Existing Conditions Report
Transportation Master Plan
June 2019
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Introduction

The Transportation Master Plan Study

Over the years, Western Michigan University (WMU) has focused on campus improvements in a piecemeal manner, honing in on specific areas of campus. The most recent of these efforts is a master plan for the South Neighborhood Sub-Campus. Although transportation, and parking in particular, has been a consistent focal point for many of these efforts, WMU has yet to complete 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.

The Transportation Master Plan (TMP) will guide comprehensive, strategic, logical, and practical improvements within a defined timeline, from near-term “quick wins” (e.g., within months) to long-term opportunities (e.g., 10 years). The TMP will address challenges connected to travel safety, congestion, internal connectivity, parking management, shuttle bus programming and operations, transportation financing, and administrative policies. The final plan will outline specific recommendations for all modes of transportation, supported by investment strategies, and tangible goals and targets, providing a standing resource to support and complement other strategic plans, and to foster growth and development for all WMU community members.

The study process will be 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 are addressed in this report. They have also informed the broader campus and community engagement process, ensuring that key stakeholders are provided with opportunities for input throughout the planning process.
Study Vision, Goals & Objectives

Steering Committee Input

During the study’s kickoff process, the Steering Committee identified the following vision, goals, and objectives:

**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 gaps between WMU, Downtown and other adjacent neighborhoods.**

- There is a shared goal of the University & community to unify/link these neighborhoods.

**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, we will increase density and add green space, which speaks to the need for the addition of strategically located parking decks to replace surface lots.

**Look to peer universities for pricing strategies and approaches to structured parking.**

- 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.

**Integrate technology and emerging mobility options into TMP solutions.**

- Understand how these developments will shape future travel behaviors and needs.
Transportation Master Plan Vision Outreach & Engagement

More than 100 WMU stakeholders and community members were engaged through a series of open houses and focus group meetings in April 2019. Key themes that arose during exercises and dialogue included the following:

- **The walking campus** is a shared goal, but remains a work-in-progress.
- Today’s campus is a “drive first” location, with many users re-parking multiple times in a single visit, as opposed to parking once and choosing other options for additional trips while on-campus.
- **Parking supply is ample**, but the current system does not work well for all users, leading to dissatisfaction with location, availability, regulations, and price.
- **Conflicting priorities and user needs** put a strain on the parking and mobility system, leading to more driving and congestion and lower use of non-driving options.
- **There is a strong desire to ride bicycles, scooters, skateboards, etc.**, but there are few dedicated or comfortable routes to campus from surrounding areas and the on-campus environment and regulations are unclear about shared use pathways.
- **Greater on-campus density** is desired, to add to the vitality of the campus, reduce the impact of surface parking lots, and reduce the need to develop greenfield sites.
- **Accessibility for people with disabilities** should be a key focus as improvements are made to sidewalk and roadway infrastructure, shuttles/buses, and buildings.
- **Change is coming** and the community (on-campus and adjacent) is optimistic about what that could mean for on-campus and community-wide mobility.

Transportation Master Plan Survey

Aligned with the April engagement Nelson \Nygaard worked with the Steering Committee to conduct a survey of campus users from April 1 – May 12. A total of 844 responses were submitted, with the greatest share from WMU staff (41%) and faculty (29%). Student responses represented 22% of surveys, with other community members, alumni and retired faculty/staff comprising the remainder. Several key outputs are provided below. A full summary of survey outputs will be provided as an appendix to this report.
Transportation Master Plan | Existing Conditions Report
Western Michigan University

Figure 2  Survey Output – Primary Commute Mode

Figure 3  Survey Output – On-Campus and Inter-Campus Travel Mode

Figure 4  Survey Output – Walking and Bicycling
This Report

This report presents the results of the first phase of the TMP study: A comprehensive assessment of current conditions, services and programs, to identify any physical, policy, and programmatic deficiencies and illuminate opportunities that align with University goals and objectives. The assessment includes sources provided by the University and its partners, plus findings from previous planning efforts and stakeholder outreach conducted as a part of this project. The remainder of the report is organized as follows:

1. **Background Conditions**: An overview of WMU and its campus and recent and ongoing planning efforts
2. **Parking Conditions**: An overview of parking operations, management, supply, and demand
3. **Transit Conditions**: An overview of service providers, levels of service, ridership, cost, etc. for both Metro Transit and Bronco Bus services
4. **Active Transportation Conditions**: An overview of on-campus and campus-connecting walking and bicycling conditions
5. **Driving Conditions**: An overview of the campus street network, traffic, and circulation
6. **Travel Demand Management Conditions**: An overview of student and employee benefits and other initiatives that seek to reduce driving dependence for campus travel needs
7. **Travel Behavior & Patterns**: An overview of how campus residents and commuters utilize available campus transportation and parking options, how they perceive their options and available travel alternatives, and their stated levels of satisfaction with the options available to them
8. **Projected Conditions**: An overview of anticipated near- and medium-term campus changes with significant implications for the transportation conditions documented below, with a particular focus on expected changes to parking supply and demand
1 Background Conditions

WMU

Founded in 1903 as Western State Normal School, the school expanded to become one of the nation’s leading teacher-training colleges and continued to expand until attaining University status in 1957.

Western Michigan University (WMU) now has more than 22,500 students,¹ with close to 80% undergraduates and 20% graduates. 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.

As the University evolves within a competitive market for higher education, WMU is increasingly focusing on delivering a high quality, engaging, and accessible campus experience for its students, faculty, staff, and visitors.

From the 2010 Master Plan Update Open Forum Presentation:
One of the nation’s top public research universities, Western Michigan University (WMU) recognizes that competition for the best students and faculty is intensifying, as rising expectations necessitate that universities adapt more quickly than in past eras to offer a competitive campus-based learning, teaching, research experience.

WMU plays an important role in the Kalamazoo community. It provides broad and comprehensive educational opportunities and is a major employment center. It is also a regional hub for cultural and lifelong learning.

¹ Fall 2018 Enrollment, per https://wmich.edu/about/facts
Campus Overview

Figure 5    WMU Campus in the Context of Kalamazoo

Campuses

WMU has four (4) 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.

West Campus

The West or “Main” Campus is the academic core of the University and a vibrant center of student activity. It is home to the majority of WMU’s academic programs, campus services, instructional buildings, and residence halls. West Campus includes several open space areas that define the campus character including Goldsworth Valley, Goldsworth Valley Pond, the Oaklands, the Tent Plaza, and Fountain Plaza.
East Campus

This 60-acre hilltop campus is the original site of the University. Today, it includes historic buildings that accommodate a variety of uses, athletic fields and facilities, the School of Medicine, and the College of Health and Human Services. West and East campus are separated by Stadium Drive, a regional thoroughfare.

Parkview Campus

The Parkview Campus houses the College of Engineering and Applied Sciences, the Business & Technology Park, and the WMU Soccer Complex. The campus is located approximately 3 miles southwest of West Campus. The campus has a business park feel with landscaped lawns and roads creating distinct places on the campus for the different activities on the site. The WMU academic buildings are located on the southern end of the site.

Aviation Campus

The Aviation Campus is located at the WK Kellogg Airport in Battle Creek, Michigan, approximately 20 miles from Kalamazoo. The Aviation Campus houses the College of Aviation.

The Transportation Master Plan will focus on transportation and parking conditions within the West or “Main” Campus, with some focus on the East Campus, but minimal documentation of issues and opportunities related to travel between these areas and the Parkview and Aviation campuses.

Planning Context

The following section outlines transportation-relevant findings from past planning efforts that inform the findings and influence the recommendations of this study.

Campus Development Plan, 1970

The 1970 Campus Development Plan outlines the philosophy and goals of the campus. The goals expressed in this plan remain the primary foundation upon which all campus planning policies are based to this day. The campus goals described in the plan are as follows:

- Make this a pedestrian campus by eliminating from the academic core all vehicles other than those of a service nature. Maintain a ten-minute walking time between extreme points within the academic core on the campus.
- Locate all main service driveways and parking facilities outside the academic core of the campus.
- Locate all non-academic facilities on the periphery of the campus.
- Designate specific areas that must remain vacant for controlled density purposes.
Those responsible for the long-range plan must be urged to give at least as much attention to vistas and to the outdoor spaces formed by the location of buildings as to the shape and location of the structures themselves.

WMU Campus Development Issues Report, 1998

The Campus Development Issues report of 1998 reaffirmed most of the campus goals first outlined in the 1970 Campus Development Plan and further outlined specific guidance and objectives of for each goal. The goals, and related guidance and objectives, that are relevant to the transportation network include the following:

**Goal: Make this a pedestrian campus by eliminating from the academic core all vehicles other than those of a service nature. Maintain a ten-minute walking time between extreme points within the academic core on the campus.**

*Guidance & Objectives*

- A pedestrian campus should be organized upon principles of urban design, where buildings have proximate neighbors instead of spacious grounds, and where narrow walkways between buildings interconnect in a series of large, architecturally defined, open spaces.
- Only service vehicles should have access to the academic building core.
- A pedestrian, urban campus is only possible with the help of public authorities. The proposed extension of Howard Ave. between Stadium Dr. and West Main St. must be completed, and Michigan Ave. must be closed through campus.
- A 2,100 ft. diameter circle represents a typical maximum walking distance for ten-minutes. This covers 80 acres.

**Goal: Locate all main service driveways and parking facilities outside the academic core of the campus.**

- Vehicular circulation is to serve faculty, staff, and students living off-campus. Residence hall students may park only in residence hall lots.
- Commuters should be encouraged to park close to where they enter the campus.
- Traffic circulation on campus shall be on a redesigned, and largely peripheral, network of streets.
- Ease of arrival, departure, and parking for public events should be considered.
- It is estimated that 5228 parking spaces will be needed, excluding residence hall lots. Parking structures will be needed to service the Field House, the (Miller) Auditorium, and the academic core north of Sangren Hall.

**Goal: Designate specific areas that must remain vacant for controlled density purposes.**

- Walkways and building relationships must be planned to aide pedestrian orientation and building identification.
- Pedestrian intersections (open spaces) should function as, and be landscaped and furnished to promote, natural meeting places.
- Land use planning and development should emphasize focal points. Interest can be added through changing vistas, textures and spatial qualities.
- Buildings and landscaping should exploit and enhance the natural campus land features. Each building, parking lot, road, walkway and landscape project should contribute to the total campus environment.
**Goal:** Those responsible for the long-range plan must be urged to give at least as much attention to vistas and to the outdoor spaces formed by the location of buildings as to the shape and location of the structures themselves.

- Buffer plantings between campus and adjoining public roads should be immediately established and maintained.
- Preserve and conserve important natural and architectural features of the campus. Major tree plantings are encouraged.
- Principles and tools of landscape design should be used to enforce human scale in open spaces and between buildings.

**WMU Master Plan: A View to the Future, 2001**

In 2001, Western Michigan University (WMU) created a master plan to address new educational ideas and opportunities and to continue to be a leader in career development for its students and foster the strengths and resources of its faculty and staff. The master planning effort set the stage for understanding the overall user experience and identifying the diverse needs and perspectives of its community. The master plan identifies significant issues related to transportation, including of the bisection of campus created by Stadium Drive, frequent traffic congestion, gaps in the campus’s internal street and pathway networks, lack of wayfinding, and imbalanced parking utilization across the campus system.

The Master Plan focuses on 10 Fundamental Concepts, including several that relate directly to campus transportation.

**Fundamental Plan Concepts**

1. **Protect the Valleys** - Preserve and enhance the open space character of Goldsworth and Arcadia Valleys. Restrict building development and enhance natural features, landscaping and maintenance levels within these corridors.
2. **Develop Campus Edges and Entrances** - The University is to be easily identifiable. Establish visually distinctive and significant campus approaches, arrival areas, entries and edges.
3. **Ensure Wayfinding and Accessibility** - Create a friendlier campus with upgraded signage, informational kiosks and improved vehicular and pedestrian circulation, particularly at entrances and approaches to the University. Plan compliance with ADA accessibility guidelines and four-season access to all campus areas.
4. **Plan Alternate Forms of Transportation** - Place greater emphasis on safe and efficient transit, bicycle and pedestrian circulation on and off campus.
5. **Distribute Parking** - Position parking around the campus perimeter to be easily accessible from main roads and near principal centers of use. Coordinate transit and pedestrian interface in order to facilitate access to major destinations.
6. **Connect the Campuses** - Maintain and enhance visual and physical connections between the West, Oakland Drive and East Campus areas. Improve inter-campus circulation and accessibility. Protect potential bridging points connecting the campuses.
7. **Preserve Open Space** - Plan future development to preserve and optimize the use of open space to achieve a sense of community and distinctive settings.
8. **Develop Districts** - Identify and develop districts that reflect a distinct identity, share a common function or are relatively self-contained. District buildings should relate to one another, both physically and through similar functions. Consistently maintain building massing, patterns or grids, density and heights appropriate to each district.
9. **Create Campus Activity Hubs** - Create pedestrian-scale activity centers that are centrally located and visually distinct, with facilities clustered around a core open space that attracts students and visitors.

10. **Distribute Housing** - Locate housing throughout the campuses; serve a variety of housing needs and markets.

**Significant Issues**

Major planning concerns and challenges were identified and prioritized through interviews and in workshops with the Advisory/Policy Committee and the focus groups.

