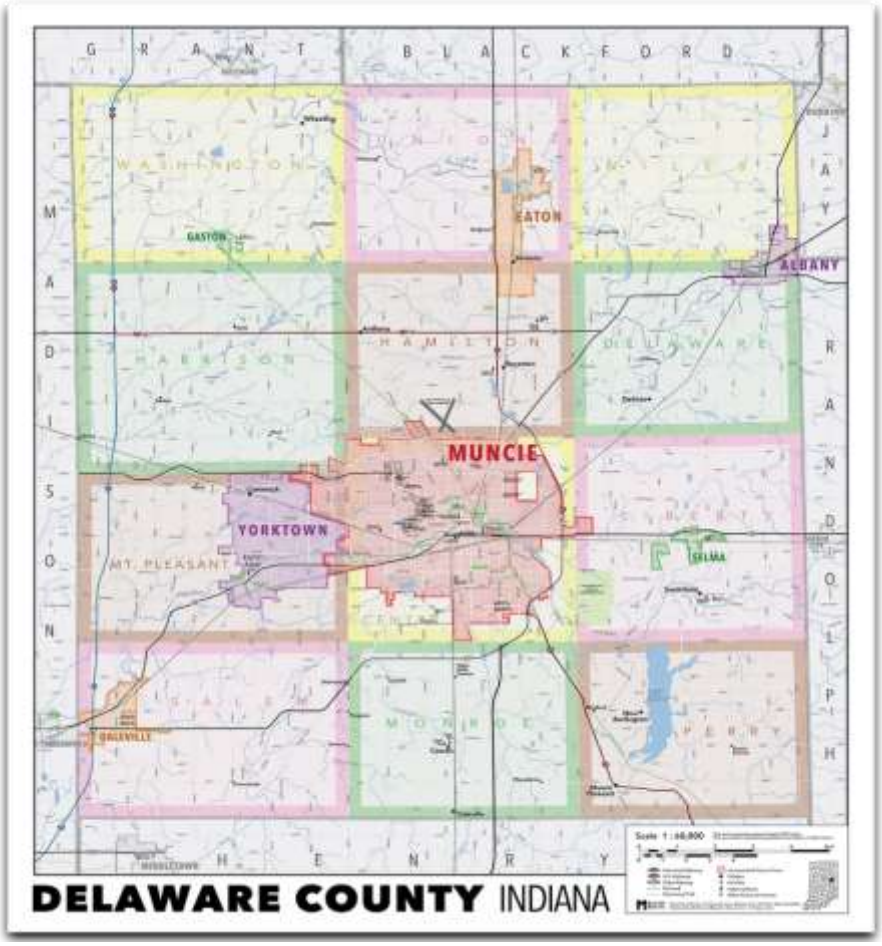
2023-2050 Delaware-Muncie Transportation Plan: *Moving Forward Together*



2023 Delaware-Muncie Metropolitan Plan Commission

PUBLICATION NOTICE

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WORK PROGRAM FULFILLMENT

The 2023-2050 Transportation Plan fulfills in part Work Element 400, Long-Range Planning/Management Systems, of the Delaware-Muncie Metropolitan Plan Commission's Fiscal Year 2023-2024 Unified Planning Work Program (UPWP). The purpose of Program Activity 400-02, Transportation Plans and Amendments, hereby fulfilled is to produce a Long-Range Transportation Plan for Delaware County, Indiana.

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Kylene Swackhamer, Principal Planner
MaryAnn Pope, Planning Technician
Cheryl McGairk, Transportation Planner
Hugh Smith, Consultant
Fred Daniel, Demographics & ZA Planner
Tom Fouch, Building Commissioner
Brandy Ingermann, Office Manager
Denelle Murrell, Secretary

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SPECIAL ACKNOWLEDGEMENT

Hugh Smith, DMMPC Consultant

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Kyle Johnson, Chief Information Officer, Logistics Section-HSEMA Del. Co.

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*represented by Kylene Swackhamer

Advisory Members:

Angie Moyer, Delaware Co. Engineer

Cheryl McGairk, DMMPC

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SECTION I

INTRODUCTION: MISSION AND GOALS

The Muncie Metropolitan Planning Area (MPA) is located in Delaware County, Indiana. The MPA includes the Urbanized Area of the City of Muncie, the Town of Yorktown, and Selma. The MPA also encompasses the smaller towns of Albany, Eaton, and Gaston. The MPA has a population of approximately 111,535 residents, and employs around 50,707 workers.

The Delaware-Muncie Metropolitan Plan Commission (DMMPC) is the designated Metropolitan Planning Organization (MPO) for Delaware County and responsible for providing transportation planning for the area in compliance with State and Federal regulations. The goal of the DMMPC is to provide continuing, cooperative, and comprehensive transportation planning.

Each MPO is required to develop a Metropolitan Transportation Plan (MTP). The Metropolitan Transportation Plan (MTP) is a 20-year strategic guide for transportation investments and maintaining the transportation systems within the planning area. It is a multi-modal plan, meaning it includes projects for highways, arterials, major collector roads, sidewalks, trails, buses, bicycle and pedestrian plans, and other public transportation. The document serves as a long-term vision to achieve desired performance outcomes and to guide investment strategies.

The *2023-2050 Delaware-Muncie Metropolitan Transportation Plan*: *Moving Forward Together* was prepared by the DMMPC and updates and replaces the *2018-2045 Delaware-Muncie Transportation Plan* developed in 2017, though many of the previous sections remain intact with minor updates. Delaware County was declared a Non-attainment Area for air quality on June 15, 2004; became a Maintenance Area in late 2005, and qualified as an Attainment Area in 2016.

LEGISLATION

The federal guidance toward this effort began with the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), extended by the Transportation Equity Act for the 21st Century in 1998 (TEA-21), was enhanced in 2005 by the Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), further enhanced by the Moving Ahead for Progress in the 21st Century Act in 2012, and continued/improved by the FAST Act in 2015. ISTEA expanded the role of MPOs, set up the transportation plan process, and encouraged the inclusion of transportation enhancement projects in transportation improvement programs. Tea-21 carried those efforts further and added environmental justice. SAFETEA-LU expanded the safety and equity aspects of transportation improvements while maintaining and expanding the previous efforts. MAP-21 combined some federal funds, while emphasizing safety, accelerated project delivery, and the use of performance measures as a tool to rate potential projects and analyze the effect of completed projects. Most recently, the Infrastructure Investment and Jobs Act or Bipartisan Infrastructure Law (BIL) was enacted in

November 2021 and provides the Nation's largest long-term investment in infrastructure in history utilizing performance-based planning.

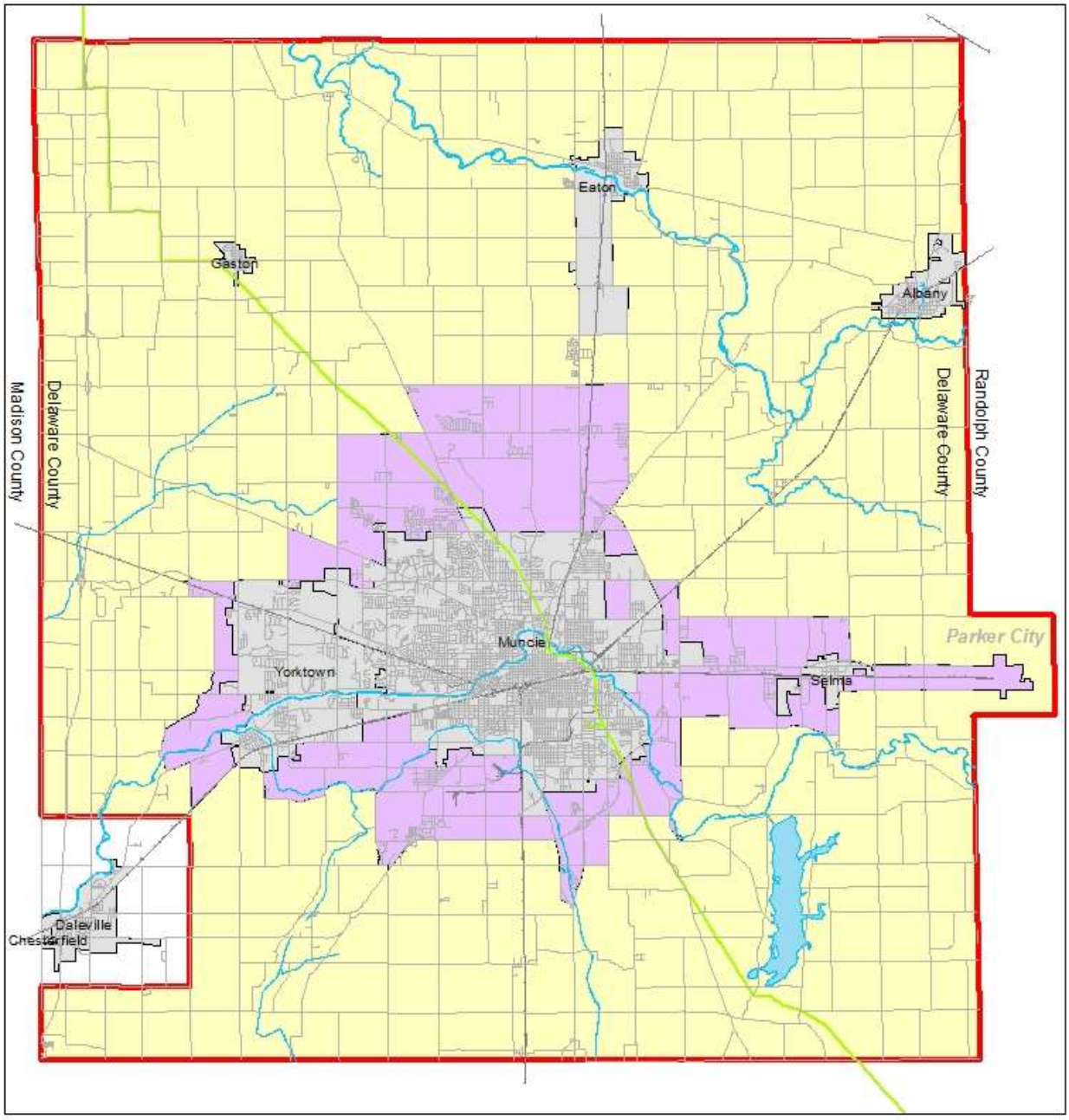
SAFETEA-LU set and MAP-21 and the FAST Act continued eight factors that must be considered in developing a transportation plan. The factors are:

1) Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2) Increase the safety of the transportation system for motorized and non-motorized users;
3) Increase the security of the transportation system for motorized and non-motorized users;
4) Increase the accessibility and mobility of people and freight;
5) Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
6) Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7) Promote efficient system management and operation; and
8) Emphasize the preservation of the existing transportation system.

These factors were utilized in the development of the *2023-2050 Delaware-Muncie Metropolitan Transportation Plan: Moving Forward Together*.

MISSION

The mission of the *2023-2050 Delaware-Muncie Metropolitan Transportation Plan: Moving Forward Together* is to guide the continuous development of a multi-modal transportation system that ensures safety and facilitates the efficient, effective and environmentally sound movement of people and goods. This document covers all federal aid transportation projects in the metropolitan planning area (MPA) and all air quality significant transportation projects within Delaware County. The Muncie MPA is shown in Figure 1 and covers approximately 386.6 square miles of Delaware County, Indiana. The Anderson MPA has the remaining 10.5 square miles of Delaware County in the Daleville Area.



Muncie Metropolitan Planning Area

- Streets
- Greenway Cardinal Trail
- Railways
- Water Bodies
- Corporate Boundaries
- Muncie Urbanized Area
- <all other values>
- Muncie MPA

0 2 4 8 Miles

N W E S

Figure 1
Muncie MPA

COVID-19 IMPACTS

Data gathered in the process of the development of the *2023-2050 Delaware-Muncie Metropolitan Transportation Plan: Moving Forward Together* was impacted by the effects of the COVID-19 pandemic including population, employment, and vehicle miles traveled, mostly due to business shutdowns, travel restrictions, and stay-at-home orders. Some of the unusual trends and declines can be attributed to the changes our communities underwent during this time.

GOALS AND OBJECTIVES

The previously established goals and objectives were scrutinized through the local transportation planning process involving elected officials, technical advisors, public and private transportation providers, and private citizens. This review resulted in the following:

Goals:

Provide a safe, well-maintained, functional multimodal transportation system that is compatible with projected growth.

Develop cost-effective, environmentally sound plans, programs, standards, and enforcement procedures for the maintenance and extension of public and private facilities that maximizes opportunities to create a healthy community environment for users of all abilities.

Promote the development of land, parking facilities, and effective movement of people and goods within the Central Business District (also known as Downtown), while improving the aesthetic character and environmental quality of downtown Muncie.

Promote the community's ability to improve the surface transportation system by means of an improved economic base resulting from orderly economic development encompassing all industries - housing, retail, manufacturing and tourism.

Objectives:

Assure a cost-effective transportation system.

Use the existing transportation facilities to their maximum efficiency.

Decrease transportation related fatalities, injuries, and crashes.

Reduce congestion and improve circulation, particularly for the City Center, University, and major activity areas.

Provide satisfactory access/connectivity from developed areas to the regional highway system.

Increase inter-modalism to promote energy and environmental conservation.

Improve accommodation of non-motorized travel and the elimination of conflict between modes of travel.

Improve and increase the role of transit services to improve overall transportation system efficiency.

Improve and promote pedestrian and bicycle facilities and circulation to create a bicycle and pedestrian friendly community.

Ensure that transportation planning efforts consider citizen needs for all modes of transportation and concerns for impacts of the transportation system on other elements such as neighborhoods and business.

AIR QUALITY CONFORMITY

Beginning with the 2005-2030 Transportation Plan, the document planning area was expanded to include all of Delaware County, Indiana as a result of being declared non-attainment in terms of meeting the Eight-Hour National Ambient Air Quality Standards for Ozone. All of Delaware County is classified as one "airshed" which includes a part of the Anderson Metropolitan Planning Area surrounding Daleville, and the Muncie Metropolitan Planning Area, excluding Randolph County.

The Delaware-Muncie Metropolitan Plan Commission was charged with additional transportation conformity planning activities covering the entire airshed in order to show that the Transportation Plans with projects in Delaware County were in compliance with the National Ambient Air Quality Standards (NAAQS). The Transportation Conformity rule established by the Clean Air Act (§176(c)) can be found at 40 CFR parts 51.390 and 93). Conformity is intended to ensure that federal funding and approval are given to transportation activities that are consistent with air quality goals. The transportation conformity requirements address air pollution from on-road mobile sources – emissions created by cars, trucks, motorcycles and transit. Transportation Conformity applies to the Metropolitan Transportation Plan, the Transportation Improvement Program (TIP), and all projects using federal transportation funds and regionally significant non-federal aid projects.

Delaware County was re-designated a Maintenance Area for air quality in late 2005 – indicating we attained the applicable air quality standards, however, Transportation Conformity continued to be a requirement in maintenance areas as well as non-attainment areas. A Mobile Source Emissions Budget was established for the Delaware County Air Quality Maintenance Area in 2007. That budget of 3.50 tons per day of volatile organic compounds (VOC) and 4.82 ton per day of nitrogen oxide (NOx) was a standard for Delaware County until 2013. Indiana, following an FHWA requirement to convert emissions analysis using the software MOVES, had each non-attainment and maintenance area update their budgets using MOVES. The new emissions budget of 2.53 tons per day of volatile organic compounds (VOC) and 7.02 tons per day of nitrogen oxide (NOx) became effective January 22, 2013.

The air quality standards were made stricter in 2016 and Delaware County became an

Attainment Area by having been within the new standard when it was approved. A federal court case reversed that action and Delaware County is an Air Quality Maintenance Area as of February 16, 2019.

SECTION II

FAST ACT & PERFORMANCE MEASURES

The current transportation policy, Fixing America's Surface Transportation Act (FAST) Act, was signed into law on December 4, 2015. The FAST Act, along with its predecessor, Moving Ahead for Progress in the 21st Century Act (MAP-21), established new requirements for performance management to ensure the most efficient investment of Federal transportation funds. States will invest resources in projects to achieve individual targets that collectively will make progress toward the national goals.

National performance goals for Federal Highway programs:

Safety – to achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

Infrastructure condition – To maintain the highway infrastructure asset system in a state of good repair.

Congestion reduction – To achieve a significant reduction in congestion on the National Highway System (NHS).

System reliability – To improve the efficiency of the surface transportation system.

Freight movement and economic vitality – To improve the National Highway Freight Network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.

Environmental sustainability – To enhance the performance of the transportation system while protecting and enhancing the natural environment.

Reduced project delivery delays – To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

The Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) issued new transportation planning rules on the statewide and metropolitan transportation planning processes to reflect the use of a performance based approach to decision-making in support of the national goals. These processes must document in writing how the Metropolitan Planning Organizations (MPOs), Indiana Department of Transportation (INDOT) and providers of public transportation shall jointly agree to cooperatively develop and share information related to transportation performance data, the selection of performance targets, the reporting of performance to be used in tracking progress toward attainment of critical outcomes for the region of the MPO (see 23 CFR 450.306(d)) and the collection of data for the INDOT asset management plan for the National Highway System specified in 23 CFR 450.314(h).

The Indiana Department of Transportation set 2023 Targets for the national performance measures and the Delaware Muncie Metropolitan Plan Commission (DMMPC), as the Muncie MPO, concurred with those targets and agreed to program projects that support the targets as follows:

Safety: 2023 Number of Fatalities – 894.2
2023 Rate of Fatalities per 100 million miles traveled – 1.088
2023 Number of Suspected Serious Injuries – 3,348.1
2023 Rate of Serious Injuries per 100 million miles traveled – 4.068
2023 Number of Non-Motorized Fatalities and Serious Injuries – 399.6

Asset Management: 2024 Percent of Interstate pavements in Good condition – 60.0 %
2024 Percent of Interstate pavements in Poor condition – 1.0 %
2024 Percent of non-Interstate NHS pavements in Good condition – 50.0 %
2024 Percent of non-Interstate NHS pavements in Poor condition – 1.5 %
2026 Percent of Interstate pavements in Good condition – 84.24%
2026 Percent of Interstate pavements in Poor condition – 0.80%
2026 Percent of non-Interstate NHS pavements in Good condition – 78.71%
2026 Percent of non-Interstate NHS pavements in Poor condition – 3.10%

Bridge: 2024 Percent of NHS bridges by deck area classified in Good condition 49.0 %
2024 Percent of NHS bridges by deck area classified in Poor condition – 3.0 %
2026 Percent of NHS bridges by deck area classified in Good condition – 47.5 %
2026 Percent of NHS bridges by deck area classified in Poor condition – 3.0 %

Travel Time Reliability: 2024 Percent of person miles reliable on Interstate – 93.0%
2026 Percent of person miles reliable on Interstate – 93.5%
2024 Percent of person miles reliable on non-Interstate – 93.0%
2026 Percent of person miles reliable on non-Interstate – 93.5%
2024 Truck travel time reliability index – 1.32
2026 Truck travel time reliability index – 1.30

On-Road Mobile Emissions Reductions:
2024 Volatile organic compounds reduction of 590 kilograms per day
2024 Carbon Monoxide reduction of 330 kilograms per day
2024 Oxides of nitrogen reduction of 690 kilograms per day
2024 Particulate matter less than 2.5 microns reduction of 3.4 kilograms per day
2024 Particulate matter less than 10 microns reduction of 0.02 kilograms per day
2026 Volatile organic compounds reduction of 600 kilograms per day
2026 Carbon Monoxide reduction of 520 kilograms per day
2026 Oxides of nitrogen reduction of 725 kilograms per day
2026 Particulate matter less than 2.5 microns reduction of 4.0 kilograms per day
2026 Particulate matter less than 10 microns reduction of 0.03 kilograms per day

Supporting Projects:
Safety is a significant factor in the federal design standards for all road improvements. All of our road projects are expected to improve safety and support the Safety targets. The intersection improvement projects, including roundabouts, should help support Travel Time Reliability targets and Emissions Reduction targets. Preventative Maintenance projects such as HMA overlays or road reconstruction will

support safety and Asset Management targets. Projects involving trails or sidewalks should help support Emissions Reduction targets and the Non-Motorist Safety target. The County's bridge projects also include safety within their designs and should support the Safety as well as Bridge targets.

Transit

FTA has performance measures for Transit Asset Management, and the final regulations are published and in effect.

The Muncie Indiana Transit System (MITS), the only urban transit operator in MPO's Planning Area, has established targets for various performance measures to track service conditions. The targets for required performance measures include:

25% of fixed route vehicles that have met or exceeded their minimum normal service life of 12 years,

10% of fixed route vehicles that have met or exceeded their useful life benchmark of 14 years,

25% of paratransit vehicles that have met or exceeded their minimum normal service life of 6 years,

10% of paratransit vehicles that have met or exceeded their useful life benefit of 8 years,

100% of rubber-tired vintage trolley buses that have met or exceeded their useful life benchmark of 14 years (these vehicles are used for promotional purposes & backup),

75% of non-revenue service vehicles that have met or exceeded their minimum normal service life of 6 years,

25% of non-revenue service vehicles that have met or exceeded their useful life benefit of 8 years,

3 or above rating for support facilities on the FTA Transit Economics Requirements Model (TERM). This currently includes the Administration and Operating Headquarters and the J.B. Black, Jr. Meeting & Training Facility.

3 or above rating for passenger facilities on the FTA TERM. This currently is composed of the T.J. Ault, III MITS Station.

Note: All other performance targets and scoring are listed in the current MITS's Transit Asset Management Plan (FY 2023-2027), Amended January 2023.

Supporting Projects:

Muncie Indiana Transit System (MITS) Operating Assistance (federal/state) will help support the Emissions Reduction target by helping to reduce vehicle travel. MITS also uses soy-diesel and propane fuels, hybrid vehicles, and engine technologies to further reduce their vehicle emissions. The purchases of replacement buses and replacement paratransit vehicles will help support the Transit Vehicle Useful Life targets. The purchase of maintenance vehicles will help support Emissions Reduction targets by keeping the transit vehicles in better condition and reduce the potential for engine and particulate matter

emissions. The replacement of other staff vehicles will help support Emissions Reduction targets by having newer engines and by helping with planning for operations that are more efficient. The roof replacement project helped support the Support Facilities Rating target. MITS continues to upgrade and maintain passenger facilities, whether or not that effort includes the use of federal funded projects.

SECTION III

Demographics and Transportation Plan Planning Assumptions

The original planning assumption for the 2018-2045 Metropolitan Transportation Plan were developed for population, household units and population, employment, congestion, land-use, vehicles, and economic activity. The assumptions were based on several sources including: U.S. Bureau of the Census for 2010, Indiana Department of Workforce Development, Indiana Business Research Center, the State of Indiana Bureau of Motor Vehicles, and the 2015-2017 American Community Survey data. The revised planning assumptions are based on information gathered from the 2020 Census redistricting block statistics, 2010-2020 U.S. Census, the American Community Survey, Muncie Indiana Transit System, Delaware County Building Commissioners Office, *Together DM Our Choices for a Stronger Delaware-Muncie Comprehensive Plan for the Delaware-Muncie Region* January 2022, The Star Press, Delaware County Plan Commission, Town of Yorktown, IN.gov, Data Axle, STATS Indiana, and Indiana Department of Transportation (INDOT).

The planning assumptions primarily involve socioeconomic estimates of population, housing units, vehicle ownership, modes of travel to work, transit ridership, and employment. Along with the socioeconomic variables, existing and projected land uses are also important inputs to the transportation planning process due to the close relationship between land use and travel demands. The *Together DM Our Choices for a Stronger Delaware-Muncie Comprehensive Plan for the Delaware-Muncie Region* January 2022 provides information on current land uses and the region's priorities and desired outcomes. The Comprehensive Plan is utilized to identify where future economic activity and housing is likely to occur. The location of housing and employment is one of the critical pieces of demographic information used for transportation planning purposes. The 2020 and 2021 data is determined to be the best available data due to uncertainty of how the COVID Pandemic impacted normal employment levels due to business shutdown and temporary closures in 2020 and 2021.

Current Socioeconomic Data

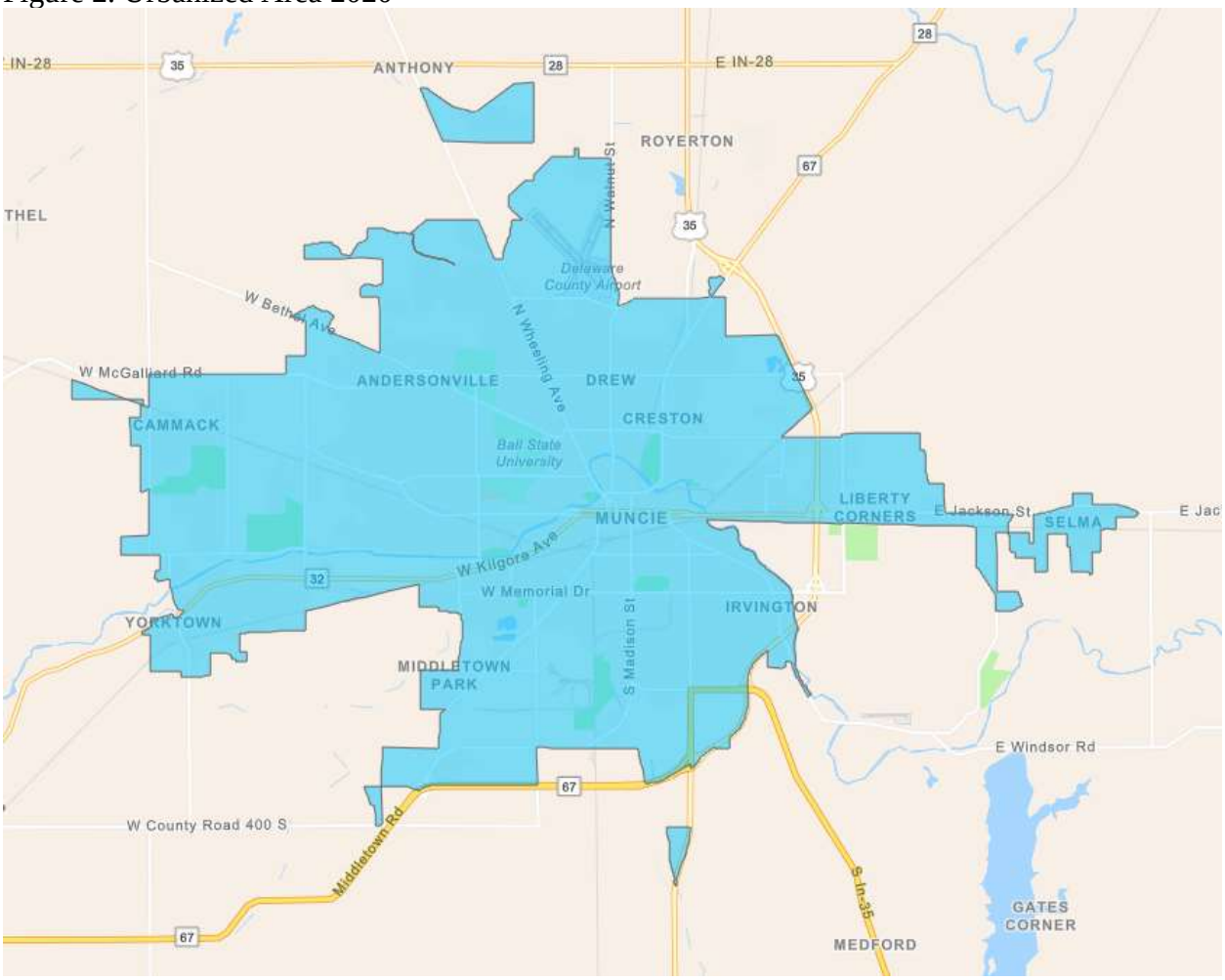
Data from 2020 and 2021 were used to establish base year information for this transportation plan update. The 2020 Census and the 2021 American Community Survey were used to obtain population, housing, and employment data. This information is useful in assessing current statistics, monitoring recent trends, and projecting future socioeconomic conditions.

The 2020 Census information provides the most comprehensive and accurate population and housing data available. Data for both Delaware Count and the City of Muncie can be obtained from the Census Tract and Census Block statistics. The MPA is primarily within the geographical area of Delaware County and is mainly influenced by the development activity in Muncie, Yorktown, Selma, Albany, Eaton, Gaston within Delaware County. Delaware County

includes 99.999% of the MPA, and the remaining .001% covers Parker City, which is in Randolph County.

The 2020 Census information indicated that the Muncie urbanized area no longer included Parker City east of the boundary of Delaware County. Since Parker City is no longer considered as urban, it is forecasted that Parker City may be removed from the Metropolitan Planning Area for the next boundary adjustment in 2024. Most of the planning assumptions are based on the possibility of Parker City not being included in the MPA area in the future.

