



Interim Report Task 05

Future Conditions of Pedestrian and Bicyclist

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HNTB



Mississippi Department of Transportation **MULTIPLAN 2050**

This Plan was prepared as a cooperative effort of the U.S. Department of Transportation (USDOT), Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Mississippi Department of Transportation (MDOT), and local governments in partial fulfillment of requirements in Title 23 USC 134 and 135, amended by the IIJA, Sections 11201 and 11525, October 1, 2021. The contents of this document do not necessarily reflect the official views or policies of the USDOT.

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1.0 Introduction

Across Mississippi thousands of individuals bike and walk to destinations on a daily basis, whether for commute or recreational purposes. Improving infrastructure for active transportation users and safety of vulnerable road users (VRUs) is critical to development and competitiveness of communities across the state. The National Safety Council defines VRUs as “those unprotected by an outside shield, as they sustain a greater risk of injury in any collision with a vehicle,”¹ which includes pedestrians, cyclists, people in wheelchairs, and others. Access to reliable pedestrian transportation infrastructure is a necessity for residents to be able to contribute and participate within their communities.

This memo documents future conditions as part of Mississippi’s Unified Long-Range Transportation Infrastructure Plan (MULTIPLAN) 2050 for interim and horizon planning years 2035 and 2050. Additionally, this document details emerging trends in safety and technology, performance targets for the state, and investment needs related to pedestrians and cyclists.

The methodology of this report consisted of reviewing the 2045 MULTIPLAN, Metropolitan Transportation Plans (MTP), and reports from various transportation-focused associations. Data from the League of American Bicyclists (LAB), the U.S. Census Bureau, and the U.S. Department of Energy were utilized to shape the Trends section of this memo and understand future demand. The investment needs section was developed by reviewing the latest MTPs from each Metropolitan Planning Organization (MPO). The visionary projects and recommendations from the plans were identified, compiled, and organized into a summary table that outlines the estimated cost of the needs of bicycle and pedestrian networks in Mississippi.

1.1 Key Findings

Findings of this report indicate that trends in safety, technology, and mobility will influence the future of the pedestrian and bicycle network in Mississippi. Data shows that 1.52% and 0.10% of the total population in Mississippi walked and biked to work,

¹ National Safety Council. (2018). Position/Policy Statement: Vulnerable Road Users. Retrieved from NCS.org: <https://nsc.org/getattachment/d5babee6-582d-4e66-804f-8d06f9b021a4/t-vulnerable-road-users-147>.

respectively,² ranking the state 51st in the country. There are also approximately 70,000 zero-vehicle households in the state that are likely dependent on public transit or active transportation infrastructure for mobility. Significant land use, development, and behavioral changes would be needed across the state for Mississippi to accommodate people moving by walking and biking at national averages.

Needs analysis reveals the need to increase connectivity and make communities more walkable by adding new pedestrian paths and bicycle facilities and improving sidewalks. A review of Mississippi MPOs long range plans resulted in a partial project list of visionary expansion bicycle and pedestrian projects. The total funding needs for all MPO areas are estimated at \$185 million through 2050 or \$7.4 million annually. Preservation needs are undetermined and the responsibility of local agencies.

2.0 Trends and Drivers Impacting Future Demand

As demand for biking and walking options grows, local communities across the state will need to make policy choices to develop design principles that accommodate all individuals using the street network. Support for active transportation initiatives has been demonstrated in localities across Mississippi that have or are considering implementing Complete Streets policies. For state transportation projects, MDOT considers bike and pedestrian facilities on a case-by-case basis; it must make sense to install facilities in locations where it is likely to attract users –such as urban areas – whereas they may not be feasible on rural state-maintained highways. Bike Walk Mississippi, the statewide active transportation organization, promotes the implementation of policies for incorporating active transportation into infrastructure considerations and capital projects, including MDOT funded highway and trails improvements.

