

# KATS PEDESTRIAN, GREENWAYS AND TRANSIT PLAN

## EXECUTIVE SUMMARY

DRAFT, SEPTEMBER 2017

# WHAT IS KATS MOVES?

Like many metropolitan regions in the United States, the Kalamazoo Area Transportation Study (KATS) Region has made advances in installing dedicated bicycle and pedestrian facilities throughout the area and is working toward constructing a larger network. The *KATS Moves* Pedestrian, Greenways and Transit Plan was initiated to identify new linkages between the region's transit and non-motorized network. *KATS Moves* is intended to be a continuation of the 2045 Metropolitan Transportation Plan and meets the following goals:

- Increase the use of transit, bicycles and walking as everyday transportation modes by planning for an integrated network of facilities
- Identify greenway corridors that can protect natural resources while providing regional transportation connections
- Define and prioritize greenway projects while determining their financial feasibility

This plan recommends a network of both on-street and off-road bicycle and pedestrian facilities and lays out a prioritization and implementation guide that KATS can use to track the completion of projects. The public can use this plan to understand where and when new non-motorized projects will be constructed in the future.



Currently, the Region has about 250 miles of trails and on-street bicycle facilities. The Region has over 70 miles of off-road, shared-use paths, like the Kalamazoo River Valley Trail (KRVT), the Eliason Nature Reserve Trail and the trails through Portage Creek Park. Nearly 55 miles of bike lanes currently exist in the KATS Region.

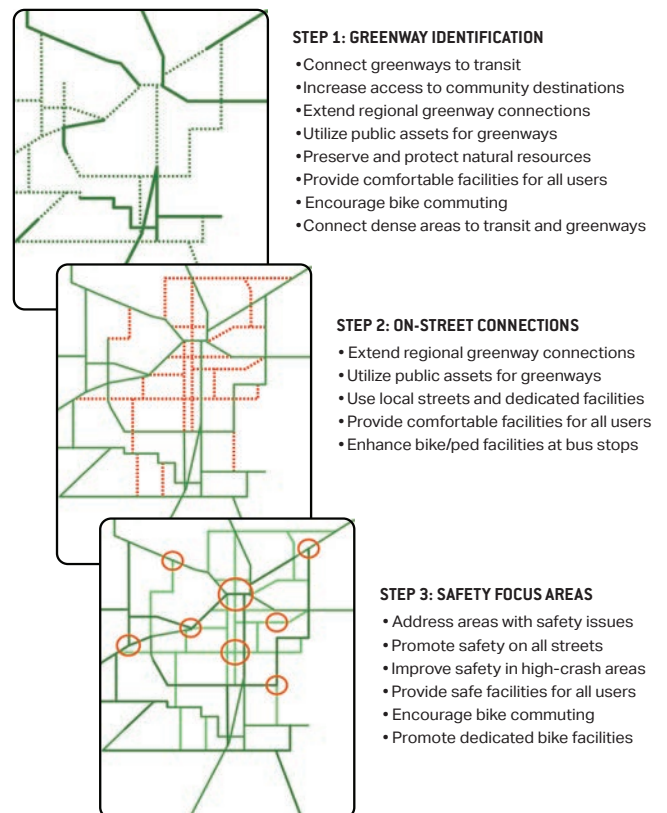
An additional 275 miles of new bicycle facilities throughout the Region have been recommended as a part of *KATS Moves*. Many of these are in the form of shared-use paths and dedicated on-street facilities that link to existing trails, bike lanes, and transit routes. If all planning efforts of *KATS Moves* come to fruition, the Region could have nearly 525 miles of non-motorized infrastructure.

# IDENTIFICATION PROCESS

*KATS Moves* focused on identifying new non-motorized corridors to help connect and enhance the existing and planned bicycle, pedestrian and transit network. The process started with the existing facility network as a base and additional connections, both previously planned for and unplanned, were added, with the goal of creating seamless connections between the non-motorized and transit networks. A three step process, shown below, was used to identify improvements to the network; greenway identification, on-street connections, and safety focus areas.

The study encompasses a large geographic area and it was important to keep recommendations high level and focus on regional needs. For this reason, a framework was developed using the project goals to simplify the identification process. The first step was to identify appropriate greenway corridors and connect them to the existing non-motorized and transit networks. On-street facilities were then identified and used to fill in shorter gaps in the network.

Areas with high amounts of bicycle and pedestrian crashes were located using crash data from 2010 - 2015. Specific improvements were recommended for these "Safety Focus Areas" that will help improve safety outcomes for pedestrians and bicyclists in those areas.



