WESTERN MICHIGAN UNIVERSITY
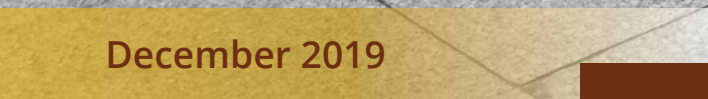## TRANSPORTATION MASTER PLAN

PROJECT STEERING COMMITTEE

The Transportation Master Plan process has been guided by a Steering Committee, consisting of representatives from a variety of WMU departments and student groups. The Steering Committee has been engaged during project initiation and visioning efforts and has advised on the assessment of existing conditions that were addressed in the Existing Conditions Report. They have also informed the broader campus and community engagement process, ensuring that key stakeholders were provided with opportunities for input throughout the planning process.

Name	Title	WMU Department/Office
David Dakin	Director of Planning, Space Mgmt. & Capital Projects	Facilities Management
Katie Jacobs	Architectural Project Manager	Facilities Management
Haylee Knowles	Senior Executive Assistant	Office of the Provost
Valerian Kwigizile	Associate Professor	Civil & Construction Engineering
Janice Quakenbush	Director of Finance & Infrastructure	Office of Student Affairs
John Seelman	Director of Engineering	Facilities Management
Cindy Town	Senior Administrative Assistant	Office of Institutional Equity
Timothy Unangst	Captain	Parking Services
Christopher Voss	Sr. Associate Dir. Of Business Operations	University Recreation

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Students crossing Ring Road North from Goldsworth Valley Pond

1

EXECUTIVE SUMMARY

The Transportation Master Plan

Over the years, Western Michigan University (WMU) has focused on campus planning and investment in a somewhat piecemeal manner, honing in on specific campus geographies or facilities. Although transportation, and parking in particular, has been a consistent focal point for many of these efforts, WMU had not completed a comprehensive and holistic assessment of campus transportation that includes programs, services, and facilities, keying in on understanding the user experience from its students, faculty, staff, and visitors.

This Transportation Master Plan (TMP) will guide WMU through a series of comprehensive, strategic, and practical improvements to campus mobility within a defined timeline, from near-term "quick wins" (e.g., within months) to long- term opportunities (e.g., 10 years). The TMP addresses challenges connected to travel safety, internal connectivity, parking management, shuttle bus programming and operations, transportation programming, and administrative policies.

This document outlines specific recommendations for all modes of transportation, providing a standing resource to support and complement Western's ongoing strategic planning and investment efforts, and to foster growth and development for all WMU community members.

Campus Wayfinding at International Flags Plaza

> **The TMP will guide WMU through a series of comprehensive, strategic, and practical improvements to campus mobility."**

Plan Elements

This document begins with an overview of the Vision and Goals established by the Steering Committee, in coordination with the Plan's engagement efforts. The engagement efforts are summarized in the following section and included four (4) open houses, a campus transportation survey, and a series of focus group meetings with key stakeholders. The Plan's Existing Conditions Assessment and Plan Strategies are summarized around the following key themes:

- **Parking**

- **Transit**

- **Active Transportation (walking & biking)**

- **Traffic & Circulation**

- **Transportation Demand Management**

The Plan concludes with an Implementation Plan, including a series of near-term action steps and cost estimates, quick wins, and medium to long-term considerations.

Bike parking outside of Sangren Hall

TMP Vision

As a nationally and internationally recognized university of choice, Western Michigan University will create a campus that is accessible to all by providing a sustainable network of transportation options that engender a safe, convenient, walkable, and vibrant place where our community can live, learn, discover, work, and engage.

TMP Goals

As part of the development of the "Vision and Strategy Development Framework," the TMP Vision and Goals established the core values and desired outcomes of the Plan. The Framework also included more specific objectives - tied to each goal - that helped to guide the development of the strategies and recommendations in the final Plan.

Increase Connectivity to Downtown Kalamazoo and Adjacent Neighborhoods: Leverage and enhance physical connections between campus and community for shared benefit and strengthened ties.

Create a Safe and Walkable Campus: Improve safety and connectivity through the design and maintenance of sidewalks, pathways, streets, & intersections and supporting programs & services.

Build a Comprehensive and Well-Used Bicycle Network: Foster a healthy, sustainable and connected campus with safe, comfortable, and contiguous bicycle accommodations to and through campus.

Provide Robust, Efficient, and Convenient Transit Service that serves the needs of all users: Support coordination and enhancement of Bronco Bus and Metro Transit services to grow ridership and accommodate trips to, within, and between campuses.

Provide and manage efficient and adequate vehicle parking accommodations: Focus on a comprehensible, convenient, right-sized parking system that serves the diverse needs of students, employees, and visitors.
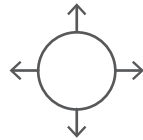
Highlight Mobility and Access as a tool to attract and retain: Provide mobility programs, services, and amenities that help WMU stand out as a desirable destination for students, faculty and staff.

Create and Enhance Campus Accessibility for users of all abilities: Remove barriers, provide amenities, and become a model in campus accessibility.

Integrate Technology and Emerging Mobility options into TMP solutions: Plan for smart investment in near- and long-term future of campus mobility through integration of emerging best practices and projection of future needs.

Prioritize Cost-Effectiveness: Understand cost-benefit and risks of transportation investments and impacts on broader University fiscal health.

Support the Redevelopment of the WMU Campus: Implement sustainable and forward-thinking transportation projects and programs that align with the strategic goals of the Gold Standard and Campus Master Plan.

Community Engagement at Fall 2019 Open House

2

COMMUNITY ENGAGEMENT

Engagement

Open Houses

The engagement process was guided by the Steering Committee and began with a comprehensive campus transportation survey in April – May 2019. Two spring open houses were held on April 3rd and 4th at the Bernhard Center and were attended by more than 100 faculty, staff, students, and community members. Focus group meetings were also held in the spring with a series of on- and off-campus stakeholders, including:

- **Transportation Master Plan Steering Committee**
- **WMU Office for Sustainability**
- **Western Student Association**
- **Residence Housing Association**
- **Office of Disability Services for Students**
- **WMU Administrative Professional Association (APA)**
- **City of Kalamazoo**
- **Kalamazoo Metro Transit**
- **Kalamazoo Area Transportation Study**

The Plan's evolving themes and strategies were shared in June at WMU's Summer Conference on Livable Communities and during focus group sessions with students and representatives from adjacent Kalamazoo neighborhoods.

Two fall open houses were held on September 26th at the Bernhard Center, with the campus community providing valuable feedback on draft strategies that informed the final recommendations in this plan.

A project website was hosted by the Office of Capital Projects at https://wmich.edu/capitalprojects/parking-transportation-study.

WESTERN MICHIGAN UNIVERSITY

TRANSPORTATION MASTER PLAN AND HILLTOP VILLAGE ROADWAY
PUBLIC OPEN HOUSE

Schedule

26 **Thursday September 26th**
Two Sessions:
❶ 12:00 - 1:30 PM
❷ 5:30 - 7:00 PM

Bernhard Center Lobby
on WMU's main campus

Refreshments will be provided

Please join us on Thursday, September 26th to review the findings from the Parking and Transportation Study and provide input on the Hilltop Village roadway.

Drop in at the Bernhard Center during one of the two sessions listed above to meet with the project teams and learn more.
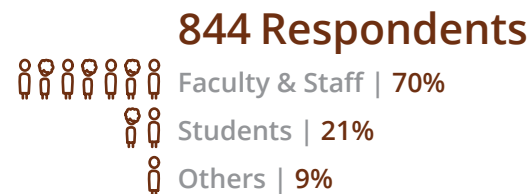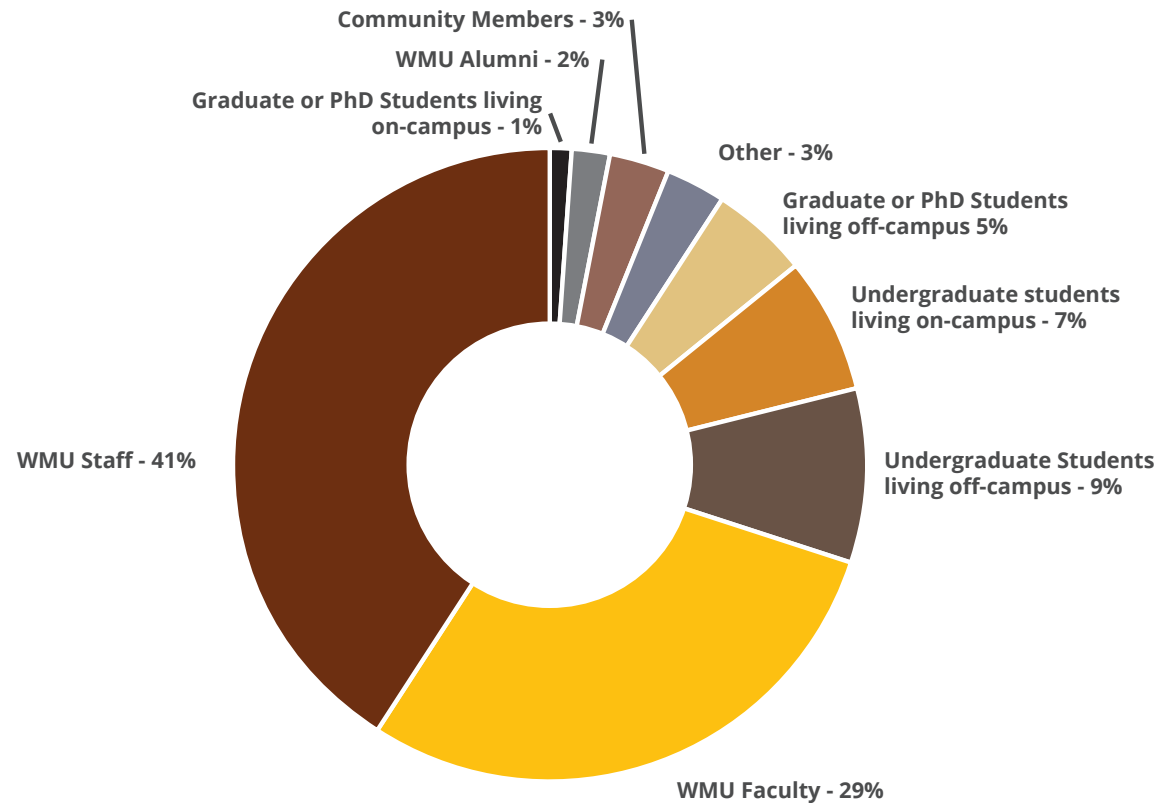
Additional information about the Transportation Master Plan efforts can be found online at:
wmich.edu/capitalprojects/parking-transportation-study

What we heard:

- The **walking campus** is a shared goal, but remains a work-in-progress.

- Today's campus is a **"drive first"** and often "drive again" destination.

- **Parking supply is ample**, but the current system does not work well for all users.

- **There is a strong desire to ride bicycles, scooters, skateboards, etc.**, but campus and nearby infrastructure is not supportive.

- **Accessibility for people with disabilities** should be a key focus.

- The **environmental and carbon impacts** of the transportation system should factor into plan strategies.

- **Change is coming** and the community (on-campus and adjacent) is optimistic!

Campus Survey | Respondents

Community Members - 3%
WMU Alumni - 2%
Graduate or PhD Students living on-campus - 1%
Other - 3%
Graduate or PhD Students living off-campus 5%
Undergraduate students living on-campus - 7%
Undergraduate Students living off-campus - 9%
WMU Faculty - 29%
WMU Staff - 41%

844 Respondents

- Faculty & Staff | **70%**
- Students | **21%**
- Others | **9%**

Additional Plan Principles

What WMU does on-campus will enhance the community as a whole.
WMU's impacts will continue to uplift adjacent neighborhoods and Greater Kalamazoo.

Address the perception (real/imagined) of the ease of parking; make this a non-issue.
It should be easy to get here, but we want this to be a pedestrian campus once people have arrived.

Improve the functionality of the Ring Road.
Make it more amenable to all users, without worsening existing automobile congestion and delays.

Avoid increasing the cost of attending WMU.
Enrollment and graduation rates have been on a 10-year decline and increasing fees can lead to attrition.

Ensure that changes do not impede WMU's ability to pay for mobility services.
Parking fees fund a variety of important transportation services, from busing to roadway maintenance.

Move away from surface parking.
As campus develops, increase density and add green space, and prioritize strategically located parking decks to replace surface lots.

Look to peer universities for pricing strategies and approaches to parking management.
Explore "tiered" parking approach based on geography, user group, and other factors.

Address "change management" and evaluate the risk of recommended approaches.
Ensure that, overall, we have a net positive impact on student experience, attraction, & retention.

Looking North from Sprau Tower

3

EXISTING CONDITIONS

The Existing Conditions Report presents the results of the first phase of the TMP: A comprehensive assessment of current conditions, services and programs, derived from analysis of existing and newly collected data, conversations with key stakeholders, and direct observation of conditions on and around campus. The report identifies physical, policy, and programmatic deficiencies and illuminates opportunities that align with WMU goals and objectives.

WMU has more than 22,500 students, with approximately 80% undergraduate and 20% graduate enrollment. 82% of the student body is comprised of Michigan residents, with another 8 percent coming from outside of the United States. WMU offers 265 degree programs across 10 academic colleges and affiliated professional schools and has an annual economic impact of $1.6 billion. WMU plays an important role in the Kalamazoo community, providing broad and comprehensive educational opportunities, a major employment center, and a regional hub for cultural and lifelong learning.

WMU has four Kalamazoo-area campuses, including two adjacent campuses in the heart of Kalamazoo, one in the Colony Farm neighborhood, and one in nearby Battle Creek, east of Kalamazoo. The TMP focuses primarily on the West or "Main" Campus, which is the academic core of the University and a vibrant center of student activity and the adjacent East Campus, which is home to multiple athletic fields and facilities, the School of Medicine, and the College of Health and Human Services.


Source: Fishbeck, Inc.

