

Nonmotorized White Paper

The [Nonmotorized Technical Report](#) focused on the nonmotorized facilities and programs under the Michigan Department of Transportation's (MDOT) control. Sections of the report that impact the movement of people by foot or by bicycle (but not under the control of the department) include legislation and regional rail-trail networks. While transportation funding has lagged behind needs since 2007, the department continues to make progress in assessing and implementing infrastructure investments that balance safety with the movement of people and goods. This has resulted in an increasing number of nonmotorized transportation facilities being successfully integrated into projects statewide. The department has implemented new programs and made changes to existing programs statewide, with a focus on improving safety and mobility of all roadway users, while operating with smaller annual budgets and reduced staff. The department has been able to make significant progress to improve multimodal integrations through efficiencies and innovations.

MDOT recognizes that additional integration and changes are necessary to fully meet existing and future demands. The following bullets highlight areas of nonmotorized programs, policies, and initiatives that have changed since the 2035 MI Transportation Plan [Nonmotorized White Paper](#) was first published in 2012. The notable changes reported below are not limited to MDOT, and include changes in programs and facilities by other state agencies, local agencies, nonprofit organizations, and other entities involved with supporting people who travel on foot or by bicycle. All of these efforts contribute to creating a transportation system that is integrated and safer for all users in Michigan. They are presented in random order.

Network

- Paved shoulders 4 feet or greater and bicycle lanes are suitable bicycle facilities in rural and urban areas, respectively. The network of wide shoulders on both curbed and uncurbed sections of trunkline has increased by almost 5 percent, from 3,057 miles in 2011 to 3,168 miles in 2014. These numbers include striped shoulders in communities where lane reductions (road diets) were implemented for traffic safety reasons. On state trunkline, MDOT has more than 44 miles of marked bike lanes as of October 2015.
- Rails-to-trails and other shared-use pathway networks continue to expand due to MDOT's partnership with other agencies, nonprofit groups, local units of government, and many others. The 2012 white paper cited more than 2,300 miles of rails-to-trails in operation. In 2015, the National Rails-to-Trails Conservancy (RTC) reported Michigan to have 2,386 miles open to the public. The surface type on these trails varies significantly from railroad ballast or natural surface to crushed limestone or asphalt. The RTC also reports nearly 227 miles of trail projects are currently under study or in the planning phase across the state. These trails continue to serve as the backbone for creating nonmotorized connectivity between communities and provide transportation access to Michigan's abundant natural features and parks.

- The I-275 Bikeway, originally constructed in the 1970s, is now called the I-275 Metro Trail in Wayne and Oakland counties. The trail has undergone significant reconstruction over the last several years. Work on the Metro Trail included bringing nearly 26 miles of surface up to current width standards, improving drainage, upgrading road crossings, and rebuilding bridges. Most recently, the 6-mile trail section from I-94 to South Huron River Drive has been reconstructed, linking the trail to the southern Wayne County trail network and Metroparks. Changes in MDOT practices regarding the placement of multi-use pathways within interstate right of way has allowed for additional pathways to be constructed in the last half decade. New multi-use facilities can now be enjoyed along road segments of M-6, I-96, and M-5.
- Updating sidewalk curb ramps to comply with the Americans with Disabilities Act (ADA) guidelines regarding access in public rights of way began in 2007. Standard plans were revised and the new designs are being implemented on nearly all projects on MDOT's system. The department conducted an inventory of its trunkline system to determine the level of curb ramp construction or replacement needed. As roadways are resurfaced or reconstructed, or other work takes place that impacts the sidewalk curb ramps, MDOT is incorporating the ramp work as necessary. Each MDOT region office maintains the Trunkline ADA Ramp inventory.
- Lane reconfigurations or road diets reduce common types of crashes, such as head-on left-turn crashes and sideswipes, and creates room within a constrained right of way to provide on-road bicycle facilities such as bike lanes at very low cost. National best practices and guidance has influenced how MDOT now implements road diets. As a general rule of thumb, the department will consider any road with Average Annual Daily Traffic (AADT) of fewer than 10,000 vehicles as a candidate for a road diet. Roads with higher volumes may be considered, but these roadways will require a higher level of analysis before a determination can be made to ensure that a reasonable measure of service can be maintained. The department pursues road diets as a proven measure to reduce crashes and crash severity. If a segment of road experiences a high number of crashes, the department works with the local agency to determine if a road diet is an appropriate means of addressing safety issues. The department has adopted a road diet checklist for staff to utilize when analyzing a roadway segment for a potential road diet. A brief informal survey of MDOT regional offices suggests that since the late 1990s, the department has reconfigured the lane markings on more than 61 road segments (more than 55 miles of trunkline) in communities across the state.
- The Iron Belle Trail is an initiative of Gov. Rick Snyder to create a hiking and bicycling route between Belle Isle in Detroit and Ironwood in the western Upper Peninsula. The initiative, led by the Michigan Department of Natural Resources (MDNR), defines the Iron Belle Trail as Two Routes-One Great Trail. The Iron Belle Trail consists of one route for bicyclists and one for hikers. While the exact alignment for these two routes in some locations is still undetermined, as of October 2015 the bicycling route is approximately

