TOWARD AN *ACTIVE* INDIANA

Walking and Bicycling in the Hoosier State

DRAFT ACTIVE TRANSPORTATION REPORT

WALKING AND BICYCLING IN THE HOOSIER STATE

INDIANA DEPARTMENT OF TRANSPORTATION

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CAMBRIDGE SYSTEMATICS

TOOLE DESIGN

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I. EXECUTIVE SUMMARY

The Indiana Department of Transportation (INDOT) is dedicated to supporting a multimodal active transportation system, for all road users, that maximizes the vitality of Indiana's economy, champions the health of the public, and serves as a steward of the natural environment.

Whether connecting Hoosiers to life's necessary services and resources or providing access to Indiana's plentiful natural destinations, active transportation is a critical component to an individual's quality of life and the prosperity of their community. INDOT recognizes the critical links between mobility and societal goals, aiming to strengthen these links to augment Indiana's economy, and quality of life.

INDOT's Active Transportation Report supports and reinforces elements of the agency's Strategic Plan, most notably the service objectives *Safety*, *Mobility*, and *Economic Competitiveness*[1].

Toward an Active Indiana conforms with INDOT's Strategic Plan, affirming that the agency focuses on initiatives to ensure that all Hoosiers are given the broadest feasible set of transportation options to get to their destination.

INDOT drives research, embracing and implementing new and innovative mobility solutions that will help improve access and transportation options for INDOT customers.

Active transportation—in the form of everyday, short trips by pedestrians, bicyclists, and other nonmotorized modes of transportation integrated with roads and streets—is equally important as every other infrastructure initiative.

***Toward an Active Indiana* presents chapters focused on INDOT's aspirations of:**

- bringing active transportation to the forefront of economic development strategies;
- enhancing conventional provision of sidewalks for pedestrian travel on state highways;
- establishing statewide corridors for regional bicycling;
- garnering public evaluation of active transportation in Indiana; and
- cultivating partnerships to assist in achieving a superior active transportation network.

Toward an Active Indiana, is a living enterprise that is continuously growing through the review of feedback from the public, local planning partners, regional stakeholders, and elected officials.

With a focus on data-driven planning, the INDOT Technical Planning and Programming Division is committed to fostering a continuing, comprehensive, and cooperative (3C) planning process with partners on local, regional, and state levels. Unique perspectives offered by innovative and multidisciplinary partnerships allow INDOT to be poised and proactive in championing active transportation statewide.

Vision Statement

Indiana DOT is advancing active transportation toward the goal of providing all residents and visitors access to healthy, active transportation opportunities enabled by quality pedestrian and bicycle facilities. This comprehensive active transportation network complements the overall performance of Indiana's transportation system across all modes of transportation.

Sound mobility options for pedestrians and bicyclists are vital to advancing the economic status and quality of life for Indiana communities statewide. The State of Indiana benefits from increased economic competitiveness (retaining existing businesses, attracting new enterprise, and sustaining property values); growing tourism and recreation; and becomes known for its exceptional active transportation network.

Goals and Objectives

The following list of *Toward an Active Indiana* goals and objectives are reflective of INDOT's Policy Goals as outlined in the 2045 Long-Range Transportation Plan (LRTP)[2].

Economic Competitiveness and Quality of Life: Foster economic standing by expanding walking and bicycling opportunities along and across roads and streets. Strengthen Indiana's outdoor recreational tourism economy through a comprehensive trail network.

Safe and Secure Travel: Support the statewide goal of zero travel-related deaths by creating a safe environment for pedestrian and bicycle travel.

Access and Opportunity: Expand access to economic and recreational opportunities across Indiana.

Expanding Travel Options: Bolster our multimodal transportation system by creating and encouraging travel options.

Multimodal Mobility: Optimize the overall performance of Indiana's transportation system by connecting people to destinations.

Environmental Responsibility: Promote stewardship of Indiana's natural environment through sustainable transportation choices that minimize impacts and reduce consumption of natural resources.

Public Health: Improve physical, social, and mental well-being by encouraging healthy lifestyles and physical activity through active transportation.

Key Implementation Findings

Toward an Active Indiana endorses actionable steps to guide implementation and expand Indiana's active transportation network. The following bulleted lists are abridged recommendations to improve active transportation efforts statewide. Find more information on implementation in Chapter 4 of the INDOT Active Transportation Report.

Plans, Policies, Programs, and Projects

- Better inform and promote the Complete Streets Policy for all INDOT and local projects using State or Federal funds.
- At the earliest stages of project formation—for all INDOT projects—explicitly consider active transportation features as well as the needs of pedestrian and bicyclists.
- Provide sidewalks along all INDOT state roads and U.S. highways in urban areas and small towns, unless special conditions at the site prevent such. Where sidewalks do not exist presently, the default position will be to install them.
- Accommodate bicycle transportation when and where appropriate along INDOT roads in both rural and urban areas.

Interagency Coordination

- Establish a method and framework for collecting and maintaining a central clearinghouse of statewide bicycle and pedestrian data.
- Evaluate key walking and bicycling safety challenges and continue development of crash reduction strategies.
- Coordinate with the Indiana Department of Health, Indiana Department of Natural Resources, Indiana Department of Education, Indiana Criminal Justice Institute, Indiana Bureau of Motor Vehicles, and Indiana State Police to provide information and training to promote responsible active transportation.
- Continue to provide training on best practices for planners, engineers, and other transportation officials to achieve and sustain a strong active transportation system.
- Provide information to assist other organizations to develop and sponsor bicycle- and pedestrian-specific training.
- Support the implementation of pedestrian and bicycle safety actions in schools.
- Continue to develop and enhance coordination between the many agencies involved in developing a statewide network of trails and other active transportation facilities.
- Serve as a resource for data and information, if requested, for legislation designed to enhance active transportation in the State.

Safety, Training, Education, and Advocacy

- Encourage communities, counties, and regional agencies to implement local Complete Streets policies.
- Provide clear and concise information about walking and bicycling on INDOT's webpage as well as other public information channels.
- Continue to be a resource for and support organizations that encourage and advocate for bicycling, walking, and active transportation in line with INDOT's Strategic Plan.
- Offer solutions for reducing barriers to active transportation. For instance, addressing absence of sidewalks in conditions where pedestrian travel may occur.
- When Federal funding is eligible, consider expanding connected pedestrian and bicycle networks in urban areas to increase access and improve safety.
- Expand connected pedestrian and bicycle networks in small towns that are seeking to increase access and improve safety.
- Regularly assess pedestrian and bicycle network needs, identify gaps, and target improvements.

Network Planning, Facility Design, and Maintenance

- Ensure transportation planning sufficiently captures needs and benefits of active transportation modes.
- Ensure the Indiana Design Manual maintains directives to serve multiple modes of travel including pedestrians and bicyclists and does not impose unnecessary barriers where active transportation infrastructure makes sense.
- Ensure agency maintenance and operational practices serve the interests of pedestrians and bicyclists traveling along or across INDOT roads.

Continue reading *Toward an Active Indiana* to get a better understanding of the INDOT Technical Planning and Programming Division's approach on making the case for active transportation; mapping Indiana's existing state highway sidewalk network; and proposing regional corridors for bicycle travel.

For any questions or comments regarding the contents of this document, INDOT's Pedestrian and Bicycle Program, or any other active transportation related topics, please contact:

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INDOT Technical Planning and Programming
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1. WHY ACTIVE TRANSPORTATION?

Toward an Active Indiana indicates INDOT's commitment to advancing active transportation planning and implementation; improving economic vitality; and supporting Hoosier quality of life. This report builds on previous work at INDOT to create a cohesive statewide framework for walking, bicycling, and other non-motorized modes of transportation in Indiana.

What is Active Transportation?

The American State Highway and Transportation Official's (AAHSTO) Council on Active Transportation defines Active Transportation as using human-powered means of travel, which includes walking and bicycling, with or without the use of mobility aids. This may also include using other human-scaled or micromobility devices that may be electric-powered or electric-assisted, such as e-bikes and e-scooters [3]. People walking, bicycling, using a mobility assistive device, skateboarding, scootering, and rollerblading are all engaging in a form of active transportation.

Walking and bicycling are universal forms of active transportation, yet access to critical services through these transportation modes is not consistent throughout Indiana. Comprehensive planning and providing facilities for both walking and bicycling help to create a safer, more efficient transportation network for all road users.

Active transportation strengthens the connection between an individual's mobility, a community's economic competitiveness, and the collective public health. Furthermore, active transportation engages people in healthy lifestyles when traveling to and from places such as home, work, the grocery, to back home again.