Home Location

The geographic distribution of students and faculty/staff varies significantly. 50% of all students live within 1 mile of campus, while less than 15% of faculty/staff live within this same range. Conversely, nearly 50% of all faculty staff live more than 5 miles from campus.
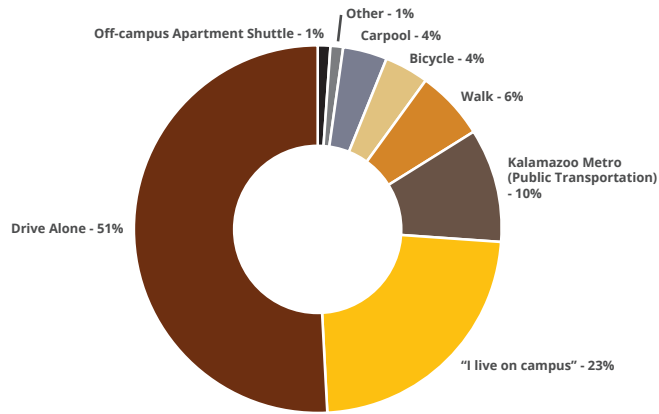
As the two maps on this page illustrate, **a substantial number of students and employees live within 3 miles of campus**. This is a comfortable distance for bicycle and transit commutes and speaks to the opportunity to shift travel behaviors through the strategies and recommendations developed in this plan.
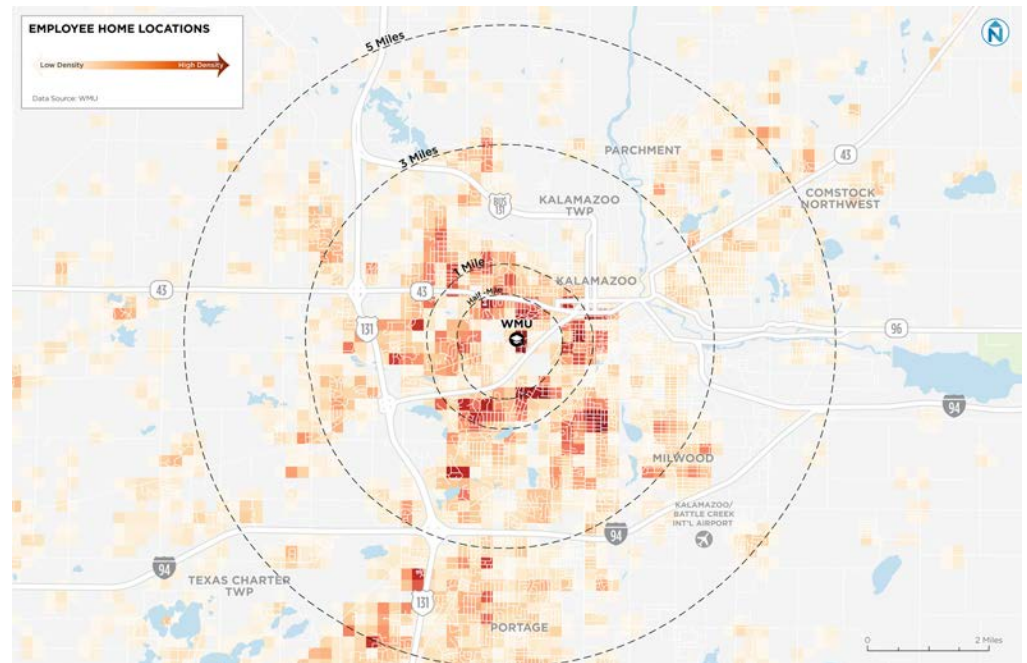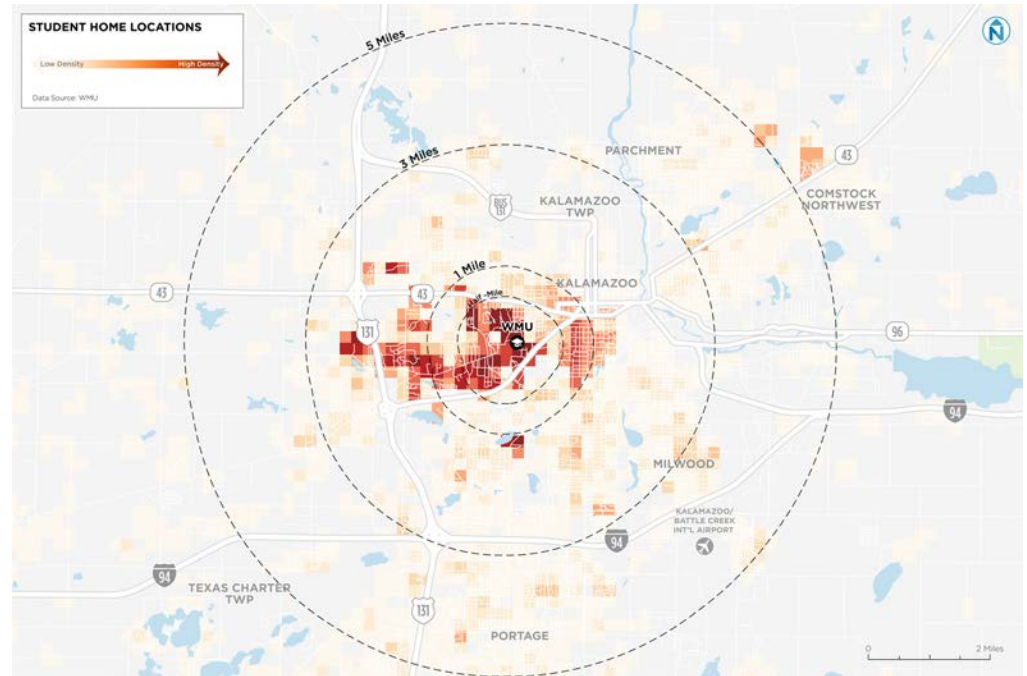
Travel Behaviors

Survey results indicate that students are far more likely to either **live on-campus** or arrive by **non-drive-alone modes.** However, both students and employees demonstrate a willingness to **try other travel modes** from time to time.
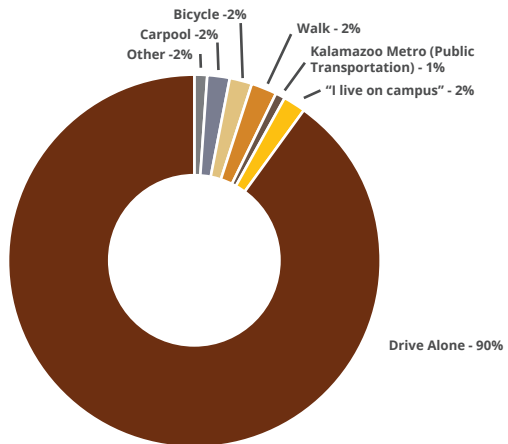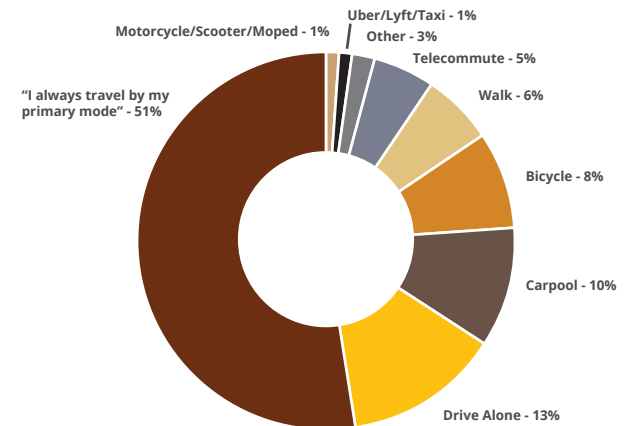
Primary Commuting Mode | Students

Other - 1%
Off-campus Apartment Shuttle - 1%
Carpool - 4%
Bicycle - 4%
Walk - 6%
Kalamazoo Metro (Public Transportation) - 10%
Drive Alone - 51%
"I live on campus" - 23%

Secondary Commuting Mode | Students

Telecommute - 1%
Motorcycle/Scooter/Moped - 1%
Off-campus Apartment Shuttle - 1%
Other - 3%
Uber/Lyft/Taxi - 5%
"I always travel by my primary mode" - 29%
Kalamazoo Metro (Public Transportation) - 9%
Drive alone - 9%
Bicycle - 11%
Walk - 17%
Carpool - 14%

Primary Commuting Mode | Employees

Bicycle -2%
Carpool -2%
Walk - 2%
Other -2%
Kalamazoo Metro (Public Transportation) - 1%
"I live on campus" - 2%
Drive Alone - 90%

Secondary Commuting Mode | Employees

Uber/Lyft/Taxi - 1%
Motorcycle/Scooter/Moped - 1%
Other - 3%
Telecommute - 5%
"I always travel by my primary mode" - 51%
Walk - 6%
Bicycle - 8%
Carpool - 10%
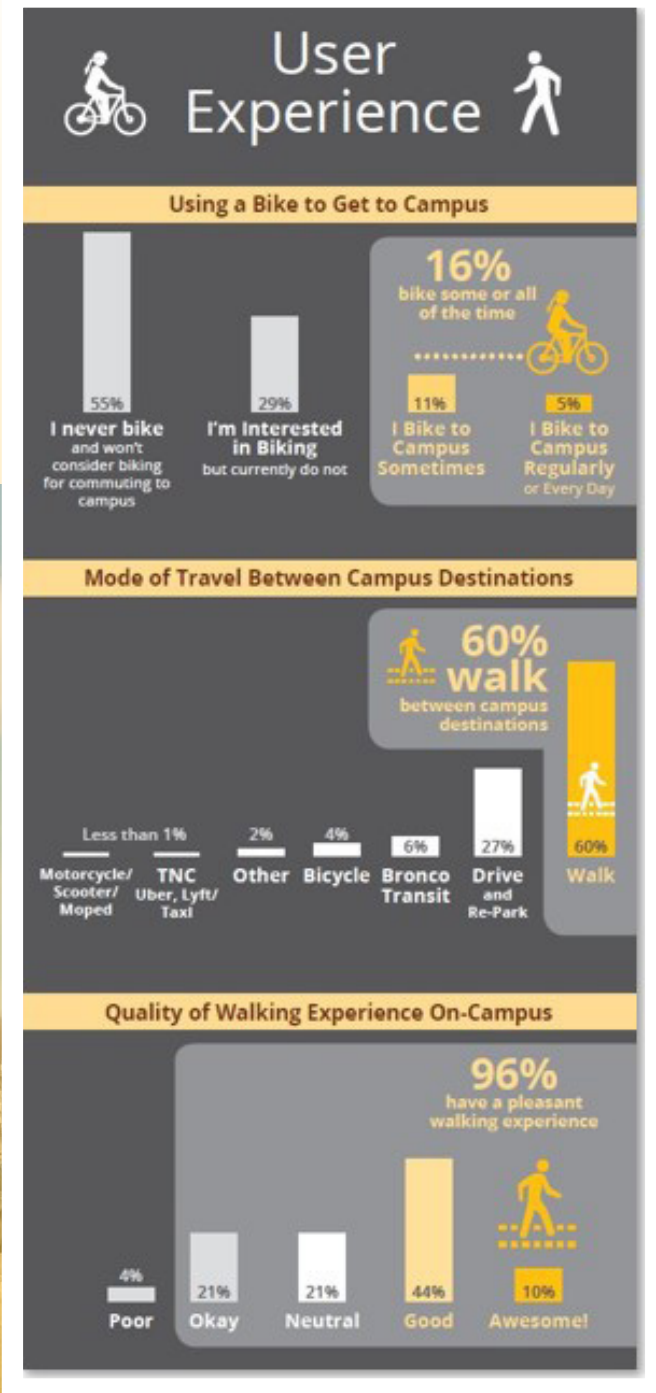Drive Alone - 13%

While the majority travel by foot, bicycle or Bronco Bus while on campus, **a significant share (27%) of survey respondents said that they drive and re-park between campus destinations.** This speaks to the opportunity to promote the features of a "park once" campus where non-driving options are the most convenient and attractive choices.

Ring Road South at Oliver

User Experience

Using a Bike to Get to Campus

16% bike some or all of the time

55% **I never bike** and won't consider biking for commuting to campus

29% **I'm Interested in Biking** but currently do not

11% **I Bike to Campus Sometimes**

5% **I Bike to Campus Regularly** or Every Day

Mode of Travel Between Campus Destinations

60% walk between campus destinations

Motorcycle/ Scooter/ Moped	TNC Uber, Lyft/ Taxi	Other	Bicycle	Bronco Transit	Drive and Re-Park	Walk
Less than 1%	2%	4%	6%	27%		60%

Quality of Walking Experience On-Campus

96% have a pleasant walking experience

Poor	Okay	Neutral	Good	Awesome!
4%	21%	21%	44%	10%

Parking
Supply

- Nearly 13,000 spaces on the West & East campuses

- ~3,000 spaces each dedicated for employees & commuting students; another 2,600 for on-campus student residents

- 0.62 spaces per student, which is slightly above the "peer" average of .58*

- $300 parking fee is also slightly above the peer average of $250

PARKING FACILITIES
- Resident Parking
- Commuter Parking
- Employee Parking
- Any Permit Parking
- Visitor Parking

Campus Building
Sidewalk/Pathway
Railroad

*peers included in this review were Central Michigan, Eastern Michigan, Northern Michigan, Grand Valley State, Kent State (OH), and University at Buffalo

Lots 72, 61, and 82 during the AM Peak

Source: Fishbeck, Inc.

Lots 34 and 128 during the PM Peak

Source: Fishbeck, Inc.

