

Appendix A – Previous Studies

Kalamazoo Planning & Environmental Linkages Study

Review & Synthesis of Past Plans

Plans Reviewed:

- **1954 – A Downtown Traffic Plan for Kalamazoo Michigan**
- **1972 – Study of the Operational Aspects of One-way and Two-way Streets**
- **2002 – Central Business District Transportation Plan/Economic Impact Study**
- **2003 – Riverfront Plan & Zoning Overlay District**
- **2004 – Central City’s Tomorrow Vision for Downtown Kalamazoo**
- **2005 – Portage Streetscape Master Plan**
- **2009 – Downtown Kalamazoo Comprehensive Plan**
- **2012 – Downtown Design Review Standards and Guidelines for Existing Buildings, New Construction, and Streetscaping**
- **2012 – Kalamazoo College Campus Master Plan**
- **2014 – KATS Complete Streets Policy**
- **2014 – Michigan Avenue and Stadium Corridor Charrette Study**
- **2014 – An Analysis of Residential Market Potential**
- **2014 – Michigan Municipal League Place Plan**
- **2014 – Walkability Workshop: Kalamazoo, Michigan**
- **2016 – Downtown Kalamazoo Five Year Transportation, Parking, and Mobility Plan**
- **2016 – KATS 2045 Transportation Plan**
- **2016 – Downtown Kalamazoo Road Safety Audit**
- **2017 – City Wide Charrette**
- **2017 – Downtown Kalamazoo Retail Market Analysis (draft)**
- **2017 – Imagine Kalamazoo Master Plan & Strategic Vision Plan**
- **2017 – KATS Pedestrian, Greenway, and Transit Plan**
- **2018 – City of Kalamazoo Complete Streets Policy**

Notes and Takeaways

1954 – A Downtown Traffic Plan for Kalamazoo Michigan

Overall goal: Evaluate and address existing traffic problems in downtown Kalamazoo such as traffic flow and congestion during peak hours.

Findings & Recommendations:

- Convert downtown into a comprehensive traffic system with one-way operations on:
 - Westnedge, southbound, Kalamazoo to Crosstown
 - Park, northbound, from Crosstown to Kalamazoo
 - Rose, southbound, Eleanor to Burr Oak
 - Burdick, northbound, Burr Oak to Eleanor
 - Lovell, westbound, Pitcher to W Michigan
 - South, eastbound, W Michigan to Edwards
 - Edwards, northbound, South to North
 - Pitcher, southbound, North to Lovell
- Open Lovell from Portage to Pitcher
- Increase radii of curb returns at various intersections
- Channelize intersection of Crosstown and Park to facilitate left turn
- Install traffic signals at various intersections

1972 – Study of the Operational Aspects of One-way and Two-way Streets

Overall goal: Evaluate the impact of two-way to one-way traffic conversions in four Michigan downtowns: Kalamazoo, Lansing, Pontiac, and Port Huron.

Findings & Recommendations:

- Conversion from 2-way to 1-way was beneficial in terms of travel speeds and flow.
- Conversion from 2-way to 1-way improved safety and efficiency of the system.
- Criteria for 2-way to 1-way conversion:
 1. Average overall travel speed during peak periods falls below 20 mph under normal daily operation,
 2. Average stopped delays are 30 seconds or greater per mile of trunk line,
 3. Accident rates continue to be above average for comparable streets particularly after unsuccessful attempts to correct accident patterns,
 4. There is an impending need for new traffic signals at some of the stop-controlled intersections, which can continue to be stop-controlled under one-way operation by creating more usable gaps in the trunk line traffic stream,

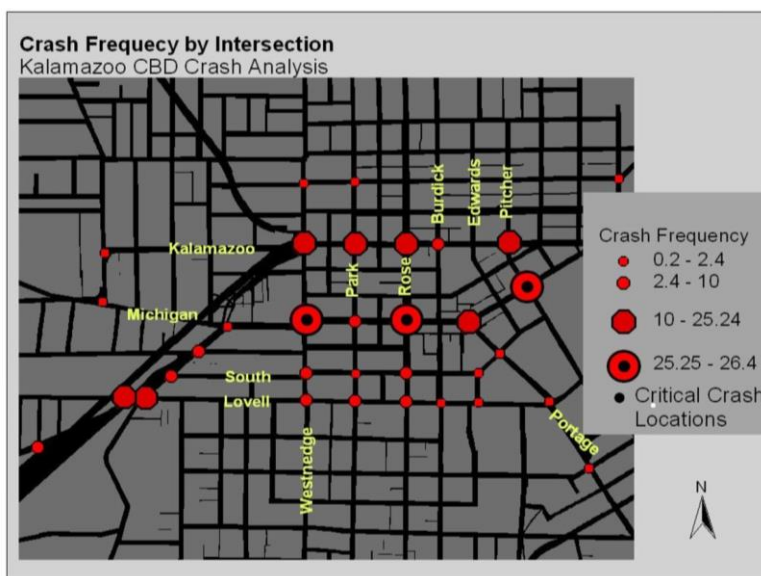
Traffic congestion on streets within the trunk line corridor becomes intolerable and the efficiency of a well-planned one-way system is viewed as an aid to organizing traffic flow

2002 – Central Business District Transportation Plan/Economic Impact Study

(Parsons Brinckerhoff, DKI, City of Kalamazoo)

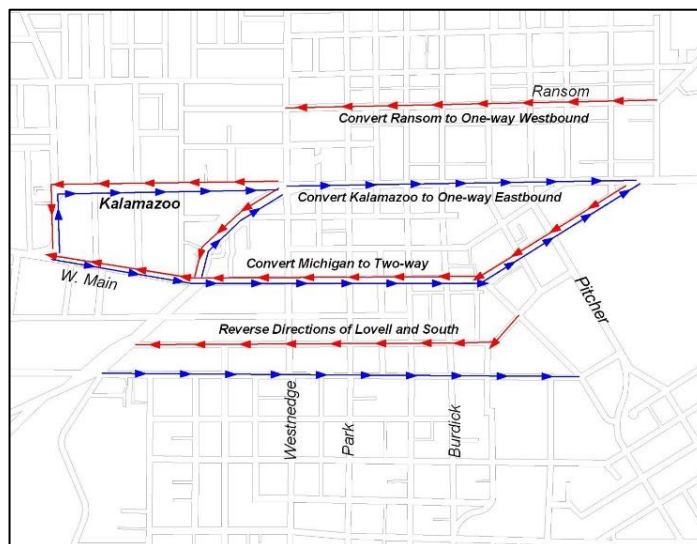
Overall goal: Create a comprehensive transportation plan outlining improvements or changes to the transportation network that will enhance access, and consequently economic viability.