# RECOMMENDED FACILITIES

KATS Moves is recommending a number of non-motorized facilities for the region, some of which have not been implemented before in the area. Most of the existing facilities are either shared-use paths and trails, standard bike lanes, paved shoulders, or sharrow lanes. A conscious choice was made for this plan to recommend projects that would provide the most possible comfort and safety for the bicyclists in the region. For this reason, sharrows, paved shoulders, and bike routes were not recommended since they do not provide a dedicated space for riders. The five facility types recommended as part of this study are detailed below.

## SHARED USE PATH

- Fully grade separated
- Can be used by bikes and pedestrians
- Safest and most comfortable for cyclists



## BIKE LANE

- Painted on-street
- 4' to 6' wide
- Least amount of protection and comfort of facilities recommended



Bike Lanes in Parchment

## BUFFERED BIKE LANE

- Painted on-street with 3' - 4' buffer between lanes
- More comfortable for cyclists
- No protection



Buffered Bike Lane - Detroit, MI

## PROTECTED BIKE LANE

- Use a barrier to protect cyclists from vehicles
- Safest and most comfortable of on-street facilities



Protected Bike Lane - Kalamazoo Ave

## BICYCLE BOULEVARD

- Use low traffic streets for bike connections
- Use wayfinding, pavement markings, and traffic deterrents to reduce car traffic



Bike Boulevard - Berkeley, CA

# PUBLIC INVOLVEMENT

KATS Moves incorporated three rounds of in-person public involvement and ongoing online public engagement to better understand the needs of citizens in the KMetro region. Public meetings were held on the following dates:

- February 7<sup>th</sup>, 2017
- April 24<sup>th</sup>, 2017
- September 12<sup>th</sup>, 2017

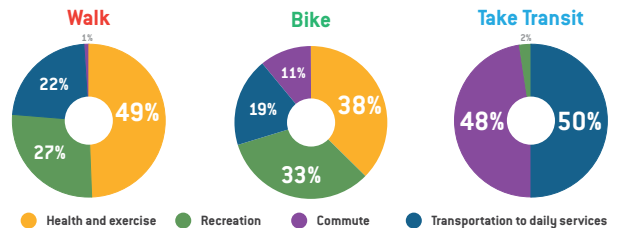
At each meeting, attendees were asked to provide input on specific aspects of the plan that were relevant at the time of the meeting. For example, at the first public meeting, participants gave input on the project goals and objectives, their travel patterns, and other concerns. The public's concern about safety in the second public meeting led to the addition of the "Safety Focus Area" recommendations to the plan. At the final meeting, attendees gave input on the Final Plan and scoring methodology.

Overall, 75 people attended the public meetings and nearly 520 people interacted with the project using the online engagement tool, Community Remarks. The project website and Facebook page also had good engagement. The comments and feedback received from the public was incorporated into the final recommendations for the KATS Moves Plan.

## Top 3 concerns regarding...



## Primary reason you would...



**93%** of respondents feel enhanced pedestrian, bicycle and transit facilities would bring benefits to the community

**88%** of respondents agree all local roads, to the greatest extent possible, should be designed to provide safe access for biking and walking