AM Peak Occupancy
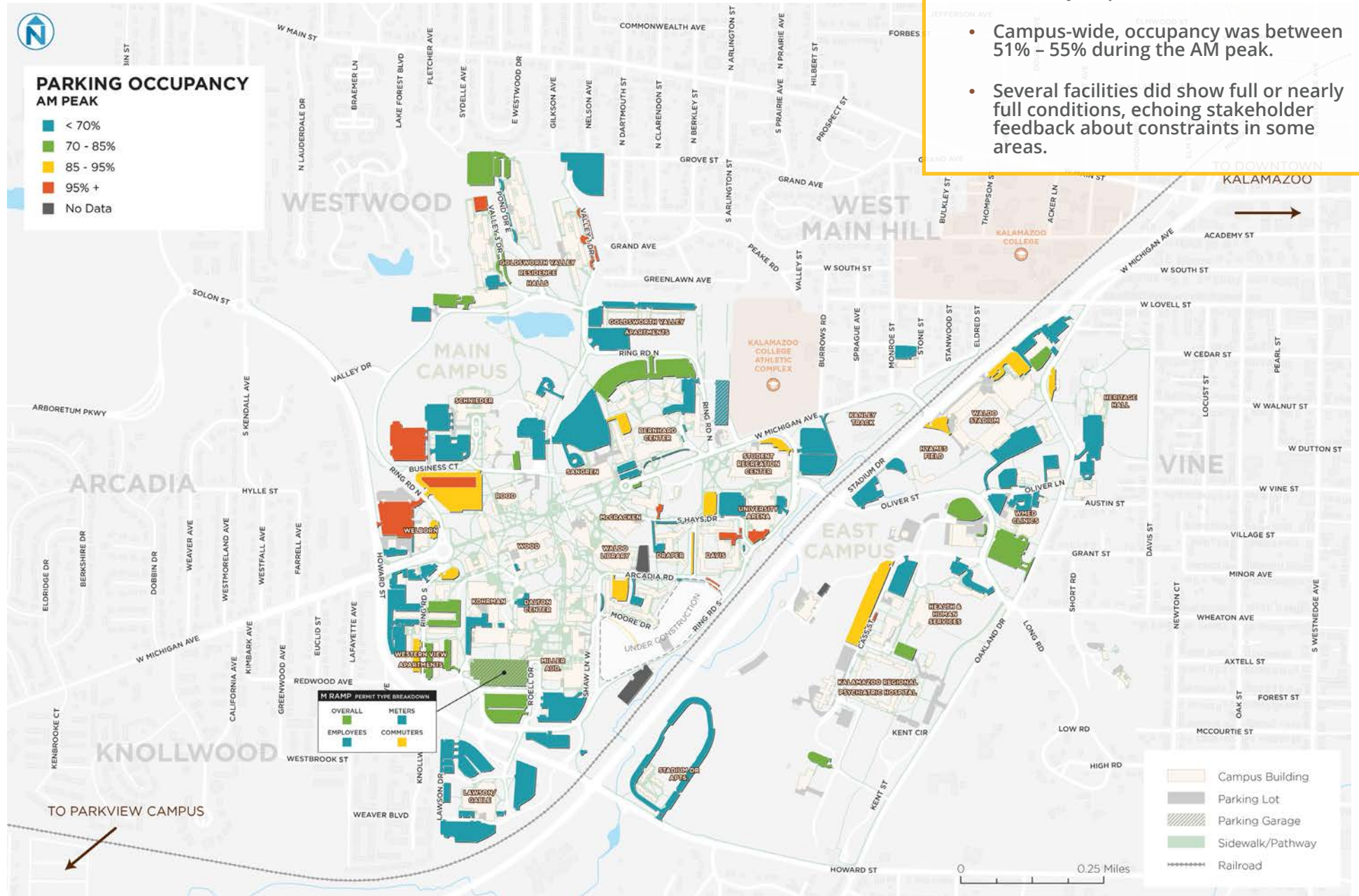
- Counts were performed between 9:30 AM – 12:00 PM on Wednesday and Thursday, September 25-26.

- Campus-wide, occupancy was between 51% – 55% during the AM peak.

- Several facilities did show full or nearly full conditions, echoing stakeholder feedback about constraints in some areas.

PM Peak Occupancy

PARKING OCCUPANCY
PM PEAK

- ■ < 70%
- ■ 70 - 85%
- ■ 85 - 95%
- ■ 95% +
- ■ No Data

M RAMP PERMIT TYPE BREAKDOWN

| OVERALL | METERS |
| EMPLOYEES | COMMUTERS |

- Campus Building
- Parking Lot
- Parking Garage
- Sidewalk/Pathway
- Railroad

0   0.25 Miles

- Counts were performed between 2:00 PM – 4:30 PM on Wednesday and Thursday, September 25-26.

- Campus-wide, occupancy was at 56% during the PM peak.

- Several facilities again showed full or nearly full conditions, echoing stakeholder feedback about constraints in some areas

This suggests an overall excess capacity of well over 4,000 spaces, meaning that the existing supply could accommodate over 4,000 more cars during the morning and afternoon peaks, without exceeding 90% utilization (an industry-standard measure of peak supply-demand efficiency). This, however, does not invalidate the user perception of scarcity, as it provides a high-level overview of the balance of supply and demand. At the user level, perception is created through what is experienced via "on the ground" experiences searching for available spaces.

Transit
Bronco Bus

BRONCO TRANSIT

BROWN ROUTE
Monday - Friday 7:29a - 7:52p

GOLD ROUTE
Monday - Thursday 7:22a - 12:18a
Friday 7:22a - 9:48p

OAKLAND ROUTE
Monday - Thursday 7:05a - 10:02p
Friday 7:05a - 6:02p

PARKVIEW ROUTES
- *Route 1* -
Monday - Thursday 7:05a - 10:51p
Friday 8:05a - 8:51p

- *Route 2* -
Monday - Thursday 8:35a - 9:21p
Friday 8:35a - 4:21p

TO DOWNTOWN KALAMAZOO

TO PARKVIEW CAMPUS

Legend:
- Campus Building
- Parking Lot
- Parking Garage
- Sidewalk/Pathway
- Railroad

0   0.25 Miles

Bronco Transit operates five bus routes on weekdays, and one route on Saturdays. Service is provided by Indian Trails, through contract with WMU. Fares are free for Western students, faculty, and staff. All but one of the routes is operated with a single vehicle and buses only stop at designated Bronco Transit stop locations.

Route	Frequency	Annual Ridership
Gold	30 Min	159,240
Brown	30 Min	157,097
Oakland	30 Min	53,620
Parkview Routes	45 Min	128,587

" Greater frequency of service, plus more dependable service and information, would improve the likelihood of some affiliates trying and regularly using transit."

Bronco Bus

Metro

Kalamazoo Metro Transit is the public transit agency operating in the greater Kalamazoo metro region. Metro Transit is operated by the Central County Transportation Authority (CCTA) and Kalamazoo County Transportation Authority (KCTA). As of 2019, Metro operates 20 fixed-route bus routes in the Kalamazoo region, including 5 that directly serve the West and East Campuses.

Riding Metro is free for WMU students, faculty, & staff with a valid Bronco ID card, through contract between Western and Metro. WMU is a key market for Metro services, second only to downtown Kalamazoo.

- WMU affiliates took **528,000 trips via Metro Transit** in 2017-18.

- The **Campus Loading Zone** accounts for more than **90% of arrivals/departures.**

- Other notes: Over **70% of students** and over **one-third of employees**, live within ¼-mile of either a Bronco Transit stop location or a Kalamazoo Metro stop location.

- 10% of surveyed students use Metro Transit as their primary commute mode **to campus** and 20% used Bronco Bus as their primary mode of travel once **on campus.**

- **Only 1% of surveyed WMU employees reported using Metro Transit** as their primary commute mode and 6% reported using Bronco Bus as their primary mode for on-campus trips.

Campus Loading Zone

Active Transportation
Pedestrian Network

WMU aspires to be a pedestrian-oriented campus, where walking is the predominant travel mode. Significant steps have been taken over the years to accomplish this vision, but it is still a work-in-progress. The Main Campus features a robust network of walking paths that connect internal campus destinations. Regional bicycle connections reach campus, but on-campus facilities are limited and WMU policies further restrict cycling and other active "wheeled" modes on campus pathways. Recently installed campus wayfinding provides navigational assistance to walkers as they wind through campus, orienting people to destinations and pathways. Pedestrian scale lighting is focused along these routes to illuminate primary walking paths during evening hours.

The campus's hilly topography presents challenges for walking, bicycling and people with disabilities, as do infrastructure conditions in some locations. Connections beyond campus to the surrounding neighborhoods are likewise challenging, due to the prevalence of large streets and complex intersections that present safety concerns.

Western Mall, looking east toward Haenicke

WALKING NETWORK

- Campus Sidewalk/Pathway
- Sidewalk on both sides of street
- Sidewalk on one side of street
- No Sidewalk on street

TO DOWNTOWN KALAMAZOO

TO PARKVIEW CAMPUS
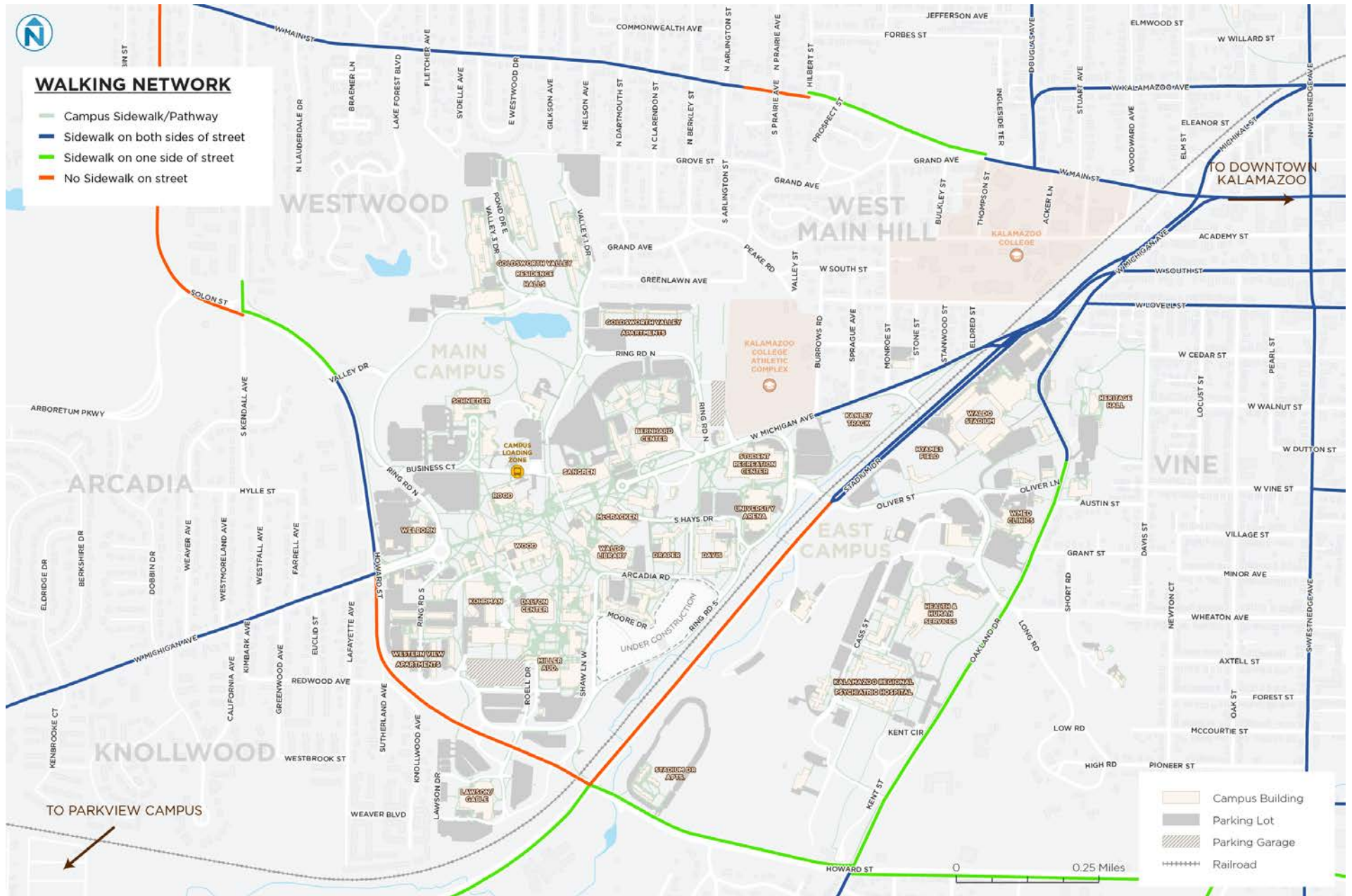
Campus Building
Parking Lot
Parking Garage
Railroad

0   0.25 Miles

WESTWOOD

WEST MAIN HILL

MAIN CAMPUS

ARCADIA

KNOLLWOOD

EAST CAMPUS

VINE

UNDER CONSTRUCTION
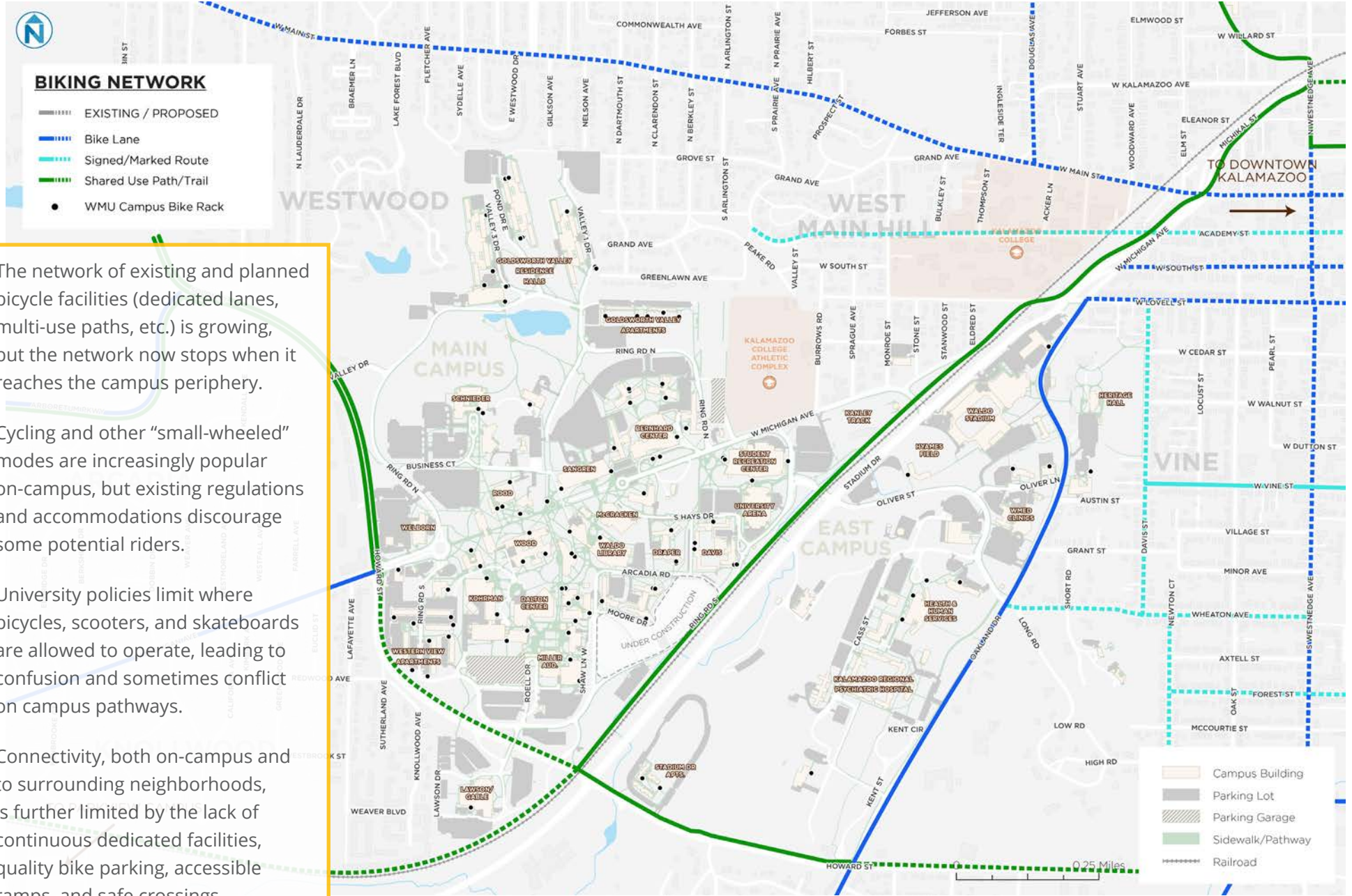
Bike Network

The network of existing and planned bicycle facilities (dedicated lanes, multi-use paths, etc.) is growing, but the network now stops when it reaches the campus periphery.