Findings & Recommendations: The study looked at 11 previous studies, gathered public input through meetings and email, and used macro- and microscopic traffic modeling software (TRANPLAN model) to develop 10 main alternative solutions and 12 combinations. The study team chose the three most promising alternatives and compared these to each other and a “do-nothing alternative.” The study evaluated future conditions under the alternatives including traffic flow and parking impacts (maps in ppt presentation in ProjectWise). Alternative C is considered the best of the three alternatives from an overall, balanced economic development perspective. Alternative C is either good or best for about one-half of all transportation zones in the core of downtown.



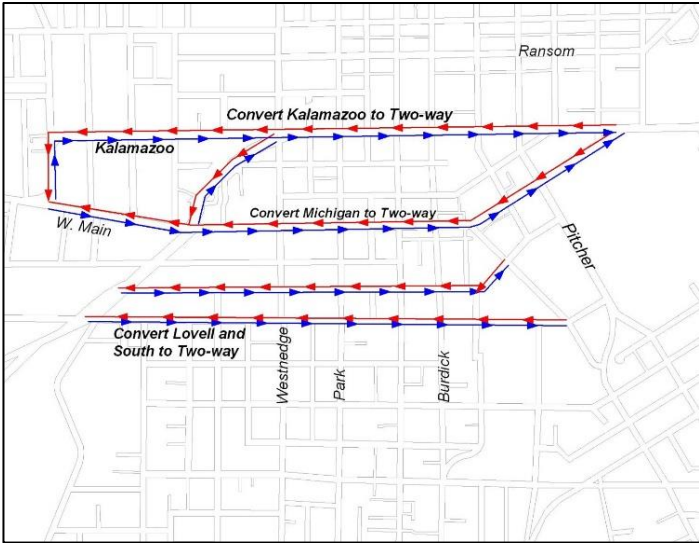
10 Main Alternatives:	Combination of 10 Main Alternatives:
<u>Alternative 1:</u> Ransom 1-way WB; Douglas 1-way NB; Kalamazoo 1-way EB; W. Main and Michigan 2-way	1, 5, 7
<u>Alternative 2:</u> Kalamazoo, W. Main, Michigan, & Douglas 2-way	1, 5, 7, 10
<u>Alternative 3:</u> Kalamazoo (Porter to Michigan) 2-way; W. Main, Michigan, & Michikal (Elm Crossover to Eleanor) 2-way; Eleanor 1-way EB; new Eleanor connection (Burdick to Water); Water (Burdick to Kalamazoo) 1-way EB	1, 6, 7, 10
<u>Alternative 4:</u> Remove 1 lane from Michigan	2, 5, 10
<u>Alternative 5:</u> Reverse the South & Lovell 1-way pairs	2, 5, 7, 10
<u>Alternative 6:</u> South & Lovell 2-way	2, 6
<u>Alternative 7:</u> Kalamazoo (Douglas to Westnedge), Douglas, W. Main, Michikal (Elm Crossover to Eleanor) 2-way	2, 6, 10
<u>Alternative 8:</u> North 1-way WB; Michigan (W. Main to South) 1-way SB; NB Oakland vehicles forced to EB South	2, 6, 7, 10
<u>Alternative 9:</u> North 1-way WB	4, 5, 10
<u>Alternative 10:</u> Rose (Cedar to Burr Oak) & Burr Oak (Burdick to Rose) 2-way	4, 5, 7, 10
	4, 6, 10
	4, 6, 7, 10

- Alternative A:
 - Michigan to 2-way, Kalamazoo and Ransom new state trunk line
 - Kalamazoo operates eastbound, Ransom operates westbound
 - Switch directions of South & Lovell
 - Douglas, Michigan, Michikal, Kalamazoo to 2-way
 - Convert Rose to 2-way



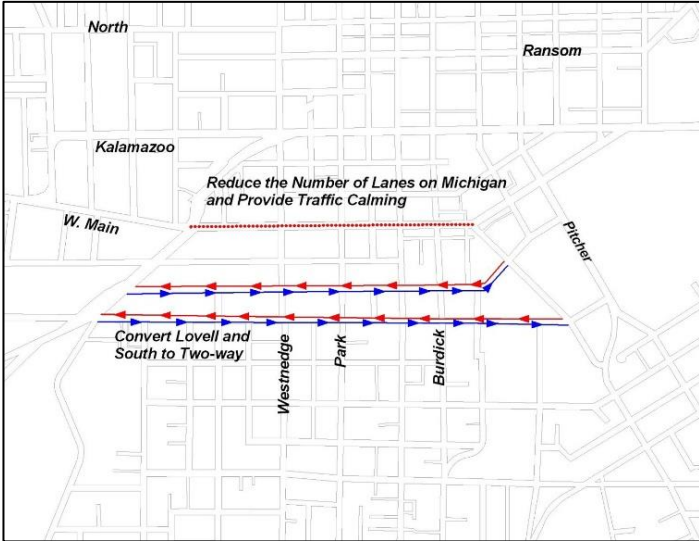
Alternative A

- Alternative B:
 - Kalamazoo & Michigan to 2-way
 - South & Lovell to 2-way
 - Douglas, Michigan, Michikal, Kalamazoo to 2-way
 - Convert Rose to 2-way



Alternative B

- Alternative C:
 - Michigan traffic calming
 - South & Lovell to 2-way
 - Convert Rose to 2-way



Alternative C

2003 – Riverfront Plan & Zoning Overlay District

(City of Kalamazoo)

Overall goal: Create a vibrant, viable neighborhood of residential, retail, commercial, recreational and industrial uses along the Kalamazoo River. This goal will be achieved through:

- Reinforcing individual investments by creating supportive clusters of redevelopment
- Examine linkages and explore economic development options to support revitalization with the highest level of urbanism

Findings & Recommendations:

- Orient and scale all structures to the pedestrian level and street
- Create high connectivity between the district and surrounding sidewalk and street networks
- Implement traffic calming measures such as narrow streets and pedestrian improvements

2004 – Central City’s Tomorrow Vision for Downtown Kalamazoo

(City of Kalamazoo, Downtown Tomorrow Inc., LandDesign)

Overall goal: Harness and guide downtown growth to preserve and bolster the significance of the downtown Kalamazoo. The study identifies five major areas for targeted future development in the downtown, called the “Vision Plan Districts.” Threefold purpose of the Vision Plan:

1. Take the next step in implementing the 1996 plan for downtown Kalamazoo
2. Define potential private/public partnerships
3. Guide public investment

Findings & Recommendations:

- The plan supports the recommendations of the Kalamazoo Two-Way Traffic Conversion Study. This includes converting most of the east-west one-way streets to two-way (see map below).
- Create walkable and interesting urban neighborhoods with street level development that enhances the pedestrian experience.
- Establish a “Green Streets Program” to create ‘urban parkways’ with wider sidewalks, landscape zones, and bike infrastructures.
- Implement traffic calming with narrower traffic lanes, bike lanes, on-street parking, and articulated pedestrian crossings.