A sample of comments received from the first public meeting

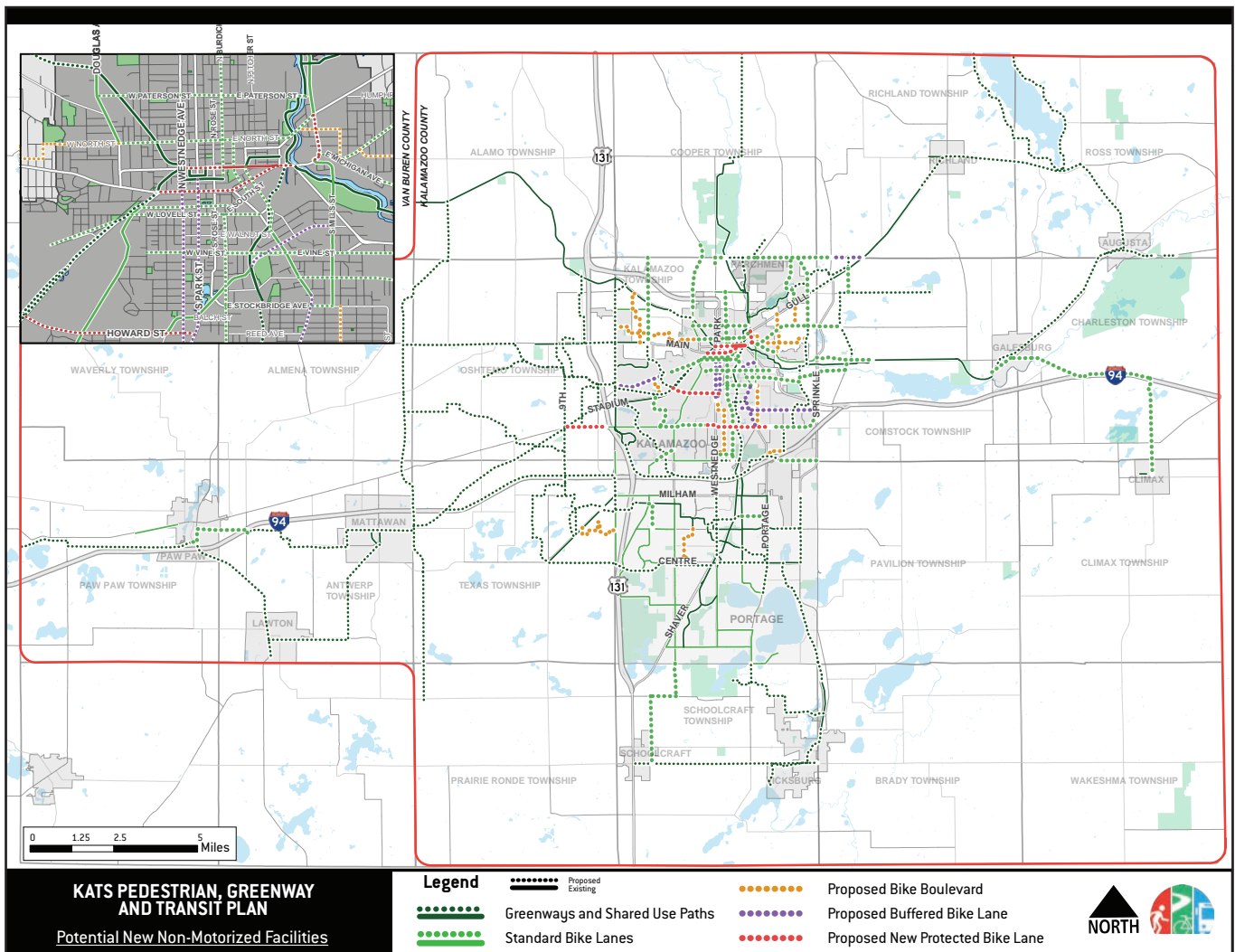
# NETWORK RECOMMENDATIONS

The recommended greenways were identified as logical connections between or extensions from the existing greenway network. The identification process started with the greenways that had previously been identified in the KATS 2045 Metropolitan Transportation Plan (MTP) and other local planning documents. Further brainstorming yielded a number of new corridors which provide additional mobility options for bicyclists and pedestrians.

In the more densely populated areas of the KATS region, where greenways are harder to implement, on-street facilities were recommended to fill in the non-motorized network. These areas lack contiguous open spaces that are needed for dedicated, off-street non-motorized infrastructure. In most cases, there is less road right-of-way and buildings are spaced closer together. Many of the on-street connections identified take advantage of low traffic corridors to provide network connections using bike boulevards and standard bike lanes. Along busier, more stressful roads, buffered and protected facilities are recommended.

The different infrastructure types recommended result in varying cost levels for implementation. Bicycle boulevards, traditional and buffered bike lanes require the least amount of investment because few infrastructure components are required. Protected bike lanes are more costly because they require the most road space, and in many cases have design and infrastructure components associated with them. Shared use paths tend to cost the most due to increased costs associated with property acquisition and the construction of the path.

The recommended facilities identified are conceptual and represent a corridor level view of bicycle and pedestrian facilities. These projects fill in gaps between the greenway network and the transit system and may have not been identified previously. The facilities not identified in a previous planning study were developed using the public's input and have not been evaluated for technical feasibility or potential installation. Those not identified in an existing plan would be subject to additional technical and fiscal review and approval by the local jurisdiction(s).



