

# Madison Active Transportation Plan

June, 2016



G R E S H A M  
S M I T H   A N D  
P A R T N E R S

# Madison Active Transportation Plan



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## ACKNOWLEDGMENTS

The Madison Active Transportation Plan is the result of a highly engaged citizenry. Nearly 400 Madison residents provided input with the development of this plan and helped to shape the recommendations contained herein. This plan was commissioned to provide a more focused look on specific transportation related topics that could support the Madison Comprehensive Plan (2016 by RATIO). The Active Living Team (ALT) have served as stewards for the development of this plan and was composed of several passionate transportation advocates who actively participated in the development of this project. The ALT has devoted hundreds of volunteer hours collectively to collect data, provide input on surveys, conduct outreach, and ultimately give direct advice on the recommendations in this plan. One of the primary benefits that the ALT provided was to assist in developing an assessment for Madison’s existing walking, biking and hiking infrastructure.

Their guidance has proven invaluable and they deserve a special thank you for the insights they provided.

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EXECUTIVE SUMMARY

Transportation facilities in Madison represent a large and integral element of the physical environment and contribute to the form, efficiency and character of the community. Part of the charm of Madison, is its historic nature and our streets represent that. However as our city continues to evolve, our transportation network needs to keep pace. Our streets, paths and trails connect our citizens from their homes to jobs, schools, retail, parks and meeting areas. Also just as important, our transportation network it is likely the first thing that visitors from out of town interact with. Madison’s transportation corridors facilitate the movement of goods and services between buyers and sellers and supports the goals and objectives that will target smart growth of commerce elsewhere in this comprehensive plan. The modal balance between pedestrians, bicycles, public transit, and automobiles influence the desired location and intensities of land uses and the attractiveness to businesses and patrons. The purpose of this chapter is to focus on updates to Madison’s transportation system that reflect the goals of the community and our desire to positively impact quality-of-life.

After listening to input from nearly 400 Madison area residents, it is clear that Madison is ready to get moving on this endeavor! The title of this document, the Madison Active Transportation Plan, refers to a lifestyle in which people are able to build physical activity into their daily routines. This plan is supported by infrastructure. The transportation network that Madison is built on serves as the vital link between where we start our day and all of the things that we do during it.

For some, active living means walking or biking to run errands, get to work, or go to school, or have a leisurely stroll at the end of a particularly stressful day. For others however, active living is born out of necessity. Some depend on infrastructure that provides basic connectivity and provides alternative modes of transportation to function in their daily lives.

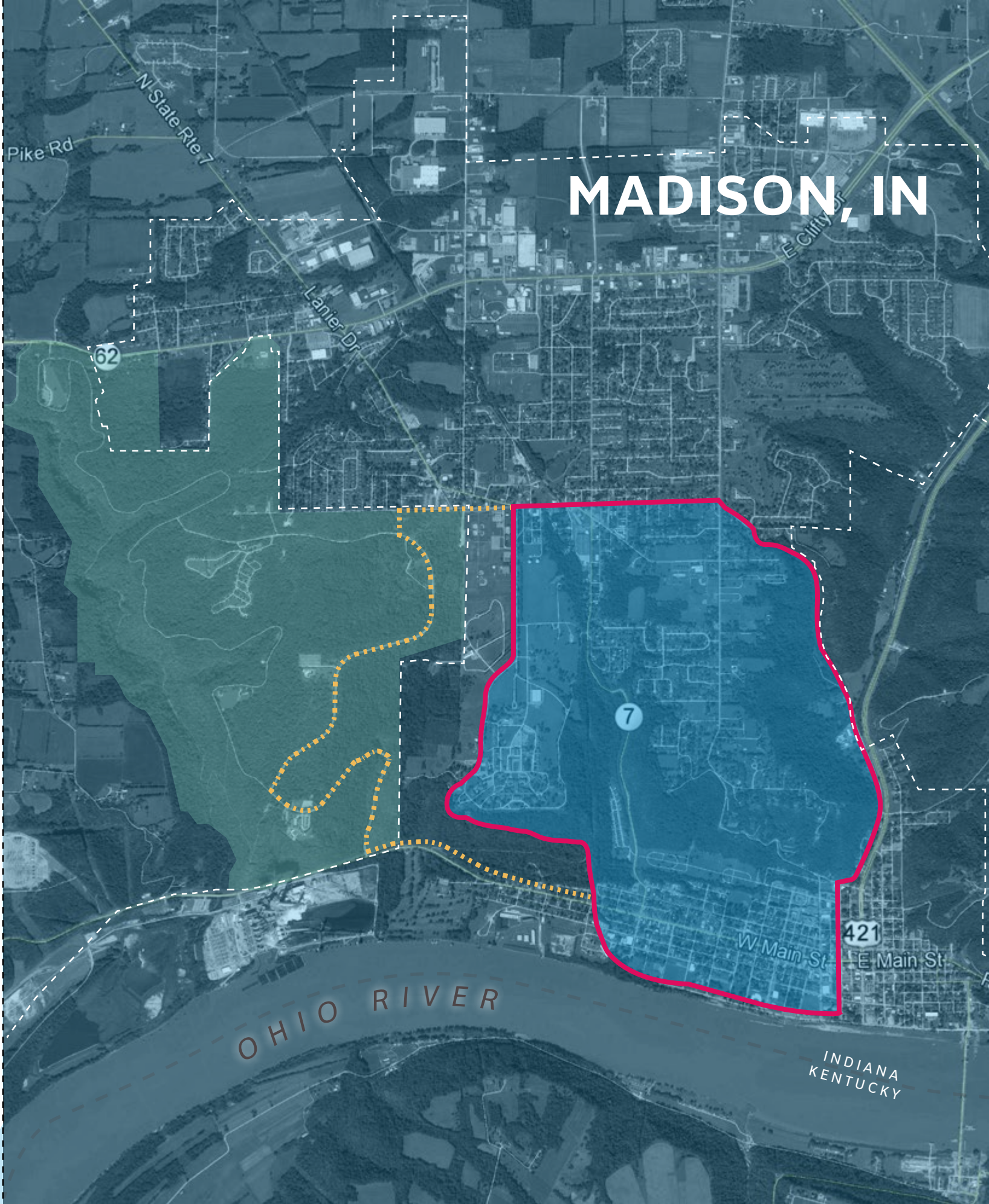
This Active Living Plan coalesces the community’s concerns for better connectivity. This document provides a roadmap for how to grow Madison’s network in a responsible way by adding accessible, attractive, and convenient options for people of all ages to have options for transportation.

Their guidance has proven invaluable and they deserve a special thank you for the insights they provided.

BACKGROUND

While our residents have vocalized their strong support for advancing transportation alternatives in Madison, the City is positioned to capitalize on the unified message that we received and push this agenda using this document as a road-map. Madison is a community of strong assets. From the river front, through historic Main Street, to the thriving industrial fringe, each of these are rooted with the perfect small town support of residents. This document will frame each proposed transportation improvement project with this context. This means that while each of them will be based in solid engineering with a focus on safety, the facility selection will make sure to complement the nature of the community.

Currently, Madison doesn’t have a clear and written policy for how it considers future alternative transportation improvements. This plan therefore offers recommendations for building upon these improvements to substantiate a flexible, but a more clearly defined approach for advancing active living opportunities in Madison for generations to come.





# APPROACH

Regardless of the user’s intent for utilizing proposed facilities, this plan will seek to integrate better connections across Madison by proposing sidewalks, multi-use paths, bike facilities and safer intersection conditions and provide a path for active living in Madison. These transportation improvements will directly lead to an increased quality of life for residents and better financial conditions for impacted businesses. The following overarching themes have served as the guiding principles when selecting how to best proceed with specific facilities in this document:

## 1. Support Development

Road connections, configurations, and other improvements should support economic development, future development patterns, redevelopment opportunities, and other development that will be highlighted in the future land use chapter of this document.

## 2. Modal-Equality / Equitable Accessibility

Provisions should be made for multiple transportation options with a focus on equitable accessibility throughout the entire city, including walking, biking and vehicular.

## 3. Safety and Efficiency

Adequate transportation capacity should be provided in a way that allows efficient travel within the community, but also ensures the safety of users.

## 4. Range of options

Produce a ranked list of viable transportation projects that span multiple budgets to achieve a true transect of quick wins, low hanging fruit, and larger impact / long term projects.

The following pages is an overview of each of the components in this plan with an explanation for the types of information is contained therein.

## Chapter 1 - INTRODUCTION

This chapter will provide a roadmap for achieving a wide variety of interrelated community goals through active living. This will also provide input on how Madison should strive to make transportation alternatives and active living options the choice to provide easy, safe, and the most attractive choices for citizens young and old. This section will start to etch out how Madison can move forward with the citizens to accomplish these goals.

## Chapter 2 - PLANNING PROCESS

While the active living plan seeks to provide more access and increase quality of life for all Madison residents, this needs to be done in a balanced financial way. This portion of the document will walk you through the decision process to balance short-term, inexpensive measures as well as long-term, catalytic projects that may be supplemented by a variety of policy changes.

This section will analyze existing conditions, outline the ALT input and meetings, and outline the information contained in the community wide survey that was part of the Madison active living plan workshops. This survey was distributed throughout Madison through various social media outlets between March 2016 through the end of April 2016. The detailed results of this survey will be laid out and help to serve as the foundation for subsequent recommendations.