1.1 The Economic Case for Active Transportation

Economically speaking, the benefits of investing in active transportation are plentiful. The provision of choices for pedestrian and bicyclist travel—along and across roads, trails, designated bike routes, and other non-trail infrastructure—yields tax revenue and creates employment opportunities[4]. In today's market, sound infrastructure for pedestrians and bicyclists is an essential attribute to retain and attract strong businesses as well as maintain property values[5]. Active transportation infrastructure enhances quality of life, and these investments connect the communities where Hoosiers live, work, and play.

INDOT Technical Planning and Programming is committed to highlighting and promoting successful case studies of active transportation and local economic vitality. To inquire additional information, or if there are relevant precedents that should be highlighted in our state, please contact the INDOT Statewide Pedestrian and Bicycle Coordinator.

Competing Economically

Walking and bicycling are integral components of a vibrant community and social wellbeing, complementing other transportation modes like motor vehicle travel, transit services, and other shared mobility options. Supportive transportation systems are critical in nurturing and maintaining a stable, growing local and statewide economy. Community investment in active transportation yields significant returns in terms of the economic vitality of local neighborhoods and upwards socioeconomic mobility of residents and businesses.

Pedestrian-friendly and bicycle-friendly places are built to the human scale, rather than the vehicle scale, creating a safer and more pleasant experience. People gravitate to places that are not strictly designed for automobiles, which favors pedestrian-friendly environments and further boosting local economic spending.

Increasing Local Spending

According to the Bureau of Transportation Statistics, the average household spent around $13,174 (17.0% of total expenditures) on transportation in 2023[6]. In general, walking or bicycling is much less expensive than driving; and when people spend less on transportation, they are able spend more on other goods and services.

Economic Case Study. In 2013, the New York City Department of Transportation (NYCDOT) published a report titled "The Economic Benefits of Sustainable Streets."[7] By evaluating street redesigns, sales tax receipts, commercial vacancies, and number of visitors, NYCDOT found that:

- Local retail sales increased up to 49% after constructing bicycle infrastructure on 8th and 9th Avenue (Manhattan), while the rest of the borough's retail sales increased by only 3%.
- The number of commercial vacancy rates decreased by 49% after expanding pedestrian infrastructure in Union Square (Manhattan), compared to a 5% *increase* borough-wide.
- Local retail sales increased by 172% after converting a surface parking lot into a public park on Pearl Street (Brooklyn), while borough-wide retail sales increased by 18%.
- Retail sales increased by 14% after converting a curb lane into public seating on Pearl Street (Manhattan).
- Nearby retail sales increased by 71% after adding a dedicated bus lane and other bus transit improvements on Fordham Road (Bronx).
- Commercial vacancy rates decreased by 47% after constructing on-street bicycle facilities and dedicated bus lanes on First and Second Avenue, versus a 2% decrease borough-wide.

Promoting Tourism and Outdoor Recreation

An active transportation network will grow the state's tourism economy by making Indiana a destination for recreation and exploration. In 2022, tourism in the Hoosier State garnered $2.8B in tax revenue ($15.1B in total travel spending) and more than 200,000 jobs[8].

As reported by the Adventure Cycling Association (ACA), The Outdoor Industry Association has released multiple studies on the economic benefits of bicycle tourism. The 2012 Outdoor Recreation Economy Report touts that people in United States spend $71 billion per year on 'trip-related sales,'[9] The 2017 edition found that annual trip-related sale revenue reached $83 billion, which is a $12 billion increase in spending over the five years.[10]

In 2018, the Bureau of Economic Analysis estimated that the outdoor recreation industry contributes $734 billion to the U.S. Gross Domestic Product (GDP).[4] This surpasses massive industries such as agriculture, and petroleum/coal. It was estimated that bicycling specifically contributed $96 billion in annual retail sales.[5]

Creating Employment Opportunities

A study by the University of Massachusetts at Amherst found that bicycle-only projects created over 11 jobs per $1 million spent and pedestrian-only projects created about 10 jobs per $1 million spent. Conversely, projects that did not include a pedestrian or bicycle component generated less than 8 jobs per $1 million spent.[5]

Referencing 2017 Outdoor Recreation Economy Report from the previous section, bicycle recreation contributed to the created on 848,000 jobs nationally outside of the realm of construction and infrastructure expansion.

Improve Productivity and Mobility

According to CDC, employees need regular physical activity to stay healthy and productive. Encouraging walking and bicycling for daily commutes can achieve this. Employees who engage in regular physical activity have lower healthcare costs, require less sick leave, report greater mental wellbeing, and thus are more productive at work.

A 2014 study by Stanford University researchers, Marily Oppezzo and Daniel L. Schwartz, conducted four experiments to measure the benefits of walking for creative thinking. The research found that walking increased participants' creative output during by about 60%, noting that "walking opens up the free flow of ideas, and it is a simple and robust solution to the goals of increasing creativity and increasing physical activity."[6]

The results of this research manifest in the work culture of companies who encourage activities such as walking meetings and other physically engaging programs. Additionally, walking and bicycling improvements benefit everyone by expanding mobility choices and ensuring that local businesses can retain the workforce they depend on, boost economic growth and economic mobility.

Talent Retention and Attraction

In recent years, people are increasingly expressing a preference to live in communities designed for walking and bicycling. Data from the 2017 National Realtors Association revealed that 62 percent of adults, a majority among most generations, favor walkable, mixed-use neighborhoods, with many respondents preferring to drive less if alternative transportation was available.

Economic Case Study. The Urban Land Institute (ULI) published similar findings in report titled "America in 2015: A ULI Survey of Views on Housing, Transportation, and Community."0 They found that:

- Just over half of all Americans (52 percent) and 63 percent of millennials would like to live in a place where they do not need to use a car very often.
- If they could live anywhere, 42 percent of Americans would choose to live in a rural/small-town area, while 37 percent say they live in such a place currently.
- A large majority (78 percent) would rather live in a community where the residents are a mix of ages, and 66 percent would prefer a mix of cultures and backgrounds.

The first preference asserted by the ULI report suggests that a majority of Americans value walkability and non-motorized transportation options in determining their place of residence. The second preference indicates that another significant portion of the sample has a desire to live in small urban communities in rural areas. This information is particularly crucial as INDOT maintains a vast network of state highways that often serve as a main street for local communities. Find a more in-depth look at this connection in Chapter 2. The third preference reported by the ULI states that there is value in diverse communities, providing an opportunity for active transportation

Improve Property and Home Values

In the online article "The value of walkability across the US" (https://cityobservatory.org/the-value-of-walkability-across-the-us/), Joe Cortright, author of the 2009 CEOs of Cities study "Walking the Walk," highlights the relationship between home values and Walk Score. The study controlled external factors such as home size, age, number of bedrooms/bathrooms, neighborhood income, and proximity to regional urban centers and employment opportunities.

It was found that walkability provided significant increases in home values in 13 out of the 15 housing markets sampled. A noteworthy finding from this analysis asserts that increasing a community's Walk Score from the market median to the 75th percentile saw an increase in home values ranging from $10,000 to $30,000.

Property value data trends are extensively monitored by online real estate marketplaces as well. A study from the book *Zillow Talk: The New Rules of Real Estate* by Spencer Rascoff and Stan Humphries, monitored home values in different U.S. cities from 2000 through 2014. The assertion was made that a 15-point increase in Walk Score was associated with a 12 percent increase in home values, which was not reflected in car dependent neighborhoods. Chicago was cited as having the greatest effect of increased walkability, while New York City saw a smaller change resulting from walkability improvements.[9]

1.2 Moving Toward a Healthy State

Active transportation and public health have a direct relationship. By improving resources for bicyclists and pedestrians, Hoosiers will find it easier to live a healthier lifestyle.

Reduced Obesity, Overweight, and Sedentary Rates

Walking and bicycling are basic forms of transportation that can help address the personal and community costs of obesity and chronic disease, reducing obesity, heart disease, stroke, diabetes, and improving mental health. This problem is especially pertinent in Indiana which sees high rates of physical inactivity (29.6% of adults) and obesity (33.6% of adults)[12,] with rates generally higher in rural areas.

The American Medical Association, American Heart Association, and Centers for Disease Control (CDC) all recommend adults receive at least 150 minutes of physical activity weekly. While accessing facilities which help adults achieve this goal can be difficult, walking and bicycling are widely accessible, relatively low impact, and require no specialized equipment beyond a bicycle.

Health Benefits of Active Transportation Infrastructure

The 2017 Indiana Trails Study found that 65% of trail users cited health benefits as their primary reason for use. Trail users reported significantly better sleep, mental health, and physical health compared to non-users.[15]

Quantified health benefits from other studies include:

- Reduced mortality (e.g., 10 fewer deaths annually in Northwest Arkansas)[16]
- Fewer cases of chronic diseases (e.g., diabetes, heart disease, cancer)
- Reduced healthcare costs (e.g., $3.07 saved per mile walked in Utah)[17]

Improved Air Quality and Reduced Emissions

When people walk or bike instead of driving, motor vehicle-related air pollution emissions decrease, reducing harmful health and environmental effects. Motor vehicles generate air

pollutants that are harmful to human health, including carbon monoxide, ozone, sulfur dioxide, nitrogen dioxide, hydrocarbons, and particulate matter. Nationwide, these pollutants are associated with a range of health impacts, including asthma, impaired lung function, and cardiovascular morbidity.