Vision Plan for Downtown Kalamazoo

Street Conversion Layer

Converting many of the one-way streets to two-way would disperse traffic more efficiently through the urban grid. Improving mobility and city navigation can promote the diversity of uses on prime streets.



2005 – Kalamazoo Two-Way Traffic Conversion (EDAW & Tetra Tech, revised 2005 – original from 2003)

(City of Kalamazoo, EDAW Inc., TetraTech MPS, DKI)

Overall goal: Model and compare the existing one-way traffic system with the preferred two-way conversion alternative identified in the Parson Brinckerhoff Central Business District Transportation Plan/Economic Impact Study (Alternative B). The city requested five key enhancements to Alternative B, with the resulting improved alternative referred to as “Alternative B+.” The enhancements include:

- Maximizing on-street parking
- Creating a pedestrian-friendly streetscape
- Improving access in and around downtown and to and from WMU and K-College and the surrounding neighborhoods
- Improving public safety through designing a safe transportation environment
- Eliminating the Elm Street Crossover

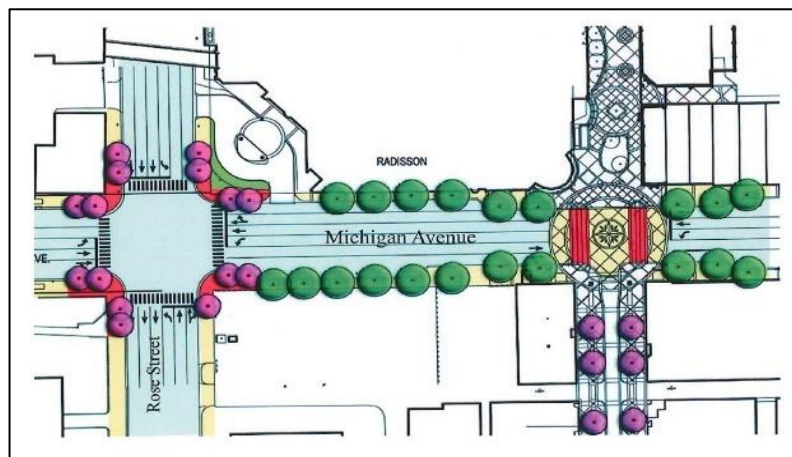
Findings & Recommendations:

Throughout:

- Provide on-street parking wherever possible
- Enhance the pedestrian zone with new paving, furnishing, and pedestrian lighting
- Provide vehicular access at all existing drives from either eastbound or westbound traffic

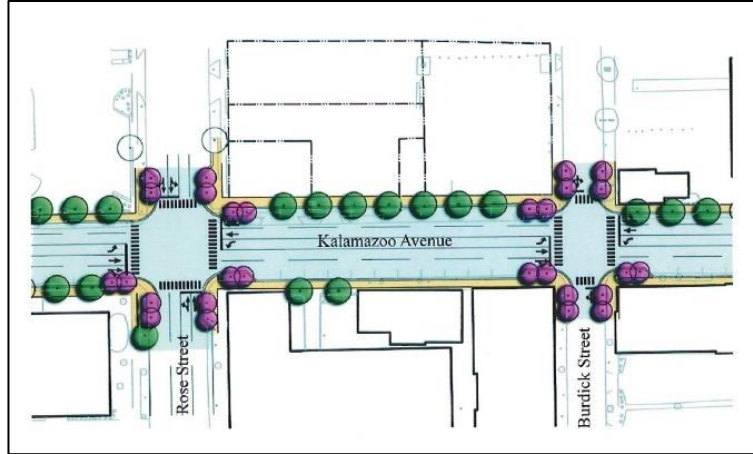
Michigan Avenue:

- Convert to two-way
- No median will be provided because of traffic requirements for turn lane storage
- Provide pedestrian bump-outs at appropriate intersections
- Provide brick walkway paving at intersections
- Provide street trees at edges and ornamental trees at intersections
- Connect Kalamazoo Mall across Michigan Avenue with special paving to designate as special crossing location



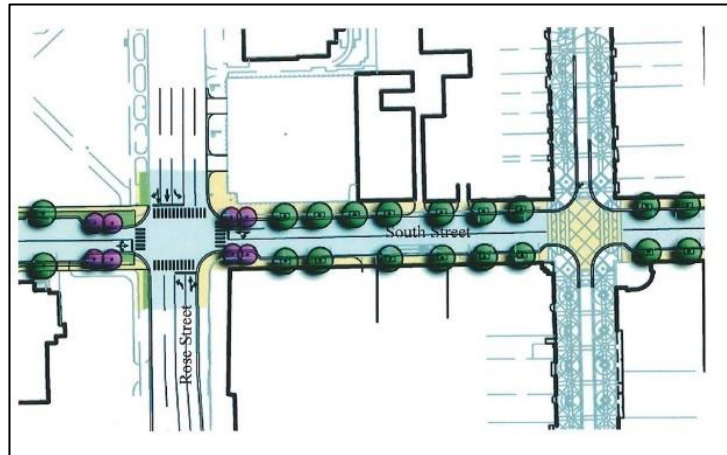
Kalamazoo Avenue:

- Convert to two-way street capable of supporting MDOT state trunk line criteria
- Provide on-street parking wherever possible
 - Due to limitations, on-street parking should be limited to south side of Kalamazoo btw Burdick and Westnedge and both sides of Kalamazoo btw Burdick and Rose
- Acquire ROW to implement on-street parking on north side of Kalamazoo btw Burdick and Rose
- No median provided due to traffic requirements for turn lane storage



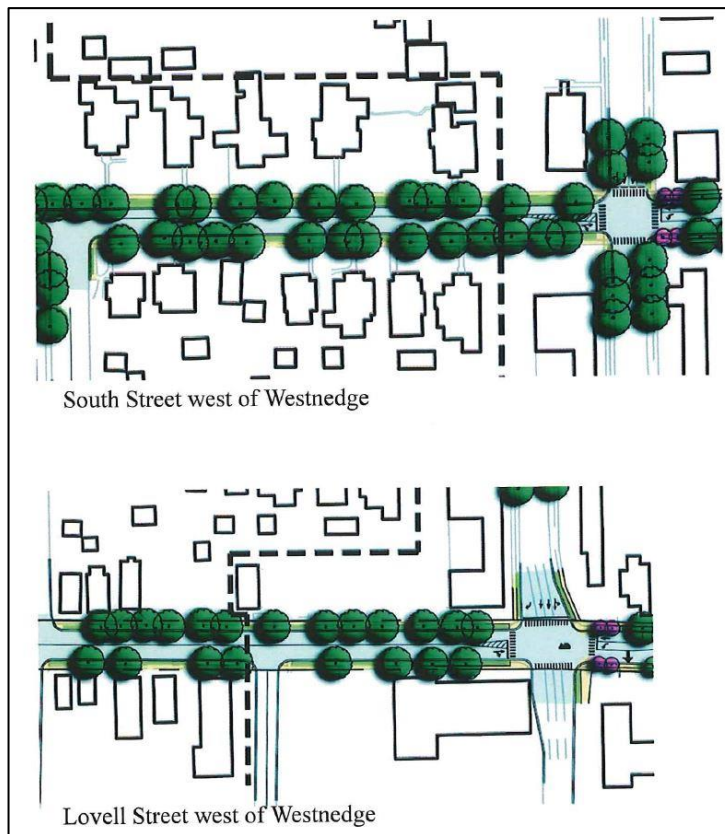
South Street and Lovell Street – Urban east of Westnedge:

