RE: Western Michigan University Transportation Master Plan

Dear Mr. Dakin and Ms. Jacobs,

On behalf of Nelson\Nygaard Consulting Associates, Inc., I am pleased to submit this proposal to prepare a Transportation Master Plan for Western Michigan University and provide a comprehensive evaluation of the University’s transportation services, resources, and ultimately support the University’s long-term goals for its community. We are very excited about this opportunity to work with you and your team!

Project Team

For this project, we have assembled the following team, offering an optimal blend of expertise for the work proposed.

Chris Bongorno, Senior Associate. Chris will serve as Project Manager on this effort. Chris has more than 10 years of professional planning experience, applying a detail-oriented and client-focused skill set to extensive work in the fields of transportation and community planning, mixed-use and institutional development, and place management. His curiosity about how cities work drew him to the field and that curiosity has only grown with each new community he engages with. Chris’s recent work has tied together his passions for innovation in mobility, accessibility, civic engagement, and economic development in small towns and big cities in Michigan, Ohio, and Indiana. Chris’s campus mobility experience includes managing the Moving Greater University Circle Transportation and Mobility Plan for University Circle Inc. in Cleveland. The project included a district parking study, mobility study, a transportation management implementation plan, and an evaluation of the district’s shuttle service. Chris is dedicated to the communities in which he works and lives, serving multiple non-profit and civic roles in both Cleveland and Yellow Springs, Ohio.

Tom Brown, Principal. Tom will serve as Principal-in-Charge on this effort. Campus parking management has been a special focus during Tom’s 14+ years at Nelson\Nygaard. Parking is the primary barrier to realizing significant growth opportunities for many of our higher-education clients. The cost of replacing surface parking alone can represent a substantial cost barrier to building out thriving campuses. For many clients, land constraints, and/or design considerations—energized by growing student and faculty preference for walkable, vibrant, mixed-use campus environments—limits replacement-parking options to structured, sometimes subsurface, facilities. Tom’s work has helped clients navigate these opportunities and challenges, primarily by linking co-benefit-rich mobility and demand-management investments to lower capital expenses and debt-service obligations, all to facilitate more campus growth via lower parking-replacement ratios. Tom has led campus TDM plans for Penn State University, American University, and Howard University, and he has developed GHG emissions evaluation framework on several other projects.

Cynthia Lin, Associate. Cynthia will serve as Deputy Project Manager and supporting Chris and Tom. She supports the firm’s expertise in the areas of campus mobility, parking and demand management, and multimodal transportation. Her recent experience focuses on parking management projects, which encompass best practices for policy and design in communities with varying contexts. Cynthia’s expertise in multimodal integration, community engagement, and street design have helped communities realize the social and financial benefits that improved parking policy and transportation design have in their downtowns and communities. Cynthia brings a breadth of knowledge that supported by technical skill sets in data collection, technical and spatial analyses, and GIS mapping. She has played an integral role in preparing transportation plans for University of Vermont, Indiana University, Tufts University, UMass Lowell, Bunker Hill Community College in Boston, and Columbus State Community College in Ohio.
**Lindiwe Rennert, Project Planner.** Lindiwe will serve as a project planner, specializing in transit planning and operations. She helps policy influencers make innovative, data-driven decisions that shape a more inclusive, mobile future. Lindiwe's prior work includes crowdsourced jitney route mapping in Nairobi, adaptive transit network design in Medellin, and crafting implementation strategy for a Metro Cable line connecting surrounding barrios to central Caracas. Domestically, she has assisted in optimizing university shuttle bus programs and operations for Bentley University, North Carolina State University, and has worked extensively on major transit providers in redesigning their system-wide performance, such as the Massachusetts Bay Transportation Authority (MBTA) and Wake County in North Carolina.

**Jason Novsam, Associate.** Jason will serve as a project planner, specializing in parking management, traffic engineering, active transportation, and GIS analysis and modeling. With experience in parking studies, comprehensive plans, environmental assessments, and multimodal neighborhood studies, Jason applies his technical expertise to projects which engage the local community. His diverse skillset and focus on actionable policies allow him to add value to transportation projects which require innovative solutions. Jason has worked with universities all over the U.S., including the University of Vermont, Bentley University, Indiana University, and State University of New York.

**Scope of Work**

The scope of work and deliverables for this project are outlined in Attachment A.

**Fees and Schedule**

Our services will be billed monthly on a time-and-materials basis according to the included proposed budget in Attachment B.

If you have any questions, please do not hesitate to contact our Project Manager, Chris Bongorno, at cbongorno@nelsonnygaard.com or 212-405-2534 or me at ltreat@nelsonnygaard.com, 503-488-2247.

Sincerely,

Leah Treat
Managing Director
We put people first.

Nelson\Nygaard Consulting Associates, Inc. is an internationally recognized firm committed to developing transportation systems that promote vibrant, sustainable, and accessible communities. Founded by two women in 1987, Nelson\Nygaard has grown from its roots in transit planning to full-service transportation firm with over 130 people in offices across the United States.

In keeping with the values set by our founders, Nelson\Nygaard puts people first. We recognize that transportation is not an end by itself but a platform for achieving broader community goals of mobility, equity, economic development, and healthy living. Our hands-on, national experience informs but doesn’t dictate local solutions. Built on consensus and a multimodal approach, our plans are renowned as practical and implementable.

CAMPUS MOBILITY

Nelson\Nygaard specializes in tackling the particular transportation issues facing universities, corporate research parks, hospitals, national parks, and major event venues: traffic congestion, constrained parking, and limited revenue sources.

Our campus plans have achieved both financial and environmental sustainability goals—and proven marketable to students, faculty, visitors, tenants, and employees.