Figure 2. Urbanized Area 2020



*U.S. Census Bureau Statistics 2020 Urbanized Area Map

The Bureau of the Census has projected future, almost static, growth for Delaware County at 0.05% per year. This would project an increase from 111,909 in 2020 to 112,031 by 2022. This reflects an opinion that Delaware County has or will soon hit bottom and slowly grow. We have created our planning assumptions partially based on this projection.

Table 1. Metropolitan Planning Area Data

	Delaware County	Parker City	Daleville	Total MPA
2020 Population	111,903	1,283	1,651	111,535
2020 Housing Units	51,464	605	768	51,301
2021 Employment	50,864	507	664	50,707

In addition to the socioeconomic data, general planning guidelines are developed based upon current and historical trends to assist with projected socioeconomic conditions for the horizon year. Planning assumptions were utilized in estimating the socioeconomic conditions for all previously developed Transportation Plans. Similar assumptions have been developed to predict how the metropolitan area will change based on the predicted data and trends. Our planning assumptions are as follows:

Population

The population base figures for base year 2020 were derived from 2020 Census redistricting block statistics estimates for Delaware County. The 2020 Census marked the fifth straight time that Delaware County's population declined from the previous census. The population of Delaware County decreased from 117,671 in 2010 to 111,903 in 2020. This represents a decrease of 4.9% over a 10-year period, with an average annual decrease of .49%.

Our planning assumption is that our population will remain static with the possibility of a small increase. While there has been slow decline in the north and east of the county, there has been growth in the southwest. Our planning assumption is based on this continuing growth and projections of the Bureau of the Census, new employment opportunities, and new housing options.

Ball State University is an 800-acre community-engaged institution in Muncie and has always had effects on the population, housing, travel, and employment in Delaware County. A portion of their mission statement is they "enhance the economic, environmental, and social vitality of our community", and Muncie and Delaware County benefit from that. Ball State University's on-campus enrollment decreased from 16,825 in 2017 to 13,962 in 2021 with an overall enrollment decrease of 22,513 in 2017 to 20,409 in 2021. It is also our area's largest employer.
Our planning assumptions are based on an expected return to on-campus learning after COVID's restrictions, increase in facility and campus job opportunities, and a draw for more economic development.

Ball State University's upcoming approved Biennium 2023-2025 North Campus Building Renovation will invest $81.6M into the vibrancy, cultural amenities, retail opportunities, and overall attraction to the area.

*	Ball State University Renovations 2023-2025	Cost
Site #1	District Anchor Performing Arts Center • A catalytic anchor that provides the needed launching pad for a new mixed-use district. Best-In-Class Hotel • A select-service hotel with 95-115 guest rooms. Thematic Restaurant • Arts inspired dining experience complete with performance, art installations, and cultural amenities.	$95-$100 million
Site #2	Retail/Restaurant Tenants • A thoughtfully curated mix of retail and restaurant tenants merchandised in coordination with existing merchants. Apartments • Contemporary, sophisticated urban apartments geared to faculty/staff at Ball State University, as well as hospital staff and other professionals who engage the BSU community.	$30-$35 million
Site #3	Innovation Space • Office/research/retail spaces customized to specific end-users. At appropriate time, engage with research/innovation/health stakeholders at BSU and IU Health needing space adjacent to campus. Eat Mall Connection • Site #3 is adjacent to the new BSU gateway into the East Mall and future development will engage this important connection.	$15-$16 million
Site #4	Central Hub • Located in the heart of The Village, Site #4 will initially serve as an information center during the planning and development phase. Activity Center and Event Plaza • Ultimately, Site #4 will transition into a major gathering place and event plaza and will serve as a primary outdoor event space for future programming and special events.	$2-$5 million
Site #5	For-Sale Housing • Creating a variety of new options through a partnership with homebuilders Apartments • A new rental complex targeting married students, graduate students, BSU faculty/staff, medical students, and IU Health professionals. Lower density than Site #2 For-Sale Townhomes/Condos • Introducing owner-occupied housing in The Village to build a new market base. Expanding greenspace opportunities.	$15-$18 million

*Provided by James Lowe, Associate Vice President for Facilities Planning and Management

Housing Units and Households

The primary source for the base year housing unit data for the Metropolitan Planning Area was 2020 census redistricting block information. Housing units in Delaware County decreased from 52,357 in 2010 to 51,637 in 2020. This represents a decrease of 1.4% over a 10-year period, with an average annual decrease of .14%.

Our planning assumption is that our housing units will remain static with the possibility of a small increase as new housing units are developed or replace abandoned units, with continuing increase in the southwest (Salem and Mt Pleasant Townships). The unincorporated area of Delaware County issued 22 demolition permits and 39 building permits in 2020.

Households in Delaware County decreased from 46,933 in 2010 to 45,977 in 2020. This represents a decrease of 2.04% over a 10-year period, with an average annual decrease of .20%. Population per housing unit was at an average of 2.38 in 2010 and 2.27 in 2021.
Our planning assumption is that our households will remain static with the possibility of a small increase due to new housing. New or currently under construction major residential developments include Emerald Pointe (12 single family homes, 52 townhomes, 26 garden apartments, 2 senior apartment buildings with 40 to 50 apartments total), Pineview at Riverside, 5K Estates, and Copperwood Commons. Our planning assumption is based on the addition of new housing options in growing areas.

Transit Ridership

Muncie Indiana Transit System (MITS), the single transit provider in the Muncie Urbanized Area, maintains ridership information. The annual ridership overall has trended down from 2017 to 2021. The current data from 2022 and data YTD 2023 shows that ridership has been recovering and increasing in the past year and a half.

Annual MITS ridership decreased from 1,433,005 in 2017 to 747,389 in 2021. This represents a decrease of 47.84% over a 4-year period, with an average annual decrease of 11.96%.
Our planning assumption is that our transit ridership will remain static with the possibility of a small increase due to the recently recovering ridership numbers after the effects of COVID. Our planning assumption is based on the most recent ridership statistics from MITS from the past year and a half.

Table 2. MITS Ridership Annual Totals 2017-2022

	Annual MITS Transit Ridership	Percent Change
2017	1,433,005	-
2018	1,391,524	-2.9%
2019	1,408,230	1.2%
2020	808,086	-42.6%
2021	747,389	-7.5%
2022	838,293	12.2%

Employment

The primary sources of employment are the U.S. Census and the American Community Survey. The total number of jobs in Delaware County had been on a steady decline since 2010, with the loss highly concentrated within the City of Muncie.

The employment data was stratified by North American Industry Classification System (NAICS) Codes. Based on these codes, employment was grouped into four major categories: industrial service, retail, and office. Industrial employment includes construction, manufacturing, warehousing, and wholesale trades. The service category employment includes education, administration, accommodations, eating and drinking establishments, and arts and entertainment. The retail category includes food, bakery, and dairy stores; general merchandise retailing, motor vehicle retailing, service stations and repair services, and other retail trades. The office category employment includes finance, real estate, health care, and public administration.

The overall employment of those age 16 and over in Delaware County decreased from 54,399 in 2017 to 49,893 in 2021. This represents a decrease of 8.28% over a 4-year period, with an average annual decrease of 2.07%. Our planning assumption is that our employment will remain static with the possibility of a small increase. In 2020, Delaware County has had the following major business developments started or completed: Greg Hubler Hyundai, Greg Hubler Ford, White River Lofts, Accutech Systems Headquarters, VA Medical Clinic relocation and expansion, Bethel Pointe Expansion, Valvoline Oil Change Shop, Rosebud Coffee Ship, Clearwater Car Wash, Indiana American Water's new Water Treatment Plant, Munsee Meats expansion, McGalliard Square Shopping Center expansion, and the demolition of Red Carpet Inn Site (for future development). Canpack built a 750,000 square foot factory in 2023, which will employ around 345 people when fully operational and an estimated economic impact of 33 million dollars. Our planning assumption is based on a return to the workforce and new employment opportunities

Table 3. Employment Data Delaware County

Delaware County	Employed age 16 and over
2017	54,399
2018	54,230
2019	51,668
2020	52,839
2021	49,893

Table 4. Top 10 Largest Employers Delaware County

Employer	# of employees
Ball State University	3,379
IU Health Ball Hospital	2,613
Muncie Community Schools	650
Navient	633
First Merchants Corp	551
Meridian Health Services	550
MPT Muncie/Magna Powertrain	535
Youth Opportunity Center	516
Progress Rail	500
City of Muncie	465

Travel, Modes, Congestion, and Vehicle Ownership

Vehicle ownership information for the metropolitan area was derived from 2020 Census and the 2021 American Community Survey data. The average vehicle ownership in 2020 was 2. The American Community Survey data provides information on the mode of transportation used by workers over the age of 16 to commute to their jobs. The daily vehicle miles traveled has gradually decreased from above 4,000,000 miles in 2002 to 3,493,000 in 2020. The mean travel time to work for those traveling remained consistent within a minute.

Our planning assumption is that travel will remain static. Our planning assumption is based on statistics of employment, work commutes, and a bounce back increase of travel after COVID.

Table 5. Vehicle Ownership Delaware County

Vehicle Ownership	2010	2020
0	7.1%	7.7%
1	34.2%	32.4%
2	36.5%	38.5%
3 or more	22.2%	19.8%

Table 6. 2017-2021 Weekday Vehicle Miles of Travel (VMT) Delaware County

	Weekday Vehicle Miles of Travel (VMT)	Percent Change
2017	3,494,000	
2018	3,491,000	- .001%
2019	3,452,000	- .01%
2020	3,192,000	- .08%
2021	3,534,000	.11%

Shifts between modes of travel were subtle between 2017 and 2021 showing a slight increase in drive alone work commute coupled with a slight increase in carpooling. During this same period other modes including public transit, waling, and other all decreased.

Our planning assumption is that the modes of travel will remain consistent with a slight increase in public transit Our planning assumption is based on recent trends.

Table 7. Mode of Travel to Work Delaware County 2017-2021

Mode of Travel to Work	2017	2021
Drive Alone	76.8%	77.3%
Carpool	8.5%	9.7%
Public Transit	2.2%	1.1%
Walk	4.4%	2.7%
Other	2.1%	1.7%
Worked from home	5.9%	7.5%
Mean Travel Time (minutes)	20.1	20.7

DEMOGRAPHICS: SOCIOECONOMICS AND GROWTH TRENDS

As emphasized by the ISTEA, TEA-21, SAFETEA-LU, MAP-21, and FAST acts, there is an undeniable interrelationship among and between transportation, land use, demographics and socioeconomic factors. Policies, decisions and actions undertaken within one arena will affect the others. With a strong economy, existing businesses will expand and new business will locate in an area (after consideration of feasibility factors such as capacity of transportation facilities, utilities, labor force, etc.). This, in turn, provides new employment opportunities and these new employees will create a demand for housing and other urban amenities and services. Increased amenities (social, recreational, environmental) and services (roads, transit, utilities) increase the attractiveness of an area and its potential for obtaining more new business; and the cycle continues.

Indiana has grown from a population of 5,193,669 in 1970 to 6,785,528 in 2020 according to Bureau of the Census figures and estimates. That is a slow growth rate of about 0.5 percent per year over 50 years resulting in a 31 percent increase. East Central Indiana, Delaware County and the surrounding counties, reached their peak in 1970 when Delaware County had 129,219 residents. East Central Indiana's population has been shrinking gradually for 50 years and Delaware County's 2020 population was counted at 111,909 by the Census Bureau. That translates into a 13 percent decline or a loss of 0.3 percent in population per year. The 2022 Delaware County population was estimated at 112,031 with a 0.05% slow growth increase per year.

While Delaware County was dealing with Air Quality Conformity analyses, our population projections were for slow growth in a pattern mirroring Indiana's growth. Instead of growth, a long-term trend of slow decline has caused the Census Bureau and Stats Indiana to project a continued, but slower population decline for our long-term future. Past traffic projections were based on slow growth projected traffic growth that simply didn't happen. Traffic volumes have remained fairly static and unemployment has decreased without a significant increase in jobs, which is further evidence that Delaware County and the surrounding counties are shrinking in activity.

HISTORY

A very brief history of growth and development of the Delaware-Muncie area begins with the first permanent settlement in 1820 of a trading post amidst the Munsee Indian territory. Munseytown became the county seat in 1827 (over Granville and Smithfield, both on like waterways). Muncie was incorporated in 1854 and became a city in 1865. It became an Indiana second-class city in 1921.

Waterways and wagon paths were supplemented with railroads (8 lines laid between 1901 and 1948) and public roads. Enhanced connections between cities and towns were developed through a system of county roads, turnpikes and, eventually, a state highway system. The final connectors came with the completion of I-69 and the expansion of Johnson Field into the Delaware County airport, which ties the Delaware-Muncie area into a nationwide arena and a global economy.

Muncie was transformed from an agricultural trading center into an industrial community (glass, rubber, metals) with the discovery of natural gas in 1886. Depletion of the gas supply was followed by a growing automobile industry. The glass industry, via the Ball family, fostered a small community college, Normal City, which grew into Ball State Teachers College (with a 1944 enrollment of 1,346) and became Ball State University in 1965 with enrollment steadily increasing until the mid-1990's to a range of some 19,000 students. That enrollment rose and fell near that level for about fifteen years, peaked at about 21,000 students, returned to the 19,000 level, and grew to the current peak of over 22,000 students.

Industry in the Muncie area declined into the 1980s, recovered some in the next few decades, but declined further and required fewer workers due to automation and less industry. The Health-Care and Service sectors provided increased jobs that helped offset the industry job losses. The result of this is that the local economy has become static and the local communities have needed to improve quality-of-life factors to help keep the current population and make the area attractive for when growth might spill over into our region.

TRAFFIC MODEL FORECASTS

The Delaware County traffic modeling forecasts were based on slow growth in the past. Because the Bureau of the Census and Stats Indiana have projected continued decline in Delaware County due to a long-range trend of declining factors, the future traffic models will reflect that slow shrinkage. The Forecast Control figures on below reflect that change.

Table 1: Summary of Forecast Control Totals

Sources: (a) Indiana Department of Workforce Development for labor force and "wage and salary" employment; U.S. Bureau of the Census for 2010 population and housing; and Indiana Business Research Center for median household income and motor vehicle registration with the State of Indiana Bureau of Motor Vehicles.

SECTION IV

BASE TRANSPORTATION SYSTEM

Existing Major Roadway Facilities:

The major roadway facilities that serve Delaware County include an interstate, a national highway and various state highways. Interstate 69, located in the far western portion of the county, is the most significant roadway serving the area. US 35 provides an eastern bypass around the city of Muncie. The bypass continues around the south side of Muncie as SR 67.

The interstate, national and state highways are part of the National Truck Network which are highways built to accommodate large truck travel. Some of the highways in Delaware County are also part of the National Highway System, which is a system of 160,000 miles of roadway important to the nation's economy, defense and mobility. Functional classifications are given to roadways throughout the nation to evaluate statewide significance relative to levels of passenger or freight operations (see Figure 3 for Delaware County functional classifications). Indiana has developed a simplified corridor classification scheme for statewide planning purposes. This hierarchy has three levels: Statewide Mobility Corridors, Regional Corridors and Local Access Corridors (see Figure 4 for Indiana corridor hierarchy). I-69 and SR 67 from I-69 to SR 3 are considered Statewide Mobility Corridors. US 35, SR 3, SR 28, SR 32, and SR 67 are considered Regional Corridors. All other roadways are considered Local Access Corridors.

Interstate 69. Interstate 69 runs south-north from the Madison County Line to the Grant County Line. It is classified as a Rural Interstate, excluding a segment between the SR 67 and SR 32 interchanges in Daleville, where it is classified as an Urban Interstate. I-69 connects Delaware County to other metropolitan areas in Indiana and the national market and is part of the National Highway System.

United States Highway 35. US 35 begins at the Henry County Line in southeastern Delaware County and travels north to 29th Street in Muncie, where it connects to SR 67/SR 3 and becomes the Muncie Bypass. US 35 travels around the east side of Muncie and north along SR 3 to SR 28. It then runs along the alignment of SR 28 west to I-69. US 35 lacks directional continuity through the county. US 35 is classified as a Rural Minor Arterial from the Henry County Line to Fuson Road, an Urban Principal Arterial south and north of the Bypass to SR 28, an Urban Freeway/Expressway on the Bypass, and a Rural Principal Arterial as it runs concurrently with SR 28.

State Road 32. SR 32 runs west-east from the Madison County Line to the Randolph County Line. It begins at the Madison County Line east of Daleville and travels through Daleville northeast to Yorktown. From Yorktown, it travels east through central Muncie and Selma. SR 32 exits the county east of Selma at the Randolph County Line. From the Madison County Line to Tillotson Ave, SR 32 is classified as an Urban Principal Arterial; however, it is classified as a Rural Minor Arterial for a two-mile segment between Daleville and Yorktown. It is classified as an Urban Minor Arterial from Tillotson Avenue to US 35 through Muncie. From County Road 700 East to the Randolph County Line, SR 32 is classified as a Urban Principal Arterial. SR 32 provides continuous access throughout the county.

State Road 332. SR 332 runs west-east from Interstate 69 to Tillotson Avenue where the state route terminates. It continues eastward as McGalliard Road to the Muncie Bypass. It is

classified as a Rural Major Collector from I-69 to County Road 700 West, a Rural Minor Arterial from there to County Road 500W and as an Urban Principal Arterial from County Road 500 West to Tillotson Avenue.

SR 3, SR 28, SR 67, SR 167. These highways serve Delaware County, connecting rural areas to the Muncie Urbanized Area. SR 3, SR 28 and SR 67 are classified as Rural Principal and Minor Arterials. SR 3 is also classified as an Urban Freeway/Expressway at the Muncie Bypass and is part of the National Highway System from the Henry County Line to its intersection with SR 67. SR 28 is also classified as a Rural Major Collector through Albany. SR 67 is classified as an Urban Principal Arterial around Daleville and as an Urban Freeway/Expressway when it ties into the Muncie Bypass. SR 67 is also on the National Highway System from I-69 to its intersection with SR 3. SR 167 is classified as a Rural Major Collector northward from Albany.

The Base Roadway Network:
The road network in the Delaware-Muncie area provides, for the most part, efficient and convenient traffic movement. The state highway system provides the major routes crossing Delaware County. The Muncie Bypass allows traffic on the state highways to avoid the delays from city traffic and yet provide easy access to the major streets serving Muncie. The Muncie street system is on a grid crossed by diagonal minor arterials that provide quick access toward the downtown or across town. The major rural roads efficiently connect various small communities with each other, the state highway system and Muncie.

The Muncie street network is organized in a grid system of four major arterials with 4-5 lanes each connected to quarter-mile collector streets by minor arterials that rotate outward on straight and diagonal directions, creating a wagon wheel effect. The major arterials providing easy access to each side of the city are: McGalliard Road (north), Memorial Drive (south), Madison/Broadway Avenue (east), and Tillotson Avenue (west). The minor arterials branching off in various directions are: Walnut, Jackson, Elm/Granville, Burlington, Hoyt, Kilgore, and Bethel. Other minor arterials such as Riggin, Centennial, Willard, Eighteenth, Batavia/Nichols, Cowan and Morrison help complete a normal grid pattern.

Muncie's downtown network was set up in a system of one-way streets to better handle the high volume of traffic projected in the past for growing activity downtown. State Road 32 separates onto Main and Jackson Streets through the downtown, carrying major east-west traffic movements on a pair of two-lane one-way streets. Washington, Adams, and Charles are local one-way streets designed to provide east-west capacity to supplement State Road 32. Walnut Street separates into a one-way 3-lane loop through the Central Business District (CBD) using High, Gilbert, Mulberry, and Seymour Streets. The local one-way streets supplementing the downtown loop's north-south capacity are: Franklin, Jefferson and Elm Streets.

The Indiana Department of Transportation (INDOT) maintains annual estimates of daily vehicle miles traveled (VMT) by motorized vehicles on public roads by county. The Historic VMT summary prepared by INDOT indicates that VMT within Delaware County and the surrounding counties have not grown during the past decade. The estimated daily VMT for Delaware County was 4,472,000 miles in 2006; 3,657,000 miles in 2010; and 3,192,000 miles in 2020. The INDOT VMT estimates vary up and down each year, but show a slight decline for Delaware County in a long-term pattern. The same pattern has been true for Henry, Madison, Grant, Blackford and Randolph Counties. The Bureau of the Census figures of estimated population for Delaware County indicate a gradual 0.05% increase in population per

year. The 2020 estimated daily VMT was low due to the effects of Covid19, so the 2019 and 2021 daily VMTs were used to calculate a base 2020 daily VMT of 3,493,000 miles and a 0.1% growth rate to project these daily VMTs: 3,510,500 miles in 2025, 3,528,100 miles in 2030, 3,563,500 miles in 2040 and 3,599,300 in 2050.

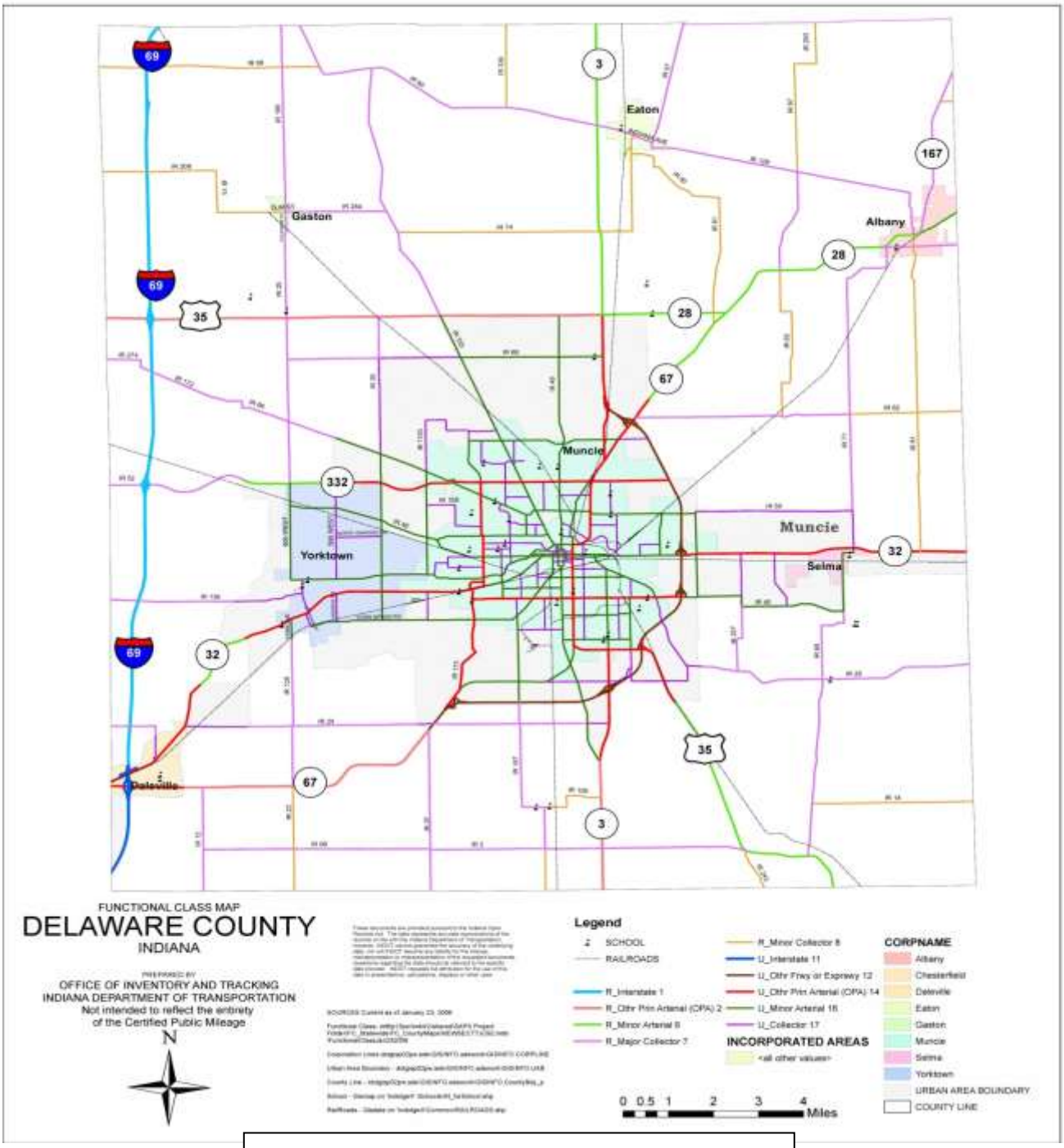


Figure 3: Functional Class System

The lack of north-south arterial streets in northwestern Muncie is a problem for handling future traffic due to growth there. Tillotson Avenue has approached capacity as the main north-south traffic route and there have been no parallel streets where overflow traffic would be acceptable. Some collector streets may need to be upgraded and connections made to create acceptable minor arterial routes to supplement the capacity of Tillotson Avenue. Added to the problem is the fact that McKinley Avenue, as a street through Ball State University, is not on an appropriate path for an arterial handling through traffic. Most urban Indiana street networks accessing universities are designed to carry traffic along the edge of the university to limit car/pedestrian conflicts. Reconstruction, signal modifications and improvements to the street network at the perimeter of the University are expected to provide alternative solutions. The slight decline from 2000 to 2010 has given us time to construct a roundabout at the Morrison/Jackson intersection and upgrade Morrison Road to enhance the area's traffic flow and safety. Similar upgrades were planned for Nebo Road and a roundabout was constructed for Nebo at Jackson.

The major one-way streets for State Road 32 and the downtown loop have performed well in carrying a majority of the north-south and east-west traffic through the downtown. However, the extra capacity from other one-way streets supplementing the major downtown traffic movements was not needed and the street characteristics tend to interfere with the neighborhoods' sense of community. The one-way streets acted as short-cut routes where pedestrians were at risk from fast traffic and night-time noise was a problem.

Committee discussions on downtown revitalization indicated a desire to return the supplemental one-way streets to two-way traffic with on-street parking. This street configuration creates a higher normal level of traffic conflict and causes the drivers to be more cautious. When the drivers slow for traffic conflicts they have time to notice pedestrian movements. The idea was to make a street safer by increasing the level of risks that a driver perceives. This concept is an accepted traffic calming method and succeeds due to the oddities of human nature. Various local streets that were one-way have been converted to two-way traffic. An added benefit to two-way traffic has been the ease in accessing a location directly by motorized vehicle instead of maneuvering on a circuitous one-way path.

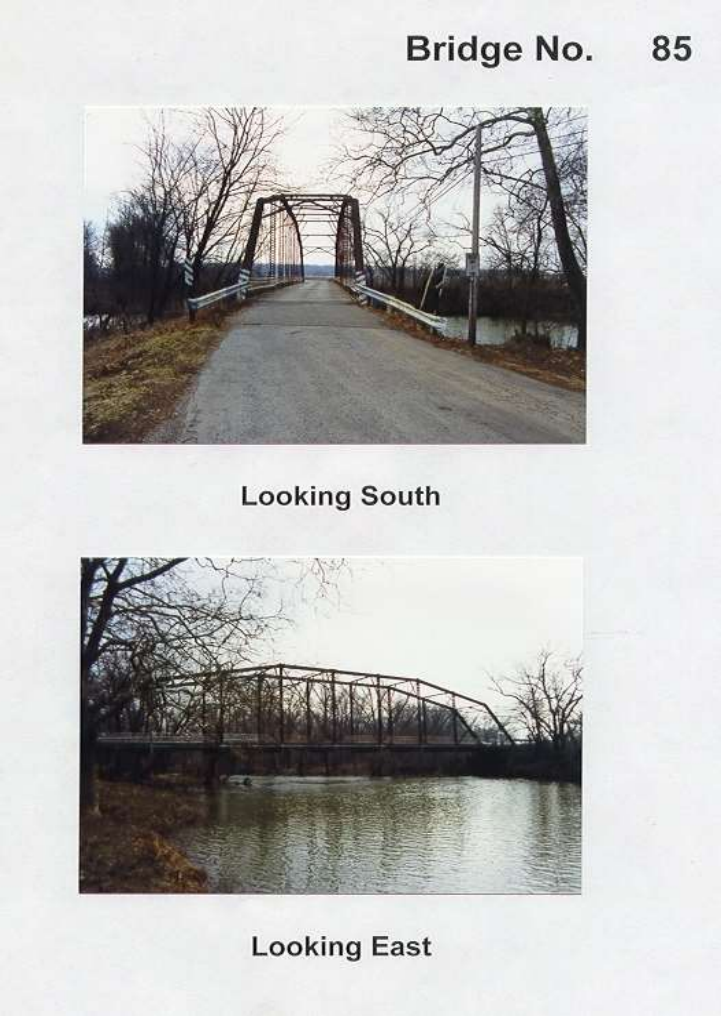
The downtown loop was considered potentially dangerous due to some drivers speeding with a three-lane configuration. That configuration was converted from three to two lanes and enhanced with on-street parking and a bike lane to help calm traffic and provide better mobility for bicycle traffic. Bike lanes were also added to Walnut Street in the Downtown.