According to the Environmental Protection Agency (EPA), many counties in Northwestern Indiana and around Indianapolis suffer from high pollution levels, such as nitrogen dioxide. Much of these emissions are due to transportation.[13] However, with 46 percent of automobile trips being less than 3 miles, walking and bicycling could replace many of these trips.

A study in Indianapolis estimated that replacing all vehicle trips under 5 miles with active transportation could prevent:

- 19 deaths
- 85 incidents of asthma
- 36,773 cases of respiratory problems
- 24 cardiovascular problems[14]

Economic Impact of Health Benefits

Investing in active transportation infrastructure can lead to significant economic benefits through improved public health:

- Increased productivity and reduced absenteeism
- Long-term savings from chronic disease prevention
- Improved quality of life and increased property values

By investing in active transportation infrastructure, Indiana can create healthier communities, reduce healthcare costs, and improve the overall quality of life for its residents.

2. WALKING STATEWIDE

2.1 State Highway Sidewalk Inventory

The State of Indiana now has a digital inventory of sidewalks that exist along state-owned roads. INDOT Geographic Information Systems (GIS) Services team took the initiative in spring of 2021, using Google Street View to observe and record the existence of sidewalks in our statewide transportation network. Mileage of freeways, expressways, and exit ramps were excluded from the data set (E.g., interstate highways).

The essential questions to be answered by this endeavor are: Where is there need for sidewalks on U.S. routes and state roads? What does Indiana's sidewalk network look like for state-owned roads in Urbanized Areas Boundaries (UABs); or within the boundaries of towns with a population less than 5,000?

Additional questions that INDOT Technical Planning and Programming sought to answer are as follows:

How many miles of INDOT non-freeways & expressways have sidewalks on either one or both sides?

Per INDOT's inventoried sidewalks, nearly 567 miles of state-owned roads have some sort of pedestrian facilities adjacent to the roadway (E.g., sidewalks, shared-use paths). This number includes sidewalks along one-way pair streets.

How many miles of INDOT non-freeways & expressways have sidewalks on both sides?

For example, a 1-mile road section with sidewalks on both sides being equivalent to 2 linear sidewalk miles. It was found that nearly 210 miles of non-interstate routes have sidewalks on both the left and right sides of the road. The linear mileage of sidewalk is double the value above, meaning there are about 420 miles of sidewalk when counting both sides of the road. This data includes sidewalks along one-way pairs as well as roundabouts on state-owned facilities.

How many miles of INDOT non-freeways & expressways do not have sidewalks on either one or both sides?

It is estimated that almost 9,304 miles of state-owned roads do not have sidewalks or pedestrian infrastructure along or adjacent to the roadway. This number is approximated using road centerline data and does not include one-way pairs.

Having a comprehensive understanding of pedestrian infrastructure along state highways enables the agency to expand further on identifying gaps and opportunities within our transportation system. Moving forward, this information is crucial, to establish an institutionalized approach to planning, constructing, and maintaining sidewalks on state-owned highways.

Circling back to the questions posed at the beginning of this sidewalk inventory discussion, INDOT GIS Services was able to estimate the mileage of sidewalks on state highways within UABs as well

as towns with a population of less than 5,000. Figure 1, below, shows a sample map of the data inventoried regarding sidewalk presence on state highways within UABs.

Within UABs, how many miles of state highway currently have sidewalks?

The INDOT sidewalk inventory estimates that there are nearly 688 miles of sidewalks along state highways within Urbanized Area Boundaries. With this information, it is estimated that almost 3,286 miles of state highway within UABs do not currently have sidewalks along the road.

How many miles of sidewalk currently exist within the boundaries of towns with a population less than 5,000?

It is estimated that about 60 miles of state highway have sidewalks alongside the road in smaller towns, compared to almost 1,085 miles of state highway that do not have sidewalks in these smaller urban centers.

Leveraging Current and Historical Data Sets

There is a myriad of possibilities to explore with the newly recorded sidewalk inventory, and INDOT Technical Planning and Programming would like your input and ideas on how this data can be leveraged as well as what formats or visualizations are most useful for your own planning practices. Should you have any suggestions or requests regarding the state highway sidewalk inventory, or any other data presented in this document, please contact Brandon Burgoa, Statewide Pedestrian and Bicycle Coordinator, at INDOT Central Office (brburgoa@indot.in.gov). The following sections highlight a couple of different planning exercises carried out to help better understand pedestrian safety and crash trends.

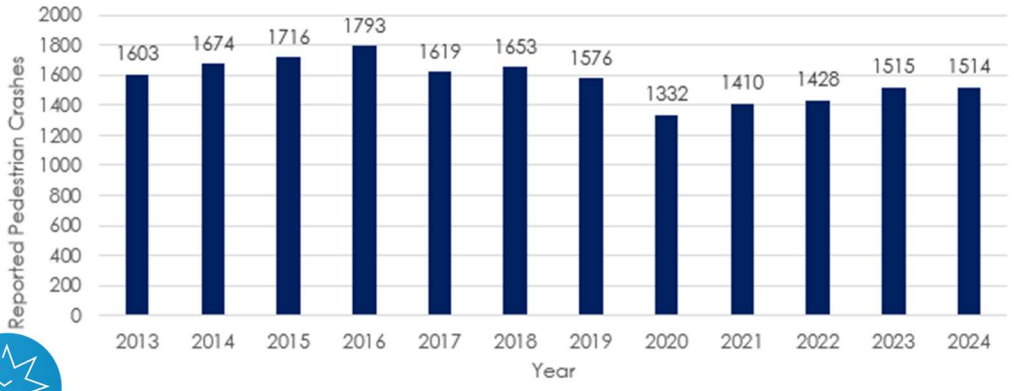
2.2 Pedestrian Motor Strike and Fatality Statistics

INDOT can assess the safety of walking by looking at the number of pedestrians struck by motor vehicles crashes. Data from the Indiana University Public Policy Institute (IUPPI) shows the risks faced by cyclists and pedestrians today[18] Compounded with survey results summarized in Chapter 4, statewide crash data implies that safety is a barrier to walking and bicycling in Indiana.

Information from INDOT's Office of Traffic Safety shows that after many years of an upward trend in reported incidents of pedestrians struck by motor vehicles, the reported amount declined to 1,514 in 2024.

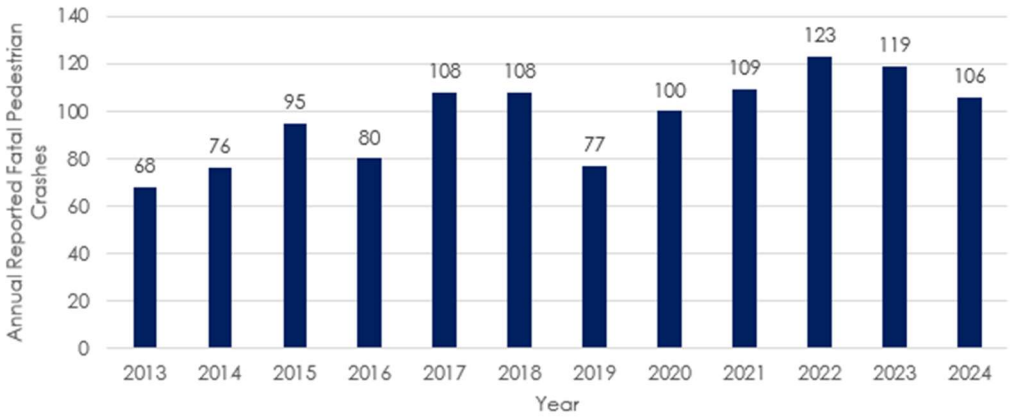
Between 2013 and 2024, the number of reported incidents of pedestrians being struck by motor vehicles increased about 6% while the number of fatal incidents increased about 70%.

Figure 2. Reported Pedestrian Vehicle Incidents



In the year 2023, the Indiana Public Policy Institute reported 871 fatal crashes, making fatal pedestrian incidents constitute 13.7% of fatal traffic events.[19]

Figure 3. Fatal Pedestrian Vehicle Incidents



3. A Statewide Network for Bicycle Travel

3.1 Identifying Statewide Planning Contexts

When assessing bicycle connectivity to maximize the potential of bicycle facility investments, corridor context is key. This includes, primarily, the road characteristics and the intended use of the route, which inform the appropriate bicycle facility selection. The core principle is simple: The level of bicyclist separation and comfort should match the level of stress created by the motorized environment (speed and volume).