1. Regional roadway (Stadium Drive), rail line and two valleys (Goldsworth and Arcadia) bisect and separate the campus.
2. Campus entries are often congested and lack definition.
3. Campus edges are in need of definition and are often unattractive.
4. Vehicular and pedestrian wayfinding is difficult.
5. Vehicular and pedestrian safety is a concern.
6. Parking demand exceeds supply in key areas.
7. Building and open space maintenance is deficient.
9. Building placement and open spaces do not reinforce each other effectively.

**The 2012 Strategic Plan & “Gold Standard 2020” Updates**

The WMU Strategic Plan affirms the University community's commitment to the values of shared governance, transparent and timely communication, and accountable and responsible behavior within an ethical, compassionate, diverse and respectful environment. A five-year update to WMU’s Strategic Plan, the Gold Standard 2020 affirms its three core tenants to which the University must aspire with annual updates.

**Learner Centered**

Western Michigan University is a university where every member of our community is responsive to and responsible for the education of our students. We challenge and engage all members of our community with a university experience that creates skilled, life-long learners.

**Discovery Driven**

Western Michigan University offers experiences that enable discovery and promote creativity and research. We are committed to pursuing inquiry, disseminating knowledge, and fostering critical thinking that encourages life-long learning. Our scholarship creates new knowledge, forms a basis for innovative solutions, leads to economic development, and makes substantial contributions to society.

**Globally Engaged**

Western Michigan University impacts the globe positively. We are a community of learners committed to human dignity, sustainability, social responsibility, and justice. Our campus embraces a diverse population of students, faculty and staff who develop learners and leaders who are locally oriented and globally competent, culturally aware and ready to contribute to world knowledge and discovery.

The summary document articulate mission and vision statements for the University and outlines several goals and objectives for realizing both.
Mission
Western Michigan University is a learner-centered, research university, building intellectual inquiry and discovery into undergraduate, graduate, and professional programs in a way that fosters knowledge and innovation, and transforms wisdom into action. As a public university, WMU provides leadership in teaching, research, learning, and service, and is committed to enhancing the future of our global citizenry.

Vision
Nationally and internationally recognized, the University aspires to distinguish itself as learner centered, discovery driven, and globally engaged.

Five Strategic Goals
1. Ensure a distinctive and supportive learning experience that fosters success.
2. Promote innovative learning, discovery, and service.
3. Progress as a Carnegie-classified higher research doctoral university that advances new knowledge and value-added discovery.
4. Promote a diverse, equitable, and inclusive University culture to ensure social sustainability and accessibility.
5. Advance economic and environmental sustainability practices and policies.

Climate Action Plan, 2012
The 2012 Climate Action Plan (CAP) was compiled by Office of Sustainability. The last WMU President signed a climate commitment statement that includes a 2065 carbon neutrality goal. Commuting by campus affiliates make up is the second-largest source of greenhouse gases attributed to the operation of WMU. The plan estimates that a combination of fewer miles traveled, more efficient use of vehicles, and an increase in the use of zero-carbon travel modes can reduce GHG emissions from commuting by 82% by the year 2065. Recommended strategies to reduce the impacts of commuting include:

- Increasing the amount of desirable on-campus housing for students, with a target net increase of 3,500 beds by 2035, and more thereafter as demand allows.
- Supporting and improving mass transit options for campus affiliates
- Facilitating carpooling for employees who work regular hours, including by developing some online tools or financial incentives.
- Improving infrastructure for non-motorized commuting options (mainly walking and cycling), including, but not limited to:
  - working with the City of Kalamazoo to ensure that bike lanes or off-street trails exist to connect all nearby student residences with the campus
  - ensuring that connections to campus in all directions are safe and smooth
  - providing conveniently located, ample, safe bicycle storage on campus
- Improving maintenance of non-motorized routes, particularly snow-removal to increase the number of days that walking or cycling is practical.
- Motivating people to change their behavior from single-occupancy automobile use, perhaps by revamping the way affiliates pay for parking or providing incentives for staff to live closer to campus.
- Supporting electric vehicle adoption by continuing to provide free electricity at EV charging stations on campus.
The plan also recommends that all campus-owned vehicles be converted to, or replaced by, zero net carbon fueled or battery-electric powered vehicles by 2040.

South Neighborhood Sub-Campus Master Plan Report, 2018

Creating the smartest, most-connected + most-desirable campus district in the country.

The South Neighborhood Sub-Campus Master Plan Report contains the conceptual plan and technical detail to guide the university forward for the South Neighborhood Sub-Campus – a 20-30 year ‘road map’ and not a mandate or inflexible document. The plan reflects WMU’s commitment to reinvest in its campus, improve its facilities, and become a draw for students, faculty, and staff from across the region, nation, and globe. The University is in constant competition – for students, employees, and resources. This plan is a significant investment in the WMU campus as a primary asset in that competition.

South Neighborhood District Vision

- This is a place where students live, study, work, and play.
- This is a place where visitors from near and far choose to socialize, experience cultural and athletic performances.
- This is a place where faculty and staff gather.
- This is a place that attracts the best and brightest to Western.
- This is, at its core, a place where “town meets gown.”

Getting to and from this place is accommodated through improved access from Stadium Drive and within the district itself via a system of complete streets designed for pedestrians, bicycles, and vehicles.

This vision is supported by several objectives for the development of the South Neighborhood Plan.

- Create a destination that makes WMU a university of choice.
- Blur the boundaries from edge to gateway.
- Vision for the next generation of residential life facilities.
- Align vision to market realities and partner.
- Capitalize on the university’s positive community impact.

Village Concept

The center of the plan’s design is the Village Concept, which focuses on “creating a vibrant place incorporating a range of land uses, compact development, pedestrian-friendly design, and beautiful out-door open spaces... (to) enliven the campus and attract multiple, lively, and prosperous businesses from beyond the university.” The aim is to elevate interest in and establish this campus district as “a new and exciting neighborhood in Kalamazoo.” The highly visible location is meant to provide an active, new gateway into the WMU campus – “encouraging its use by the students as well as outside visitors.”

Mobility Elements

A focus on non-driving mobility emphasizes walkability through building adjacencies, as well as active ground floors that reinforce the public nature of the ground plane outside buildings. A series of primary and secondary paths will provide pedestrian access throughout the Village and efficient connections to the rest of the campus. Pathway locations and hierarchy also reinforce the Village concept by creating a series of “one-minute destinations” to encourage foot traffic through the campus and retail area.
Plan Views

Figure 7  South Neighborhood - Key Nodes + Connecting Pathways

Figure 8  South Neighborhood - Pedestrian Network
2 Parking Conditions

The Parking Services Department

The WMU Parking Services department, a division of the Public Safety department, maintains and operates the University's campus parking system.

Staffing

Parking Services staffing consists of 16 full-time employees, as listed here:

- 1 Captain
- 1 Office Supervisor
- 6 Office Staff
- 7 Parking Enforcement Officers
- 1 Maintenance Coordinator

Parking Services is a department under the Vice President of Business and Finance and the Chief Financial Officer, as illustrated in the following figure.
Funding, Revenue, Investments

Parking revenue pays for the WMU parking system as well as the Bronco Bus service and campus roadway maintenance and improvements. The table below summarizes 2017/18 revenue and expenditures for the Parking Services department.
Figure 10  WMU Parking Services 2017/18 Financial Summary

<table>
<thead>
<tr>
<th>Revenue</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permit Fees</td>
<td>$3,399,704</td>
</tr>
<tr>
<td>Internal Transfers²</td>
<td>$3,872,618</td>
</tr>
<tr>
<td>Meter Fees &amp; Special Events</td>
<td>$379,647</td>
</tr>
<tr>
<td>Parking Violations</td>
<td>$746,297</td>
</tr>
<tr>
<td>Enrollment Fee</td>
<td>$407,972</td>
</tr>
<tr>
<td>Other Sources</td>
<td>$238,729</td>
</tr>
<tr>
<td><strong>Total Revenue</strong></td>
<td><strong>$9,044,967</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expenditures</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff Compensation</td>
<td>$1,596,399</td>
</tr>
<tr>
<td>Internal Transfers</td>
<td>$2,365,856</td>
</tr>
<tr>
<td>Contracted Services</td>
<td>$2,258,890</td>
</tr>
<tr>
<td>Debt Service</td>
<td>$2,637,349</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>$389,049</td>
</tr>
<tr>
<td><strong>Total Expenditures</strong></td>
<td><strong>$9,247,543</strong></td>
</tr>
<tr>
<td><strong>Revenue - Expenditures</strong></td>
<td>($202,576)</td>
</tr>
</tbody>
</table>

**Key Management Practices**

Parking Permits

*No person shall use any parking ramp, parking building, or other parking facility without paying the fee designated for such parking and at the time prescribed therefor.*

— Sec. 6.10. of the University’s Transportation and Parking Ordinances

Parking permits are the primary means by which Parking Services regulates campus parking to ensure that spaces are available for WMU students and employees when they need them. Following is a summary of the types of permits issued to WMU populations, and the 2017-18 academic-year sales volume for each.

---

² Internal transfers include funds moved to/from the WMU General Fund
Figure 11  WMU Parking Services 2017/18 Permit Sales

<table>
<thead>
<tr>
<th>User Group</th>
<th>Permits Issued</th>
<th>2017-18 Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident Students</td>
<td>A,B,C,D,E,F,K</td>
<td>1,887</td>
</tr>
<tr>
<td>Commuter Students</td>
<td>WA,WF,WS,WM*</td>
<td>9,446</td>
</tr>
<tr>
<td>Graduate Assistant</td>
<td>GH</td>
<td>304</td>
</tr>
<tr>
<td>Part-Time Employee</td>
<td>PH,TF,TS,TP</td>
<td>1,351</td>
</tr>
<tr>
<td>Full-Time Employee</td>
<td>RH,RS,RM</td>
<td>4,818</td>
</tr>
<tr>
<td>Dignitary</td>
<td>VH,VS</td>
<td>310</td>
</tr>
<tr>
<td>All</td>
<td>-</td>
<td>18,116</td>
</tr>
</tbody>
</table>

*WM is a motorcycle permit, of which one was sold in 2017-18

Rates

Employees receive parking as a free employment benefit. Faculty, adjunct, full-time and temporary staff all get the same benefits. Parking Services receives funding from the University's fringe benefits budget to offset the cost of providing this parking.3

The rates for all student permits, as of the Spring 2019 semester, are listed below.

- 1-Day Permit: $5
- 3-Day Permit: $10
- Weekly Permit: $15 (full calendar week)
- Monthly Permit: $60
- Semester Permit: $180.00
  - First semester upgrade through rest of academic year = $120.00
- Yearly Permit: $300.00

Visitor Parking

Visitor parking is primarily provided through metered parking. Parking Services will also issue parking permits to WMU affiliates to accommodate visitors.

Visitors may park on the WMU campus by:

- Obtaining a valid visitor permit;
- Parking at a metered parking space; or
- Parking in 30-minute parking zones.

Any visitor can purchase guest permits from the Parking Services office. Daily permits are $5. Weekly permits are $15. Daily permits can also be purchased online and printed for dashboard display.

3 This cost must now be calculated, as it will be taxed per the new federal tax code.
Visitors to the Office of Admission will find a limited number of free designated parking spaces in the lot directly across the street from the Seibert Administration Building. Additional metered parking is available in the same lot.

Parents of students living in residence halls may obtain a free, three-day permit at Parking Services, Monday through Friday, 7:30 a.m. to 5 p.m. Permits may also be obtained at the WMU Department of Public Safety at 511 Monroe St. when the Parking Services office is closed. Parents must be accompanied by the student being visited. The student is required to produce a valid Bronco ID or WIN, while the parent must present a current vehicle registration along with a valid driver’s license.

Persons attending conferences on campus can obtain a parking permit from the conference manager and park in a designated parking area, for the duration of the conference.

Metered spaces are intended for the exclusive use of visitors, with WMU-permitted vehicle prohibited from parking in these spaces in all but three lots on campus. Parking meter fees must be paid Monday through Thursday, 7 a.m. to 8 p.m., and Friday, 7 a.m. to 4 p.m. The current meter fee is $1.50 per hour, which is payable via coins or mobile app.4

Accessible Parking

Accessible parking spaces are reserved for vehicles displaying an appropriately designated license plate or placard/certificate from any state. WMU students and employees using these spaces must also register their vehicle with parking services and pay the registration fee. If all accessible parking spaces are full in an area, a vehicle displaying a valid plate or placard may park in any available non-reserved parking space.

Vehicles displaying a valid plate or placard need a special designation from the Secretary of State of Michigan to park at a meter without paying the designated fee.

Enforcement

Vehicles parking in violation of any provision of Western Michigan University Traffic, Parking and Pedestrian Ordinance or these rules will receive a parking violation notice. Violation fines may be paid online, by telephone, or at the Parking Services office. Persons who disregard six or more parking violation notices will be subject to vehicle impoundment or civil infraction notice. Persons who disregard three or more parking violation notices will be subject to a hole on a student’s class registration academic transcripts, declined WMU vehicle registration, or University disciplinary actions that may include revocation of driving and parking privileges WMU property.

Event Parking

For certain events, entire lots or portions of the lots may be designated for, and restricted to, vehicles with permits for the event and/or separate fees may be charged. If an event is sufficiently sized, the facilities used for parking are rented in their entirety, so no permits are required for use during the event. Organizers of Smaller events have the option to rent whole facilities, purchase permits to distribute to attendees, or require attendees to purchase their own event permits directly from the university. Permits can be emailed and printed off or provided to attendees as they arrive.

