

2. Background

Pursuant to the Moving Ahead for Progress in the 21st Century Act (MAP-21) Act enacted in 2012 and the Fixing America's Surface Transportation Act (FAST Act) enacted in 2015, state departments of transportation (DOT) and MPOs must apply a transportation performance management approach in carrying out their federally required transportation planning and programming activities. The process requires the establishment and use of a coordinated, performance-based approach to transportation decision-making to support national goals for the federal-aid highway and public transportation programs.

On May 27, 2016, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) issued the Statewide and Nonmetropolitan Transportation Planning; Metropolitan Transportation Planning Final Rule (The Planning Rule)¹. This rule details how state DOTs and MPOs must implement new MAP-21 and FAST Act transportation planning requirements, including the transportation performance management provisions.

In accordance with the Planning Rule, the IMPO must include a description of the performance measures and targets that apply to the MPO planning area and a System Performance Report as an element of its MTP. The System Performance Report evaluates the condition and performance of the transportation system with respect to required performance targets, and reports on progress achieved in meeting the targets in comparison with base-line data and previous reports.

The IMPO 2050 MTP was adopted on December 15, 2021. Per the Planning Rule, the System Performance Report for the IMPO is included for the required Highway Safety (PM1), Bridge and Pavement (PM2), System Performance (PM3), Transit Asset Management, and Transit Safety targets.

3. Highway Safety Measures (PM1)

Effective April 14, 2016, the FHWA established five highway safety performance measures² to carry out the Highway Safety Improvement Program (HSIP). These performance measures are:

- Number of fatalities;
- Rate of fatalities per 100 million vehicle miles traveled (VMT);
- Number of serious injuries;
- Rate of serious injuries per 100 million VMT; and
- Number of non-motorized fatalities and non-motorized serious injuries.

The IMPO approved safety performance targets on December 7, 2022. The IMPO is expressly supporting the statewide targets developed by the Indiana Department of Transportation (INDOT).

¹ The Final Rule modified the Code of Federal Regulations at 23 CFR Part 450 and 49 CFR Part 613.

² 23 CFR Part 490, Subpart B

INDOT’s 2023 safety targets based on five-year rolling averages are:

Measure	Target (2023)
Number of fatalities	894.2
Rate of fatalities (per 100 million VMT)	1.088
Number of serious injuries	3,348.1
Rate of serious injuries (per 100 million VMT)	4.068
Number of non-motorized fatalities and serious injuries	399.6

In support of the statewide safety targets, the IMPO has created tools and programs to support safer transportation facilities. These resources and plans are available for viewing at www.indympo.org.

Crash Dashboard: The IMPO has, for several years, supported a regional Crash Dashboard. Data in this dashboard comes from the Indiana Automated Reporting Information Exchange System (ARIES) database. ARIES contains traffic reports from police enforcement statewide. Since 2017 the IMPO has cleaned up the locations of fatal and incapacitating injury crashes to support more accurate analysis.

- As of this report, incapacitating injury and fatal crash records from 2012-2021 have been cleaned. The ARIES data from 2022 and 2023 will be cleaned during 2023.
- The crash dashboard has become a key reference in the region for news agencies and safety advocacy groups. The dashboard currently displays crash data from 2015 – 2021.

Safety Action Plan: The 2022 Safe Streets and Roads for All Safety Action Plan adopted August 17, 2022 consists of several components: goal setting, safety analysis, public engagement, equity analysis, policy and process proposals, and progress reporting. This Safety Action Plan represents the beginning of a more concentrated effort to improve safety in the Central Indiana MPA, and provides a foundation for the IMPO to pursue supplemental planning work on this topic. The plan will be updated annually throughout the life of the 5-year federal program to better understand the issues facing our region.

High Injury Network: The IMPO developed a High Injury Network (HIN) to identify the local corridors with the highest frequencies of crashes resulting in incapacitating injuries and fatalities within the MPA. The HIN represents the top 10% (234 centerline miles) of regional collector and arterial streets scored by the number of incapacitating injury and fatal crashes per centerline mile. The HIN enables IMPO and LPAs to prioritize safety investments and other strategies on the streets with the highest number of severe crashes to make rapid progress towards regional safety goals.