To streamline network planning, every segment of the statewide network can be categorized into one of four distinct Planning Contexts. These contexts are defined by existing road conditions and surrounding land use, and they dictate which facility concepts are most appropriate.

The three primary parameters used to define these contexts are:

1. Motorized Traffic Speed Limit
2. Motorized Traffic Volume (AADT)
3. Surrounding Density/Land Use: Used to qualify the environment (Urban, Suburban, Rural).

Below, we explore how the primary goal of facility users may change based on land use, which influences the road characteristic and intended use of the road:

Context	Land Use Description	Primary Goal
A: Urban Core/Downtowns	Densely built areas; many intersections; high pedestrian activity.	Connectivity and High Comfort for All Ages.
B: Suburban Connectors	Major routes connecting neighborhoods, commercial centers, and regional hubs; wide rights-of-way common.	Dedicated Separation from High-Speed Traffic.
C: Rural Town Centers	Small, traditional town centers; low congestion; lower design speeds than arterial roads.	Low-Stress Shared Environment.
D: Intercity/Tourism	Long-distance rural travel; connecting towns or natural attractions (often state or US routes).	Basic Safety and Shoulder Width.

These are just a few considerations which may impact which facility investments make the most sense for a given roadway. Rule of Thumb: If the Context (AADT or Speed) suggests high stress, the solution should be separated. If the Context suggests low stress, the solution can be shared or designated on-road. Establishing context is key for promoting connectivity and functionality.

3.2 Integrating Opportunities into Project Development

Agencies with limited resources and knowledge can successfully build onto the statewide network by strategically leveraging existing programs, rather than relying solely on major capital projects.

As outlined in the FHWA document *Incorporating* *On-Road Bicycle Networks into Resurfacing Projects*, the most common and cost-effective way to implement bicycle facilities is during scheduled pavement resurfacing or reconstruction.

- The Opportunity: When a road is resurfaced, restriping is required. This provides a low-cost opportunity to implement many on-road facilities (like Paved Shoulders or Conventional Bike Lanes).
- Action for Agencies: Regularly review the project pipeline for maintenance and resurfacing jobs within your jurisdiction. If a segment is scheduled for resurfacing, cross-reference it with your network plan and goals to see if restriping can accommodate a bicycle facility.

When the context calls for a Separated Facility (e.g., a Protected Bike Lane or Shared-Use Path in an Urban or Suburban Context), this signals a need for higher capital investment. These are the critical gaps that should be prioritized for competitive federal or state grant applications.

Effective statewide network planning requires seamless integration across jurisdictional boundaries. Local agencies, MPOs, and INDOT should coordinate to ensure that Conceptual Solutions selected in one jurisdiction (e.g., a Shared-Use Path in a suburban connector) transition smoothly into the neighboring jurisdiction's context (e.g., a Protected Bike Lane in an urban core).

Successful implementation relies on performance monitoring and adaptability. The network is a living system that must respond to evolving technology and usage.

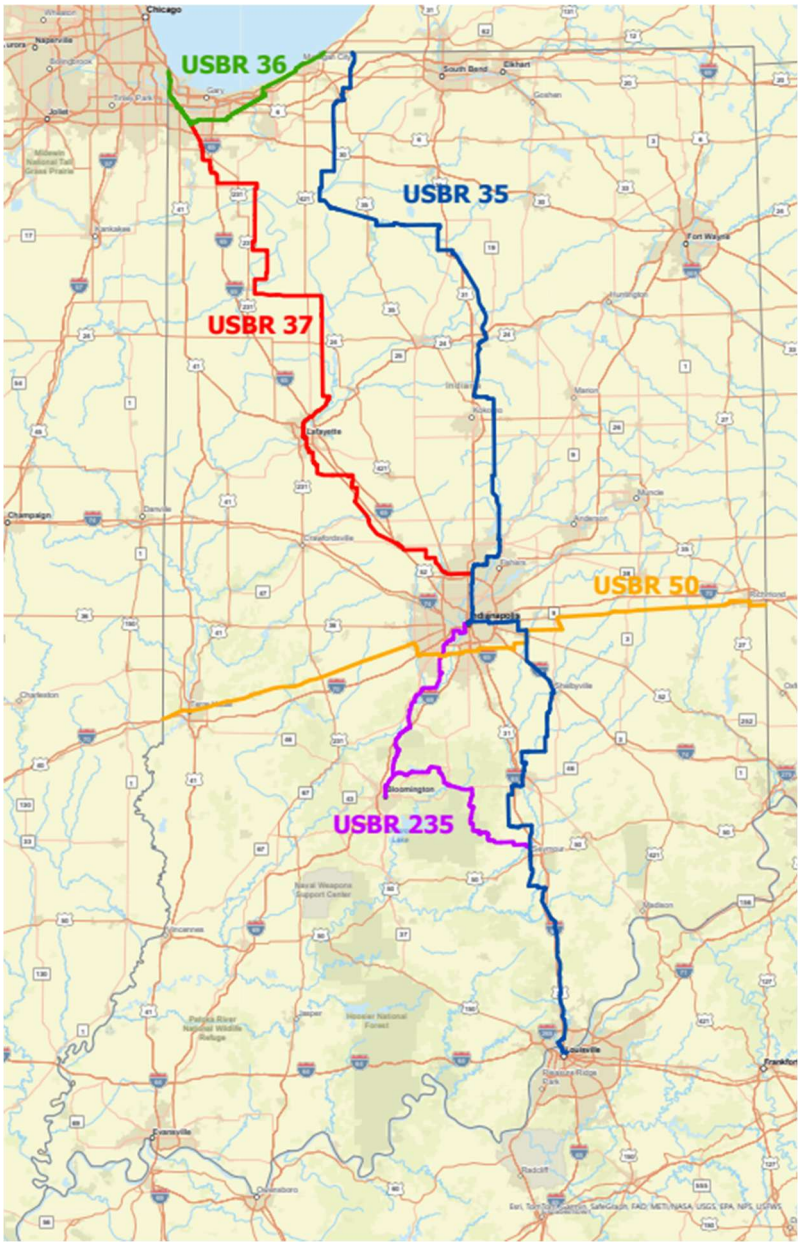
- Success Metrics: Agencies should track basic metrics to gauge the network's effectiveness, including:
    - Comfort/Safety: Miles of high-comfort (separated) facility added per year.
    - Usage: Documented bicyclist counts in key corridors (manual or automated).
    - Connectivity: Percentage of critical gaps closed each year.
- Adaptability: This context-driven framework allows for future updates. As speeds change, population densities shift, or new facility types emerge, a segment's Planning Context can be re-evaluated, leading to an updated Conceptual Solution without requiring a complete rewrite of the statewide plan.

Connecting the Network: Final facility selection and micro-design will reference national guides (AASHTO, NACTO) and specific INDOT guidance. The purpose of this section is to provide the planning-level justification for that eventual design choice.

United States Bicycle Routes (USBRs)

Indiana has several designated U.S. Bicycle Routes which are part of the national cycling route network of the United States. These routes often follow scenic byways, historic trails, and low-traffic routes, connecting communities and states. Many of Indiana's regional trails, such as the Monon Trail, Nickle Plate Trail, or Erie Lackawanna Trail are integrated into the routes. However, the routes are intended for adventuring and experienced bicyclists who are comfortable traveling, at times, alongside high-speed automobile and truck traffic.

FIGURE 5. UNITED STATES BIKE ROUTES IN INDIANA



USBR 36: Begins at the Illinois border near Chicago and ends near Michigan City, running for about 59 miles,

USBR 37: Starts on the Erie Lackawanna Trail at USBR 36 and joins USBR 35 on the Monon Trial, running for about 187 miles.

USBR 35: Runs about 381 miles, from Michigan border to Louisville Kentucky.

USBR 50: From Terre Haute on the Illinois border to Richmond on the Ohio border, runs 160 miles east-west across Indiana.

USBR 235: Begins in Downtown Indianapolis, runs for about 122 miles and explores Martinsville, Bloomington, and Nashville, before reconvening with USBR 35.

For any questions, comments, or concerns regarding Indiana's USBR routes, contact INDOT's Statewide Pedestrian and Bicycle Coordinator, Brandon Burgoa at BrBurgoa@indot.IN.gov

3.3 Bicycle Crash and Fatality Statistics

Overall, the number of reported bicycle crashes has declined in the past eight years. Comparing 1,027 bicycle crashes in 2013 to 908 bicycle crashes in 2024 shows a 12% decrease in reported bicycle crashes in Indiana. (Figure 6). On the other hand, the number of fatal bicyclist crashes has not shown a clear trend, with the mean average of about 15 fatal bicycle crashes from 2013 to 2024 (Figure 7). Looking at 2018, the 22 fatal bicycle crashes that occurred constitute 2.8% of the total 789 fatal crashes reported by the Indiana University Public Policy Institute (IUPPI).