Cycling and other "small-wheeled" modes are increasingly popular on-campus, but existing regulations and accommodations discourage some potential riders.

University policies limit where bicycles, scooters, and skateboards are allowed to operate, leading to confusion and sometimes conflict on campus pathways.

Connectivity, both on-campus and to surrounding neighborhoods, is further limited by the lack of continuous dedicated facilities, quality bike parking, accessible ramps, and safe crossings.

BIKING NETWORK

- EXISTING / PROPOSED
- Bike Lane
- Signed/Marked Route
- Shared Use Path/Trail
- • WMU Campus Bike Rack

- Campus Building
- Parking Lot
- Parking Garage
- Sidewalk/Pathway
- Railroad

Safety

PED & BIKE COLLISIONS
- ● Pedestrian Collision
- ● Bicyclist Collision

Data Collected 2014-2018

Recognizing the significant barriers to walkability and understanding safety challenges and "hot spots" is critical to developing solutions that will improve conditions for all users.

Pedestrian and bicycle collisions were most heavily concentrated in the Knollwood neighborhood area and along Michigan Avenue. There were also several pedestrian and bicycle related collisions on and within the Ring Road, most notably clustered near the Valley residence area.

Traffic & Circulation
Road Network

CAMPUS ROAD NETWORK

WESTWOOD

WEST MAIN HILL

MAIN CAMPUS

ARCADIA

VINE

EAST CAMPUS

KNOLLWOOD

TO DOWNTOWN KALAMAZOO

TO PARKVIEW CAMPUS

RING RD N

RING RD N

RING RD S

RING RD S

KALAMAZOO COLLEGE

KALAMAZOO COLLEGE ATHLETIC COMPLEX

GOLDSWORTH VALLEY RESIDENCE HALLS

GOLDSWORTH VALLEY APARTMENTS

WESTERN VIEW APARTMENTS

KALAMAZOO REGIONAL PSYCHIATRIC HOSPITAL

HEALTH & HUMAN SERVICES

WALDO STADIUM

HYAMES FIELD

KANLEY TRACK

STUDENT RECREATION CENTER

UNIVERSITY ARENA

WMED CLINICS

HERITAGE HALL

UNDER CONSTRUCTION

STADIUM DR APTS

LAWSON/ GABLE

Legend
- Campus Building
- Parking Lot
- Parking Garage
- Sidewalk/Pathway
- Railroad

0   0.25 Miles

There are several key corridors that provide access to the West and East Campus areas, including:

- **Michigan Avenue** is West Campus's only major direct-access corridor and is the primary access corridor for affiliates traveling from areas west of campus, including the Arcadia and Knollwood neighborhoods. Michigan Avenue terminates at the Ring Road traffic circle.

- **W. Michigan Avenue** is made up of two important segments – a short segment that provides direct access into the eastern half of campus and the Ring Road from the West Main Hill neighborhood area and Stadium Drive; and a major segment that becomes Stadium Drive as it approaches campus from the north, and combines with Main Street then travels into Downtown Kalamazoo as it travels away from campus from the south.

- **Stadium Drive (I-94)** is the eastbound extension of the I-94 Kalamazoo Business Loop and carries heavy traffic between I-94 and Highway 131 and locations in central Kalamazoo, including WMU. Despite its importance to WMU, Stadium Drive has limited direct access to West Campus, as it is separated by a parallel rail line.

- **Howard Street** is a major access corridor for north-south traffic to WMU and is a major connection between Michigan Avenue, Stadium Drive, and Oakland Drive, as well as neighborhood areas to the east of campus.

- **Oliver Street** is the only direct connection between the inner corridors of West Campus (Ring Road), East Campus (Cass Street), and to the Vine neighborhood to the east. Oliver Street also provides access to Ring Road from Stadium Drive.

- **Oakland Drive** is a primary access corridor for East Campus traffic from all directions.

- **Ring Road** is the primary internal vehicular access corridor within West Campus and is the functional boundary of the heart of West Campus. Several roadways branch from the Ring Road and extend further into campus, though most are dead end or court style streets, and none passes entirely through the campus. Because no streets pass directly through the main campus, the Ring Road is the only corridor that provides access to all areas of the inner campus, or from one side of the campus to the other.

Business Court and Ring Road North

W. Michigan Avenue at Ring Road North

Volumes

TRAFFIC VOLUMES (AADT)
- 20,000 + Vehicles
- 15,000 - 20,000 Vehicles
- 10,000 - 15,000 Vehicles
- 5,000 - 10,000 Vehicles
- < 5,000 Vehicles

TO DOWNTOWN KALAMAZOO

TO PARKVIEW CAMPUS

- Campus Building
- Parking Lot
- Parking Garage
- Sidewalk/Pathway
- Railroad

0   0.25 Miles
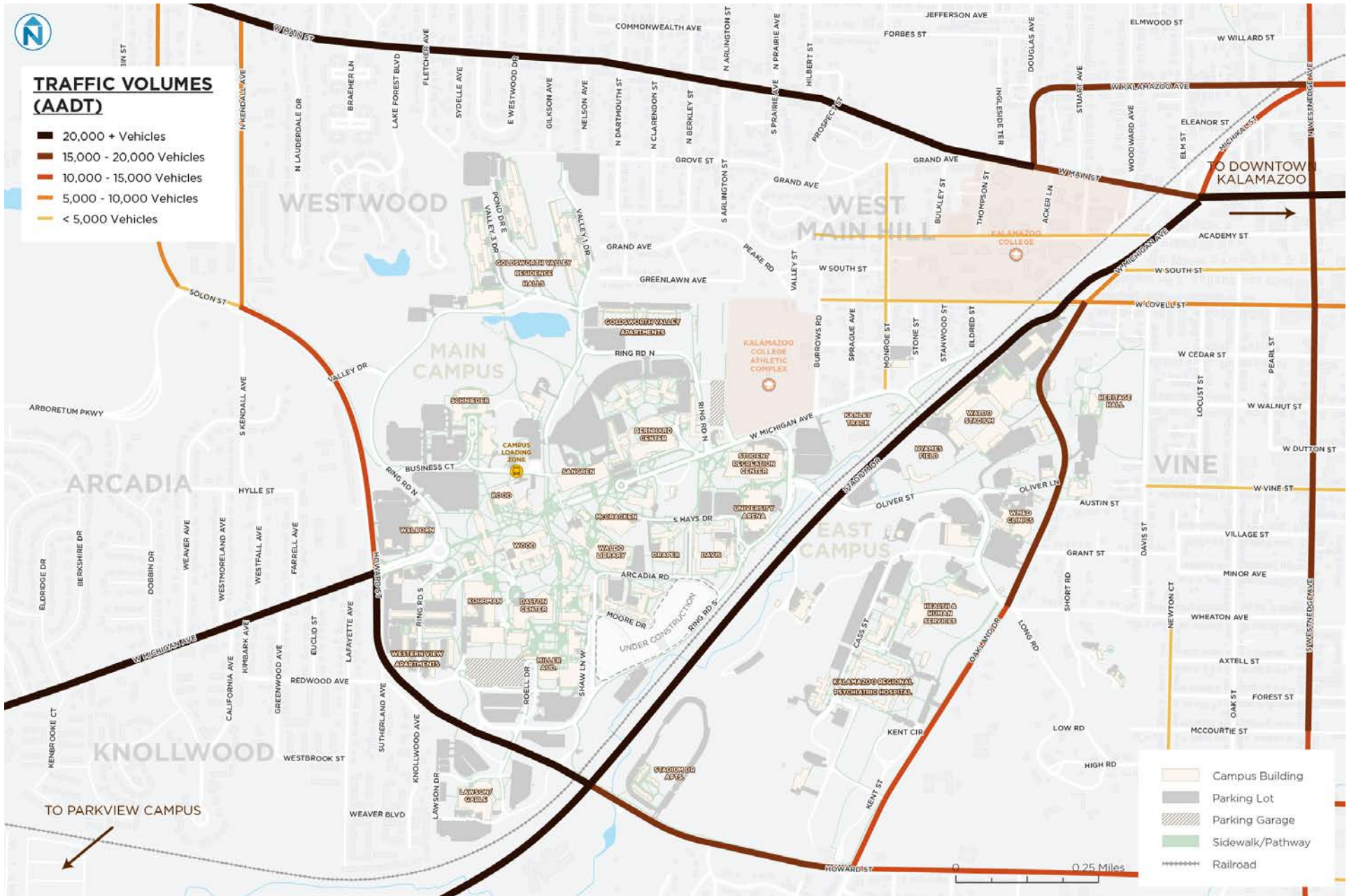
As the table on this page indicates, **capacity in surrounding arterials and intersections is sufficient for current volumes.** However, drivers do experience congestion at several intersections of major roadways around the campus periphery where turn movements and signalization can be modified to improve both traffic flow and traveler safety.

Roadway Segments	Travel Lanes Per Direction	Center Turn Lane/ Median	Peak-Hour Volumes (year)	Peak Direction Lanes Needed	Capacity/ Demand Relationship
Stadium Drive	2	Yes	1277 (2003)	1-2	Capacity Exceeds Demand
Howard Street (btw Stadium Drive and Michigan Avenue)	2	Yes	1072 (2017)	1-2	Capacity Exceeds Demand
Howard Street (btw Michigan Avene and Kendall Avenue)	2	Yes	646 (2016)	1	Capacity Exceeds Demand
Michigan Avenue	2	Yes	1044 (2018)	1-2	Capacity Exceeds Demand
Oakland Drive	1	Yes	642 (2015)	1	Capacity Exceeds Demand

Source: Peak hour volumes provicded by KATS

Howard Street northwest of Lawson Drive

Safety

TRAFFIC COLLISIONS

- Location of Incident
  (Darker areas indicate higher densities of collisions)

Data Collected 2014-2018

Legend:
- Campus Building
- Parking Lot
- Parking Garage
- Sidewalk/Pathway
- Railroad

0   0.25 Miles

Collision data was collected from 2014-2018 for the campus area and adjacent corridors from Michigan Traffic Crash Facts.

The data showed that traffic collisions were heavily concentrated at major intersections and on major corridors. However, there is a notable level of collisions, and collision density, on and within the Ring Road.

There were no traffic fatalities in the campus area during this period.

W. Michigan Avenue at Howard Street

W. Michigan Avenue traffic circle and campus gateway   Source: Fishbeck, Inc.

Ring Road South, near Parking Services

Transportation Demand Management

Transportation demand management (TDM) generally refers to the use of strategies that inform and encourage travelers to maximize the efficiency of a transportation system with a goal of improving mobility, reducing congestion, and lowering vehicle emissions.

WMU does not have a TDM program or employ dedicated staff. However, Western does provide some TDM-related transportation services. Following is a summary of the existing services available to the campus community.

Bronco Bus Service

Bronco Transit shuttle buses are free to use for all WMU students and employees by showing their university ID.

Metro Bus Pass

All WMU students and employees receive free rides on any Metro bus route. This benefit is funded by Parking Services.

SafeRide (Driving and Walking Escorts)

Students and employees can receive a walking or driving escort between on-campus destinations at night, including to their on-campus residences.

Bicycle Resource Hub

The Office of Sustainability's Bicycle Resource Hub is WMU's one-stop shop for non-motorized transportation education, advocacy, and initiatives. A small fleet of free Bronco Bikes are available to campus affiliates throughout the year.

Amtrak Discount

WMU students are eligible for a 15% discount on Amtrak travel on select Midwest routes.

Kalamazoo Metro Bus 21

WMU Office for Sustainability

In general, the campus community is fairly knowledgeable about the TDM offerings available to them. Four of the six available programs are recognized by over 60% of respondents. However, knowledge of programs is not necessarily shown to translate to program usage, particularly among employees.

- Knowledge of the free transit options is high across both students and employees, with use by students relatively high (55% for Metro and 70% for Bronco Bus) and low by employees (15% for each service).

- Knowledge of SafeRide services is relatively high, but the service is rarely used by either students or employees.

- Knowledge and use of bicycle related programs is low for both students and employees.

- Just under half (46%) of students are aware of the Amtrak discount, and about 20% have used it.

Student Awareness of TDM Programs

Program	I have used this	I know about this but don't use it	I don't know about this
Free Bronco Transit Shuttles	69%	28%	4%
Free Kalamazoo Metro Bus Pass	56%	36%	8%
SafeRide Walking Escort	6%	65%	30%
SafeRide Driving Escort	17%	58%	25%
Open Bike Shop	13%	44%	44%
Student 15% Amtrak Discount	21%	25%	54%
BroncoBikes	4%	24%	72%

Legend:
- I have used this
- I know about this but don't use it
- I don't know about this
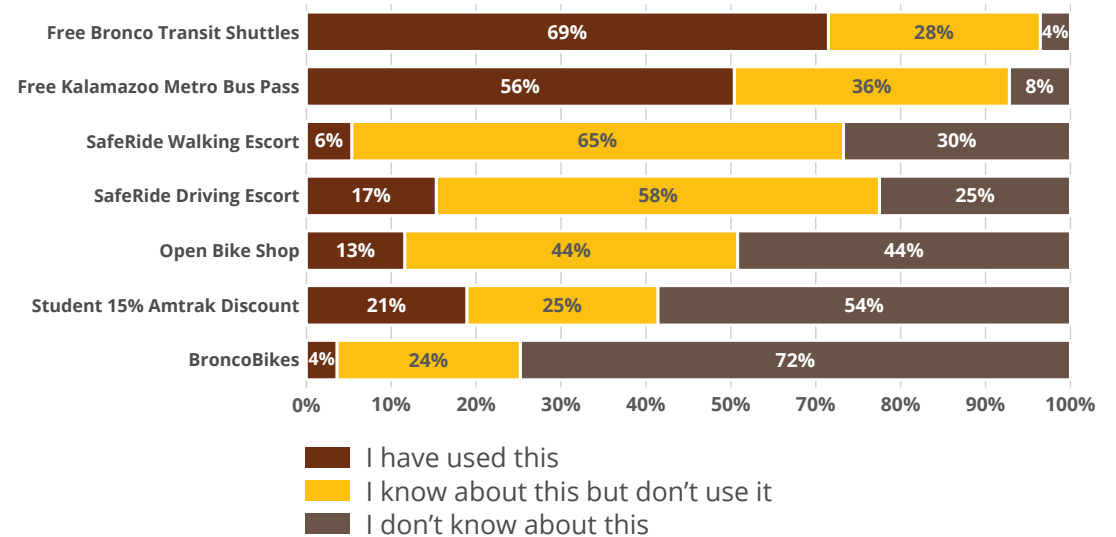
Employee Awareness of TDM Programs

Program	I have used this	I know about this but don't use it	I don't know about this
Free Bronco Transit Shuttles	15%	69%	16%
Free Kalamazoo Metro Bus Pass	14%	56%	30%
SafeRide Walking Escort	2%	67%	31%
SafeRide Driving Escort	2%	59%	39%
Open Bike Shop	4%	38%	58%
BroncoBikes	1%	22%	77%
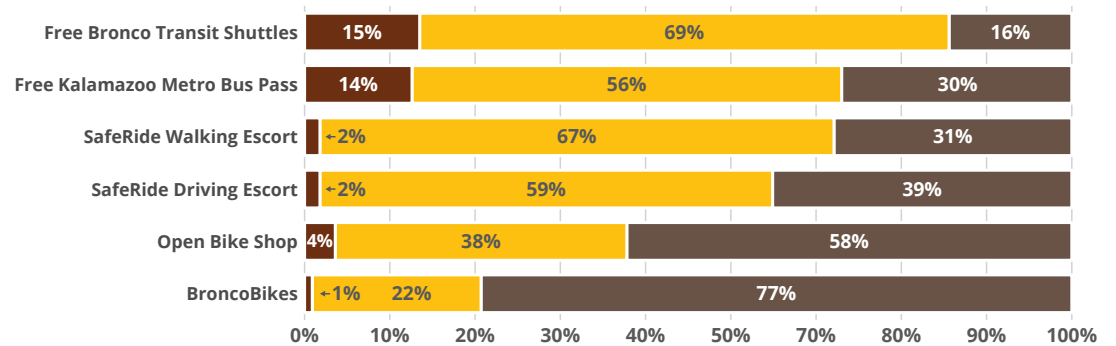
" We need incentives to encourage students and employees to bike to campus."