790 miles-long and the hiking route is about 1,270-miles-long. The hiking route utilizes much of the existing North Country Scenic Trail generally located in the western portion of the Lower Peninsula and along Lake Superior in the Upper Peninsula. The bicycle route travels up the eastern side and north central portion of the Lower Peninsula and then generally follows US-2 in the Upper Peninsula.



While much of the alignment for the hiking portion of the Iron Belle Trail is defined, the particulars of many segments of the bicycling route in the northern Lower Peninsula are still in the development and planning stage. The eastern segment of the bicycling route in the Upper Peninsula utilizes the wide paved shoulders along US-2. West of Iron Mountain, the specifics of the bicycle route alignment will generally follow US-2, with some deviations likely in select spots to utilize existing or proposed shared-use pathways.

MDOT is actively engaged with the MDNR and communities along the bicycling route to help facilitate this project’s implementation.

To elevate Michigan’s reputation as “The Trail State”, the MDNR developed a [State Trail Implementation Plan](#) incorporating all trail types and identifying priorities for development.

Planning

- [Comprehensive MDOT Region Nonmotorized Transportation Plans](#) have been developed for six of the seven MDOT regions. They help identify existing and proposed regional corridors for both on-road and off-road bicycle or shared-use facilities. Public input was gathered to assess regional significance and priorities for connectivity between

communities or places. The nonmotorized plans assist with identification of opportunities to enhance nonmotorized transportation during the local and state transportation planning processes and further project development. Work on the Grand Region nonmotorized plan is scheduled to get underway in early 2016 with expected completion in 2017. The completed plans can be viewed on [MDOT's website](#).

- MDOT Regional Road and Trail Bicycle Guides (bike maps) have been developed for the entire state (10 regional maps). They illustrate road surface types, traffic volume ranges, paved/unpaved shared-use paths with regional significance, recreational facilities, and points of interest, plus other facilities and amenities that help make cycling across Michigan an enjoyable tourism experience. Due to their popularity and the rapid growth of bicycling infrastructure in the state over the last decade, all of the maps have been updated and reprinted at least once. The maps are extremely useful for the bicycle touring public and several of them have won national awards. In 2014, the department began offering the maps on the State of Michigan's e-Store. The maps are available for viewing and ordering from the [MDOT Bicycling website](#).
- Multi-Modal Development and Delivery (M2D2) is a comprehensive department effort to examine planning, design, construction, maintenance, and the operational needs of all potential modes of travel using highway right of way. Based on that analysis, MDOT will modify its practices, procedures, standards, and guidance to help ensure that all modes are considered when projects are developed, and that all users are safely served where appropriate based on the context and highway function.
- Local planning was affected in 2012 with the passage of Public Act 134. The amendments to the Planning Enabling Law include the addition of language that provides greater emphasis on planning multi-modal transportation. This amendment is expected to help communities coordinate efforts related to land-use planning and developing transportation systems to support walking, bicycling, and transit use.