Road Safety Audits: The IMPO completed 24 Road Safety Audits (RSAs) at high crash intersection locations in 2019. In 2023 the IMPO will conduct RSAs at approximately 20 high crash intersection locations that were identified from our High Injury Network.

Bike/Ped Plan: Crash data is a factor for prioritizing need for the Regional Pedestrian Plan and a focus for analysis and recommendations in the Regional Bikeways Plan.

Vision Zero: The IMPO’s Transportation Policy Committee adopted an updated Vision Zero statement on August 17, 2022 which set a goal of reducing fatal and serious crashes by 35% by 2040.

Eyes Up: The IMPO ran a targeted outreach campaign against distracted driving during the summer of 2022. The call to action, EYES UP, JUST DRIVE, was directed at drivers on billboards, IndyGo bus tails, the radio, print in Indianapolis Recorder and La Voz, and on social media. From June 1 - August 31, Spotify ads reached 404k users and radio spots played on Radio Latina and Urban One.

MTP: The 2050 MTP supports improved transportation safety:

- through goals and objectives, including:
 - » Goal 6: To improve safety for travelers system-wide through project investment.
 - Objective 6A: Support projects and policies that reduce the number and rate of serious injuries and fatalities for all modes.
- by awarding points during project selection to capacity expansion projects that intend to include proven safety countermeasures in their project design, and
- by incorporating by reference the Indiana statewide safety trends and targets.

TIP: The IMPO’s Transportation Improvement Program (TIP) supports improved transportation safety by providing funding for projects that improve safety across the region. The TIP funds a certain number of projects within the Highway Safety Improvement Program (HSIP) program which can be used only for projects and plans that improve the safety of the network, including roundabouts, signage projects, and safety studies. The TIP Also funds projects through the Transportation Alternatives Program (TAP) program which funds projects like trails or streetscape improvements, which provide safe facilities for pedestrians and cyclists. Projects funded through the Surface Transportation Block Grant (STBG) program are required to follow a Complete Streets Policy help to support the needs of all road users.

4. Pavement and Bridge Condition Measures (PM2)

In January 2017, USDOT published the Pavement and Bridge Condition Performance Measures Final Rule, which is also referred to as the PM2 rule. This rule establishes the following six performance measures:

- Percent of Interstate pavements in good condition;
- Percent of Interstate pavements in poor condition;
- Percent of non-Interstate National Highway System (NHS) pavements in good condition;
- Percent of non-Interstate NHS pavements in poor condition;
- Percent of NHS bridges (by deck area) classified as in good condition; and
- Percent of NHS bridges (by deck area) classified as in poor condition.

The IMPO approved pavement and bridge condition targets on December 7, 2022. The IMPO is expressly supporting the statewide target developed by INDOT.

INDOT’s 2 and 4-year statewide pavement targets based on a certified Transportation Asset Management Plan are:

Measure	2 Yr Target (2024)	4 Yr Target (2026)
Percent of NHS bridges (by deck area) classified as in Good Condition	49.0%	47.5%
Percent of NHS bridges (by deck area) classified as in Poor Condition	3.0%	3.0%
Percent of Interstate pavements in Good Condition	60.0%	62.0%
Percent of Interstate pavements in Poor Condition	1.0%	1.0%
Percent of non-Interstate NHS pavements in Good Condition	50.0%	48.0%
Percent of non-Interstate NHS pavements in Poor Condition	1.5%	1.5%

These performance measures apply only to Interstates and the NHS. The IMPO supports regional pavement and bridge conditions in the following ways:

- The IMPO collects pavement and bridge ratings annually from each of our LPAs and tracks and analyzes trends over time. The IMPO completed an Asset Management Report in 2021 which provided an analysis of the pavement and bridge conditions in the region.
- The 2050 MTP supports pavement and bridge conditions:
 - » through goals and objectives, including:
 - Goal 7: To preserve or enhance the existing transportation system.
 - Objective 7A: Preserve or enhance the condition of on- and off- system bridges.
 - Objective 7B: Preserve or enhance the quality and condition of transit resources.
 - Objective 7C: Preserve or enhance the pavement conditions of the roadway network
 - » by incorporating by reference the Indiana statewide pavement and bridge condition trends and targets.