4

PLAN STRATEGIES

This section summarizes strategic recommendations for the Transportation Master Plan, based on current campus conditions, needs, and opportunities, as identified during the community engagement and existing conditions assessments. Strategies and recommendations are organized around the focus areas and travel modes included in the previous section, including:

- **Parking Strategies**

- **Transit Strategies**

- **Active Transportation Strategies**

- **Traffic & Circulation Strategies**

- **Transportation Demand Management Strategies**

This report provides an overview of key recommendations for policy, program, service, and capital improvements, while a more comprehensive overview of Plan strategies, best practices, and recommendations is included in the "Recommended Plan Strategies" document.

Source: Fishbeck, Inc.
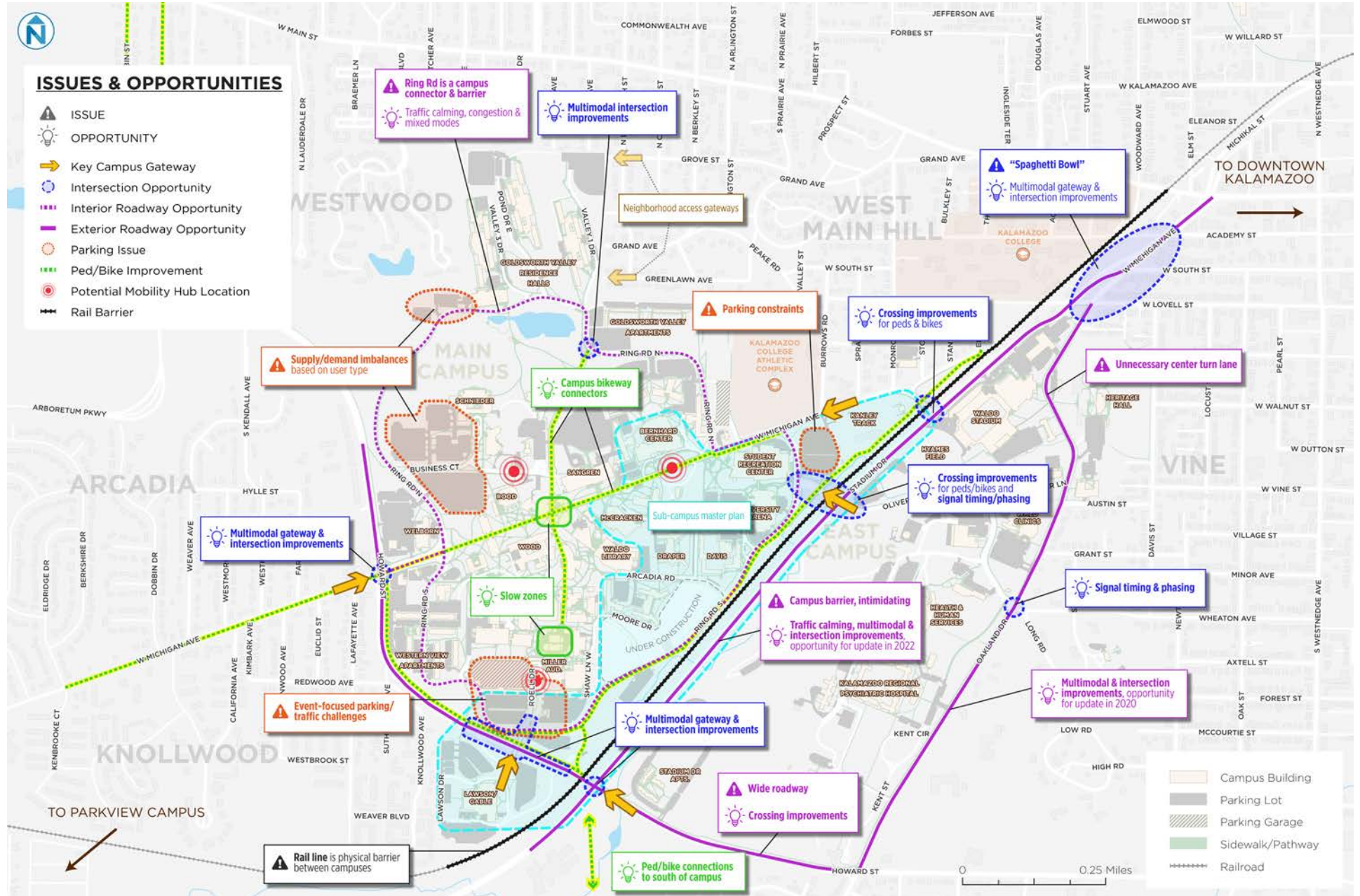
Strategies

This diagram provides an overview of the issues and opportunities across all travel modes that the Plan Strategies aim to address.

Parking
Strategies

PARKING ISSUES & OPPORTUNITIES

⚠ Parking constraints

⚠ Supply/demand imbalances based on user type

💡 Hilltop Village parking solutions

⚠ Event-focused parking/ traffic challenges

💡 Remote parking opportunity

TO PARKVIEW CAMPUS

TO DOWNTOWN KALAMAZOO

Legend:
- Campus Building
- Parking Lot
- Parking Garage
- Sidewalk/Pathway
- Railroad

0   0.25 Miles
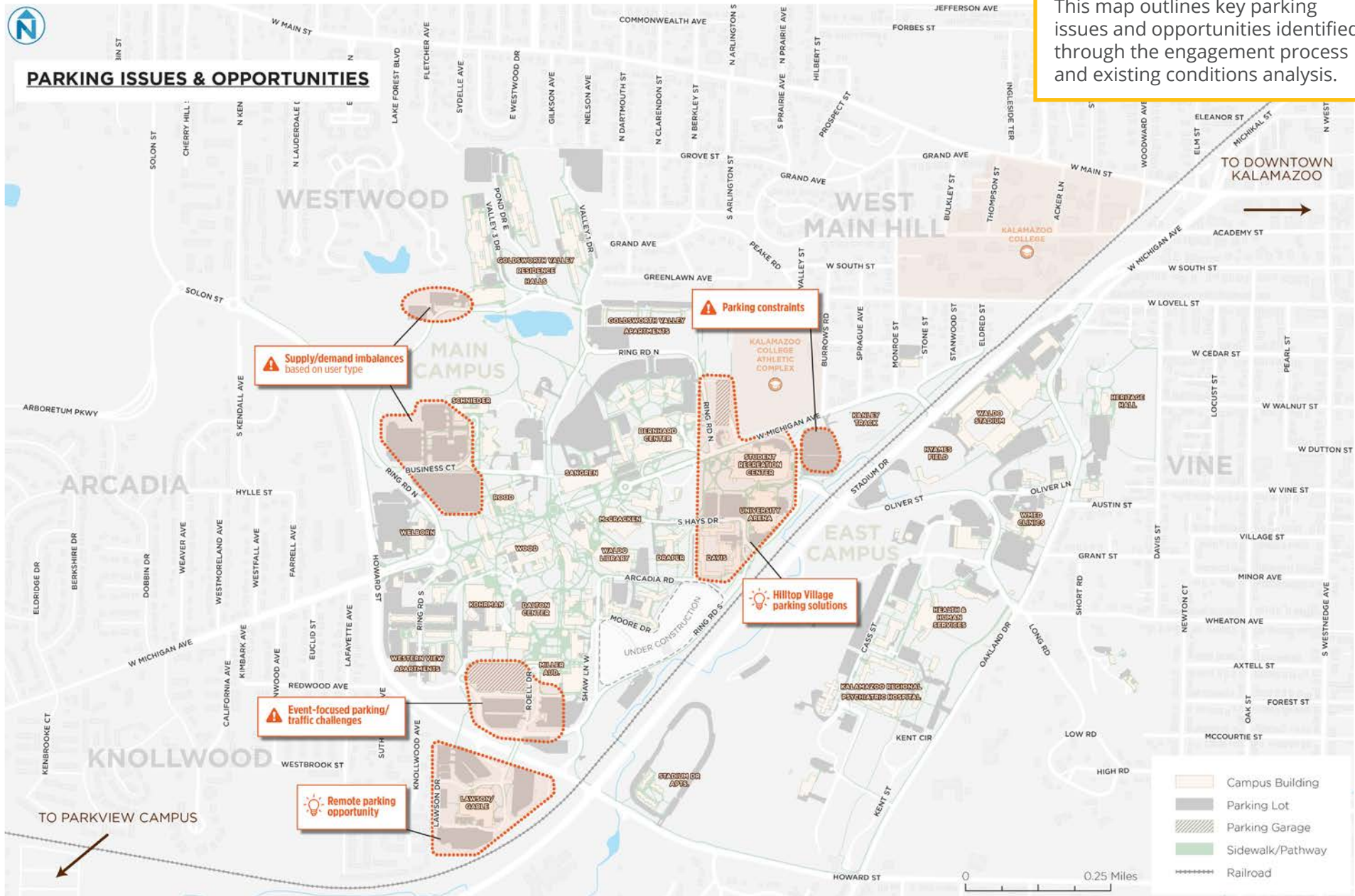
Strategy	Percent of Votes					Average Score
	★	★★	★★★	★★★★	★★★★★	
Define geographic priorities for changes to parking supply based on use and need	0%	0%	11%	16%	74%	4.63
Define and monitor performance measures and targets, prioritizing availability	0%	5%	10%	30%	55%	4.35
Use pricing to distribute demand	19%	10%	33%	14%	24%	3.14
Shift toward "virtual" permitting	15%	0%	10%	30%	45%	3.9
Transition toward monthly permits and provide more flexible permit options	10%	19%	19%	24%	29%	3.43
Pilot first-year student parking restrictions	20%	25%	15%	15%	25%	3
Balance Hilltop Village parking demand with broader mobility, campus vision & goals	0%	16%	5%	47%	32%	3.95

This table summarizes the key parking strategies that were identified in response to the engagement and existing conditions analysis. Participants in the final Open House were asked to rate the prioritization of each strategy. The two highest ranked parking strategies related to defining geographic priorities for changes to parking supply and monitoring performance measures that prioritize availability.

Tiered pricing can facilitate more efficient use of parking supply.

Parking Recommendations

Staffing & Organization

- Expand Parking Services role and capacity to embrace role as transportation provider and rebrand as "Transportation & Parking Services."

- Stabilize funding via dedicated "student transportation fee."

- Create a unified and comprehensive communications program.

- Engage Transportation & Parking Services in campus mobility planning.

Operations & Technology

- Define compliance and availability as key performance indicators (KPI).

- Improve the visitor parking experience to mitigate event parking constraints.

- Prepare for license plate recognition (LPR) and virtual permitting.

- Expand electric vehicle charging station infrastructure.

Parking Supply

- Define priorities for allocation of parking supply in the core and periphery.

- Distribute replacement parking strategically, starting with the Hilltop Village.

- Seek joint development partners for mixed-use development.

Parking Demand Management

- Define and monitor KPI and targets.

- Use pricing to distribute demand efficiently.

- Create additional and flexible permit types to encourage shifting travel behaviors.