Our approach combines our broad experience with a willingness to break out of conventional boxes. We develop plans that minimize the financial cost for institutions and create a positive educational or work environment. We evaluate an assortment of options including subsidized transit, parking management, shuttles, shared-ride programs, bicycle sharing, streetscape design, and incentives to give people better travel choices.
OUR SPECIALIZATIONS

**CAMPUS MOBILITY**
Improving mobility choices at university, corporate, and medical workplaces

**ACTIVE TRANSPORTATION AND SAFETY**
Making places better for people to walk, bike, and gather

**PARKING AND DEMAND MANAGEMENT**
Creating livable places with better management of parking supply and demand

**TRANSIT**
Designing and developing great transit services for people

**EMERGING MOBILITY**
Collaborating on solutions for people in a new era of mobility

**ENGINEERING DESIGN AND DEVELOPMENT**
Analyzing movement to improve connectivity and reduce environmental impacts

**MOBILITY MANAGEMENT**
Coordinating and enhancing an individual’s access to more mobility options

**STREETS AND CITIES**
Balancing the mobility needs of everyone to create thriving places

**PARATRANSIT AND COMMUNITY TRANSPORTATION**
Achieving service/cost performance and ADA compliance for demand-responsive services

**TRANSIT CORRIDORS**
Building vibrant, equitable communities with high-quality transit at the center
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.

Over the years, 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 framework for the south 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 – services, facilities, programs, and importantly, to understand once again the user experience from its students, faculty and staff.

A Transportation Master Plan (TMP) is proposed below to 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).

Beginning with a comprehensive assessment of current conditions, services and programs, the proposed TMP will identify any physical, policy, and programmatic deficiencies and illuminate opportunities that align with University goals and objectives. Moreover, the TMP will address challenges connected to travel safety, congestion, internal connectivity, parking management, shuttle bus programming and operations, transportation financing and administrative policies, and student, faculty, and staff attraction and retention. 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.
As shown in this proposal, we have extensive experience in developing transportation master plans for colleges and universities across the United States. Our approach seeks to understand the entirety of transportation decision-making from the perspective of the user as well as the institution, creating realistic and implementable plans through the efficient, fiscally-responsible use of parking and transportation resources.

Nelson\Nygaard will collaborate closely with WMU to develop a robust, data-driven, and dynamic Transportation Master Plan that will be a blueprint for the future to address campus growth objectives, employee and visitor expectations, and transportation, parking and facilities management issues.

Below is a strategic sequence of actions we propose to ensure success for the WMU Transportation Master Plan:

- **Develop a Vision:** In our experience, a strong vision grounded in institutional growth objectives; student, faculty, staff, and visitor convenience; and community goals is a foolproof recipe for a supported and successful TMP. We see the TMP vision as a companion to current initiatives and strategic plans for WMU and critical to implementing new transportation programs, policies, and processes.

- **Identify Programs and Processes that Support the Vision:** Grounded in our hands on experience implementing transportation programs at academic institutions and corporate campuses nationwide, we will identify a set of programs and strategies that address perceived and actualized transportation, access, and mobility challenges. Recommendations related to WMU community-wide communication, transportation incentives, dynamic and user-friendly parking management, shuttle bus transit, shared mobility, active transportation, engagement with public partners/processes, and other strategies will be key to creating robust transportation programs and policies for WMU.

- **Ask the Tough Questions:** WMU has worked extensively over the years to reshaping its campus environs and upholding its values as a top tier national university, but significant issues remain. In particular, the constraints around parking, circulation, shuttle bus operations, coupled the need for refined transportation policies and procedures have highlighted the existing challenges with the University’s transportation system. It is likely time for WMU to ask the tough questions about its management system and challenge the status quo with new approaches. The Nelson\Nygaard team can help facilitate that dialogue to ensure the TMP is not only technically sound, but also addresses the internal political realities.

- **Find the Best Fit:** Using a combination of quantitative data and qualitative information from University staff, stakeholders, students, and community members, we will build recommendations that highlight the potential benefits and tradeoffs of different combinations of programs, strategies, and parking management practices.

- **Develop a Business Case that Resonates with Leadership:** Clear messaging around the TMP will be needed to advance the overall University transportation program agenda and potentially secure additional funding.

- **Learn and Adapt:** The success of the TMP rests on a foundation of on-going monitoring and continuous improvement. The Nelson\Nygaard team will recommend methods to monitor the health of transportation programs and make adjustments in real-time.
NATIONWIDE CAMPUS MOBILITY EXPERIENCE

Nelson\Nygaard has extensive experience in developing transportation master plans for colleges and universities across the United States. Our approach seeks to understand the entirety of transportation decision-making from the perspective of the user as well as the institution, creating realistic and implementable plans through the efficient, fiscally-responsible use of parking and transportation resources. Our transportation master plans at schools such as Louisiana State University, Boston University, University of Arkansas, University of North Texas, and the University of Wisconsin Milwaukee have resulted in significant transportation improvements to the benefit of staff, faculty, students, and visitors. This includes implementation of a transit subsidy and transportation demand management plans, street closures to support safer pedestrian access, restructuring of parking regulations and pricing, and shuttle system improvements. Our plans support both greater travel choice and equity for university affiliates while also meeting broader goals for reducing costs and supporting enrollment growth and capital programs.

Some of our recent campus mobility projects include the following clients:

- Pennsylvania State University
- Indiana University - Purdue University Indianapolis
- University of Wisconsin Milwaukee
- University of Wisconsin Madison
- University of North Texas
- Louisinana State University
- University of Vermont
- Brown University
- American University
- White Plains Hospital
- University of California San Francisco
- University of Arkansas
- Tufts University
- Binghamton University
- University of Massachusetts Lowell
Getting to and around the University of Wisconsin, Milwaukee was difficult because of barriers to walking and biking, limited parking facilities, and competing transit services run by several different departments. Balanced against a continued need to reduce costs and maximize investment dollars, the University hoped to strengthen connections around and between campuses that would be the key to unlocking future growth. Nelson\Nygaard first conducted a campus-wide outreach through social media, multiple on-campus events, and student contests to understand the real story behind the transportation issues. We synthesized the wide array of concerns and desires into several opportunities and strategies to be implemented in the short and long terms.

