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SECTION IV THE CAMPUS TODAY *(1999-2000)*

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An evaluation of existing conditions on the Western Michigan University campus was undertaken in 1999. An overview of the issues and opportunities identified through that evaluation, which helped to shape Master Plan recommendations, is presented on the following pages. Four levels of analysis are summarized:

- The regional and neighborhood context
- The campus overall
- Each subcampus (West, East, and Oakland Drive)
- The districts within West Campus

Analysis findings are drawn from campus interviews, discussions with Master Plan Advisory/Policy Committee and focus group members, and the consultant team’s initial impressions of campus.
IV.A  REGIONAL AND NEIGHBORHOOD CONTEXT

Figure 4-A.1 Regional Analysis
The Kalamazoo River Valley Region

Western Michigan University lies within the Kalamazoo River Valley and is an important part of the city of Kalamazoo.

a. Natural Features

The region's most significant natural features are the ridges and valleys created by, and delineating, the changing alignments of the Kalamazoo River. These features shape the appearance and function of the campus in important ways. Campus hillslopes (the upland plateaus) offer attractive views over the city and valley system. Indeed, views from the original Western State Normal School (East Campus) have special historical and aesthetic significance. The Arcadia and Goldsworth Valleys, with their steep wooded slopes and special valley floor ecology, also add richness to the campus. Nevertheless, the changes in elevation between hillslopes and valleys present special challenges in terms of linking campus areas together physically.

b. Regional Access

The location of Western Michigan University in relation to the regional vehicular circulation network is a key factor in determining the ease or difficulty with which motorists can reach the campus. Although this is an important issue for students, faculty, and staff, it is even more critical for first-time visitors. The most direct routes to campus from the interstate network include:

- Stadium Drive from US-131. To the west of campus, US-131, a north-south limited access highway, links to I-94, the region's primary east-west interstate highway corridor. Stadium Drive provides a direct connection between US-131 and the campus, bringing travelers between wooded slopes into the Arcadia Valley. This road currently has adequate vehicular capacity to accommodate increases in traffic.

- West Main Street from US-131. West Main Street intersects with Howard Street to the northwest of the campus. By turning south on Howard Street, motorists can reach the West Michigan Avenue/Howard Street entrance to campus.

Business Route 94 also links the campus to the easternmost Kalamazoo exit on I-94. This route is indirect and can be confusing to first-time visitors. In addition, it brings travelers through downtown Kalamazoo and can be congested at peak hours.

Although Oakland Drive provides a direct link to campus from I-94, residents along this route would like to discourage increased traffic.
IV.B  NEIGHBORHOOD ANALYSIS: COMMUNITY INTERFACE

Figure 4-B.1 Neighborhood Analysis
IV.B.1 Land Use Patterns/Limits to Campus

The Western Michigan University campus is the largest component of a concentration of institutional land uses in northwest Kalamazoo, including Kalamazoo College, Kalamazoo Christian High School, and South Junior High School. The campus is surrounded almost completely by residential neighborhoods. Although a modest amount of University-related retail is located adjacent to campus along the West Michigan Avenue corridor, more significant community and regional retail concentrations are located along West Main Street, Stadium Drive, and in downtown Kalamazoo.

The existing development context surrounding the campus offers little opportunity for the University to expand through acquisition. Campus edges appear to be fixed. The recently acquired Oakland Drive Campus, home of the Kalamazoo Regional Psychiatric Hospital, provides the most significant opportunity for campus growth.

Very little preserved open space and few parks are located within the immediate vicinity of the campus. As a result, area residents rely on nearby institutions for recreational open space.

IV.B.2 Campus Access

Campus arrival areas and entries present varied experiences, depending on their use and physical character.

a. Arrival Areas

- **Howard Street and Stadium Drive.** Although the intersection of Howard Street and Stadium Drive has not historically been viewed as an important campus arrival area, Stadium Drive provides the most direct access to the regional highway network (US-131 and, via US-131, I-94). This intersection should be treated as an important arrival area.