- Convert to two-way
- Allow delivery truck parking and access/service to businesses
- Eliminate existing sidewalk extension into South Street at café space, south side of street btw Rose Street and the Kalamazoo Mall (Burdick Street)



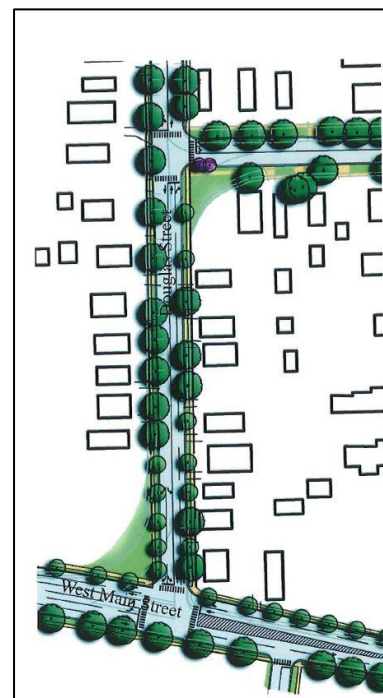
South and Lovell – Residential west of Westnedge

- Convert to two-way



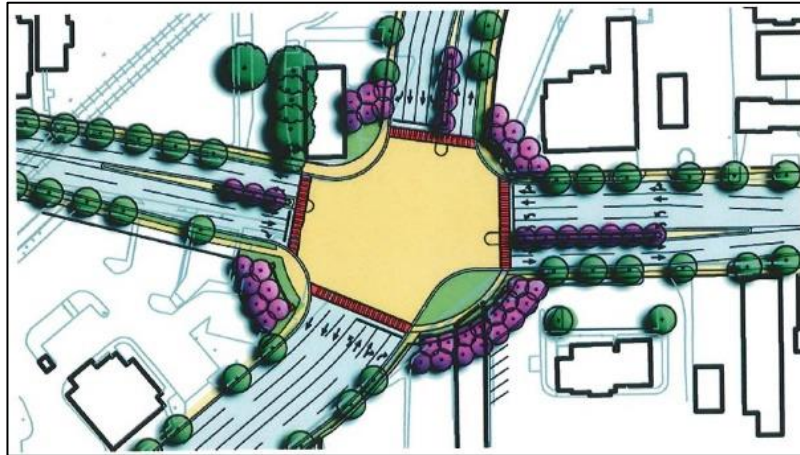
Douglas Ave/Michikal/W Main:

- Convert to two-way
- Provide on-street parking wherever possible
 - i.e. Kalamazoo and Douglas
- Provide landscaping in 'recovered areas'
 - Northwest corner of Douglas and W Main
 - Southeast corner of Douglas and Kalamazoo



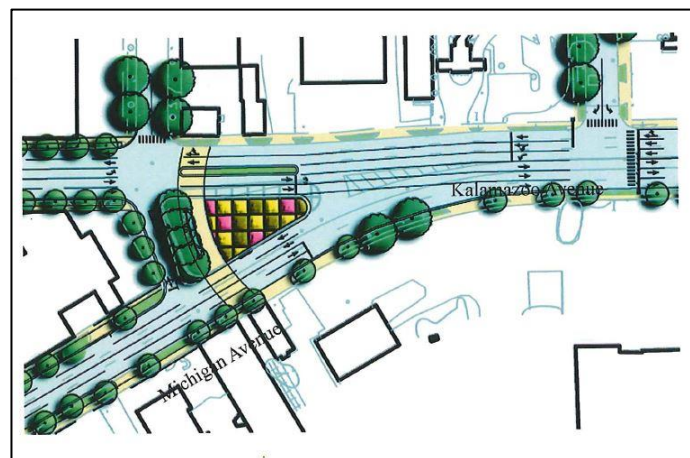
West Gateway

- Configure as 'standard' intersection, with streets at right angles
- Provide pedestrian 'safety zones' and medians at midpoints of crossings where practical
- Street width necessary for pedestrian safety zones requires acquisition of ROW
- Provide gateway planting with strong geometric form of ornamental tree plantings, sign like existing East Gateway



East Gateway

- Utilize existing intersection geometrics with signalization at Kalamazoo and Michigan
- Enhance the pedestrian zone with new paving, furnishing, and pedestrian lighting
- Respect existing gateway feature with minimal impact to existing landscaping



Phased Two-way Implementation:

- Phase I: Edwards Street
- Phase II: South and Lovell
- Phase III: Kalamazoo, Michigan, Michikal Douglas, Main

2005 – Portage Streetscape Master Plan

(City of Kalamazoo)

Overall goal: The goal of this project was to identify physical improvements to the Portage Street corridor that will encourage, enhance and support economic revitalization of the project area, both now and in the future.

Findings & Recommendations:

- Enhance distinct identity for key districts, while providing for continuity of design and improved aesthetic appearance throughout corridor
- Design guidelines provided for streetscape and landscape elements.
- Improve pedestrian, wheelchair, and non-motorized access and safety, especially in key retail areas
- An important factor is having a 9.5'-10' wide space sidewalk zone, providing a comfortable separation for pedestrians from vehicular traffic
- Decrease automobile speed at key intersections, while improving traffic flow through corridor
- Improve parking efficiency
- Address roadway engineering problems
- Increase linkage between public facilities
- Minimize driver distractions through consistent visual elements and by undergrounding utilities
- An important recommendation is to standardize the roadway lane widths to provide consistently spaced-lanes, since the existing lane width conditions vary between 9 and 13' wide. The new lane width recommendation is 10.5', where the minimum pedestrian sidewalk zone width of 9.5' could be maintained.
- On-street parking spaces will be relocated to side streets, and supplemented by shared off-street parking where appropriate.

2009 – Downtown Kalamazoo Comprehensive Plan

(City of Kalamazoo, DKI)

Overall goal: Improve access to downtown businesses and traffic flow, ease of navigation and overall transportation facilities in and through the downtown.

Findings & Recommendations:

- Implement the full one-way to two-way street conversion plan. (Michigan AVE)
- Reconstruct the entire Michigan Ave. streetscape corridor from Lovell St. to E. Kalamazoo Ave. through traffic calming strategies, pedestrian friendly design and landscaping improvements.
- Encourage sustainable transportation initiatives including alternative modes of travel and new technologies.
- Implement the new Five-Year Parking Plan.