Safety

- Bicycle crashes and fatalities across the state between 2010 and 2014 have generally remained flat in terms of the annual average number of crashes from the prior planning period of 2005 - 2010. While the number of fatal crashes involving bicyclists has fluctuated from year to year, the 10-year rolling annual average remains around 25 fatal bicycle crashes per year (Figure 1). Overall total crashes involving bicycles are down by nearly 300 crashes per year over the last decade. As a proportion of all reported crashes, bicyclists comprise just 1 percent of the total crashes, but a disproportionate 3 percent of all fatalities.

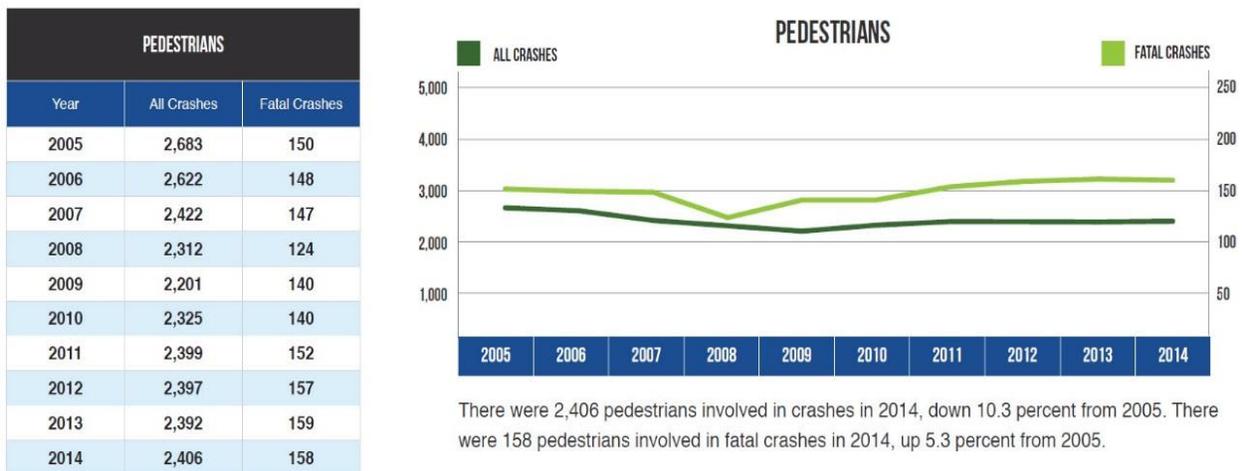
Figure 1: Bicyclist-Involved Crashes and Fatalities



Source: Michigan State Police Office of Highway Safety Planning

- Pedestrian crashes and fatalities across the state over the last five years increased slightly. However, the 10-year trend shows that both crashes and fatalities continue to decline. While the number of fatal crashes fluctuates from year to year, the 10-year annual average has declined between the two planning periods (2001 - 2010 and 2005 - 2014) from 177 to 147, respectively. On average between 2010 - 2014, the five-year trend shows a slight uptick in fatal pedestrian crashes to 153 (Figure 2). As a proportion of all reported crashes, crashes involving pedestrians comprise 3 percent of the total crashes, but a disproportionate 17 percent of all fatalities.

Figure 2: Pedestrian-Involved Crashes and Fatalities



Source: Michigan State Police Office of Highway Safety Planning

Funding

- The FAST Act, Fixing America's Surface Transportation Act (P.L. 114-94), was signed into law on Dec. 4, 2015, and authorizes funding for highway, transit, and rail programs through fiscal year 2020.

The bill follows closely on the heels of the last surface transportation authorization bill, MAP-21, which was approved in July 2012. MAP-21 made a number of transformative changes to the federal program, many of which have not been fully implemented. This includes transitioning highway and transit programs to become performance-oriented and placing new emphasis on studying, planning for, and facilitating the movement of freight.

It is important to note that, with few exceptions, provisions in the FAST Act do not repeal or replace the changes made by MAP-21. Rather, the FAST Act affirms and improves many of the reforms made by MAP-21.

Among the changes are the creations of the Surface Transportation Block Grant Program (STBGP). The STBGP took several previously individual programs, including the Transportation Alternatives Program (TAP), and turned them into set-asides within the STBGP. TAP remains a competitive grant program that uses federal transportation funds designated by Congress for specific activities that enhance the multi-modal transportation system and provide safer nonmotorized transportation options. TAP funding is split 50/50 between state departments of transportation and large metropolitan planning organizations (MPO). Another FAST Act change affecting TAP is that non-governmental organizations are now eligible for transportation safety non-infrastructure (i.e., education) funding.