All of the recommended projects are depicted in the map above

# NETWORK RECOMMENDATIONS

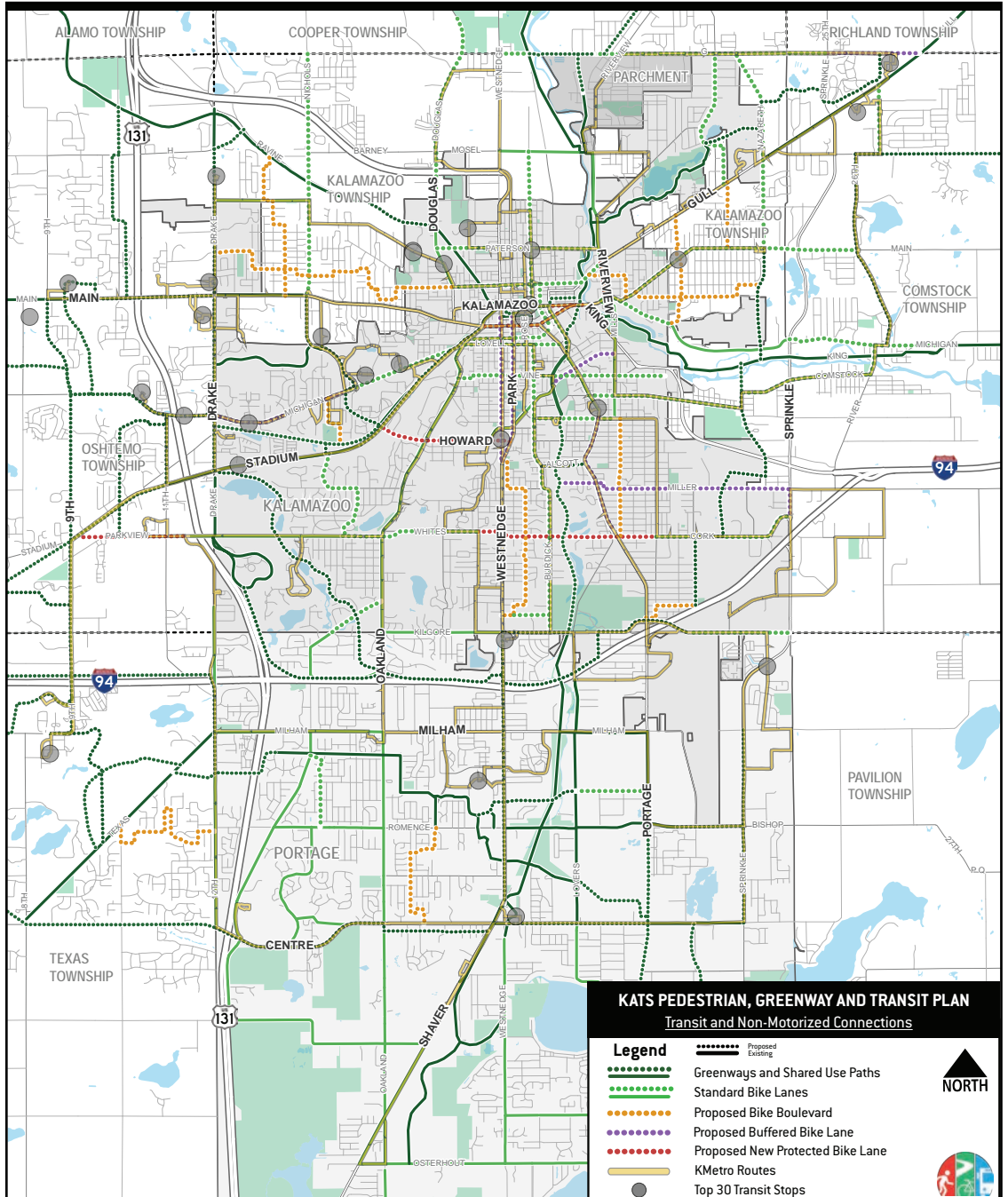
An overarching goal of the KATS Moves project was to better connect and integrate the KMetro transit system with the non-motorized network. Currently there is little overlap between the two networks and last mile connections can be difficult for riders on foot or on bikes. KMetro buses have bike racks, making a transition between cycling trips and transit trips fairly easy.

Many of the proposed non-motorized facilities connect to the nearest transit route while also connecting transit routes to each other. As a result, the highest ridership routes (those serving over 175,000 annual riders) and 90% of the high ridership transit stops would be connected to one or more non-motorized facility.