2010 – Kalamazoo Master Plan

(City of Kalamazoo)

Overall goal: Guide future growth and development of the city by helping to ensure that Kalamazoo remains a highly desirable place to live, work, and visit. Accomplish this goal by preserving and enhancing the qualities of the city that residents, businesses, and property owners consider important.

Findings & Recommendations:

- Provide zoning incentives for mixed-use developments along transit lines
- Create gateway treatments at key entrance points
- Improve wayfinding signage
- Improve access and aesthetics along industrial routes to support business attraction
- Refine road design standards to support walking and biking
- Increase walkability standards for new developments
- Continue to build the non-motorized transportation system
- Upgrade signals and crossings to ADA standards
- Require bike racks for new developments
- Encourage local services and retail within walking distance
- Improve safety of walking and biking routes to school.
- Create incentives to encourage employees to use transit
- Work with MDOT and adjacent communities to upgrade corridors and interchanges
- Employ traffic calming designs
- Evaluate the installation of narrow medians along Westnedge and South Portage
- Design a median for Stadium Drive to improve aesthetics and traffic
- Revise landscape standards to create green buffers between residential and other uses
- Enhance the street tree planting program
- Identify priority greenway areas and unify existing neighborhood plans.

2012 – Downtown Design Review Standards and Guidelines for Existing Buildings, New Construction, and Streetscaping

(City of Kalamazoo)

Overall goal: Direct public and private improvements in Downtown Kalamazoo by serving as a basis for common decision-making among stakeholders and outlining an approach for creating a coordinated design theme that is simple, elegant, and complementary to the current fabric of downtown.

Findings & Recommendations:

- Promote evolution of downtown supported by a lively, pedestrian-friendly space for mixed uses
- Integrate growth and new development with historic buildings to create vibrant urban hub
- Orient entryways and businesses to the street front to better interact with pedestrians.
- Encourage creation of public gathering spaces
- Require 6 feet of sidewalk clearance
- Incorporate street trees, raised planters, and pedestrian bump-outs into ROW design
- Consideration of both high and low landscape planting options/design
- Encourage design elements unified in material, style, and color
- Recommends 8 to 10-foot sidewalks
- Promote the character of unique districts with different sidewalk and crosswalk patterns
- Install features such as pedestrian lights and flower baskets in 'high design areas' such as Michigan Ave and Kalamazoo

2012 – Kalamazoo College Campus Master Plan

(Kalamazoo College)

Overall goal: To provide a developmental framework for Kalamazoo College for the next ten years.

Findings & Recommendations:

- Proposed creation of a new campus gateway along W Michigan Avenue between Lovell and West Main Streets, placing emphasis specifically on the intersection at Academy Street.
- Achieve a “greener” and more attractive first impression of the campus through gateway signage, extension of the brick street paving, and vertical campus identifiers
- New visible signage located at Lovell and Monroe
- Add brick to Lovell Street from Monroe to W Michigan Avenue to delineate campus edge
- Extend city and county bike path system along campus to link WMU and adjacent neighborhoods with the downtown district
- Revert the lower portion of Lovell Street where it meets W Michigan Avenue to two-way
- Retain parallel parking on the south side of Academy street, add traffic calming and new pedestrian crossings
- Add traffic circle at the intersection of Acker and Academy to calm traffic
- Add a raised, wide traffic table where Thompson Street used to intersect Academy to create safe crossing.

2014 – KATS Complete Streets Policy

(City of Kalamazoo, KATS)

Overall goal: To create a safe, balanced, and effective transportation system where every user can travel safely and comfortably and where multi-modal transportation options are available to everyone. Auxiliary goals:

- To create a comprehensive, integrated, and connected transportation network that supports compact, sustainable development and provides livable communities
- To enhance safety, ease of use, and ease of transfer between modes for all users of the transportation system
- To provide flexibility for different types of streets, areas, and travelers to enhance the transportation experience and increase their combined efficiency and effectiveness
- To maximize the use of federal funds to make strategic investments in our area's transportation system
- To provide greater capacity during times of emergency
- To encourage a proactive and consistent approach to Complete Streets within the KATS area.

Findings & Recommendations:

- Existing infrastructure that meets the standard for Complete Streets may include:
- Continuous sidewalk on at least one side of roadway
 - Wide paved shoulder or 4ft or more
 - Designated bike lane in roadway
- Shared use path wide enough to accommodate pedestrians and bikes
- If no existing non-motorized facilities are present, road agency must submit Complete Streets proposed design for KATS review
- Transit facilities will provide a safe and comfortable location for riders to access transit
- Transit facilities will be updated to an appropriate level of amenities for the area
- Coordination between local transit agency and road commission on any projects with transit routes involved

2014 – Michigan Avenue and Stadium Corridor Charrette Study

(KATS, City of Kalamazoo, MDOT, Kalamazoo College, WMU)

Overall goal: Present a vision for the future of Kalamazoo's main street and offer potential changes that provide a balanced roadway that accommodates all users and drives economic development.

Findings & Recommendations:

- The study did not look at the entire network, just Michigan and Stadium
- The plan recommends Michigan Ave remain one-way
- Add curb landscaping and separated 2-way cycle track between Main Street and Rose on Michigan Ave that then shifts to Water Street

- Add a shared-use path along Stadium picking up at Main Street
- Traffic calming through the addition of bike lanes, heavy streetscaping with curbs, bump-outs, wider sidewalks, and lane reductions to achieve a more bike and pedestrian-friendly ROW

2014 – An Analysis of Residential Market Potential

(City of Kalamazoo, Zimmerman/Volk Associates, Inc.)

Overall goal: To determine the annual market potential for new urban housing units that could be developed over the next several years within the ‘in-town’ neighborhoods of Kalamazoo.

Findings & Recommendations:

- Support a diversity of land uses including housing, office, retail, civic and public uses that are connected by a street network as seamlessly as possible
- Promote public open spaces.
- Support a quality public realm interconnected by pedestrian-ways, sidewalks, and public streets fronted by private or public uses, not parking lots and garage doors.
- Support connectivity to promote neighborhood sense of place
- Support many transportation options: walking, biking and public transportation, as well as the automobile
-

2014 – Michigan Municipal League Place Plan

(City of Kalamazoo, Michigan Municipal League)

Overall goal: Develop a district dedicated to human well-being that provides access and interaction on a human scale. This will be achieved partially through an improved streetscape and transportation system that has increased walkability, intentional placemaking, improved access, circulation, alternative transportation, and transit options.