Nelson\Nygaard also worked behind the scenes after gathering financial information from the several departments and municipal agencies that provided transit and parking services, which helped unveil the actual costs and overlaps of all the University’s transportation systems. What began as a transportation strategy evolved quickly into a university-wide reinvestment strategy. Through our analysis, the University saw how they could more wisely invest transportation dollars. The University quickly implemented several key recommendations:

- Independent remote parking, residential life, and off-campus shuttle systems that overlapped and had to loop to cover destinations were consolidated into a new efficient bi-directional spine
- Parking pricing was tiered for both permit and hourly parkers, incentivizing the use of remote capacity
- A public street closure through campus was piloted successfully, laying the stage for a different reconstruction and eventual closure
- The university embraced and launched a campus-wide bikeshare system integrated with the City’s bikeshare
Nearly 70,000 people, including faculty, staff, students and visitor travel to the University of Wisconsin, Madison (UW–Madison) campus daily during the academic calendar. The University is committed to a multimodal transportation environment; the university provides approximately 13,000 parking spaces (all paid), five campus bus routes including paratransit services, free Madison Metro bus passes as well as extensive bicycle and pedestrian facilities. Bus services, including both the campus bus routes, bus passes and paratransit services are managed by the campus transportation services department and funded through a combination of student fees and parking revenues.

In the spring of 2012, UW-Madison hired a team of consultants led by Nelson\Nygaard to evaluate the campus bus routes and accessible transportation services. The objective of the evaluation was to identify opportunities to strengthen accessible transportation options on campus and assess the potential to increase the efficiency of the campus bus routes. Nelson\Nygaard collected a variety of data sources to support the study, including interviews with key stakeholders, a 100% ridecheck survey of the bus routes, and a peer review of accessible transportation offered on university campuses in the north. We used this data to prepare a detailed evaluation of each campus bus routes and paratransit services and identify service strengths and weaknesses. The study team also conducted focus groups with students, faculty and staff with disabilities and a campuswide data to understand people’s expectations, preferences and priorities.

Building on these findings, the Nelson\Nygaard team identified a series of recommendations—both for strengthening accessible services and improving the existing fixed-route service. Draft recommendations were brought to the university community in a series of public meetings; input collected from these meetings helped shape and advise final recommendations. UW is currently reviewing draft final reports that offer provide a range of improvement opportunities for both accessible and fixed-route services.
Penn State’s University Park campus is the flagship of the Pennsylvania State College system, with a total campus population that includes over 46,000 students and 18,000 faculty and staff. As the campus continues to grow, parking assets have been sacrificed in order to allow infill development in the campus core, placing a greater strain on the overall parking and transportation system. Nelson\Nygaard was hired as part of a team tasked to overhaul the existing parking system as a component to a wider multimodal transportation system that emphasizes efficiency, technology, and financial stability, and to develop cost-effective Transportation Demand Management (TDM) strategies that will reduce parking demand and encourage alternative travel choices.

Nelson\Nygaard is helping Penn State to create a comprehensive parking and TDM plan to best accommodate the needs of the existing campus population and to accommodate future growth. The firm provided Penn State with a broad overview of their existing transportation system, including identifying key mobility and TDM partners in the area and an evaluation of the current state of the multimodal networks, including gaps, conflicts, and potential improvements. Nelson\Nygaard surveyed and interviewed students, faculty, and staff on their transportation habits and conducted a peer benchmark survey, revealing that, while Penn State is competitive with peers in many aspects of its TDM program, there were potentially transformative improvements available for the University’s transportation system.

Nelson\Nygaard is providing Penn State with a comprehensive suite of recommendations targeting transit, bike and pedestrian infrastructure, parking, TDM programming, and marketing strategy improvements broken down by cost, impact, and timeframe—with concrete action items for implementation. These strategies will enhance Penn State’s status as a premier campus for students and faculty.
Indiana University–Purdue University Indianapolis (IUPUI) is a premier health sciences and urban research university renowned for its educational programs and health sciences and medical research institutes. With recent campus growth, the development of new off-campus facilities, and several on-campus infill projects, the University is steadily growing its programs, and the demand for campus access and parking is growing in response. In addition, the University is looking for opportunities to cost-effectively balance their transportation investments to address the needs of the University and its health care campus partners, as IUPUI looks to consolidate several hospitals and medical research centers over the next several years.

IUPUI’s campus is located in close proximity to Downtown Indianapolis, however the campus remains a commuter campus that heavily relies on driving. There has been an emphasis on creating a more integrated and multimodal campus. However, with a campus population that has about a 95% driving mode share—and approximately 86% of the population living further than three miles from campus—the University needs creative yet realistic solutions that will meet the needs of its diverse affiliates in order to create broader and sustained mode shift.

Nelson\Nygaard is helping the University create these solutions. Strategies will focus on short-, mid-, and long-term goals that will improve opportunities to support biking, walking, and transit. Nelson\Nygaard is currently examining parking utilization data to understand how the system can be managed more effectively with different reduction management tools. During the course of late winter and early spring, the team will work closely with the University to design key improvements and policies that will remove barriers to better, safer walking and biking connections, support transportation demand management strategies, identify opportunities to support greater shuttle and public transit ridership, and increase the comfort and access to on-campus for all modes.
The University of North Texas, Denton Campus, located 40 miles north of Dallas-Fort Worth, is one of the nation’s largest public universities, serving 36,000 students. Enrollment is projected at 1,000 additional students per annum and in order to accommodate this growth, the University plans to construct more than three million square feet of academic and research space, 4,000 new beds, and 5,300 new structured parking spaces. In addition, I-35 which bisects the campus, is currently being expanded, providing an opportunity to redefine a major gateway.

Parking and transportation challenges are significant. Nearly 90% of the 12,200 spaces on campus are in surface lots, competing for space with core University programmatic needs and creating serious safety and access challenges to non-motorized forms of transportation. The campus edges are dominated by one-way arterials with limited pedestrian and bicycle infrastructure; a majority of campus affiliates drive and expect front-door parking and the center of campus experiences high levels of conflict between cyclists, skateboarders, pedestrians, transit and drivers.