The existing parking facilities on campus are generally sufficient for accommodating parking demand generated by events on campus. The facilities most commonly used for event parking are parking ramps 35 and 80, and to a lesser extent, lots 13 and 41. Other facilities are used as needed. Parking shuttles are generally not provided for events, as demand rarely exceeds the supply in the nearby facilities used for events. On very rare occasions, such

4 Register for a Parkmobile account at www.parkmobile.com or call (800) 280-4146.
as particularly significant football games, parking shuttles have been used to transport people between the event and parking facilities beyond walking distance.

**Supply**

The WMU parking system includes just over 14,000 parking spaces, contained in 4 ramps and over 100 surface across their campuses. Parking at the West and East campuses (see map below) comprises nearly 13,000 of those spaces, including 2 of the 4 WMU ramps (Ellsworth and Miller).

**Figure 12** The WMU Main Campus Parking Supply

![Parking Facilities Map](image)

<table>
<thead>
<tr>
<th></th>
<th>Employee</th>
<th>Resident</th>
<th>Commuter</th>
<th>Any Permit</th>
<th>Reserved</th>
<th>Other</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employee</strong></td>
<td>3,322</td>
<td>2,529</td>
<td>3,091</td>
<td>3,173</td>
<td>191</td>
<td>1,958</td>
<td>14,264</td>
</tr>
</tbody>
</table>

**Employee Parking**

WMU employees receive permits – designated as R – for use in over 50 facility locations throughout the campus. In all, roughly 3,300 spaces are designated for employee-permit parking among these locations.
Commuter Student Parking

Commuter students receive permits – designated as W – for use in designated spaces within 13 parking facilities, primarily located along the campus periphery. Roughly 3,100 spaces are designated for commuter-permit parking, located in 13 campus parking facilities. The table below provides an overview of the supply at these facilities.

Figure 14 Commuter-Permit Supply by Facility

<table>
<thead>
<tr>
<th>Facility ID</th>
<th>Name</th>
<th>Capacity</th>
<th>Spaces Designated For</th>
<th>Commuters</th>
<th>Employees</th>
<th>Residents</th>
<th>Any Permit</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>MILLER SW</td>
<td>286</td>
<td></td>
<td>273</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>23</td>
</tr>
<tr>
<td>35</td>
<td>M RAMP</td>
<td>1,104</td>
<td></td>
<td>825</td>
<td>184</td>
<td>-</td>
<td>-</td>
<td>95</td>
</tr>
<tr>
<td>61</td>
<td>ROOD</td>
<td>547</td>
<td></td>
<td>214</td>
<td>315</td>
<td>-</td>
<td>-</td>
<td>18</td>
</tr>
<tr>
<td>63</td>
<td>LAWSON</td>
<td>296</td>
<td></td>
<td>235</td>
<td>52</td>
<td>-</td>
<td>-</td>
<td>9</td>
</tr>
<tr>
<td>64</td>
<td>LAWSON E</td>
<td>215</td>
<td></td>
<td>215</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>72W</td>
<td>SCHNEIDER</td>
<td>344</td>
<td></td>
<td>344</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>75</td>
<td>LAWSON W</td>
<td>34</td>
<td></td>
<td>34</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>76</td>
<td>W. VIEW</td>
<td>286</td>
<td></td>
<td>48</td>
<td>-</td>
<td>150</td>
<td>79</td>
<td>9</td>
</tr>
<tr>
<td>79</td>
<td>WMICH/HOW</td>
<td>61</td>
<td></td>
<td>56</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td>82</td>
<td>ROOD O.F.</td>
<td>294</td>
<td></td>
<td>284</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>89</td>
<td>V-POND</td>
<td>210</td>
<td></td>
<td>105</td>
<td>-</td>
<td>105</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>92</td>
<td>MILLER O.F.</td>
<td>137</td>
<td></td>
<td>137</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>105</td>
<td>CHHS</td>
<td>321</td>
<td></td>
<td>321</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>All</td>
<td></td>
<td>4,135</td>
<td></td>
<td>3,091</td>
<td>559</td>
<td>255</td>
<td>79</td>
<td>161</td>
</tr>
</tbody>
</table>

Resident Student Parking

Resident students receive permits for use of lots as near their assigned housing as possible. Parking Services issues seven distinct Resident permits – A, B, C, D, E, F, and K – in effort to preserve space availability for residents in their assigned lots. Resident-permit parking is provided in 25 lots across the WMU campus. Combined, these lots provide over 2,500 spaces reserved for vehicles with a Resident permit. The table below summarizes the number of lots that include spaces for each permit type, and the total number of spaces designated for that permit type, across all campus lots.
Figure 15 Resident-Permit Supply by Permit Type

<table>
<thead>
<tr>
<th>Measure</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>K</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lots</td>
<td>1</td>
<td>6</td>
<td>11</td>
<td>5</td>
<td>1</td>
<td>8</td>
<td>2</td>
<td>34</td>
</tr>
<tr>
<td>Spaces</td>
<td>65</td>
<td>193</td>
<td>410</td>
<td>368</td>
<td>67</td>
<td>963</td>
<td>463</td>
<td>2,529</td>
</tr>
</tbody>
</table>

**Demand**

A 2018 assessment concluded that current parking-system supplies are sufficient to meet campus parking needs – “WMU’s parking system is, and will likely remain, adequate to meet the campus community’s parking demand—if the system is viewed holistically.”5 The fact that any employee, resident, or commuter student who wants to park on campus can get an appropriate permit also attests to the sufficiency of the current WMU parking supply. Nonetheless, there are concerns, issues, and challenges related to parking supply and its capacity to meet needs and/or expectations of WMU affiliates. Stakeholder input on these is summarized in the section below.

**Peer Comparison**

The following universities were identified as peer universities for the purpose of comparing WMU supply and pricing conditions against peer norms.

- Central Michigan
- Eastern Michigan
- Northern Michigan
- Grand Valley State
- Kent State
- University at Buffalo

---

### Figure 16 Peer University Details

<table>
<thead>
<tr>
<th>University</th>
<th>City Population</th>
<th>In State Tuition</th>
<th>Out of State Tuition</th>
<th>Enrollment</th>
<th>Student/Faculty Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Michigan</td>
<td>25,847 (Mount Pleasant, MI)</td>
<td>$12,093</td>
<td>$22,881</td>
<td>14,795</td>
<td>21</td>
</tr>
<tr>
<td>Eastern Michigan</td>
<td>21,076 (Ypsilanti, MI)</td>
<td>$12,019</td>
<td>$29,200</td>
<td>17,217</td>
<td>20</td>
</tr>
<tr>
<td>Northern Michigan</td>
<td>20,629 (Marquette, MI)</td>
<td>$10,498</td>
<td>$16,120</td>
<td>7,018</td>
<td>21</td>
</tr>
<tr>
<td>Grand Valley State</td>
<td>26,059 (Allendale Charter Township, MI)</td>
<td>$12,306</td>
<td>$17,376</td>
<td>21,937</td>
<td>17</td>
</tr>
<tr>
<td>Kent State</td>
<td>29,915 (Kent, OH)</td>
<td>$10,012</td>
<td>$18,554</td>
<td>23,178</td>
<td>20</td>
</tr>
<tr>
<td>University at Buffalo</td>
<td>258,612</td>
<td>$6,870</td>
<td>$24,600</td>
<td>21,607</td>
<td>13</td>
</tr>
<tr>
<td>Peer Median*</td>
<td>25,953</td>
<td>$11,259</td>
<td>$20,718</td>
<td>19,412</td>
<td>20</td>
</tr>
<tr>
<td>WMU</td>
<td>75,807 (Kalamazoo, MI)</td>
<td>$12,483</td>
<td>$15,373</td>
<td>17,760</td>
<td>17</td>
</tr>
</tbody>
</table>

* Because many of these peer measures are highly variable, median measures were calculated to provide a more useful comparative benchmark, compared to average measures that would have been skewed toward outlier measures on the high or low end of the peer range.

Compared to the selected peers, WMU’s in-state undergraduate tuition aligns with the peer median, while its out-of-state tuition is significantly lower than the median, and the lowest among all peers. Its undergraduate enrollment is slightly below the peer median, while its ratio of undergraduates-to-faculty ratios is toward the low end within the peer range. WMU is located within the 2nd largest city among the selected peers, with a significant margin between both the largest city and the peer median, suggesting a distinct opportunity to offer more urban forms of amenities in service to campus access and mobility, compared to all but one peer.

### Figure 17 Parking Supply and Pricing

<table>
<thead>
<tr>
<th>University</th>
<th>Parking Supply</th>
<th>Spaces/Student</th>
<th>Annual Resident Student Permit</th>
<th>Annual Commuter Student Permit</th>
<th>Annual Employee Permit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Michigan</td>
<td>11,205</td>
<td>0.66</td>
<td>$150</td>
<td>$175</td>
<td>$185</td>
</tr>
<tr>
<td>Eastern Michigan</td>
<td>9,709</td>
<td>0.51</td>
<td>$274 - $408</td>
<td>$274 - $408</td>
<td>$60</td>
</tr>
<tr>
<td>Northern Michigan</td>
<td>6,700</td>
<td>0.88</td>
<td>$140</td>
<td>$140</td>
<td>Benefit</td>
</tr>
<tr>
<td>Grand Valley State</td>
<td>7,686</td>
<td>0.47</td>
<td>$410</td>
<td>$460</td>
<td>Benefit</td>
</tr>
<tr>
<td>Kent State</td>
<td>11,500</td>
<td>0.44</td>
<td>$200</td>
<td>$155 - $200</td>
<td>$152.88</td>
</tr>
<tr>
<td>University at Buffalo</td>
<td>16,000</td>
<td>0.52</td>
<td>Part of Fee</td>
<td>Part of Fee</td>
<td>$19.30</td>
</tr>
<tr>
<td>Peer Average</td>
<td>10,467</td>
<td>0.58</td>
<td>$248.20</td>
<td>$258.70</td>
<td>$104.30</td>
</tr>
<tr>
<td>WMU</td>
<td>14,004</td>
<td>0.62</td>
<td>$300</td>
<td>$300</td>
<td>Benefit</td>
</tr>
</tbody>
</table>
WMU’s parking supply is the second highest among the selected peers, and roughly 40% above the average peer supply. When compared to campus population, its rate of spaces-per-student is also toward the high end of peer measures. The peer averages for permit rates were calculated using only peer universities that charge for parking, for the reason that parking that is provided as a benefit it generally paid for via some other kind of payment – either as a student fee that helps pay for the parking provided, or, as is the case at WMU, via a payment from the university’s benefits budget to the parking system. In either case, there is a cost that is born by (all) students/employees, rather than a direct cost paid by users. In this context, the WMU student permits are priced toward the high end of the peer range – with just Eastern Michigan and Grand Valley State offering higher-cost parking – and well above the peer average. By contrast, just two peer universities offer the same free-parking benefit to their employees.

Notable Management Practices

- **Central Michigan**: Freshmen are assigned to parking lot on the south end of campus
- **Eastern Michigan**: Privatized parking with LAZ Parking in a 35-year, $55 million agreement recently, and parking violations issued have gone up 64% since then.⁶
- **Kent State**: Student parking permit quantities are limited and certain permits do sell out – hence they are sold online on a first-come first-served basis according to class standing
- **University at Buffalo**: Freshman living on campus can only park at their residence or Park and Ride lots on weekdays between 7am and 3pm.

Notable Mobility Practices

- **Grand Valley State**: Dedicated carpool parking at the fire station in between the two campuses, and dedicated alternative fuel parking spaces

**Stakeholder Input**

The sections below contain summarized issues, concerns, opportunities and recommendations from feedback gathered at various stakeholder outreach activities. The feedback presented is intended to provide a snapshot of how the campus community, as well as key interested stakeholders outside of the campus community, perceives the campus transportation network presently, and their vision and proposals for improving the network.

While the information presented in these sections are integral to the assessment of transportation conditions and the development of strategies, they are not to be interpreted as the key findings or recommendations of this study.

**Issues**

**Commuting Behaviors**

- The expansion of on-campus parking facilities fueled a long-time expectation to be able to drive and park anywhere on campus, which sets WMU behind its peers.
- There is plenty of parking, but users want to and expect to park close to their destination.
- Drivers avoid leaving campus throughout the day out of a belief that they will lose a prime parking space.

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Students need to plan to arrive well before classes start, to ensure they have enough time to find parking.

- There is a behavior issue to overcome when driving is made so easy.
- Winter weather makes parking further away, walking, or waiting for public transit uncomfortable.
- University expansion, like adding the physical therapy program, may increase parking demands.
- Nearby parking spaces, especially near the library, are highly desirable for students and staff who work late.
- Students who live on campus often bring their cars and leave them parked throughout the year.

**Supply, Location, and Management**

- The current concentration of parking facilities generates significant traffic in the campus core.
- Parking utilization varies significantly across facilities; some staff lots go underutilized.
- The supply lost when surface lots are redeveloped will not likely be replaced, and replacement with structured parking will be costly.
- Students want more parking in lot 72R.
- The “Z” permit for remote student parking (discounted rate) is not utilized.
- Students with “D” passes have few convenient parking options in East Campus.
- Ongoing additions to the parking supply have diminished the desirability, comfort, and aesthetics on campus and make a negative impression on visitors.
- The parking pass is expensive for occasional drivers.
- Surface lots, like Sangren lot, become icy and treacherous during the winter months.
- The low-emissions spaces at Sangren Hall are not honored.