Findings & Recommendations:

- Drive reinvestment along Portage Street using Redevelopment Ready Communities
- Rezone to facilitate walkable mixed-use development
- Ensure plan and zoning designations support strong pedestrian-oriented facades along the street
- Implement complete streets
- Identify opportunities for road diets or similar low-cost treatments to increase neighborhood access
- Identify needs and opportunities for all travel modes
- Strengthen bicycle and transit links from Edison neighborhood to WMU main campus
- Expand access to employment centers and human services by adding crosstown or grid routes to the downtown hub-and-spoke system

- Ensure that bike racks and similar facilities are convenient to bus stops
- Consider a pre-paid transit pass system for downtown employees
- Make three-lane Portage Street the gateway to the health and wellness district
- Take an incremental, opportunistic approach to build out Portage Creek Greenway

2014 –Walkability Workshop: Kalamazoo, Michigan

Overall goal: Improve walkability for users of all ages and abilities in the downtown.

Findings & Recommendations:

- One-way versus two-way traffic emerged as a key issue early in the events.
- Add 5 ft. bike lane in each direction on Michigan and Kalamazoo
- Improve walkability by converting to 2-way and road dieting W Michigan Ave and Kalamazoo Ave
- Convert streets to 2-way and improve walkability with road diets
- Reduce travel lanes on Michigan and Kalamazoo from 4 to 3 (one 10-ft in each direction and a 10-ft. middle turn lane)
- Maintain parking adjacent to curb on both sides of street
- Implement complete streets program throughout greater downtown
- Downtown area is primed for development & improving walkability and livability will promote revitalization; with rapid development, appropriate urban-style zoning and transportation policies must be put in place that reflect the community's vision
- Add curb extensions at the intersection of E. Crosstown Parkway and E. Vine St.
- Create easy-to-use downtown maps for pedestrian orientation and access
- Identify pedestrian crosswalk locations at which to install auditory signals
- construct roundabouts at merge points of 1-way intersections
- Meet with community college and hospital leaders to discuss parking management
- Improve public access to Portage Creek

2016 – Downtown Kalamazoo Five Year Transportation, Parking, and Mobility Plan

(City of Kalamazoo, TPM, DDA)

Overall goal: To help transform downtown Kalamazoo into a more walkable community that is less vehicle dependent and more pedestrian-friendly by helping make the parking system operate more effectively and efficiently with transportation and mobility. Two major objectives are:

- Reduce the amount of land consumed by parking
- Reduce the amount of TIF support to the parking system

Findings & Recommendations:

- Reduce amount of land use for parking in exchange for uses that increase land value, tax base, and municipal revenue

- Add improved signage and enhanced lighting
- Integrate the parking system with non-motorized mobility and transit options
- Improve and develop the parking system to promote walkability and alternative transportation options and discourage auto dependency
- Support bike share and technology enhancements
- Promote alternative transportation options such as a trolley or shuttle and car and bike share systems
- Enhance the convenience and efficiency of the parking system with new technologies and improved marketing, education, and signage
- Contribute to a more walkable and sustainable downtown

2016 – KATS 2045 Transportation Plan

(KATS)

Overall goal: Provide the backbone for the KATS planning activities and the future transportation system of the Metropolitan Planning Area. To provide a safe and balanced regional multimodal transportation system that increases the vitality of our society, economy and environment for business, residents and future generations.

Findings & Recommendations:

- Improve urban-rural connections to support regional economic development
- Increase number of TIP projects for bike and pedestrian infrastructure
- Increase the availability of alternative transportation modes
- Support a regional transportation vision that supports multimodal options
- Increase transit total revenue service hours
- Improve safety of the transportation system
- Reduce congestion on NHS.
- Enhance system performance while protecting and enhancing the natural environment
- Reduce on-road mobile source emissions affecting air quality
- Increase the percentage of federal funds invested in Environmental Justice tracts
- Mitigate and minimize disproportionate negative impacts on Environmental Justice communities

2016 – Downtown Kalamazoo Road Safety Audit

(MDOT, OHM Advisors)

Overall goal: Utilize an independent, multidisciplinary team to identify safety issues for all roadway users. This goal is completed by engaging local stakeholders and gather traffic & safety data to develop an understanding of the project limit shortcomings. A field review is conducted, issues identified, and alternatives developed for consideration by MDOT and local agencies.

Findings & Recommendations:

Pedestrian Safety

- Install high visibility crossings throughout the study region
- Install a mid-block crossing on Riverview Drive near Hotop Avenue
- Improve the sidewalk along the west side of the street on Riverview Drive near Hotop Avenue
- Install a bus landing at the bus stop location on Riverview Drive near Hotop Avenue
- Install curb extensions throughout the study region Add leading pedestrian walk signs, install a R10-5L sign, reorient curb line and remove abandoned utility pole on West Michigan Avenue at Lovell Street
- Create city-wide Non-Motorized Master Plan and Asset Management program that ensures pedestrian facilities are connected and meet ADA standards
- Reconstruct the northeast corner of the intersection of Kalamazoo Avenue at Parks Street Move the planter, add a R5-1R sign at intersection of East Michigan Avenue at Portage Street

Bikes

- Install advance warning signs on approach to pedestrian bridge underneath East Michigan Avenue

Signal Modernization

- Modernize all deficient signals to a box span design with countdown pedestrian signals, ADA ramps, and pushbuttons (potentially with audible pushbuttons)
- Incorporate mast arms with lighted street names in the box span designs

Geometrics

- Provide consistent shoulder treatment along Stadium Drive
- Convert Riverview Drive to a three-lane roadway with a center TWLTL
- Realign intersection of West Michigan Avenue/West Main Street and Michikal Street
- Realign sidewalk on East Michigan Avenue near Harrison Street

Railroad and Fencing

- Place additional protective fencing on east side of tracks on Stadium Drive near Howard Street
- Add pedestrian crossing arms to all pedestrian railroad crossings
- Install R8-8 signs in front of railroad crossing on Kalamazoo Avenue near Porter Street

Pavement Markings

- Add pavement markings to delineate parking spaces and edge lines throughout study region Add a second set of turn symbol pavement markings at intersection of Stadium Drive at West Michigan Avenue
- Lay down turning guide markings at various locations Incorporate side-by-side left turn lanes on West Michigan Avenue near Academy Street
- Add pavement markings to delineate vehicle paths on northbound approach at intersection of West Michigan Avenue/West Main Street at Michikal Street

- Restripe missing center skip lines, add channelizing striping for northbound right turn to East Michigan Avenue, and narrow the hatched median on Riverview Drive between Mills Street and East Michigan Avenue
- Stripe a double-yellow centerline on Walbridge Street
- Signs
- Install W11-2 and W16-7P signs at various crossings
- Install various missing signs, remove unnecessary signs, relocate signs at wrong location and fix incorrect signs throughout study region
- Remove obstructions/vegetation blocking signs
- Complete signing upgrade project throughout study region
- Increase size and visibility of street name signs throughout study region
- Upgrade overhead guide sign on eastbound West Michigan Avenue to Westnedge Avenue
- Upgrade overhead guide signs on the truss on Kalamazoo Avenue before Michikal Street

Access Management

- Perform access management study within study region

2017 – City Wide Charrette

(City of Kalamazoo)

Overall goal: Gather community input about downtown streetscape, placemaking, and other improvements.