## Chapter 3 - RECOMMENDATIONS

The active living plan recommendations will be framed around six areas of focus, namely: Engineering, Education, Encouragement, Enforcement, Equity, and Evaluation. While there are physical, policy and programmatic recommendations that are offered in this section, there are 10 focus areas of this planning document, which include:

1. Madison Loop Connector
2. Main Street
3. Mulberry Street
4. Hatcher Hill
5. Green Road / SR 7 / Lanier Drive
6. Connections to Clifty Park
7. Heritage Trail / River Front Connection
8. Clifty Drive (SR 62)
9. Jefferson Street
10. Pedestrian safety / Intersection Improvements

The plan’s physical on-street, off-street, and open space recommendations telescopes into these focus areas, which seek to connect and enhance Madison’s current assets. On top of this, this section will also provide input on some programming that will help to gain public support and project traction as you move into implementation phases.

## Chapter 4 - IMPLEMENTATION

Planning for a better connected Madison is the easy part. This section is where the rubber, hopefully shoes and bike tires, meets the road. Key implementation strategies moving forward include:

- Align funding for projects with City capital budgeting
- Balance on and off-street implementation efforts
- Prioritize ‘quick wins’ when possible
- Create a local and regionally coordinated approach through policy development and infrastructure investment

The goal of the implementation plan is to supplement local capital budget by leveraging grants and a variety of funding resources to keep costs low and facility impact high. This plan will also make recommendations that the Active Living Team task force become an advisory committee to help maintain the vision of this document and stay true to the original intent behind the public survey.

# 1 - INTRODUCTION

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# 1 - INTRODUCTION

Transportation facilities in Madison represent a large and integral element of the physical environment and contribute to the form, efficiency and character of the community. Part of the charm of Madison, is its historic nature and our streets represent that. However as our city continues to evolve, our transportation network needs to keep pace. Our streets, paths and trails connect our citizens from their homes to jobs, schools, retail, parks and meeting areas. Also just as important, our transportation network it is likely the first thing that visitors from out of town interact with. Madison’s transportation corridors facilitate the movement of goods and services between buyers and sellers and supports the goals and objectives that will target smart growth of commerce elsewhere in this comprehensive plan. The modal balance between pedestrians, bicycles, public transit, and automobiles influence the desired location and intensities of land uses and the attractiveness to businesses and patrons. The purpose of this chapter is to focus on updates to Madison’s transportation system that reflect the goals of the community and our desire to positively impact quality-of-life.

One of the best ways for a community to make active living accessible to all is to increase the number and opportunities for residents to access good bike and pedestrian facilities. For some, this means being able to routinely walk or bicycle to run errands, get to work, or go to school. For others it means taking the stairs more often or enjoying a trail for a morning walk, lunchtime stroll or an evening run. Active living also means being able to walk the dog or play with family and friends in a nearby park or feel free to explore a variety of open spaces, such as the sports complex or the playground for all children.

While the focus of this document is on providing critical links throughout Madison that will allow users access, it was clear while working through workshops with the active living team that there is a desire and need for showing the connection between the transportation infrastructure and the health benefits. Regular physical activity is a key component in reducing the risk of obesity, which has significant consequences for physical and economic health for communities. Obesity is linked to chronic diseases such as diabetes, heart disease, and some cancers. Investment in Madison’s active transportation resources have and will continue to play an important role in keeping the City vibrant.

Active transportation planning is the process of assessing and addressing the needs of a community in the area of infrastructure, programs and policies to better support options for transportation as part of people’s daily routine. The residents of Madison as well as the entire country are growing increasingly aware of the benefits derived from active living. Whether for health, economy, utility, the environment, or pure joy, this active transportation plan seeks to further integrate more variety of transportation options in Madison’s social physical fabric.

Madison is located such that people visit the City for its historic charm and natural beauty. It is known as a festival town which draws large amounts of people not only from the region, but from the entire country and globe. While the festivals and the City itself is the major draw, there are also a lot of competing cities and each of these have invested in transportation alternatives. People expect to be able to walk along ADA compliant sidewalks. Visiting other cities, it is not surprising that more and more people are interested in biking around to get a sense for a city. Taking in a city by biking or walking gives you a better connection to a community.

This plan provides a roadmap for achieving a wide variety of interrelated community goals through more transportation options.



Cyclouvria, Louisville, Ky.



## 2 - PLANNING PROCESS

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2 - PLANNING PROCESS

While Madison does not have a clear and written policy for how it considers future active transportation improvements, it does have several existing plans that could greatly benefit from such.

ACTIVE LIVING WORKSHOPS

There was an original Active Living Workshop that included a walking tour conducted in the fall of 2014. The purpose of this workshop was to highlight the benefits of a better connected transportation network and show some of the gaps and barriers that exist in Madison.

With the onset of the contract work for a better defined Active Transportation Plan, we regrouped and held an initial kick-off meeting with the Active Living Team (ALT) stakeholders, who are comprised from residents of Madison that cover the span of concerned citizens to business leaders. The kick-off meeting for this planning document was held with the ALT in November 2015 where we charted a course for the types of information we would be relying on them to provide as well as an overview for the planning process.

In January 2016, we held a follow-up meeting that began to request leadership efforts from the ALT in the form of identifying specific corridors for inclusion, input on confirmation of specific areas as traffic generators and destinations, as well as document gaps and barriers that exist in the community. The input we received spanned from what the ALT perceived to be critical ADA compliance issues to barriers to biking to specific destinations. The ALT also confirmed information that we have included in the comprehensive plan as the primary residential areas, commercial districts and destinations.

After a three week collection period, the ALT shared all information with the consultant team. We began to use each piece of information to construct a community wide survey that would be used to establish baseline information about the types of walking and biking facilities that would make them feel safe. The survey was distributed in March of 2016 and was met with a large response base. We had 379 respondents that shared new insights and confirmed many of the things that the ALT had pushed to us. A formal overview of this survey will be covered in subsequent chapters of this document.

We then reconvened the ALT in May 2015 to review the findings

of the survey and to display some of the consultant team’s initial ideas to help support the information we had collected from residents on specific facility types along target corridors. The consultant team committed to taking input once again from the ALT members as well as the public at large and continue to hone these ideas for inclusion in a draft active transportation plan to be distributed in early June 2016.

COMMUNITY SURVEY FINDINGS

The following is an overview of thoughts and input that were collected during the community survey. This feedback includes information from the ALT that was collected at the same time of the community survey.

On the issue of pedestrian safety, several noted near misses and poor interactions with cars along Main Street. There were several comments about the lack of sidewalks, broken sidewalks and non-compliance with ADA. Several gave input about the current conditions at intersections around E.O. Muncie elementary and the sports complex as well as the intersections at SR7 / Green Road.

On general bike connectivity, the vast majority of comments came at requests to have designated on-street bike connections along Main Street and other secondary streets downtown designated as bike routes.

We received several comments related to the downtown bridge connection to make sure that there was a plan to incorporate a Main Street to the bridge connection and improve pedestrian safety at Vaughn Drive to the pedestrian steps.

On top of the hill, general connectivity requests reigned. They want the gaps in pedestrian connections along Michigan filled, connections along various neighborhoods, connections out to Clifty Drive and other commercial and industrial districts as well as connections along Clifty for both modes.

We received several comments that a formal connection to Clifty Park for both bikes and pedestrians need to me made to allow it to become a viable connections between the top and bottom of the hill.

The formal survey received 379 responses, with the vast

majority of responders between 25 and 64 years of age. They survey results mirrored the nationally accepted averages that 5-10% of responders already feel comfortable biking anywhere in the city but the vast majority, roughly 60% on average, stating that they want to be able to walk or bike to destinations around Madison, but do not feel safe due to current conditions. The remnant have no interest in biking or walking around Madison.

The vast majority felt comfortable walking downtown, while the vast majority (roughly 67%) do not walk to any destinations on top of the hill.

Roughly 60% of respondents say that improving pedestrian connections with ADA compliant, separated sidewalks and higher visibility will increase their likelihood of walking along our roadways.

82% of respondents currently own a bike and of those, 90% use it solely for leisure. This leads the consultant team to believe that you could receive a high return and drastic increases in ridership by providing better and safer bike connections. Roughly 58% of these respondents never bike along any of our target corridors, even for leisure. To make them feel safe, roughly 50% of those surveyed request dedicated bike lanes or a variation with buffers / separation.

HANDLEBAR AND WALKING SURVEY

A handlebar and walking survey was conducted in the Fall of 2015 along with various tours that spanned between February 2016 and May 2016. The purpose of these tours is to validate input received from the ALT as well as from the community survey. A handlebar tour involves circulating on City streets via a bike and noting specific areas of concern or difficulty in navigation when trying to make what should be a routine connection. It also includes riding on each of the specific corridors that we have targeted in this plan. Things such as interactions with motorists, pedestrians as well as riding comfort are all noted during the handlebar survey.

The walking survey was completed along the same time period and does much of the same thing as a handlebar survey. We walk in a small group and document any issues with conflict points, sight distance issues, ADA compliance, lack of

connection and general level of comfort for each target corridor as well as from/to general traffic generators and destinations.

TRANSPORTATION

These are the results of numerous data sets collecting during:

- ALT Workshops and follow-up communication
- Community survey responses
- Walking and handlebar survey
- Design consultants
- Business leaders group

The City of Madison has a few very distinct divides that occur that factor into the types of documentation you will see below. Namely, the hill that divides downtown from the hill-top is an obvious barrier that exists.

Among all of the roads, Madison follows a typical functional classification system of roadways. The functional classification system groups streets according to the land use served (or to be served) and provides a general designation of the type of traffic each street is intended to serve. Two major considerations for distinguishing types of streets are access and mobility.

The primary function of [local or neighborhood streets](#) is to provide access. These streets are intended to serve localized areas or neighborhoods, including local commercial and mixed land uses. Local streets are not intended for use by through traffic. These streets typically connect to one another or to collector streets and provide a high level of access to adjacent land uses/development (i.e., frequent driveways). Locals serve short distance travel and have low posted speed limits (25 mph to 35 mph). Examples of local streets within the project study area include Green Road, Hatcher Hill Road and Miles Ridge Road.