Transit
Strategies

RECOMMENDED BRONCO TRANSIT

BROWN ROUTE
Southern half of Main Campus

GOLD ROUTE
Northern half of Main Campus

OAKLAND ROUTE
Main Campus to East Campus

PARKVIEW ROUTES
Main Campus to Parkview Campus

WMU-DOWNTOWN ROUTE
Direct route from Main Campus to
Kalamazoo Transit Center
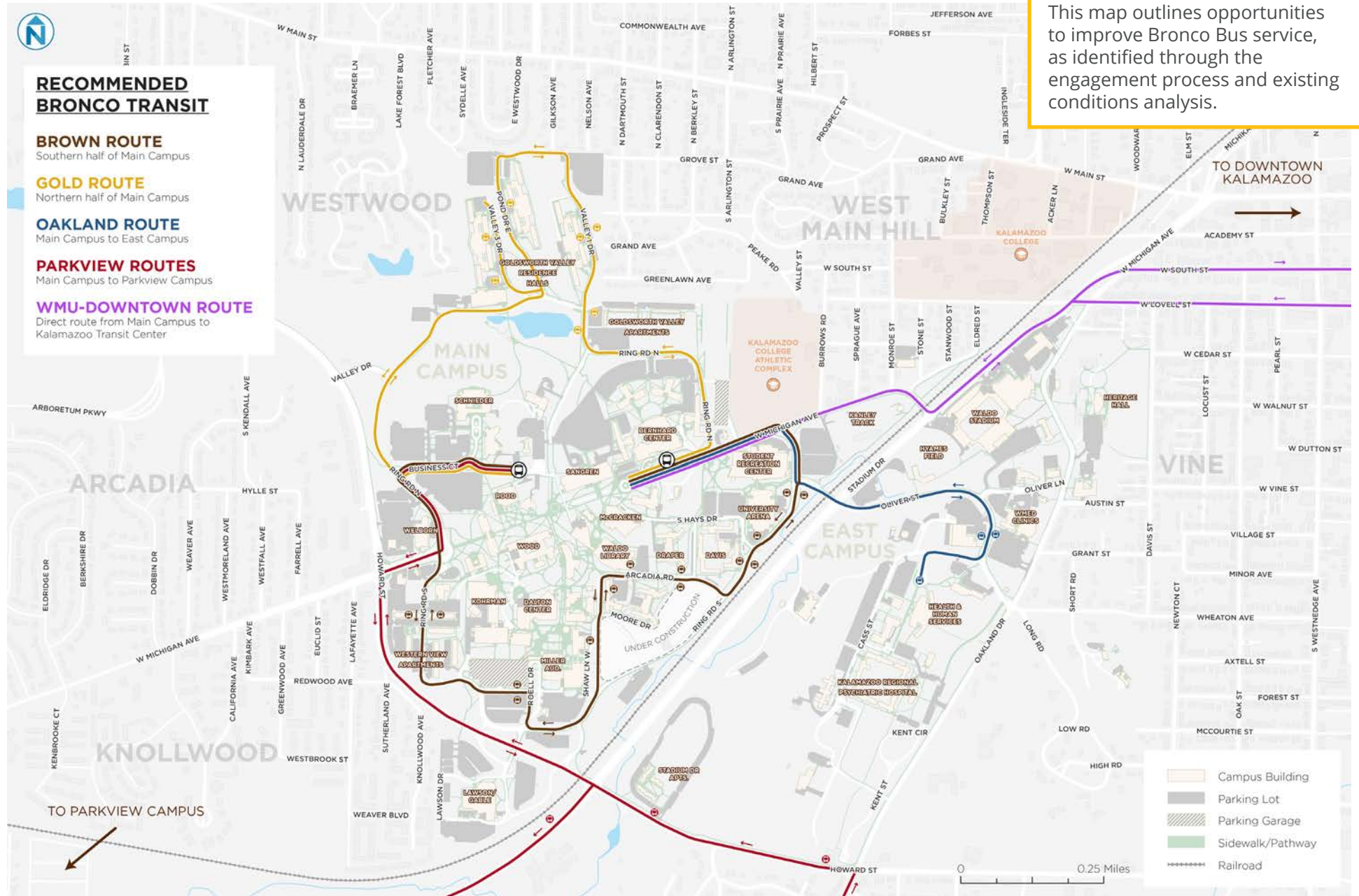
This map outlines opportunities to improve Bronco Bus service, as identified through the engagement process and existing conditions analysis.

Campus Building
Parking Lot
Parking Garage
Sidewalk/Pathway
Railroad

Strategy	Percent of Votes					Average Score
	★	★★	★★★	★★★★	★★★★★	
Emphasize improvements to service frequency and dependability	0%	0%	10%	35%	55%	4.45
Re-route the Bronco Bus system to promote directness & frequency	0%	0%	30%	15%	55%	4.25
Improve accessibility for users with disabilities and impairments	0%	0%	5%	15%	80%	4.75
Coordinate with Metro to implement stop improvement recommendations	0%	0%	10%	35%	55%	4.45
Design the new Loading Zone as a multimodal "mobility hub" aligned with development of the Hilltop Village	0%	5%	25%	25%	45%	4.10
Promote and increase awareness of WMU's free transit benefits	0%	5%	15%	10%	70%	4.45

This table summarizes the key transit strategies that were identified in response to the engagement and existing conditions analysis. Participants in the final Open House were asked to rate the prioritization of each strategy. The two highest ranked transit strategies related to improving accessibility for users with disabilities and increasing awareness of WMU's free transit benefits.

Creating more direct connections for buses through campus can promote more frequent and convenient service.

Alternate Bus Hub Location

Identifying the future location of the WMU Loading Zone will be critical to ensuring convenient access for transit riders.

Mobility hubs, like this one at Ohio State University, ease transfers and mixed mode trips and provide adaptive mobility options for people with disabilities.

Transit Recommendations

General Strategies

- Define a campus-wide transit vision, aligning both Bronco Transit and Kalamazoo Metro priorities with the service needs of transit riders.

- Emphasize improvements to service frequency and dependability, facilitating more direct routes between primary destinations, targeting 15-minute or better service and aligning schedules around the "clockface."

Specific Strategies

- Connect gaps in the campus roadway network to facilitate more efficient and direct bus service.

- Re-route the Bronco Bus system, prioritizing direct service and frequency.

- Coordinate with Metro to implement stop improvement and infrastructure recommendations.

- Create a Campus Transit Center or Mobility Hub to facilitate more convenient transfers between modes at a strategic West Campus location.

- Provide basic passenger amenities, including benches, shelters, trash receptacles, bike racks, and information, at all campus shuttle stops.

- Ensure compliance for users with disabilities and impairments with accessible routes to all stops, on-board vehicles, and via apps and other services.

- Pursue opportunities to utilize emerging technologies that can improve service and increase safety and accessibility for all users.

- Promote and increase awareness of free transit benefits to all campus affiliates.

Active Transportation
Strategies
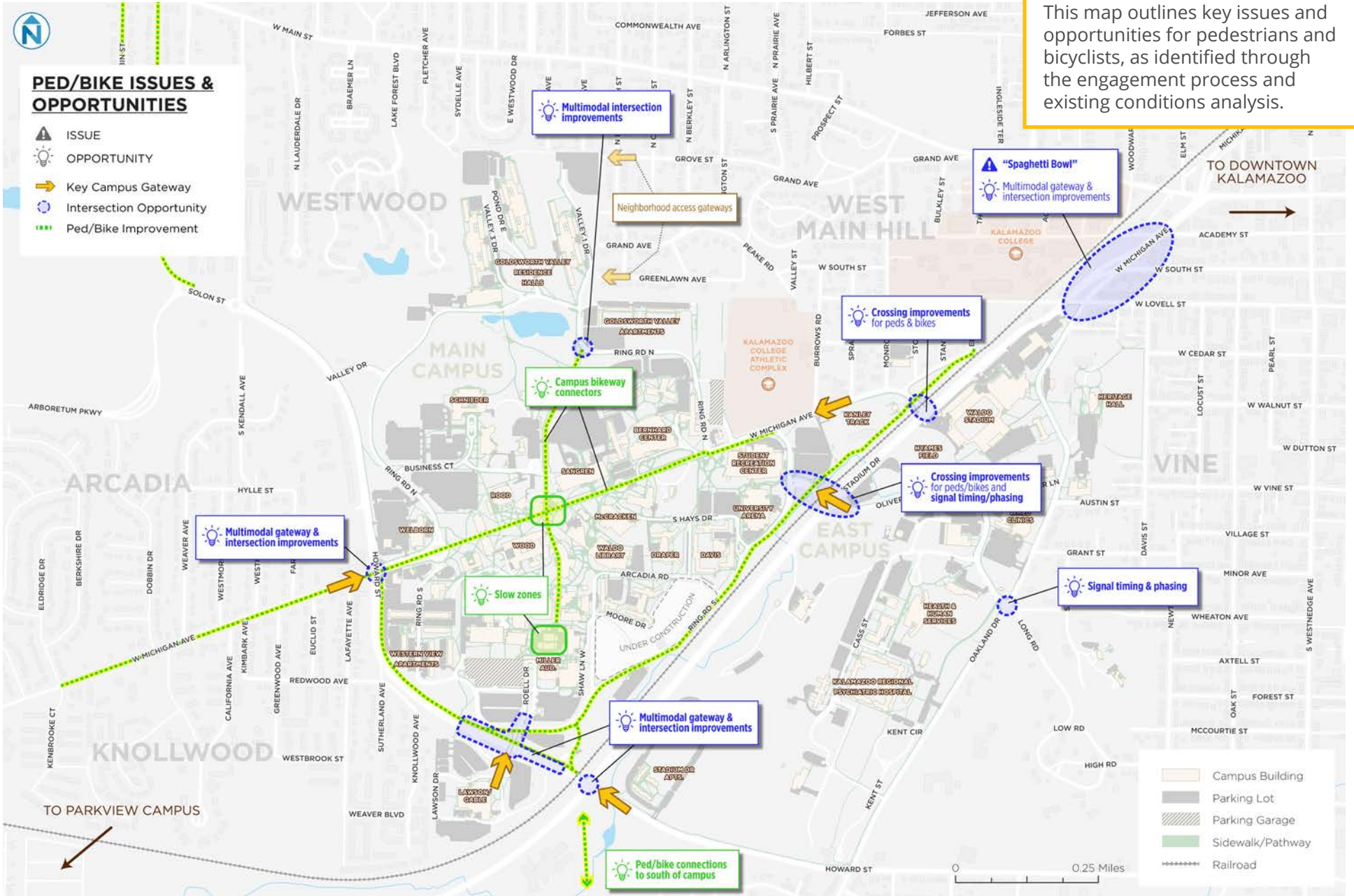
This map outlines key issues and opportunities for pedestrians and bicyclists, as identified through the engagement process and existing conditions analysis.

PED/BIKE ISSUES & OPPORTUNITIES

- ⚠ ISSUE
- 💡 OPPORTUNITY
- ➡ Key Campus Gateway
- ○ Intersection Opportunity
- ▪▪▪ Ped/Bike Improvement

Map labels:
- 💡 Multimodal intersection improvements
- Neighborhood access gateways
- ⚠ "Spaghetti Bowl" / 💡 Multimodal gateway & intersection improvements
- TO DOWNTOWN KALAMAZOO
- 💡 Crossing improvements for peds & bikes
- 💡 Campus bikeway connectors
- 💡 Crossing improvements for peds/bikes and signal timing/phasing
- 💡 Multimodal gateway & intersection improvements
- 💡 Slow zones
- 💡 Signal timing & phasing
- 💡 Multimodal gateway & intersection improvements
- 💡 Ped/bike connections to south of campus
- TO PARKVIEW CAMPUS

Legend:
- Campus Building
- Parking Lot
- Parking Garage
- Sidewalk/Pathway
- Railroad

0 — 0.25 Miles

Strategy	Percent of Votes					Average Score
	★	★★	★★★	★★★★	★★★★★	
Establish and maintain a safe & accessible bicycle and pedestrian network for all ages and abilities	0%	0%	14%	29%	57%	4.43
Expand and improve bike parking supplies	0%	5%	24%	24%	48%	4.14
Conduct a universal accessibility study	5%	0%	15%	25%	55%	4.25
Proactively permit shared micromobility services on campus	10%	5%	10%	33%	43%	3.95
Adopt supportive policies, including designated on-campus pathways and a "complete streets" policy	0%	10%	15%	20%	55%	4.20
Prioritize pedestrian access throughout the Village with limited access for motor vehicles	5%	0%	30%	25%	40%	3.95

This table summarizes the key active transportation strategies that were identified in response to the engagement and existing conditions analysis. Participants in the final Open House were asked to rate the prioritization of each strategy. Each of these strategies ranked very high, with the greatest support for establishing a safe and accessible bicycle and pedestrian network, conducting a universal accessibility study, and adopting supportive policies to promote active trips.

Active Transportation Strategies

Clearly marking bicycle and pedestrian pathways promotes safety and shared use of the campus network.
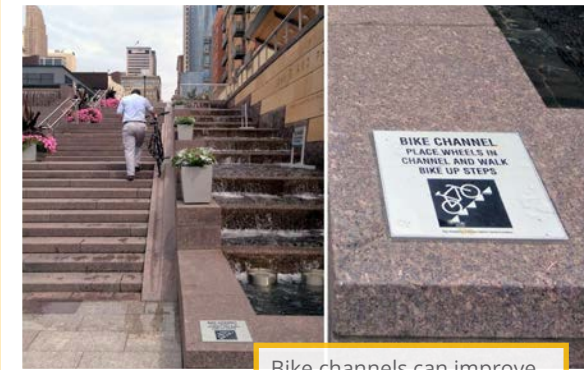
Bike channels can improve accessibility in hilly areas of campus for cyclists.

Intersection improvements such as raised crossings and use of varied textures can enhance both accessibility and safety.

Active Transportation Recommendations

Safety and Accessibility

- Design a bicycle network for all ages and abilities.

- Enhance crossings at locations with high volumes of pedestrians and bicyclists.

- Identify, sign, and mark a series of dedicated on-campus bicycle routes.

- Provide programs and services that facilitate walking and biking trips.

- Maintain all stairs, sidewalks, and curb ramps for year-round access.

- Optimize connections between on-campus and off-campus networks.

- Improve walking conditions in and around WMU parking facilities.

- Expand and improve bike parking supplies.

- Conduct a Universal Accessibility Study with the Office of Disability Services.

Policies and Programs

- Update WMU ordinances to reflect supported travel patterns.

- Adopt and on-campus "complete and green" streets ordinance.

- Develop a campus Bike-Ped Plan to guide investment.

- Pursue opportunities to bring shared bikes and scooters to campus.

- Develop a safety training and assistance program.

BICYCLE RIDER SPECTRUM

60% Non-vehicular bicyclists that prefer complete separation from motor vehicle traffic, or routes with very low traffic volumes and speeds

7% Confident bicyclists that feel comfortable riding in traffic when they need to, but prefer dedicated bikeways

1% Fearless vehicular bicyclists that feel comfortable riding on streets with or without dedicated bikeways

Note: Based on 'Four Types of Cyclists' white paper authored by Roger Geller, Bicycle Coordinator for the City of Portland, Oregon

Traffic & Circulation
Strategies

This map outlines key circulation issues and opportunities, as identified through the engagement process and existing conditions analysis.

CIRCULATION ISSUES & OPPORTUNITIES

- ⚠ ISSUE
- 💡 OPPORTUNITY
- ▪▪▪▪ Interior Roadway Opportunity
- ▬▬▬ Exterior Roadway Opportunity
- ⬭ Intersection Opportunity

Ring Rd is a campus connector & barrier
💡 Traffic calming, congestion & mixed modes

💡 **Multimodal intersection improvements**

⚠ **"Spaghetti Bowl"**
💡 Multimodal gateway & intersection improvements

TO DOWNTOWN KALAMAZOO

💡 **Crossing improvements for peds & bikes**

⚠ **Unnecessary center turn lane**

💡 **Multimodal gateway & intersection improvements**

💡 **Crossing improvements for peds/bikes and signal timing/phasing**

💡 **Signal timing & phasing**

⚠ **Campus barrier, intimidating**
💡 Traffic calming, multimodal & intersection improvements, opportunity for update in 2022

💡 **Multimodal & intersection improvements**, opportunity for update in 2020

💡 **Multimodal gateway & intersection improvements**

⚠ **Wide roadway**
💡 Crossing improvements

TO PARKVIEW CAMPUS

- ▢ Campus Building
- ▢ Parking Lot
- ▨ Parking Garage
- ▢ Sidewalk/Pathway
- ⊢⊢⊢ Railroad

0   0.25 Miles

Strategy	Percent of Votes					Average Score
	★	★★	★★★	★★★★	★★★★★	
Develop the Ring Road's multimodal functionality	5%	11%	11%	11%	63%	4.16
Redesign key intersections	0%	0%	5%	30%	65%	4.60
Conduct traffic analysis and start to paint incremental solutions	0%	0%	11%	32%	58%	4.47
Monitor and install permanent measures	5%	0%	32%	37%	26%	3.79
Address signal timing and lane configurations at key nodes	0%	5%	21%	16%	58%	4.26
Collaborate with the City on improvements to key intersections and corridors	0%	0%	11%	26%	63%	4.53
Design new roads with the Hilltop Village to prioritize pedestrians and strategically channel car traffic	0%	5%	32%	11%	53%	4.11

This table summarizes the key traffic & circulation strategies that were identified in response to the engagement and existing conditions analysis. Participants in the final Open House were asked to rate the prioritization of each strategy. The highest ranked strategies related to redesigning key intersections, developing the Ring Road's multimodal functionality, and collaborating with the City of Kalamazoo on improvements to key intersections and corridors.