Findings & Recommendations:

- Opportunities for surface parking lot infill
- Opportunities to activate currently underutilized and enclosed green space
- South Street at Bronson Park: enhance event space with food truck parking with improved "dining experience," improved streetscape, no curbs, wider pedestrian promenade, seating opportunities, shade, entertainment space, link to mall
- Sidewalk in disrepair in areas with depressed commercial activity
- Add sidewalk improvements such as refuse and recycling containers
- Often no barrier between sidewalks and street
- Add pedestrian improvements at South and Rose such as protective bollards, bump outs, visible striping on crosswalk, plantings, pedestrian-scaled street lights, etc.
- Add and widen sidewalks, add appropriate street trees, add planter seating and low bushes/plants for visual buffer from cars, add parallel parking and bike lane
- Metered parking structures and spaces have different rates, which is confusing and should be addressed
- Metered parking often located where non-metered parking should be and vice versa

2017 – Downtown Kalamazoo Retail Market Analysis (draft)

(Gibbs Planning Group)

Overall goal: Improve the retail market in downtown Kalamazoo.

Findings & Recommendations: This study finds that the Downtown Kalamazoo study area can presently support up to 27,800 square feet (sf) of new retail and restaurant development, generating nearly \$5.3 million in sales. Alternatively, with recommended physical and policy changes to the downtown's operations, the study area could support up to 156,500 sf of new retail and restaurant, producing up to \$51.6 million in gross sales.

- Convert all downtown one-way streets to two-way to improve retail access
- Promote additional on-street parking
- Improve the physical environment of downtown to attract new retail businesses and promote economic development
- Improve connections between downtown retail market, students, and office users
- Create an inviting pedestrian-friendly streetscape
- Expand on-street parking in the downtown, especially in or near the mall
- Install parking meters along all commercial streets and offer 2 hours of free parking in public garages

2017 – Imagine Kalamazoo Master Plan & Strategic Vision Plan

(City of Kalamazoo)

Overall goal: The Strategic Vision states the goals for the entire City. The Master Plan creates policy direction for land development and transportation, including zoning and policy updates to implement the vision.

Findings & Recommendations:

- Maintain and develop a network of streets that respond to the needs of the neighborhoods by supporting future land use and transportation goals
- Support mixed use development to promote walkability
- Improve wayfinding signage, pavement markings, and route configurations for all transportation modes
- Convert all downtown one-way streets to two-way (Discussed in the Downtown Life section)
- Develop and maintain a complete network of pedestrian and bike infrastructure of trails, bike lanes, sidewalks, crosswalks, and connectivity to public transit
- Create a comfortable pedestrian environment with wider sidewalks, street furniture, street trees, reduced traffic speeds, pedestrian lighting, mid-block crossings, pedestrian-activated crossing lights, bump-outs and curb extensions, on-street parking that buffers pedestrians

- Development adjacent to creek-side or riverside areas should incorporate compatible design and landscaping, including appropriate setbacks and plant species that are native to the area or are compatible with native species

2017 – KATS Pedestrian, Greenway, and Transit Plan

(KATS, AECOM)

Overall goal: To improve linkages between the existing transit network and the non-motorized infrastructure in the region by:

- Increasing transit, bicycle and pedestrian mode share through planning for an integrated network of facilities
- Identifying greenway corridors that can best protect natural resources while providing transportation connections
- Defining and prioritizing greenway projects while determining their financial feasibility

Findings & Recommendations:

- Upgrade crosswalk visibility through road markings, curb extensions and signage
- Add fully modernized traffic signals adding actuation, countdown pedestrian heads, and pedestrian crossing pushbuttons
- New facilities are suggested on the north-south streets of Westnedge, Park, Burdick, Edwards and Pitcher/Portage Creek, and on the east-west streets of Lovell, South, Main, Michigan and Kalamazoo
- Slow cars through curb radius reduction
- There are currently studies underway by the City of Kalamazoo and Michigan Department of Transportation that could potentially change the network of one-way streets traveling through the downtown, and safety improvements for major intersections could be given priority in those efforts

FOCUS AREA DOWNTOWN KALAMAZOO

Crash Characteristics

Nearly 100 bicycle and pedestrian crash incidents have occurred in the Downtown area between 2010 and 2015, with the significant majority occurring at intersections. Most of the major intersections downtown have had at least one crash incident over the past six years.

In an area this large and varied, a variety of remedies to the safety issues are needed to reduce crashes, including dedicated bicycle facilities and upgraded pedestrian facilities. There also appears to be more total crashes and more crashes resulting in injury on the streets with higher volumes and speeds.

There are currently studies underway by the City of Kalamazoo and Michigan Department of Transportation that could potentially change the network of one-way streets traveling through the downtown, and safety improvements for major intersections could be given priority in those efforts.

Crossing distances, lane counts and speed limits vary widely throughout the downtown. AADT ranges from 1,500 to over 36,000.

Safety Improvements

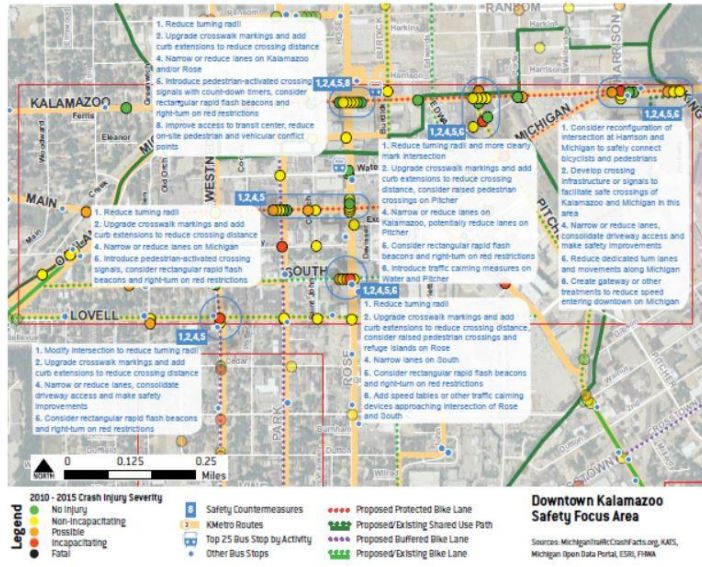
Downtown covers a large and diverse geography, however several intersections and portions of roadway stand out as requiring near term attention.

Areas suggested for priority improvement within downtown are shown at right, and potential treatments to consider include slowing cars through curb radius reduction, upgrading crosswalk visibility through road markings, curb extensions and signage. Add fully modernized traffic signals adding actuation, countdown pedestrian heads, and pedestrian crossing pushbuttons.