Better integrating the non-motorized and transit network serves the following purposes:

- Additional and more comfortable last mile connections for KMetro riders
- More non-motorized routes to and from transit stops for a greater share of the regional population
- More connections between the transit and non-motorized networks may encourage residents to commute via an alternative travel mode
- The integration of the two networks will help all users feel more comfortable
- Commuters will have additional options when traveling to and from work

In order to further increase the connectivity between the bicyclists, pedestrians, and transit riders, KATS and KMetro should install wayfinding signage at the intersection points of bike facilities and high ridership bus routes to direct users to destinations in the area. These signs can also alert cyclists and pedestrians to nearby bus stops. Bicycle racks, bike storage lockers, and repair stands can be installed at specific transit stops to encourage trip-making via both modes. A new system map should also be created showing the KMetro transit system with the non-motorized network and updated as conditions change.

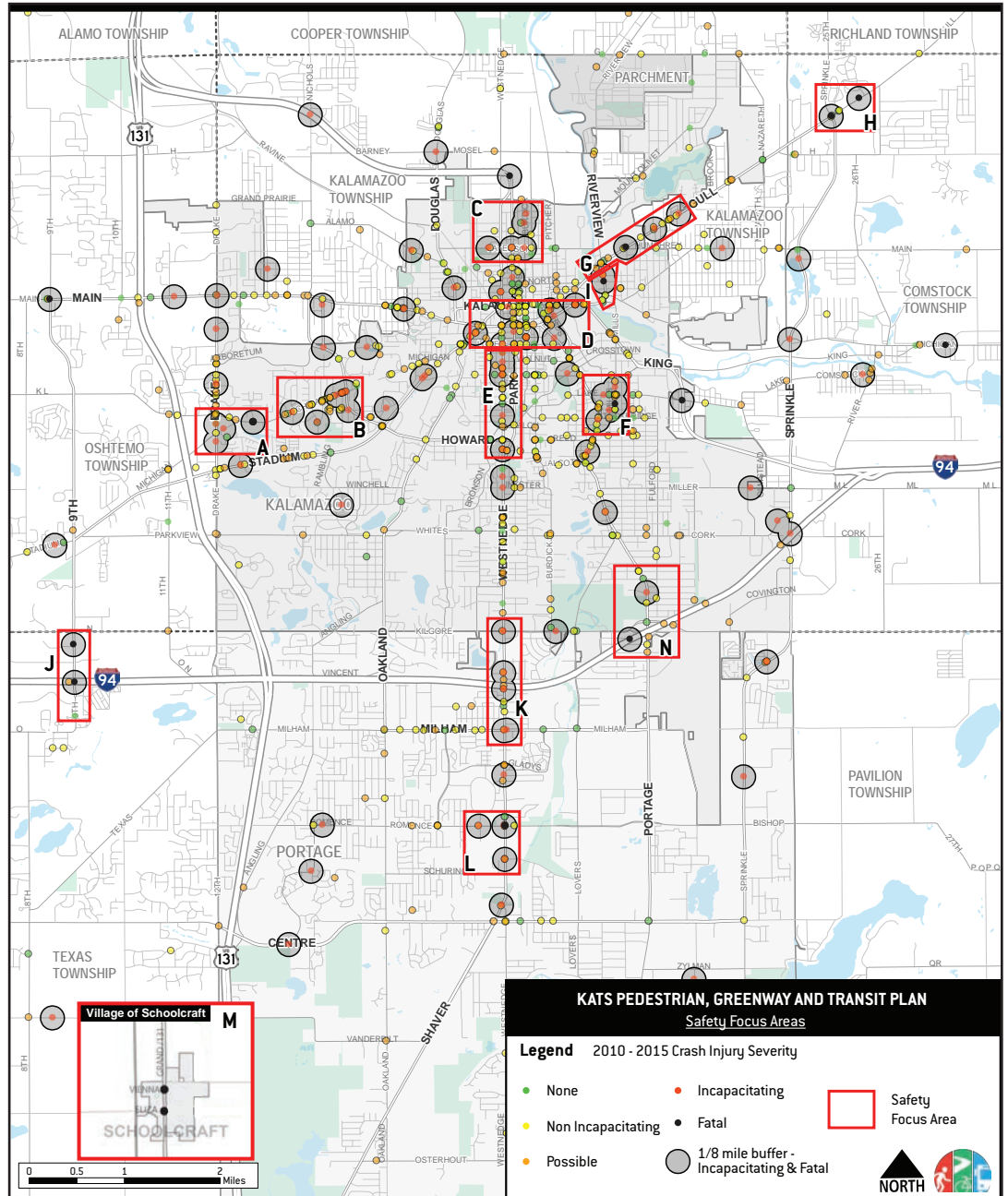


# SAFETY FOCUS AREAS

Advancing projects that address existing safety issues emerged as the highest priority from the initial public engagement efforts for *KATS Moves*, and while completing a network of trail and shared-use paths would provide safer options for many, they will not necessarily improve safety in the high-activity, high-incident zones that currently exist. Bicycle and pedestrian crash patterns from 2010 to 2015 show pockets of high crash locations throughout the KATS Region that deserve priority for facility improvements.