Figure 6. Reported Bicycle Crashes (with motor vehicles)

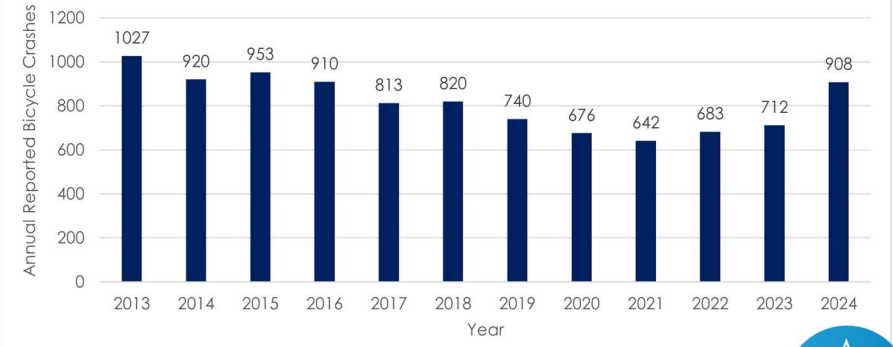
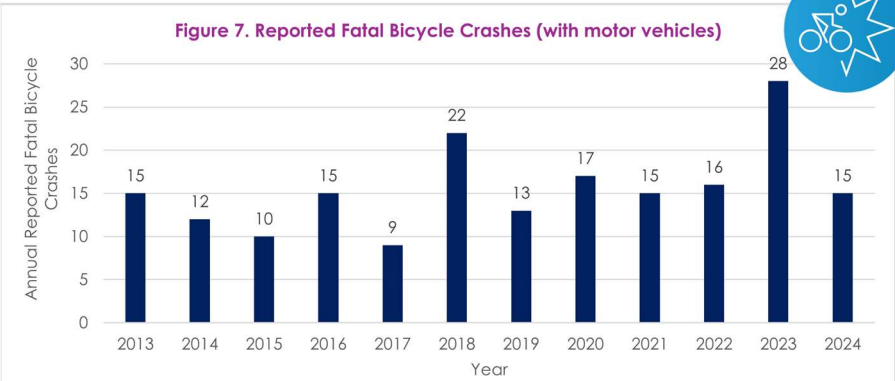


Figure 7. Reported Fatal Bicycle Crashes (with motor vehicles)



Comparing Pedestrian and Bicycle Crash Data

All traffic fatalities are immensely tragic incidents, but it is important to note that in the year 2024 the percentage of fatal incidents of pedestrian being struck by motor vehicles is more than ten percent higher than the bicycle fatality rate.

In general, the pedestrian fatal crash rate represents a larger portion of total traffic fatalities than that of bicyclists. In fact, IUPPI's 2019 Indiana Non-Motorists Traffic Safety Facts states that: "Between 2019 and 2023, pedestrians accounted for 78 percent of the non-motorists involved in collisions and pedal cyclists accounted for 19 percent," (IUPPI, 2023). Given limited funding, resources should be prioritized by greatest need and impact; pedestrian safety improvements are expected to offer a higher return in crash cost reduction compared to bicycle-focused measures.

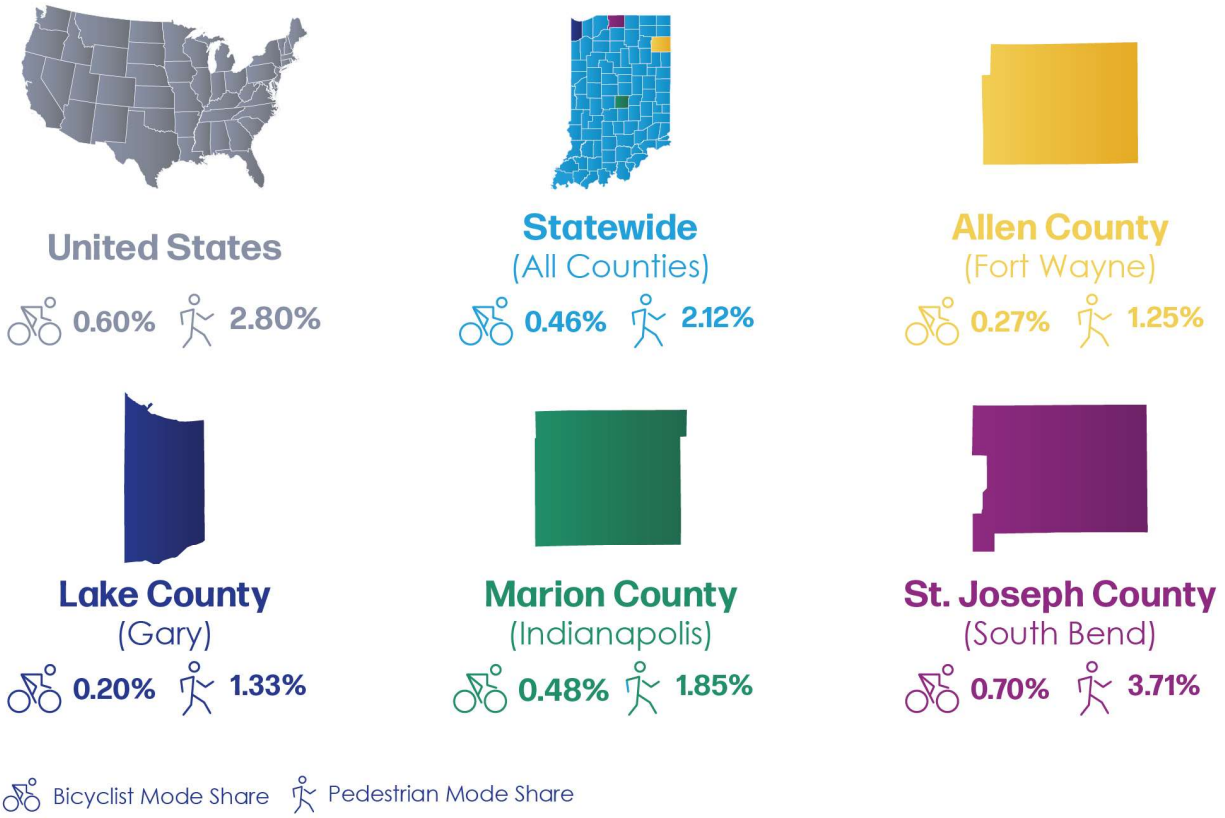
Find additional information from the source at: https://policyinstitute.iu.edu/research-analysis/traffic-safety/crash-fact-books/crash-fact-book_2023.pdf.

4. PUBLIC PERCEPTION

4.1 The State of Active Transportation in Indiana

One measure to gauge a state's progress of active transportation is the proportion of commuters walking and bicycling to and from work, also known as mode share. This active transportation mode share accounts for only a small group of commuters while most Hoosiers choose to drive alone to work. Figure 8, below, shows the percentage of walking or bicycling trips made from home to work. Using information from the U.S. Census Bureau's American Community Survey get a glimpse at estimates of walking and bicycling rates comparing Indiana's four most populous metropolitan regions at the state and national level.

FIGURE 8. CYCLING AND PEDESTRIAN MODE SHARE ACROSS INDIANA (U.S. CENSUS BUREAU'S AMERICAN COMMUNITY SURVEY



Though these urban counties are more likely to offer more amenities for pedestrians and bicyclists, rates of walking and bicycling to work remain low compared to rates of driving alone, which is likely applicable to most urban counties in Indiana.

Tracking the Trends

According to the League of American Bicyclists (LAB), Indiana has relatively low rates of walking and bicycling compared to national average.[20] Factors that tend to lower rates of active transportation are not unique to just Indiana, as surrounding states struggle with similar hurdles. To speculate, these factors may include absence of sidewalks, lack of bicycle accommodations, land use characteristics, low population density, lack of mixed-use development and land use variation, suburban-oriented street networks, dispersion of employment, or low transit accessibility.

The following points highlight major active transportation trends in Indiana, including demographics, infrastructure, and emerging transportation technologies:

- INDOT has been working to create a comprehensive database of active transportation facilities, namely sidewalks, on-street bicycle facilities, and trails.
- Multiple state agencies and partners have contributed to promoting active transportation network through the multidisciplinary Bicycle Trails Task Force (BTTF).
- Many of Indiana's cities and rural communities lack adequate sidewalks or off-street paths, which is a major deterrent to walking.
- Active transportation rates are significantly higher in the urban core of Indiana's cities, which is complimented by land use patterns in high-density areas and accessibility. Rates decline as urban areas transition to suburban areas and decline even further in rural areas.