**Accessibility**

- Ramp-accessible parking spaces are not always strategically located throughout campus.
- Handicapped parking spaces are limited, posing a challenge for commuters with mobility issues.
- There is a lack of handicapped parking near Lee Honor’s College.
- People use handicap spots for pick-up/drop-off, especially near Dunbar Hall.
- Parking far away can be inconvenient, and even dangerous, when people must cross large roadways to go from parking space to destination. Crossing Ring Road to get to parking structure 1 feels dangerous.

**Real-Time Availability Information**

- The campus community needs access to availability information so they can make parking-location decisions at any phase of their trip.

**Event Coordination and Communication**

- There have been occasions of event organizers failing to contact the Parking Services department. In those instances, enforcement officers notify the office of the large amount of vehicles parked with no permits. The office then determines if there is an event taking place and attempts to contact event organizers and secure funding for the lot rental to prevent citations.
- Event attendees sometimes fail to locate the designated parking location for the event, and subsequently park in a different area that is not reserved for the event.
- Event attendees sometimes do not display the permit that was provided to them resulting in a citation.
Opportunities

Maximize Efficiency

- Better technology, such as dynamic signage or other real-time information, would help ensure facilities are used more efficiently and consistently, and would make it more feasible to incorporate flexible-use facilities.
- A zoned approach derived from actual use patterns could provide more pricing and permit options and greater customer satisfaction.
- The default employee parking permit benefit can be exchanged for a “mobility benefit” that could be applied to other travel modes and otherwise encourage non-drive-alone options.
- Move towards a model where faculty, staff and commuter students share facilities.
- Ensure that any new facility responds to an established need and will be used as much as possible.
- Collecting utilization data on a regular basis will help clarify opportunities and areas of need.

Right-Size the Supply and Repurpose the Space

- WMU is looking to reduce the campus’s parking footprint, including through greater density on campus, which would both reduce parking needs, and make more campus trips walkable and bikeable.
- Designating more EV charging and rideshare pickup/drop-off spaces throughout the campus can encourage these modes while protecting spaces meant for other uses.

In Previous Plans

South Neighborhood Sub-Campus Master Plan, 2018

Parking Sufficiency Assessment, Walker Consulting

Key Findings

- Localized parking shortages and redevelopment within the South Neighborhood may result in some patrons needing to walk farther to reach their destinations.
- Many similar universities tackle this challenge, of who gets to park where, by actively managing permit assignments among campus lots and zones; prioritizing close-in parking based on pricing, need, duration of stay, housing policy, and/or other strategies.

Recommendations

- Undertake a holistic review of their current parking management approach, to ensure that the system is functioning efficiently both before and after the South Neighborhood is redeveloped.
3 Transit Conditions

Bronco Bus Service

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. A valid Bronco ID card may be requested by the bus driver in order to board. All but one of the routes is operated with a single vehicle, and buses only stop at designated Bronco Transit stop locations. Following is a description of the primary fixed routes that operate during the fall and spring terms, and their operation characteristics.

- **Gold Route**: serves the key West Campus areas, primarily traveling along the Ring Road, in a clockwise direction
- **Brown Route**: serves the key West Campus areas, primarily traveling along the Ring Road, in a counterclockwise direction
- **Oakland Route**: provides service from the West Campus Loading Zone to the Health and Human Services Building on East Campus via Ring Road South, Oliver Street, and Cass Street
- **Parkview Route**: provides service from the West Campus Loading Zone to the Park View Campus via Howard Street, Stadium Drive, South Drake Road, and Parkview Avenue
- **Aviation Route**: provides direct service from the West Campus Loading Zone to the College of Aviation. The Aviation Route is the only Bronco Transit route that operates on Saturdays.
### Figure 18: Operational Characteristics of Primary Bronco Transit Routes

<table>
<thead>
<tr>
<th>Route</th>
<th>Service Days</th>
<th>Service Hours</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold</td>
<td>Monday-Friday</td>
<td>Mon-Fri: 7:29 a.m.-7:52 p.m.</td>
<td>30 min</td>
</tr>
<tr>
<td>Brown</td>
<td>Monday-Friday</td>
<td>Mon-Thurs: 7:22 a.m.-12:18 a.m.</td>
<td>30 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fri: 7:22 a.m.-9:48 p.m.</td>
<td></td>
</tr>
<tr>
<td>Oakland</td>
<td>Monday-Friday</td>
<td>Mon-Thurs: 7:05 a.m.-10:02 p.m.</td>
<td>30 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fri: 7:05 a.m.-6:02 p.m.</td>
<td></td>
</tr>
<tr>
<td>Parkview 1</td>
<td>Monday-Friday</td>
<td>Mon-Thurs: 7:05 a.m.-10:51 p.m.</td>
<td>45 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fri: 8:05 a.m.-8:51 p.m.</td>
<td></td>
</tr>
<tr>
<td>Parkview 2</td>
<td>Monday-Friday</td>
<td>Mon-Thurs: 8:35 a.m.-9:21 p.m.</td>
<td>45 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fri: 8:35 a.m.-4:21 p.m.</td>
<td></td>
</tr>
<tr>
<td>Aviation</td>
<td>Monday-Saturday</td>
<td>Mon-Thurs: 7:00 a.m.-8:50 p.m.</td>
<td>Mon-Friday: 1-2 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fri: 7:00 a.m.-7:00 p.m.</td>
<td>Sat: 2 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sat: 7:00 a.m.-5:00 p.m.</td>
<td></td>
</tr>
</tbody>
</table>

### Figure 19: Bronco Transit Routes – West and East Campus
Bronco Transit also runs additional seasonal routes in addition to the primary routes described above. Following is a brief description of the seasonal routes and their operating characteristics.

- **Cold Weather Bus**: operates in the winter between the Campus Loading Zone, the Valleys, and the Bernhard Center.
- **Summer Route**: the summer route is a combination of the Parkview and Oakland Routes.
- **Downtown Express**: provides Friday afternoon and Sunday return service from Main Campus to Kalamazoo Transportation Center, Amtrak, Greyhound, and other bus services.

### Operational Characteristics of Seasonal Bronco Transit Routes

<table>
<thead>
<tr>
<th>Route</th>
<th>Service Dates</th>
<th>Service Days</th>
<th>Service Hours</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cold Weather</td>
<td>Jan-March (subject to weather)</td>
<td>Mon-Thurs</td>
<td>8:25 a.m.-2:25 p.m.</td>
<td>30 mins</td>
</tr>
<tr>
<td>Summer</td>
<td>Summer Term</td>
<td>Mon-Fri</td>
<td>• Mon-Thurs: 7:30 a.m.-9:57 p.m.</td>
<td>1 hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Fri: 7:30 a.m.-7:00 p.m.</td>
<td></td>
</tr>
</tbody>
</table>

### Funding & Operation

The WMU Auxiliary Services department operates Bronco Buses. Operations are funded by parking revenues, via a distribution directly from the Parking Services department.

### Service Routes and Ridership

<table>
<thead>
<tr>
<th>Route</th>
<th>Annual Ridership</th>
<th>Route Cost</th>
<th>Cost/Ride</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold</td>
<td>159,240</td>
<td>$176,898</td>
<td>$1.11</td>
</tr>
<tr>
<td>Brown</td>
<td>157,097</td>
<td>$176,863</td>
<td>$1.13</td>
</tr>
<tr>
<td>Oakland</td>
<td>53,620</td>
<td>$153,640</td>
<td>$2.87</td>
</tr>
<tr>
<td>Parkview</td>
<td>74,891</td>
<td>$156,066</td>
<td>$2.08</td>
</tr>
<tr>
<td>Parkview: Tues + Thurs</td>
<td>41,474</td>
<td>$151,931</td>
<td>$3.66</td>
</tr>
<tr>
<td>Parkview/Oakland</td>
<td>12,222</td>
<td>$109,736</td>
<td>$8.98</td>
</tr>
<tr>
<td>Cold Weather</td>
<td>5,486</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Combined</td>
<td>504,030</td>
<td>$381,495</td>
<td>$1.88</td>
</tr>
</tbody>
</table>
Other Transit Providers

Metro Transit

Kalamazoo Metro Transit is the major 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.

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, in terms of current and potential ridership opportunities. A 2018 Bus Stop Study concluded that “...WMU is a major existing market for transit. High-density student and non-student housing complexes generate huge demand for transit service.” The study also identified key markets for Metro, based on population densities as a primary measure of ridership potential and service efficiency. WMU and much of its surroundings were identified as key markets, as follows:

Highest-density areas (15 people/acre or greater):
- Near WMU between Michigan Avenue, Howard Street, I-94, and Drake Road.
- Residential areas along Vine Street between Davis Street and S Burdick Street.

Moderate-density areas (10-15 people/acre):
- The larger area surrounding WMU, between Stadium Drive, Drake Road, and Arboretum Parkway.
In total, five Metro Transit routes serve WMU.

Three Metro Transit routes stop at the loading zone on West Campus:

- **Route 3 – West Michigan**: connects the loading zone to Lot #61, 58 West Apartments, Concord Apartments, Hardings on Drake, Westland Meadows, Village Apartments, West Main Mall, and the Maple Hill Mall.

- **Route 16 – Lovell**: connects the loading zone to Kalamazoo City hall, Oak and Lovell, 58 West Apartments, Kalamazoo Institute of Arts, Colonial Manor, Mt. Royal Townhouses, Kalamazoo College, and the WMU Valley Dining Center.

- **Route 21 – WMU/Solon/Kendall/Lafayette**: operating only during the Fall and Spring semesters when the university is in session, Route 21 connects the loading zone to Kendall Manor, Whitehall Apartments, and the Landing Apartments, Fraternity Village, Greenwood, and Knollwood Apartments.

Another Metro Transit route serves West Campus that does not make stops at the loading zone, but stops at the Student Recreation Center:

- **Route 11 – Stadium/KVCC**: connects West Campus to Kalamazoo Valley Community College’s Oshtemo Township Campus, Flesher Field, Bronson Athletic Club, Stadium Drive Apartments, Danford Creek Apartments, and Kalamazoo Christian High School.

Additionally, a single Metro Transit Route serves East Campus, making stops at locations along Oakland Drive:
- **Route 4 – Oakland**: connects the loading zone to Kalamazoo City hall, Oak and Lovell, 58 West Apartments, Kalamazoo Institute of Arts, Colonial Manor, Mt. Royal Townhouses, Kalamazoo College, and the WMU Valley Dining Center. Route 4 also travels past the Parkview Campus on Parkview Road, but does not enter the campus.

Nearly all of the WMU’s Metro ridership activity occurs at the campus loading zone, which makes up over 90% of the ~1,000 average daily boardings on campus. The map below presents boarding data for Metro bus stops, across the main campus area. During the 2017-18 school year, 527,931 trips were taken on Metro buses by WMU affiliates. More than 40% of these trips were on the #16 (Lovell) route and another 21% were on the #21 (WMU/Solon/Kendall/Lafayette) route.

### Planned Changes

The Kalamazoo Area Bus Stop Study (2018) included a comprehensive review of Metro's 750+ bus stops. Study goals included:

- Verifying existing bus stops
- Determining new and improved bus stop locations
- Discontinuing the flag-stop policy
- Developing bus stop guidelines for provision, spacing, placement, and amenities
- Improving on-time percentage (currently 70% system-wide)
- Updating plans for 2019/2020 bus stop upgrade project
Stop Consolidation

One of the primary study recommendations is a process of stop consolidation, consisting of:

- 518 stops to be retained
- 196 stops to be removed
- 54 stops to be relocated within a short distance of the existing location
- 88 new stops be added

These recommendations would reduce the total number of stops in the system from 768 to 660, a 16% decrease. The study also recommends specific improvements to several bus stops, focusing on improve stop amenities. The maps below summarize the recommended stop changes (removal, relocation, addition) and stop improvements, for stops on and around the WMU campus, as recommended in the study’s final report.

Figure 24  Recommended Stop Changes
Other Metro Programs & Services

Metro offers a number of additional services to riders in the Kalamazoo region, responding to the unique needs of different groups:

- **Metro Connect**: shared ride, demand response, origin-to-destination transit service. This service is open to all residents of Kalamazoo County. Discounted fares are available to individuals who are certified as having a disability, seniors 62 years or older and individuals with a disability who are certified as Americans with Disabilities Act (ADA) eligible.

- **Metro Share**: specialized service providing vehicles to approved agencies serving seniors and individuals with disabilities, at no cost. Approved agencies include governmental organizations, non-profits serving seniors and individuals with disabilities, and other approved by Metro Transit.

- **Kalamazoo Metro Ridesharing**: ride matching service that allows commuters to find carpool, vanpool, transit, or bike options to get around Kalamazoo County and Southwest Michigan. The program has features for both employers and individual riders and includes carpool and vanpool matching services, transit information, and tips on how to save money on commuting to and from work or around town.

Private Shuttles

Several off-campus housing developments provide free shuttle-van rides to campus for their residents. These vans use Bronco Bus stops for boarding and alighting on campus. Walmart also operates a daily “Shopper Shuttle” to campus in the evenings on Mondays and Fridays.
Travel Information

Both Bronco Transit and Metro offer real-time bus arrival information. Bronco Transit provides information online and via the WMU Transit App. Metro offers an online GPS map and mobile bus tracking via the myStop Mobile app.