Using the pedestrian and bicyclist crash data from the Michigan Traffic Crash Facts website, the densest crash areas were identified as "Safety Focus Areas". All 14 are listed below:

- A** - Michigan Avenue & Drake Road
- B** - Michigan Avenue & Howard Street
- C** - Paterson Street and Burdick Road
- D** - Downtown Kalamazoo
- E** - Westnedge Avenue from Cedar Street to Maple Street
- F** - Stockbridge Avenue to Vine Street
- G** - Gull Road from Riverview Drive to Inverness Lane
- H** - Gull Road & Sprinkle Road
- I** - Riverview Drive & Michigan Avenue
- J** - 9th Street & I-94
- K** - Westnedge Avenue from Kilgore Road to Milham Avenue
- L** - Westnedge Avenue & Romence Road
- M** - N Grand Street & Eliza Street
- N** - Portage Road & I-94



The majority of bicyclist and pedestrian crashes occurred in the City of Kalamazoo and the City of Portage on smaller, lower speed roads in those cities. Overall, high bicycle and pedestrian crash areas tend to be located in areas where cycling and walking are more popular, like Downtown Kalamazoo and near Western Michigan University.

Recommendations for improving safety outcomes in these areas include intersection treatments to reduce crossing distances and slow down vehicles, more visible crossing areas, traffic calming, wider sidewalks, prominent signage and markings, and non-motorized focused roadway design.

# PROJECT PRIORITIZATION

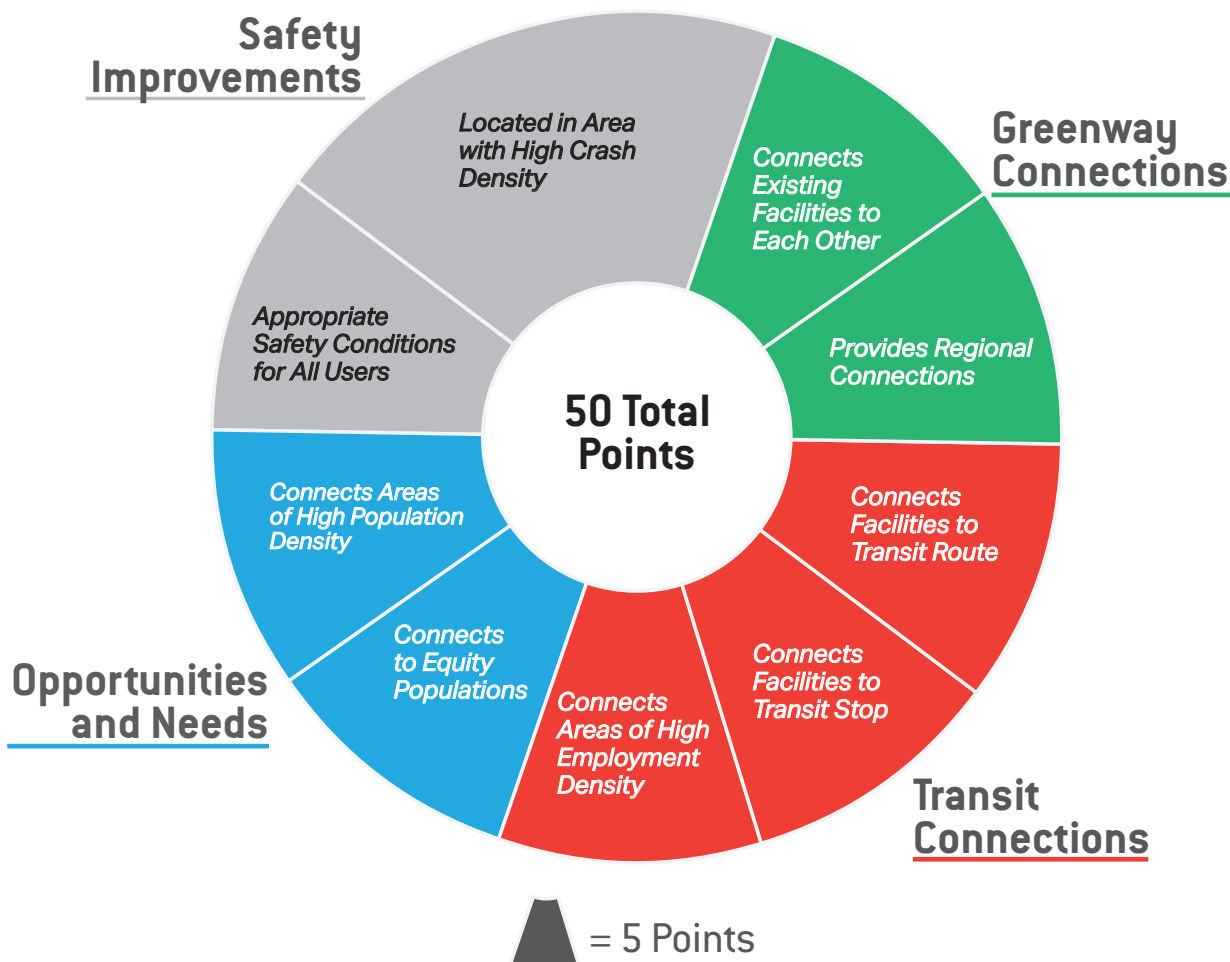
The KATS Region has a limited amount of annual funding that can be spent on new non-motorized infrastructure facilities. A ranking system was established to prioritize the recommended projects and ensure funds are spent efficiently throughout the Region. By ranking the projects, KATS staff can determine which projects are most beneficial to the region based on the goals and objectives of this study. New projects can also be scored on the same scale and incorporated into the prioritization list.