- **Oakland Drive and Howard Street.** Oakland Drive also provides a direct link from I-94 to the campus. From Howard Street to Oliver Street, Oakland Drive is lined with mature oak trees, which provide a foreground to the historic Kalamazoo Regional Psychiatric Hospital with its iconic Water Tower. This landscape character provides a positive arrival image.

- **Stadium and Oakland Drives.** The intersection of Stadium and Oakland Drives (and West Michigan Avenue) also represents an important arrival area for motorists approaching the campus from downtown Kalamazoo. Today, this area presents a cluttered mix of uses (commercial, institutional support); existing buildings and open spaces do not present a positive institutional identity.
b. Entries

- **Valley Drive.** The entrance to campus from Howard Street at Valley Drive presents a park-like image, with rolling hills, Goldsworthy Pond, and scenic panoramas of campus.

- **West Michigan Avenue.** In contrast, the entrance from Howard Street at West Michigan Avenue reflects the area’s former land use patterns and presents a visually confusing foreground that conveys little sense of institutional presence or quality.

- **Stadium Drive and Oliver Street.** The entrance at Stadium Drive and Oliver Street (and from West Michigan Avenue at Read Fieldhouse) provides a much more urban and collegiate experience.

c. Traffic Congestion

Traffic congestion often occurs at campus arrival areas and entries, especially at peak times in the morning and evening. The degree of congestion is influenced by each intersection’s physical design, available traffic control, and relationship to campus parking lots. For example, inbound traffic volume at the intersection of Howard Street and West Michigan Avenue during the morning peak hour is three times as high as at any other campus entrance. This intersection also has the highest volume of outbound traffic in the evening peak hour, although not by the same factor. The concentration of parking on the west side of the West Campus draws this disproportionate volume of traffic.

d. Off-Campus Pedestrian Connections

Pedestrians moving to and from campus must travel through surrounding residential neighborhoods and cross busy roads and the railroad tracks. Well-defined connections between campus and some surrounding commercial and student housing areas do exist (including sidewalks, footpaths, and bike paths), but pedestrians often encounter conflicts with traffic and parked cars.
IV.C CAMPUS-WIDE ANALYSIS

University campuses are complex and highly integrated physical environments. To better understand the elements that make up the Western Michigan University campus, they have been analyzed individually. The observations and conclusions drawn from these evaluations are summarized in the following sections:

- Buildings (see IV.C.1)
- Open Space (see IV.C.2)
- Pedestrian Circulation (see IV.C.3)
- Bicycle Circulation (see IV.C.4)
- Transit (see IV.C.5)
- Vehicular Circulation (see IV.C.6)
- Parking (see IV.C.7)

Western Michigan University is an efficiently functioning institution, including attractive facilities, open spaces, and walkways. Overall, the campus conveys a positive impression. Nevertheless, many opportunities exist for improvements that will strengthen the physical organization and visual character of the campus. This analysis focuses on those opportunities for change that will help to achieve the University's priorities as documented in Section II.
IV.C.1 Buildings

a. Introduction

Consistent and harmonious building relationships are created through careful building placement and coordinated decisions on massing, materials, fenestration, and rooflines. These building relationships are critical in framing significant open spaces, establishing a distinctive campus image, and reinforcing the definition of subcampus districts and building clusters.

A variety of design expressions can be achieved within the overall campus architectural setting. The majority of buildings, however, should establish a consistent background, or context, against which featured buildings and open spaces are presented. These background buildings also serve to define edges and articulate entries. Featured buildings are distinguished by their use, scale, design, and spatial quality. They often serve as the district focal point or landmark.