Stakeholder Input

The sections below contain summarized issues, concerns, opportunities and recommendations from feedback gathered at various stakeholder outreach activities. The feedback presented is intended to provide a snapshot of how the campus community, as well as key interested stakeholders outside of the campus community, perceives the campus transportation network presently, and their vision and proposals for improving the network.

While the information presented in these sections are integral to the assessment of transportation conditions and the development of strategies, they are not to be interpreted as the key findings or recommendations of this study.

Issues

Service Gaps

- Increases of Lyft/Uber activity at Bernhard Center, is perhaps partly due to lack of direct transit service.
- Without the Valley Express (Bronco Bus), it is hard for people in the Valley to get to campus.
- Students and researchers need to get to Parkview campus 7 days-a-week, but they have a hard time when the bus isn’t available.
- Buses can be over-crowded during some periods – especially in colder weather months – and are therefore difficult to depend on.
- East Campus access via Bronco Bus is not convenient.
- Using Bronco Bus and Metro Transit during the PM hours presents service frequency & safety concerns.

Inter-Agency Coordination

- Coordination with Metro on the changing sub-campus alignments proposed in the South Neighborhood Sub-Campus Master is needed, in order to provide them with an opportunity to advise on transit implications and tradeoffs.

Real-Time Availability of Information

- Awareness of Bronco Bus real-time information is limited.
- Bus schedules and real-time information are not present at Bronco Bus stops.

Accessibility

- Access to campus-adjacent Metro stops is challenging in some locations (e.g.: Howard & Waite) due to lack of marked crossings and accessible curb ramps.
- Bronco Buses are not fully accessible via mobile app or desktop.
- Audible announcements are inconsistent.
- All vehicles are meant to be equipped with ramps/low floors, but there are definitely issues with equipment being available or operational.
- Some routes to/from Bronco Bus stops on-campus are not fully accessible for people in wheelchairs.
- Access to Kalamazoo Transportation Center is important for many disabled students.
- Visually impaired riders have difficulty accessing Bronco Bus.
- Bronco Bus is designed for students, not staff.
- Some buses have difficulty making turns at intersections without running over curbs.
- Metro County Connect (through the County), offers door-to-door shared paratransit rides, but it is not the best service and is not felt to be dependable; Uber and Lyft have become more popular as a paratransit option.
- Amtrak is used regularly to get to/from home (outside of Kalamazoo) by students whose disabilities prevent them from driving.

**Opportunities**

**System Updates and Expansion**

- Metro bus stop accessibility, quality, and conditions should be studied for improvement.
- Metro access in the South Neighborhood development should be coordinated with WMU, including a desire by riders and Metro to have more buses stop at the Student Center.
- More visible, frequent, and direct service to downtown could provide greater access to downtown amenities for WMU affiliates and reinforce the proximity and convenience of the WMU campus.
- Greater frequency of service and more dependable service (and information) would improve the likelihood of some affiliates trying and regularly using transit.
- Clean vehicles (including electric buses) should be pursued as part of our climate action plan.

**Education and Other Services**

- Students and staff (in particular) would benefit from more education on what transit programs are available to them and how to use Bronco Bus and Metro.
- Real-time information services should be enhanced to provide accessibility for riders with disabilities.
- Some WMU affiliates use Metro because it is free and they find they enjoy not having to drive. Better marketing of this benefit, especially in areas with dense rider bases and where service is more frequent and direct, could lead to better utilization.

**In Previous Plans**

**Recommendations**

**Metro, Kalamazoo Area Bus Stop Action Plan, 2018**

**WMU Transit Hub**

Coordinate with WMU to create an on-campus Transit Hub, to serve the large volume of Metro passengers traveling to and from the campus, which generates more boardings than any stop other than the downtown Transportation Center. This would require coordination with the University and other public agencies and would need to be addressed as a stand-alone improvement, separate from other recommendations in the implementation plan.
4 Active Transportation Conditions

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. 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. This section highlights additional details about the WMU walking and bicycling networks, including issues and opportunities cited by participants in the planning process.
Walking Network

Figure 26  Main Campus Walking Network

Campus Network

WMU’s Main Campus features a robust network of walking paths that connect internal campus destinations. The campus’s 39 miles of pathways consist primarily of concrete sidewalks of varying widths. In several locations, brick and stone pavers mark plazas where paths connect or people tend to congregate. Ramps and stairs are provided throughout the campus to address grade changes between the valleys. Crossings are marked with paint and crosswalk signage in most locations, but several primary crossings feature varying brick and concrete patterns and additional signage. 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.

Sangren Mall establishes a broad east-west pathway where W. Michigan Avenue formerly passed through campus. The mall connects the west end of campus, West Circle (traffic roundabout), to the east end, near the Gathering Tree (traffic roundabout). The pathway features several significant landscape features and public art installations and serves as the front door to many of WMU’s primary academic and administrative facilities.

Centrally located along the Western Mall is the International Flags Plaza, where multiple additional pathways converge. To the south, a tree-lined path passes multiple campus buildings, en route to the Fountain Plaza. To the north, the Brown & Gold Pathway leads to the Goldsworth Valley, resident and dining halls.
Connections to Surrounding Areas

Main Campus is surrounded by a series of established Kalamazoo neighborhoods, including Westwood, West Main Hill, Arcadia, Knollwood, Oakland/Winchell, and Vine. These neighborhoods include a heavy concentration of WMU students, faculty, and staff, as well as services and amenities that are frequented by WMU affiliates. These communities contain varying levels of sidewalk connectivity and have their own topographical challenges, but they are – for the most part – conducive to short walking trips.

However, as the above figure illustrates, there are serious gaps in the pedestrian network that connects these communities to WMU. The most challenging connections are along the west and south edges of campus, where major arterials like Howard Street and Stadium Drive carry high volumes of automobiles every day and large intersections create significant barriers for pedestrians as they move to/from campus.

The attention given to the WMU campus by the University, coupled with the focus on “complete streets” by the City of Kalamazoo and Kalamazoo Area Transportation Study (KATS) represent positive direction by the parties responsible for improving walking conditions in this area and should yield improvements in the coming years.

Gaps & Conflicts

Intersections

While the interior of the WMU Main Campus has largely delivered on the walkable campus vision, the perimeter of the campus interior is marked by a series of challenging intersections for pedestrians along the Ring Road. For the most part, these intersections are not aligned at straight angles, presenting visibility issues between oncoming vehicles and pedestrians. They are mostly stop sign controlled, with just one (W. Michigan & Ring Road North) including a traffic light. These intersections feature generous turning radii to expedite vehicular travel and support large buses and service vehicles, leading to longer crossing distances for pedestrians.

Figure 27  Ring Road North & Central Campus Drive
Beyond the WMU Campus, the intersections that provide connections to adjacent neighborhoods are, in many ways, even more challenging. With high traffic volumes and speeds, wide roadway widths, railroad crossings, and lengthy traffic signals, pedestrians must often wait an inordinate amount of time for their opportunity to cross and are then faced with competition from turning vehicles who have likewise waited through the cycle. Crossings at these locations are often poorly marked and feature little to increase the visibility and protection of crossing pedestrians.

The following intersections present the greatest challenges to pedestrian connectivity between the WMU campus and surrounding areas:

- W. Michigan Avenue & Howard Street
- W. Michigan Avenue & Stadium Drive
- Stadium Drive & Oliver Street
- Stadium Drive & W. Michigan Avenue

**Accessibility**

Accessibility at WMU is of primary importance and campus affiliates have the benefit of dedicated staff through the Office of Disability Services for Students. Still, there are many locations throughout campus that present challenges, whether it be a missing link between a Bronco Bus stop and a campus building, or the lack of supportive features for people with blindness or low visibility who would benefit from more tactile markings along pathways and integrated into wayfinding signs. Several campus pathways and crossings are still lacking ADA accessible curb ramps, leaving campus users in wheelchairs to find circuitous routes that allow them safe passage. Beyond campus, the experience of traversing the complex intersections referenced above can be an even more challenging endeavor.
Maintenance

As with any other northern climate location, Kalamazoo is challenged by seasonal shifts in weather that lead to increased need for active maintenance of roads, pathways, stairs, and other critical walking network features. This includes snow plowing and ice removal, as well as repairs to surfaces that are damaged over the course of seasonal freeze-thaw cycles. Further, there is evidence of damage to campus pathways where service vehicles are allowed to travel. These are familiar issues, but they can create significant hazards or barriers to pedestrians or campus users who have mobility challenges.

Conflicts with Other Users

While the on-campus pedestrian network is well established, there is no dedicated space for small-wheeled devices to travel, leading to shared use of campus pathways by pedestrians, bicyclists, scooter riders, skateboarders, and others. During off-peak times, conflicts are limited, as there is ample space for all users to navigate at safe distances. During peak periods (class changes, etc.), conflicts are more common, as all users are competing for limited space.

Safety

Safety challenges include much of the context described above, but also includes the perception and/or reality of safety for pedestrians walking the campus or adjacent communities, particularly at night. Real or perceived safety issues lead to lower incidence of walking, which leads to less people and “eyes on the street,” further exacerbating the concern. In addition to extensive pathway lighting and provision of police call boxes, WMU offers a range of services to account for people traveling during the PM hours, but safety remains a concern for those who choose to travel on foot.
Bicycle Network

Campus Network

The on-campus bicycle network currently consists of a regional multi-use path that traverses the south end of campus, connecting WMU to Downtown Kalamazoo. Outside of this path, cyclists use a mixture of campus pathways and roadways to circulate and reach their final destinations. Bike parking (summarized below) is available throughout campus.

Connections to Surrounding Areas

In addition to the trail referenced above, WMU’s Main Campus is connected to surrounding areas by a series of on-road and off-road bicycle facilities. These include bike lanes on W. Michigan Avenue, Arboretum Drive, and Oakland Drive. Shared lane markings (“sharrows”) and wide shoulders provide additional support along some routes, but are less ideal than dedicated lanes or trails. Additional routes are planned along several corridors, as indicated in the Imagine Kalamazoo Connectivity Plan, KATS Moves Greenways Plan, and a variety of neighborhood plans. As with the walking conditions assessment provided above, the size and speed of the surrounding roads, as well as the substantial intersections that connect them to campus, are a primary challenge for connecting to the WMU campus by bicycle.
Policy

On-Campus

University policies limit where bicycles and other wheeled devices, such as scooters and skateboards, are allowed to operate on-campus, leading to confusion and sometimes conflict over campus users who choose these means of travel. From Sec. 5.8 of the WMU Traffic, Parking, & Pedestrian Ordinance (2012):

- No person shall operate any bicycle upon other than established roadways, parking areas or bicycle paths.
- No person shall use rollerskate(s), skateboard(s) or similar devices upon the land or roadways leased or owned by Western Michigan University.

From Sec. 6.26.

- Bicycles shall be parked in bicycle racks or bicycle stands as provided, and any bicycle parked other than in a bicycle rack or bicycle stand will be removed to the Department of Public Safety for safekeeping. Any such bicycle shall be surrendered to the owner thereof upon proof of ownership.

Off-Campus

Both the City of Kalamazoo and the Kalamazoo Area Transportation Study (KATS) have complete streets policies that support the design and construction of streets for all users. Kalamazoo has additional policies that govern local bicycle use, while also promoting safety for cyclists and other travelers. These include:

- Bicyclists may ride in the street and must abide by all applicable traffic laws when doing so
- Passing vehicles must move to the closest available lane or stay five feet away on a single lane road
- Bicyclists are permitted to ride on sidewalks unless signed otherwise
- Bicyclists riding on sidewalks must follow all laws that apply to pedestrians
- Bicyclists must yield to pedestrians on sidewalks and notify when passing
- Drivers must stop for pedestrians and bicyclists at crosswalks

Programs

Bicycle Resource Hub

WMU’s Office for Sustainability hosts a Bicycle Resource Hub as a clearinghouse for non-motorized transportation education, advocacy, and policy efforts at Western. This initiative has led workshops and community group rides, conducted non-motorized research, and hosts a weekly Open Bike Shop, during which tools and bike stands are available to use, free of charge.

BroncoBikes

WMU’s Office of Sustainability offers 10 BroncoBikes for rent to students during the school year. The program serves as a convenient and inexpensive way to travel on-campus and to access the broader community. During the 2018-19 academic year, bikes were available for $75 per semester, with $25 refunded when the bicycle is returned in good condition. Students willing to take a “car-free” pledge were eligible for a waiver of the fee. BroncoBikes are Breezer Uptown 8 models and come with a helmet, U-Lock, and safety orientation. The program is currently under consideration for renewal in the 2019-20 school year.
Bicycle Registration

WMU’s Department of Campus Safety provides bicycle registration to promote safety, security, and recovery of bicycles on-campus.

Bike Parking

A 2018 student-led survey of WMU campus bike parking facilities provides a detailed analysis of facility quantities, design suitability, and supply sufficiency. Following is a summary of its key findings.

Supply

A 2018 survey counted 137 bicycle racks distributed throughout the WMU campus, with the highest concentration of bicycle racks found in the center of West Campus and near residence halls. Spacing was found to be generally consistent. However, only 30.7% of these spaces meet standards for rack infrastructure established by the Association of Pedestrian and Bicycle Professionals (APBP). Further, the analysis found that capacity across campus was well below the levels recommended by APBP and the U.S. Green Building Council, with only one residential facility and three academic buildings providing a sufficient number of spaces. Utilization data was not included in the report. Finally, long-term parking, covered parking, and theft were cited as issues that should be addressed going forward.