Emerging trends in micromobility are increasingly relevant to active transportation planning and infrastructure. These trends include traditional bike share (e.g., Indianapolis, Evansville, and Valparaiso), e-bikes, and electric scooters (e.g., Indianapolis, South Bend, Bloomington, and West Lafayette). Though these technologies are promising as first- and last-mile solutions, their growth in popularity in these locations, especially e-bikes and scooters, provides challenges for design, regulation, and capturing accurate crash data.

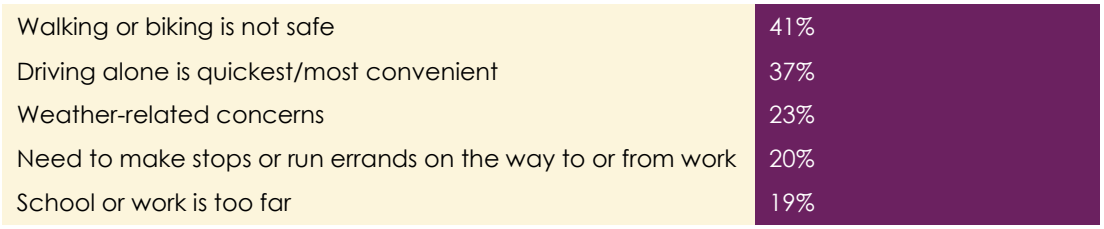
4.2 What Do Hoosiers Say?

INDOT conducted an online survey to better understand the challenges and opportunities associated with walking and bicycling in Indiana.[21] Starting in fall 2018, over 2,500 people participated in the survey to measure statewide priorities, and preferences. The survey indicated strong demand and support for active transportation from respondents in urban, suburban, and rural areas. The vast majority of respondents (87%) would use a paved recreational trail network for bicycle tourism in Indiana.

The survey also reflected significant opportunities for walking and cycling. Seventy-eight percent of respondents report that they drove alone to work; however, respondents were not averse to non-vehicular commuting. Where safe and convenient facilities exist, many people choose to walk. For example, 65% of trips shorter than a half mile were made on foot. Additionally, data

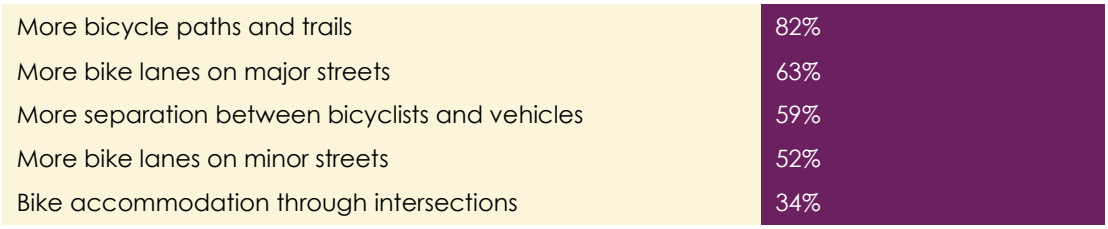
gathered from cyclists shows opportunities to increase the share of commuters taking additional trips by bike. Only four percent of bicycling trips are in the moderate 1–3-mile range. Yet, bicycling is a compelling choice for many with shorter commutes and other trips less than 3 miles. When asked what factors would encourage more walking, respondents mostly prioritized more paths and trails, as well as improved sidewalks. Most survey respondents also indicated that they walk or bike for health and recreation, implying that additional investments should incorporate this preference. When asked about barriers to walking and bicycling, the following responses were most common:

FIGURE 9. WHAT KEEPS YOU FROM WALKING AND CYCLING MORE OFTEN?



Survey takers also were asked about what changes would encourage more cycling. Most respondents emphasized that additional infrastructure would make cycling a safer choice. The following responses were most common:

FIGURE 10. WHAT WOULD ENCOURAGE YOU TO BIKE MORE OFTEN?



4.3 Stakeholder Interview Highlights

Stakeholder engagement included a project Steering Committee, public events, social media engagement, and an online survey. The study team also conducted interviews with stakeholders who have specific knowledge or interest in active transportation specific to Indiana.

When asked about priorities for active transportation, two popular themes emerged. First, many of those interviewed stated that INDOT could actively promote Complete Streets both in design, in their own policies, and through support of Complete Streets efforts at the local level. INDOT's main objective in terms of Complete Streets is to design and build roads that safely and comfortably accommodate all users of the roadways, including motorists, cyclists, pedestrians, transit, and freight, benefiting people of all ages and abilities, as well as promoting Americans with Disabilities Act (ADA) acceptable provisions. The second most popular theme was providing access and connectivity to active transportation facilities in a more robust connected network.

Stakeholder Interview Highlights

Impediments to Active Transportation:
Dedicated Funding Sources
Lack of Non-Motorist Facilities
Physical Barriers
Lack of Knowledge and Resources in Local Governments

Priorities for Active Transportation:
Complete Streets
Access and Connectivity
Statewide and Regional Active Transportation Routes
INDOT as Facilitator

Role of Active Transportation:
A Viable Alternative to Driving
Economic Development and Tourism
Health

By far, the number one active transportation issue on state facilities cited by those interviewed is a lack of facilities, including sidewalks, shoulders, and bicycle lanes. Some respondents also identified physical barriers, such as Interstate ramps, highway shoulder corrugation, and debris in shoulders and bicycle lanes. A lack of amenities - such as trailheads, bathrooms, and bike pumps along active transportation facilities – was also cited.

When asked to give their perspective on agency culture around active transportation, many of those interviewed said that INDOT will respond to active transportation requests when local stakeholders take the lead. Yet many local governments lack the information or resources to make these requests. Furthermore, local requests are often received too late in the project development process and earlier coordination during the scoping phase is needed.

Many interviewees agreed that statewide and regional active transportation routes are a priority, with benefits for tourism, economic development, and commuting. Some noted that providing access and connectivity to a regional or statewide system is challenging for local agencies to understand their part within the larger system, while others stressed the importance of INDOT as facilitator in the creation of such a statewide network. Some also felt that statewide and regional routes are more of a secondary priority behind local connections that they believe should be a higher priority.

A significant number of interviewees said that active transportation's number one role is to serve as a mobility option and as a viable alternative to driving. Over half of those interviewed championed economic development and tourism benefits as important to their community, while almost as many cited active transportation's role in promoting health. Some of those

interviewed also identified the role of active transportation as improving overall quality of life by having access and a variety of transportation options in their community.

4.4 Asking Local Elected Officials

The 2019 municipal election ushered 51 new mayors in the State of Indiana. With the help of INDOT's Local Government Affairs Liaison, INDOT was able to meet with 41 of these new mayors. The following excerpt briefly summarizes some common themes from those discussions:

> *"The feedback and questions that we have received have varied throughout the state, as to be expected, but we did hear some common themes. Many cities want to get trucks out of their downtown, they are concerned about blocked railroad crossings, and they want assistance with installing sidewalks. With the increased emphasis on quality of place, we also got questions about aesthetic maintenance and signage."*

To procure more concrete data, INDOT launched a two-prong survey in July of 2019. The first survey was distributed to all 122 mayors statewide and had a 52% response rate, offering a good cross-section of feedback. The second survey was delivered to all 276 county commissioners statewide. The intent of these surveys was to answer the three following questions:

- How do county and city priorities compare?
- How does that inform INDOT's outreach strategies?
- What information is most helpful to local governments for both their short- and long-term transportation goals?

In terms of active transportation, survey participants were asked to rate the importance of INDOT's role in partnering with communities to enhance multimodal transportation and sidewalk networks. Survey participants used a scale of 1 to 5; 1 being "Not Important" and 5 being "Extremely Important." The results of this question are found on the left side of Figure 11 below.

INDOT also asked survey participants to rate their satisfaction level with INDOT's role in partnering with communities to enhance multimodal transportation. The results of elected officials' satisfaction rating are found on the right side of Figure 12 on the next page.

The following Table is a breakdown of the 63 total mayoral responses.

FIGURE 11. ELECTED OFFICIAL DATA: INDOT 2019 SURVEY OF MAYORS

How do you rate the importance of INDOT's role in partnering with communities to enhance multimodal transportation and sidewalk networks?		
Extremely Important	18	29 %
Very Important	21	33 %
Important	12	19 %
Less Important	7	11 %
Not important	0	0 %
No Opinion	5	8 %

How do you rate your satisfaction of INDOT's role in partnering with communities to enhance multimodal transportation and sidewalk networks?		
Very satisfied	6	10 %
Satisfied	17	27 %
Neutral	25	40 %
Dissatisfied	6	10 %
Very Dissatisfied	0	0 %
No Opinion	9	14 %

Given that 81% of respondents felt that partnering with INDOT is important, very important, or extremely important, INDOT has identified an opportunity to improve satisfaction in partnering with local communities to enhance multimodal transportation and sidewalk networks.