The prioritization process uses the KATS Moves goals and objectives, along with input from the public, as scoring criteria. The evaluation is focused on four different areas of improvement:

- **Transit Connections** - Emphasizes the recommended facility's interaction with the transit system
- **Opportunities and Needs** - Rewards projects located in high density areas and, therefore, potentially benefiting the most people

- **Greenway Connections** - Evaluates projects based on how they enhance the non-motorized network
- **Safety Improvements** - Evaluates safety improvements for pedestrians and cyclists and focuses on high crash locations.

50 total points are available and each goal is worth a total of either 10 or 15 points depending on its weighting. Transit Connections and Safety Improvements are worth more total points because they were determined to be of higher priority by the Steering Committee and public. Each goal has two to three evaluation measures that are worth five to ten points. A points system was developed for the evaluation measures that awards projects a certain number of points based on various quantifiable measures.



# IMPLEMENTATION TIMELINE

To determine the likely phasing of the recommended improvements, each project was scored based on its overall priority and the cost and feasibility of implementation. The Project Priority ranking and the Cost/Feasibility rankings were utilized, along with a scoring matrix, to categorize each project into one of three timelines; Short-Term (1-6 years), Mid-Term (7-15 years), and Long-Term (16 - 25 years). The categorization of projects reflects that more complex and costly projects, even if they are high priorities, are likely to take a longer time to implement due to funding and design issues.

Most of the 33 projects on the short-term project list are located in the core of the region where more people will be able to take advantage of them. There are 72 projects listed in the mid-term list spread throughout the Region, which tend to be longer, more expensive, and more complex than the short-term projects, but have high prioritization scores. The 32 remaining long-term projects are the most expensive, hardest to implement, and lowest priority of the recommended facilities. They are expected to be completed in 16-25 years. In total, nearly \$53 million in non-motorized projects have been recommended as part of the plan.