Howard Street and Stadium Drive

Ring Road South, Oliver, and Stadium Drive

Howard Street and Michigan Avenue

Key intersections on and around campus offer opportunities to implement short-term and long-term measures to both improve circulation and enhance safety conditions. These intersections represent some of the highest priorities for early interventions, where high volumes of automobiles, pedestrians, and bicyclists converge and conflicts are common. WMU's leadership, in collaboration with the City of Kalamazoo, can facilitate both interim measures and long-term solutions to improve conditions for all users at these intersections and others.

Traffic & Circulation Recommendations

General Strategies

- Coordinate with the City of Kalamazoo and other public agencies to improve the road system that provides access to the WMU campus.

- Follow the City and KATS Complete Streets policies to guide street design within campus.

- Identify key gateways to campus and design them to accommodate all modes.

- Optimize the existing right-of-way to better accommodate multimodal needs along the access and internal road system.

- Collect additional vehicular turning movement data at key intersections to better inform intersection design and circulation modifications.

- Adjust signal timings to reduce travel delays and provide safe pedestrian/bicyclist crossings at key intersections.

- Consider traffic circulation schemes and modifications to improve connectivity, calm traffic, and reduce travel distances.

Specific Strategies

- Install high visibility crosswalks, pavement markings, and signage to improve clarity and safety.

- Implement road diets and curb extensions at intersections and along key corridors to calm traffic and shorten crossing distances.

- Use interim solutions to facilitate immediate improvements while longer-term measures and resources are evaluated and pursued.

- Evaluate opportunities for traffic circles in high conflict locations.

- Improve rail crossings with additional guidance, gating, and detection devices.

Interim solutions, like these in Memphis, TN (top) and Portland, OR (bottom) can lead to immediate improvements while longer-term measures are evaluated.

Transportation Demand Management (TDM)
Strategies

Strategy	Percent of Votes					Average Score
	★	★★	★★★	★★★★	★★★★★	
Expand Parking Services capacity to embrace the role of multimodal transportation services provider	0%	5%	11%	32%	53%	4.32
Establish a dedicated on-campus TDM coordinator	6%	11%	22%	28%	33%	3.72
Create a comprehensive TDM communications program	0%	6%	28%	28%	39%	4
Adopt a "park once" approach to driving and parking on-campus	0%	5%	14%	43%	38%	4.14
Offer incentives to choose non-drive-alone modes	0%	20%	20%	30%	30%	3.70
Transition to daily parking permits	37%	16%	32%	5%	11%	2.37
Leverage partnerships to expand reach and adoption	12%	0%	41%	29%	18%	3.41

This table summarizes the key transportation demand management (TDM) strategies that were identified in response to the engagement and existing conditions analysis. Participants in the final Open House were asked to rate the prioritization of each strategy. The highest ranked TDM strategy was expansion of Parking Services capacity to embrace its role as WMU's multimodal transportation services provider. Other priorities related to communications and promoting a "park once" campus environment.

" A full-time campus mobility coordinator would be beneficial and could serve both the campus and community."

" Students and staff (in particular) would benefit from more education on what transit programs are available to them."

Source: Fishbeck, Inc.

Culture.

Adopt consistent policies campus-wide that integrate management goals into daily campus life.

Price.

Use parking rates to achieve desired outcomes and fund multimodal travel.

Incentives.

Provide incentives and rewards for goal-supportive travel choices.

Communication.

Make it easy to find travel information. Inform and educate about travel behavior. Promote demand management.

Infrastructure.

Invest in new infrastructure that cost-effectively supports multimodal and sustainable campus access.
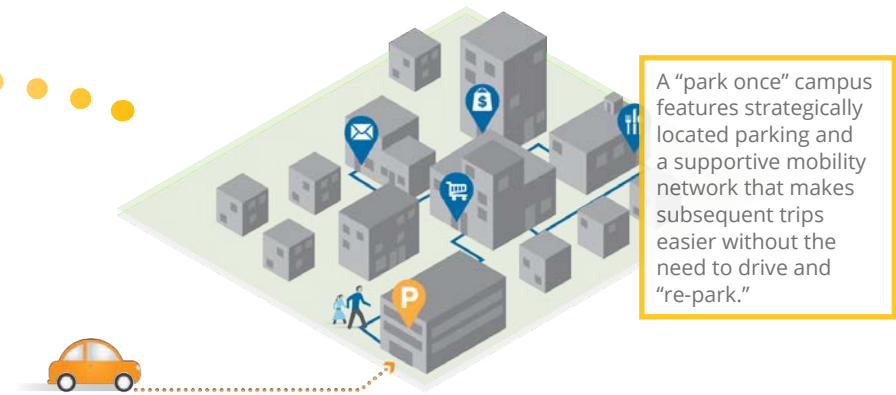
A "park once" campus features strategically located parking and a supportive mobility network that makes subsequent trips easier without the need to drive and "re-park."
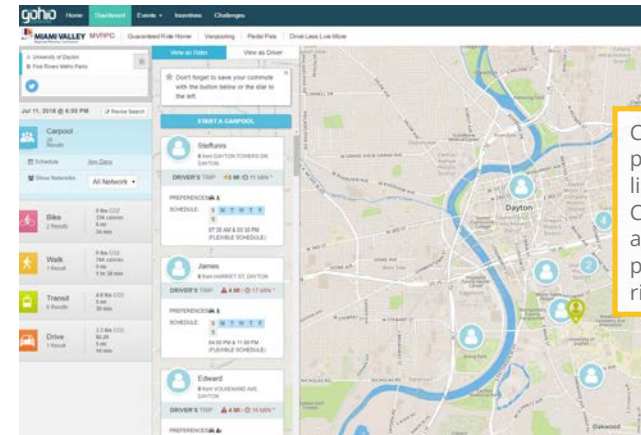
Commuter support programs like like Ohio's "Gohio Commute" platform are used for trip planning and ridematching services.
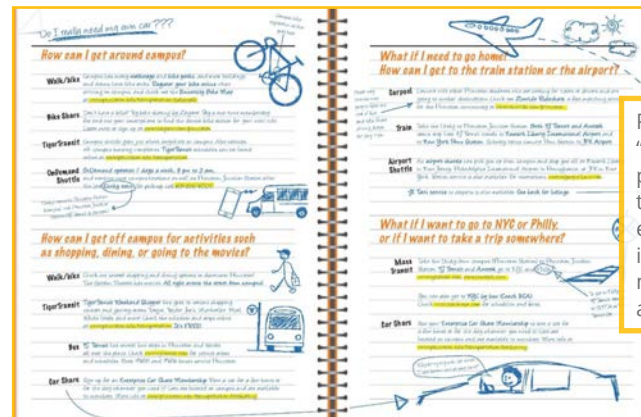
Princeton University's "Car-free Guide" promotes non-driving trips by providing easily accessible information about multimodal programs and services.

Transportation Demand Management (TDM) Recommendations

Programs & Benefits

- Expand Transportation & Parking Services staffing and capacity to fulfill its role as WMU's transportation provider.

- Create a unified and comprehensive TDM communications program.

- Adopt and promote a "park once" approach for people driving to campus.

- Increase incentives for carpool/vanpool and other non-drive-alone commuters.

- Provide flexible permit options to account for occasional drivers.

- Promote an active campus culture through policies, programs, and communication.

Information & Promotion

- Leverage partnerships for educational/ training opportunities, including work with both on-campus and external partners.

- Document TDM effectiveness through regular surveys, monitoring, and celebration of successful efforts.

A YEAR AT A GLANCE

Hired UCI's first full-time **TRANSPORTATION MANAGER** in July 2016

4,200+ RESPONSES to a district-wide employee commuter survey to be conducted annually each Fall.

UCI's staff and board* ranked Transportation Demand Management (TDM) highly among priorities that UCI should take the lead on as part of the **2017 STRATEGIC PLANNING PROCESS.**

Convened the **UNIVERSITY CIRCLE TRANSPORTATION & INFRASTRUCTURE TASK FORCE TWICE** and set the goal of meeting **THREE TIMES** per calendar year

Convened the **SUSTAINABLE TRANSPORTATION ADVISORY COMMITTEE (STAC) 12 TIMES** between July 2016 and June 2017.

Applied for **$498,900** in grant funding (both public and philanthropic) to advance MGUC recommendations.

Launched a new TDM program at University Circle Inc. The **SUSTAINABLE COMMUTER CASH-OUT PROGRAM** rewards employees who take transit, bike, walk or carpool up to **$50** per month

Participated in **10 PUBLIC SPEAKING EVENTS** to share information about University Circle's transportation initiatives.

Awarded **$357,560** to advance **CAPITAL PROJECTS** recommended by MGUC to increase safety for all road users.

*Half of board members are institutional directors and half are civic trustees.

Annual reports on program achievements are an important way to build support and communicate success to campus affiliates.

5

IMPLEMENTATION

The Transportation Master Plan recommendations from the previous section will take several years and a broad range of resources to implement. The project team weighed these factors with the TMP Vision and Goals and incorporated feedback from the Steering Committee and community at large to develop a near-term Implementation Plan that can be achieved over the next few years. The following section provides an overview of these recommendations, including implementation steps, key partners, cost range, and alignment with TMP goals. A more detailed plan document has been created in coordination with the Steering Committee and will serve as a "living" document that can be adjusted over time.

Near Term Implementation Plan - Parking Recommendations

Recommendations	Implementation Steps	Key Partners
Expand Parking Services capacity to embrace role as transportation provider.	• Rebrand as "Transportation and Parking Services" • Explore options to engage student volunteers and hire WMU students to increase department capacity • Coordinate with key campus organizations to consolidate responsibilities under TPS • Hire a full-time Transportation Coordinator as responsibilities and funding allow	• Parking and Transportation Services • Facilities Management (Campus Planning) • Student Affairs
Normalize department funding.	• Seek funding options that eliminate the need for General Fund contributions, including the current "pass through" for funding Bronco Bus operations • Seek self-funding status through adoption of a Student Transportation Fee to be dedicated toward funding strategic campus mobility programs and improvements	• WMU Operations Departments • Student and Faculty Organizations • Auxiliary Enterprises • Business and Finance
Prepare for LPR and virtual permitting.	• Develop cost estimates for mounted LPR cameras at entrances to strategic parking facilities • Pursue software options to facilitate plate reads, occupancy counts, and utilization tracking • Transition toward monthly permits as LPR and virtual permitting are implemented	• WMU Operations Departments • Marketing and Strategic Communications • Public Safety
Define campus-core parking supply-allocation priorities.	• Draft policy defining which parking needs must be accommodated on the campus core, and which are likely to, over time, move toward the campus periphery	• WMU Operations Departments • Student and Faculty Organizations • Auxiliary Enterprises • Institutional Equity

Cost Range — Plan Goals Served

Cost Range	Plan Goals Served
$ - $$	Increase Connectivity to Downtown Kalamazoo and Adjacent Neighborhoods; Create a Safe and Walkable Campus; Build a Comprehensive and Well-Used Bicycle Network; Provide Robust, Efficient, and Convenient Transit Service that serves the needs of all users; Provide and manage efficient and adequate vehicle parking accommodations; Highlight Mobility and Access as a tool to attract and retain; Create and Enhance Campus Accessibility for users of all abilities; Integrate Technology and Emerging Mobility options into TMP solutions; Prioritize Cost-Effectiveness; Support the Redevelopment of the WMU Campus
No Direct Costs	Increase Connectivity to Downtown Kalamazoo and Adjacent Neighborhoods; Create a Safe and Walkable Campus; Build a Comprehensive and Well-Used Bicycle Network; Provide Robust, Efficient, and Convenient Transit Service that serves the needs of all users; Provide and manage efficient and adequate vehicle parking accommodations; Highlight Mobility and Access as a tool to attract and retain; Create and Enhance Campus Accessibility for users of all abilities; Integrate Technology and Emerging Mobility options into TMP solutions; Prioritize Cost-Effectiveness; Support the Redevelopment of the WMU Campus
$$$	Provide and manage efficient and adequate vehicle parking accommodations; Integrate Technology and Emerging Mobility options into TMP solutions; Support the Redevelopment of the WMU Campus
Staff Time Only	Provide and manage efficient and adequate vehicle parking accommodations; Prioritize Cost-Effectiveness; Support the Redevelopment of the WMU Campus

$ = <$50,000
$$ = $50,000 - $150,000
$$$ = $150,000 - $500,000
$$$$ = $500,000+

Near Term Implementation Plan - Parking Recommendations

Recommendations	Implementation Steps	Key Partners
Distribute replacement parking strategically.	• Define minimal supply needs for Hilltop project success, limiting new parking to "Premium" parking for critical markets (residents, visitors, accessible) • Site all other replacement parking supplies within "Discount" and "Base zones"	• WMU Operations Departments • Student and Faculty Organizations • Auxiliary Enterprises • Human Resources
Seek potential joint development partners.	• Identify prime opportunity sites with potential parking and development value • Engage the community to outline synergies between WMU needs and resources and those of the public and development communities	• WMU Operations Departments • Office of Community Partnerships • City of Kalamazoo
Use pricing to distribute demand efficiently.	• Define Discount, Base, and Premium parking zones. • Set rates to encourage shifts in parking activity toward lower-rate options	• WMU Operations Departments • Student and Faculty Organizations • Auxiliary Enterprises
Create additional permit options to encourage shifting travel behaviors.	• Create a "Discount" permit, available to students and employees, with limited parking options • Create a "Premium" permit for R and W permits linked to high-demand locations • Pilot a premium resident parking permit within the Hilltop District • Offer discounted "deferred" fall permits that are not valid until October • Provide Free "Occasional Parking" passes to commuters who primarily use other modes	• WMU Operations Departments • Student and Faculty Organizations • Auxiliary Enterprises • Institutional Equity