The primary function of [arterials](#) is mobility. Limiting access points (intersections and driveways) on arterials enhances mobility. Too much mobility at high speeds limits access by pedestrians and bicyclists. The arterial is designed with the intent to carry more traffic than is generated within its corridor. Arterials operate at higher speeds (45 mph and above), provide significant roadway capacity, have a great degree of access control, and serve longer distances. Arterials include facilities

with full access control such as freeways and expressways, as well as boulevards and major thoroughfares. Arterials usually connect to one another or to collector streets. An example of an arterial within the study area include Clifty Drive.

**Collectors** provide critical connections in the roadway network by bridging the gap between arterials and locals. They typically provide less overall mobility, operate at lower speeds (less than 35 mph), have more frequent and greater access flexibility with adjacent land uses, and serve shorter distance travel than arterials. Thus, the majority of collector streets connect with one another, with local streets, and with non-freeway/expressway arterials. Examples of collector streets within the project study area include Michigan Road and Lanier Drive.

**Downtown streets** are a special street typology. Access to and from a downtown street should be regulated to the established pattern of side streets. New buildings should be established on the edge of the right-of-way to match existing and historic development patterns. On-street parking also provides traffic calming, increasing safety and enhancing economic development.

WALKING

Downtown Madison is connected fairly well for walking. While most connections exist, there are ADA compliance issues at the vast majority of facilities downtown. There are also notable sections, primarily in the west part of downtown that lack sidewalks to the river front from Main Street and residential neighborhoods to the north. Pedestrian zones on certain segments of Main Street feel cramped due to businesses taking up the already narrow zone with street furniture and dining tables. Intersections lack the now common bump-outs, which extend from the curb to the edge of traveled-way that not only provide refuge at intersections, but also serve to underscore no-parking zones that are always present at intersections. Due to this, crossing at several downtown intersections can be hazardous.

The river front is a haven for walking and many residents and visitors use this stretch along Vaughn Drive for the scenic views and wide birth pedestrian zones. There is a lack of consistent pedestrian access to it however from the residential zones north of Main Street.

On top of the hill, there are very few sidewalks for walking. It is notable the amount of traffic that a partially connected sidewalk on Michigan Road carries. Typically, residential streets occur from the edge of the hill and stretch back to Clifty Drive (SR 62). They are comfortable enough to walk in the road and this seems to be meeting the vast majority of needs for walking traffic, however there are no connections to the primary destination commercial zone, which exists along Clifty Drive (SR 62) and there are no pedestrian connections along the Clifty Drive segments save a single pedestrian crossing at Madison High School which provides access to McDonalds.

There are two primary, allowable walking connections between downtown and the top of the hill. These are the Heritage Trail and Hatcher Hill. The Heritage Trail links from behind the state women’s correctional facility to west Madison at the bottom of the hill. There is a gap between the end of this trail on the bottom of the hill and any usable pedestrian facility without trekking across unpaved sections. Hatcher Hill connects Michigan Hill through a subdivision down to Walnut Street, which runs along US 421 on the bottom of the hill. Hatcher Hill has fallen into disrepair, which has been exacerbated by the lack of drainage features and maintenance. It still serves as a narrow paved resource that pedestrians and cyclists frequent for the connection.

BIKING

There are no dedicated on-street facilities in Madison, however there are a handful of designated “shared-use” routes that acknowledge that bikes will be likely present on them. Throughout downtown, most users are traveling slower through urban areas and our team felt comfortable on most roads we traveled on. Using the knowledge of the community survey however, we realized that the vast majority of people that are not fully comfortable on a bike could be dissuaded from ever attempting to navigate downtown due to the lack of dedicated facilities. It is worth noting that the City does have an ordinance disallowing bikes to use sidewalks.

On top of the hill, speed differentials between motorists and our bikes was much greater and it lead to most of our group taking far more cautious approaches to navigating the roads. Again, there were no on-street, dedicated facilities but we did navigate each of the “shared-use” marked roadways and documented

higher speed differentials in between residential areas and specific destination zones, namely the sports complex, schools, the commercial district along Clifty Drive and the industrial zones just north of Clifty Drive.

Again, options between the top of the hill and bottom are limited to Hatcher Hill and the Heritage Trail, however there are some cyclists that access Clifty Park at the top of the hill to get back and forth. This option typically has a gate in place to stop cyclists from accessing the Park to make this un-official connection, but the reason for riders wanting to do so is easy to see. It provides better grades and is a beautiful connection.

TRANSIT

Public transportation within Madison is currently very limited, however the Lifetime Resources Public Transportation group offers a Catch-a-Ride service that allows residents in Jefferson and the surrounding counties access to public transportation. It operates in two fashions:

- + Point Deviation Service on a fixed route and schedule
- + Demand Response Service responds to individual requests and are taken on a first-come first-serve basis.

There is also a Hanover circulator that provides residents of Madison access to the adjoining Hanover area.

MOTORISTS

From a motorist’s perception, the city is extremely well connected and has ample parking related to any and all functions. We did collect information from the community survey about concerns of potential parking elimination to support other modes. While we absolutely need to better connect our pedestrian and biking facilities, this was a reminder to our consultant team that establishing modal equity in Madison could potentially turn contentious.

OPEN SPACE

Madison is home to 27 parks and a host of other beautiful open space attractions downtown as well as on top of the hill. The intent of our transportation facilities selection will be to capture the draw of these open spaces, and target a larger user base that will allow residents and visitors the opportunity to walk or bike to some of these and truly appreciate them for what they are. Windows into the community.



## 3 - RECOMMENDATIONS

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3 - RECOMMENDATIONS

GOALS

While we established overarching themes in the introduction of this document, we have also created specific goals that each of the target projects need to help accomplish. These goals are as follows:

Goal 1 - PROVIDE A TRANSPORTATION SYSTEM THAT SUPPORTS ACTIVE LIVING

To support this goal we recommend several sub-goal components:

+ *CREATE AN INTERCONNECTED SYSTEM OF MULTI-USE GREENWAYS AND PATHS THAT LINK DOWNTOWN AND THE TOP OF THE HILL THAT PROVIDES ACCESS FROM RESIDENCES TO AMENITIES AND DESTINATIONS AROUND MADISON* - The focus of this will be the creation of a loop connector as detailed in the ABC grant that provides a “wheel” connector around Madison and facilitates “spoke” connections out to better connect destinations and remote residential areas.

+ *SUPPORT REGIONAL TRAIL AND GREENWAY EFFORTS* - Part of this will be accomplished through the development of the loop connector covered above, but we need to focus on developing a broader network of dedicated trail facilities that link to infrastructure such as Clifty State Park that will allow visitors to connect effortlessly to the broader region.

+ *FINALIZE AND ADOPT AN ACTIVE TRANSPORTATION PLAN* - This document helps to finalize that step.

+ *FIX GAPS IN OUR NETWORK BY INTERCONNECTING EXISTING SEGMENTS OF SIDEWALK AND FIRMLY ESTABLISHING BICYCLE ROUTES*

Goal 2 - IMPROVE MODE EQUITY ALONG ARTERIALS / COLLECTORS

+ *TACKLE MODE EQUITY ON MAIN STREET* - Main Street is a great candidate for a roadway reconfiguration due to it only carrying roughly 12,000 cars at peak and being the primary conduit through the central business district. Establishing strong pedestrian and bicycle zones along this corridor will benefit businesses and provide options that support better

mode equality.

+ *TACKLE MODE EQUITY ON CLIFTY DRIVE* - Clifty Drive should be examined for not only a potential road reconfiguration due to traffic volumes, but also better connectivity for pedestrians and cyclists. There is adequate right-of-way along Clifty, but it will take coordination with utilities and drainage adjustments to make it work.

+ *BETTER CONNECT OUR COLLECTORS WITH SIDEWALKS AND ESTABLISHED ROUTES – LANIER DRIVE / GREEN ROAD / MICHIGAN ROAD*

Goal 3 - FOCUS ON MULTI-MODAL COMPLETE STREETS AND THE DESIGN OF STREETSCAPES THAT FIT THE CONTEXT OF MADISON

+ *FORMALIZE AND ADOPT A COMPLETE STREETS GUIDELINE AND ORDINANCE* - Draft and formally adopt a complete streets policy that paves the way as new streets are reconfigured, elements of complete streets can be examined and implemented.

+ *INCORPORATE ELEMENTS OF COMPLETE STREETS ALONG MAIN STREET* - During the roadway reconfiguration of Main Street proposed in Goal 02, there will be an opportunity to incorporate elements of complete streets that will further reinforce the historic context of Main Street and enhance user experience.

INTRODUCTION TO COMPLETE STREETS

In order to accomplish these goals, we are utilizing a design principal on many of our target corridors called “Complete Streets”. In many communities the transportation network has been designed and built for the automobile, but that mindset is beginning to change throughout the nation. Communities are realizing the many benefits of a multi-modal transportation network and “complete streets” policy. Such a policy addresses many transportation modes simultaneously, including vehicular, pedestrian, transit and bicycle travel. In addition it also offers a number of health, social and economic benefits. It ensures that the entire public right-of-way (ROW) is routinely designed and operated to enable safe access for all modes of transportation and all users including people of all ages, interests and abilities. Components of a complete street often include travel lanes, bike facilities, crosswalks, sidewalks, multi-use trails, medians, street trees, planting beds, lighting, signing, street furnishings and on-street parking.