The Parking and Transportation Master Plan sought ways to reduce parking in the campus core, provide safe and legible pedestrian and bicycle networks, improve access to transit and the nearby commuter rail, enhance the existing bus network and seek ways to provide affordable and convenient transportation alternatives to single occupancy vehicles. Some recommendations from the projects are already being implemented, including dockless bikehare connections to transit and the development of a transit hub at the west side parking lot.
Anchored by major hospitals, universities, and cultural venues, Cleveland’s University Circle neighborhood is experiencing rapid growth as the second largest employment center in Northeast Ohio. Thousands of new workers, residents, students, and visitors are arriving in the district and will increasingly need to shift away from the region’s dominant travel patterns and take advantage of non-drive-alone travel modes to get to and around this destination.

The Moving Greater University Circle (MGUC) Transportation & Mobility Plan included in-depth study and community engagement components to arrive at an implementation plan that addresses areas of need and opportunity in University Circle’s transportation system. The study identified short- and long-term strategies for effective transportation management and outlined a clear path for impactful steps to tackle the shared transportation issues of this dynamic neighborhood. Moving Greater University Circle has four primary components:

1. The District Parking Study focused on evaluating existing and projected supply and demand in the study area. Immediate recommendations included a launching a comprehensive TDM program to facilitate commuter mode shift, adoption of a “park-once” strategy for tourists and day trippers, and offering shoppers and diners consistent availability through improved information and communication.

2. The Transportation & Mobility Study focused on understanding and evaluating the comprehensive transportation systems, choices, and challenges that confront people as they travel to, through, and within University Circle. Overarching mobility strategies were developed to guide future planning in the district and recommendations included a series of low-cost improvements to intersections and corridors, emphasizing safety and accessibility.
3. The Transportation Management Implementation Plan synthesized recommendations from the first two components and established a series of short- and long-term goals, metrics, action steps, and organizational responsibilities, based on stakeholder feedback. Scope and budgeting exercises helped inform fundraising that enabled a smooth transition from planning to implementation.

4. An evaluation of the district’s CircleLink circulator service was completed alongside the primary tasks listed above. Development of a new dual-route system to connect students, commuters, residents, patients, and visitors to their destinations helped to support “park once” and other mobility strategies outlined in the MGUC Plan.

The Plan has already begun to yield tangible benefits, with University Circle Inc. (UCI) shepherding a series of program, service, and capital recommendations forward. Included in this list are some of the highest priorities from the MGUC Plan:

- Design and construction of a $345,000 project to improve a priority pedestrian crossing between a major transit hub and two high school campuses, including curb extensions, refuge island, pedestrian signals, and a rain gardens.
- Securing a $230,000 implementation grant for mobility enhancements in the growing Uptown mixed-use neighborhood, including recommendations for new crosswalks, traffic signal changes, and bike route & streetscape improvements.
- Expanding the CircleLink to a dual-route network and upgrading real-time information systems with support from the service’s two primary funders: Case Western Reserve University and University Hospitals.
- Increasing transportation management services, including a two-year staff capacity grant that led to the hiring of UCI’s first full-time Transportation Manager.
- Executing the district’s first comprehensive commuter survey in 2016, which is distributed to more than 40,000 employees annually.
- Launching “uGO,” a new web and social media platform to improve awareness, promote active commuting, and serve as a one-stop shop for district transportation information.

Nelson\Nygaard has helped complete multiple follow-on traffic analyses in support of critical projects throughout University Circle. These include pedestrian access priorities from the Case Western Reserve University Master Plan and a road diet and network reconfiguration aligned with the Circle Square mixed-use development. Tying these projects in with the MGUC Plan has ensured that these place-specific interventions align with the priorities of the broader district.

“The Plan identified low-cost, high impact improvements that we have had great success implementing in coordination with our partners in the district.” – Debbie Barry, VP of Planning & Development
Scope of Work

The following includes our proposed scope of work and detailed tasks to address the University’s needs based on recent communication with University staff and our approach to preparing at TMP for WMU.

It is noted that the scope of work is subject to change upon review and approval by University staff, and we are more than willing to make refinements and adjustments, as appropriate. Therefore, the cost estimate provided herein (see Attachment B) will also be subject to change in the event specific tasks are modified, omitted, or additional items are considered by University staff.
Nelson\Nygaard will work hand-in-hand with WMU to develop a robust, data-driven, and dynamic Transportation Master Plan that will be a blueprint for the future.”

**TASK 1: PROJECT KICKOFF & MANAGEMENT**

**1.1 KICKOFF MEETING AND SITE VISIT**

Nelson\Nygaard Team will conduct a project kickoff meeting with key University staff and the established Transportation Steering Committee to confirm project goals, refine project schedule, confirm available data and documents, and identify additional project stakeholders for ongoing coordination (University, City, Metro!, MDOT, etc.) The meeting will also be an opportunity to confirm scope and schedule of work, stakeholder engagement, and to identify key data, policies, and reports deemed relevant to the project. We will update the study scope, schedule, and parameters, as necessary, to be included in the deliverable for this task.

We will also discuss key project processes approaches, including:

- **Background Data and Documentation:**
  The kickoff meeting will be an opportunity to confirm the nature and availability of any data, policies, and reports deemed relevant to the project. Our staff also will conduct initial extensive field observations and begin coordinating continued data collection with a team of University faculty, staff, and students.

- **Project Oversight:**
  Meet periodically in person or by phone with the established Transportation Steering Committee to review deliverables and inform planning efforts. Confirm the makeup and roles of the Transportation Steering Committee and a desired meeting schedule.

- **Conditions Analysis:**
  Confirm the nature and availability of any data, policies, and reports deemed relevant to the project. Discuss role and timing of field observations to observe peak-period campus parking and travel activity.

- **Stakeholder Engagement:**
  Confirm the organization, quantity, and format for stakeholder outreach activities.

**1.2 WORK PLAN FINALIZATION**

After the kickoff meeting, a final work plan will be produced for University staff. It should include the following components:

- **Project Oversight, Meetings, and Steering Committee Composition**

- **Background Data, Metrics, and Plan Fulfillment**

- **Coordination with Strategic Facilities Visioning, Academic Futures, Housing Master Plan, and Campus Master Plan, etc.**

- **Data Collection Team Contact and Oversight**
1.3 PROJECT PROGRESS & COORDINATION

Bi-weekly conference calls with the project team will provide ongoing project updates and a chance to review project deliverables and troubleshoot any project issues. To ensure project vision and expectations are met throughout the project, Nelson\Nygaard will document meeting agendas and meeting notes with dates, action items, and owners and provide the University staff and Steering Committee members with monthly status reports detailing progress with respect to the scope, schedule, and budget. Our core management team (Principal-in-Charge, Project Manager, and Deputy Project Manager) will be available for consultation with University staff and faculty as needed throughout the project.