Walnut Plaza was rebuilt as a city street with an attractive sidewalk and landscaping in 1999-2000 and a rotary at the southern end of the downtown loop in 2007. Walnut Street in the Plaza Area was reconstructed in recent years, made more ADA accessible, and converted to two-way traffic, while keeping on-street parking. The on-street parking and available public parking appear to have helped restaurants and night-spots starting business in Walnut Plaza. In conjunction with transportation improvements, the success that has been achieved in revitalizing downtown Muncie has been done through a comprehensive approach facilitated by the Downtown Development Partnership – a not-for-profit public/private partnership – that has included factors such as façade renovations, event planning, business retention and expansion,

and aesthetics. The addition of Canan Commons, a public park at the south end of the plaza, has helped bring the public downtown.

Bridges*:*

The local roadway system has 190 waterway bridges and one railroad overpass structure. The provision of these bridge structures are required due to the White River, the Mississinewa River, and their tributaries as well as the rail lines previously described. The waterways create topographic features which greatly influence the surface transportation system and traffic flow. The White River, Buck Creek and Kilbuck Creek require the provision and maintenance of sixty bridge structures in the urbanized area. There are about 130 more bridges in the rural areas of Delaware County.



The Delaware County Bridge Inspection Report, compiled biennially, provides comprehensive information on the various characteristics, function and condition of the bridges in the local jurisdiction. The report also suggests maintenance, repair and replacement improvements suggested for the bridges within five years. Future bridge inspection reports will give consideration to the upgrading of some bridges to allow more rural roads to handle heavy vehicles carrying grain to market.


White River & Major Tributaries

It should be noted that Delaware County has 8 historic metal bridges remaining on its roadway network – a ninth bridge #131 was by-passed and left in place during a federally funded bridge reconstruction project. This by-passing greatly increased project costs on this low volume roadway. Most of these structures were manufactured by the Muncie-Delaware County based Indiana Bridge Company, which moved here in 1886 and became nationally prominent under the engineering guidance of John R. Marsh and the management of Charles M. Kimbrough. With this unique history, retention of the structures is seen as important, however, in balancing that desire with the Comprehensive Plan's emphasis on economic development and preservation of the farming industry, relocation of some may be the most desirable end result. Such

relocations will be a continuing consideration as the county-wide bicycle and pedestrian improvements are constructed – with many of our trails and paths following waterways, there will be a need for bridge crossings to create connections.

Historic Bridge #85 has been relocated from south of Albany to the White River north of State Road 32 near Bunch Boulevard as part of the Kitselman Project connecting the Cardinal Greenway and White River Greenway bicycle/pedestrian trails using new trail paths and a trailhead with a park area. The project also involves revitalizing a brownfield ex-factory area and relocating Bunch Boulevard to intersect with State Road 32 further east where sight-distance will be better.

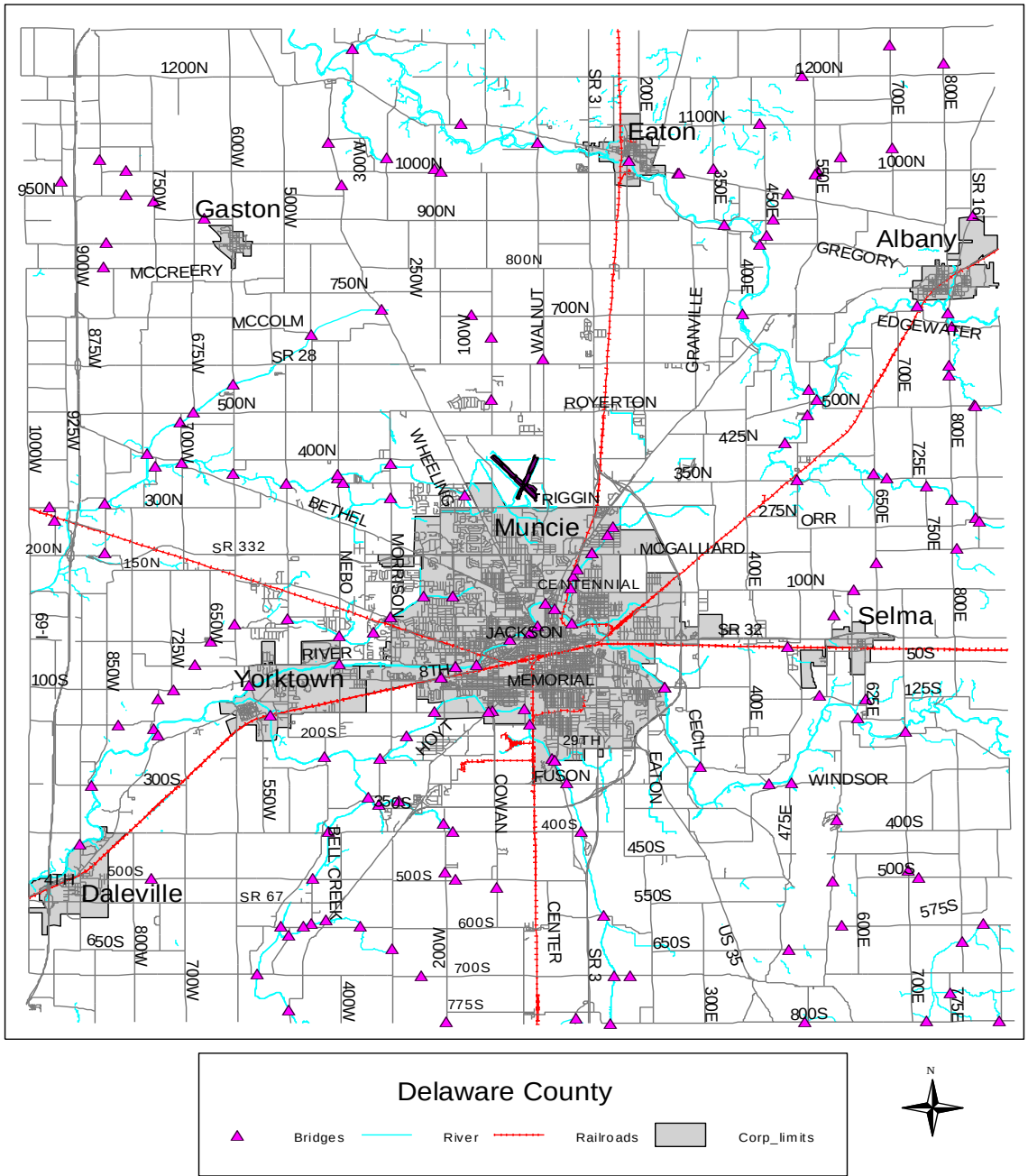


Figure 4: Delaware County Bridges

It should also be noted that Delaware County maintains numerous culverts that allow surface drainage through the local road system. The difference between a bridge and a culvert is that a bridge is at least twenty feet in length.

Railroads:

Railroads are a vital part of the American transportation system as the primary long-distance freight transportation mode. In 1991, railroads carried 37 percent of intercity freight. The railroad share of long-haul transportation is even higher: railroads accounted for 46 percent of traffic over 500 miles in 1990. Railroads carry a wide range of key commodities and manufactured goods. One important role is as a carrier of bulk commodities. Railroads carry 60 percent of U.S. coal shipment, 68 percent of pulp and paper, 53 percent of lumber and 45 percent of food products. Railroads also play a major role as transporters of manufactured goods. More than 67 percent of new cars and 55 percent of household appliances are moved by rail. And increasingly, those goods are being moved intermodally.

U.S. freight railroads used approximately 3 billion gallons of diesel fuel in 1993, accounting for 2 percent of total U.S. petroleum fuels consumed for transportation. Passenger trains accounted for less than 0.1 percent. Railroads can move a typical ton of freight more than 279 miles on just one gallon of diesel fuel. Transportation by rail benefits air quality through low emissions and reduction of highway congestion. Vehicles stalled in traffic emit up to 250 percent more pollutants than free-flowing traffic. One doublestack intermodal freight train carries the equivalent of 280 truck loads. Since 1908, railroads have increased their fuel efficiency by 52 percent and further improvements will occur in the coming years. Additionally, the improved efficiency of new generation locomotives allows three locomotives to do a job that 10 years ago required four. The average highway is three times as wide as a railroad right-of-way, but carries much less traffic. In carrying capacity, two railroad tracks are equivalent to 16 lanes of highway. Railroads are the safe way to move freight. Railroads have cut derailments and train accidents by more than 50 percent since 1981, and almost 30 percent in the last 10 years. Additionally, the rail record in moving hazardous materials is especially impressive. Railroads carry more than 1 million carloads of hazardous materials annually and 99.99 percent reach their destinations safely without an unintended release of the product as a result of an accident.

The rail network, comprised of four major routes intersecting in Muncie, provides the area with the means of heavy freight movement on a national network. The CSX Railroad has an east-west route that follows State Road 32. The Norfolk Southern Railway has a local east-west multi-county route through Muncie, and two major north-south routes through Indiana that merge in Muncie and connect southeast with Cincinnati, Ohio.

Two national rail systems maintain routes through Delaware County which intersect in Muncie, Indiana. The CSX Railroad had the heaviest rail traffic on its east-west route it obtained when the Conrail Transportation Company was split up in 1988. The number of trains decreased 30 percent in the past five years, but the trains have become longer. This route carries seventeen (17) trains per day and more than twenty million gross tons of freight per mile. The Norfolk Southern Railway carries the remaining rail traffic. Its northern route through Royerton carries twenty-seven (27) trains per day and the southern route carries twenty-nine (29) trains per day.

The Norfolk Southern Railway western route through Cammack carries six (6) trains per day, including trains from a north-south route through Alexandria and Central Indiana. An eastern Norfolk Southern rail route through Albany, Indiana averages only one (1) train per day according to the Federal Railroad Administration (FRA

Figure 5. Train Traffic & Trucking Sites

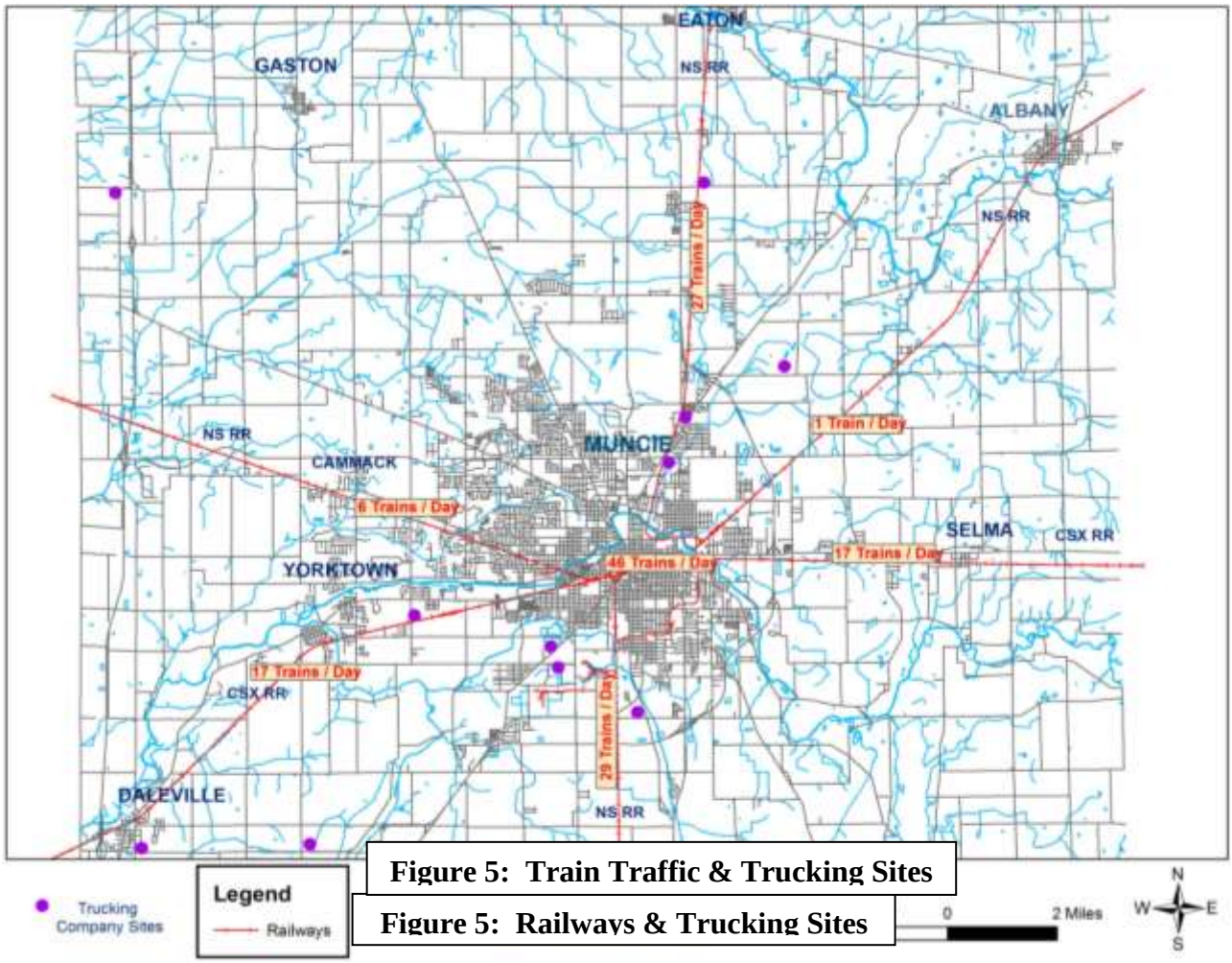


Figure 5: Train Traffic & Trucking Sites

Figure 5: Railways & Trucking Sites

Muncie & Western, a local railroad with a small amount of side tracks near Memorial Drive and Macedonia Avenue was dissolved and abandoned around 1995. The Norfolk Southern Railway has side tracks reaching into industrial areas south of 18th Street in Muncie and in the Industrial Centre south of Muncie. The CSX Railroad has a side track that heads south from the downtown parallel to the Cardinal Greenway Trail. This side track exists, but does not appear ready for rail traffic.

One rail overpass and five rail underpasses in Muncie and three overpasses on Muncie Bypass help to reduce rail/street traffic conflicts and improve traffic movement. The Dr. Martin Luther King Boulevard overpass (Tillotson Extension) allows traffic to avoid the CSX Railroad in western Muncie. The Downtown has two underpasses that bypass both major railroads using Jackson Street to the east and Madison Street to the south. Three railroad underpasses along the north side of the White River allow traffic on McCulloch Boulevard and Bunch Boulevard to

avoid the Norfolk Southern Railway just north of the downtown. Muncie Bypass has overpasses over the CSX Railroad and over the Norfolk Southern Railway's northern and eastern routes, but has a rail crossing with its busy southern rail route. That rail crossing 0.75 miles east of Cowan Road needs to be replaced with an overpass when it can fit in the INSTIP. State Road 332 has an overpass over the Norfolk Southern Railway's western route and Interstate 69 has overpasses over both major railroads in western Delaware County.

A study was completed for a possible relocation of the northern Norfolk Southern Railway route to follow the Bypass and come in from the east with its route from Albany. Federal discretionary funds were spent this study. The northern rail route was used to access an industrial area in northeast Muncie a few decades ago. The industrial uses that needed rail access have gone and there is a strong conflict between traffic near Muncie Mall and the rail traffic on the northern route. A project for the rail route relocation would require significant federal funds and enough benefit to the Norfolk Southern Railway for the company to pursue it.

Muncie used federal discretionary funds toward a study of rail crossings in the downtown. The old Roberts Hotel and the Horizon Convention Center had cited instances in which they lost business due to noise from train whistles in the downtown. The rail crossing study inventoried the existing crossing protection devices and considered possible safety upgrades that would allow Muncie to pursue a Train Horn Quiet Zone through the downtown area. The timing of improvements needed for a special downtown hotel and hospitality training facility resulted in a public-private partnership that funded rail crossing improvements that allowed Muncie to pursue a Train Whistle Quiet Zone. No federal funds were used toward the construction because of the time required for the oversight process involved with such funds. The City of Muncie enacted legislation to create the quiet zone after the FRA accepted that the proper safety analysis and safety improvements had been completed.

There are freight stations and switching operations for the two major rail systems within Muncie. The CSX Railroad has a combined freight station/switching operation on High Street south of the Central Business District (CBD). The Norfolk Southern Railway's principal terminal is southwest of the CBD with additional freight and warehouse facilities between the CBD and Kilgore Avenue. A switching terminal on Gavin Street in northeastern Muncie connects the northern rail route with the rest of the Norfolk Southern rail network. This terminal would be relocated near Muncie Bypass if the northern rail route were relocated to connect there.

Freight Intermodal is the movement of highway trailers and containers by rail and at least one other mode such as truck or steamship. Intermodal service has inherent advantages: it combines the door-to-door convenience of trucks with the high volume, long-haul economies of railroads. Railroads first reported intermodal loadings as a separate category of traffic in 1955. In that year, intermodal, then known as "piggyback", accounted for less than one-half of one percent of all rail car loadings. Today, intermodal is the fastest-growing segment of the rail industry, and is second only to coal as a source of business. In 1993, railroads moved more than 7 million trailers and trailers.

One important issue for the rail industry is the status of "intermodal connectors". Intermodal connectors are the roads in general. The Norfolk Southern Railway runs intermodal traffic through Ft Wayne and Muncie, streets, and highways that connect rail terminals to the

main highway system. Without investment in high-quality intermodal connectors, intermodal service will be unable to fulfill its potential for shifting from highways to railroads. Improvement in such roads and/or locating intermodal facilities near major highways would benefit railroads, the trucking industry, and the public. Relocating the switching terminal from Gavin Street to near Muncie Bypass and adding truck freight facilities would allow for intermodal service there. This possibility is tied to future plans to relocate the northern Norfolk Southern Railway route to follow the Muncie Bypass and could be a benefit of that effort.

Trucking*:*

Twenty-one companies that truck freight or materials have facilities in Delaware County. Five companies are major freight trucking firms and a majority of the rest are local trucking concerns. Materials hauled other than common goods include petroleum products; sand, gravel and concrete; grain; etc. The Industrial Centre, south of Muncie, has two freight trucking companies and two mail transport facilities. Daleville has two freight trucking companies on State Road 67 near Interstate 69. One freight trucking company is located on State Road 28 near Interstate 69. Six local trucking concerns are located in Muncie and the rest of the trucking businesses are located near the state highway system throughout the county.

Elements of the Trucking Industry

Freight planning starts with the development of a good economic profile of the industries in the region; an understanding of which industries generate freight; and a sense of how those industries and the economic structure of a region are likely to change over time. Detailed long-range economic forecasts are not necessary for most state and metropolitan freight projects, but a basic understanding of the economy and current trends is mandatory.

Economic Structure - The economic structure of a state or metropolitan area - that is the types of business and industry in an area and the number and type of jobs and households they support - is the key determinant of the type and volume of freight and goods that will move through a region.

Industry Logistics Patterns - The logistics strategies of business and industry - very generally, the decisions about where to buy goods and where to sell them determine freight flows.

Infrastructure - The freight system infrastructure includes highways, rail lines, freight terminals, warehouses, and airports - the physical facilities over which goods and commodities flow.

Traffic Flows - The economic structure of a region, the logistics strategies of its industries, and the available infrastructure determine the flow of trucks, rail cars, and planes.

Institutional Arrangements - The final element of the freight transportation system is its institutional structure - the pattern of ownership, regulation, and pricing that shapes logistics strategies, determines who uses freight transportation facilities, and controls the flow of vehicles.

At this time, most state DOT's and MPO's lack sufficient truck trip data to model the comparative costs of different truck freight networks and investment levels. A quick assessment

can be made by evaluating a sample of truck trips against alternative networks and performance standards: Do the networks provide comparable coverage of major businesses and industries? Are there significant differences in access, circuitry, reliability, cost, and safety?

Some local industries may have logistics models that will analyze shipping costs and indicate potential benefits. The state DOT's and MPO's can arrange to review network plans with motor carrier and economic advisory councils, industry associations, and local development groups.

Currently there are only a few trucking firms available locally for each type of commodity transported. The variety of trucking based out of Delaware County reflects a variety of commodity types and transport needs. The transportation options are limited for an efficient cost-effective movement of goods. The options for the goods mobility can be enhanced through intermodal connectivity. Delaware County has lost a few long-haul trucking firms that restructured and centralized operations with terminals closer to Indianapolis.

As mentioned, exact figures on the amount of trucks included in average daily traffic (ADT) counts are not readily available. Most of the local data on truck volumes come from turning movement counts, but a more comprehensive set of data will be available after the Plan Commission Office updates its traffic count equipment to counters that will collect that data with better ease and accuracy. Current count data indicates that trucks make up about 2% of the ADT, but some highway facilities carry a higher portion of trucks due to travel patterns and road designs that better accommodate heavy trucks. Special attention is needed so that the arterial streets selected for truck routes are maintained with the proper channelization, ingress/egress accesses and pavement strength to accommodate heavy trucks.

Delaware County Regional Airport*:*

The Delaware County Regional Airport opened in 1932 and is categorized as a general aviation facility by the National Plan of Integrated Airport Systems. It is located three miles northwest of the center of the City of Muncie. The airport covers 963 acres, has an average of 100 aircraft operations per day, and is the base for 32 single, multi, and jet engine aircrafts. It's mission is "To be the airport of choice for East Central Indiana communities working in tandem with regional businesses to develop economic growth while fostering aviation technology through partnerships with regional educational resources".

Airport improvement projects are funded primarily with Federal Aviation Administration (FAA) and Indiana Department of Transportation (INDOT) – Aviation Division assistance and grant programs. The Delaware County Regional Airport proposed developments are categorized into Phase I (0-5 Years), Phase II (6-10 Years), and Phase III (11-20 Years).

In 2023, the Indianapolis based company Rapid Flight Training (RFT) announced a partnership with the Delaware County Regional Airport to open their first physical flight school and flight training facility at the location. This program will offer a fast track pilot certification, which could attract flight students from all over. Three years into the program, RFT plans to have 10 aircrafts and 20 instructors. They hope to help renovate and reopen the airport restaurant and spur additional travel and business to the area.

Phase I (0-5 Years)	Phase II (6-10 Years)	Phase III (11-20 Years)
• Runway 2-20 Rehab. & Lighting • Rehab. Taxiway B Lighting • Airport Land Use Study • FBO-Tract I, Acquire Parcels in Fee • Airport Drainage Study • Rehab. Terminal Roof • FBO-Tract 2, Acquire Parcels in Fee • Reimburse ATCT Voice Recorder • Self-Service Fuel Farm • Snow Removal Vehicle with Plow • Wildlife & Security Fence • Repair Terminal Apron • Construct T-Hangers (5) • Runway 2 Approach Upgrades • Runway 20 Approach Upgrades • Runway 14-32 Rehab. Lighting • Parallel Taxiway "C" • GA Apron Relocate • Airport Administration Relocation • Maintenance Building Expansion • Standby Engine Generator • Terminal Upgrades • Construct Executive Hangar • Road Signage Improv. • FBO-Tract 3 Acquire Parcels in Fee • FBO-Tract 4, Acquire Parcels in Fee • Runway 14-32 Rehab. • Reimburse Parcel 49C • Rehab./Expand Terminal Parking Lot Access Drive • East Development Area • South Development Area	• Parallel Taxiway "D" & Lighting • Terminal Expansion • Parallel Taxiway "C" Lighting • Reconstruct Taxiway "B" to Runway 2 End • Runway 14 Approach Upgrades • West Development Area • Cardinal Greenway • Construct Executive Hangar • Construct T-Hangars (5) • Potential FBO Development	• Expand GA Apron • Taxiway "B" Widening at GA Apron • Strengthen Taxiway "B" • Strengthen Taxiway "A" • Runway 14-32 and Parallel Taxiway "A" Extension • Runway 14-32 Extension, Relocate Localizer • Intersection at Walnut & Riggin Rd Improvements • North Development Area • Construct Executive Hangar • Construct T-Hangar (4)

The Delaware County Airport, also known as Johnson Field, is located in Hamilton Township, 3+ miles north of the center of the City of Muncie, just outside the city limits at the northwest corner of Walnut Street and Riggin Road.

Construction for the airport began in March, 1932, and was completed six months later on September 11, 1932. The airport facility has grown over the years with the last significant improvements occurring in the 1980's through funding grants from the Federal Aviation Administration (FAA) and the Aeronautics Commission of Indiana.

The airport has an "X" shaped runway configuration. The runways have an asphalt surface with dimensions of 6500 by 150 feet for runway 14/32 and 5000 by 100 feet for runway 2/20. There are various repair, service, storage and support airport facilities plus a restaurant on-site.

The airport facilities include a Federal Aviation Administration control tower under part-time operation (as opposed to 24-hour). The elevation is 937 feet above sea level and the longest runway is usable for its full length of 6500 feet. The airport location identifier is "MIE". The airport is an FSS (Flight Service Station) facility up to a certain frequency where the controlling FSS, Terre Haute, would provide service. There is lighting for the airport from sunset to sunrise.

Public Transit:
Muncie Public Transit System (MITS)

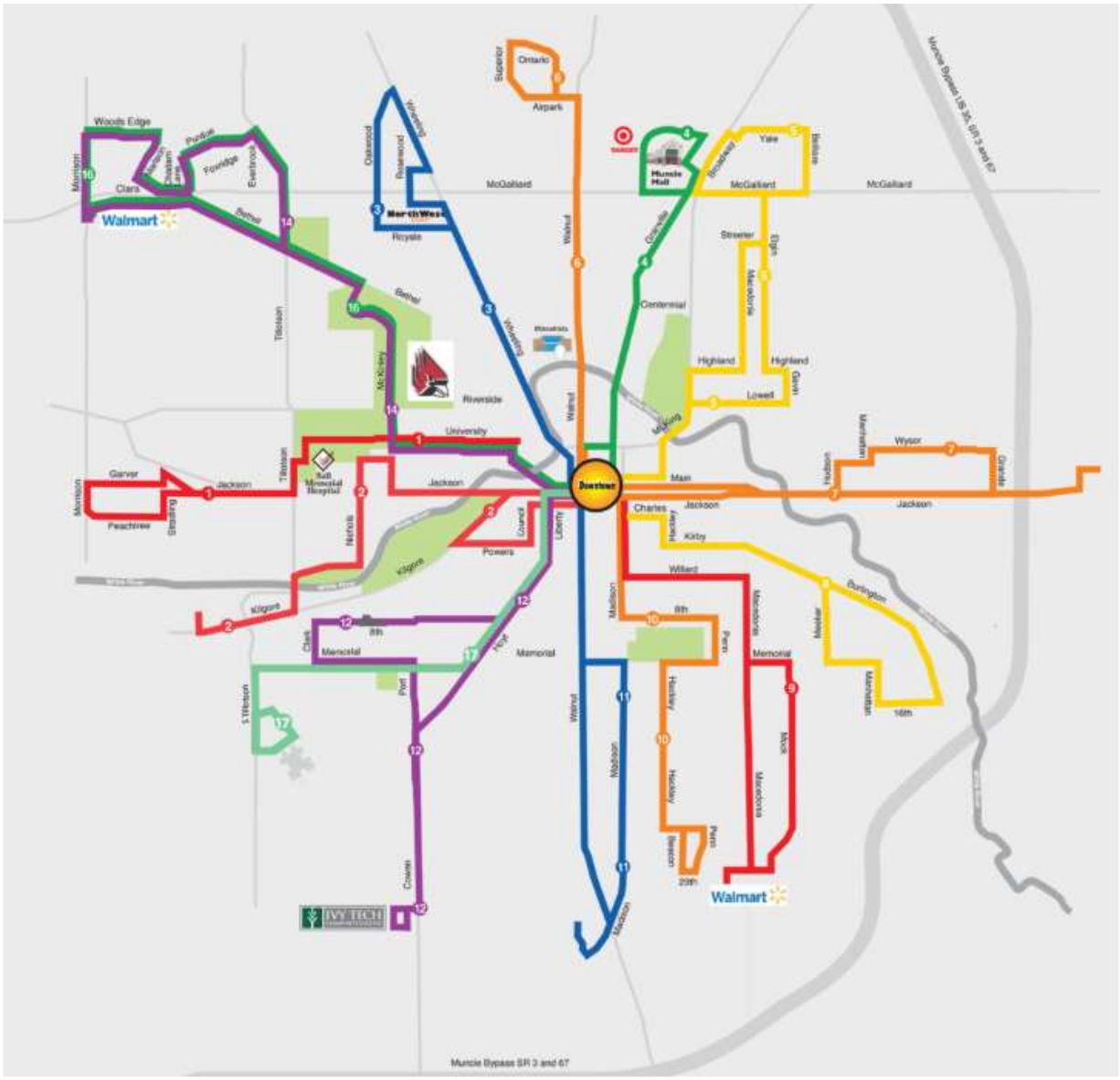
The Muncie Public Transportation Corporation (MPTC), created in 1981, is the governing board for the Muncie Indiana Transit System (MITS), which has provided Muncie with public transit services since 1981. Muncie City Lines, a private company, provided the transit service for over 40 years prior to 1981 using subsidies from the City of Muncie to keep the operation financially solvent. MITS is a non-profit public entity that has a local city tax draw and receives state and federal funds to subsidize its operating costs. The MPTC owns seven 40 foot, twenty-six 35 foot, and three contingency heavy-duty buses for fixed routes and owns 13 in-service and two contingency transit vans for the MITS Plus demand responsive service and 3 trolley buses for transit purposes in Muncie, Indiana.