## KATS Moves Short Term Project List

Project Name	Facility Type	From	To
Patterson St	Bike Lane	Douglas	Riverview
Michigan Ave	Bike Lane	Howard	Stadium
Lovell St	Bike Lane	Portage	Stadium
S Burdick St	Bike Lane	Kilgore	Lovell
Lake St	Bike Lane	Larch	Portage
North St	Bike Lane	Gull	Douglas
Riverview Dr	Bike Lane	Mills	Gull
South St	Bike Lane	Michigan	Edwards
Stockbridge Ave	Bike Lane	Mills	Burdick
Nichols Rd	Bike Lane	Howard	G
E Michigan Ave	Bike Lane	Sprinkle	KRVT
E Michigan Ave	Bike Lane	Wallace	Mills
S Pitcher St	Bike Lane	Portage	Kalamazoo
N Edwards St	Bike Lane	North	South
Michigan Ave	Shared Use Path	Michikal	Eldred
Michigan Ave	Buffered Bike Lane	Howard	Drake
Gull Rd	Bike Lane	North	Riverview
KL Rd Trail	Shared Use Path	9th	Drake
Drake Rd	Shared Use Path	H	Main
Kalamazoo Ave	Protected Bike Lane	Westnedge	KRVT
Portage Creek Greenway	Shared Use Path	Pitcher	Michigan
Solon St	Shared Use Path	Howard	Main
Crosstown Pkwy	Buffered Bike Lane	Portage Creek Greenway	Mills
Main St	Shared Use Path	10th	Drake
Kilgore Rd	Shared Use Path	Westnedge	Portage Creek Greenway
Park St	Buffered Bike Lane	Arcadia Creek Trail	Maple
Bridge/Gilbert Bicycle Blvd	Bicycle Boulevard	Gull	Main/Michigan
S 9th St	Shared Use Path	W Main	Stadium
Crossroads Mall Trail	Shared Use Path	Sears	Portage Creek Greenway
Miller Rd/Phillips St	Buffered Bike Lane	Sprinkle	Portage Creek Greenway
Chicago/Elkertown Bicycle Blvd	Bike Boulevard	Gull	Michigan
Croyden/Canterbury Bicycle Blvd	Bicycle Boulevard	Nichols	Drake
Greenwood Bicycle Boulevard	Bicycle Boulevard	Michigan	Amtrak Rail Trail
North St Bicycle Boulevard	Bicycle Boulevard	Douglas	Arlington

# FUNDING STRATEGIES

Bicycle and pedestrian projects are broadly eligible for funding from nearly all major federal highway, transit, safety, and other programs. To be eligible for federal funding, bicycle projects must be principally for transportation, rather than recreation purposes, and must be designed and located pursuant to the transportation plans required of states and Metropolitan Planning Organizations, such as KATS. The following funding opportunities could be used to implement the KATS Moves projects

- Transportation Alternatives Program
- Congestion Mitigation Air Quality
- National Highway Traffic Safety Administration 402 Safety Fund
- Michigan DNR Recreation Passport Grant
- Michigan Natural Resources Trust Fund
- Community Development Block Grants
- West Michigan Trails & Greenways Coalition (WMT&GC)
- Surface Transportation Program
- National Highway System
- City and Township Millages
- Public/private partnerships



Source: MLive  
A portion of the KRVT under construction in 2012



## POTENTIAL PROJECT EXAMPLES

The following projects are artistic depictions of what the proposed non-motorized investments could look like when built. Three different non-motorized facilities shown, all of which are short-term projects. An enhanced bus stop is also depicted with potential improvements for both transit riders and cyclists. These are not a final design, but show what could be constructed.

### Paterson Street Bike Lane

The Paterson Street Bike Lane would run from Douglas Avenue to Riverview Drive. If implemented, the bike lane would provide a connection through the Northside neighborhood between two legs of the KRVT and provide multiple connections to transit routes traveling on the north/south streets. A bike lane on Paterson Street would provide easier bicycle access to one of the top 30 transit stops in the KMetro system. Upgrades to the bus stop at Paterson Street and Burdick Street would include amenities like a shelter, bike racks, and transit information for riders to use.



# POTENTIAL PROJECT EXAMPLES

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## Park Street Buffered Bike Lane

The Park Street buffered bike lane would provide a northbound connection into Downtown Kalamazoo and would run from Maple Street to the Arcadia Creek Trail. The 1.5 mile facility would provide a comfortable and dedicated bicycle lane through the dense neighborhoods south of Downtown Kalamazoo. There is nearly 45 feet of available right-of-way on Park Street currently, so an on-street parking lane could be added with the addition of the buffered bike lane. Additionally, the parking lane could be moved toward the center of the road and the bike lane moved toward the curb to create a parking protected bike lane, providing even more comfort and safety to cyclists.



# POTENTIAL PROJECT EXAMPLES

## S 9th St Shared Use Path

The S 9th Street Shared Use Path would travel from W Main Street to W O Avenue in Oshtemo Township. The shared use path would be constructed on the side of the road, providing a completely separated space for cyclists and pedestrians to travel. Currently, there are no bicycle or pedestrian facilities located along S 9th Street and adding a shared use path would greatly increase the comfort and safety for non-motorized users in this section of the KATS Region. The shared use path would also provide a connection between the bus routes on W Main Street and Stadium Drive, and to the neighborhoods that exist between them.





KATS  
**PEDESTRIAN**  
**GREENWAY**  
**TRANSIT**  
PLAN



**KATS**

KALAMAZOO AREA  
TRANSPORTATION STUDY

PREPARED BY:

**AECOM**