MEETINGS:
- Kickoff Meeting with TMP Steering Committee and Project Team
- Bi-Weekly Calls

DELIVERABLES:
- Background Data Request
- Summary of Kickoff Meeting
- Final Work Plan
TASK 2: DATA COLLECTION

2.1 BACKGROUND DATA REVIEW

We will work with University staff to obtain any and all relevant documents and data pertinent to the development of strategy plan. Our team will likely put together a list of data needs prior to the kickoff meeting (see Task 1) as this process may require considerable time if data is not yet available, or needs to be processed, and if data will be obtained from outside sources (e.g., City of Kalamazoo, MDOT, etc.) and require additional coordination, respectively.

This list is likely to be extended as we seek to ensure that the work plan is informed by work already completed, data already collected, and issues and opportunities identified through the efforts of various campus stakeholders. Following this review and discussions with University staff, our team will secure the best-possible understanding of the following baseline study conditions.

- Campus base maps including buildings, on- and off-street parking areas, external and internal street network, bikeways and pedestrian pathways, etc.
- User survey information, including student, faculty, and staff travel patterns, travel choices, and any/all relevant information regarding user feedback on current transportation resources/services/programs
- Current (and projected) parking supply, capacity distribution, and regulation
- Current parking management policies, practices, and planning, and their connection to broader campus goals and objectives
- Current parking utilization (demand) by time of day for on- and off-street facilities
- Current transportation programs and their impact on parking demand and University finances
- Daily vehicular traffic volumes along external, adjacent intersections to the campus and along internal campus streets and relevant traffic operations analysis (including intersection level of service)
- Recent or planned changes to parking, transportation, or Transportation Demand Management (TDM) strategies and programs
- Bronco shuttle ridership by route and stop, operations, and financing structure
- If applicable, bike share participation; key routes and stations
- If applicable, vanpool/carpool registration
- Levels of unmet demand for driving alternatives, for campus commuting or intra-campus travel
Most significant barriers to meeting this demand to further the University’s significant parking management achievements

- Town/Gown conflicts and issues, real and perceived, including parking pricing, connectivity, and accessibility issues
- Transit use trends and any recent or planned efforts to improve transit service/ridership
- Recent and projected University campus growth (i.e., student, faculty/staff) and development for the campus (i.e., buildings and related facilities, events, etc.)
- Current partnerships with transportation agencies, transportation technology companies or related mobility platform providers, and/or other third-party vendors
- Organizational, financial, and operational structure for all current transportation programs and services

**NOTE:** If data from the above list is not available or deemed not applicable for purposes of this effort, Nelson\Nygaard will prepare a separate scope of work and costs associated with collecting this data. For example, if on- and off-street parking utilization is not available, we will provide University staff with a scope/budget to collect and process parking data and work with staff to determine the appropriate time/date to collect data.

### 2.2 EXISTING PLANS AND POLICY REVIEW

We will conduct a thorough review of all available data and documents, not limited to the following:

- WMU Campus Master Plan
- WMU Campus Housing Master Plan
- WMU Climate Action Plan
- Neighborhood/Campus Sub-District Master Plans (e.g., South Campus)
- City of Kalamazoo Complete Streets Policy
- City of Kalamazoo Congestion Management Process
- 2045 Metropolitan Transportation Plan and Travel Demand Model Summary
TASK 3: TMP VISION & GOALS DEVELOPMENT

The project will be responsive to a campus vision. Clear establishment of that mobility vision early in the process will be critical in guiding our work. Nelson\Nygaard and University staff will collectively lead the development of a new Vision, Goals, Objectives, and Metrics Plan for campus mobility. These components will be driven by the community and will guide the work and recommendations going forward. It is essential to know the community’s values in order to effectively narrow the field of strategies.

Substantial input from the University staff, local and regional partners, and other community stakeholders will be essential to properly understanding quantifiable measures of transportation conditions and to developing effective strategies for the TMP. To this end, we propose to conduct one workshop with University staff and steering committee members at the initial stage of the TMP process (described below), and a second project team meeting to discuss preliminary recommendations (see Task 5). Other ongoing efforts, such as stakeholder interviews (in person or via phone) will also complement the overall Vision and Goals development process and set the overall framework for the TMP.

3.1 STAKEHOLDER INTERVIEWS

Engaging stakeholders early in the study process help reveal issues and opportunities that might not be noticed in available data sets nor learned through existing planning efforts. Individuals with on-the-ground knowledge of what works and what doesn’t work can be invaluable guides – as long as the consultant uses prudence and good judgment in isolating real concerns from perceived.

As a result, we suggest convening a series of focused interviews with selected individuals (or small groups of stakeholders with largely common interests) having a clear interest in parking, transit service and transportation in the study area. In the case of WMU, stakeholders and stakeholder groups could include individuals within the university administration and student groups, as well as individuals outside of the university, such as community/neighborhood groups and representatives from the City of Kalamazoo. We expect the Transportation Steering Committee will be a critical part of identifying interviewees.
3.2 PROJECT WORKSHOPS

A workshop-style educational event held immediately after project kickoff can effectively gather key stakeholder input to help shape the rest of the project. A follow-up project team meeting, held toward the end of the project, will allow the team to share findings and discuss draft recommendations. These meetings can include breakout sessions and mini-focus group exercises that pairs each task force team (as described throughout this scope) with specific stakeholders and focus on specific campus and community needs and opportunities.

The workshop can also include “walking tours” to engage stakeholders in discussions of key site-based issues and challenges. These walks tap into the knowledge base of various disciplines and provide an opportunity for community members to understand and evaluate the trade-offs necessary when implementing and/or adjusting transportation programs.