The MPTC contracts with First Transit, Inc. of Cincinnati to provide the management for MITS. First Transit was ATE in 1981 when the MPTC first contracted with them for management services. The current personnel under contract with First Transit to manage MITS are often from the local area, but First Transit sometimes brings in people with the necessary level of expertise from other transit systems.

Muncie, Indiana has a population of 65,292 people according to the 2020 Census. The MITS fixed route system provides service that accesses most of Muncie. The transit service hours for MITS, including MITS Plus, are 6:15 am to 6:45 pm Monday through Friday and 8:15 am to 6:15 pm on Saturday. The number of MITS Plus vans in use at different hours of the day vary by the number of trip requests, but trips are available at any time within the service hours previously listed. Trip requests by ADA-certified riders of MITS Plus may be made up to 14 days prior to the trip and next day trip requests are accepted. Same day trips (at a $2 fare) may be requested Monday through Saturday, depending on the availability of empty service slots.

MITS Plus service complies with ADA in allowing trips for a companion/personal care attendant and for ADA-certified riders from other transit systems.

Figure 6. Muncie Indiana Transit System (MITS) Bus Routes



Fare Structure. The MITS base fares are 50-cents for a fixed route (bus) trip and one dollar for a demand responsive trip (MITS Plus). MITS requires all MITS Plus riders to be ADA certified. The fixed route (bus) fare for elderly and disabled riders is 25 cents. A transfer to a second bus to complete a trip is free. Children under age 5 ride free with a paying adult and students ride free. A one-day fixed route (bus) pass is $1.00 (50 cents for elderly and disabled riders). MITS offers a 30-day bus pass. The transit vehicles are equipped with fareboxes that process passes and sell single fares and one-day passes.

Physical Facilities. MITS has an excellent administrative and maintenance facility that was constructed in 1986. The T. J. Ault Transfer Station, completed in 1987, is an excellent facility with amenities for both passengers and drivers. MITS expanded its Garage/Administration facility by building an annex on the other side of Blaine Street and placing its training room, meeting room, and van storage area there in 2004. An exercise room was added in 2005 to act as a fitness center for MITS employees.

Marketing Policies. The public transit marketing program was almost non-existent prior to 1981, but it has gradually developed into a dynamic program that represents MITS well. The marketing program has brought new ridership to the fixed route service in recent years, tapping the Ball State University (BSU) student trip needs and Muncie shopping trip needs as sources for service expansion. MITS has worked with the local school systems, the public library, BSU, local government, and various public groups in promoting the use of public transit in Muncie.

MITS maintains a website to keep the public current on transit services offered, special events supported by transit service, and transit detours resulting from local street projects. Trip planning software is available on the MITS website to give potential passengers specific directions on how to access and use MITS bus routes for a specific trip. The trip planner allows someone unfamiliar with MITS to make a transit trip, including transfers, in the shortest time possible to arrive at a specific destination by a desired time. This new electronic service gives potential riders the confidence that they can easily use transit to meet their travel needs within a reasonable travel time.

Financial Condition. MITS is in excellent financial condition due to sound fiscal management, an excellent maintenance program, good personnel policies, a good local tax base, and state and federal operating subsidies. The passenger fares for MITS are among the lowest in the nation. The fares were raised in 1993 to maintain significant fare revenue while keeping fares affordable. The fare structure was adjusted in 1999 to simplify it for electronic fare-boxes that can issue one-day pass tickets as well as process fares. The annual increase in the local tax rate for MITS has been kept low.

*MITS has an FY 2023-2027 Transit Asset Management Plan that we incorporate in its entirety as part of the Transportation. The Transit Asset Management Plan outlines the transit projects planned for FY 2023 through 2027 and specifies the Transit Performance targets.

New InterUrban Public Transit Service

LifeStream Services (previously known as Area 6 Council on Aging) maintained a demand responsive service for the elderly and disabled in Delaware County outside of Muncie since 1994. MITS provided the rural service from 1981 until 1991, when federal regulations forced them to give it up to the private sector. From 1991 into 1994 Family Services of Jay County provided the service naming it “Golden Age” and operating in a multi-county area. LifeStream Services operated rural transit service in various counties, but with separate efforts in each county. Lifestream Services, using input from the public and service agencies, developed plans in 2001 for a multi-county rural transit service. The “New Interurban” started fixed route service in addition to existing demand responsive service in Jay and Randolph Counties in 2002. It expanded into Delaware County in 2004 and Blackford County in 2005. The New InterUrban

dropped its service to Delaware County residents on July 1, 2013 due to a lack of local government financial support toward it. LifeStream Services still provides transit trips for seniors in Delaware County. New Interurban has been well planned and locally supported by local government in Jay, Blackford, and Randolph counties and is a good example for how rural transit can thrive in Indiana. It is possible that rural transit will be provided to the general rural population in Delaware County in the future when the economy improves and priorities change.

FTA funds are available under FTA Section 5310 for capital purchases toward the provision of public transit service to the elderly and persons with disabilities, who otherwise would be without such services. The non-profit agencies that have applied for FTA Section 5310 (previously 16B2) funds within the past decade are: LifeStream Services, Hillcroft Services, and Comprehensive Mental Health Services (CMHS).

Public Transit Coordination

LifeStream Services hosts a Transit Transportation Advisory Committee meeting quarterly (since March, 1994) to discuss public transit and service coordination issues involving non-profit agencies in a multi-county area (Blackford, Jay, Randolph, Delaware, Henry, and Madison Counties). Some rural transit trips have a trip end in Delaware County. The meeting topics have included: ridership needs for cross county trips, driver training, availability of phone/radio communications on vehicles, and current rules for Medicaid eligible costs.

MITS handles the demand responsive public transit service for persons with disabilities (ADA) within Muncie, while Eaton EMT handles after-service-hours trips in Muncie and similar trips in rural Delaware County for ADA clients. The New InterUrban, rural public transit operated by LifeStream Services, stopped serving Delaware County residents in July 2013. The demand responsive service provided by MITS in Muncie started with 4 vans in 1981 and ridership demand required MITS to expand to 15 vans in 2000. MITS has been able to maintain the current service with 14 vans.

The New InterUrban had growing ridership in its established service and expanded into the adjacent counties. This rural transit service uses vans from various service agencies and will continue to need replacement transit vehicles to maintain this service. LifeStream Services uses FTA Section 5311 funds to supplement the rural transit operating costs, but as with all public funding sources, available transit funding (local, state, federal) has declined some.

A new service began in 2009 through a cooperative effort between MITS, the MPO, and Eaton EMT that provides 24/7 demand responsive public transportation for persons with disabilities. MITS provides administrative support and Eaton EMT is the service provider for service that supplements, but doesn't duplicate, existing public transit service. The handicap accessible vans providing the service were purchased with New Freedom funds and private donations from the United Way, the City of Muncie and the Delaware County Commissioners. This new service stemmed from a recommendation in the Muncie-Delaware County Public Transit - Human Services Coordination Plan completed by the DMMPC/Muncie MPO in 2007. The October 2021 updated version of that Plan is hereby incorporated by reference as a part of the 2023-2050 Transportation Plan. Future public transit projects will be guided by the recommendations, goals and objectives laid out in this document.

Role of Public Transportation

MITS provided 838,293 transit trips in 2022. That equates to at least a million vehicle trips removed from the traffic flow each year. At least a million fewer vehicle trips in 2022 contributed to congestion in Muncie, Indiana, than would have without transit. MITS transit trips reached a high of 2,029,481 in 2008, fluctuated to 1,922,062 trips in 2014, and steadily dropped to the 2021 level of 747,389 trips. Gas prices have been reduced or level during that decline in transit trips. There are signs that gas prices may increase to previous levels, which would bolster the demand for transit trips.

Transit allows a portion of the population to choose not to drive and provides greater mobility to the elderly, persons with disabilities, and those who cannot afford a car. Public transit is a vital service for healthy urban and rural environments in that it helps to reduce traffic congestion, reduce energy consumption, reduce air pollution and provide travel options for those who can't or shouldn't drive. It is a service that can be maintained in skeleton form, as it is now, and expanded in the future when energy sources may be limited. Public transit services are gaining in importance as our country struggles to find ways to maintain a good quality of life without sacrificing mobility.

Transit also provides opportunities for connection to the bicycle and pedestrian system as it develops. As will be seen in the Bicycle and Pedestrian Plan section, one of the data layers taken into consideration when developing the bike-ped network was the MITS routes and shelter locations. Bike racks on buses are available and emphasis will be given to sidewalk facilities leading to shelters.

Delaware County updated our Public Transit-Human Services Transportation Coordination Plan in October, 2021. The full document is available at www.co.delaware.in.us/egov/documents/1646055582_993.pdf

SECTION V

TRAVEL CHARACTERISTICS

TRANSPORTATION, DEMAND AND CONGESTION

Congestion occurs when the traffic on a street segment nears or exceeds its practical capacity. The capacity of a street segment depends on a variety of factors: numbers of lanes, lane width, acceptable gap between vehicles, percent turning movements, percent truck/bus traffic, curb cuts per mile, green time for lanes at intersection, type of area served by road, etc.

A simplified set of capacity figures were determined using a formula (page 11-11 of Special Report 209 of the Highway Capacity Manual) that uses number of lanes and green time per signal cycle: Capacity = 1600 vehicles per hour (vph) * # of Lanes * percent green time / multi-lane factor. The base traffic flow of 1600 vehicles per lane assumes an acceptable gap of 2.25 seconds between vehicles. A simple signal with two equal phases will have 45 percent green time and 5 percent lost time (amber & all red) for each direction. A default value of 0.45 was used for green time per cycle. The multi-lane

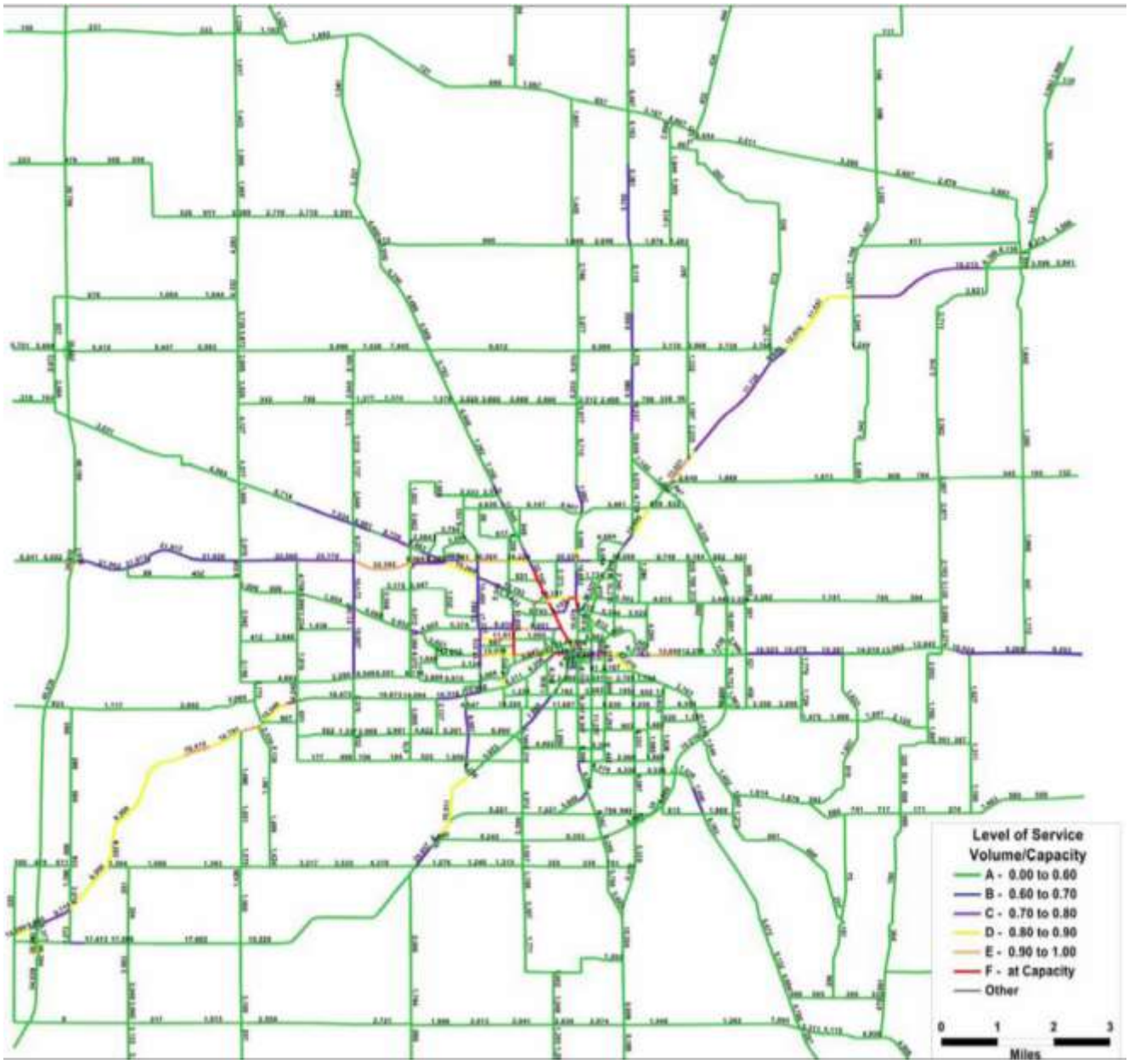
factor is 1.05 for streets with two lanes per travel direction and 1.00 where only one lane per direction exists (page 11-11 of Special Report 209).

Capacity is generally calculated for the worst hour and daily capacity is an estimated value derived from that. If a road segment had a capacity of 1,000 vehicles per hour, then it could handle 24,000 vehicles per day if it had 24 peak travel hours. However, peak travel generally occurs within 6-10 hours daily with 9-11 percent of the travel during the peak hour. The peak travel drops toward 8 percent per hour as a road approaches capacity during the peak travel hours. The table below lists default capacity values calculated for street segment base capacities with an adjustment (0.966) for the conversion from average weekday traffic (when congestion is likely) to average annual daily traffic. The daily capacity was calculated with peak hour traffic at 8 percent of the daily traffic and with a 55/45 percent traffic directional split during the peak hour.

BASE CAPACITIES (Cap) FOR STREET SEGMENTS

# of Lanes	1 DIRECTION		2 DIRECTIONS		with Central
Per Direction	Hourly Cap.	Daily Capacity	Hourly Cap.	Daily Capacity	Turn Lane
1	720	8,700	1,310	15,800	21,600
2	1,370	16,540	2,490	30,070	35,870
3	2,020	24,380	3,670	44,340	

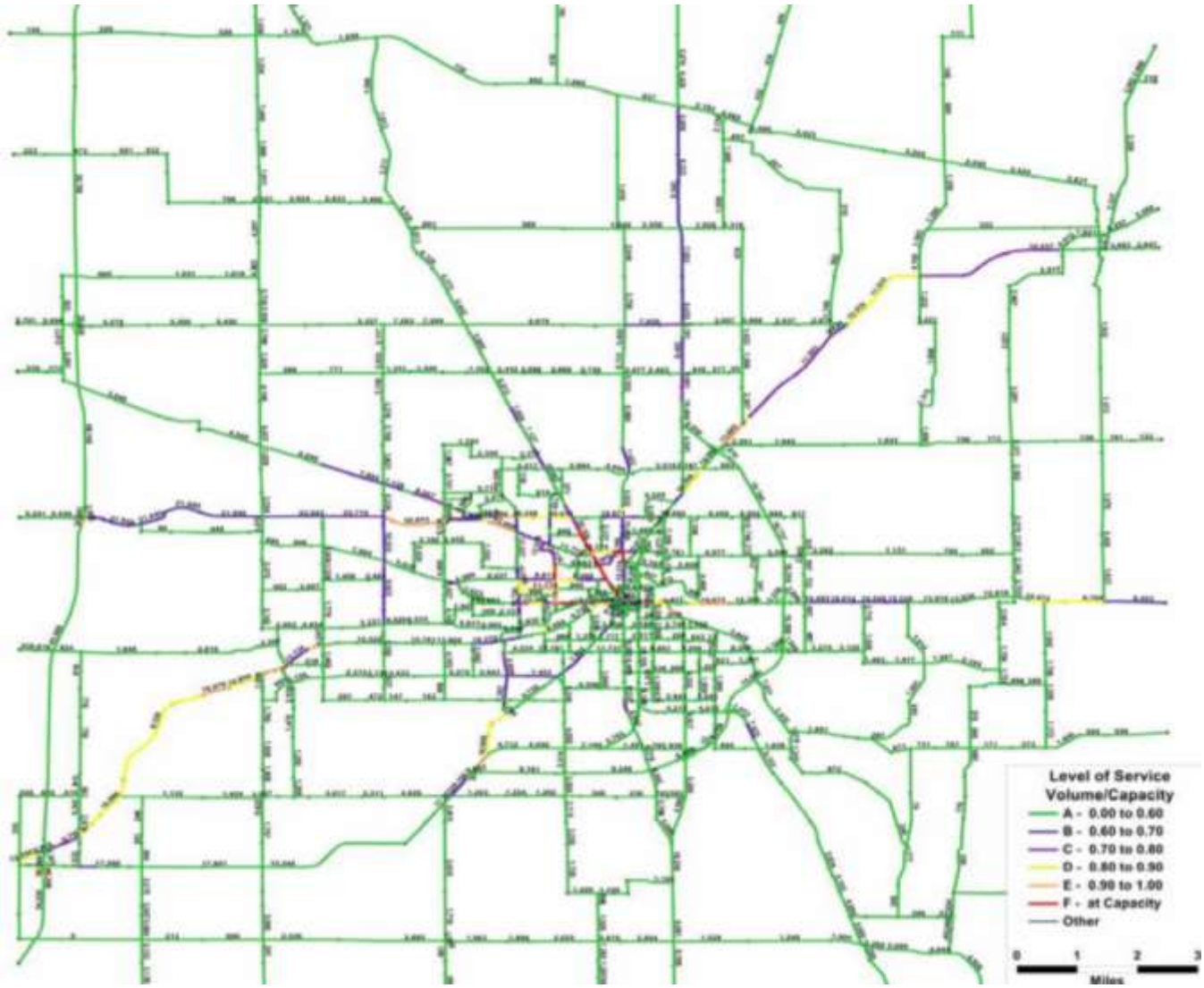
To analyze traffic flow conditions, level-of-service is used similar to a school grading system from A to F where F constitutes a failure in traffic flow due to exceeding capacity. Level-of-Service (LOS) is an evaluation of traffic flow conditions based on the volume-to-capacity ratio for roadway segments and the delay experienced by drivers at intersections. It is generally accepted that a LOS of C is desirable and a LOS of D is marginally accepted. On a national basis, LOS C is usually established as the minimum standard for the horizon year in rural areas, and LOS D is established as the minimum standard for the horizon year in urban areas. The Indiana Department of Transportation (INDOT) Roadway Design Manual uses such standards. LOS E is considered undesirable, and LOS F is clearly unacceptable.



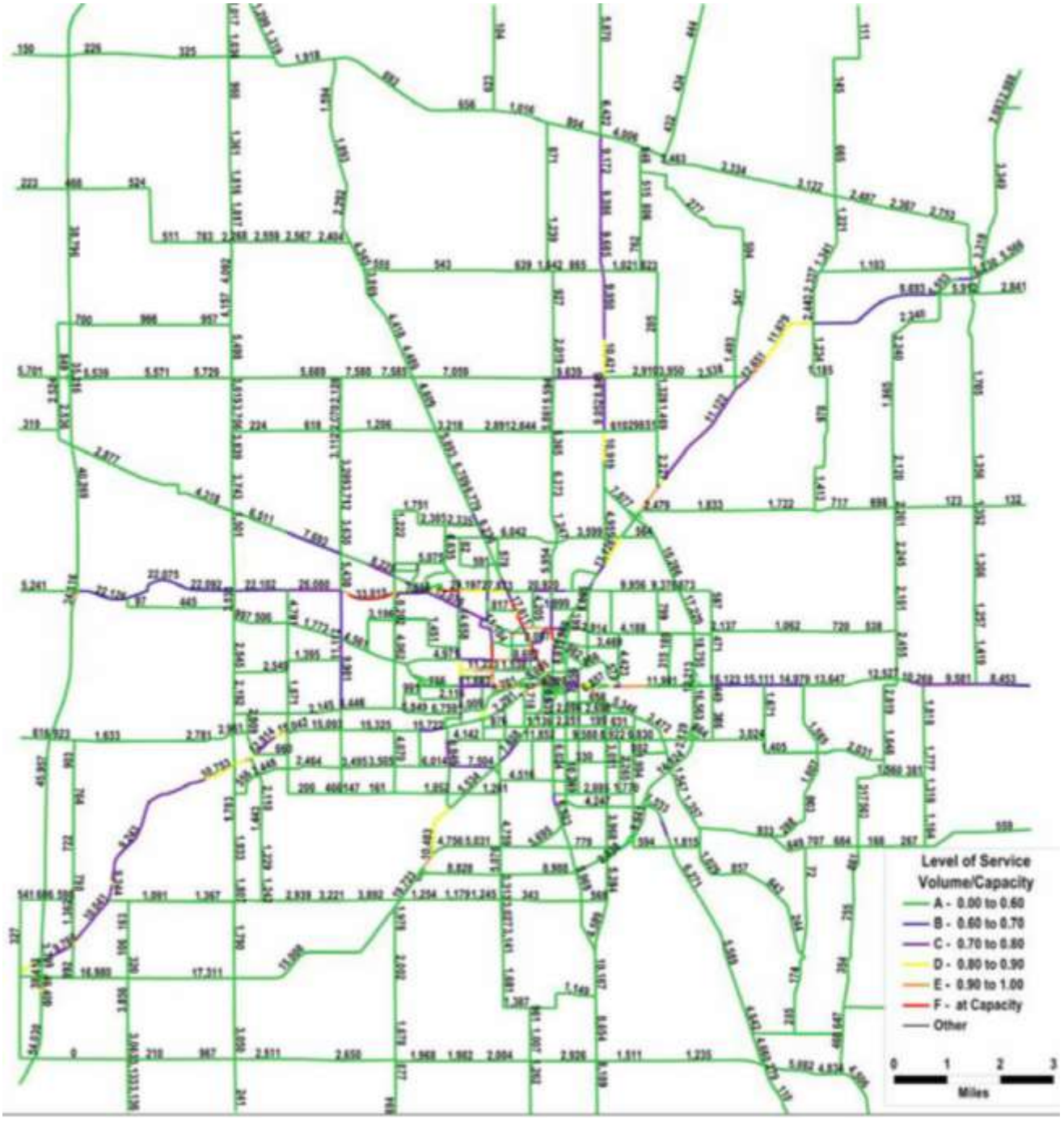
MODEL YEAR 2020

Current projections indicate a slowly decreasing population and traffic. The Level-of-Service (LOS) should improve or remain static with a slow decrease in future traffic. Shown above and on the following pages are maps of LOS in Delaware County as generated by the traffic models for various years. The red road segments indicate where the model projected traffic exceeding capacity. The traffic counts taken where red appears on the model are actually a bit lower than the road capacity, but were projected too high by the model. However, many of the road segments that are red, orange, or yellow show where traffic congestion is likely to occur.

The heaviest traffic areas in our road network are on McGalliard, Tillotson and Wheeling. The red areas on the map are due to the model projecting more traffic than is actually on those road segments. Wheeling Avenue traffic flows smoothly although it has been near capacity from south of McGalliard Road to the Downtown. The traffic volume on Wheeling Avenue hasn't increased in the past decade. McGalliard Road is the busiest street with a big portion of the city's commerce, but still functions well. State Road 67 from Muncie to Albany has had peak hour congestion complaints although it has sufficient capacity. The route has two lanes so faster traffic is forced to slow behind any slow moving vehicles.



MODEL YEAR 2030



MODEL YEAR 2040

The number of accidents in Delaware County haven't been high, but some locations have persisted with patterns of crashes. The intersections that have had persistent accident problems are in the table below.

HIGHEST 2018-21 ACCIDENT RATES IN DELAWARE COUNTY

{Criteria: 9 acc.s/year}	DAILY	Number of Accidents				2019-21	2019-	
INTERSECTIONS	**TRAFFIC**	**2018**	**2019**	**2020**	**2021**	**SI/F**	**2021**	**2021**
Jackson-SR32 at Ohio	**9,370**	14	14	9	12	4	**3.41**	3.51
Jackson-SR32 at Hackley	**9,330**	12	10	8	11	1	**2.84**	3.23
Main-SR 32 at Madison	**18,040**	15	17	10	15	3	**2.13**	2.28
SR 32 at Nebo Road	**18,960**	18	15	14	13	4	**2.02**	1.88
McGalliard at Reserve	**29,100**	20	17	15	24	2	**1.76**	2.26
Bethel at Tillotson-	**34,890**	26	26	10	29	3	**1.70**	2.28

Jackson-SR32 at Ohio changed from a signal to a two-way stop a few years ago. The crashes decreased a little as drivers get used to that change made because traffic volumes no longer warranted a signal.

Jackson-SR32 at Hackley is a busy location for turn movements due to a gas station on the corner and a school in the neighborhood to the north.

Main-SR32 at Madison has poor sight-distance on its southeast corner and more traffic on Madison than Main Street.

State Road (SR) 32 at Nebo Road has seen changes with a Nebo road diet and a roundabout at River Road. The crashes there have been decreasing.

McGalliard at Reserve has an access drive for Starbucks Coffee close enough to the intersection to create conflicting traffic movements.

Bethel at Tillotson is near the football stadium, other athletic fields, and the Ball State Alumni Center. Many of the drivers in the crashes have been young adults. The area has been improved for pedestrian traffic. Sight-distance problems for cars leaving the corner gas station were a factor in crashes.