Cost Range

Plan Goals Served

Cost Range			
Staff Time Only	Provide and manage efficient and adequate vehicle parking accommodations	Prioritize Cost-Effectiveness	
Staff Time Only	Provide and manage efficient and adequate vehicle parking accommodations	Prioritize Cost-Effectiveness	Support the Redevelopment of the WMU Campus
Cost Neutral - Net Positive	Provide and manage efficient and adequate vehicle parking accommodations	Prioritize Cost-Effectiveness	
Cost Neutral - Net Positive	Provide and manage efficient and adequate vehicle parking accommodations	Highlight Mobility and Access as a tool to attract and retain	Prioritize Cost-Effectiveness

$ = <$50,000
$$ = $50,000 - $150,000
$$$ = $150,000 - $500,000
$$$$ = $500,000+

Near Term Implementation Plan - Transit Recommendations

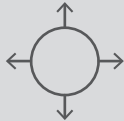| Recommendations	Implementation Steps	Key Partners
Reroute bus service and connect gaps in campus roadway network to facilitate more efficient service.	• Conduct a full assessment of existing route service and needs, including key origins/destinations and gaps in service • Confirm location of future campus bus/transit hub • Evaluate alternatives for route and roadway network modifications	• WMU Operations Departments • Student and Faculty Organizations • Auxiliary Enterprises • Institutional Equity
Modify Bronco Bus routes to create more direct service and minimize "backtracking" through the campus's circuitous roadway network.	• Cut Gold and Brown Routes in half and make both routes bi-directional • Focus the Gold Route on the north half of Main Campus (including the Valley) and the Brown Route on the south half of Main Campus • Adjust stop-spacing to reduce peak-hour crowding and on-time performance • Increase service to discount/remote lots in conjunction with parking recommendations	• Auxiliary Enterprises • Kalamazoo Metro Transit • WMU Operations Departments
Coordinate with Metro to implement stop-improvement recommendations and create a Campus Transit Center or Mobility Hub.	• Identify priority locations for stop improvements serving Main Campus • Coordinate with Metro on optimal location for Transit Center/Mobility Hub	• Campus Planning • Auxiliary Enterprises • Student and Faculty Organizations • Kalamazoo Metro Transit • Institutional Equity
Ensure compliance for users with disabilities and impairments.	• Work with Disability Services for Students and Office of Institutional Equity to identify priority improvements to transit service, equipment, and supportive network amenities (sidewalks, ramps, signage, website, apps, etc.)	• Disability Services for Students • Institutional Equity • Auxiliary Enterprises • Kalamazoo Metro Transit
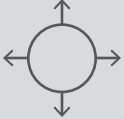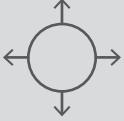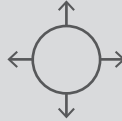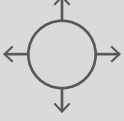
Cost Range

Plan Goals Served

Staff Time Only	Increase Connectivity to Downtown Kalamazoo and Adjacent Neighborhoods	Highlight Mobility and Access as a tool to attract and retain	Create and Enhance Campus Accessibility for users of all abilities	Support the Redevelopment of the WMU Campus
Cost Neutral - Net Positive	Provide Robust, Efficient, and Convenient Transit Service that serves the needs of all users	Highlight Mobility and Access as a tool to attract and retain	Create and Enhance Campus Accessibility for users of all abilities	Prioritize Cost-Effectiveness
$ - $$	Increase Connectivity to Downtown Kalamazoo and Adjacent Neighborhoods	Provide Robust, Efficient, and Convenient Transit Service that serves the needs of all users	Highlight Mobility and Access as a tool to attract and retain	Create and Enhance Campus Accessibility for users of all abilities
Staff Time Only	Provide Robust, Efficient, and Convenient Transit Service that serves the needs of all users	Highlight Mobility and Access as a tool to attract and retain	Create and Enhance Campus Accessibility for users of all abilities	Integrate Technology and Emerging Mobility options into TMP solutions

$ = <$50,000
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$$$ = $150,000 - $500,000
$$$$ = $500,000+

Near Term Implementation Plan - Active Transportation Recommendations

Recommendations	Implementation Steps	Key Partners
Enhance crossings at locations with high pedestrian & bicycle volumes.	• Extend curbs to shorten crossing distances and place pedestrians and cyclists in more visible location prior to crossing • Pursue interim measures prior to permanent installations • Add crosswalk signage and high-visibility markings at non-signalized locations • Ensure all crossings include accessibility features • Provide wide ramps and crosswalks in locations where both pedestrian and bicycle volumes are high to reduce conflict and facilitate bicycle network connections	• WMU Operations Departments • Student and Faculty Organizations • Institutional Equity • City of Kalamazoo • Public Safety
Regularly maintain all stairs, sidewalks, and curb ramps for year-round access.	• Conduct annual field audits and budget for repair programs, emphasizing those that will improve access for people with disabilities • Remove snow and ice on paths, stairways, and ramps to support walking and biking trips during all seasons • Ensure that construction management plans include routing and signage plans to maintain accessibility	• WMU Operations Departments • Student and Faculty Organizations • Institutional Equity
Improve walking and multimodal conditions within and connecting to WMU parking facilities.	• Survey parking facilities/areas for poor internal and connecting walking conditions • Identify priority locations and cost of improvements • Use cost/benefit findings to prioritize improvements	• WMU Operations Departments • Institutional Equity • Public Safety
Conduct a Universal Accessibility Study.	• Complete a preliminary accessibility study • Establish an accessible grid map that demonstrates walk routes as a result of current barriers • Develop a project list and action plan to address identified gaps, barriers, and other deficiencies	• WMU Operations Departments • Student and Faculty Organizations • Institutional Equity

Cost Range

Plan Goals Served

$$ - $$$

Increase Connectivity to Downtown Kalamazoo and Adjacent Neighborhoods

Highlight Mobility and Access as a tool to attract and retain

Create and Enhance Campus Accessibility for users of all abilities

Integrate Technology and Emerging Mobility options into TMP solutions

TBD

Highlight Mobility and Access as a tool to attract and retain

Create and Enhance Campus Accessibility for users of all abilities

Integrate Technology and Emerging Mobility options into TMP solutions

$ - $$

Highlight Mobility and Access as a tool to attract and retain

Provide and manage efficient and adequate vehicle parking accommodations

Integrate Technology and Emerging Mobility options into TMP solutions

Staff Time Only

Highlight Mobility and Access as a tool to attract and retain

Create and Enhance Campus Accessibility for users of all abilities

Integrate Technology and Emerging Mobility options into TMP solutions
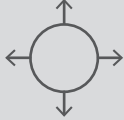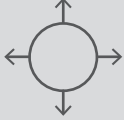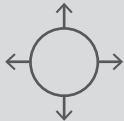
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Near Term Implementation Plan - Active Transportation Recommendations

Recommendations	Implementation Steps	Key Partners
Develop a Campus Bicycle & Pedestrian Investment Plan.	• Establish a bicycle and pedestrian advisory committee • Formalize routes and facilities and prioritize investment strategies to support active mode trips • Evaluate and align campus policies with the priorities of the plan • Conduct regular (annual) surveys of bicycle traffic at key intersections and along priority routes	• WMU Operations Departments • Student and Faculty Organizations • Institutional Equity
Complete/Extend the WMU Bike Network.	• Establish permitted off-road bicycle routes on existing campus pathways • Clearly sign/mark these routes to facilitate safe use of shared paths • Install "runnels" "ramps" or "bike channels" on key staircase locations on Main Campus • Connect to off-campus trails and bikeways	• WMU Operations Departments • Student and Faculty Organizations • City of Kalamazoo • MDOT
Improve bike parking supplies.	• Replace bike racks, starting with those in poor condition, with APBP-compliant racks • Add new, compliant racks adjacent to new facilities or existing campus buildings • Identify optimal locations for indoor, covered, and long-term racks and storage • Conduct regular (seasonal) surveys of bike parking supply and utilization	• WMU Operations Departments • Student and Faculty Organizations
Update WMU policies and ordinances to reflect supported travel patterns.	• Revise/replace Section 5.8 of the WMU Traffic, Parking and Pedestrian Ordinance • Adopt an on-campus "complete and green streets" ordinance • Establish a permitting process to allow for the use of shared micromobility devices (bikes & scooters) on campus • Support/expand the BroncoBikes program to increase access to bicycles for incoming students	• WMU Operations Departments • Student and Faculty Organizations • University Policy Committee

Cost Range

Plan Goals Served

Staff Time Only

Increase Connectivity to Downtown Kalamazoo and Adjacent Neighborhoods

Build a Comprehensive and Well-Used Bicycle Network

Highlight Mobility and Access as a tool to attract and retain

Create and Enhance Campus Accessibility for users of all abilities

Support the Redevelopment of the WMU Campus

$ - $$

Increase Connectivity to Downtown Kalamazoo and Adjacent Neighborhoods

Build a Comprehensive and Well-Used Bicycle Network

Highlight Mobility and Access as a tool to attract and retain

Create and Enhance Campus Accessibility for users of all abilities

$ - $$

Build a Comprehensive and Well-Used Bicycle Network

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Staff Time Only

Increase Connectivity to Downtown Kalamazoo and Adjacent Neighborhoods

Build a Comprehensive and Well-Used Bicycle Network

Highlight Mobility and Access as a tool to attract and retain

Highlight Mobility and Access as a tool to attract and retain

Integrate Technology and Emerging Mobility options into TMP solutions

Support the Redevelopment of the WMU Campus

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Near Term Implementation Plan - Traffic & Circulation

Recommendations	Implementation Steps	Key Partners
Develop a Campus Bicycle & Pedestrian Investment Plan.	• Narrow the roadway with striping and/or curb extensions to facilitate safer travel speeds, clearer crossings, and allocate space to cyclists • Consider traffic circles in key secondary gateways to calm traffic, keep vehicles moving, and improve pedestrian and bicyclist safety	• WMU Operations Departments • City of Kalamazoo • Public Safety
Improve connections between campus and off-campus bike/walk networks.	• Prioritize connections to off-campus housing and locations with high volumes of pedestrian and bicyclist collisions • Examine locations where informal pathways indicate demand (desire lines) • Remove gates and other non-essential barriers between campus and neighborhoods • Pursue campus-periphery lighting improvements	• WMU Operations Departments • Student and Faculty Organizations • Institutional Equity • Public Safety • City of Kalamazoo
Redesign key gateway and on-campus intersections for all-user safety.	• Use paint and other low-cost tools to facilitate traffic calming in the near-term • Monitor use by all travelers to inform recommendations for permanent changes and improvements	• WMU Operations Departments • Student and Faculty Organizations • Institutional Equity • Public Safety • City of Kalamazoo
Address Signal Timing and Lane Configurations at key campus gateways.	• Focus on Stadium Drive intersections as the City prepares to receive jurisdiction • Conduct traffic and turn movement counts at these locations to inform recommendations • Examine conversion of the Kendall/Solon one-way pair to two-way circulation	• WMU Operations Departments • Public Safety • City of Kalamazoo
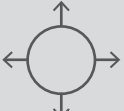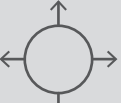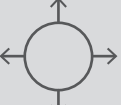
Cost Range

Plan Goals Served

$ - $$$$

Increase Connectivity to Downtown Kalamazoo and Adjacent Neighborhoods

Create a Safe and Walkable Campus

Build a Comprehensive and Well-Used Bicycle Network

Provide Robust, Efficient, and Convenient Transit Service that serves the needs of all users

Highlight Mobility and Access as a tool to attract and retain

Support the Redevelopment of the WMU Campus

$ - $$

Increase Connectivity to Downtown Kalamazoo and Adjacent Neighborhoods

Highlight Mobility and Access as a tool to attract and retain

Support the Redevelopment of the WMU Campus

$ - $$$

Increase Connectivity to Downtown Kalamazoo and Adjacent Neighborhoods

Create a Safe and Walkable Campus

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Provide Robust, Efficient, and Convenient Transit Service that serves the needs of all users

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Create and Enhance Campus Accessibility for users of all abilities

Prioritize Cost-Effectiveness

Support the Redevelopment of the WMU Campus

$ - $$$$

Increase Connectivity to Downtown Kalamazoo and Adjacent Neighborhoods

Highlight Mobility and Access as a tool to attract and retain

Support the Redevelopment of the WMU Campus

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Near Term Implementation Plan - Transportation Demand Management

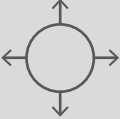| Recommendations	Implementation Steps	Key Partners
Add a new full-time Mobility & TDM Coordinator position to Transportation and Parking Services.	• Explore options to engage student volunteers and hire WMU students to increase department capacity • Develop funding for this position over the course of the next three years • Hire a full-time Transportation Coordinator as responsibilities and funding allow	• WMU Operations Departments • Student and Faculty Organizations • Human Resources
Create a unified and comprehensive TDM communications program.	• Develop a coordinated branding, marketing, wayfinding, and messaging framework for all outward-facing parking, mobility, and TDM communications • Deliver communications through employee on-boarding, student orientation, commute counseling and other strategic opportunities • Launch events, challenges, and other incentive programs to shift travel behaviors	• WMU Operations Departments • Student and Faculty Organizations • Human Resources • Marketing & Strategic Communications • Institutional Equity
Document TDM programs & effectiveness.	• Survey faculty and staff annually on travel behaviors, preferences, and experiences • Track utilization of, and satisfaction with, available TDM benefits • Document and promote TDM achievements each year, celebrating successes and identifying areas in need of refinement or renewed focus	• WMU Operations Departments • Student and Faculty Organizations • Human Resources • Marketing & Strategic Communications • Institutional Equity
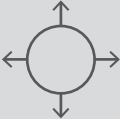
Cost Range

Plan Goals Served

$ - $$

| Increase Connectivity to Downtown Kalamazoo and Adjacent Neighborhoods | Create a Safe and Walkable Campus | Build a Comprehensive and Well-Used Bicycle Network | Provide Robust, Efficient, and Convenient Transit Service that serves the needs of all users | Provide and manage efficient and adequate vehicle parking accommodations | Highlight Mobility and Access as a tool to attract and retain | Create and Enhance Campus Accessibility for users of all abilities | Integrate Technology and Emerging Mobility options into TMP solutions | Prioritize Cost-Effectiveness | Support the Redevelopment of the WMU Campus |

Staff Time Only

| Highlight Mobility and Access as a tool to attract and retain | Create and Enhance Campus Accessibility for users of all abilities | Integrate Technology and Emerging Mobility options into TMP solutions | Prioritize Cost-Effectiveness |

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