It is important for Madison’s transportation network to serve the existing vehicular, transit, bicycle and pedestrian systems to meet the diverse needs of residents and visitors in a safe, efficient, and pleasant manner. Connectivity between destinations is crucial to integrating all the resources (neighborhoods, parks, shopping and entertainment areas) the city has to offer. The basic street cross-section may vary by neighborhood, but to claim a “complete street” in a walkable city, the street should contain a minimum of 5-foot wide sidewalks so two people can pass comfortably. Where there is adequate right-of-way, planting strips landscaped with street trees should occur between the sidewalk and street. The table below described common complete street design standards that Madison can reference while reconsidering the City’s engineering standards.

Within complete streets execution, there comes a need to evaluate reclaiming width of the existing right-of-way and repurposing that for use elsewhere. Typically this is termed a “Road Diet”. We are proposing this option for some of our routes, so below is a synopsis of what they are and why they work.

“Road diets” are conversions of four-lane undivided roads into

three lanes (two through lanes and a center turn lane). The fourth lane may be converted to bicycle lanes, sidewalks, and/or on-street parking. In other words, existing space is reallocated; the overall area remains the same.

Under most average daily traffic (ADT) conditions tested, road diets have minimal effects on vehicle capacity, because left-turning vehicles are moved into a common two-way left-turn lane. However, for road diets with ADTs above approximately 20,000 vehicles, there is a greater likelihood that traffic congestion will increase to the point of diverting traffic to alternate routes.

Road diets can offer potential benefits to both vehicles and pedestrians. On a four-lane street, drivers change lanes to pass slower vehicles (such as vehicles stopped in the left lane waiting to make a left turn). In contrast, drivers’ speeds on two-lane streets are limited by the speed of the lead vehicle. Thus, road diets may reduce vehicle speeds and vehicle interactions during lane changes, which potentially could reduce the number and severity of vehicle-to-vehicle crashes. Pedestrians may benefit because they have fewer lanes of traffic to cross, and because motor vehicles are likely to be moving more slowly. The Federal Highway Administration (FHWA) report Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations found that pedestrian crash risk was reduced when pedestrians crossed two- and three-lane roads, compared to roads with four or more lanes.

Road diets can take on many other forms such as:

- Converting one lane of one-way traffic (when sup erfluous lanes exist) into a bike lane, on-street parking, or wider sidewalks
- Restriping of 4-lane undivided roadways with “unbalanced flow” (i.e. higher traffic volumes in one direction than the other) to provide room for bike lanes
- Lane narrowing: nudging stripes over a little bit to create room for bike lanes, further separating traffic from pedestrians
- Roadway narrowing: moving in the curbs to reduce the pavement width

The primary resistance that we believe we will be up against is a road reconfiguration on state routes. While the traffic

justification can be worked out to show potentially dramatic reduction in accidents due to the reduced conflicts on a dieted roadway, history shows that removing a lane on a heavily commercialized route can be difficult in terms of the public perception and at a DOT approval level.

CONTEXT CONSIDERATION

Building on the connection between land use and transportation, it is helpful to consider context-sensitive street design. Madison is characterized by multiple context zones that define the built environment. These contexts can be generally described as natural, rural, suburban, and urban. Each of these land categories is accompanied by unique design elements, and while some elements overlap, there is no “one size fits all” solution.

Much of the modern American landscape has been developed for automotive transportation. However, as auto-dependent development has grown, and the consequences of this type of planning have become apparent, a shift has taken place to realign development to human needs. A return to the concept of general urban, suburban, rural, and natural distinction demands visual cues and supporting features between land types. In transportation corridors, the distinction lies in context-sensitive design through elements such as parking, sidewalks, street trees, and drainage. Elements that are important to the urban environment, such as dual sidewalks and frequent street lighting to serve automotive and pedestrian needs, would be inappropriate in the natural environment. Similarly, meandering trails and large trees would be much less appropriate in an urban context than in the rural or suburban contexts.

While it may seem contradictory to the above statement, one of the most important context sensitive design elements is parking. At a time where some developers are happily placing parking lots behind buildings, hidden from the public realm, it is still important to consider the role of on-street parking in the provision of a defined spatial experience. In a higher-density urban or Traditional Neighborhood Design (TND) area, on-street parking is appropriate and may be used to give definition to a more urban context. On-street parking may also be used in this context to define the boundary between the realms of pedestrian and automotive transportation, and may serve as a physical and visual buffer for pedestrians on the sidewalk.

In rural areas, on-street parking may not be appropriate, as narrower streets are preferred. Sidewalks are a necessary element in the urban realm where land use densities are higher and many people walk from place to place.

In this case, it is appropriate to have sidewalks fronting buildings on both sides of the street. As density increases, the sidewalks become a primary point of activity, and should be accompanied by street furniture such as benches, waste receptacles, media kiosks, and appropriate lighting to serve the needs of the pedestrian and to provide a sense of order. In suburban and rural areas, as building density decreases, pedestrian traffic can be served by a sidewalk on one side of the street, and in some cases, by multi-use paths constructed as part of a greenway system. Rural and natural areas are also appropriate locations for trails, which can meander alongside roadways or wind through the landscape. Appropriate lighting as a safety provision is necessary wherever pedestrian traffic is anticipated. Street trees present an excellent tool in the definition of place, and can adequately be used to slow traffic through certain areas. In urban areas, trees may be placed along the street in sidewalk grates, and can be used to create a sense of enclosure for the street, and a buffer to pedestrians on the sidewalks. This placement helps distinguish the automotive realm from the pedestrian realm, and allows for a pleasant break from sunny concrete environments. As land use transitions from urban to suburban areas, planting strips with evenly placed trees are contextually appropriate to cue the gateway from a dense environment to a less urban residential environment. These trees may still serve as a buffer to adjacent sidewalks or multi-use paths, and may be larger in scale than urban street trees. The suburban to rural transition may be supported with naturalistic planting, which can provide ample spatial definition while presenting a less ordered appeal. The transition from rural to natural landscape is marked by sporadic planting and primarily natural or agrarian landscapes.

An additional element for consideration is drainage. While the curb-and-gutter method is appropriate for urban through suburban contexts, it is often more appropriate to incorporate swale drainage systems into the rural and natural environments. Conversely, it is not appropriate to utilize swale drainage into the more densely populated and paved suburban and urban areas.

Recommendations for the transportation system throughout this document respect the necessary balance between land use and transportation and acknowledge the role of context sensitive design in enhancing the qualities that make Madison a unique and appealing place to live, work, and visit. These recommendations are meant not only for the City, but also for the roads and rights-of-way under INDOT control and projects initiated by developers.

PROPOSED IMPROVEMENTS

Each of the following proposed improvements help to achieve the goals set out in the Comprehensive Plan as well as the goals listed in this Active Transportation Plan. Each have been carefully vetted to make sure that the technical approach fits the context of each route and neighborhood that it passes through or connects.



# MADISON LOOP CONNECTOR

The Madison Loop Connector will serve as an intermediate loop centered on biking and walking around Madison. Many of the other proposed improvements will serve as feeders for multi-modal users and allow them to access this signed route. We are seeing more and more of these designated loop routes and there benefits are undeniable – they serve as an anchor for all parts of a community and allow access between each of them. The route is described in further detail as:

- Shared use and off-street facilities along Vaughn Drive from Vernon Street to Mulberry Street
- On-street bike facilities along Mulberry Street from Vaughn Drive to Milton Street
- A new connection from Milton Street to Jefferson Street
- A new connection from Jefferson Street to Walnut Street
- On-street facilities along Walnut Street
- Dedicated facilities along Hatcher Hill
- Shared use along Mouser and through Johnson Lake across railroad tracks
- Shared use and off-street facilities along North Gate Road to the Heritage Trail
- Heritage Trail – utilizing existing trail where it exists and construction of a new connection to get back to Vaughn Drive through the planned Heritage Park along existing gravel connections

This helps Madison meet the goals established by providing a circular connector around Madison that can serve to provide a complete multi-modal connection between the top of the hill and Downtown.