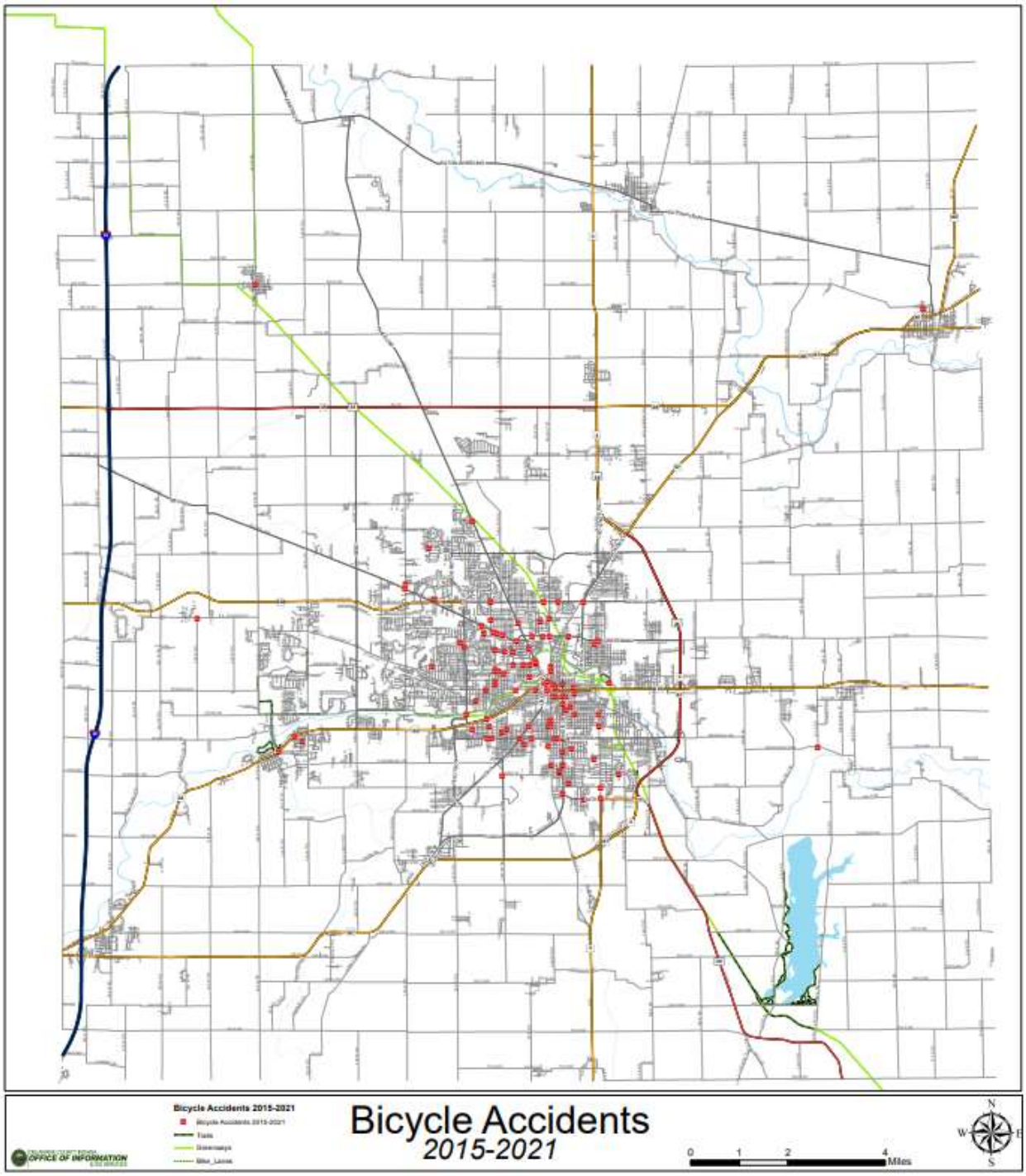


Figure 10. Bicycle Accidents 2015-2021

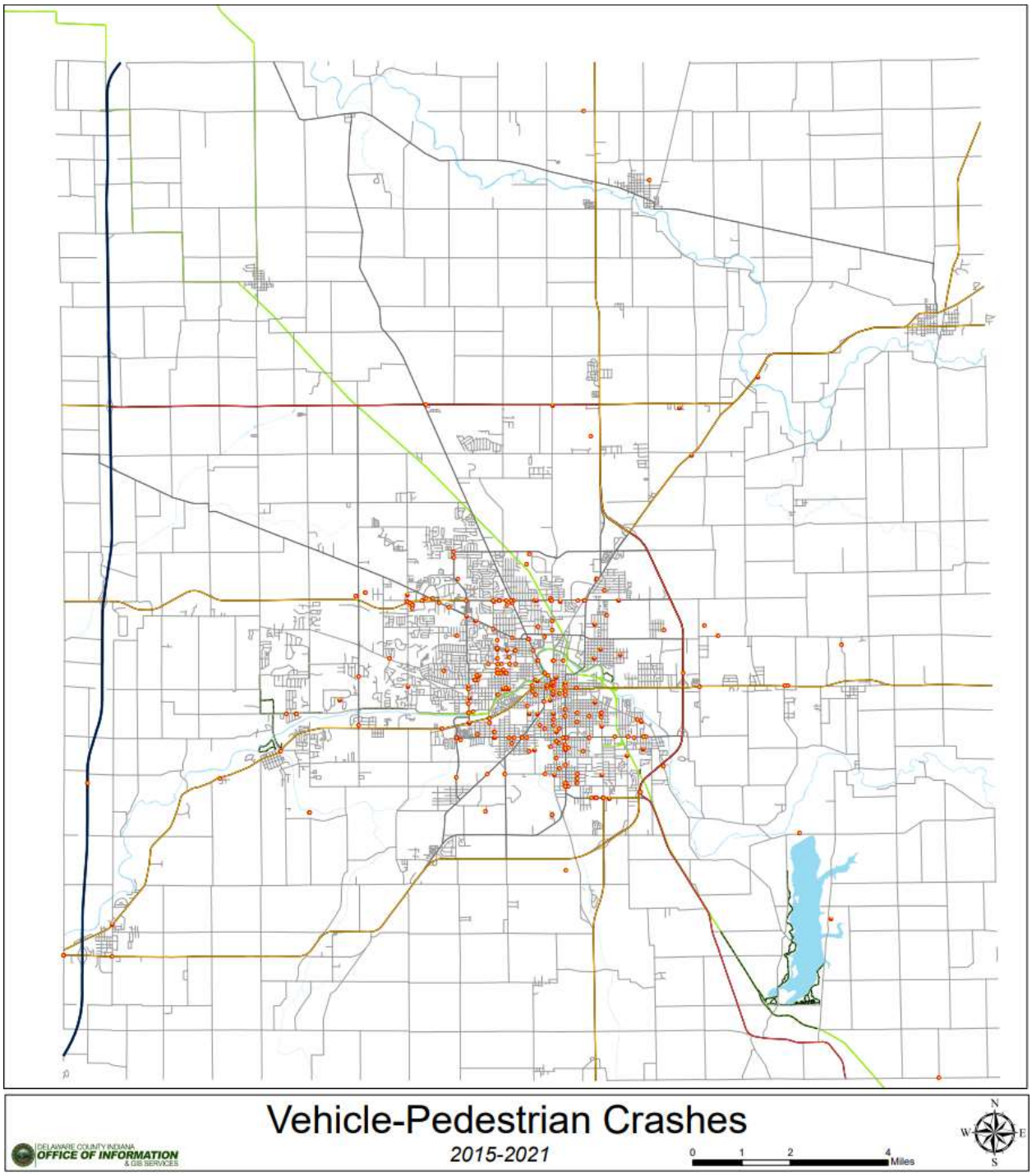


Figure 11. Vehicle–Pedestrian Crashes 2015-2021

SECTION VI
BICYCLE AND PEDESTRIAN PLAN

The Transportation Plan incorporates the Delaware-Muncie Bicycle and Pedestrian Plan in its entirety, as developed in 2018. This section will include excerpts from the Bicycle and Pedestrian Plan's document. The full document can be accessed at www.co.delaware.in.us/egov/documents/1572283154_72544.pdf

PROJECT OVERVIEW

The Delaware-Muncie Bicycle and Pedestrian Plan provides infrastructure and policy recommendations for Delaware County, Indiana and its incorporated cities and towns to improve the safety and quality of life for those who live, walk, or bicycle in the county. According to the United States Census Bureau[1], 111,909 people lived in the county as of 2020. The largest city in Delaware County is Muncie, Indiana, which consists of 65,194 people or 58% of the county population. The second largest incorporated area in the county is town of Yorktown, which has a population of 11,548 people, or 10.3% of the county population. The 2020 populations in smaller incorporated areas throughout the county include the following:

Albany: 2,295 (2.1%)
Daleville: 1,653 (1.5%)
Eaton: 1,596 (1.4%)
Gaston: 798 (0.7%)
Selma: 747 (0.7%)

The remaining 28,078 (25.1%) residents of Delaware County lived in unincorporated areas.

PROJECT IMPORTANCE

Bicycle and Pedestrian plans are important because they form the working document of future infrastructure and policy improvements for bicycles and pedestrians. Future sidewalks, bike lanes, shared-use paths, and other facilities will enhance transportation, health, environmental, and economical improvements in the county, which will contribute to an overall higher quality of life for residents and visitors.

TRANSPORTATION IMPROVEMENTS

Improvements to local infrastructure for bicycles and pedestrians will allow for more trips or activities to be made by alternate transportation modes. Fewer cars using public streets will relieve some on-going maintenance concerns, if enough people are walking and biking rather than driving. The benefits of these efforts are most likely to be realized on local and neighborhood streets.

HEALTH IMPROVEMENTS

The use of alternate transportation modes directly benefits the health of the user. Currently, Indiana ranks poorly compared to the rest of the country, ranking as the 7th highest rate for obesity. Additionally, Hoosiers paid $3.5 billion in obesity-related medical costs in 2012. More concerning, 30% of Indiana youth are considered overweight or obese which would indicate that future obesity related healthcare cost will continue to increase[2]. It is imperative that public infrastructure, both for cyclists and pedestrians, be provided and be intuitive to use so that they are a part of a daily routine.

ENVIRONMENTAL IMPROVEMENTS

Alternate transportation results in the use of less automobile traffic and thus, less greenhouse gas emissions in the environment. Nearly two-thirds of all vehicle trips (63%) have a total of less than 5 miles. Unfortunately, less than 2% of these trips are made on bicycle. If infrastructure and policy improvements can be made, a majority of local trips can be car-less and as a result provide for a higher quality environment[3].

Additionally, trees and landscape improvements provided with new sidewalks or shared-use paths improve the quality of the environment as well.

ECONOMIC IMPROVEMENTS

The average cost to own a car rose to $8,469 per year in 2017 according to Experian, AAA, and the Bureau of Labor Statistics. For many residents of Delaware County, the cost to own, insure, and maintain a car is not financially feasible. If properly planned, bicycle and pedestrian infrastructure can link neighborhoods, employers, and destinations; local residents will see a direct financial improvement.

Neighborhoods and business districts with improved public infrastructure such as sidewalks and shared-use paths will have higher land values, as these properties will be considered better connected and more easily accessible.

Investment in public infrastructure is important as a economic driver as well. Cities and Towns that have new sidewalks, shared-use paths, and bike lanes may be viewed more favorably by private-sector businesses looking to locate their headquarters.

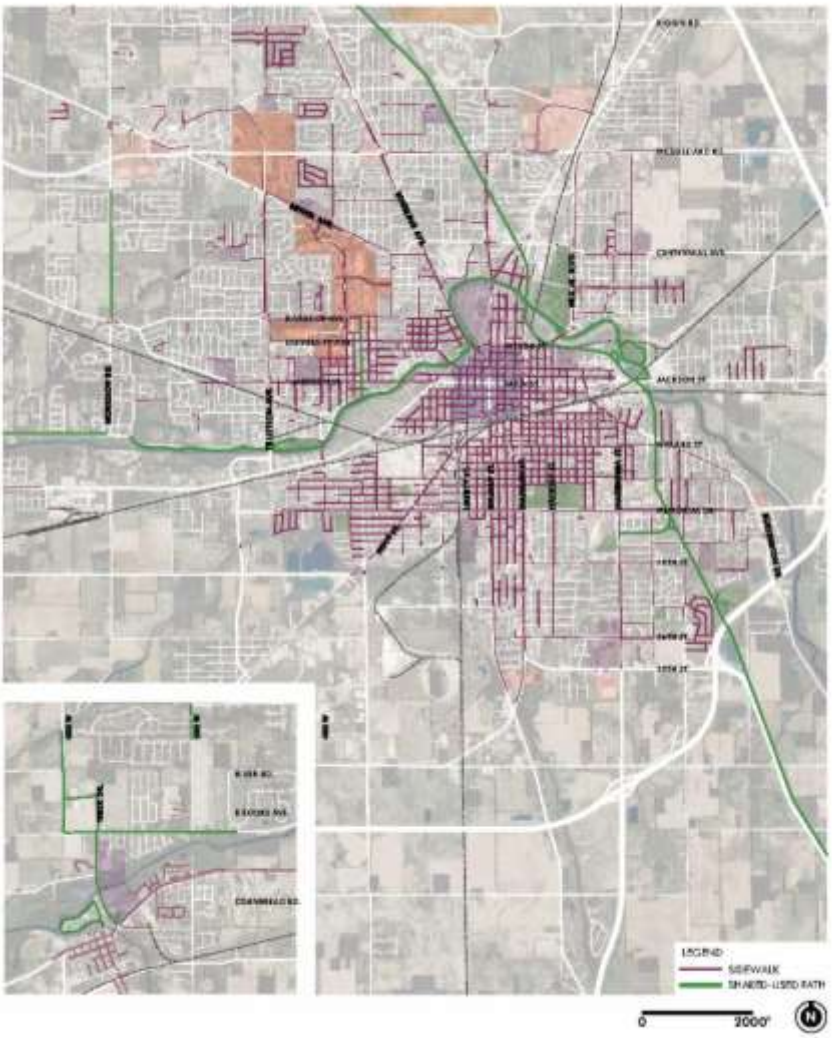
SUMMARY

A report published by the League of American Bicyclists and the alliance for Biking and Walking[4], summarizes the importance of alternate transportation modes:

Bicycling [and walking] is popular across America among all types of people. Communities that have fostered that popularity by providing bicycle infrastructure for transportation and recreation have seen considerable economic benefits by attracting businesses, tourism, and active residents.

Neighborhoods become more desirable when traffic slows down and residents have more transportation choices. Business can encourage shopping among loyal, local customers by making getting there by bike more appealing. Individuals benefit from increased levels of fitness and health that result in real cost savings and employers have healthier employees who miss fewer days of work.

Existing Shared-Use Trails & Sidewalks - Muncie & Yorktown



SHARED-USE TRAILS AND SIDEWALKS

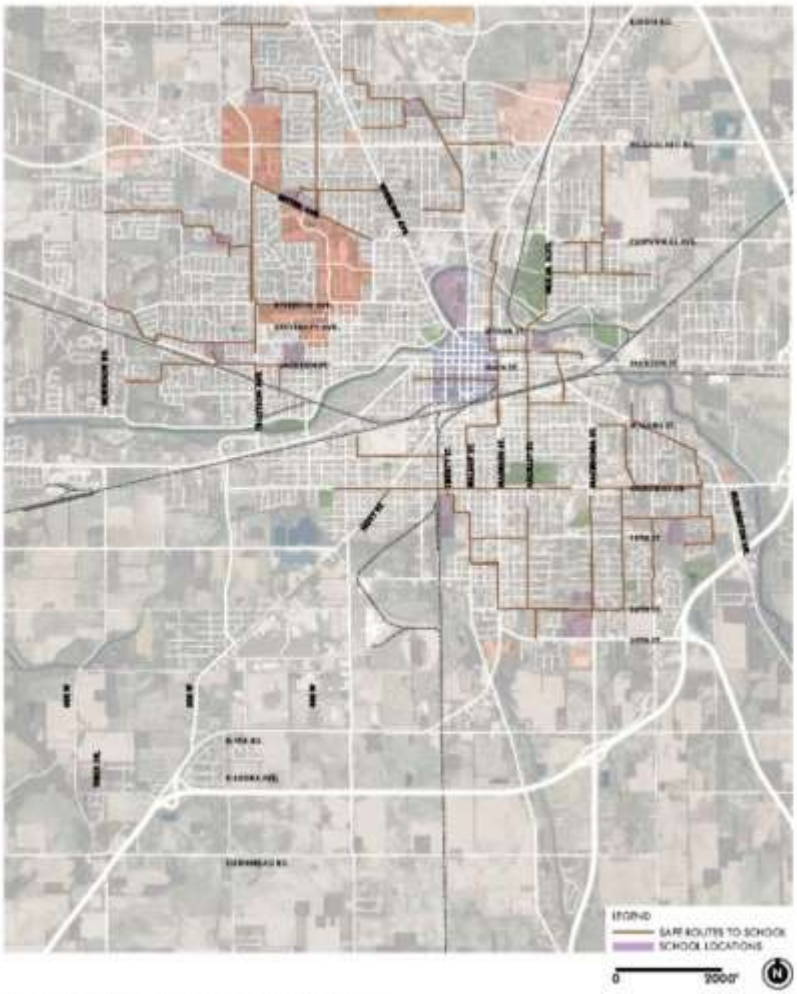
Shared-use paths are intended for cyclists and pedestrians. They should be a minimum of 10' wide, however 8' wide trails may be required depending upon the existing conditions. Shared-use paths also must be a minimum distance from adjacent vehicle travel lanes. This distance varies depending upon is a curb is present, on-street parking, and vehicle travel speeds.

The major shared-use trails in the Muncie and Yorktown area are the Cardinal Greenway and the White River Greenway. These trails have regional connections but also provide important access to local destinations.

Sidewalks are intended for pedestrian traffic only. If located adjacent to the back-of-curb, they must be a minimum of 6' wide. Sidewalks located more than 2' away from back of curb must be at least 5' wide.

Sidewalks also provide the needed infrastructure for pedestrian transportation to local destinations. They are also a very effective means of identifying the edge of right-of-way, or where private property begins. The highest and most dense concentrations of sidewalks is located near downtown Muncie, south of the White River. However, sidewalks are less common and more sporadic the further one travels from downtown Muncie. Similarly, sidewalks are located in downtown Yorktown, but few are located in the surrounding neighborhoods.

Existing Safe Routes to School - Muncie & Yorktown



SAFE ROUTES TO SCHOOL

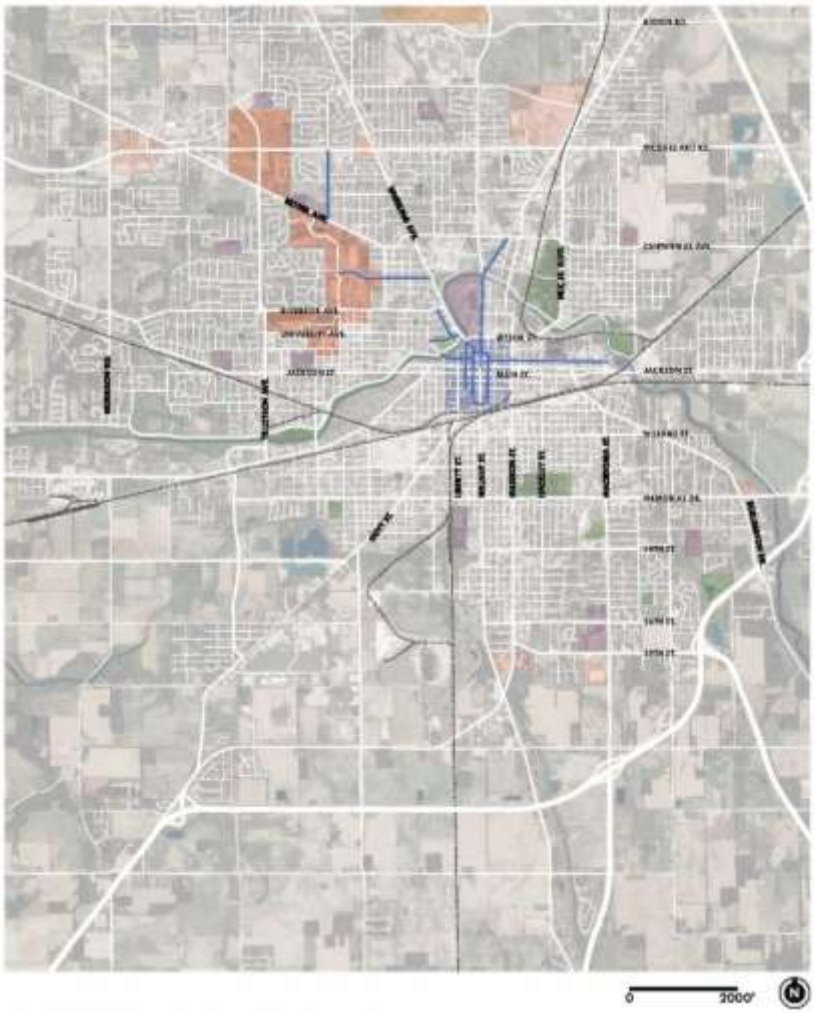
Safe Routes to School (SRTS) is a nationwide organization and program designed to provide safe routes for children who are walking and bicycling to school. Funding is available for communities and school districts to construct new or improved sidewalk and shared-use path infrastructure.

The location of these routes was considered when developing a Bike and Pedestrian Master Plan for the City of Muncie. If existing SRTS can be further developed as part of a comprehensive trail system, the City could benefit from Federal funding that can be used to develop a proposed network of routes.

Providing safe dedicated routes for children to get to school has positive health impacts as well. According to the 2016 Indiana Safe Routes to School Guidebook[1]:

> "Walking and biking to school helps children feel more connected to their community and increases their confidence that school is a safe place for learning. Studies have shown kids who walk and bike to school arrive more alert and ready to learn. Bicycling and walking to school helps establish a healthy active lifestyle from an early age. Generally, increased physical activity among school-aged children contributes to their improved health. Furthermore, cities and towns with established SRTS programs report a stronger sense of community identity and increased social skills among the children."

Existing On-Street Bicycle Lanes - Muncie



BIKE LANES

The City of Muncie currently utilizes bike lanes near downtown Muncie and Ball State University. Bike lanes are beneficial to the community as they provide safer routes connecting to local destinations and have also been shown to make vehicle travel safer, as they reduce travel lane width and reduce vehicle speeds as they remind motorists that cyclists may be present[6].

Bike lane pavement markings also provide dedicated space where cyclists can feel safe. By removing cyclists from vehicle travel lanes, motorists and cyclists each feel safer knowing they each have dedicated space for travel.

Current trends have typically pushed for protected or separated bike lanes, as they provide enhanced levels of safety. Depending upon the traffic counts and type of existing roadways, bike lanes may be more than adequate as a safe means of bicycling.

Bike lanes are located on the following streets:

- N. Granville Ave
- N. Walnut St
- High St (one-way south)
- Mulberry St (one-way north)
- Oakwood St
- Neely Ave
- North St (one-way west)
- Alameda Ave (one-way south)

Muncie Art and Culture Trail Plan

PROPOSED ROUTING AND IMPLEMENTATION

The Muncie Art and Culture Trail (MACT) is a separated cycle track and pedestrian sidewalk system proposed by the city of Muncie. The trail utilizes public right-of-way to connect Ball State University and IU Health Ball Memorial Hospital, downtown Muncie, and the south Muncie neighborhoods and Heekin Park.

The following text is an overview of the project, as noted on page five of the report:

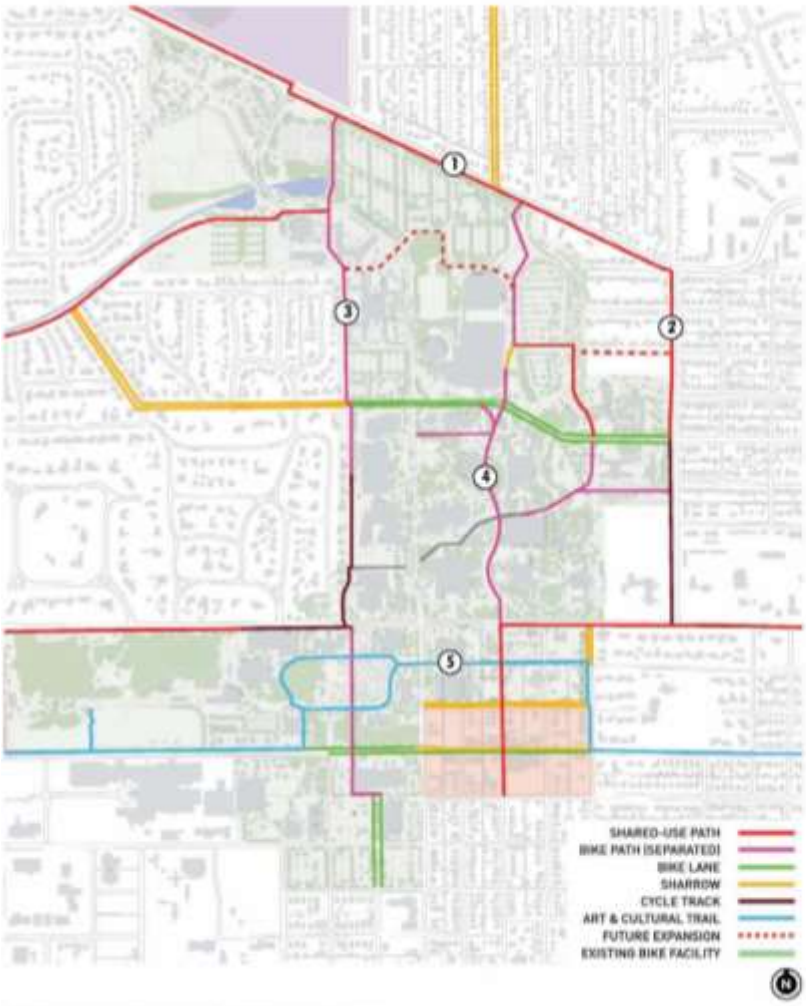
> "Known as the Muncie Arts & Culture Trail (MACT), this facility is intended to be more than a greenway or bicycle lane. The Muncie Arts & Culture Trail is a multi-use path and urban amenity that will become a branding tool and destination facility for the City of Muncie. Designed for use by individuals, children, and families alike, this facility will be separated from the vehicular roadway and will provide opportunities for walkers, joggers, runners, bicyclists, roller bladers, and others to safely access the City's existing bicycle facilities, parks, public art, schools, historic neighborhoods, and business districts."

The White River Greenway and the Cardinal Greenway also connect to the proposed MACT. The recommendations as part of this study also look to connect to the proposed MACT, leveraging the value of the proposed infrastructure.

According to the MACT planning documents, the project is proposed to occur in three phases, but an implementation timeline has yet to be established:

- Connection to Ball State University and IU Health Ball Memorial Hospital
- Downtown Loop
- Heekin Park connection

Ball State University Bicycle Master Plan



BALL STATE UNIVERSITY BICYCLE MASTER PLAN

Completed in 2017, the Ball State Bicycle Master Plan recommends routes within and around the campus. These routes were utilized within the larger Delaware-Muncie Bicycle and Pedestrian Master Plan. Important routes that will require coordination between the University and the City of Muncie include the following:

1. Adjust Bethel to provide for a shared-use path
2. On New York Avenue, provide a shared-use north of Neely and a cycle track south of Neely.
3. Enhance the one-park bike path to connect from Bethel to the Student Center
4. Provide a separated bike path on the "East Mall," which connects from Bethel to Martin Street. The recently completed improvements on Martin Street connect to the White River Greenway.
5. Implement the Muncie Art and Cultural Trail through campus

These five improvements represent important connections between campus and the surrounding city. These improvements are considered part of the Ball State University Master Plan, but are fully supported by the recommendations of the Delaware-Muncie Bike and Pedestrian Master Plan. Furthermore, the recommendations of the Ball State University Bicycle Master Plan have been incorporated into this planning document. Refer to specific recommendations in the Implementation Section of this report for additional information and cross sections.

Mounds Greenway Planning Efforts

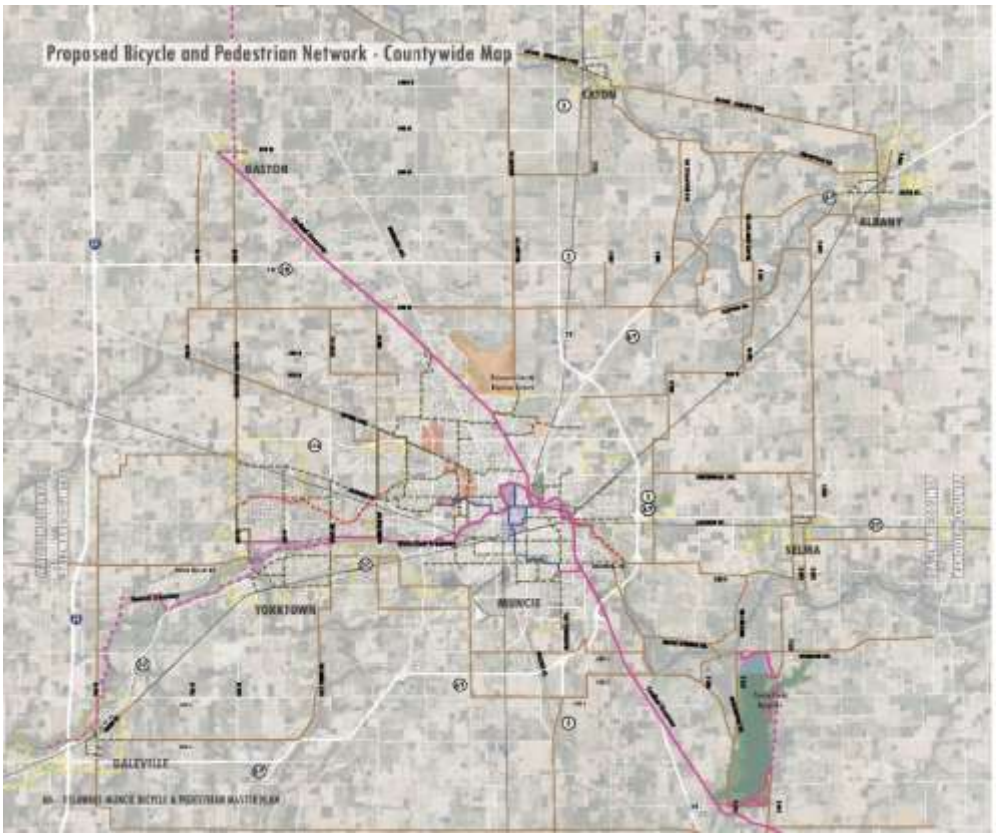
The illustration above was included as part of the report, *Meet at the Mounds, An Economic, Health, and Environmental Benefits Analysis*, which was produced by Alta Planning and Design for the Hoosier Environmental Council.

OVERVIEW OF THE MOUNDS GREENWAY

Establishing regional connections to Delaware County and it's cities and town is important. A potential future connect is the Mounds Greenway. Reports have been completed and are still under study to determine the opportunities and constraints with implementing such a project. Multiple municipalities, including representation from Muncie, have supported the efforts to plan and construct such a trail.