While no respondents indicated that they were very dissatisfied, 54% of survey participants felt neutral or expressed no opinion on the matter. INDOT Technical Planning and Programming is committed to improving satisfaction of our state's local elected officials through active transportation planning.

Over the years, INDOT has collected and compiled several survey cycles of public perception of INDOT practices, specifically the importance of walking and the satisfaction level of walkability along and across INDOT roads.[22] Figure 12, below, showcases answers to the previous questions from both Indiana's mayors and county commissioners.

FIGURE 12. ELECTED OFFICIAL DATA: IMPORTANCE AND SATISFACTION OF WALKING

What level of importance is the walkability of state-owned roads in your community?

Year	Extremely	Very	Important	Less Important	Not Important
2019	25 %	21 %	26 %	18 %	10 %
2017	21 %	21 %	25 %	13 %	19 %
2013	18 %	15 %	26 %	22 %	19 %
2011	19 %	17 %	25 %	21 %	18 %

How satisfactory is INDOT's role in the walkability of state-owned roads in your community?

Year	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
2019	12 %	30 %	39 %	14 %	5 %
2017	18 %	28 %	N/A	15 %	8 %
2013	9 %	27 %	45 %	13 %	7 %
2011	10 %	25 %	45 %	14 %	6 %

Survey results indicate that local elected officials sense how important having sidewalks is to the appeal of their communities, to their ability to retain and attract good businesses, and to compete economically. This observation supports the importance of sidewalks for business and economic development reasons.

Survey questions are just one way that INDOT embraces the 3C planning process to ensure a continuing, comprehensive, and cooperative planning culture with our local and regional stakeholders. The feedback that INDOT receives from residents, visitors, community partners, and planning stakeholders is crucial to providing equitable planning support on a statewide basis.

INDOT Technical Planning and Programming is committed to working with INDOT Districts, regional planning stakeholders, and local planning agencies to reinforce community focuses and support quality of life planning through active transportation. INDOT Technical Planning and Programming recognizes the importance of sidewalk construction, maintenance, and budgeting as it has been identified as a need that can address mobility, safety, quality of life, economic vitality, and resident/business retention and attraction.

4.5 League of American Bicyclists

The League of American Bicyclists (LAB) is a 501(c)(3) nonprofit which represents bicyclists to create safer roads for a more bicycle-friendly America. LAB ranks all States on their bicycle "friendliness" to promote awareness of bicycle issues and best practices and encourage action from state departments of transportation and State legislatures. The rankings are based on publicly available data and a survey completed by state departments of transportation and/or State bicycle advocacy organizations. The most recent ranking was completed in 2024.[23]

In the 2024 ranking, Indiana ranked 20th in the Bicycle-Friendly State ranking, an improvement from 24th in 2019. LAB has noted that Indiana has shown strengths in its initiative for statewide active transportation planning. State legislation is prudent, passing laws which aim to support safe passing and limit distracted driving. Further, when looking at infrastructure alone, Indiana ranks 9th out of the 50 states. Progress is made every year in increasing connectivity between trails and bike lanes, with significant amounts of State funding directed towards this.

In education, planning, and policies, Indiana has room for growth. despite improvements in the past five years. Bike safety education programs could be expanded for new cyclists, especially for school-aged children and new cyclists, and funding could be leveraged more aggressively to support active transportation efforts. Further, evaluation of active transportation metrics could be improved, including metrics for safety and crash data. With more support directed to education, safety, and capacity improvements, Indiana would likely see an improvement in its ranking in years to come.

The League highlights opportunities for Indiana to improve across its 5 categories for assessment including:

Infrastructure and Funding: League of American Bicyclists ranks Indiana 9th out of 50 states regarding infrastructure. Significant amounts of State funds are used on highway projects that incorporate wide paved shoulders or bike lanes. In many cases, new shoulder widths constructed by INDOT, exceed the American Association of State Highway and Transportation Officials (AASHTO) guidelines to allow for safe sharing of the roads for all users. Continuous investment in trail construction will improve Indiana's rank in this category with additional funding going towards supporting active transportation throughout Indiana.

Education and Encouragement: Though Indiana ranks well in this category for INDOT supporting bicycling and walking events and education material, the greatest loss of points comes in the Mode Share and Advocacy category. However, this will take time to improve and will likely only improve as more low-stress bicycle networks are built.

Legislation and Enforcement: This category requires action by the State legislature and Governor. In the past five years, Indiana has passed safe passing legislation that requires motor vehicles to pass people bicycling with at least three feet of clearance. Additionally, the passage of a hands-free distracted driving law supports safety for bicyclists and pedestrians alike. There are other laws related to active transportation that if in place would improve the scoring in this category; for example, LAB notes that Indiana is one of eight states which does not have a law prohibiting a motorist from opening a door unless they can do so safely; this helps reduce "dooring."

Policies and Programs: Ranking mid-tier in policies and programs, Indiana has opportunities to improve. INDOT could consider a formal consideration of active transportation accommodations in its project level scoping. This could significantly benefit rural and all communities which often have less capacity to explore these services than urban-metropolitan areas.

Evaluation and Planning: The League encourages INDOT to improve its collection of data on pedestrian/ bicycle network usage and connectivity. INDOT could use this data to evaluate the implications of projects on active transportation and guide investments, mitigating waste and more effectively improving active transportation. By embedding evaluation and strong planning practices into every level of decision making and facilitating coordination across agencies and jurisdictions, Indiana can make biking and walking safer and more accessible for all.

5. KEY IMPLEMENTATION FINDINGS

Making Indiana a better place for active transportation requires commitment to certain programs, policies, and practices at INDOT and through other agencies that plan, design, build, and maintain Indiana's transportation system. These recommendations are intended to expand and enhance active transportation networks throughout Indiana.

The recommendations address issues and challenges identified during the development of this report based on public and stakeholder input, staff experience, and review of policies and practices in Indiana. Some of the recommendations can be carried out by INDOT, but many will require close coordination with other agencies, municipalities, and organizations.

Plans, Policies, Programs, and Projects

Active transportation is more than physical infrastructure. Plans, policies, and programs create the conditions and culture to support a statewide active transportation network. Recommendations include:

- Better inform and promote Complete Streets Guide and context-sensitive design all INDOT and local projects using State or Federal funds.
- At the earliest stages of project formation on all INDOT projects, explicitly consider active transportation features (the needs of pedestrian and bicyclists), and when fitting based on rational alignment with project location, essential intent, scale, and intensity, include in the project the treatments and features serving those users.
- Provide sidewalks along all INDOT state roads and U.S. highways in urban areas and small towns, unless special conditions at the site prevent such. Where sidewalks do not exist presently, the default position should be to install them. This objective should be achieved over time, by dual approaches: (1) Taking advantages of opportunities that arise during the normal course of road preservation and modernization, and (2) incrementally through retrofit projects dedicated to adding sidewalks along state roads and U.S. highways in urban areas and small towns across the state.
- Likewise, accommodate bicycle transportation when and where appropriate along INDOT roads in both rural and urban areas. It is understood that bicycle travel is inappropriate on some roads, a function of multiple factors. Nonetheless, where both the site conditions strongly merit equipping the road or roadside for bicycle users and the underlying nature of the project supports integration with bicycling features, those elements should be included in the project.

Interagency Coordination

In addition to providing base infrastructure, key to increasing rates of walking and bicycling is sheer awareness. Programmatic commitments, like personnel training and legal enforcement, are important factors to creating an inviting roadway environment for active transportation users. INDOT's coordination with other state agencies, committees, and local partners will be essential for addressing many of these safety countermeasures.

Alignment within INDOT is critical to growing the State's active transportation network. The devotion of resources to active transportation will succeed with consistent communication, training, and internal coordination.

- Establish a method and framework for collecting and maintaining a central clearinghouse for statewide bicycle and pedestrian data, including facilities and user counts.
- Evaluate key walking and bicycling safety challenges and continue development of crash reduction strategies.
- Coordinate with implementation partners such as Indiana Department of Health, Indiana Department of Natural Resources, Indiana Department of Education, Indiana Criminal Justice Institute, Bureau of Motor Vehicles, and Indiana State Police to provide information and training to promote responsible active transportation.
- Continue to provide training for planners, engineers, and other transportation officials on best practices to achieve and sustain a strong active transportation system.
- Provide information as needed to assist other organizations to develop and sponsor bicycle- and pedestrian-specific training.
- Support the implementation of pedestrian and bicycle safety actions in schools with other State partners.
- Continue to develop and enhance coordination between the many agencies involved with developing a statewide network of trails and other active transportation facilities.
- Serve as a resource for data and information, if requested, for legislation designed to enhance active transportation in the State.