3.3 WORKSHOP #1 DISCOVERY & VISION WORKSHOP

Nelson\Nygaard will host a daylong workshop to establish the vision and goals to guide not only the project, but also the University’s overall approach to transportation, parking, and mobility in the short and long term. Nelson\Nygaard’s core management team and advisors will lead this workshop, bringing their facilitation and planning expertise to the discussion.

During this workshop, we will identify the future vision for the University and explore how transportation can support those values. The workshop will be an important first step to confirm the project goals. Goals may include commute mode split, student, employee and visitor experience, sustainability/environment, neighborhood relations, financial sustainability, and parking system performance, among others. It will also be important to ensure that the goals and vision are coordinated with external stakeholders and internal priorities.

Prior to this meeting, Nelson\Nygaard will coordinate with University staff to gather relevant information to guide the process (see Task 2).

Nelson\Nygaard assumes that University staff will be responsible for identifying and notifying meeting participants, scheduling the meeting, and handling meeting logistics.
3.4 TRANSPORTATION STEERING COMMITTEE MEETING #1
Nelson\Nygaard will lead and participate in a steering committee meeting during the initial phases of the TMP process. This first meeting will include an informational meeting and include an overview of project vision, goals, and process and gather input from stakeholders. Meeting summaries and other deliverables will be provided by Nelson\Nygaard to University staff for distribution to all key stakeholders for one round of review and feedback. It is assumed that University staff will agree to gather feedback into one consolidated package to provide to Nelson\Nygaard.

3.5 ESTABLISH EVALUATION METRICS
Nelson\Nygaard will create an evaluation framework to articulate, define, and measure progress toward campus transportation and mobility goals and objectives. Our team will specify topic areas and work hand-in-hand with University staff, partners, and stakeholders, to address both immediate and long-term needs and opportunities for the University. Evaluation metrics will be based on the following performance-measure elements:

- Highlighted strengths and potential challenges of each strategy
- Performance indicators to measure success and level of effectiveness
- Identify potential outcomes, estimated annual costs, and implementation requirements

3.6 STRATEGY DEVELOPMENT FRAMEWORK: TMP VISION, GOALS, OBJECTIVES, AND METRICS
Nelson\Nygaard will prepare an overall Strategy Development Framework that memorializes the TMP Update’s Vision, Goals, and Evaluation Metrics that will be the foundation of the strategy development for the plan.

MEETINGS:
- Workshop #1
- Steering Committee Meeting #1

DELIVERABLES:
- Meeting Materials for Workshop & Steering Committee Meetings
- Workshop and Committee Meeting Summary Findings Memoranda
- Strategy Development Framework

A well-defined vision statement and set of goals, objectives, and performance metrics will allow the University to guide investment effectively and measure success. Nelson\Nygaard recently led Stanford University Medical Center through a similar exercise.

<table>
<thead>
<tr>
<th>SUMC Goal</th>
<th>Objective Related to Employee Transportation</th>
<th>Desired Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide world class patient care and a pleasant patient/visitor experience</td>
<td>Maintain patient parking availability</td>
<td>Maintain 85% parking occupancy</td>
</tr>
<tr>
<td></td>
<td>Increase access to multimodal options for both employees and patients</td>
<td>Utilize multimodal options at a higher rate</td>
</tr>
<tr>
<td>Facilitate dramatic and financially sustainable growth for SUMC</td>
<td>Optimize use of parking resources</td>
<td>Cost-effective optimization of transportation resources</td>
</tr>
<tr>
<td></td>
<td>Adapt and scale TDM plans to enhance transportation options at all sites</td>
<td>An equitable TDM program for all employees</td>
</tr>
<tr>
<td></td>
<td>Collaborate to improve transportation options between SUMC and regional public and private partners</td>
<td>Existing services are leveraged to benefit employees</td>
</tr>
<tr>
<td></td>
<td>Promote healthy &amp; sustainable transportation</td>
<td>Main Campus commute patterns in compliance with General Use Permit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Single-occupant vehicle trips reduced by 15% to, from, and between SUMC sites</td>
</tr>
</tbody>
</table>
TASK 4: CAMPUS MOBILITY, TRANSPORTATION, & FACILITIES ASSESSMENT

4.1 TRANSIT & SHUTTLE EVALUATION

Nelson\ Nygaard will conduct a current service analysis in order to assess the need for WMU’s Bronco Transit system improvements. Based on our interviews with key University staff and analysis of existing operations, we will evaluate existing services.

For each Bronco Transit bus, we will develop route profiles examining how well the route serves its intended markets, how well it works within the overall system, and what changes could be made to improve route performance and responsiveness to the mobility needs of University students, faculty, and staff.

A typical route profile includes the following elements:

- A description of the route and major destinations served
- A route map
- A description of the route’s alignment and service patterns
- Service characteristics (days and hours of service, service frequencies, etc.)
- Ridership characteristics (by stop, by trip, and by direction)
- Performance characteristics (passengers per service hour, passengers per trip, on-time performance, etc.)
- An overall assessment of the strengths and weaknesses of the route
- An initial list and description of potential improvements

By analyzing each bus route from multiple perspectives, the route profiles identify key areas for improvement, as well as areas of existing strength. These documents serve as the basis for future service recommendations (see Task 5).

4.2 PARKING MANAGEMENT EVALUATION

There is a direct correlation between vehicle demand and the availability of parking. There is an “induced demand” factor that encourages single-occupancy vehicle travel behavior and without effective management, these financial costs to maintain a high amount of subsidized and/or free parking for patrons can result in fewer realized benefits and more challenges.

We will work with University staff on addressing parking management practices currently programmed and identifying effective strategies to enhance services. Data and relevant information provided in Task 2 will guide the discussion around parking is currently utilized and managed and what measures can be done to improve upon user experience, redistribution of supply to better meet demand, enhance access, circulation and safety, and setting a foundation to “right-size” future parking based on projected demand, as appropriate.
Key tasks will include an evaluation of the following:

- **Optimization of existing spaces**, including a physical assessment of current parking facilities, as well as an analysis of time restrictions, existing wayfinding programs, and real-time information about parking availability. Ensuring that motorists are aware of, and can easily access, existing parking facilities, especially those within walking distance of campus, will be an essential parking management goal.