New facilities are suggested on the north-south streets of Westnedge, Park, Burdick, Edwards and Pitcher/Portage Creek, and on the east-west streets of Lovell, South, Main, Michigan and Kalamazoo.

Countermeasures Key

1. Intersection Treatments and Design
2. Crossing Areas
3. Sidewalks and Shoulders
4. Roadway Design
5. Markings, Signs and Signals
6. Traffic Calming
7. Shared Roadway Treatments
8. Transit Access



Downtown Kalamazoo Safety Focus Area
Sources: MichiganTrafficCrashFact.org, MDT, Michigan Open Data Portal, ESRI, FHWA



DRAFT: AUGUST 2017

FOCUS AREA WESTNEDGE FROM CEDAR TO MAPLE

Crash Characteristics

In the study period, 36 crashes occurred in this area, with severe crashes equally affecting bicyclists (3) and pedestrians (3). However, a majority of crashes occurred at intersections – 72% – and these tended to affect bicyclists (16) more than pedestrians (10).

Westnedge is generally a three lane, one-way southbound road throughout this area. Some sections with neighborhood retail in the northern area of the segment have on-street parking on one or both sides of the street, or dedicated turn lanes; in these sections the lane count is reduced to two. The crossing distance is generally 40 feet from curb to curb.

AADT through this section of S. Westnedge ranged from about 11,000 to 13,700. The speed limit is generally 35 mph along this segment.

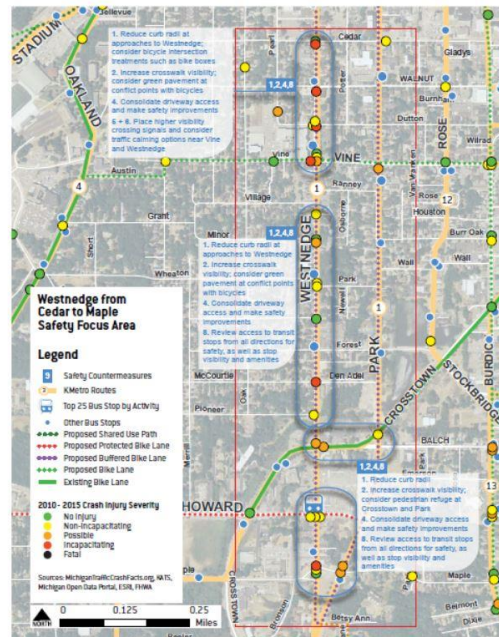
Safety Improvements

Buffered bike lanes are proposed for the main north-south thoroughfares in this focus area, Westnedge and Park, along with a new bike lane on Vine and a protected bike lane on Howard near a top 25 bus stop for the KMetro system on Route 1.

Safety strategies include tightening curb radii to slow approaches at intersections along Westnedge, and also crosswalk and driveway improvements. At Vine and Westnedge traffic calming and increased pedestrian signalization is recommended, while a potential crossing refuge is suggested for the intersection of Crosstown and Park.

Countermeasures Key

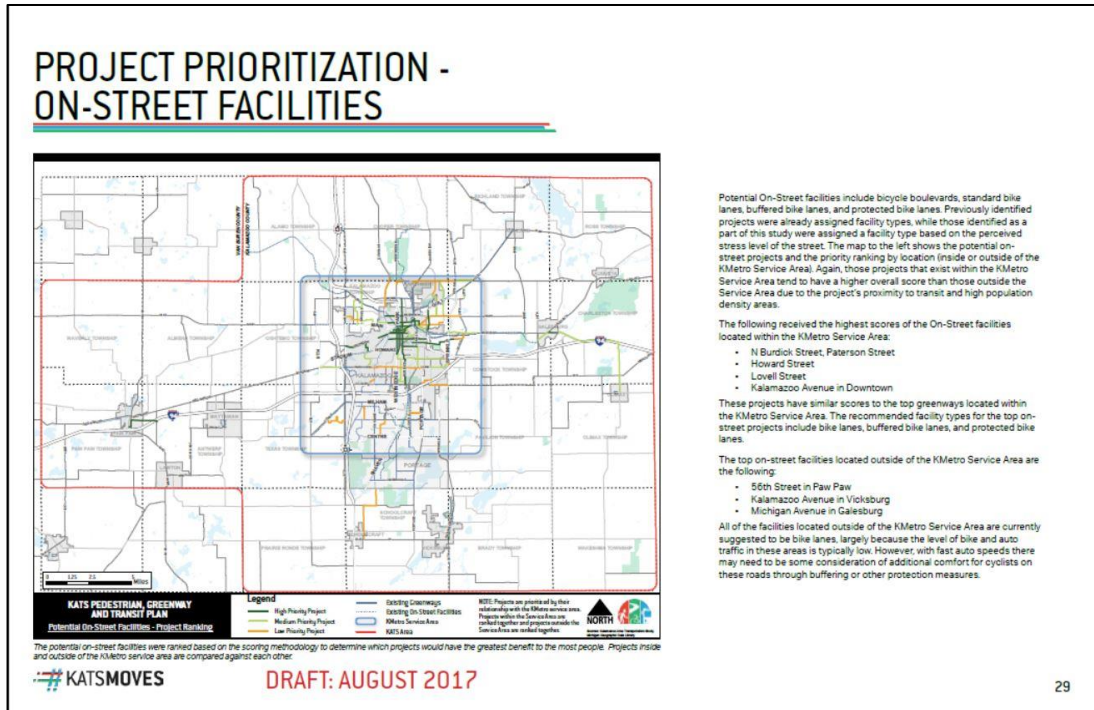
1. Intersection Treatments and Design
2. Crossing Areas
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Westnedge from Cedar to Maple Safety Focus Area
Sources: MichiganTrafficCrashFact.org, MDT, Michigan Open Data Portal, ESRI, FHWA



DRAFT: AUGUST 2017



2018 – City of Kalamazoo Complete Streets Policy

(City of Kalamazoo)

Overall goal: The purpose of the City of Kalamazoo’s Complete Streets policy, therefore, is to accommodate all road users by creating a road network that meets the needs of individuals utilizing a variety of transportation modes.

Findings & Recommendations:

- Complete Streets design recommendations shall be incorporated into all publicly and privately funded projects, as appropriate
- Maintain a comprehensive inventory of pedestrian and bicycle facility infrastructure that will prioritize projects to eliminate gaps in the sidewalk and bikeway network
- Reevaluate Capital Improvement Projects prioritization to encourage implementation of Complete Streets implementation
- Train pertinent town staff and decision-makers on the content of Complete Streets principles and best practices for implementing policy through workshops and other appropriate means
- Utilize inter-department coordination to promote the most responsible and efficient use of resources for activities within the public way
- Seek out appropriate sources of funding and grants for implementation of Complete Streets policies