Three trends regarding cycling and pedestrian activity in Mississippi have been identified—safety, technology, and mobility—that will influence investment in

² The League of American Bicyclists. (n.d.). Federal Funding & Planning for Biking & Walking. Retrieved November 2024, from <https://data.bikeleague.org/data/national-federal-funding-planning-for-biking-walking/#:~:text=Federal%20Funding%20for%20Bicycling%20%26%20Walking%20Infrastructure,-Figure%201.5.&text=The%202021%20Infrastructure%20Investment%20and,to%20%241.38%20billion%2>

infrastructure and amenities to support local communities and statewide trails cycling and pedestrian networks.

2.1 Technology

Shared Micromobility

The organization, Transportation for America (TFA), states that shared micromobility “refers to any small, human or electric-powered transportation solution such as bikes, e-bikes, scooters, e-scooters or any other small, lightweight vehicle that is being used as a shared resource between multiple users.”³

Shared micromobility has become a prominent industry, with increasing popularity and accessibility, as is demonstrated by increased implementation in different cities and in growing trip numbers.⁴ A survey shows 25% of households with incomes under \$50,000 used some type of shared micromobility device at least five times a week.

Compared to users with household incomes between \$50,000-\$100,000 (18%) and users with household incomes between \$100,000-\$150,000 (16%), low-income users represent the largest user group.⁵ A study of Lime “Access” riders (income-qualified recipients of subsidized rides) found that Access users ride more often than others, and they were more likely to be residents using shared micromobility for practical purposes.

This highlights the potential for shared micromobility to bridge equity gaps in public transportation. However, financial instability is a concern, and cities must secure sustainable funding sources and make shared micromobility affordable across all income levels. Building connected networks of safe bike lanes may also encourage ridership and promote greater use of shared micromobility.

³ Transportation for America. (2025). Shared Micromobility Playbook. Retrieved from T4America.org: <https://playbook.t4america.org/>.

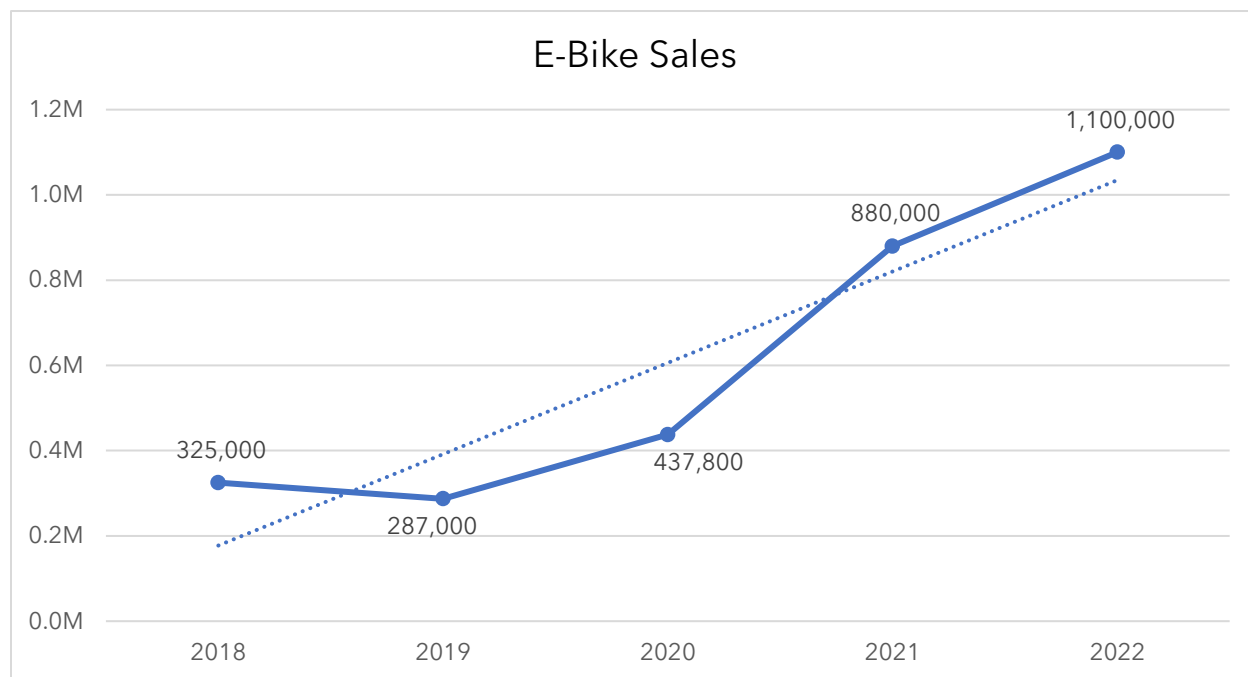
⁴ National Association of City Transportation Materials. (2023). Shared Micromobility in 2023. Retrieved November 2024, from <https://nacto.org/publication/shared-micromobility-in-2023/>.