- **Parking regulations**, such as modified time limits that support a “park-once” campus, in which motorists will be able to park once and then walk to multiple destinations while alleviating concerns regarding connectivity, access and safety.

- **Improve parking permit program**, as a means to address the difference in user needs; the short- and long-term use of parking facilities by students, faculty/staff, and visitors. Review of key program parameters, such as permit parameters and prioritization, hours and days of operation, pricing of permits and eligibility, monitoring permit allocation/distribution, number of permits per student and faculty/staff, and implementation processes.

- **Access and Circulation**, including ingress/egress design, safety; assessing sight lines, slopes, lighting, and pedestrian crossing grades/slope, and access for those with limited mobility. Identification of conflict points, vehicle turning speeds, driver distraction, and notification systems.

### 4.3 ACTIVE MODES

#### Bike Facility Improvements

- Including infrastructure, information, and policy strategies incorporating the following:
  - Consider traffic calming on campus and surrounding streets to improve bicycle safety and moderate traffic speeds
  - Review bike-friendly streets and paths for improvements and greater accommodation, as well as expansion to other streets
  - Review the need for connections or gap elimination along existing and proposed routes
  - Review potential for expanding bicycle parking (lockers, racks), especially near transit stops and key campus destinations
  - Consider new bicycle connections where space permits, including bike lanes and multi-use paths, particularly at campus access points
Pedestrian Amenities

Carefully integrated with bicycle improvements yet cognizant of higher demand and conflict areas where bikes and pedestrians should be separated:

- Consider traffic calming on campus and surrounding streets to improve pedestrian safety and conspicuity and shorten pedestrian crossing distances
- Investigate traffic signal modifications to make it easier for pedestrians to cross the street, without jeopardizing vehicle capacity
- Explore widening sidewalks and pathways, particularly on new construction projects
- Review crosswalk installations/policies for location, marking, signing & effectiveness
- Review pedestrian signal controls and any policies or standards, including walk/don’t walk phases, overhead signals, signal warrant policies and technological improvements such as passive detection, LEDs and audible signals

We will also review ordinances and design criteria unique to the campus, City of Kalamazoo, and MDOT to determine if modifications will encourage the use of these modes of transportation. The best strategies will be compiled into a final suite of pedestrian and bicycle mobility enhancements (see Task 5).

4.4 TRANSPORTATION DEMAND MANAGEMENT PROGRAM EVALUATION

We will complete an assessment of the current and planned (future) multimodal transportation system, as well as any significant Transportation Demand Management (TDM) policies, practices, and programs that seek an optimal balance among options within this system. We will provide an evaluation of the following focus areas:

- **Program communications/outreach/campaigns**, including communication and outreach procedures conducted by University staff to University patrons, including visitors; website resources and information links, notifications and related collateral materials, encouragement/incentive programs, group activities, and related advertising and engagement methods to external and internal audiences.

- **Shared Services and Mobility-as-a-Service (MaaS) programs**, including car share partnerships, bike share, and carpool (ride-matching) programs, partnerships with TNCs and related ride-sourcing applications, presence of current relationships with Transportation Management Platform (TMPs) partnerships and services (e.g., gamification), multimodal trip planners/aggregators, and smart mobility kiosks/wayfinding.

- **Partnerships**, including past, current, or foreseeable opportunities to partner with the City of Kalamazoo, Kalamazoo Area Transportation Study (KATS), Metro Transit, and/or other third-party vendors (e.g., scooter share providers, etc.) in promoting transportation programs, creating city-wide commuter benefits, and street network improvements that provide stronger, safer non-auto and transit connections to campus.

4.5 CAMPUS STREET NETWORK EVALUATION

Nelson\Nygaard will conduct a thorough assessment of the existing campus network, including roadway conditions, multimodal connections and access points, key pathways and bikeways, and understanding the relationship between the campus layout, user experience, and proximity to key, off-campus destinations.

Our team comprises active bicyclists and frequent transit riders and we will document and inventory the campus grounds via multiple modes in order to gather multiple perspectives of each mode and to gather a better sense of the journey by auto (driving and parking), getting dropped off and picked up, transit (bus and rail), and biking.
4.6 VEHICULAR OPERATIONS & CIRCULATION

In this subtask, we will recommend changes to the circulation patterns around campus, focused on entry and exit of parking facilities and vehicular desire lines. Areas of analysis will include:

- Conflict points, poor intersection performance, etc.
- Design and actual vehicle speeds and degree of driver distraction relative to local environment
- On-street parking impacts on traffic and bicycles
- Benefit of wayfinding signing
- Impacts on emergency vehicle access
- Impacts on commercial loading and delivery services

4.7 FACILITIES EVALUATION

Using data from previous tasks and coordinating directly University staff, we will evaluate the current and estimated development plans for the campus (both on- and off-site, as appropriate). Understanding current and future campus populations, including students, faculty/staff, and visitors, in combination with existing transportation demand (e.g., ridership, parking, bicycle usage, etc.), we can then begin to project (or estimate) anticipated demand associated with any planned development on campus. For example, if there is a plan to establish more on-campus student housing, we can assess the level of impact or influence on transportation resources.

4.8 COMMUTER SATISFACTION SURVEY

Nelson\Nygaard will work with University’s Office of Sustainability to develop an online survey instrument to understand current travel patterns, level of satisfaction, and gauge the effectiveness of existing parking and transportation programs by students and, separately, by faculty and staff. Key topics to explore include:

- Mode choices for the different trips
- Opportunities for using alternative travel modes
- Demographic information
- Occurrence of trip chaining on commutes to/from campus
- Home/work locations in relation to campus
- Average commute travel time by traveler type
- Opportunities to partner with the City of Waltham to expand bike and pedestrian networks
- Sensitivity to parking and transportation costs
- Nature of resistance to alternative modes
- Frequency of travel to/from campus to key locations in City of Waltham and nearby communities, including Newton, Belmont, as well as Boston
4.9 EXISTING CONDITIONS REPORT

Nelson\Nygaard will compile information from the above subtasks and prepare a comprehensive Transportation Existing Conditions Report to document our findings. The report will establish the foundation of our understanding of current transportation conditions, including operations and user needs and identification of gaps, opportunities and constraints associated with the transportation program.