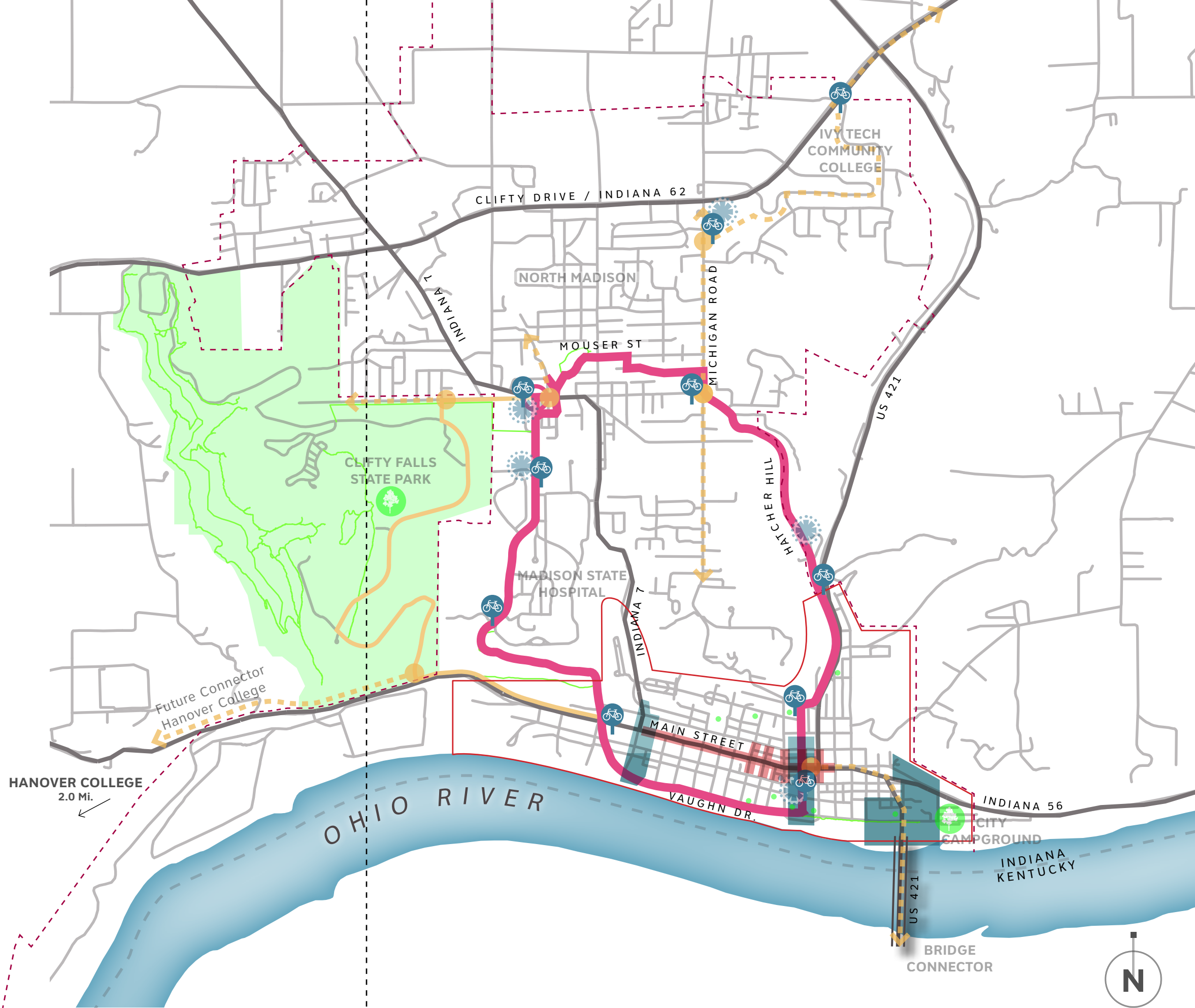
Secondary Trail

Main Trail

Trailhead  
Historic District  
Shopping District  
City Boundary

Trail Signage

Redevelopment Sites  
Downtown Public Park  
Park Trails  
Bicycle Rental

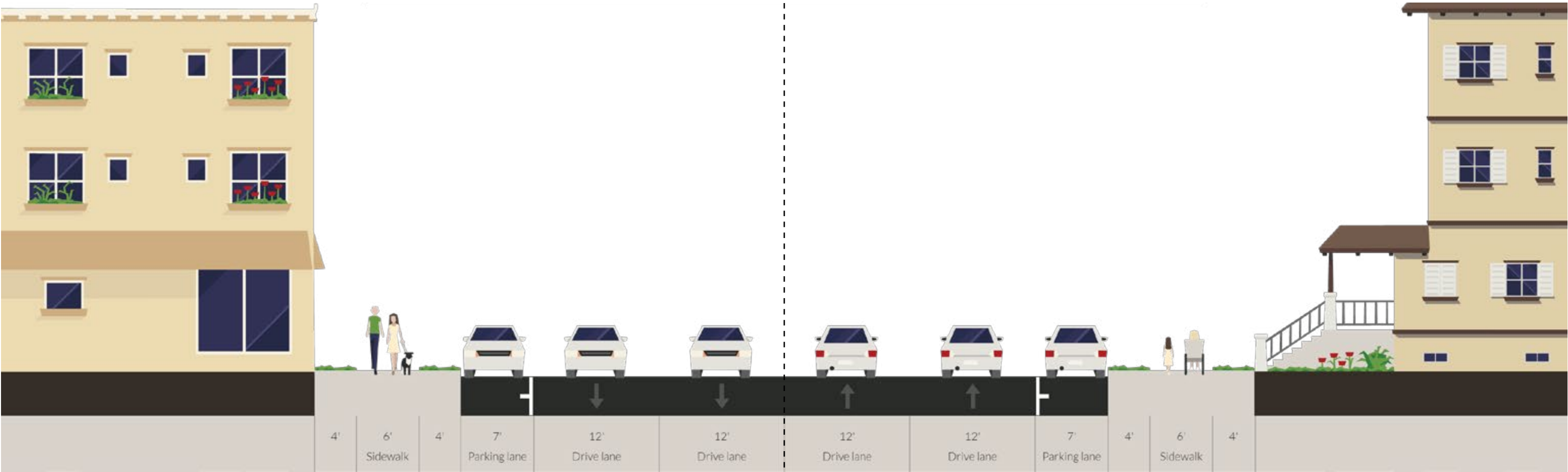


PROPOSED MAIN STREET IMPROVEMENT

The existing conditions along Main Street are very similar to things seen in most rural small towns. It is a 4-lane typical section with parking on each side of a 62' wide road on average.

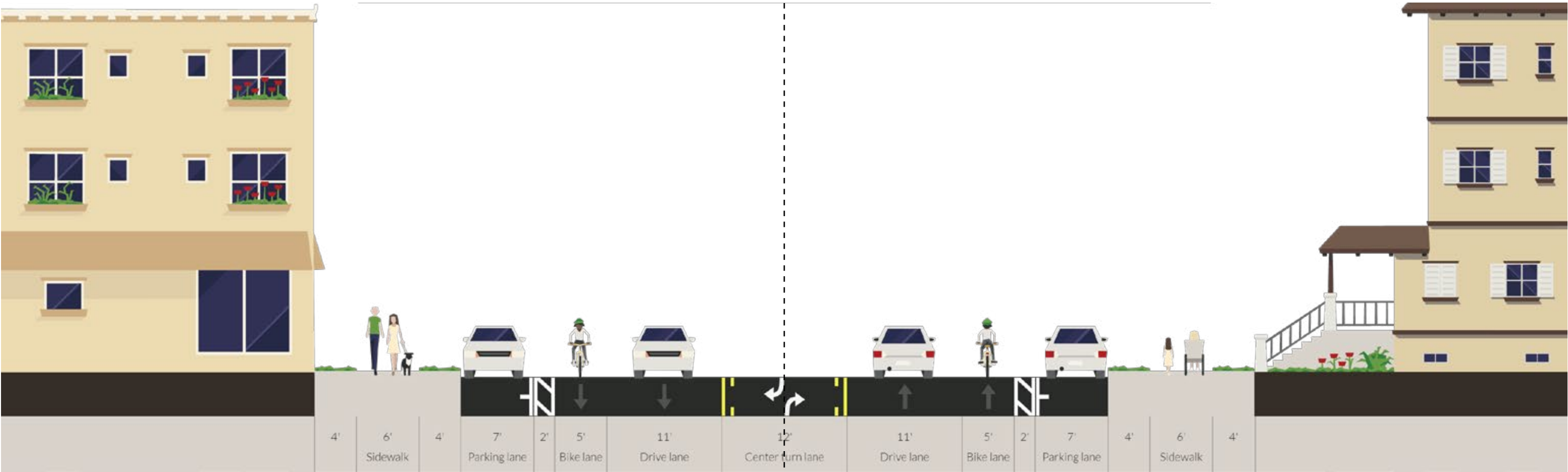
Per the previous information covered in this document on "Road Diets", there are low traffic volumes (~11,000 AADT) suggesting that this would be a perfect candidate for a lane-reconfiguration, which would allow us to reclaim one lane and reallocate it for dedicated on-street bike facilities.

There are two options we are considering viable that meet the requests of the community survey and still achieve the goals set out in this document.



PROPOSED MAIN STREET IMPROVEMENTS

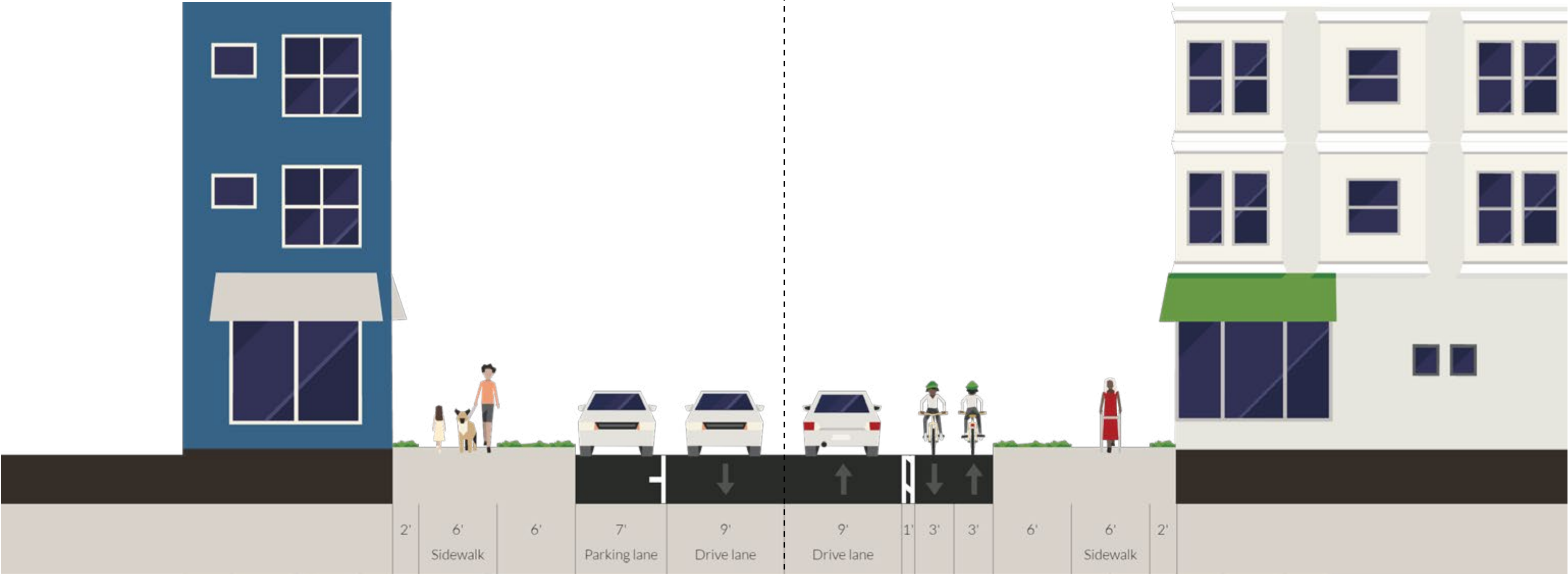
This option allocates the new width from a single eliminated lane and allocates it into two on-street bike facilities, one on the north and one on the south side of the road. These have been placed adjacent to the motorists traveled way and a door-zone buffer has been inserted to alleviate fears of negative interactions with parked vehicles in the dreaded door zone. By having facilities on the left of parked cars, we can avoid the parabolic effects of the constant overlays of Main Street, which could cause severe dips at inlets along the curb. Also, by providing one bike lane on each side of the road it promotes equality among businesses serving both sides of the road. Bicyclists are encouraged to behave as a vehicle in their dedicated lane in the road.