The following exert was described in the report from the Hoosier Environmental Council's (HEC), The Case for the Mounds Greenway. Additional information regarding the HEC report can be acquired by contacting Bob Weaver, Mounds Greenway Campaign Manager for the HEC.

> The Mounds Greenway will be a linear park and trail connecting the trails and parks of Muncie to the trails and parks of Anderson and the communities in between. The Greenway and Conservation Area will protect the West Fork White River as a free-flowing natural river and also conserve bottomland hardwood forest, wetlands, and riparian habitats in the river's floodplain – an area roughly 2,300 acres in size.
>
> Ownership and management of the Mounds Greenway is to be determined, but it could be a state project or a partnership of state and local governments and private organizations.
>
> The Greenway will provide a variety of quality outdoor recreational opportunities – trails for hiking and bike riding, river access points for canoeing, kayaking and fishing, picnic and camping areas, and wildlife observation.
>
> Cultural and historic features will be saved and protected. An interpretive Center at Rangeline Preserve will offer displays and other learning opportunities about the West Fork White River valley. Once completed, the Mounds Greenway's trails will allow a biker or bicyclist to travel from the Cardinal Greenway in Muncie to Mounds State Park in the Anderson city trail system.
>
> Along the way, Greenway visitors and local residents can enjoy the variety of restaurants, brewpubs, coffee shops and retailers which will be attracted to the riverside "villages" in the communities along the river.
>
> The greenway will complement and be compatible with existing public outdoor lands and cultural sites, including Mounds State Park, Rangeline Preserve, Walbridge Acres Park, Camp Chesterfield and other facilities[1].



EXISTING

The bicycle and pedestrian Master Plan proposes enhancements routes for future bicycle and pedestrian.

The routes developed in this plan are based on previous studies, inventory of existing facilities, online and public meeting survey results, residential and job density data, traffic counts and right-of-way opportunities.

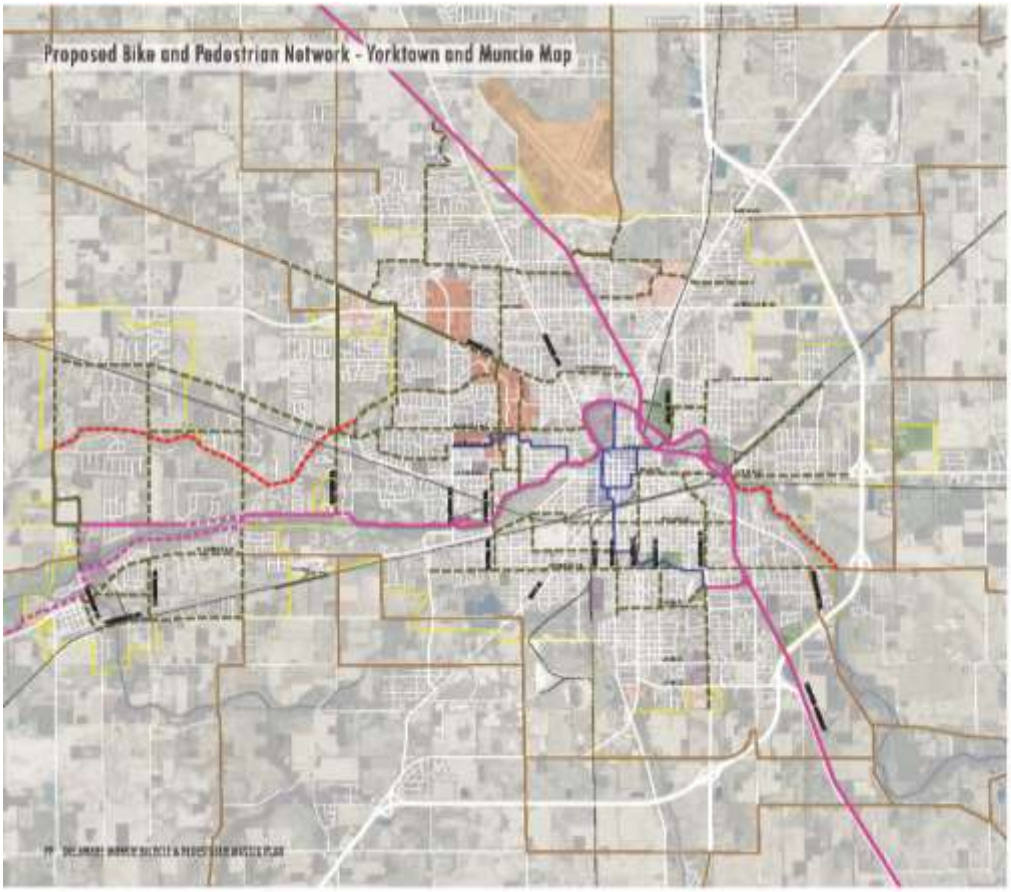
The recommended routes will provide connections to local and regional greenway systems. The routes also provide safe and accessible experiences through out the community. Along with on-street facilities, extensions of existing greenway system have been proposed.

In order to provide safe and most user-friendly routes, shared-use facility were often recommended.

LEGEND

EXISTING ROUTES
PROPOSED ROUTES
COUNTY BIKE ROUTES
EXISTING GREENWAY
PROPOSED GREENWAY
MAKT

0 9,000'

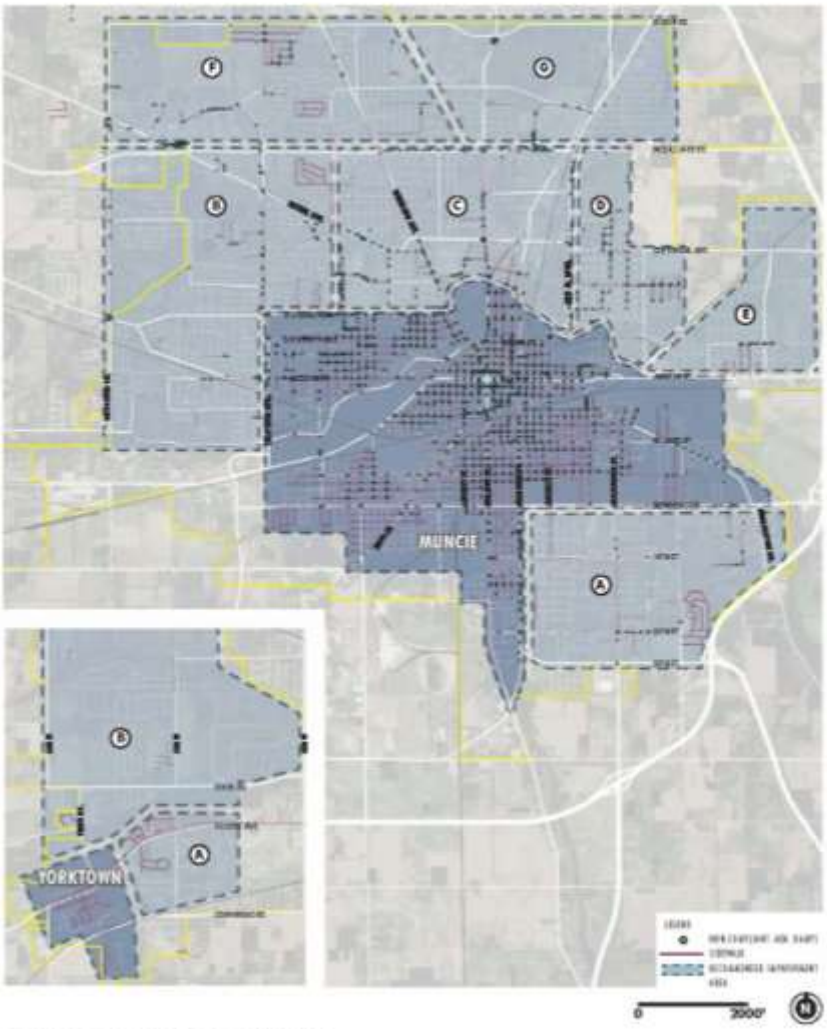


LEGEND

EXISTING ROUTES
PROPOSED ROUTES
EXISTING GREENWAY
PROPOSED GREENWAY
CITY/TOWN LIMIT
MAKT
SCHOOLS
AIRPORT
BALL STATE UNIVERSITY
RETAIL AREA
DOWNTOWN MUNCIE

0 4,500'

Sidewalk Improvement Plan - Muncie & Yorktown



OVERVIEW

Sidewalk systems are critical for short-distance transportation and creating more connected neighborhoods. The sidewalk improvement plan identifies areas of Muncie for focused sidewalk improvement. The graphic to the left identifies areas of sidewalk improvement locations in Muncie, but does not provide data on sidewalk quality. However, curb ramps that are not ADA compliant have been marked with a dot indicating their location.

Downtown Muncie has the most be connected system of sidewalks., but as a result of having more sidewalks, most of the non-compliant ADA ramps are located near downtown Muncie as well. The city should focus on replacing curb ramps to be ADA compliant within this area of the city. A connected system of sidewalks that is not available to people of all abilities is not inclusive and serving their intended purpose.

Moving outward from the downtown core, sidewalks are provided in fewer areas compared to around downtown Muncie. Muncie Subareas A, C, and D should be the first focus locations for new sidewalks. These subareas have a below-average (50%) coverage of existing sidewalks with fewer non-compliant ADA ramps. Providing new sidewalks in these areas would better connect fairly dense neighborhoods to surrounding amenities, including local businesses, employers, and Ball State University. Similarly, sidewalk improvement should focus on Yorktown subarea A. More sidewalks in this area would better connect residents to downtown Yorktown and events that may be occurring at Yorktown schools.

Muncie subareas B, F, E, and G and Yorktown subarea B have the fewest sidewalks as compared to other areas. New sidewalks should be provided in these areas, but implementation will more than likely occur over a longer period of time since a significant amount of new sidewalks are needed.

South Muncie

EXISTING

The existing pedestrian network provides coverage to many of the neighborhoods that surround downtown Muncie. In addition to the White River Greenway and Cardinal Greenway, the future Muncie Art and Culture Trail (MACT) will loop around downtown, connect to Ball State University, and connect to Heekin Park in south Muncie.

RECOMMENDATIONS

Aimed to improve bike and pedestrian access through the entire city and county, the proposed trail system will be able to connect popular destinations and local neighborhoods.

The proposed bicycle and pedestrian network recommends the following routes:

- Memorial Dr.
- Willard St. – 2nd st. – Kilgore Ave. corridor
- Main St.
- Wysor St.
- Walnut St.
- Madison St.
- Macedonia Ave. – Ohio Ave.
- Nicholas/Batavia Ave.

The sections on the following pages will demonstrate details of the potential routes.

Bike Fest in 2017

North Muncie

EXISTING

The Muncie North area southern boundary is the White River Greenway. It extends north to the Delaware County Airport.

There are multiple trails in this area, which include the Cardinal Greenway and the White River Greenway. The Ball State University Bicycle Master Plan provides future connections through and around the university's campus and the proposed MACI provides connections to downtown.

This area presents a higher number of educational institutions, especially on the west side of the Cardinal Greenway. Six schools and the Ball State University are located very close to one another.

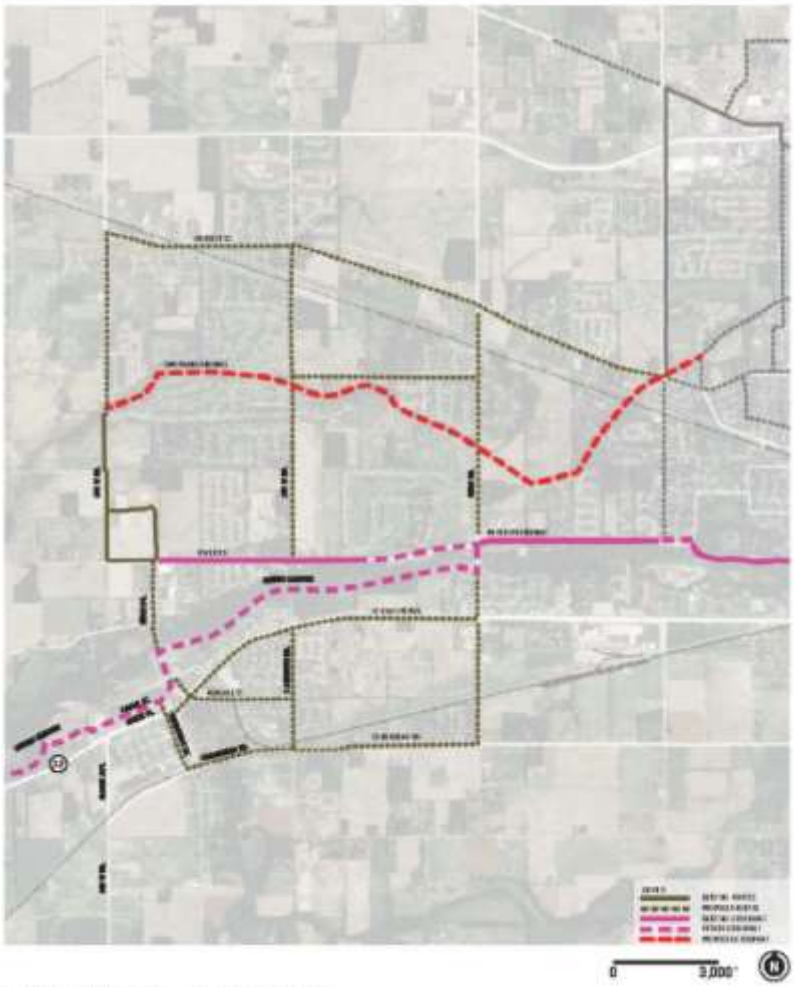
This area of Muncie has six schools that trail connections should be made too. Some neighborhoods located in this study area include the following:

- Lamars–Pearwood–Keller
- Mathewson
- Norwood
- Anthony
- Riverside/Normal City
- Westside
- Morningside

Retail businesses are highly concentrated along McGalliard Rd. which is also one of the busiest roads in the city. Trail connections are proposed to improve connectivity to these businesses.

Wysor St. Trail Head - Bike Fest 2017

Yorktown



EXISTING

Bicycle and pedestrian routes in Yorktown begin west of Morrison Rd.

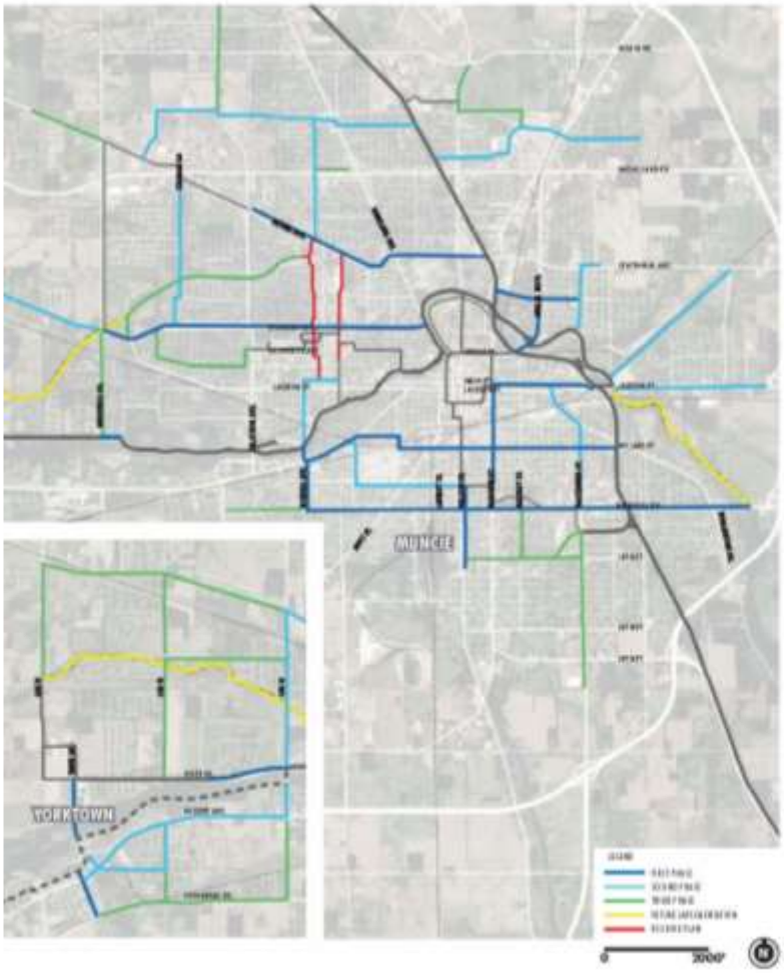
The White River Greenway and the proposed Mounds Greenway connect Yorktown to Muncie and other potential regional destination. The proposed York Prairie Greenway will provide an additional inter-neighborhood connection.

The densest residential areas are near Smith Street and S. Andrew Rd., which should have trail connection.

Trails are proposed to connect the businesses in downtown Muncie with the surrounding neighborhoods.

SR 32 / Smith St

Trail Implementation Plan - Muncie & Yorktown



PHASING PLAN

The phasing plan for bicycle and pedestrian facilities identified in this plan focus around downtown Muncie, and radiate out from the core.

First Phase projects link directly with downtown Muncie, or provide a critical connection to a particular area of need in the City. Job Density analysis and Residential Density analysis were used to determine what projects should be consider first. Refer to the Muncie Art and Culture Trail scoping report for a phasing strategy of this project. This plan does not make recommendations for its implementation schedule. Plans specific to Ball State University should be coordinate with the University's Bicycle Master Plan.

PLANNING COSTS

Below are planning level costs that Delaware County and City of Muncie can use to determine or assist with future implementation considerations.

Facility Type	Facility Width	Material Type	Linear Foot Cost
Sidewalk	6'	Concrete	[illegible]
Sidewalk	8'	Concrete	[illegible]
Sidewalk	10'	Concrete	[illegible]
Shared Use Path	8'	Asphalt	$45
Shared Use Path	10'	Asphalt	$50
Shared Use Path	12'	Asphalt	$60
Sharrows	n/a	Pavement Markings, signage	$5
Bike Lanes, one in each direction	5'	Pavement Markings, signage	$17
Two-Way Protected Bike Lanes*	8', with 2' min. buffer & bollards	Pavement Markings, signage	$20
Cycle Track*	8', with 3' buffer	Unit Pavers	$220
Cycle Track*	10', with 3' buffer	Unit Pavers	$240
Cycle Track, Amenities & Street Infrastr.	8', with 3' buffer	Unit Pavers, lighting, infrastructure, etc.	$1,250

[illegible]

[illegible]

SECTION VII

LONG RANGE TRANSPORTATION SYSTEM PLAN

The major elements of this transportation plan include the surface transportation components of roads, bridges, railroads, airport, trucking, bicycle, pedestrian, and public transit. The railroad, airport and trucking components depend heavily on the private entities involved, but must be tied into the rest of the transportation system using the other components of surface transportation. The roads leading to railroad switching facilities, airport terminals, and truck terminals are common connections that must be maintained for an intermodal vehicular transportation system. However, transit and bicycle/pedestrian networks also need further development to expand the intermodal options of the transportation system that also benefit air quality.

The circular interconnections between various transportation networks is considered an inherent foundation for developing this transportation plan. An airport served by an efficient road network, a good trucking network, consistent transit service, and good bicycle/pedestrian access can enhance the attractiveness of air travel by allowing a variety of mobility options to and from available flights. A good railroad switching operation freight facility connects rail and trucking freight movement options in a manner that enhances both industries. Good transit service and bicycle/pedestrian networks enhance the vehicle traffic flow on roads and supplement the road network's capacity for moving people.

Safety is an additional factor toward developing intermodal options. The provision of sidewalks allows pedestrian traffic to move safely off the roadway and away from conflicts with vehicle traffic. A good bicycle network reduces the potential for conflict with motor vehicles and enhances the attractiveness of this form of non-motorized travel. Comprehensive transit service reduces vehicle congestion and expands pedestrian trip options. Lower congestion provides safer roadways through fewer conflicts between vehicles. Better non-driving travel options permit those who shouldn't drive to be mobile without driving.

Good mobility requires an efficient roadway network with good pavement, bridges and traffic controls that allow traffic to flow smoothly and safely. A good roadway network is the basis from which intermodal options can be developed. The maintenance of both motorized and non-motorized travel facilities is necessary to enhance both options within the transportation system because they affect the efficiency of each other.

The Delaware-Muncie Transportation Plan includes strategies for developing a surface transportation system from a multi-modal, intermodal standpoint. Through updated processes and methods for the evaluation of the overall transportation system and related projects, multi-modalism and intermodal connectors will be emphasized. Efforts on the part of the Plan Commission staff will include solicitation of more active participation from modal representatives. Through the various committee structures, existing and proposed, the Plan Commission staff will coordinate intermodal concerns and requirements. An example would be the development of a design checklist covering the safe and efficient movement of public transit within private developments that would be distributed along with zoning requirements to developers. As this type of multi-modal focus becomes more predominant, the various committees will develop their own ideas and the Plan Commission staff will be in a position to coordinate among and between these groups.

Fiscal constraint is another focus stemming from ISTEA, TEA-21, and SAFETEA-LU. The purpose of this transportation plan is to provide a comprehensive long-range plan of transportation improvements for which adequate funding has been identified and conformity can be demonstrated. This is not a hopeful wish-list, but a practical list of projects/improvements that will provide for a better transportation system over time. It has been determined that making more efficient use of the existing facilities and rights-of-way is preferable to creating new facilities that parallel and replace the old. Some new connections and new facilities are needed to supplement and enhance, not to replace, the existing facilities. The financial resources for the projects/improvements were projected over 25 years and then the long range program was adapted to fit within those constraints.

FINANCIAL PLAN

The timing of available local, state and federal funding has to be coordinated with transportation improvement needs to have a viable financial plan. The use of federal transportation improvement funds depends on local funds being provided for a portion of project costs. The traditional local funding available for the match on federally subsidized projects and other necessary local transportation improvements come from: the Local Road and Street Accounts (LRS) for the various jurisdictions, the Delaware County Cumulative Bridge Fund (CUMBR), and Economic Development Income Tax (EDIT) for Muncie and Delaware County. Motor Vehicle Highway (MVH) funds and a portion of the LRS funds go toward operation and maintenance costs for the local highway departments and a majority of local EDIT funds are used for a variety of non-transportation improvements for enhancing the local economies.

LPA / Fund		2019	2020	2021	2022
Delaware	LRS	841,240.93	804,197.64	879,692.80	904,545.50
County	MVH	3,691,895.47	3,652,382.71	3,652,382.71	4,235,832.34
	Wheel-tax	1,044,354.26	1,028,128.53	1,028,128.53	1,055,849.37
	CUMBR	2,032,650.75	1,800,954.06	1,922,599.35	2,339,917.17
County	Total	7,839,579.45	7,348,528.39	8,125,976.47	8,996,181.76
Muncie	LRS	1,459,254.41	1,694,304.80	1,536,392.51	1,340,149.46
	MVH	4,240,298.23	3,486,707.86	4,560,375.90	4,561,572.66
	Wheel-tax	1,185,949.17	1,202,964.70	1,234,491.22	1,189,699.44
Muncie	Total	6,885,501.81	6,383,977.36	7,331,259.63	7,091,421.56
Yorktown	LRS	67,224.19	80,678.73	80,678.73	101,633.89
	MVH	386,109.16	555,083.81	555,083.81	798,706.53
	Wheel-Tax	170,591.38	190,685.43	190,685.43	173,204.63
Yorktown	Total	1,317,330.58	1,182,753.41	1,069,286.08	1,814,198.98
Selma	LRS	13,332.78	12,737.06	14,346.80	13,607.92
	MVH	40,340.51	34,244.43	36,330.87	33,407.50
	Wheel-Tax	16,492.63	16,730.78	17,169.34	16,091.71
Selma	Total	70,155.92	63,712.27	67,847.01	63,107.13

It should be noted that the local funds projected for transportation improvements are for all road improvement work including road maintenance and is not exclusively for matching federal funds on local federally subsidized projects. The use of these funds must be a balanced between maintaining and upgrading the road network. Also, a portion of the local transportation improvements use local funds

exclusively for a variety of reasons. The improvements on roads that are not major roads on the federal Functional Class System are not eligible for federal transportation funds. Some improvements eligible for federal funds can be done at a much lower cost exclusively with local funds because federal standards and procedures tend to result in higher project costs. Also, with traditional funding sources shrinking and improvement costs rising, non-traditional funding sources have been sought including: private funding primarily through non-for-profits, bonding, partnerships with other governmental agencies such as Ball State University and the Muncie Sanitary District, and Tax Increment Financing Districts.

Table 8: BASE YEAR AVERAGE REVENUES

FUNDS	CITY OF MUNCIE	DELAWARE COUNTY	YORKTOWN	SELMA
LRS	$ 1,523,615	$ 862,810	$ 156,180	$ 13,565
MVH	$ 5,411,935	$ 5,272,955	$ 1,199,235	$ 51,670
CUMBR		$ 2,021,155		
TOTAL	$ 6,935,550	$ 8,156,920	$ 1,355,415	$ 65,235

The base year revenues were derived by taking a three-year annual average rounded to the nearest five (5) from 2020 through 2022 for each funding source. Motor Vehicle Highway funds include Wheel Tax.

The table below shows the local transportation improvement funds as projected for the next 26 years. The revenues were estimated using the base year average for 2021 and applying per year growth factors of 2.0 % for LRS, MVH, and for Cumulative Bridge Funds. The funds listed reflect a rough average of what is projected to be available to use for operations, road maintenance and Transportation projects.

Table 9: PROJECTED LOCAL TRANSPORTATION FUNDS

FUND SOURCE	2024-2029	2030-2034	2035-2039	2040-2049	26-YEAR TOTAL
City of Muncie Total	**46,427,265**	**43,133,350**	**47,622,705**	**110,631,125**	**$247,814,445**
LRS	10,199,230	9,475,620	10,461,850	24,303,660	54,440,355
MVH	36,228,035	33,657,730	37,160,855	86,327,465	193,374,090
Delaware County Total	**54,603,240**	**50,729,255**	**56,009,200**	**130,113,575**	**$291,455,270**
LRS	5,775,735	5,365,960	5,924,455	13,762,950	30,829,100
MVH	35,297,690	32,793,395	36,206,555	84,110,550	188,408,190
CUMBR	13,529,815	12,569,900	13,878,190	32,240,075	72,217,980
Yorktn Total	**9,073,285**	**8,429,555**	**9,306,910**	**21,620,645**	**48,430,395**
LRS	1,045,485	971,310	1,072,405	2,491,275	5,580,475
MVH	8,027,800	7,458,245	8,234,505	19,129,370	42,849,920

Table 9: PROJECTED LOCAL TRANSPORTATION FUNDS (Continued)

FUND SOURCE	2024-2029	2030-2034	2035-2039	2040-2049	26-YEAR TOTAL
Selma Total	**436,690**	**405,710**	**447,935**	**1,040,585**	**2,330,920**
LRS	90,805	84,365	93,145	216,380	484,695
MVH	345,885	321,345	354,790	824,205	1,846,225

The table below displays the projected federal Urban STP, STP-TA, HSIP and CMAQ funds available for major local road projects and Federal Transit Administration (FTA) Section 5307 funds available to the Muncie Indiana Transit System (MITS) from 2024 through 2049.