- The TIP supports pavement and bridge conditions through an allocation goal of approximately 32% toward pavement preservation and 23% toward bridge preservation during each call for projects. Through its selection criteria, the TIP call for projects prioritizes, among other factors, road pavements and bridges that have the highest need. Funds for road and bridge condition are primarily through the Surface Transportation Block Grant (STBG) program.

5. System Performance, Freight, and Congestion Mitigation & Air Quality Improvement Program Measures (PM3)

In January 2017, USDOT published the System Performance/Freight/CMAQ Performance Measures Final Rule to establish measures to assess passenger and freight performance on the Interstate and non-Interstate National Highway System (NHS), and traffic congestion and on-road mobile source emissions in areas that do not meet federal National Ambient Air Quality Standards (NAAQS). The rule, which is referred to as the PM3 rule, requires MPOs to set targets for the following six performance measures:

National Highway Performance Program (NHPP)

- Percent of person-miles on the Interstate system that are reliable, also referred to as Level of Travel Time Reliability (LOTTR);
- Percent of person-miles on the non-Interstate NHS that are reliable (LOTTR);

National Highway Freight Program (NHFP)

- Truck Travel Time Reliability index (TTTR);

Congestion Mitigation and Air Quality Improvement Program (CMAQ)

- Annual hours of peak hour excessive delay per capita (PHED);
- Percent of non-single occupant vehicle travel (Non-SOV); and
- Cumulative 2-year and 4-year reduction of on-road mobile source emissions (NOx, VOC, CO, PM10, and PM2.5) for CMAQ funded projects.

The IMPO is currently in CMAQ attainment and no longer needs to set Indianapolis specific targets for the three CMAQ performance measures. The IMPO is supporting the INDOT targets for all the PM3 targets.

The IMPO approved system performance, freight, and congestion mitigation & air quality improvement program targets on December 7, 2022. The IMPO is expressly supporting the statewide target developed by INDOT.

The 2024 and 2026 statewide PM3 targets are:

Performance Measure	2-Year Target (2024)	4 Year Target (2026)
Interstate Percentage of Person-Miles Reliable (LOTTR)	93.0%	93.5%
Non-Interstate Percentage of Person-Miles Reliable (LOTTR)	93.0%	93.5%
Truck Travel Time Reliability Index (TTTR)	1.32	1.30
Annual Hours of Peak Hour Excessive Delay (PHED)	N/A*	N/A*
Percent of Non-Single Occupancy Vehicle (Non-SOV) Travel	N/A*	N/A*
Total Emission Reductions: PM 2.5	3.0	4.0
Total Emission Reductions: NOx	690.0	725.0
Total Emission Reductions: VOC	590.0	600.0
Total Emission Reductions: PM 10	0.02	0.03
Total Emission Reductions: CO	330.0	520.0

*Not applicable to the Central Indiana 9-County Airshed

The NHPP and NHFP performance measures apply only to Interstate and Non-Interstate NHS transportation facilities. The CMAQ performance measures apply only to CMAQ non-attainment areas. The IMPO supports regional system performance, freight, and congestion mitigation & air quality improvement in the following ways:

- The 2050 MTP supports these performance measures:
 - » through goals and objectives, including:
 - Goal 1: To Enhance Transportation Options and Choices for All Users.
 - Objective 1A: Improve regional connectivity of the roadway system.