**PROPOSED MULBERRY STREET IMPROVEMENTS**

Mulberry is a primarily residential street that connects the river, across Main Street and eventually ends at Milton Street. Due to the low volumes of traffic and irregular use of the on-street parking, we propose taking one lane of parking and installing a bi-directional on-street bike facility on the east side of the road. Doing this will allow a strong connection from the river and serve as a portion of the Madison Loop Connector. The east side of the road has been selected due to the potential to create a free flowing right turn movement at Milton to connect to the remaining loop connector, however it could be just as easily located on the west side.



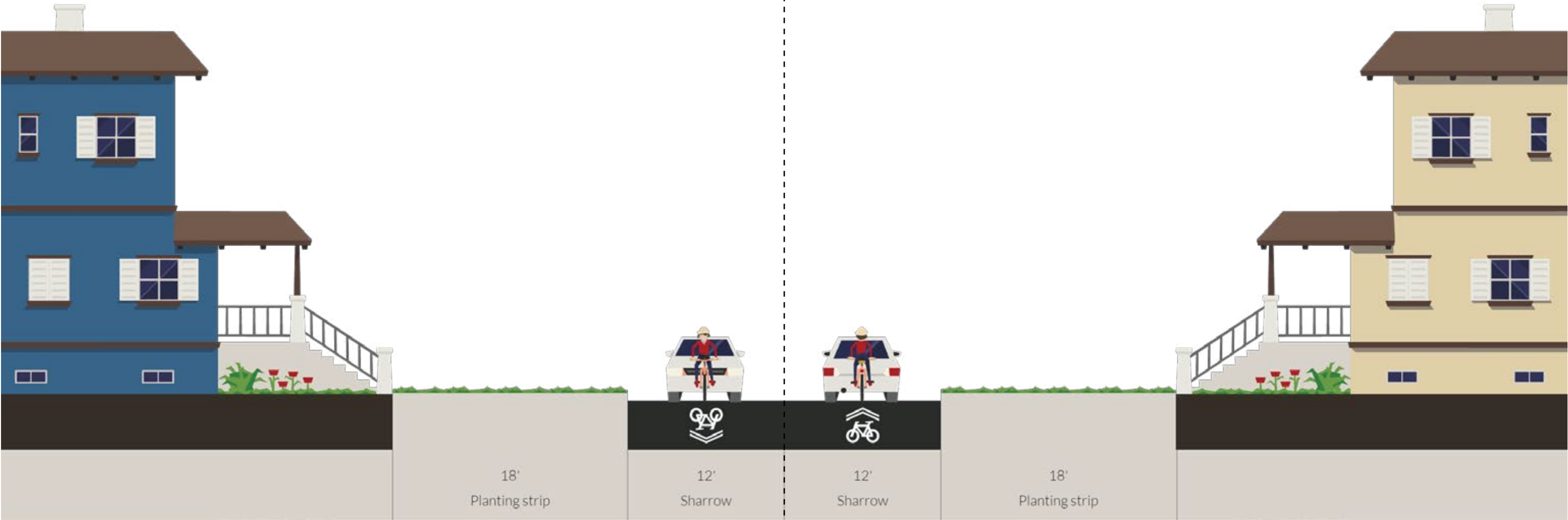
PROPOSED HATCHER HILL  
IMPROVEMENTS

We propose two phases for Hatcher Hill. The phasing would allow the city to have a soft opening to brand the loop connection and then a hard opening which would require repaving and possibly structure replacement. Phase 1 would consist of cleaning the path and removing as much debris as possible from the drainage structures to see if they could be once again allowed to convey water. The primary reason for the pavement degradation is the drainage conditions, and this would stave off further decline in surface conditions. Phase 2 would be milling to base, replacing or revitalizing remaining drainage structures and repaving. The portion of Hatcher Hill that emerges from the top of the hill and passes through the subdivision is a low traffic route and could be served with on-street shared use markings.



PROPOSED LANIER DRIVE / HOOTEN BLVD /  
MOUSER STREET IMPROVEMENTS

These roads are lightly traveled neighborhood streets. In this setting, sharing the roadway is the right choice. Users will be more comfortable because of the neighborhood feel for the road, and it creates a more comfortable route when compared to Green Road, which was previously examined as a connection. This connection will provide access to Johnson Lake’s existing facilities but will require a new railroad connection on multi-use trail to reconnect eventually to the state hospital site.



PROPOSED CONNECTIONS TO CLIFTY PARK

This is based on overwhelming responses that we received in the survey. Green Road west of the sports complex is a low speed, low volume roadway and could easily be marked on-street as shared use, or if the park is willing, there could potentially be a multi-use trail constructed on the south side of Green Road west of Garden all the way to Clifty Park’s back entrance. If a multi-use trail option is pursued, it will take heavy coordination and involvement of Indiana DNR for not only the permitting to do this, but also in negotiating the back entrance serving multi-modal visitors.

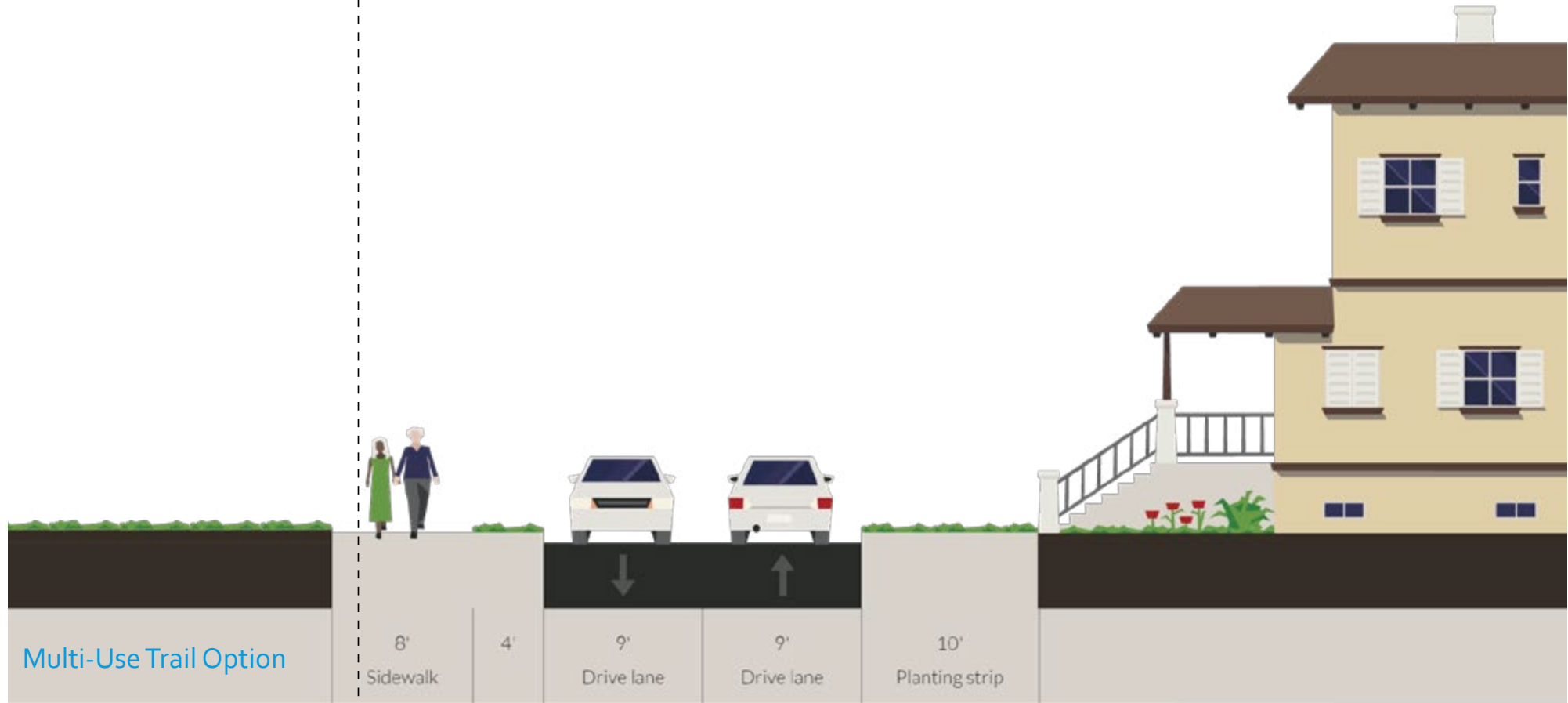
At the bottom of the hill, we propose working in the right-of-way along US 56 and connecting to the informal Heritage Trail soft trail segment. This will require coordination with INDOT and encroachment permitting if successful.