Safety, Training, Education, and Advocacy

Creating a culture around encouragement and advancement is central to growing the mode share of people who walk and bike. These recommendations demonstrate actions INDOT can take to support a cultural shift towards active transportation.

- Encourage communities, counties, and regional agencies to implement local Complete Streets policies and collaborate with one another when jurisdictional overlap occurs.
- Provide clear, concise, and timely information about bicycling and walking on INDOT's webpage as well as other public information channels.
- Continue to support and be a resource for organizations that encourage and advocate for bicycling, walking, and active transportation in congruence with INDOT's Strategic Plan
- Offer solutions for reducing barriers to active transportation, for instance, addressing absence of sidewalk in conditions where pedestrian travel may occur.
- When Federal funding is eligible, consider expanding connected bicycle and pedestrian networks in urban areas to increase access and improve safety.
- Expand connected pedestrian and bicycle networks in small towns that are seeking to increase access and improve safety.
- Regularly assess bicycle and pedestrian network needs, identify gaps, and target improvements.

Network Planning, Facility Design, and Maintenance

Infrastructure must properly accommodate active transportation modes, specifically walking and bicycling, achieved across lifecycle phases of transportation planning, design, and operations & maintenance.

- Ensure transportation planning sufficiently captures needs and benefits of active transportation modes,
- Ensure the Indiana Design Manual maintains directives to serve multiple modes of travel including pedestrians and bicyclists and does not pose unnecessary barriers where active transportation infrastructure makes sense.
- Ensure agency maintenance and operational practices also serve the interests of pedestrians and bicyclists traveling along or across INDOT roads.

5.1 Measuring Success

Performance measures demonstrate progress towards encouraging more active transportation commuting and recreation in Indiana. For example, tracking over time the number of linear miles present on INDOT roads by type of pedestrian and bicyclist facility. This might mainly focus on sidewalks in urban areas and small towns, Tier 1 to 3 roads with adequate shoulders for bicycle

travel, on-street bicycle lanes, shared-use paths. These potential measures would allow INDOT to understand whether efforts are improving the safety and quality of biking and walking in Indiana.

- Number of miles of active transportation infrastructure (e.g., sidewalks, shared-use paths, on-street bicycle lanes, trails, and shoulders that are suitable for bicycles).
- Number of projects with new active transportation infrastructure (e.g., pedestrian signals, crossing beacons).
- Number of projects that incorporate Complete Streets design or priority corridors from *Toward an Active Indiana*.
- Number of Hoosiers that report walking or bicycling as part of their commute.
- Percent growth of active transportation mode share.
- Number of cycling and pedestrian fatalities and injuries per estimated trip.
- Number of grants or technical assistance programs for localities planning multimodal networks.
- Tracking results of technical assistance programs for localities in pedestrian and bicycle planning.
- Number of participants enrolled in safety and education programs.
- Pavement quality and maintenance of existing cycling and pedestrian infrastructure.

5.2 Funding Active Transportation

Funding active transportation requires coordination of Federal, State, and local resources, as well as partnerships with private, philanthropic, and nonprofit organizations. The following goals guide INDOT's funding priorities for growing Indiana's active transportation resources:

- In settings and road classes fitting for active transportation modes, fund pedestrian and bicycle facilities as standard practice when new roadways are constructed, or existing roadways are reconstructed. If a more limited, rehabilitation or preservation project such as pavement resurfacing, opportunities to add pedestrian and bicycle elements should be evaluated and if determined a reasonable investment in relation to the overall scope and scale of the project, they should be funded within. To a degree this is already occurring as INDOT practice; however, it is in public interest to accelerate and expand the funding of active transportation options as an essential part of road infrastructure and not auxiliary transportation.
- Track funding and inventory of State roadway projects that incorporate bicycle and pedestrian facilities.
- Existing Federal and state funding programs devoted to advancing Indiana's active transportation modes should be fully expended.

Trails Cost Calculator

A major challenge in developing active transportation projects is often determining how much funding is required. *Toward an Active Indiana* also includes a cost calculator which estimates

project costs, excluding right-of-way, for trails or multi-use paths. Find the Trails Cost Calculator here: https://www.in.gov/indot/3963.htm

This spreadsheet-based cost calculator was developed to allow a user to input parameters to develop a planning-level cost estimate for trails. The trails cost calculator uses the base costs, developed by identifying major components of trail construction and establishing rough quantities to determine a rough order of magnitude cost. The components included are:

- Earthwork and grading
- Aggregate base material
- Surface material
- Landscaping
- Drainage
- Maintenance of Traffic
- Utility Adjustments
- Design
- Funding Sources

The costs to plan, design, and build trails, sidewalks, or shared-use paths vary widely based on a variety of conditions. Topography, urban versus rural settings, the presence of wetlands or other environmentally sensitive areas, and other conditions all play a significant role in the cost of active transportation infrastructure. Until specific corridors are known, and an individual analysis can be developed, it is not possible to provide cost opinions that are anything more than an order of magnitude.

Though these rough cost estimates are intended to be general, and used only for planning purposes, they provide a way to determine project budgets and request funding for the development of new trails in Indiana.

6. PARTNERSHIPS

INDOT alone cannot achieve success to *Move Toward an Active Indiana* without partnerships at various levels of the public, private, and nonprofit sectors. By working together with other organizations, INDOT staff can utilize their unique knowledge, skills, and abilities to cultivate active transportation partnerships in a more comprehensive manner statewide.

The following list of potential partners for active transportation should not be considered a comprehensive list; however, it should help to identify various institutions that may best be suited to assist in advancing active transportation. Given the multijurisdictional nature of transportation networks, interagency collaboration may be key in many circumstances for planning and financing active transportation facilities.

Indiana Department of Health

The Indiana Department of Health's Division of Nutrition and Physical Activity (DNPA) addresses healthy eating and active living in Indiana. From 2014 to 2022, DNPA conducted 50 regional Active Living Workshops.

Throughout 2021 DNPA, with INDOT funding and collaboration, has been awarding bicycle and pedestrian plan grants for communities. Coordination with DNPA is leveraged to address local communities' planning needs for enhancing active transportation networks in their communities.

Indiana Department of Natural Resources

The Indiana Department of Natural Resources (DNR) is a clearinghouse for several Federal and State grant funding programs to assist with the acquisition and development of trails throughout Indiana. Leveraging planning, development, and maintenance funding to enhance Indiana's active transportation networks with the DNR may be mutually beneficial for the State agencies.

Federal Highway Administration

FHWA has several funding programs that can and are being utilized to enhance Indiana's active transportation facilities. Some current Federal-aid programs administered by state DOTs that relate to active transportation are the Recreational Trails Program (see Indiana Trails Program for details specific to Indiana), Transportation Alternatives (TA, of Surface Transportation Block Grant), and the Congestion Mitigation and Air Quality Program (CMAQ).

MPOs, RPOs, and Local Governments

Local and regional planning most often happens at the regional planning organization (RPO), metropolitan planning organization (MPO) and local government levels. MPOs are responsible for transportation modeling to justify investments, policy, planning, and have considerable discretion to spend Federal and state transportation dollars. Partnering with local governments, RPOs, and MPOs is a critical aspect of coordinating to connect regional active transportation networks together throughout the State. Additional information on how INDOT coordinates with its local and regional planning partners can be found in INDOT's Planning Public Involvement Plan.[24]

Not-For-Profit Organizations

Not-for-profit organizations provide unique partnership opportunities for funding and promotion of active transportation in Indiana. They operate outside of regulations of government organizations and the for-profit motives of private businesses. Since many receive funding from philanthropic donations intended to fulfill their organization's mission, they have considerable flexibility on how those funds are raised and allocated. Not-for-profits, such as Health by Design, could be partnered with to help educate the public on the value of investments in active transportation facilities. Other partnerships with local and regional community foundations could be forged. Community foundations are dedicated to improving the lives of people in their defined geographic region and there is a history of community foundations supporting active transportation networks in their communities.

7. Final Word

The INDOT Technical Planning and Programming Division is committed to empowering local communities and increasing access to the resources necessary for our planning partners to successfully plan for the future of active transportation. *Toward an Active Indiana* is an ongoing effort that benefits from public feedback, interdisciplinary collaboration, and proactive needs identification. Moving forward, please send inquiries regarding active transportation to INDOT's Statewide Pedestrian and Bicycle Coordinator so that we may better serve you as your State Department of Transportation.

Additional Active Transportation Resources

For more in-depth information on a particular subject area found in this report, please contact Brandon Burgoa, INDOT Statewide Pedestrian and Bicycle Coordinator, at brburgoa@indot.in.gov.

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