There are four types of racks used on campus, as described below.

Traditional Racks:

Traditional “grid” style racks make up 62% of the total bicycle racks on campus. These racks fail to meet the following APBP bicycle rack guidelines:

- They do not allow frame locking.
- They fail to support bicycles in two places.
- They are not securely fixed to the ground.
- They are prone to theft, vandalism and deterioration.

7 https://www.apbp.org/page/Bike_Parking
64.7% of these racks were condition grades 4 or 5, indicating high levels of disrepair. In some locations, it was observed that people preferred to lock their bicycles on planters, pipes and trees instead of using the available racks.

**S-Loop (or Wave) Racks**

![Western View Apartments S-Loop (Source: Google Maps)](image)

S-loop bicycle racks, also commonly referred to as wave style racks, only make up 7.29% of racks on campus. Like the traditional racks, the s-loop design fails to adhere to the APBP guidelines for bicycle rack infrastructure. It fails to support bicycles at two points and underperforms its designated capacity. Most of the s-loop racks found on campus are in average condition, with scrapes and rust being the most widespread conditioning problems. It is recommended that these racks be replaced in the future, but given that they are still relatively new and serviceable, they should be considered less of replacement priority compared to the traditional style racks.

**Hoop and T-Post Racks**

![Left: Valley Dining Center Hoops (Source: NN); Right: Asylum Lake West Lot T-Posts (Source: Google Maps)](image)

Hoop and t-post racks make up the two APBP adhering rack styles on campus. Combined, these two designs make up 30.65% of campus bicycle racks. While most of these racks are in good condition, the hoop and t-post style racks at the Student Recreation Center are in sub-average condition. None of these racks need replacement, but they could use reconditioning.
Fix-It Stations

The Office of Sustainability has purchased two Dero bike fix-it stations. One has been installed as of Spring 2019.

Gaps & Conflict Points

Ring Road

Because there are no dedicated bicycle facilities that reach the heart of Main Campus, cyclists are required to either operate along the Ring Road or share the campus pathway network with pedestrians and other users. The speed, dimensions, and grade changes along the Ring Road present challenges for cyclists when sharing the lane with automobiles. This can lead to frustration from cyclists and drivers, as well as potential safety issues.

Campus Pathways

The campus path network is often conducive to bicycle travel, but presents challenges during busy periods, where many users are competing for limited space. While the current policy actually prohibits bicycles from operating in these spaces, there is little to no enforcement of this rule and conflicts are rare. However, the extensive nature of this network presents opportunities for dedicated facilities, signage, markings, and policies to support use by both pedestrians and non-motorized wheeled travelers, while also taking proactive measures to ensure the safety of users with disabilities.

Accessibility

In line with the accessibility conflicts cited in the previous section, missing ADA ramps at key locations, deteriorating pavement conditions, and lack of accommodations to address grade changes throughout campus present key challenges for bicyclists. These gaps are most severe at major intersections, but are found in other locations as well.

Stakeholder Input

The sections below contain summarized issues, concerns, opportunities and recommendations from feedback gathered at various stakeholder outreach activities. The feedback presented is intended to provide a snapshot of how the campus community, as well as key interested stakeholders outside of the campus community, perceives the campus transportation network presently, and their vision and proposals for improving the network.
While the information presented in these sections are integral to the assessment of transportation conditions and the development of strategies, they are not to be interpreted as the key findings or recommendations of this study.

**Issues**

**Infrastructure Location and Management**

- The number of railroad crossings is fixed; if a new one is created for the South Neighborhood Plan, another will have to be closed.
- The City prefers the Oliver Street railroad crossing, over the location proposed by the South Neighborhood Plan, and would oppose vacating the current one for the proposed.
- It is not always clear who is responsible for road/sidewalk conditions between public and private agencies.
- The Ring Road is not bikeable.
- Rules, expectations, and signage for bicycles are not clear.
- There are no wheel ramps on campus staircases.
- There are no convenient shower facilities for bicyclists, especially for commuters to Parkview campus.
- Electric vehicles are already on campus, but are not being regulated (long boards, scooters, bikes).
- Winter conditions make the pedestrian experience difficult; the sidewalks get icy and are sometimes not cleared of snow.
- Establish straight, multi-textural pathways throughout campus; a “spidery” network is less friendly than straight lines from an accessibility perspective.
- Pedestrian wayfinding is lacking, so walking on campus can be confusing for inexperienced people.
- Sidewalks are not present in important pedestrian areas, like near Sangren, Henry, Bernhard and Friedmann Halls, and on important stretches of Ring Road.
- Lots of pavement and lack of urban trees make walking through some parts of campus, like Sprau Tower fountain, unpleasant, both visually and when it’s hot.

**Accessibility**

- The South Neighborhood Plan design brings a lot of traffic into the campus core, in conflict with the vision for vibrant, pedestrian activity in this campus area.
- Kalamazoo has generally poor pedestrian infrastructure, reducing walkability between campus and neighborhoods.
- Internal to campus, having a bike lane on the main pathways would be useful.
- The gates between Main Campus and the West Main Hill neighborhood are locked from 10pm to 6am.
- The intersection of Stadium Drive and Howard St. is not friendly for bicycles or pedestrians.
- The City removed a curb cut on Howard Street at Waite Avenue, making pedestrian and bicycle access for those crossing to the Howard St. sidewalk more difficult.
- It is especially difficult for students with visual impairment to know when a sidewalk is closed and what could be the detour for them.
- Large open pedestrian areas are disorienting for students with visual impairments -- even on the pedestrianized main campus; we need well-marked paths.
- Winter conditions pose a special challenge for those with mobility issues.
- The route to Sindecuse Health Center from the Bus Transfer Station is NOT accessible. A sidewalk island needs to be created from Woodlawn Place to the entrance of Sindecuse.
Safety

- Many crosswalks are dangerous, like the ones near Valley dining, on Ring Road N between Ellsworth & the parking structure, and on Oliver Street.
- Cars drive too fast on the Ring Road and don’t stop for you.
- The pedestrian crossing between Lot 13 and the Rec Center is made hazardous by the level of traffic on Ring Road in the AM peak.
- Crossing Howard St. and Oakland St. is always a concern.
- Major entry points to campus, like Ring Rd South, Van de Giessen Rd and the Howard St. crossings, do not put pedestrians first; sidewalks and crosswalks are missing, drivers do not yield to pedestrians.
- Nearby off-campus housing is an asset, but safety is a barrier; on-campus housing is viewed as safer than off-campus options.
- Some sidewalks are cracked or slippery, like in Miller Plaza, and pose a tripping hazard.
- Biking on and near campus feels unsafe, with fast moving cars and a lack of separate infrastructure.
- Bicycle parking security is lacking.
- Motorized WMU vehicles and other vehicles use the campus walking paths, which can be scary.
- Walkway conflicts between pedestrians and bicyclists/scooters feel dangerous.

Opportunities

Maximize Efficiency

- Would like to see a full-time campus mobility coordinator; perhaps one who serves both on- and off-campus (City/WMU hybrid).
- Campus is hilly; electric bikes/scooters may be a good response.
- Revisit rules regarding biking on campus. Restrictions are not really enforced and should be revisited.
- Some commuters would consider perhaps parking farther away and biking to their work if they could keep their bikes on campus.
- Underlying issues that led to closing neighborhood gates should be revisited.
- There should be signs posted reminding drivers that pedestrians have the right of way in crosswalks.

Develop Programs and Information

- Michigan State has an app for your phone that helps you find your way, it’d be great if we had that too.
- Open Roads and Bike Kalamazoo are valuable advocacy and information resources.
- No state-wide policy on e-bikes or scooters yet.
- The Open Bike Shop, maintained and operated by Office of Sustainability.
- 10 Bikes are available for bike-loan or bike-share program.
- Purdue University has a good policy on dockless bikes/scooters, and Notre Dame has strong bikeshare service.
- It is important to consider the experiences of blind and low vision students and what type of tools and resources would help them navigate the campus.
- There is potential for an app that uses fixed points to create “beacons” to help orient students (while also benefitting visitors and others who may not be familiar with campus); Office of Disability Services attempted this, but ran into issues with stewardship/ownership/maintenance -- MSU did this well, but it required dedicated staff to keep the app up and running.
Some students, faculty and staff aren’t aware that walking escorts are available and if they are available at all campus locations.

**Repurpose the Space**

- More urban levels of density on campus are needed to both reduce parking needs and make more campus trips walkable.
- The Stadium/Lovell "spaghetti bowl" configuration is likely to be addressed as this area is redeveloped.
- Explore rerouting Ring Road around Lot 13, to avoid pedestrian conflicts at Rec Center entrance.
- Plans to extend pedestrian path along Howard are moving forward.
- The City taking over the state routes should help facilitate complete streets approach.
- Pedestrians need more dedicated pathways, but additions pose a challenge of how to ensure/limit conflicts with people with disabilities at the same time.
- The walking paths are nicely tended and make the walking experience beautiful; the trails on Parkview campus are especially nice.
- Seattle is demarcating bikeways from the road with “puff paint;” use this to create some texture that provides cues, but can still be passed over by bikes/wheelchairs/etc.
- Need more bike racks and covered bike parking.
- More connections from Asylum Lake Preserve to Parkview campus would make cycling and walking to that campus easier.

**In Previous Plans**

**Imagine Kalamazoo Connected City Plan (2017)**

Kalamazoo’s Connected City Plan is “the framework that works to connect neighborhoods; create inviting public places; and improve human, community, and environmental health residents desire.” The plan’s guiding principles are of a city that is accessible, comfortable, connected, convenient, engaging, and vibrant. The plan includes recommendations for accessibility, non-motorized transportation, public transportation, network strategies, and wayfinding. The bicycle and pedestrian recommendations in the plan focus on repair, replacement, and completion of the network that facilitates non-motorized connectivity. While recommendations stop short of on-campus facilities, the connections to campus via roads like W. Michigan, Stadium, and Howard are significant.

**KATS Moves Pedestrian, Greenways, and Transit Plan (2017)**

The KATS Moves Pedestrian, Greenways, and Transit Plan was initiated to identify new linkages in the region’s non-motorized network. It recommends a network of both on-street and off-road bicycle and pedestrian facilities and lays out a prioritization and implementation guide that can be used to track the completion of projects. The plan consciously recommends projects that would provide the most possible comfort and safety for bicyclists, many of which have not been implemented before in the Kalamazoo area. For this reason, “sharrows,” paved shoulders, and bike routes were not recommended since they do not provide a dedicated space for riders. The plan details the following facility types in the plan:

- Shared Use Path
- Bike Lane
- Buffered Bike Lane

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Plan recommendations include facilities along W. Michigan Avenue, Main Street, Howard Street, and Stadium Drive, with a safety focus area highlighted at W. Michigan & Howard.

Figure 31  KATS Moves Michigan & Howard Safety Focus Area
5 Driving Conditions

Campus Street Network
Following is an overview of key aspects of the campus street network serving WMU's main, Parkview, and Aviation campuses.

Main Campus

Key Corridors

Campus Access Corridors

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

- W Michigan Avenue - 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) – Stadium Drive 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 due to being
separated by the rail line. In combination with the rail line, Stadium Drive forms a major barrier between West Campus and East Campus.

- **Howard Street** – Howard Street is a major access corridor for southbound traffic to WMU. Howard Street is also a major connection between Michigan Avenue, Stadium Drive, and Oakland Drive, as well as neighborhood areas to the east of campus.
- **Oliver Street** – Oliver Street is the only direct connection between the inner corridors of West Campus (Ring Road) and East Campus (Cass Street), and between West Campus and the Vine neighborhood to the east. Oliver Street also provides access to Ring Road from Stadium Drive.
- **Oakland Drive** – Oakland Drive is a primary access corridor for East Campus traffic from all directions.

Figure 32  Main Campus Street Network

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**Internal Corridors**

Key internal corridors for the Main Campus area include:

- **Ring Road** – The Ring Road (a combination of Ring Road North, Ring Road South, and a small segment of W Michigan Avenue) is the primary internal vehicular access corridor 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.
Arcadia Loop – Arcadia Loop (and its inner streets) provides access to the South Residential Neighborhood on-campus housing and associated residence-hall parking facilities, as well as several employee parking facilities, from the Ring Road.

Valley Drive (1, 2, and 3) – While not operationally significant to the wider network, the Valley Drive spurs provide access to the Valley Residential Neighborhood on-campus housing, and associated residence-hall parking facilities, from Ring Road.

Key Intersections

Michigan Avenue / Howard Street – The “gateway” to campus funnels traffic from Michigan Avenue, Howard Street, and Stadium Drive towards the Michigan Avenue/Ring Road traffic circle.

Michigan Avenue/Ring Road (traffic circle) – Traffic into and out of campus is dispersed onto Ring Road N and Ring Road S at this traffic circle.

Michigan Avenue/Oakland Drive/South Street – Multi-point, multi-step intersection area that connects traffic from several streets in several. The intersection area is virtually impassable for pedestrians and people riding bikes.

Stadium Drive/Michigan Avenue – The eastern merger point of Michigan Ave and Stadium Drive where the corridor becomes W Michigan Avenue heading towards downtown.

Stadium Drive/Howard St – The intersection point of the one of the most heavily trafficked east-west corridors in the area (Stadium Drive) and the only and major north-south corridor that connects to campus (Howard Street). This intersection has the highest recorded traffic volumes within a one-mile radius of the campus.

Stadium Drive/Oliver St – The only direct connection to the ring road from stadium drive.