Table 10: PROJECTED FEDERAL TRANSPORTATION IMPROVEMENT FUNDS

FUND SOURCE	2024-2029	2030-2034	2035-2039	2040-2049	26-YEAR TOTAL
STP-Urban	14,244,530	15,631,495	17,258,435	40,092,645	87,227,105
STP-TA	2,021,975	2,232,420	2,464,775	5,725,855	12,445,025
HSIP	2,905,760	3,208,195	3,542,105	8,228,580	17,884,640
CMAQ	5,154,850	5,691,370	6,283,735	14,597,590	31,727,545
Federal Total	24,327,115	26,763,480	29,549,050	68,644,670	149,284,315

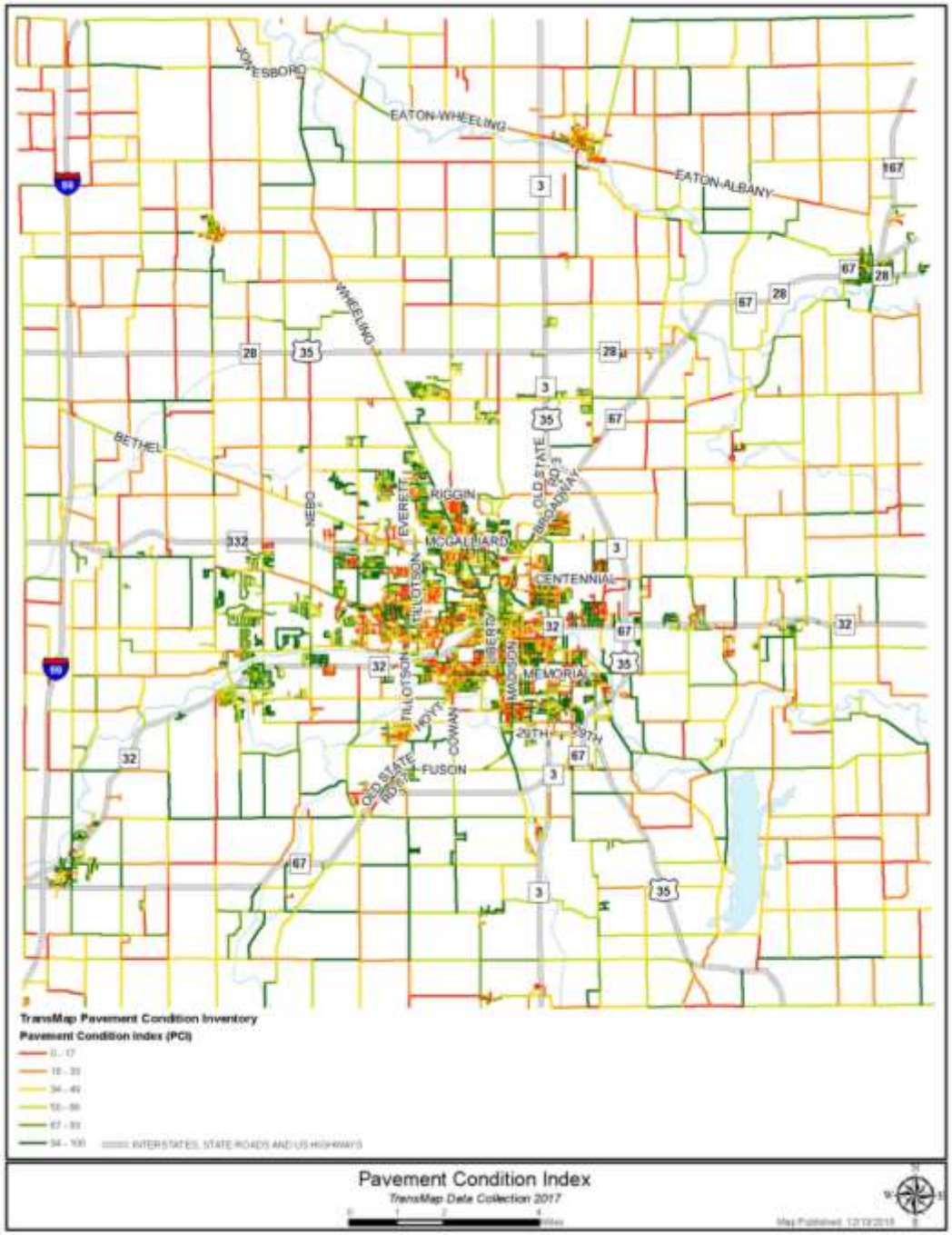
Abbreviations: STP-Urban is Surface Transportation Program funds allocated to the urbanized area.
TA is Transportation Alternative, HSIP is Safety, CMAQ is Congestion Mitigation Air Quality

Pavement Management Systems

TransMap, pavement mapping consultant, has worked with the County, Muncie and Yorktown to rate the public road pavements throughout Delaware County in the process of developing pavement management plans. The purpose of the pavement management information is to give each jurisdiction the necessary information to plan for the best combinations of pavement improvements for making an efficient use of available funds toward local transportation improvements. The graphic to the right shows how pavements throughout Delaware County are currently rated. TransMap is currently conducting the most recent pavement inventory which should conclude in December, 2023. Those results will contribute to future areas for improvements.

Bridge Projects

The exact locations and timing of bridge projects is driven by the Bridge Reinspection Report, which is updated every two years using federal funds. The Bridge Reinspection Report specifies improvements needed for urban and rural bridges. Rural bridges are those located outside of the Urbanized Area and Urban bridges are inside. A distinction is made per the funding policies of the Indiana Department of Transportation (INDOT). Bridge projects compete on a statewide basis and the needed improvements far outweigh available Bridge funds. Additionally, Surface Transportation Program



(STP) funds can be used for bridge projects, while Bridge funds are solely for bridge structures and there is a federal mandate in the Transportation Bill that a certain percentage must be used on rural bridges. As a result, INDOT's policy requires that if there are unused STP funds in an Urbanized Area, an urban bridge project must be funded through STP. The current practice for a county is to have 2 to 3 bridge projects in a construction program as it takes from 2-4 years to reach actual construction. There are currently three bridges in the "works": Bridge 502, Bridge 20, and Bridge 45. Federal Bridge funds will continue to be sought for some rural bridges using the Bridge Reinspection Report as support in order to maintain an on-going improvement process. The remainder of the bridge improvements are anticipated to be covered by local bridge funding. There will be consideration for upgrading some bridges to allow more rural roads to handle heavy vehicles carrying grain or livestock to market.

Rail Crossing Projects

Rail crossings are also evaluated on a statewide basis by the Indiana Department of Transportation (INDOT). INDOT determines the rail crossings that are eligible for federal transportation improvement funds. Rail crossing projects will be included in the Delaware-Muncie Transportation Improvement Program (DMTIP) when the locations become eligible for federal funds provided that the local jurisdiction has determined the improvement needed and are committed to it.

It has been noted that rail crossing approach sight-distances are sometimes compromised by brush along fences outside of road and railroad right-of-ways. A local effort to maintain rail crossing sight-distance clearance will be set up for both public and private land areas near each crossing.

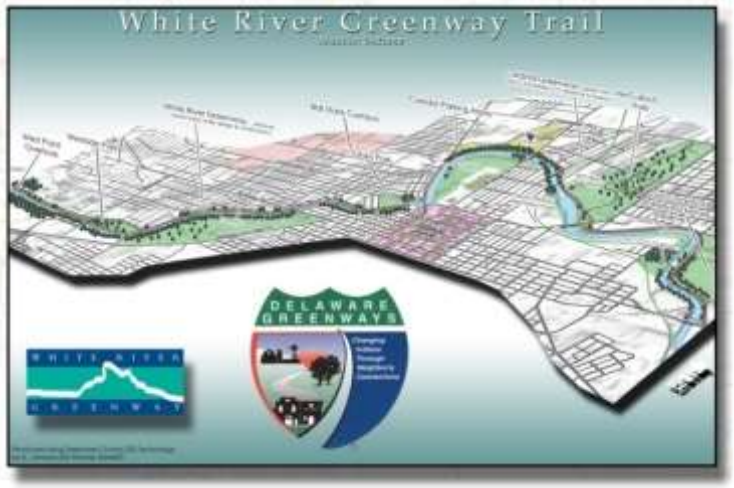
Safety Projects

A program of safety projects will be the focus in the future. The current safety effort centers on projects to update our local sign inventories and replacement signs that no longer meet FHWA's retro-reflectivity requirements. Other improvements will be driven by the annual examination of accidents and turning movement count data. It is anticipated that certain intersection improvements will result. Roughly $460,600 of HSIP (safety) federal funds will be available per year for the Muncie Urbanized Area.

Transportation Enhancement Projects

Projects using Transportation Enhancement (TE) federal funds from the Surface Transportation Program (STP) are approved by the Governor of Indiana after going through a selection process. Currently, TE funds were allocated to the Muncie urbanized area based on population, but have been replaced by Transportation Alternatives (TA) federal funds which are also eligible toward Safe Routes to School efforts. Roughly $320,500 of TA federal funds will be available per year for the Muncie Urbanized Area.

The Comprehensive Plan identified key areas of emphasis which directly relate to the enhancement program and it is anticipated that future projects will be sought aimed at enhancing the appearance of our communities, developing a countywide bicycle and pedestrian network and increasing our quality of life. Section VI containing the Bicycle and Pedestrian Plan for Muncie and Delaware County will provide the planning support for these types of projects. TE funds could only be used for the following types of projects:



- Provision of facilities for pedestrians and bicycles.
- Acquisition of scenic easements and scenic or historic sites.
- Scenic or historic highway programs (including provision of tourist and welcome center facilities).
- Landscaping and other scenic beautification.
- Historic preservation.
- Rehabilitation and operation of historic transportation buildings, structures, or facilities (including historic railroad facilities and canals).
- Preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian or bike trails).
- Control and removal of outdoor advertising.
- Archaeological planning and research.
- Environmental mitigation to address water pollution due to highway runoff or reduce vehicle-caused wildlife mortality while maintaining habitat connectivity.
- Provision of safety and educational activities for pedestrians and bicyclists.
- Establishment of Transportation Museums.

The current focus is completion of the White River Greenway with a new emphasis on sidewalks – especially those creating a connection to the trail system.

Public Transit Needs

The Muncie Indiana Transit System (MITS) was responsive in expanding and altering its fixed route system to reach new areas of growth within Muncie. The changes made to serve Woods Edge and the Meijer's Store are examples of this, but less than sufficient ridership demand resulted in dropping service to the Meijer Store. Poor road configurations and a lack of sidewalks were major barriers to efficient transit service at new developments, but the Muncie sidewalk system has expanded in local projects to remedy this. The

efforts to upgrade a pedestrian system that reaches throughout the urban area will help transit service by making bus stops more easily accessible to the public. It was estimated that roughly half of the MITS Plus passengers could use the fixed route service in good weather if adequate sidewalks were available. The fixed route service provides greater independence to its passengers and is less costly than demand responsive service. MITS started a new policy on the demand responsive service to serve all of incorporated Muncie, not just areas near the fixed route system. Local changes in ordinances as a result of the Comprehensive Plan effort helps to encourage development near existing services and municipal facilities. The concentration of growth near or within Muncie could provide better opportunities to expand the MITS transit services, but growth has been static. MITS, like most transit services in the United States, provides for 1 to 2 percent of urban trips. Increased transit service would decrease traffic congestion and enhance traffic safety.

Long-range transit projects will continue to maintain, and expand as needed, the operation of the urban public transit system; could expand the rural transit system as needed using the New Interurban; and will remain open to other public transit opportunities such as light rail. Delaware County is a member of the Central Indiana Regional Transportation Authority (CIRTA) as planning continues toward connection with Indianapolis and the surrounding counties. Future projects will also be driven by the Public Transit-Human Services Coordination Plan.

Intelligent Transportation Systems (ITS)

Being a small urban area, ITS efforts focus on technological advances that serve to optimize efficient traffic movement, use of traffic enforcement personnel and data gathering rather than incident management to reduce congestion delays and similar issues facing larger areas.

Muncie's Traffic Signals modernization and the countywide GIS (geographic information system) provide a foundation for ITS applications. The signal modernization has been part of previous projects and is expected to be a continuing effort. An on-going program for identifying and implementing such improvements will be instituted and should significantly benefit other areas mentioned previously such as the analysis of signs and signals. All efforts are being made to ensure that local ITS applications are coordinated to prevent redundancy.

Congestion Mitigation & Air Quality (CMAQ) Funds

A continuing category of funding is available to the Delaware County area as a result of having once been designated non-attainment for National Ambient Air Quality Standards. This category of funds is actually separated out from the Surface Transportation Program Funds and must be used only for eligible projects – ones that will have a positive impact on air quality and not increase vehicle emissions. There is a consulting committee that oversees the requested projects to determine their eligibility. Once that is confirmed by the Federal Highway Administration, the projects can be programmed for the use of CMAQ funds. Roughly $820,000

per year is available toward CMAQ projects within the Delaware County portion of the Muncie Metropolitan Planning Area. Types of projects funded through CMAQ include Ozone education, bicycle and pedestrian facilities, and transit. It could also include new concepts such is an Idle-Air equipped truck stops since idling vehicles have higher emissions. It is anticipated that, since bicycle and pedestrian facilities are in demand and TA funds have be focused on trails, CMAQ projects will focus on pedestrian facilities with special attention to sidewalks providing access to the transit system. CMAQ funds were used toward alternative fuel vehicles, the trail system, new sidewalks, and roundabouts.

LONG RANGE PROJECTS

The long range program of projects is shown on the following pages. Previously they have included only those projects within the Metropolitan Planning Area, but this listing has been expanded to include all federally funded projects and all regionally significant projects located in Delaware County, Indiana, to comply with Transportation Conformity requirements. As a result, the list includes State projects both inside and outside of the Metropolitan Planning Area, projects listed in the Madison County Council of Governments Transportation Plan located in the Daleville area which is a part of the Anderson Urbanized Area, and rural local projects outside the Metropolitan Planning Area. The listing does not include the bicycle and pedestrian projects which are shown in Section VI. The listing was separated by jurisdiction and by funding phase. There were four funding phases: 2024-2029, 2030-2034, 2035-2039 and 2040-2049. The listing also included a label for Project Class which refers to whether it was considered an expansion project or an exempt project. Expansion projects were those that expanded capacity and were subject to a conformity analysis to determine that they would not adversely impact air quality. This list of projects had that determination when the conformity analysis was required, but this requirement ended July 20, 2013. Bicycle and pedestrian projects were classified as exempt.

The listing includes a column labeled Model Year. The DMMPC was required to conduct an air quality analysis for certain years and those selected had to meet certain requirements such as they must be no more than 10 years apart. The model years that we have are 2010, 2015, 2020, 2025, 2030, 2035, and 2040. The model year of a project meant the year in which that improvement was to be added to the system and modeled for air quality conformity. The project would be added to the model year only if it was to be completed and open to traffic by the “ozone season” which is April through October.

Table 11: *Transportation Plan Projects by Jurisdiction, Project Class and Funding Phase*

Jurisdiction **City of Muncie**

Project Class

Funding Phase	Project Name	Des #	Miles	Type of Expansion Project	Type of Exempt Project	Model Year	Project Cost	Federal Cost	Local Cost	Federal Funding
2024-2029	Tillotson from Kilgore to McGalliard				HMA Overlay/Reconstruction	2030	$2,779,000	$2,223,200	$555,800	STBG
2024-2029	McGalliard from Tillotson to Wheeling				HMA Overlay	2030	$1,152,000	$ 921,600	$230,400	STBG
2024-2029	McGalliard from Granville to US 35				HMA Overlay	2030	$2,152,000	$1,721,600	$430,400	STBG
2024-2029	Nichols Ave at White River Blvd		0.00		Intersection/Roundabout	2030	$3,000,000	$2,400,000	$600,000	Urban STP
2024-2029	Riggin Reconstruction		1.40		Reconstruction/Turn Lanes	2030	$4,000,000	$3,200,000	$800,000	Urban STP
2024-2029	Riverside Reconstruction		0.60		3-R Reconstruction	2030	$3,000,000	$1,600,000	$400,000	Urban STP
2030-2034	Walnut Reconstruction		0.75		Reconstruction/Turn Lanes	2035	$3,000,000	$1,600,000	$400,000	Urban STP
2030-2034	Bethel from Oakwood to New York		0.50		Reconstruction/Turn Lanes	2035	$4,000,000	$3,200,000	$800,000	Urban STP
2030-2034	Morrison Reconstruction		0.90		Reconstruction/Turn Lanes	2035	$4,000,000	$3,200,000	$800,000	Urban STP

Jurisdiction **Delaware County**

Project Class Exempt

Funding Phase	Project Name	Des #	Miles	Type of Expansion Project	Type of Exempt Project	Model Year	Project Cost	Federal Cost	Local Cost	Federal Funding
2024-2029	Kitselman Trail Phase 3	1900774			Trail Construction	2030	$4,342,525	$3,474,020	$868,505	STP-Urban
2024-2029	BR #193 Memorial Dr over White River	2100088	0.00		Bridge Replacement	2030	$2,025,000	$1,620,000	$405,000	STP-Urban
2024-2029	BR #502 Gharkey St over Buck Creek		0.00		Bridge Replacement	2030	$1,250,000	$1,000,000	$250,000	STP-Urban
2024-2029	Br#20 Walnut St over Mississinewa River		0.00		Bridge Replacement	2030	$2,500,000	$2,000,000	$500,000	STP-Urban
2024-2029	Nebo Rd at Bethel Avenue		0.00		Intersection/Roundabout	2030	$2,500,000	$2,000,000	$500,000	STP-Urban
2024-2029	Morrison Rd at Bethel Avenue		0.00		Intersection/Roundabout	2030	$2,500,000	$2,000,000	$500,000	STP-Urban
2030-2034	Br#45 Gregory Rd over Mississinewa River		0.00		Bridge Replacement	2035	$2,500,000	$2,000,000	$500,000	STP-Urban
2030-2034	Riggin Rd at Old State Road 3		0.00		Intersection/Roundabout	2035	$2,500,000	$2,000,000	$500,000	STP-Urban

Jurisdiction **Yorktown**

Project Class

Funding Phase	Project Name	Des #	Miles	Type of Expansion Project	Type of Exempt Project	Model Year	Project Cost	Federal Cost	Local Cost	Federal Funding
2024-2029	Tiger Dr at River Rd		0.00		Intersection Turn Lanes	2030	$2,500,000	$2,000,000	$500,000	STP-Urban
2024-2029	River Rd at CR 500W		0.00		Intersection/Roundabout	2030	$3,000,000	$2,400,000	$600,000	STP-Urban
2024-2029	River Rd at CR 600W		0.00		Intersection/Roundabout	2030	$3,000,000	$2,400,000	$600,000	STP-Urban
2030-2034	CR 500W: SR 32 to River Rd		0.25		New Road/Bridge	2035	$4,000,000	$3,200,000	$800,000	STP-Urban
2030-2034	CR 500W: River Rd to Eucalyptus Ave		0.60		3-R Reconstruction	2035	$3,000,000	$2,400,000	$600,000	STP-Urban

Abbreviations: Urban STP = Urban Surface Transportation Program, CMAQ = Congestion Mitigation & Air Quality, TA = Transportation Alternatives

2024-2049 Improvement Projects for All Jurisdictions:

Pavement reconstruction or resurface improvements will be based on the Pavement Management Plans for the County, Muncie, and Yorktown.
Bridges will be replaced or rehabilitated based on the Delaware County Bridge Inspection reports.
Bicycle/pedestrian facility constructions and improvements will be based on the Delaware-Muncie Bicycle and Pedestrian Plan

Jurisdiction **Muncie Indiana Transit System**

Project Class Phase	*Project Name*	*Project Number*	*Project*	*Fiscal Year*	*Project Cost*	*Federal Fund*	*Federal Cost*	*State PMTF Cost*	*Local-PTC Cost*
2024-2029	Operating Assistance	2024(MITS-1)	Operating Assistance	2024	8,633,390	FTA5307	3,000,000	1,473,230	4,160,160
2024-2029	Purchase Fixed Route Buses	2024(MITS-2)	3 Heavy Duty Buses	2024	2,025,000	FTA5339	1,620,000		405,000
2024-2029	Purchase Transit Vans	2024(MITS-3)	4 Propane Transit Vans	2024	750,000	FTA5310	600,000		150,000
2024-2029	Purchase/Install Shelters	2024(MITS-4)	Passenger Waiting Shelters	2024	20,000	FTA5339	16,000		4,000
2024-2029	Paratransit Fareboxes	2024(MITS-7)	Purchase New Fareboxes	2024	70,000	FTA5310	56,000		14,000
2024-2029	Garage Overhead Door	2024(MITS-8)	Replace Overhead Door	2024	150,000	FTAlo/no	135,000		15,000
2024-2029	Transfer Station Awnings	2024(MITS-9)	Purchase/Install Awnings	2024	150,000	FTAlo/no	135,000		15,000
2024-2029	Renovate Bus Wash Machine	2024(MITS-8)	Replace/Renovate Bus Wash	2024	200,000	FTA5307	160,000		20,000
2024-2029	Operating Assistance	2025(MITS-1)	Operating Assistance	2025	7,886,240	FTA5307	2,139,705	1,473,230	4,273,305
2024-2029	Purchase Fixed Route Buses	2025(MITS-2)	3 Heavy Duty Buses	2025	2,025,000	FTA5339	1,620,000		405,000
2024-2029	Purchase Transit Vans	2025(MITS-3)	3 Propane Transit Vans	2025	565,000	FTA5310	452,000		113,000
2024-2029	Purchase Service Truck	2025(MITS-4)	Maintenance Service Truck	2025	45,000	FTA5307	36,000		9,000
2024-2029	Operating Assistance	2026(MITS-1)	Operating Assistance	2026	8,043,960	FTA5307	2,182,500	1,473,230	4,388,230
2024-2029	Purchase Fixed Route Buses	2026(MITS-2)	2 Heavy Duty Buses	2026	1,100,000	FTA5339	880,000		220,000
2024-2029	Purchase Transit Vans	2026(MITS-3)	2 Propane Transit Vans	2026	250,000	FTA5310	200,000		50,000
2024-2029	Transit Lift	2026(MITS-4)	Rotary Recessed Drive on Lift	2026	175,000	FTA5339	140,000		35,000
2024-2029	Operating Assistance	2027(MITS-1)	Operating Assistance	2027	8,204,840	FTA5307	2,226,150	1,473,230	4,505,460
2024-2029	Purchase Fixed Route Buses	2027(MITS-2)	5 Heavy Duty Buses	2027	2,750,000	FTA5339	2,200,000		550,000
2024-2029	Purchase Supervisors' Vehicles	2027(MITS-3)	2 Supervisors' Vehicles	2027	70,000	FTA5307	56,000		14,000
2024-2029	Replace Bus Wash Machine	2027(MITS-4)	Replace Bus Wash	2027	500,000	FTA5339	400,000		100,000

Abbreviations: FTA = Federal Transit Administration, PMTF = Public Mass Transportation Fund, PTC=Muncie Public Transportation Corporation, FTAlo/no=low or no emissions funds

2024-2049 Improvement Projects: programmed projects will be based on Bridge, Preventative Maintenance, Safety, and National Highway Programs

Fiscal Responsibility:
This Transportation Plan and the program of projects reflect fiscal responsibility based upon best estimates of anticipated funding. The projects costs reflect the best estimates based on year of construction costs using an annual inflation factor of 1.2 percent.

Jurisdiction State

DES #	PROGRAM	DESCRIPTION	PHASE	COST	FUND CODE	FY	EST COST TO COMPLETE/ TOTALS
1800685 INDOT	ITS Traffic Management Systems	I69 CCTV DMS from 2.1 miles S of SR 109 to the Delaware/ Grant County Line, 3.5 miles S	CN "	3,051,189 339,021	NHPP State	2025 2025	$ 3,390,210 CN: 3,390,210
1900132 INDOT B-42318	Bridge Rehabilitation	I-69 NB over Killbuck Creek, 0.93 miles N of SR 332: replace superstructures. (Air Quality Conformity exempt status 10/30/23)	PE " CN "	21,780 2,420 4,775,373 530,597	NHPP State NHPP State	2024 2024 2024 2024	$ 5,919,722 PE 24,200 CN: 5,305,970
1900133 INDOT B-42318	Bridge Rehabilitation	I-69 SB over Killbuck Creek, 0.93 miles N of SR 332: replace superstructures (Air Quality Conformity exempt status 10/30/23)	CN "	2,182,381 242,487	NHPP State	2024 2024	$ 2,424,868 CN: 2,424,868
1900147 INDOT	Safety Intersection Improvement	US 35 at CR 300 S: intersection improvements with added turn lanes. (Air Quality Conformity exempt status 10/30/23)	CN "	813,940 90,438	HSIP State	2024 2024	$ 904,378 CN: 904,378
1900148 INDOT R-42710	Access Control Safety	SR 332 at Morrison Road: safety improvements for access control, traffic signal visibility improvements (Air Quality Conformity exempt status 10/30/23)	CN "	22,273 2,475	HSIP State	2024 2024	$ 24,748 CN: 24,748
1900151 INDOT R42709	Access Control Safety	SR 32 at Nebo Road: safety improvements for access control. (Air Quality Conformity exempt status 10/30/23)	CN "	356,019 39,558	HSIP State	2024 2024	$ 395,577 CN: 395,577
1902737 INDOT R-44136	Small Structures & Drains	Various Small Structure Pipes: US 31, SR 32, SR 13, SR 9 (Air Quality Conformity exempt status 10/30/23)	PE " CN "			2024 2024 2024 2024	$ 852,382 PE: 64,000 CN: 788,382

2000594 INDOT R-42710	Preventative Maintenance	SR 332 from I-69 to 7.65 miles E of I-69: HMA Overlay paving & safety upgrades. (Air Quality Conformity exempt status 10/30/23)	CN "	6,768,262 1,692,066	STP State	2024 2024	$ 8,460,328 CN: 8,460,328
2001870 INDOT B-43498	Small Structures & Drains	SR 67: approximately 2,000 feet W of SR 3, Structure Lat/Long (40.1424362476164, 85.3823623717132) (Air Quality Conformity exempt status 10/30/23)	CN "	486,915 121,729	NHPP State	2025 2025	$ 608,644 CN: 608,644
2001880 INDOT	Preventative Maintenance	Old SR 67 from 0.09 mi W of I-69 to I-69/SR 67: HMA Overlay paving.	CN "	88,454 22,113	STP State	2025 2025	$ 110,567 CN: 110,567
2001883 INDOT R-44136	Small Structures & Drains	SR 67 at intersection with Old SR 67 (Air Quality Conformity exempt status 10/30/23)	CN "	108,352 27,088	NHPP State	2024 2024	$ 135,440 CN: 135,440
2001926 INDOT	Preventative Maintenance	SR 28 from SR 9 to I-69: HMA Overlay paving, structural.	CN "	3,051,644 762,911	STP State	2025 2025	$ 3,814,555 CN: 3,814,555
2001991 (NB) 2001992 (SB) INDOT B-43492	Bridge Program	US 35 NB & SB bridges over Cardinal Greenway, 2.25 mi. S of SR 32: bridge painting (Air Quality Conformity exempt status 8/17/22)	CN " CN "	2,046,573.20 511,643.30 2,046,573.20 511,643.30	NHPP State NHPP State	2028 2028 2028 2028	$ 5,116,433 CN: 5,116,433
2002061 INDOT B-43492	Bridge Program	SR 67 NB bridges over SR 3, 1.30 miles S of US 35: bridge painting (Air Quality Conformity exempt status 10/30/23)	CN " CN "	242,825 60,706 16,000 4,000	STP State STP State	2025 2025 2025 2025	$ 323,531 CN: 323,531

2002062 INDOT B-43492	Bridge Program	SR 67 SB bridges over SR 3, 1.30 miles S of US 35: bridge painting (Air Quality Conformity exempt status 10/30/23)	CN “ CN “	242,825 60,706 16,000 4,000	STP State STP State	2025 2025 2025 2025	$ 323,531 CN: 323,531
2002269 INDOT	Small Struc- tures & Drains	I-69 structure 6.670 mi. N of SR 32.	CN "	1,406,412.90 156,268.10	NHPP State	2025 2025	$ 1,562,681 CN: 1,562,681
2002270 INDOT	Small Struc- tures & Drains	I-69 structure 0.185 mi. N of SR 332.	CN "	532,990 59,221	NHPP State	2025 2025	$ 592,211 CN: 592,211
2002318 INDOT	Small Struc- tures & Drains	US 35, 843 ft. E of SR 3: replacing small structure.	CN "	128,000 32,000	NHPP State	2025 2025	$ 160,000 CN: 160,000
2002337 INDOT R-43629	Drainage Ditch Correction	I-69, 0.12 miles N of SR 32 to 0.41 miles S or SR 26	CN “		NHPP State	2025 2025	CN: 464,822
2002353 INDOT	Small Struc- tures & Drains	US 35 structure 0.103 mi. N of SR 32.	CN "	269,866 67,466	NHPP State	2025 2025	$ 337,332 CN: 337,332
2002414 INDOT	Bridge Program	SR 32 Bridge over Shoe-maker Ditch, 02.29 E I-69: sub-structure repair & rehab.	CN "	168,360 42,090	STP State	2024 2024	$ 210,450 CN: 210,450
2003080 INDOT R-43887	Safety Intersection Improvement	SR 3 at Eaton-Wheeling Pike and Indiana Avenue: Roundabout (Air Quality Conformity exempt status 8/17/22, 11/15/23)	PE " RW “ CN “	575,691 143,923 111,840 27,960 1,750,772 437,693	HSIP State HSIP State HSIP State	2024 2024 2024 2024 2026 2026	$ 3,047,879 PE: 719,614 RW: 139,800 CN: 2,188,465
2100211 INDOT	HMA Overlay, Preventative Maintenance	SR 67 from I-69 to 3.76 mile W of SR 3 (CR 400 S) (Air Quality Conformity exempt status 12/5/22)	CN “		NHS State	Future	