States and/or MPOs, as appropriate, will now be required to submit an annual report that documents the number of TAP project applications, the aggregate cost of the projects for which applications are received, the types of projects to be carried out expressed as percentages of the total apportionment of the state under this subsection, and the number of projects selected for funding for each fiscal year, including the aggregate cost and location of projects selected.

A new National Highway Transportation Safety Administration (NHTSA) 405 Safety Fund creates a nonmotorized safety fund set-aside (5 percent) of the overall safety fund of about \$270 million. This results in about \$14 million in the first year for states where 15 percent or greater of traffic fatalities are bicyclists or pedestrians. Details on the funding distribution formula for the 405 Safety Funds are still under development by the U.S. Department of Transportation. It is expected that funds can be used for educating law enforcement on state laws affecting bicycle and pedestrian crashes, enforcement campaigns, and public education and awareness programs on laws for motorists, cyclists and pedestrians.

As the changes in both MAP-21 and the FAST Act continue to be implemented over the months and years ahead, their benefits may begin to be realized. These changes may shape the future direction of this plan. Without full knowledge of how changes will be implemented and what the associated impacts will be, MDOT is unable to include those in this plan update.

- [The MDNR Recreation Passport Grant Program](#) was created by PA 32 of 2010. It established the Local Public Recreation Facilities Fund to be used for the development of public recreation facilities, including improvements to nonmotorized trails for local units of government. Money for this fund is derived from the sale of the Recreation Passport, which replaces the resident Motor Vehicle Permit (MVP), or window sticker, for state park entrance. The first \$12.73 million will be distributed to replace lost revenue from the elimination of the motor vehicle permit and boating access site permits, as well as to pay for administration by the Secretary of State. Ten percent of the remaining revenue will be used to fund the Recreation Passport Local Grant Program. Grant amounts range from \$7,500 to \$45,000. More information on the Recreation Passport is available on the [MDNR website](#).
- [The Michigan Natural Resources Trust Fund \(MNRTF\)](#) was established under the Kammer Recreational Land Trust Fund Act of 1976 to provide a permanent funding source for the public acquisition of land for resource protection and public outdoor recreation. Funding was provided by revenue derived from royalties on the sale and lease of state-owned oil, gas, and mineral rights. In 1984, the MNRTF was expanded to allow for the funding of acquisition and development of public land.

Since its inception, the MNRTF has awarded more than \$1 billion in grants to local units of government and state agencies for projects throughout all 83 counties. Of this total, \$190 million has been invested in trails.

Legislation

- [Act 51](#) was amended Aug. 1, 2010, by [Public Act 135](#) with language commonly referred to as Complete Streets legislation. The amendment added language regarding the importance of considering all legal roadway users during planning, design, and construction of transportation projects. The law also addressed project coordination between road agencies and local communities. The legislation defines Complete Streets as "roadways planned, designed, and constructed to provide appropriate access to all legal users... whether by car, truck, transit, assistive device, foot or bicycle." The law further requires that Complete Streets policies be sensitive to the local context and consider the functional class, cost, and mobility needs of all legal users. The primary purpose of these new laws is to encourage development of Complete Streets as appropriate to the context and cost of a project.

The legislation also required: 1) the creation of a [Complete Streets Advisory Council](#) to provide education and advice on Complete Streets, and 2) the State Transportation Commission (STC) to adopt a policy for MDOT. The Advisory Council first met in April 2011. The role of the council has been to provide education and advice to the STC and local communities on the development of policies, and provide examples of model complete street policy language. MDOT adopted a complete streets policy in fall 2012. The Advisory Council met this charge, and formally requested the state Legislature dissolve the council in December 2014. The Legislature acted on this request with the passage of Public Act 48 of 2016, which officially discontinued the Complete Streets Advisory Council effective June 13, 2016.