Howard Street/Valley Road – The first opportunity for neighborhoods north of campus (including the multiple apartments on N Kendall Ave and Solon St) to access the ring road occurs at this intersection.
Parkview Campus

Key Corridors

Figure 33  Parkview Campus Street Network

Parkview campus has a single access point for all modes – the intersection of Parkview Avenue, S Drake Road and Campus Drive. Parkview Avenue is an east-west connection that terminates at stadium Drive in the westerly direction, and connects to Oakland Drive in the easterly direction. S Drake Road travels north from the intersection, connecting with Stadium Drive. Both of these corridors are used to travel between Parkview Campus and Main campus for both private vehicles and Bronco Transit buses. Campus Drive and Engineering Drive make up the internal loop of the campus.

Aviation Campus

The Aviation Campus is found at WK Kellogg Airport on Helmer Road N in Battle Creek. The campus can be accessed via the I-94 Business Loo or M-96 in either direction, as Helmer Road north is the street on which the two highways cross.
Circulation & Traffic Conditions

Following is an overview of key aspects of the traffic conditions on key campus-access corridors serving WMU’s Main, and Parkview campuses.

Traffic Volumes

Figure 34  Main Campus Traffic Volumes

The table below presents key traffic measures for several roadway segments serving WMU’s main and Parkview campuses.
Figure 35  Key Traffic Measures for Campus Roads

<table>
<thead>
<tr>
<th>Roadway Segments</th>
<th>Travel Lanes per Direction</th>
<th>Center Turn Lane/ Median</th>
<th>Peak-Hour Volumes (year)</th>
<th>Peak Direction Lanes Needed</th>
<th>Capacity/Demand Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>West (Main) Campus</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stadium Drive</td>
<td>2</td>
<td>Yes</td>
<td>1277 (2003)</td>
<td>1-2</td>
<td>Capacity Exceeds Demand</td>
</tr>
<tr>
<td>Howard Street (btw Stadium Drive and Michigan Avenue)</td>
<td>2</td>
<td>Yes</td>
<td>1072 (2017)</td>
<td>1-2</td>
<td>Capacity Exceeds Demand</td>
</tr>
<tr>
<td>Howard Street (btw Michigan Avenue and Kendall Avenue)</td>
<td>2</td>
<td>Yes</td>
<td>646 (2016)</td>
<td>1</td>
<td>Capacity Exceeds Demand</td>
</tr>
<tr>
<td>Michigan Avenue</td>
<td>2</td>
<td>Yes</td>
<td>1044 (2018)</td>
<td>1-2</td>
<td>Capacity Exceeds Demand</td>
</tr>
<tr>
<td>Oliver Street</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Oakland Drive</td>
<td>1</td>
<td>Yes</td>
<td>642 (2015)</td>
<td>1</td>
<td>Capacity Exceeds Demand</td>
</tr>
<tr>
<td><strong>Parkview Campus</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parkview Avenue</td>
<td>1</td>
<td>No</td>
<td>664 (2017)</td>
<td>1</td>
<td>Capacity Exceeds Demand</td>
</tr>
<tr>
<td>S Drake Drive</td>
<td>2</td>
<td>Yes</td>
<td>712 (2016)</td>
<td>1</td>
<td>Capacity Exceeds Demand</td>
</tr>
</tbody>
</table>

Traffic Collisions

The following maps present collision locations and densities (multiple collisions in the same location) recorded across the WMU main campus area (Figure 36), and bicycle and pedestrian related collisions in the WMU main campus area (Figure 37), between 2014 and 2018. Key findings include:

- Traffic collisions are 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.
- Pedestrian and bicycle collisions are most heavily concentrated in the Knollwood neighborhood area and along Michigan Avenue. There are also several pedestrian and bicycle related collisions on and within the Ring Road, most notably clustered near the Valley residence area.
- There were no traffic fatalities in the campus area during this period.

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9 Estimated average peak-hour peak-direction traffic volumes represent 1/10th of the average annual daily traffic (AADT) volumes. AADT source: [Kalamazoo Area Transportation Study - Traffic Count Database System](#)

10 Assumes 1 travel lane is needed per ~1000 vehicles

11 No data available
Figure 36  Collision Locations and Densities

Figure 37  Pedestrian and Bicycle Collision Locations

Source: Michigan Crash Facts
Stakeholder Input

The sections below contain summarized issues, concerns, opportunities and recommendations from feedback gathered at various stakeholder outreach activities. The feedback presented is intended to provide a snapshot of how the campus community, as well as key interested stakeholders outside of the campus community, perceives the campus transportation network presently, and their vision and proposals for improving the network.

While the information presented in these sections are integral to the assessment of transportation conditions and the development of strategies, they are not to be interpreted as the key findings or recommendations of this study.

Issues

Commuting Behaviors

- There is a behavior issue to overcome when driving is made so easy.
- A lot of people pull into Lot 29 just to clock in at the Rec Center, causing access challenges to the Rec Center (RRS, just north of Oliver) at all times of day and significant congestion during AM peaks.
- Gridlock at garages can be dangerous – congestion at Howard. W. Michigan, Ring Road, Stadium Drive, Oliver, Lot 13 (near the Rec Center); mid-day and 5:00 PM are the most noticeable.
- At 5pm, Stadium Drive between Howard and Oliver is in gridlock.
- People drive and re-park throughout the day, which adds to on-campus congestion.

Infrastructure Location and Management

- Oakland and Westnedge light does not have a sensor; signalization here needs to be revisited.
- The South Neighborhood Sub-Campus Master Plan design brings a lot of traffic into the campus core, in conflict with the vision for vibrant, pedestrian activity in this campus area.
- The area around Oliver and Ring Road intersection is problematic.
- Left-turn restriction at Oliver from Stadium Drive southbound sends traffic through campus.
- Bizarre network of streets.
- Some buses and other vehicles have difficulty making turns at intersections without running over curbs.

Access and Connections

- Affiliates find it difficult to travel between campuses by any mode other than driving, particularly if their travel is time sensitive.
- Lack of non-driving connectivity to Downtown and to surrounding neighborhoods (due to boundaries created by problematic intersections, road geometries and conditions, the railroad, etc.) increases the amount of driving to and from campus.
- Lovell and Michigan intersection is a concern for all travelers, but particularly for walking and cycling.
- The intersection of Howard and Stadium doesn’t invite the neighborhood in, creates problematic traffic interactions, and doesn’t facilitate walking/cycling access.
- Marion Ave and Business Ct. has a lot of congestion.
- Planned update of Howard Street at Stadium Drive intersection is on hold for now.
- Drivers park in driving lanes to pick up students, including at the blind curve between the Library and Moore.
- Stopping going uphill on Central Campus drive can cause drivers to get stuck when the road is snowy and icy.
- Pedestrians cross outside of crosswalks and cause close calls with vehicles.
Transportation Master Plan | Existing Conditions Report
Western Michigan University

- Turn movements coming out of East Campus from Oliver to Oakland are complicated and get backed up during the PM peak; consider options for reprogramming the signal or reconfiguring lanes.

**Opportunities**

*Maximize Efficiency*
- The City plans to reprogram/synchronize signals on Stadium Drive.
- Wheaton Avenue is a popular alternative route to East Campus, avoiding Stadium Drive.
- The City would support exploring the viability of a pedestrian flyover across Stadium Drive, as has been suggested in the past.
- Some have suggested adding a center-running median parallel with the turn lane on Stadium Drive.
- Recognize logistics/loading dock access for large facilities (dining, Bernhard, etc.).

*Repurpose the Space*
- City is creating a Complete Streets plan, which could provide a template for campus streets.
- Ownership and management of Stadium Drive is expected to be transferred from the state to the City of Kalamazoo, and rebuilding of the corridor may begin in 2022.
- Rambling and West Michigan are slated for construction in 2022.
- Explore rerouting Ring Road around Lot 13, to avoid pedestrian conflicts at Rec Center entrance.
- Consider closing off part of the campus to cars.
- South Neighborhood plan implementation presents an opportunity to consolidate Stadium Dr. access.
- The long-term master plan has a bridge planned for Moore/Stadium near the South Neighborhood.
- Plans to extend pedestrian path along Howard are moving forward.
- A traffic circle would be nice in place of the 4-way stop near Miller Auditorium.
6 Travel Demand Management

WMU does not have a formal Transportation Demand Management (TDM) program or employ a dedicated TDM coordinator. However, the university does provide some TDM-related transportation services. Following is a summary of TDM-related transportation programs and services available to the campus community.

Existing Programs

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, which transfers funding from parking revenue to the Office of Auxiliary Enterprises.

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. Single individuals or a group of up to two people can use the escort service. A university ID is required to use the service.
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. Programs are highlighted in the Active Transportation chapter.

Amtrak Discount

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

Program Awareness

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

- Knowledge of the free transit options is high.
  - Among students, awareness of both the free Bronco Transit shuttles and the free Metro pass is over 90% each, with about 70% reporting having used Bronco Transit, and over 55% reporting having used the Metro pass.
  - Among employees, awareness of the free Bronco Transit shuttles is nearly 85% and the free Metro pass is 70%, though both had only been used by about 15% of employees each.
- Knowledge of SafeRide services is relatively high, but respondents are more slightly knowledgeable about the walking escort service than the driving escort service.
  - Student knowledge of programs (over 70% for the walking escort and 75% for the driving escort) is slightly higher than employee knowledge of programs (about 70% for the walking escort and 60% for the driving escort).
  - More students reported having used the driving escort (17%) than the walking escort (6%), and among employees, only 2% each reported using either escort service type.
- Knowledge and use of bicycle related programs is low for both students and employees.
  - Among students, only slightly under 30% have heard of the Bronco Bikes program, with fewer than 5% having used a Bronco Bike, despite about 65% having heard of the Open Bike Shop, and nearly 15% having used the shop.
  - Among employees, fewer than 25% have heard of the Bronco Bikes program, with only 1% having used a Bronco Bike; and just over 40% have heard of the Open Bike Shop, with only about 4% having used the shop.
- Just under half (46%) of students are aware of the Amtrak discount, and about 20% have used it.
Stakeholder Input

The sections below contain summarized issues, concerns, opportunities and recommendations from feedback gathered at various stakeholder outreach activities. The feedback presented is intended to provide a snapshot of how the campus community, as well as key interested stakeholders outside of the campus community, perceives the campus transportation network presently, and their vision and proposals for improving the network.

While the information presented in these sections are integral to the assessment of transportation conditions and the development of strategies, they are not to be interpreted as the key findings or recommendations of this study.
Issues

Program Knowledge and Access
- Transportation and access issues are very different in winter and fall/spring/summer.
- There are long waits for Safe Rides at the peak times—sometimes more than 1 hour.
- Some students have used Amtrak several times without being aware of the student discount.

Opportunities

TDM Program Management
- A full-time campus mobility coordinator would be beneficial to developing and promoting TDM programs on-campus and could also be ideally situated to serve both the campus and community (City/WMU hybrid).
- Office of Sustainability might be logical "home" for a formal Travel Demand Management program.
- There is a need to regularly collect data on campus travel patterns to inform programs and decisions.

Opportunities to Promote TDM
- The default employee parking permit benefit can be exchanged for a “mobility benefit” that could be applied to other travel modes and otherwise encourage non-drive-alone options.
- Advertise alternative mobility options, especially at new, incoming programs/events like Orientation and Bronco Days.

TDM’s Role in a Sustainable Campus
- Commuting CO2 emissions are a big part of WMU Scope III emissions and reducing this should be an explicit goal.
- There could be contests revolving around sustainable travel to campus to help create more buzz around this topic.
- It would be great to calculate and present the reduction in emissions from students who bike regularly to campus; students could see real numbers and understand what level of impact they can have.
- Aligning WMU and Kalamazoo efforts around their Climate Action Plans would be advantageous.
7 Travel Behavior & Patterns

Commute Trips

Commute Distances

The home locations of the student population is heavily concentrated within a 3-mile buffer of the main campus, with over 70% of students living in that range. Students are generally condensed in the immediate vicinity of the campus, through the Arcadia and Knollwood neighborhoods to the west of campus, and in the Vine neighborhood into downtown to the east of campus.

- Over 40% are within a half-mile, and over 50% are within one mile of campus
- About 25% of student live between one and five miles from campus
- About 25% of student live more than five miles from campus

Figure 40 Density of WMU Student Home Locations

The home locations of WMU’s employee population are more spatially dispersed, but are slightly more concentrated in the neighborhoods to the south and south-east of the main campus.

- Nearly 50% live outside of a five-mile buffer of the main campus.
- About 35% live within a three-mile buffer, including the 13% that live within one mile
The table below summarizes the relative commute distance of WMU students and employees, organized into distance ranges that tend to indicate the viability/appeal of various non-driving travel-mode options.