2100776 INDOT R-43887	Small Structures & Drains	SR 3, 0.42 miles N of US 35/SR 28: small structure replacement (Air Quality Conformity exempt status 10/30/23, 11/15/23)	PE " RW " CN "			2024 2024 2024 2024 Future Future	$ 320,000 PE: 300,000 RW: 20,000 CN: 660,904
2100849 INDOT B-43492	Bridge Program	US 35, SR 3, 2.60 miles S of SR 32: bridge painting (Air Quality Conformity exempt status 10/30/23)	CN "			2025 2025	$ 275,000 CN: 275,000
2100850 INDOT B-43492	Bridge Program	SR 3, 2.60 miles S SR 32: bridge painting (Air Quality Conformity exempt status 10/30/23)	CN "			2025 2025	$ 275,000 CN: 275,000
2100851 INDOT B-43492	Bridge Program	US 35, bridge over Memorial DR/12th St, 1.01 miles S SR 32: bridge painting (Air Quality Conformity exempt status 10/30/23)	CN "			2025 2025	$ 250,000 CN: 250,000
2100852 INDOT B-43492	Bridge Program	US 35 SB, bridge over Memorial Dr/12th ST, 10.4 miles S SR 32: bridge painting (Air Quality Conformity exempt status 10/30/23)	CN "			2025 2025	$ 250,000 CN: 250,000
2100853 INDOT B-43492	Bridge Program	US 35 NB, bridge over CSX RR, 0.10 miles S SR 32: Substructure Repair and Rehabilitation (Air Quality Conformity exempt status 10/30/23)	CN " CN "			2025 2025 2025 2025	$ 130,000 CN: 130,000
2100854 INDOT B-43492	Bridge Program	US 35 SB, bridge over CSX RR, 0.10 miles S SR 32: Substructure Repair and Rehabilitation (Air Quality Conformity exempt status 10/30/23)	CN " CN "			2025 2025 2025 2025	$ 130,000 CN: 130,000
2100855 INDOT B-43492	Bridge Program	US 35 NB, bridge over SR 32 EB/WB, 3.51 miles S SR 67: Substructure Repair and Rehabilitation (AQ exempt 10/30/23)	CN "			2025 2025	$ 120,000 CN: 120,000

2100856 INDOT B-43492	Bridge Program	US 35 SB, bridge over SR 32 EB/WB, 3.51 miles S SR 67: Substructure Repair and Rehabilitation (Air Qualityexempt status 10/30/23)	CN "			2025 2025	$ 120,000 CN: 120,000
2100857 INDOT B-43492	Bridge Program	US 35 NB, bridge over N & S RR, 1.39 miles N SR 32: Substructure Repair and Rehabilitation (Air Quality Conformity exempt status 10/30/23)	CN " CN "			2025 2025 2025 2025	$ 130,000 CN: 130,000
2100858 INDOT B-43492	Bridge Program	US 35 SB, bridge over N & S RR, 1.39 miles N SR 32: Substructure Repair and Rehabilitation (Air Quality Conformity exempt status 10/30/23)	CN " CN "			2025 2025 2025 2025	$ 130,000 CN: 130,000
2100859 INDOT B-43492	Bridge Program	US 35 NB, bridge over SR 67/N Broadway: Substructure Repair and Rehabilitation (Air Quality Conformity exempt status 10/30/23)	CN "			2025 2025	$ 120,000 CN: 120,000
2100860 INDOT B-43492	Bridge Program	US 35 SB, bridge over SR 67/N Broadway: Substructure Repair and Rehabilitation (Air Quality Conformity exempt status 10/30/23)	CN "			2025 2025	$ 120,000 CN: 120,000
2100861 INDOT B-43492	Bridge Program	US 35 2.26 miles S SR 28: bridge painting (Air Quality Conformity exempt status 10/30/23)	CN " CN "			2025 2025 2025 2025	$ 410,000 CN: 410,000
2100862 INDOT B-43492	Bridge Program	US 35 2.26 miles S SR 28: bridge painting (Air Quality exempt status 10/30/23)	CN " CN "			2025 2025 2025 2025	$ 410,000 CN: 410,000
2200061 INDOT R-44581	Safety Intersection Improvement, Roundabout	SR 32 at Madison Street (Air Quality Conformity exempt status 12/5/22)	PE " RW CN	755,680 188,920 332,076.80 83,019.20 4,652,310.40 1,163,077.60	STP State STP State STBG State	2024 2024 2024 2024 2027 2027	$ 7,175,084 PE: 944,600 RW: 415,096 CN: 5,815,388

2200062 INDOT	Safety Intersection Improvement, Roundabout	SR 32 at Hackley St (Air Quality Conformity exempt status 12/5/22)	PE " RW CN	474,880 59,360 32,000 8,000	STP State STP State	2024 2024 2025 2025 Future	$ 382,394 PE: 593,600 RW: 40,000
2200063 INDOT R-44581	Safety Intersection Improvement, Roundabout	SR 32 at Ohio Ave. (Jackson St only) (Air Quality Conformity exempt status 12/5/22)	PE " RW CN	0 0 60,000 15,000	STP State STP State	2024 2024 2025 2025 Future	$ 75,000 PE: 0 RW: 75,000
2200478 INDOT	Safety ITS Traveler Information Systems	Various Statewide Dynamic Message Sign Upgrade to Full Color Matrix LED Display (Air Quality Conformity exempt status 12/5/22)	CN ‘’	12,000,000 3,000,000	NHS State	Future Future	$ 15,000,000 CN: 15,000,000
2200497 INDOT 44588	Small Structures and Drains	SR 32 0.95 miles W of US 35	CN “	261,309.60 65,327.40	NHPP State	2027 2027	$ 326,637
2200790 INDOT	Bridge Deck Replacement	I-69 Bridge over N&S RR, CR 251 (Air Quality Conformity exempt status 12/5/22, 11/15/23)	PE “ CN “	464,146 116,036 2,320,728 580,182	NHPP State NHPP State	2024 2024 Future Future	$ 3,481,092 PE: 580,182 CN: 2,900,910
2200791 INDOT B-44566	Bridge Deck Replacement	I-69 Bridge over N&S RR, CR 251, 0.66 miles N SR 332 (Air Quality Conformity exempt status 12/5/22, 11/15/23)	PE “ CN CN “	464,146 116,036 5,221,638 580,182	NHPP State NHPP State	2024 2024 2027 2027	$ 5,801,820 PE: 580,182 CN: 5,801,820
2201247 INDOT T-44741	Safety Repair or Replace Lighting	Various Statewide Highmast Tower Lighting Replacement at various interchanges (Air Quality Conformity exempt status 12/5/22)	PE ‘’ CN	582,400 145,600	NHS State	2024 2024 Future	$ 728,000 PE: 728,000
2201265 INDOT 44750	Guardrail	SR 67 at SR 3 to US 35 At SR 32	CN “	1,406,562.40 351,640.60	NHPP State	2027 2027	$ 1,758,203

2201151 INDOT	District Pavement Project (Non-1)	I-69 to 3.76 miles W of SR 3 (CR 400 S): Traffic Signal Modernization	CN “ CN “	987,276 246,819 175,182 43,796	STBG State STBG State	2026 2026 2026 2026	$ 1,453,073 CN: 1,234,095 CN: 218,978
2300274 INDOT	Other Type Project - Miscellaneous	Electric vehicle charging infrastructure at various locations along Indiana Interstates (AQC exempt status 5/11/23)	CN CN CN CN CN CN	$16,972,536 $4,243,134 $16,972,550 $4,243,137 $16,972,585 $4,243,146	STP State STP State STP State	2024 2024 2025 2025 2026 2026	$ 63,647,088 CN: $63,647,088
2300671 INDOT	Other (Miscellaneous)	Protect Program Development for Infrastructure Investment & Jobs Act (AQC exempt status 9/25/23)	PE “	400,000 100,000	STBG	2024	$ 500,000 PE: 500,000
2300691 INDOT 45192	Access Control	I-69 Right of Way access control in Delaware County	CN “	46,245.60 5,138.40	NHPP State	2028 2028	$ 51,384
2300872 INDOT	Bridge Replacement	I-69 SB Bridge over Abandoned RR, 3.16 miles S SR 26	CN “	3,082,500 342,500	NHPP State	2028 2028	$ 3,425,000
2301079 INDOT 45195	Intersection Improvement Roundabout	US 35 Intersection Improvement Roundabout in Delaware and Henry County	CN “	1,622,044 405,511	STBG State	2028 2028	$ 2,027,555
2301081 INDOT 45182	Intersection Other Intersection Improvement	SR 3 Intersection Improvement in Delaware and Henry County	CN “	1,598,432 399,608	NHPP State	2028 2028	$ 1,998,040

2301082 INDOT 45183	Intersection Other Intersection Improvement	SR 67 Intersection Improvement in Delaware County	CN “	1,812,212 453,053	NHPP State	2028 2028	$ 2,265,265
2301137 INDOT 45154	HMA Overlay Minor Structural	I—69 Intersection preventative maintenance HMA Overlay	CN “ CN “	41,275,785.60 4,586,198.40 5,839,090.20 648,787.80	NHPP State NHPP State	2028 2028 2028 2028	CN: 45,861,984 CN: 6,487,878

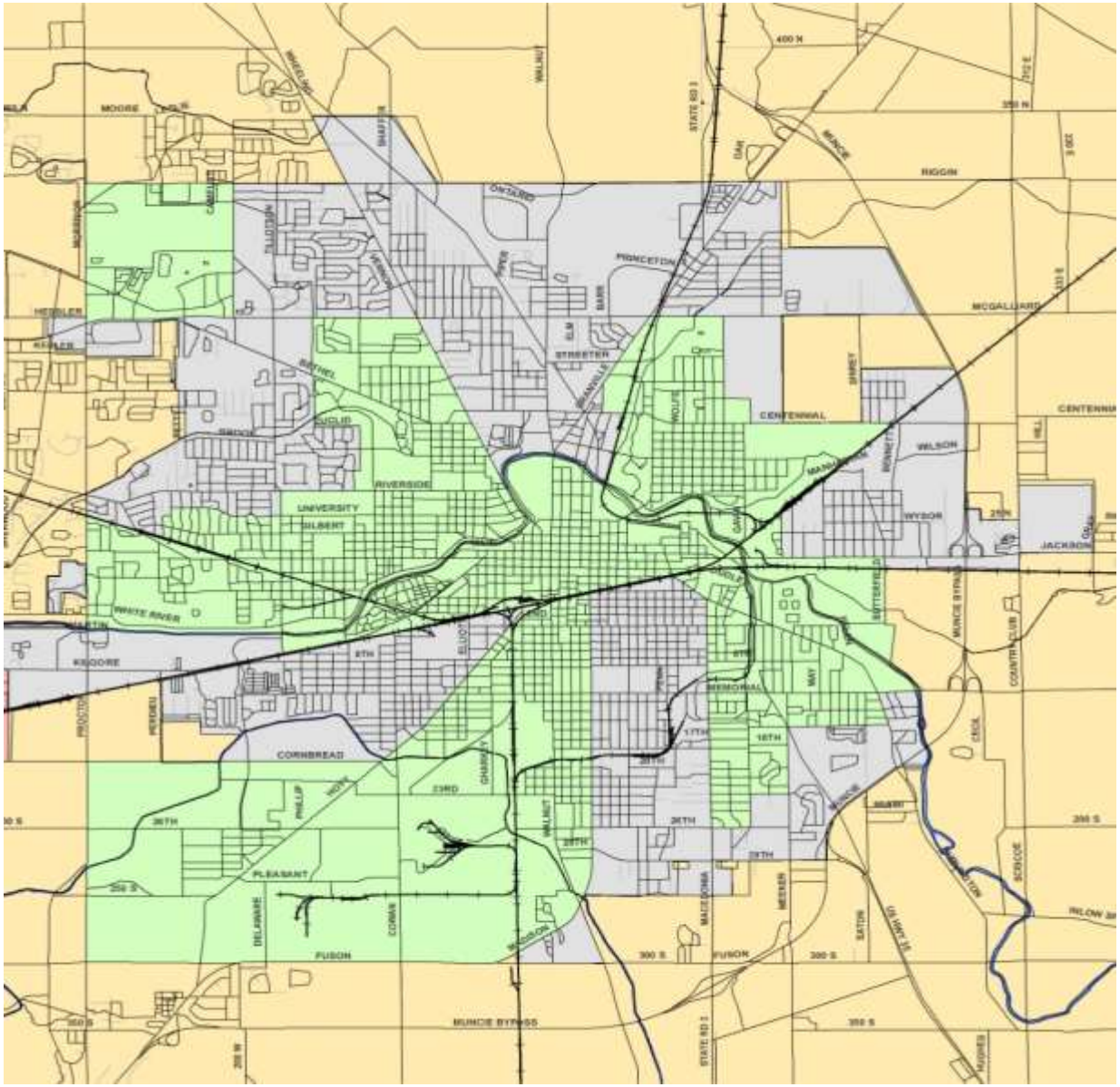
SECTION VIII

Environmental Justice Analysis of Local Projects in Transportation Plan

This section of the summary chapter provides environmental justice analysis concerning the program of local projects in the Muncie Urbanized Area and concerning low-income and minority areas. The two analyses of these areas are separate.

2020 Census Low-Income Areas Shown in Green

The census tract data for all of Delaware County was analyzed and the low-income areas highlighted in green on this map are the 2020 Census Tracts with at least 30 percent of the individuals living below the poverty level in 2009. The 2020 Census indicates that 18.4% of Delaware County's population lived below the poverty level. The low-income areas north of White River and west of Wheeling Avenue contained university students who qualified by their individual income level. The Wheeling Avenue reconstruction will benefit this area with better bike/pedestrian facilities as well as a better arterial for all of Muncie.



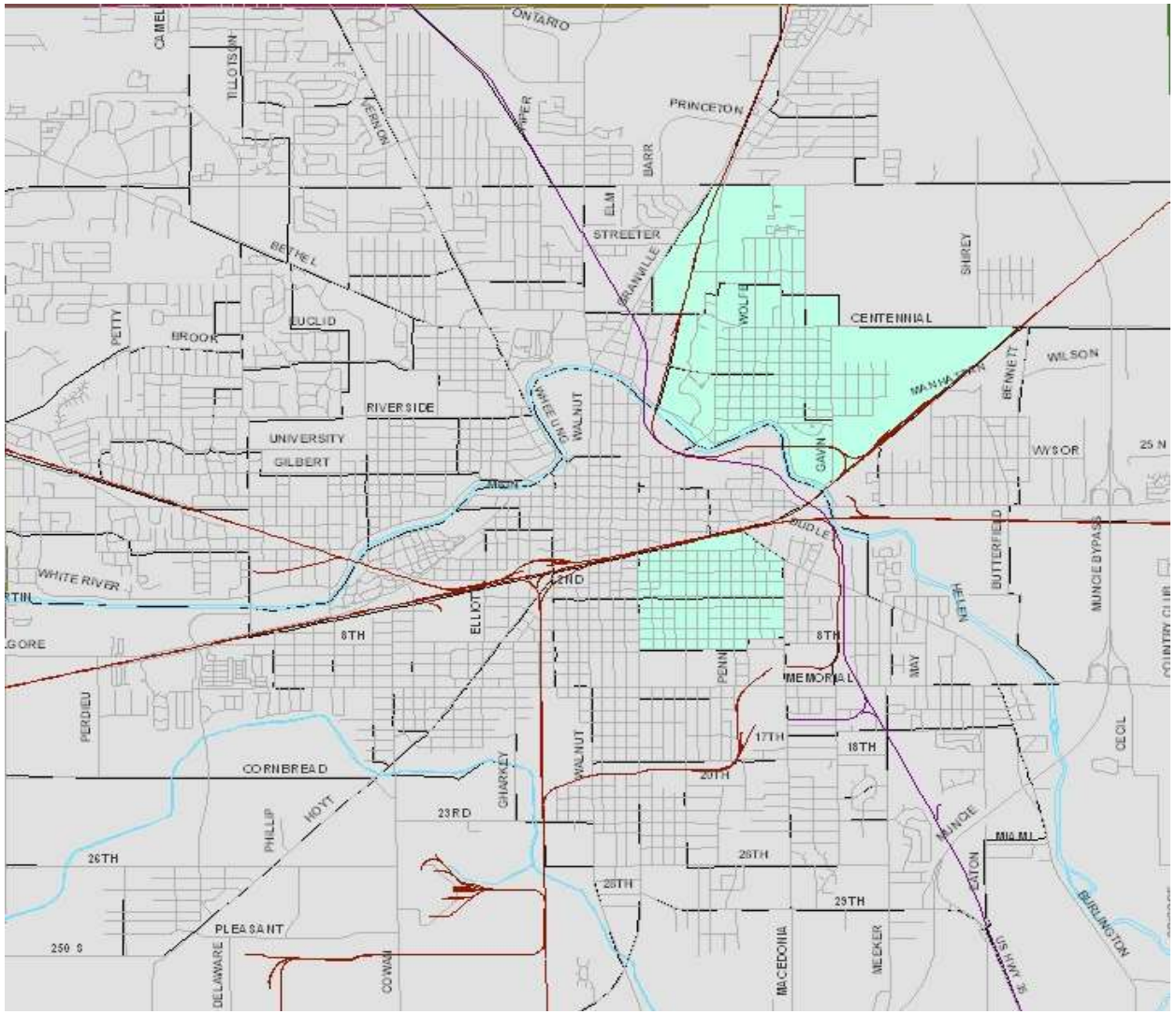
Environmental Justice Analysis of Minority Areas

The Minority Areas, as shown on the map below, are the 2020 Census Tracts with over half of the population as minorities. The 2020 Census reported 30.4% of the population of the City of Muncie live in poverty. The minority areas (highlighted in light green) are comprised of the Whiteley Neighborhood in the northeast and the Industry Neighborhood south of the downtown.

2020 Census Minority Areas Shown in Green

The Kitselman Gateway projects abut and connect into a minority area, providing their residents with access to new bicycle/pedestrian facilities east of the downtown. Most of the planned construction is completed, but there is more planned in a future project to provide more connections with the trail system.

This program of projects will benefit both the minority and the low-income areas.



Delaware County Limited English Proficiency (LEP) Policy

As reference in the Delaware County, Indiana Title VI Implementation Plan 2019 (page 9-11)

On August 11, 2000, the President signed an executive order, Executive Order 13166: Improving Access to Service for Persons with Limited English Proficiency (LEP), to clarify Title VI of the Civil Rights Act of 1964. It has as its purpose, to ensure meaningful access to programs and services to otherwise eligible persons who are not proficient in the English language. In addition, The US Department of Transportation published Policy Guidance Concerning Recipients' responsibilities to Limited English Proficient Person in the December 14, 2005 Federal Register. This guidance outlines the following four factors that the County uses to access the LEP populations in Delaware County.

1. The number and proportion of LEP persons eligible to be served or likely to be encountered by the County.
2. The frequency with which LEP individuals come into contact with the program, activity or service.
3. The nature and importance of the program, activity, or service provided by the program.
4. The resources available to the County and costs.

Due to the findings below showing only 0.9% of the population as not speaking English very well, Delaware County has not implemented the safe harbor provision whereby it identifies and translates all vital documents into any language where the 5% threshold is met whereby 5% or more of the population in the county both: Does not speak English very well; AND primarily speaks another specific language as identified in current census data or other publicly available records.

Factor 1: The number and proportion of LEP persons eligible to be served or likely to be encountered by the County can only be estimated until the actual number of persons who can speak English less than "very well" are documented as needing assistance by County Staff. With this Title VI Plan being in early development stages and considered a document that may need regular updates, US Census Bureau information is being used at this time.

Factor 2: The frequency with which LEP individuals come into contact with the program, activity or service: Due to the infrequent requests for translation services, there appears to be a minimal need for translation services from the County.

Factor 3: The nature and importance of the program, activity, or service provided by the program: If at any time a LEP individual requests translation services that are considered important such that denial or delay of access or services or information could have serious or even life-threatening implications, the County will provide, upon request, services to assist the LEP population including translation of vital County documents and interpretation services.

Factor 4: The resources available to the County and costs: Page 11 of 30 Should translation services ever be needed; the County will utilize language translation software available on mobile devices or resources available from Ball State University.

Full document available at www.co.delaware.in.us/egov/documents/1564579016_28786.pdf

Table 11. Race and Hispanic Origin

Race and Hispanic Origin	City of Muncie	Delaware County	State of Indiana
White Alone	82.2%	88.4%	84.0%
Black or African American Alone	10.5%	7.3%	10.3%
American Indian & Alaska Native Alone	0.1%	0.3%	0.4%
Asian Alone	2.0%	1.4%	2.8%
Native Hawaiian/Other Pacific Islander Alone	0.0%	0.1%	0.1%
Two or more races	4.5%	2.6%	2.4%
Hispanic or Latino	3.4%	2.8%	7.9%
White Alone, not Hispanic or Latino	80.1%	86.2%	77.0%

Table 12. Languages Spoken at Home in Delaware County

Language	Percent
English Only	96.7%
Spanish	1.2%
Indo European	1.0%
Asian/Pacific Islander	1.1%
Other	0.1%
Speak English less than “very well”	0.8%

SECTION IX

PUBLIC INPUT

MTP Outreach and Communication Public and Agencies

- 09/11/23: E-mail letter notice to Delaware County Council Members, Muncie City Council Members, Town of Yorktown, City of Muncie Engineering and Street Department, Delaware County Engineering Department
- 09/11/23 E-mail request for projects LPAs would like included in MTP: Town of Yorktown, City of Muncie Engineering and Street Department, Delaware County Engineering Department
- 09/12/23: E-mail letter notice to: FEMA, FEMA Tribal, Muncie Sanitary Department and Stormwater, FEMA Tribal, DNR, Muncie Indiana Transit Service (MITS), Cardinal Greenways, Bureau of Land Management, EPA, IDEM, Emergency Management Services, Redtail Land Conservancy, U.S. Fish and Wildlife Services, Delaware County Commissioners
- 09/14/23: Discussion at Technical Advisory Meeting
- 09/15/23: Notice in The Star Press newspaper for Public Meeting on September 28, 2023
- 09/18/23: Letter to Interested Agencies & Stakeholders: Technical Advisory Committee, Transportation Policy Committee
- 09/20/23: Discussion at Transportation Policy Committee Meeting
- 09/28/23: Public Input #1: Public Meeting & Request for Public Input 4 pm – 6 pm
- 11/09/23: E-mailed planning assumptions summary to FHWA
- 11/28/23: E-mail notice of Draft MTP to be posted and available December 8, 2023: FEMA, FEMA Tribal, Muncie Sanitary Department and Stormwater, FEMA Tribal, DNR, Muncie Indiana Transit Service (MITS), Cardinal Greenways, Bureau of Land Management, EPA, IDEM, Emergency Management Services, Redtail Land Conservancy, U.S. Fish and Wildlife Services, Delaware County Commissioners, Delaware County Council Members, Muncie City Council Members, Town of Yorktown, City of Muncie Engineering and Street Department, Delaware County Engineering Department
- 12/03/23: Notice in The Star Press of Draft MTP to be posted and available December 8, 2023
- 12/08/23: Public Input #2: Draft posted on website and made available to public during office hours

A public meeting to solicit public input was set for Thursday, September 28, 2023 and notice was placed in The Star Press on September 15, 2023 as follows:

Notice of Public Meeting & Request for Public Input

PLEASE TAKE NOTICE that on September 28, 2023, the Delaware-Muncie Metropolitan Plan Commission (DMMPC) will hold a public input meeting on the matter of the 2023-2050 Long-Range Metropolitan Transportation Plan (MTP) affecting transportation in the Muncie Metropolitan Planning Area.

The Transportation Plan sets out a twenty-year listing of transportation improvements needed and the federal and local funding available to handle maintenance and improvements of transportation facilities.

The public input meeting will be held on September 28, 2023 from 4:00 pm to 6:00 pm in the lobby of the Delaware County Building, 100 W. Main Street, Muncie, IN. Input is requested from citizens, affected public agencies and jurisdictions, employee representatives of transportation and other affected agencies, providers of transportation, and anyone else interested.

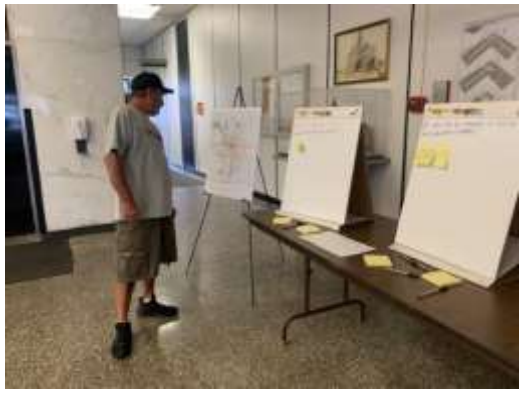
Information can be obtained and written comments may be filed with the Plan Commission Office, Delaware County Building, Room 206 from 8:30 am to 4 pm Monday – Friday 765-747-7740 or emailed to kswackhamer@co.delaware.in.us

Notice was placed in The Star Press on December 3, 2023.

Request for Public Input

PLEASE TAKE NOTICE that the Delaware-Muncie Metropolitan Plan Commission (DMMPC) is requesting public input on the matter of the 2023-2050 Delaware-Muncie Transportation Plan Update for Delaware County and the Muncie Metropolitan Planning Area from citizens, affected public agencies and jurisdictions, representatives of transportation agencies, and any affected persons.

A draft of the 2023-2025 Delaware-Muncie Transportation Plan Update will be posted on the DMMPC website www.dmmpc.org December 8, 2023. The draft will remain on the website for public viewing and comment through January 22, 2023. Written or verbal comments can be filed with the DMMPC office in the Delaware County Building, Room 206 100 W. Main St. Muncie, IN 47305 from 8:30 am-4:00 pm M-F #765-747-7740 or emailed kswackhamer@co.delaware.in.us. The draft will be available for public review in the Plan Commission office December 8, 2023 through January 22, 2024.



Public Input Meeting September 28, 2023

Public Comments at Metropolitan Transportation Plan (MTP) Public Meeting held September 28, 2023 4-6 pm

Question Boards

1. Do you feel you have a voice in the transportation planning process?

- Some
- Yes, through meetings, surveys, and elected officials

2. Are you satisfied with our current transportation infrastructure?

- Roads and sidewalks need repair
- Muncie needs electric charging options to support e-vehicles
- Mostly, I think N & S roads in the downtown area would benefit from flashing yellow lights for E/W traffic and flashing red for N/S

3. Do you feel our community is bicycle and pedestrian friendly?

- Mostly, it's been improving
- Getting better over the years
- Muncie should connect trails with Yorktown on River Road
- I feel that many improvements have been made over the years, and look forward to more bike/ped friendly areas
- Yes, and getting better!
- Sort of, it's getting better, but more bike lanes and pedestrian trails are needed. Connect neighborhoods to main streets/create safe alternatives to traveling on main streets
- Bicycle lanes are often too narrow. Pedestrian cross walks are often unmarked or crossing lights don't work. Drivers run red lights.
- Drivers don't understand that they must share road w/cyclists. Expansion of bike lanes from downtown would be nice so cyclists can go further south from downtown/vice versa

Submitted Written Comments

Public Comment #1

- 09/28/2023
    - Yorktown River Road intersections need capacity increases at Tiger Drive and River Road and 600 W and River Road
    - Possible connection between Andrews and 500 W

Public Comment #2

- 09/28/2023
    - Let's make sure the Cardinal Greenway, Inc. Gap from Gaston Trailhead to the North is included in the plan
    - Include trail repair and repavement

Note: These comments were made available to the various jurisdictions and will be considered in future discussions at the Technical Advisory Committee and the Transportation Policy Committee.

Public Input Session for the Delaware-Muncie Metropolitan Long Range Transportation Plan

September 28, 2023

Name	Agency	Phone Number	Email Address	Would you like to be added to the distribution list for information on future transportation related issues
Paula Morrison	Assessor	765 747-7715	pmorrison@co.delaware.in.us	No
Jan Smoot	Recorder	765.747-7804	jsmoot@co.delaware.in.us	(!) no
Angie Pool	Cardinal Greenways Inc	765-287-0399	angie@cardinalgreenways.org	Yes
Brandy Baumgartner	DMMPC	765-747-7740	bmgermann@co.delaware.in.us	Yes
Hugh Smith	consultant to DMMPC	765-729-4798	huvijeja@yahoo.com	No
Chase Bruton	Yorktown	765-217-1093	cbruton@yorktownindiana.org	
York Knapp	Citizen of Muncie	765 288-4643	—	No Thanks
Dan Ridenour	City of Muncie	765-747-4845	mayor@muncie.in.gov	
Kathy VanNice	Ashton Land Surveyors	765-282-5594	KVannice@ashtonlandsurveyors.com	Yes

Public Input Session for the Delaware-Muncie Metropolitan Long Range Transportation Plan

September 28, 2023

Name	Agency	Phone Number	Email Address	Would you like to be added to the distribution list for information on future transportation related issues
Lorey Stinton	DMMPC	765-747-7740	lstinton@co.delaware.in.us	sure
Fern Daniel /	DMMPC	765 747 7740	fdaniel@co.delaware.in.us	Yes
Allen Wiseley	CD	616 101 7006	afwiseley@gmail.com	yes
Delaney Fritch	CD	260-243-0665	delaney fritch @gmail.com	yes
Sherry Riggin	County	765.717.9222	sriggin@co.delaware.in.us	Sure (106