- Goal 2: To Implement Strategies That Address Congested Segments.
 - Objective 2A: Develop mobility strategies that address system performance and congested transportation segments.
- Goal 5: To Ensure the Efficient Movement of Goods and Freight.
 - Objective 5A: Improve reliability, capacity, and competitiveness for regional freight.
- Goal 8: To Minimize Negative Impacts of The Transportation System on The Natural Environment.
 - Objective 8B: Support projects that improve air quality.
 - » by including a Congestion Management Process,
 - » by awarding points during project selection to capacity expansion projects that demonstrate a mitigation of choke points, reduce congested lane miles, reduce vehicle hours of delay, or improve a roadway on the identified regional freight network, and
 - » by incorporating by reference the Indiana state-wide trends and targets.
- The Regional Pedestrian Plan and Regional Bikeway Plan support these measures by prioritizing areas and projects of highest need to provide more options and use of non-motorized transportation options.
- The IMPO’s Complete Streets Policy requires projects receiving STBG or TAP funding through the IMPO to incorporate facilities for pedestrians and/or bicyclists to ensure the continued development of a non-motorized transportation system.
- The TIP makes significant investments in reducing congestion and improving air quality during each call for projects. The Congestion Mitigation and Air Quality (CMAQ) program is the second largest program during a call for projects. Funds can only be used on projects that improve air quality often by reducing congestion. Projects might include roundabouts that ease congestion, air quality outreach campaigns such as Knozone, or encouraging mode shift by funding bus purchases.

6. Transit Asset Management Measures

On July 26, 2016, FTA published the final Transit Asset Management (TAM) rule. This rule applies to all recipients and subrecipients of Federal transit funding that own, operate, or manage public transportation capital assets. The rule defines the term “state of good repair,” requires that public transportation providers develop and implement TAM plans, and establishes state of good repair standards and performance measures for four asset categories: equipment, rolling stock, infrastructure, and facilities. The rule became effective on October 1, 2018.

The FTA TAM Performance Measures include:

- **Equipment** – Percentage of non-revenue, support-service and maintenance vehicles that have met or exceeded their useful life benchmark
- **Rolling Stock** – Percentage of revenue vehicles within a particular asset class that have either met or exceeded their useful life benchmark
- **Infrastructure** – Percentage of track segments with performance restrictions
- **Facilities** – Percentage of facilities within an asset class rated below condition 3 on the TERM scale

The Indianapolis Public Transportation Corporation (aka IndyGo) coordinates the TAM for Central Indiana. The IMPO participated in the development of the TAM and supports the targets developed by IndyGo.

This performance measures applies only to transportation facilities operated and maintained by IndyGo and other transit providers. The IMPO supports transit asset management by:

- The TIP supports transit asset management through an allocation goal of approximately 12% toward transit during each call for projects. The IMPO has funded several significant bus purchases through the TIP including hybrid buses used on the IndyGo BRT network.

7. Transit Safety Performance

The Federal Transit Administration (FTA) published a final Public Transportation Agency Safety Plan (PTSAP) rule and related performance measures as authorized by Section 20021 of the Moving Ahead for Progress in the 21st Century Act (MAP- 21). The PTASP rule requires operators of public transportation systems that receive federal financial assistance under 49 U.S.C. Chapter 53 to develop and implement a PTASP based on a safety management systems approach. Development and implementation of PTSAPs is anticipated to help ensure that public transportation systems are safe nationwide.

The rule applies to all operators of public transportation that are a recipient or sub-recipient of FTA Urbanized Area Formula Grant Program funds under 49 U.S.C. Section 5307, or that operate a rail transit system that is subject to FTA's State Safety Oversight Program. The rule does not apply to certain modes of transit service that are subject to the safety jurisdiction of another Federal agency, including passenger ferry operations that are regulated by the United States Coast Guard, and commuter rail operations that are regulated by the Federal Railroad Administration.

The transit agency sets targets in the PTASP based on the safety performance measures established in the National Public Transportation Safety Plan (NPTSP). The required transit safety performance measures are:

- Total number of reportable fatalities.
- Rate of reportable fatalities per total vehicle revenue miles by mode.
- Total number of reportable injuries.
- Rate of reportable injuries per total vehicle revenue miles by mode.
- Total number of reportable safety events.
- Rate of reportable events per total vehicle revenue miles by mode.
- System reliability - Mean distance between major mechanical failures by mode.

The Indianapolis Public Transportation Corporation (aka IndyGo) develops the PTASP. The IMPO participated in the development of the PTASP and supports the targets developed by IndyGo.

This performance measures applies only to assets operated and maintained by IndyGo and other transit providers.



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