⁵ North American Bikeshare & Scootershare Association. (2023). Share Micromobility: State of the Industry Report. Retrieved from <https://nabsa.net/about/industry/>.

Personal Micromobility

According to the U.S. Department of Energy, over one million E-bikes, or electronic bicycles, were sold in the United States in 2022.⁶ Figure 1 shows an overall upward trend in E-bike sales across the US since 2018.

Figure 1: E-Bike Sales in the United States Since 2018



Source: US Department of Energy (2023)

Although there is minimal state data available, an organization that reviews bicycles and gives price comparisons completed a study on the growing trend of E-bikes. They analyzed a year of Google search data for the term “electric bike” and found which states were most interested in E-bikes. Findings revealed that Mississippi was ranked lowest in points for internet searches related to E-bikes, which shows that there is room for growth in this market with greater awareness of the benefits of this

⁶ US Department of Energy. (2023, December 18). Vehicle Technologies Office. Retrieved from FOTW #1321, December 18, 2023: E-Bike Sales in the United States Exceeded One Million in 2022: https://hntb.sharepoint.com/:w:/s/LAWeighStations/EZ_RwMGh0ipMIP5B-qARQ9IBi25Jg8iaVGTtyZxVfoTX3g?e=KhpeVR

technology; it could also indicate a lack of interest in this type of technology in this rural state.⁷

2.2 Safety

As more people choose to walk or cycle, the potential for getting involved in crashes causing serious injuries or fatalities increases. Several factors make VRUs more susceptible to accidents, such as the lack of dedicated cycling lanes and physical barriers that separate motor vehicle traffic from cyclists and pedestrians.

As of 2024, 12 communities across Mississippi have been awarded Safe Streets and Roads for All (SS4A) grants to develop extensive safety action plans aimed at significantly reducing traffic fatalities.⁸ Since 2022, SS4A grants were received by various Mississippi organizations, including the Gulf Regional Planning Commission, Hinds County, Central Mississippi Planning and Development District, Inc., the City of Columbus, the City of Starkville, the University of Mississippi, and several others.⁹

Data on vehicle-related fatalities and injuries were collected from the National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS)¹⁰. The FARS system includes data on bicycle and pedestrian crashes that involve a motor vehicle on a public road that results in the death of a pedestrian or a cyclist. NHTSA works with each state government to provide data on fatal crashes and makes the crash information available through the FARS system. In 2015, the NHTSA began publishing traffic fatality data with detailed roadway functional classes embedded. As shown on Figure 2, the majority of pedestrian fatalities occurred on other principal arterials not classified as an interstate or a freeway/expressway. Similarly, there was a spike in bicyclist fatalities that occurred on other principal arterials in 2019, but numbers have declined since that time. Local roadways and collectors are the location of most of the bicyclist fatalities.