We will provide the University up to one (1) draft of the report and upon receipt of one set of non-conflicting comments; we will make the necessary updates and provide one (1) final report.

MEETINGS:
- Ongoing Core Team Calls
- TMP Steering Committee Calls

DELIVERABLE:
- Existing Conditions Report

MOBILE WORKSHOP (OPTIONAL)

As an optional task, Nelson\Nygaard will utilize the “mobile workshop” concept, allowing integration with existing events, rather than creating a whole new outreach effort. The preferred format employs interactive maps, guides, and touchpad-based input tools stationed at a simple table with visible pop-up tent, all quickly packed into and out of a van. By being mobile, the team can ensure the outreach campaign receives input from sometimes disengaged campus users. The purpose of focusing on mobile workshops, rather than a static location, is to engage as diverse of a population as possible, including diverse needs of University patrons.

To support our assessment of existing conditions, this two-day workshop will serve as an information gathering exercise to allow University patrons to provide their input about their transportation needs in an open, casual environment as well as an opportunity to discuss project objectives and gather valuable participant input for the project. During the workshop, participants will have hands-on exercises to prioritize values and highlight areas of opportunity and concern.

The duration and location of the mobile workshop will be determined in coordination with University staff.

DELIVERABLE (OPTIONAL):
- Two-Day Mobile Workshop Materials and Summary Report
TASK 5: CAMPUS MULTIMODAL IMPROVEMENTS & PROJECT IDENTIFICATION

5.1 DRAFT MULTIMODAL IMPROVEMENTS RECOMMENDATIONS

Based on the information from previous tasks, we will consolidate findings and prepare a draft set of recommended strategies to enhance the University’s mobility options, network conditions, and optimize its parking system and management. Recommendations will comprise physical improvements, programmatic measures related to travel incentives, partnerships, and communications protocol, and policy actions that can be implemented and enforced administratively by University departments.

We will identify and evaluate existing (underway and/or funded) and new projects based on a prioritization methodology to clearly understand the access and mobility tradeoffs, and how these projects rank and align with the established vision and goals. We will also classify projects into key categories to delineate the nature of each project, as some improvements may be solely physical enhancements (e.g., protected intersection design, restriping, bike parking installation, shuttle stop enhancements, etc.) and others more programmatic, such as modified parking permit regulations and campus commute programs.

Each identified improvement project that is identified during this process will include a detailed description of the program, policy, or physical improvement, specific requirements to ensure successful implementation, timeline, and to the extent possible, cost estimates. Best practices, relative precedents, and academic/industry research and statistics will also be included.

We will prepare a comprehensive list (accompanied by detailed project profile sheets) of each draft recommendation and identified improvement project and submit to University staff for review.

5.2 PROJECT MEETING – RECOMMENDATIONS REVIEW

Nelson\Nygaard will conduct workshop second project meeting to meet with the University staff and steering committee members to provide a detailed discussion of our assessment of the University’s current transportation program and highlight key opportunities and challenges, and to share preliminary recommendations and list of potential improvement projects. The purpose is also to gather pertinent feedback from workshop participants and to assure that our recommendations continue to align with the University’s vision and goals for their transportation program.

MEETINGS:
- Project Meeting

DELIVERABLES:
- Meeting Materials
- Meeting Summary Findings Memoranda
- Draft Multimodal Improvement Projects Matrix
6.1 STRATEGY REFINEMENT AND PACKAGING

After identifying the best vehicular, transit, TDM, parking, and active transportation infrastructure and program strategies, Nelson\Nygaard will prepare a final recommended suite of multimodal improvement projects that will have the greatest impacts. This will be documented in a clear evaluation matrix scored by factors established in coordination with the University staff.

6.2 FINANCIAL MODELING

Using the Nelson\Nygaard analysis tools that have been successfully used at a number of university campuses, we will develop a spreadsheet-based model to analyze the financial impacts of each alternative solution, taking into account departmental budgets, debt service, inter-department parking charges, and other University-specific practices. The team will analyze current use trends and parking demand and will develop future-demand projections to a set horizon academic year, taking into account the impacts of anticipated growth. Demand projections based on these variables will be developed through an iterative process within the model. The model will consider the separate needs of students, staff, and faculty, and will also determine the ultimate number of parking spaces necessary to meet future demand given any required parking price increases (as well as needed transit capacity increases).

The model assumptions will be established in a clear, straightforward, and easily interpretable manner. Once appropriate calculations have been made, discussions with the University will result in a “preferred” alternative.

Capital, operational, and maintenance cost-benefit analyses will feed directly into a final simplified summary of recommendations.

DELIVERABLES:

- Refined Multimodal Improvement Projects Report
- Financial Modeling Spreadsheet, including Costs and Revenue Projections

7.1 FINAL REPORT

The plan document that results from this process and documents the engagement, analysis, evaluation and recommendation efforts described previously will be a concise, graphically-rich action plan that focuses on key findings and opportunities from the assessment and evaluation tasks and makes a clear case for a program of transportation investment and management to campus decision-makers. We believe the final plan should make a clear case for why the University will pursue transportation actions and policies that it does, and reflect WMU’s high standard of design excellence and be a broadly accessible document. We will work with the University staff and Steering Committee members to develop formats and styles that fit within the University’s overall program of branding and visual presentation, and will prepare documents that are just as easily printed as they are distributed on the Web or through other electronic means.

7.2 PERFORMANCE MONITORING PLAN

The implementation and ongoing performance monitoring of multimodal, TDM, and parking measures is essential to their long-term success. The Nelson\Nygaard team will develop a plan to ensure strategies are put into practice with a set of performance measures and standards to facilitate University staff in gauging the effectiveness of transportation programs and taking corrective action where required. We will also detail methods for monitoring program success including timeframes for review and potential actions based on performance against the standards.

DELIVERABLES:

- Draft and Final TMP Report
- Implementation and Performance Monitoring Plan and Matrix