- [A Federal Highway Administration \(FHWA\) Memorandum on Design Flexibility](#) was released in 2013 expressing support for taking a flexible approach to bicycle and pedestrian facility design. For MDOT and other road agencies, the American Association of State Highway and Transportation Officials (AASHTO) Bicycle and Pedestrian Design Guides, and other AASHTO roadway-related publications, are the primary resources for planning, designing, and operating bicycle and pedestrian facilities. FHWA, by way of inclusion in the memorandum, acknowledges the National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide and the Institute of Transportation Engineers (ITE) Designing Urban Walkable Thoroughfares as guides that build upon the flexibilities provided in the AASHTO guides. These additional guides can help communities plan and design safe and convenient facilities for people who travel by foot or by bicycle. FHWA supports the use of these resources and the federal FAST Act funding legislation also acknowledges these guides as resources to further develop nonmotorized transportation networks, particularly in urban areas. While MDOT has not yet officially endorsed these guides, many of the treatments in these guides are being implemented on state highways and local roads using federal funds.

Resources

- [Training](#) associated with nonmotorized transportation regarding walking and bicycling facilities has continued to reach more communities. MDOT staff continue to work with other state agencies, local units of government, and outside partners to provide training and education that facilitates the creation of a sense-of-place within communities through enhanced walking environments and the development of on-road bicycle facilities. From 2012 to 2015, MDOT partnered with 29 different local agencies to deliver training focused on enhancing walking and bicycling in communities across the state. Also during this time, MDOT partnered with several external agencies and organizations to offer 10 extensive training sessions on practical application of accessible design in public rights of way. These trainings reached nearly 500 participants.
- [U.S. Bicycle Routes](#) are route designations by AASHTO to help long-distance touring bicyclists navigate their way across a state or region, similar to the interstate highway system. The U.S. Bicycle Route system is, in its most basic definition, a numbering

designation for continuous roads, highways, and shared-use pathways that are considered suitable for experienced long-distance touring bicyclists who are comfortable riding with traffic. In 2005, the Adventure Cycling Association began working with AASHTO to update and implement the U.S. Bicycle Route System. In Michigan, there are now three designated U.S. Bicycle Routes. Route 20 is an east/west route stretching nearly 300 miles between Marine City and Ludington. Route 35 is a nearly 500-mile north/south route between Sault Ste. Marie and New Buffalo. Route 10 is a 193-mile east/west route between St. Ignace and Iron Mountain. Route 20 was designated by AASHTO in May 2011, while Route 35 was designated in May 2012, and Route 10 was designated in November 2014. Additional information on U.S. Bicycle Routes in Michigan can be found on [MDOT's website](#) or on the national effort through the [Adventure Cycling Association](#).

- [Community and Economic Benefits of Bicycling in Michigan](#) was a two-phased report commissioned by MDOT in 2012. The report highlights the economic benefits bicycling brings to Michigan's local and statewide economies. Completed in 2014, the Phase I report found that bicycling provides an estimated \$668 million per year in economic benefit to Michigan's economy, including employment, retail revenue, tourism expenditure, improved health, and increased productivity. Using both quantitative and qualitative data, the report provides a unique approach to illustrate both economic benefits of bicycling on a statewide basis, as well as the broader benefits bicycling can have on communities. In addition to a statewide analysis, Phase I included five case studies whereby the level of economic contributions to the state economy in those communities was quantified. The case study communities were Traverse City, Holland, Grand Rapids, Ann Arbor, and two neighborhoods in Detroit. Phase II of the project includes data on the economic impact of bicycling events, bicycle touring, and Michigan as a bicycle destination. Released in spring 2015, the findings in the report estimate out-of-state participation in organized bicycle events contributes nearly \$22 million to the state economy. Phase II also includes a detailed analysis of the direct expenditures of six large organized events, along with the secondary impacts of these events.
- [Region Pedestrian and Bicycle Committees](#) were formed in 2013 by the department to help foster stakeholder engagement and encourage discussions between road agencies, roadway users (namely people who travel by bicycle or on foot), and groups and organizations affiliated with walking and bicycling. Meetings are held three to four times per year in each of MDOT's seven regions. Each meeting includes a presentation on a local project supporting pedestrians and/or bicyclists, a discussion on best practices, and individual agency updates by those in attendance.