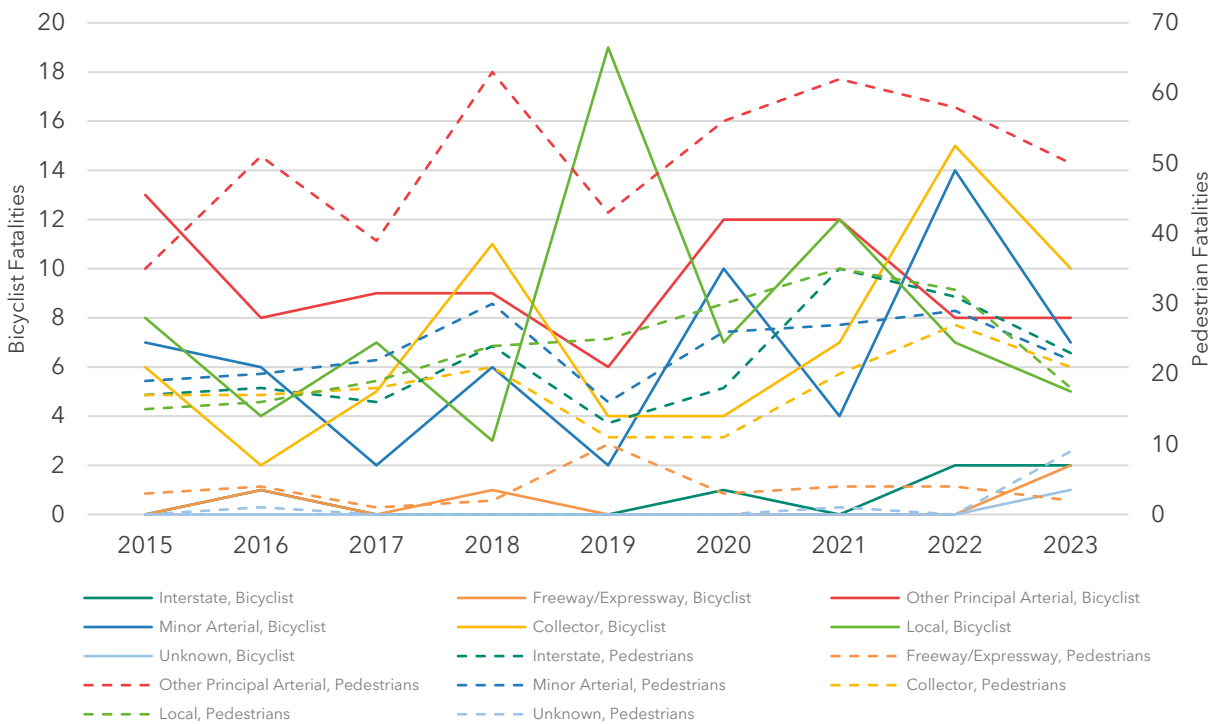
⁷ ICEBIKE. (2023, January 27). Electric Bike Popularity Soars: Top States Leading the Charge Revealed in New Study. Retrieved from ICEBIKE Price Comparison: <https://www.icebike.org/electric-bike-study/>.

⁸ The League of American Bicyclists. (2024). Bicycle Friendly State Report Card. Retrieved January 2025, from <https://bikeleague.org/wp-content/uploads/bfareportcards/bfs/2024/mississippi.pdf>.

⁹ US Department of Transportation. (2024, November 15). All Year's SS4A Grant Awards. Retrieved from [transportation.gov](https://www.transportation.gov/grants/ss4a/cumulative-awards): <https://www.transportation.gov/grants/ss4a/cumulative-awards>.

¹⁰ National Highway Traffic Safety Administration (NHTSA). (n.d.). FARS Encyclopedia. Retrieved November 2024, from <https://www-fars.nhtsa.dot.gov/Main/index.aspx>.