Constructing these two small segments could not only open up Clifty Park to multi-modal users, but it could also serve as a far better graded option than either the Heritage Trail or Hatcher Hill.

On-Street Option



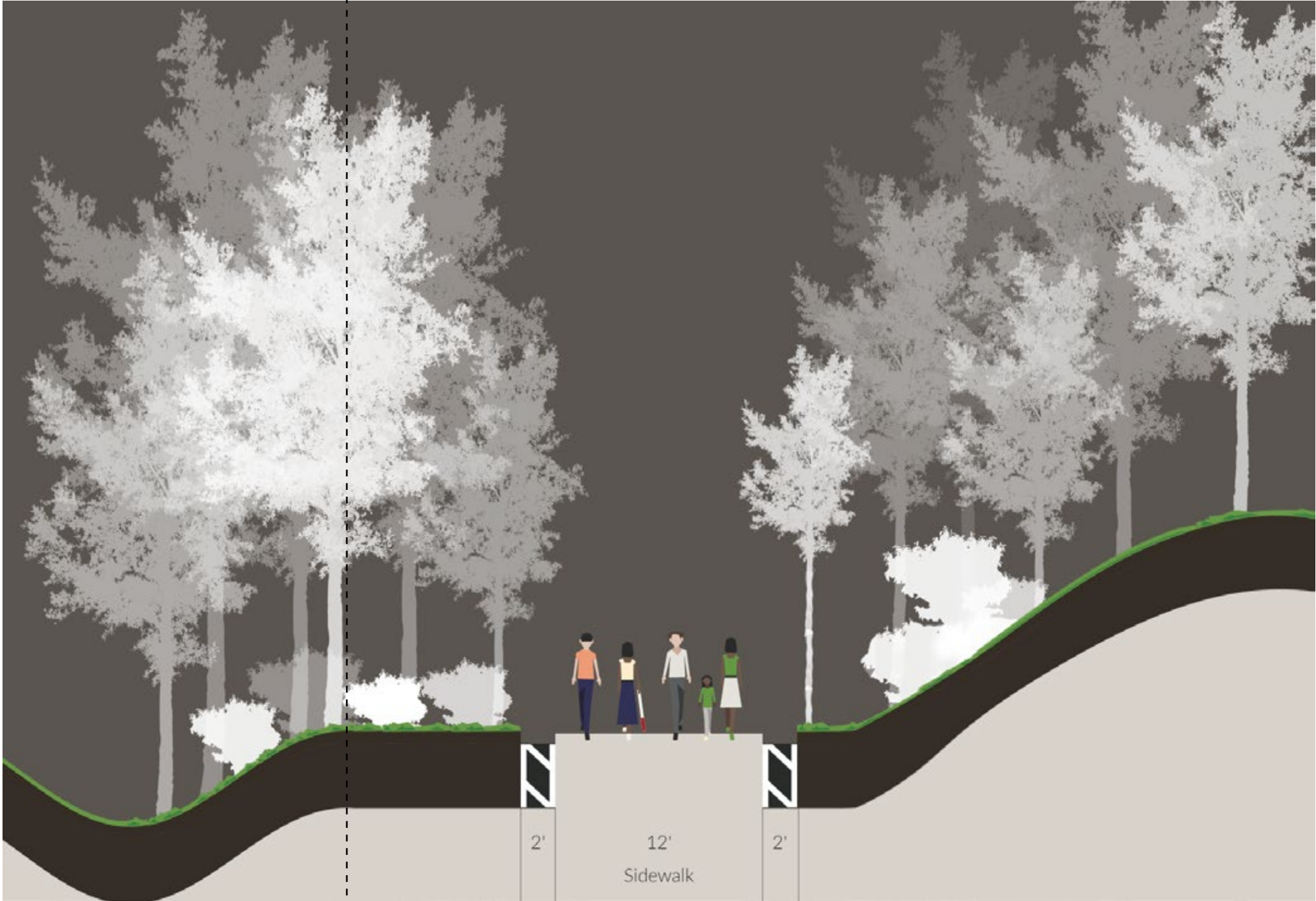
Multi-Use Trail Option





PROPOSED HERITAGE TRAIL / RIVER FRONT  
CONNECTION IMPROVEMENTS

While there is a soft trail (gravel) that exists from the base of the existing paved Heritage Trail to the River, we recommend that this be constructed as a formal multi-use trail with pavement. This will need to be coordinated closely with the Heritage Trail Conservancy to make sure that it aligns with the future establishment of the Heritage Park. Doing this will complete the Madison Loop Connector and allow the free flow of people from the river through the future Heritage Park, up the Heritage trail and beyond.

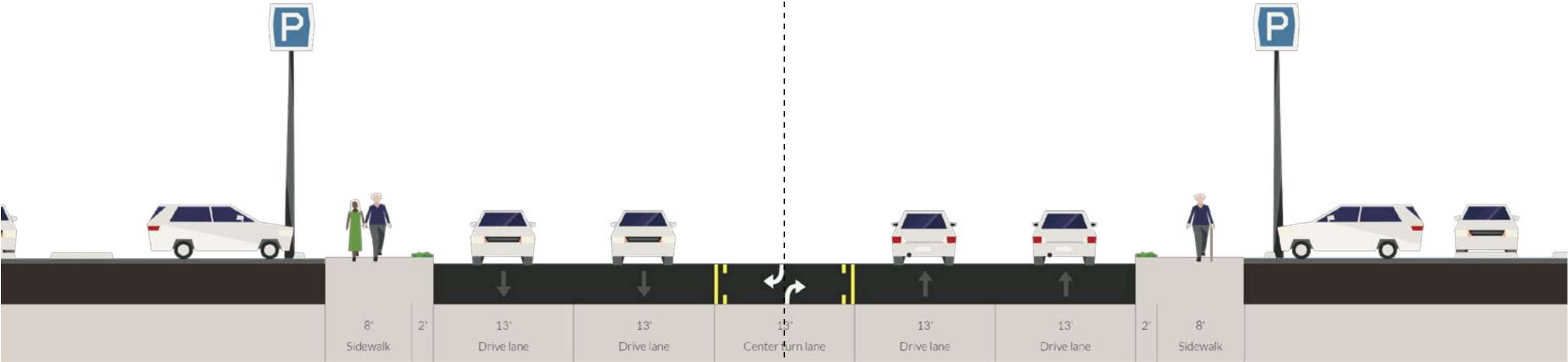


**PROPOSED CLIFTY DRIVE (SR 62)  
IMPROVEMENTS**

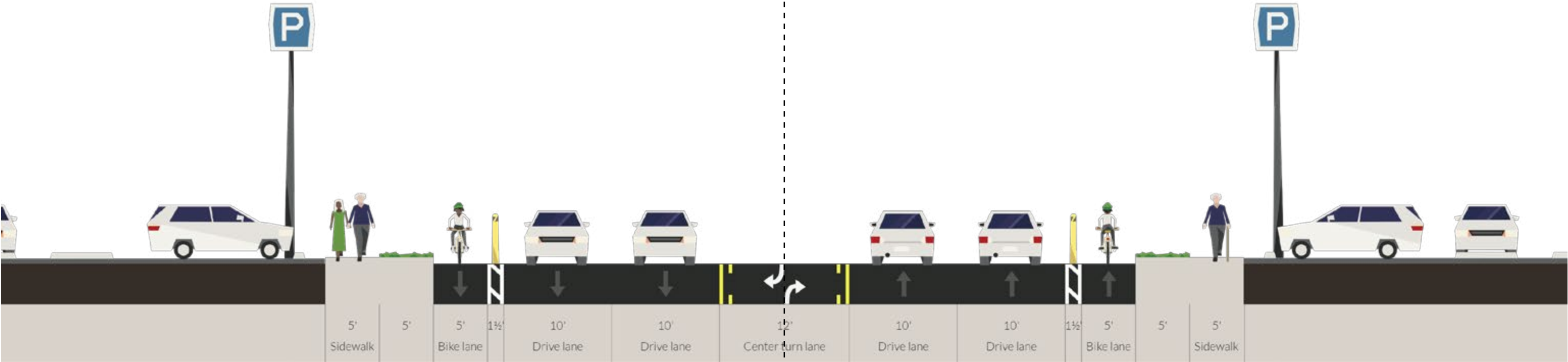
Clifty Drive serves as the outer belt beyond the bulk of residential neighborhoods and serves as a primary commercial district with the industrial districts just beyond it. Based on 2014 traffic counts conducted by INDOT, the peak daily traffic reaches just under 22,000 cars per day just east of Bank Street. It is a wide pavement section with an average of 62' across with a 5-lane section. (2) 12' lanes in each direction with a 15' two way left turn lane in the middle.

While no formal speed study was conducted to establish operating speeds, we conducted several speed tests and the pace of traffic seemed to max out around 45-50 mph on some

most sections. There is a lack of access management along the entire corridor, leading to multiple conflict points. We looked at two alternatives for this, but as we continued to look at expected speed differentials, we believe that multi-use trails along Clifty Drive are probably the safest option. This will require the rework of drainage, involve some utility conflicts as well as coordination with INDOT as the work would be conducted in their right-of-way. Doing this would better connect Clifty Drive to the broader multi-modal network outlined in this document and it would avoid being directly in traffic with a high speed differential. Special care would need to be made during engineering of the facilities to make sure that visibility would be high for multi-use trail users at critical intersections and entrances.