### Figure 42 Students and Employees Commute Distances

<table>
<thead>
<tr>
<th>Distance Range</th>
<th>Students</th>
<th>Share of Total</th>
<th>Employees</th>
<th>Share of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to ½ mile</td>
<td>5,931</td>
<td>42%</td>
<td>211</td>
<td>5%</td>
</tr>
<tr>
<td>½ mile to 1 mile</td>
<td>1,117</td>
<td>8%</td>
<td>386</td>
<td>8%</td>
</tr>
<tr>
<td>1 mile to 3 miles</td>
<td>3,001</td>
<td>21%</td>
<td>1,029</td>
<td>22%</td>
</tr>
<tr>
<td>3 miles to 5 miles</td>
<td>686</td>
<td>5%</td>
<td>773</td>
<td>17%</td>
</tr>
<tr>
<td>5+ miles³²</td>
<td>3,355</td>
<td>24%</td>
<td>2,237</td>
<td>48%</td>
</tr>
<tr>
<td>Total³²</td>
<td>14,090</td>
<td>100%</td>
<td>4,636</td>
<td>100%</td>
</tr>
</tbody>
</table>

---

³² Up to 100 miles from campus
Walking Distances

Commute distances of less than 0.5 miles indicate the most viable market for walking as a commute mode. This would suggest that the maximum potential walking mode-share is 42% for students, and 5% for employees.

Cycling Distances

The range of commute distances likely to appeal to cyclists is more variable than the walking range, and more dependent upon levels of interest, motivation, and experience of individual commuters relative to this mode. However, a standard travel-time measure of six (6) minutes for every mile cycled suggests that:

- Half of students can bike to campus in six (6) minutes or less;
- Three in four students can bike to campus in 30 minutes or less;
- Over one-third of WMU employees can bike to campus in less than 20 minutes; and
- More than half of WMU employees can make this trip in 30 minutes or less.

Transit-Service Catchments

Over 70% of students, and over one-third of employees12, live within ¼-mile of either a Bronco Transit stop location or a Kalamazoo Metro stop location.

<table>
<thead>
<tr>
<th></th>
<th>Students</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within ¼-mile of Bronco or Metro stop</td>
<td>10,056</td>
<td>1,597</td>
</tr>
<tr>
<td>% of Total12</td>
<td>71%</td>
<td>34%</td>
</tr>
</tbody>
</table>

Figure 43  Students and Employees within ¼-Mile of a Transit Stop
Figure 44  Density of Student Home Locations with Metro and Bronco Transit Routes

Figure 45  Density of Employee Home Locations with Metro and Bronco Transit Routes
Mode Choice

Faculty/Staff

When making commute mode choices for traveling between their home and the campus, WMU employees overwhelmingly (90%) drive alone, and rarely use transit as either a first or a second option.

Of those who drive alone as their primary mode, about two-thirds (65%) always drive. However, nearly 25% of those who drive alone as their primary mode, nearly one-quarter either walk (5%), ride a bicycle (8%), or carpool (10%) as a secondary mode choice, and another 6% telecommute.

Students

Of students who drive alone as their primary commute mode, about one-third (34%) always drive. However, nearly 25% of those who drive alone as their primary mode, nearly one-quarter either walk (5%), ride a bicycle (8%), or carpool (10%) as a secondary mode choice, and another 6% telecommute.
Arrival & Departure Times

The peak of activity of the typical campus weekday starts at about 7:30 a.m. and ends at about 5:00 p.m. Employees activity follows a typical weekday peak commute period pattern for both arrivals and departures, while student activity has a slightly later, and more elongated, peak arrival period and a staggered departure period throughout the afternoon and night.

- The peak period range for arrival times at WMU campuses is about 7:30 a.m. to 10:30 a.m.
  - About 75% of employees arrive between 7:30 a.m. and 9:30 a.m., with a peak of 34% at 8:00 a.m.
  - About 75% of students arrive between 8:00 a.m. and 10:30 a.m., with a peak of 25% at 9:00 a.m.
- The peak period range for departure times at WMU campuses is about 7:30 p.m. to 10:30 p.m.
  - Nearly 80% of employees depart between 4:00 p.m. and 6:30 p.m., with a peak of about 34% at 5:00 p.m.
  - Student departures are much more staggered throughout the late afternoon into the late evening, but about 45% of students depart between 4:00 p.m. and 6:30 p.m., with a peak of about 18% at 5:00 p.m.

Figure 50 Arrival Times of Students and Employees

Figure 51 Departure Times of Students and Employees
Campus Travel

Mode Choice

When making a mode choice for travelling between destinations within the campus throughout the day:

- Most students and employees (about 60% each) choose to walk
- Over one-quarter of employees, and 10% of students, choose to drive and re-park
- About 20% of students use Bronco Transit shuttles, but employees are not utilizing Bronco Transit as a key travel mode choice for this purpose
- Less than 1% use Uber/Lyft for travel between campus destinations throughout the day, and most (86% of all respondents) have never used these or other paid-ride services for this purpose.

Figure 52 Student Mode of Travel between Campus Destinations throughout the Day

Figure 53 Employees Mode of Travel between Campus Destinations throughout the Day
Inter-Campus Travel

About one-third of campus affiliates travel between campuses on a regular basis. When making a mode choice for travelling between different WMU campuses throughout the day:

- Of the students and employees combined who make such trips, about three-quarters (73%) choose to drive.
- Employees drive alone for such trips (85%) much more than any other mode.
- Students use a transit option (39% use Bronco Transit, and 3% use Metro), about as often as they drive alone (44%), but employees essentially do not use transit for such trips.
- At 6% and 7%, respectively, students and employees carpool for such trips at about the same rate.
- In terms of active modes, employees (4% use a bicycle and 2% walk) use them slightly more than students (1% use a bicycle and 3% walk) for such trips.
- At 3%, students use a paid-ride service for such trips about as often as active modes, but employees essentially do not use this type of service.

Figure 54 Mode Choice of Respondents Who Regularly Travel Between Campuses
8 Projected Conditions

This section summarizes expected near- and medium-term changes to campus conditions likely to have significant impact on the conditions summarized above. The changes summarized are based on what is proposed in the South Neighborhood Plan. The evaluation of these changes builds upon a parking analysis that was completed in 2018\(^\text{13}\) to calculate the likely impacts of plan implementation on parking supply and demand.

**Parking Impacts**

**Parking Supply**

Much of the development proposed in the South Neighborhood Plan is planned for sites currently occupied by surface parking. The table below, reproduced from the parking analysis completed as part of the 2018 South Neighborhood Sub-Campus Master Plan, summarizes the projected supply impact of this development. As shown, a reduction of just over 100 spaces of parking capacity is projected, including a 99-space reduction in resident-student parking capacity.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Employee</th>
<th>Resident</th>
<th>Commuter</th>
<th>Any</th>
<th>Reserved</th>
<th>Other</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>3,322</td>
<td>2,744</td>
<td>3,091</td>
<td>3,173</td>
<td>191</td>
<td>1,499</td>
<td>14,020</td>
</tr>
<tr>
<td>Projected</td>
<td>3,319</td>
<td>2,645</td>
<td>3,091</td>
<td>3,173</td>
<td>191</td>
<td>1,494</td>
<td>13,913</td>
</tr>
<tr>
<td>Difference</td>
<td>-3</td>
<td>-99</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-5</td>
<td>-107</td>
</tr>
</tbody>
</table>

**Parking Demand**

**Demand-Projection Methodology**

To calculate parking demand projections for the land uses proposed in the South Neighborhood Plan, the 2018 Parking Analysis used a parking-demand model “developed with data from the Urban Land Institute (ULI), the Institute of Traffic Engineers (ITE), Walker’s experience with university parking, and client-provided data... (to estimate) the peak conditions of the 85th percentile level of demand.”\(^\text{14}\) Focusing on peak demand conditions, projected to occur on weekdays around mid-morning, the model incorporated the following inputs to calculate the maximum parking need during a typical campus week:

- **Land Use Measures:** Number of rooms, square footage, etc.
- **Demand-generation ratios:** Industry standard measures quantifying the number of parked cars that a particular land use is likely to generate, relative to a standard measure for that land use – dwelling unit, 1,000 SF, 100 theater seats, etc.
- **Time factors:** The distribution of demand over time, or the time of day and day of week when the generated parking demand is expected on site

\(^\text{13}\) Walker Consulting, completed as a consultant to the Perkins + Will South Neighborhood Plan team

\(^\text{14}\) Walker Consulting, 2018
Mode-choice factors: The proportion of demand that results in a driving trip and parking action, particularly any factors likely to reduce this proportion compared to the normative conditions assumed by the industry-standard demand-generation ratios.

- Because much of the land uses proposed for the South Neighborhood Plan can be accommodated through a shared parking supply, the mode-choice factor used for this model assumed a significant proportion of trips to be “captive” trips, travel completed on foot between proximate locations.

The analysis projected peak demand for three existing buildings, plus demand for the additional buildings included in the scheme, as described below:

**Figure 56 Scheme A Added: Viewshed**

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Quantity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Center</td>
<td>198,000</td>
<td>GFA</td>
</tr>
<tr>
<td>Dining / Bar</td>
<td>33,933</td>
<td>GFA</td>
</tr>
<tr>
<td>Office</td>
<td>26,520</td>
<td>GFA</td>
</tr>
<tr>
<td>Ballroom</td>
<td>29,766</td>
<td>GFA</td>
</tr>
<tr>
<td>Retail</td>
<td>36,077</td>
<td>GFA</td>
</tr>
<tr>
<td>Theater</td>
<td>1,041</td>
<td>seats</td>
</tr>
<tr>
<td>Entertainment</td>
<td>6,226</td>
<td>GFA</td>
</tr>
<tr>
<td>Lounge / WorkSpace</td>
<td>57,670</td>
<td>GFA</td>
</tr>
<tr>
<td>Academic/Research</td>
<td>434,800</td>
<td>GFA</td>
</tr>
<tr>
<td>Athletic Venue</td>
<td>9,500</td>
<td>seats</td>
</tr>
<tr>
<td>Office</td>
<td>169,000</td>
<td>GFA</td>
</tr>
<tr>
<td>Retail / Dining</td>
<td>50,000</td>
<td>GFA</td>
</tr>
<tr>
<td>Student Housing</td>
<td>1,808</td>
<td>beds</td>
</tr>
<tr>
<td>Student Life</td>
<td>173,800</td>
<td>GFA</td>
</tr>
<tr>
<td>Multifamily</td>
<td>292</td>
<td>beds</td>
</tr>
<tr>
<td>Hotel</td>
<td>120</td>
<td>rooms</td>
</tr>
</tbody>
</table>
Findings

The table below summarizes the findings of the model analysis, in terms of projected parking demand for both land use scenarios outlined above.

**Figure 57  Scheme A Demand Projections**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Projected Demand from...</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New Buildings</td>
<td>Existing Buildings</td>
</tr>
<tr>
<td>A</td>
<td>2,068</td>
<td>681</td>
</tr>
</tbody>
</table>

The following conclusions where identified based on these findings.

- The proposed project, in isolation to the rest of campus, may generate demand for over 2,000 spaces.
  - However, the overall campus may not require additional parking to support the South Neighborhood, particularly if there is no plan for substantial population growth at WMU.
- Unless WMU’s population is planned to grow substantially, there does not seem a pressing need to build more parking, overall.
- The shared parking demand estimates included in this report are not recommendations of the number of spaces WMU should add to its parking supply, but are estimates of the number of spaces of demand the South Neighborhood project is likely to generate during peak conditions.
- Constructing additional parking for the South Neighborhood area, in isolation to the rest of campus, is not how university campuses typically provide parking, and would not be consistent with the parking system WMU has currently.
- Current parking permit sales in relation to campus population suggests an optimal supply of approximately 9,800 spaces for permit holders.
  - Adding parking necessary to accommodate visitors, service vehicles, deliveries, etc., the optimal overall supply is likely between 10,000 – 11,000 spaces.
- Alternatively, the Institute of Transportation Engineers’ book *Parking Generation* identifies for the universities/colleges surveyed, an average parking supply ratio of 0.4 spaces per total number of students, faculty and staff (school population) at the suburban sites.
  - Based upon this approach, a WMU campus population of approximately 26,000 suggests an ideal supply of between 10,000 and 11,000 total spaces.

This would suggest that a 1-for-1 parking-replacement ratio would be appropriate for addressing the full supply and demand impacts from implementation of the South Neighborhood Sub-Campus Master Plan. Further, given the vision of this campus area as a walkable, mixed-use center of campus activity, the amount of replacement parking built within the South Neighborhood core should be minimized in favor of alternative locations on the campus periphery.
**Stakeholder Input**

The sections below contain summarized issues, concerns, opportunities and recommendations from feedback gathered at various stakeholder outreach activities. The feedback presented is intended to provide a snapshot of how the campus community, as well as key interested stakeholders outside of the campus community, perceives the campus transportation network presently, and their vision and proposals for improving the network.

While the information presented in these sections are integral to the assessment of transportation conditions and the development of strategies, they are not to be interpreted as the key findings or recommendations of this study.

**Issues & Opportunities**

*Input from City of Kalamazoo staff*

- The City values the railroad crossing at Lovell (the “spaghetti bowl”) for its connection downtown. They will not be supportive of removing that crossing if one has to be closed in order to open a new crossing further west. It is important to recognize that this area will eventually get redeveloped / rebuilt.

- The proposed location of the new parking deck will draw significant parking traffic into the heart of campus, intensifying conflicts with heavy pedestrian volumes and undermining the pedestrian-focused vision for this district.

- The intersection of Howard and Stadium is a problematic campus gateway for the community and does not offer walking/biking access; the current South Neighborhood plan does nothing for the intersection of Howard and Stadium.

- The City would like to see the WMU campus reaching more in the direction of Downtown; the current plan and does little to tie in more with Kalamazoo College and Downtown by focusing all passive sports uses along the eastern edge of campus.

- The South Neighborhood access plan should reconsider the hierarchy of users and how the location of facilities and roadways will improve or exacerbate current traffic, circulation, and safety issues.