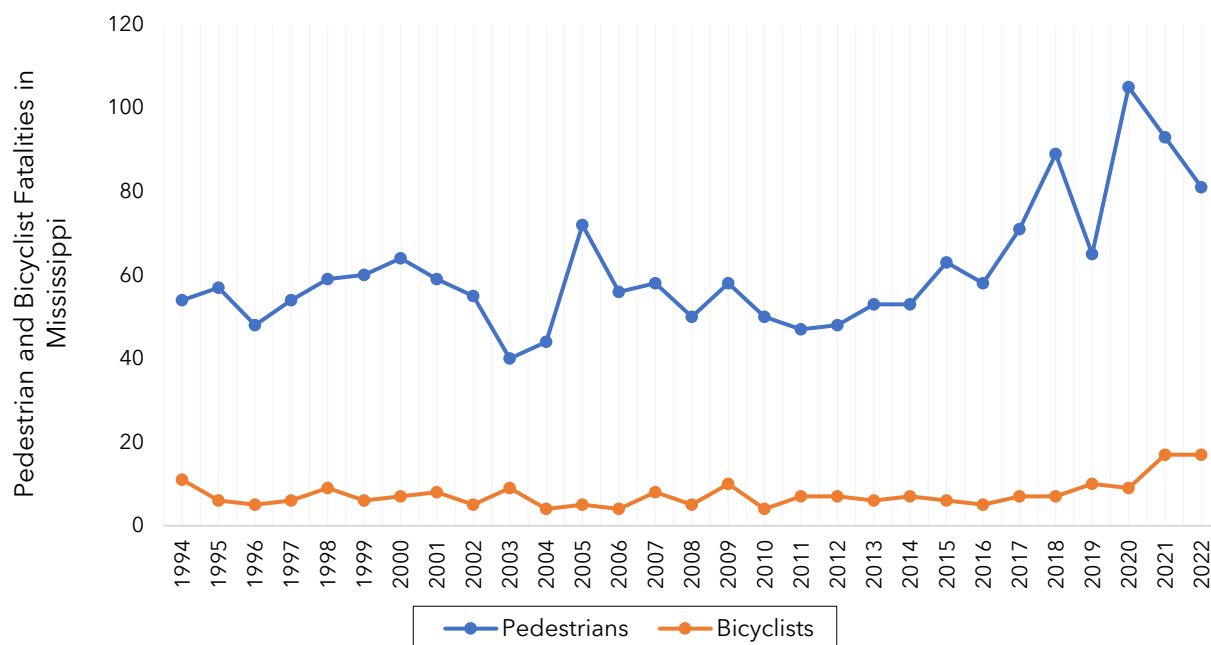
Figure 2. Pedestrian and Cyclist Fatalities by Roadway Functional Class in MS



Source: NHTSA Fatality and Injury Reporting System Tool (FIRST)

Figure 3 separates the data for cyclists and pedestrians involved in fatal crashes with motor vehicles. Since 2011, pedestrian fatalities have largely been trending upward. Cyclist fatalities have remained generally steady with an upward trend since 2020.

Figure 3. Pedestrian and Cyclist Fatalities in Motor Vehicle Traffic Crashes in MS



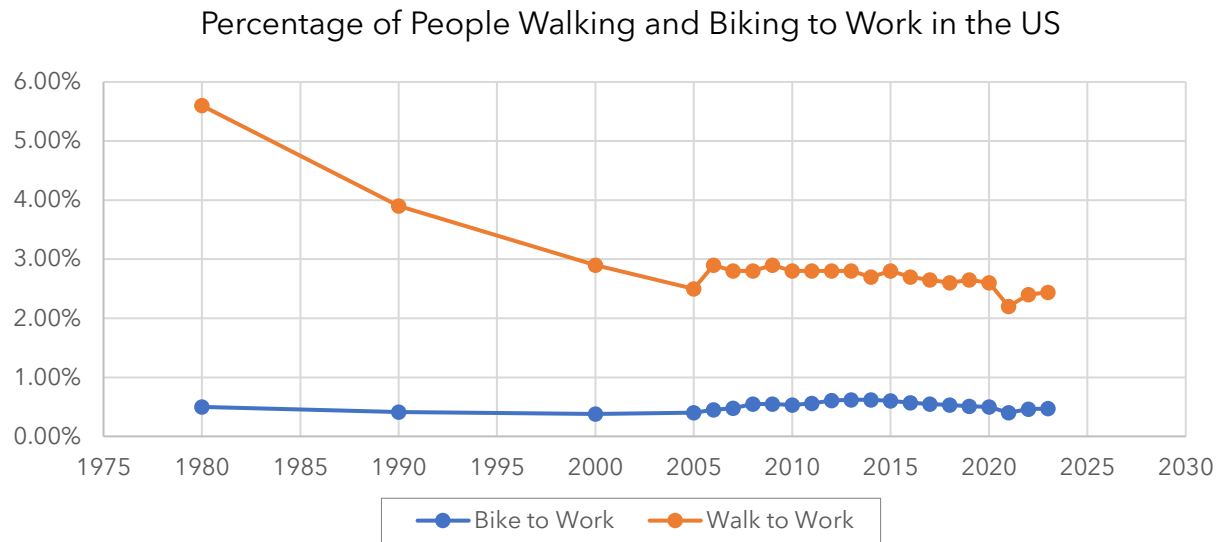
Source: NHTSA Fatality and Injury Reporting System Tool (FIRST)