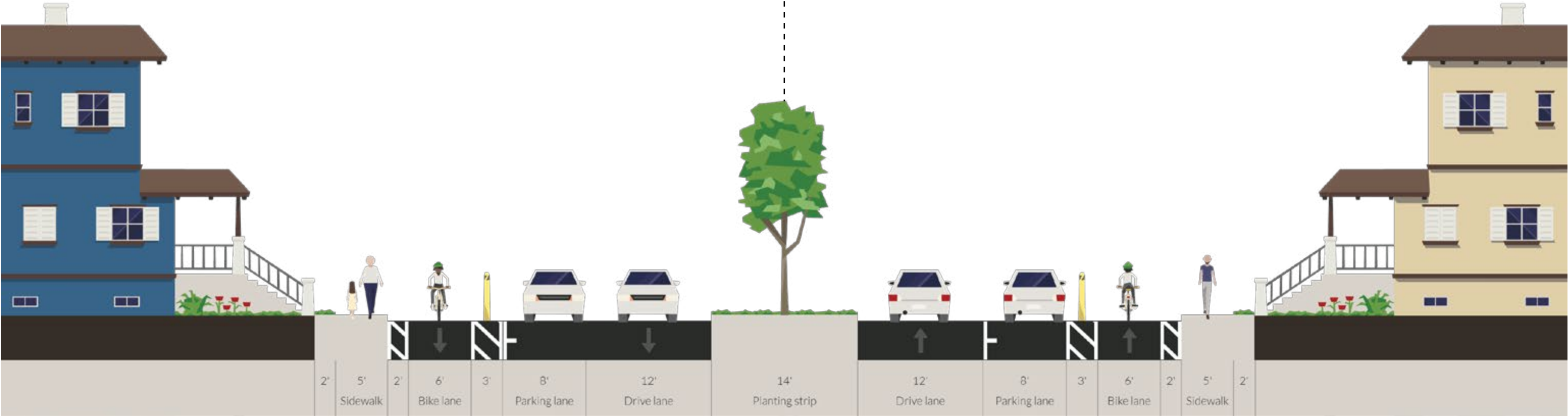


**PROPOSED CLIFTY DRIVE (SR 62)**  
**IMPROVEMENTS (ALTERNATIVE)**  
Another alternative was examined to help calm traffic, slow speeds and introduce on-street facilities. This would involve a separated, buffered on-street bike lane while maintaining (2) 10' lanes in each direction and a narrower turn lane. This is becoming standard practice in most urban settings and does function to slow motorists down and allow the introduction of a more modal balanced approach. We would also recommend sidewalks on both sides, but with on-street bike facilities those could be narrower (5') to serve pedestrians only.



PROPOSED JEFFERSON STREET  
IMPROVEMENTS

We believe that Jefferson could be a jewel of a connection to the river from Main Street. It is 76' wide and has angle pull-in parking on both sides of the street. With the abundance of parking, we would like to propose that space be reclaimed and a double buffered, separated on-street bike facility be installed on both sides of the street, adjacent to parallel parking and a single lane in each direction. The traffic is only 1,811 cars at its peak and will be more than adequate to serve the needs of motorists and in turn, we will have a very comfortable bike lane installed that could serve as a gateway to the river.





PROPOSED PEDESTRIAN SAFETY /  
INTERSECTION IMPROVEMENTS /  
CONNECTIVITY

This section serves as the cover-all for additional safety improvements or connections that we believe could make the Madison Active Transportation network be truly accommodating and safe for all users.

**Downtown:** We propose the introduction of ADA compliant, pedestrian curb extensions (bump-outs) at every major pedestrian crossing along Main Street. The space is currently unused for parking as it is painted yellow and could serve to dramatically cut down crossing times for pedestrians as well as make them more visible to motorists.

**Downtown:** We propose to better connect west downtown Madison to the river with continuous pedestrian connections from Main Street to Vaughn Drive on Vernon, Mill and Vine.

**Top-of-Hill:** We propose intersection improvements at SR 7 / Green Road at Garden Drive. We propose a roundabout be looked at, which could serve to dramatically reduce motorists speeds at a location where users of all ages are known to cross from residential neighborhoods and schools north of SR 7 to the sports complex area.

**Top of Hill:** Pedestrian and Bike connectivity in the form of spokes radiating out from the SR 7 / Green Road middle belt to Clifty Drive and beyond to better connect residential areas to our commercial and industrial destinations. Namely:

- Improving Michigan Road with on-street bike facilities and extending the sidewalk on the west side of the road to Autumnwood Drive.
- Craigmont Street - Include on-street facility designations for bikes and a sidewalk connection.
- Wilson Avenue - Include on-street facility designations for bikes and a sidewalk connection.
- SR 7 – West of Garden Drive, include on-street facility designations or on-street bike facilities in the shoulders and a sidewalk connection on the south side of the road.

GRAPHIC TO BE

## 4 - IMPLEMENTATION

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## 4 - IMPLEMENTATION

### PROJECT PRIORITIZATION

Some of the projects, such as on-street bicycle facilities covered in the previous section could be implemented quickly and at low cost to the city, while others will take years of effort, collaboration and seeking funding opportunities to make a reality. The following matrix includes all proposed projects in a recommended prioritization.

### BENEFIT / COST MATRIX

PROJECT NAME	CATEGORY	COST	RANK
Proposed Main Street Improvements	Transformative	\$50k	6
Proposed Mulberry Street Improvements	Quick Win	\$15k	1
Proposed Hatcher Hill Improvements	Quick Win	\$700k	2
Proposed Mouser / SR7 Connection	Transformative	\$350k	7
Connections to Clifty Park	Quick Win	\$5k	4
Proposed Heritage Trail / River Front Connection Improvements	Quick Win	\$100k	3
Proposed Clifty Drive (SR62) Improvements	Transformative	\$90k	9
Proposed Jefferson Street Improvements	Transformative	\$20k	8
Proposed Pedestrian Safety / Intersection Improvements / Connectivity	Transformative	\$400k	5

### ORDINANCE SUGGESTIONS

The consultant team recommends that modifications be made to the following ordinances in order to allow the proposed projects to proceed and set up future connections that align with the overarching themes and goals of this document:

- Modification to the existing ordinance preventing the use of bikes on “sidewalks” to include provisions that multi-use trails and signage can override the existing ordinance.
- Additional city ordinance that formerly adopts golf-carts as a viable use of multi-modal facilities. While this is not tied directly to active living, it could reduce motor vehicular traffic and open residents eyes to the other modes of transportation. We further recommend that the joint use of golf-carts be tied to city mandated widths that would allow pedestrians or a cyclist to safely interact with a cart.

### FUNDING

Funding active living infrastructure and programs is both the least fun and most important element for implementing this plan. Fortunately, a wide variety of federal, state, local, private and non-profit sources may be pursued. The following is by no means comprehensive, however it does provide several potential funding sources for implementation. In general, funding for this planning effort seeks to:

- Align funding with a capital budget
- Balance on and off-street implementation efforts
- Prioritize ‘quick wins’ whenever possible
- Create a local and regionally coordinated approach through policy development and infrastructure investment.

Doing these will leverage grants and funding sources with implementation resources to keep costs low and the impact to the community high.

### FEDERAL

According to the Federal Highway Administration (FHWA), Federal surface transportation law provides tremendous flexibility to States to fund bicycle and pedestrian improvements. Funding sources come from a wide variety of programs, including well-established as well as new efforts. Virtually all major transportation funding programs can be used for bicycle and pedestrian-related projects now and will be

disbursed through INDOT. These include the following funding sources:

- Congestion Mitigation and Air Quality (CMAQ) – can be used because alternative transportation improvements can reduce the number of vehicles on the road
- Surface Transportation Program (STP) are typically governed by MPO and may not be available in Jefferson County, but this should be confirmed with the local district office of INDOT
- Transportation Alternatives Program (TAP), which folded together federal Safe Routes to School (SRTS), Recreational Trails (RTP), and Transportation Enhancements (TE) programs.

Visit [http://www.fhwa.dot.gov/environment/bicycle\\_pedestrian/funding/bipedfund.cfm](http://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/bipedfund.cfm) for more information.

### STATE

Indiana in conjunction with INDOT have been long supporters of alternative transportation. At the time of this writing, there are currently 3,268 miles of trails and bikeways open for public use across the state. The Indiana Department of Natural Resources (DNR) plan also includes an established vision for a system of statewide interconnected trails and bike facilities. On top of that, INDOT has also adopted a formal complete streets guideline and policy which helps to solidify its stance for modal balance and its role in supporting local land use development and economic viability in smaller towns like Madison.

INDOT will administer all federal funds and all grant applications at a federal level need to be coordinated with INDOT central office as well as with the local district office.

INDOT has established positions to assist with the identification and guidance on applying for these funding. Please contact the office of Project Finance and the state Bicycle and Pedestrian Coordinator for more information.

LOCAL

While there are a great deal of federal and state programs that will help provide funding that you need, active transportation requires an investment by local government as well. Most state and federal grant applications have an analysis on the level of local commitment in terms of either capital budget being applied to specific projects or in-kind donations which can serve as local match in some cases.

Similar sized cities to Madison are making active transportation part of their local capital budget and it is paying dividends.

PRIVATE

There are always private dollars that can be tapped to help offset local matches. These can come in the form of in-kind professional sweat equity, industrial leader pledges, or fund raising efforts. Each avenue should be examined and most that have layers of Private / Local funding can show state agencies and federal grant reviewers.

CLOSING THOUGHTS

This active transportation plan is the result of dedicated citizens volunteering their time, skills, and knowledge. The plan’s implementation will require even more civic dedication to be sustained over several years through to completion. Alternative transportation is very much an investment. It is an investment in infrastructure at its most basic levels, but more importantly this is an investment in Madison that the citizens have expressed an overwhelming amount of support and input for. This vigor will have to be matched by City officials and this document will provide more than enough information on project equity to maintain Council support and keep projects on track.

Advancing the transportation causes in this document through implementation as lined out will provide Madison with a network where real growth can occur.