2.3 Increasing the Number of Active Transportation Users in MS

LAB documents the national rates of people walking and cycling in the U.S. The LAB Benchmark Report¹¹ shows that the number of people using active transportation has been steady for the last two decades, although the number of people walking to work has fallen since the 1980s (Figure 4).

¹¹ The League of American Bicyclists. (2024). National: Rates of Biking and Walking. Retrieved from Benchmarking Report, The League of American Bicyclists: <https://data.bikeleague.org/data/national-rates-of-biking-and-walking/#percentage-of-workers-who-primarily-bike-or-walk-to-work-over-time>

Figure 4. Demand for Active Transportation

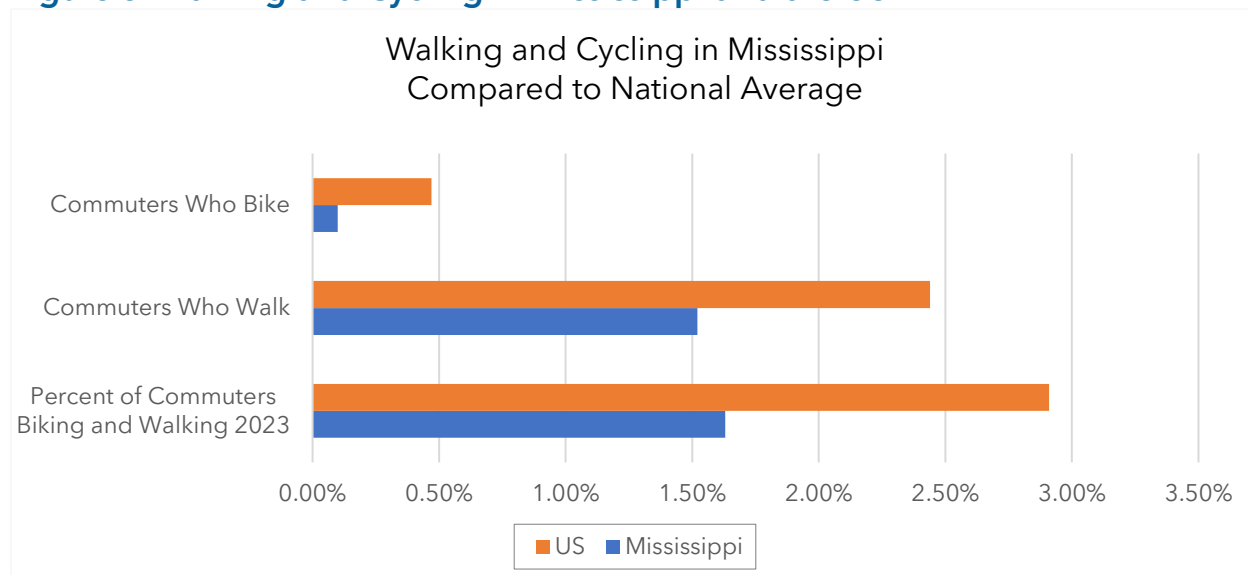


Source: U.S. Census Bureau Decennial Census, U.S. Census Bureau American Community Survey Data 1-year Estimates

Compared to the national average, Mississippians are about half as likely to use active transportation for their commutes. Those that do are more likely to walk than bike as shown in Figure 5.¹²

¹² The League of American Bicyclists. (2024). Benchmarking Report, The League of American Bicyclists. Retrieved from State: Rates of Biking and Walking: <https://data.bikeleague.org/data/states-rates-of-active-commuting/>.

Figure 5. Walking and Cycling in Mississippi and the US



Source: U.S. Census Bureau American Community Survey Data 1-year Estimates

According to 2023 American Community Survey (ACS) Census data Mississippi ranked 51st (above North Dakota only; the list included Washington D.C. and Puerto Rico) for those utilizing active transportation. The data showed that of the total population in Mississippi, 1.52% walked and 0.10% biked to work.¹³ In 2023, Census data shows that 69,820 households did not own a vehicle.

3.0 Investment Needs

Needs analysis conducted by Mississippi's MPOs as inputs to metropolitan transportation plans identifies areas where people live with the highest demand and need for alternative transportation options.

The four MPOs in Mississippi compiled a list of visionary bicycle and pedestrian projects to reduce gaps and improve connectivity within the network. These projects enhance links to employment centers, retail hubs, transit systems, schools, colleges, and parks. When developing these projects and recommendations, MPOs looked at the needs assessments, existing plans, public engagement, land use, development

¹³ The League of American Bicyclists. (n.d.). Federal Funding & Planning for Biking & Walking. Retrieved November 2024, from <https://data.bikeleague.org/data/national-federal-funding-planning-for-biking-walking/#:~:text=Federal%20Funding%20for%20Bicycling%20%26%20Walking%20Infrastructure,-Figure%201.5.&text=The%202021%20Infrastructure%20Investment%20and,to%20%241.38%20billion%2>

patterns, demographics, policies, design standards, and other factors to create comprehensive bicycle and pedestrian networks.

2050 Investment Needs

MDOT considers bicycle and pedestrian facilities on a case-by-case basis. Planned MPO projects range from buffered bike lanes to sharrows and bike route signage. The total funding needs for all MPO areas are estimated at \$185 million, which amounts to an average of \$7.4 million in funding needs annually for the next 25 years. Table 1 summarizes the estimated funding needs and the mileage and facility types of these visionary projects. The listed funding needs are inflated from 2020 to 2025 dollars.

Table 1. Estimated Bicycle/Pedestrian Funding Needs for Visionary Projects

MPO	Plan	Estimated Funding Needs (2025 \$)	Estimated Mileage	Project Type
HPFL	2045 HPFL MTP	\$2,385,456	24.96	Bike Lane
				Bike Path
				Shared Use Path
GRPC	2045 GRPC MTP	\$166,673,290	172	Buffered Bike Lane
				Shared Use Path
CMPDD	2045 CMPDD MTP	\$16,805,690	32.89	Bike Lane
				Bike Path
				Bike Route
Memphis (MS portion only)	Memphis Regional Pedestrian and Bicycle Greenprint Plan	-	-	Bikeway Shared Use Facility
Total		\$185,864,436	229.85	

Source: 2045 Mississippi Metropolitan Transportation Plans, Memphis Regional Pedestrian and Bicycle Greenprint Plan

While only the Gulf Regional Planning Commission (GRPC) provided funding estimates for their visionary projects, estimates for the Central Mississippi Planning and Development District (CMPDD) and the Hattiesburg-Petal-Forrest-Lamar (HPFL)

MPO were calculated assuming unit costs of \$1,000,000 per mile for a 10-foot-wide bike path, \$500,000 per mile for a 5-foot-wide sidewalk, \$150,000 per mile for adding a bike lane to an existing road, \$8,000 per mile for a shared facility (sharrow), and \$1,000 per mile for a designated bike route with signage only.¹⁴

Maintenance Needs

Effective maintenance of bicycle and pedestrian infrastructure is essential for safety, user comfort, and ADA compliance. In the Jackson area, while newer bicycle facilities are in good shape, older pedestrian facilities like sidewalks often require immediate updates and repairs. Common issues across all metropolitan areas include cracked sidewalks, overgrown vegetation, and a lack of routine cleaning of bike lanes. To address these challenges, jurisdictions should establish regular maintenance schedules, identify funding sources, and implement sidewalk infill programs. These programs can involve staff doing an inventory of street networks to locate gaps, prioritizing projects near key pedestrian routes or high traffic areas and ensuring long-term maintenance funding.

¹⁴ Mississippi Department of Transportation. (2021). 2045 MULTIPLAN Needs Assessment. Retrieved February 2025.

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