Figure 4-C.2 Fetzer Center Drop-Off
c. Findings

Capacity and Use

Overview. In spring 2000, there were 6,761,748 total gross square feet (gsf) of building space on the Western Michigan University campus. Since 1991, the University has added 709,000 gsf of new building space. This represents an average annual growth rate of 78,800 gsf per year. Over the same period, approximately 726,000 gsf of building space were renovated.

Destinations. Major destinations on campus include the Bernhard Student Center, the Student Recreation Center, Waldo Stadium, Waldo Library and the Computer Center, and Miller Auditorium and Shaw Theatre.

Activity Hubs. Places such as the cafés in Sprau Tower and Sangren Hall are favorite campus retreats. More activity nodes like these, including outdoor and indoor sitting areas, plazas, coffee stops, and quiet study areas, are needed across campus as focal points for activity and social interaction.
Student Housing. Student residence halls are located primarily on West Campus, with concentrations to the north of Goldsworth Valley, adjacent to the Bernhard Student Center, and to the south and east of Waldo Library. This student housing is the traditional residence hall style. The Goldsworth Valley Residence Halls house the greatest concentration of students at Western Michigan University. These structures blend well with existing trees and slopes.

Apartment housing is provided in the Stadium, Elmwood, and Goldsworth Valley Apartments. These apartment housing units are in poor condition and residents consider them undesirable. In addition, the Goldsworth Valley Apartments are prone to flooding.

Housing replacement is a campus priority for several reasons. Because of the age of most campus housing (most buildings are more than 25 years old), renovation costs are high. In addition, students have expressed strong preferences for suite-style housing and a greater number of single rooms - preferences that would be difficult to meet in the existing residence halls.
The greatest concentrations of structures on the National Register of Historic Places are found on the East and Oakland Drive Campuses. East Campus is a designated national historic district. These historic structures provide 616,995 gsf of building space.

The Oakland Drive Campus has three officially designated historic structures, Montague House, the Water Tower, and the Gatehouse. The historic Kalamazoo Regional Psychiatric Hospital quad and church, though not on the National Register of Historic Places, are beautiful structures that can contribute to the culture and physical environment of the new Oakland Drive Campus.
The only West Campus structure listed on the National Register of Historic Places is The Oaklands, the former President's House.

![The Oaklands](image)

**Figure 4-C.5 The Oaklands**

Recent East Campus building audits have determined that extensive and expensive renovation is needed to bring these historic structures up to minimal code requirements. At the time of this analysis, the University was hesitant to undertake these renovations due to budget constraints and uncertainty concerning the buildings' future use. The structures are continuing to deteriorate, however, and unless action is taken soon, these resources may be lost. While neighborhood and alumni groups strongly support restoration, the University finds it difficult to locate the required resources without a practical use and identified need for the facilities.
Certain areas of campus provide positive models for building placement and architectural treatments. For example, in the area surrounding Miller Plaza, buildings are located on a consistent grid to frame a shared, central open space. These buildings also have a high level of continuity in scale and architectural treatment. The vertical emphasis created by Sprau Tower establishes a district (and campus) landmark that highlights the location of an important campus gathering place, the ground floor café. Other campus areas are less successful in creating coherent relationships in the placement of buildings and open spaces and in establishing consistent architectural treatments. In some instances, this is the result of the fact that buildings were located along pre-existing city streets that have since been removed.
IV.C.2 Open Space

a. Introduction

Open space can define the campus image and the quality of the campus experience. Western Michigan University has many open space assets, including the mature canopy trees that surround The Oaklands and the wooded areas that frame campus edges and accentuate the steep slopes that define the Goldsworth and Arcadia Valleys. Several more formal campus open spaces also provide positive models for the future; these include Miller Plaza and Waldo Library Plaza.

While there is a considerable amount of open space on campus, it is not organized into a continuous, coordinated system. Significant opportunities exist to create an integrated open space network that links campus areas to one another and creates a distinctive sense of place.

b. Findings

Valley System

The valley system — including steep, wooded slopes, the valley floor, and hilltop views — offers the opportunity to create particularly memorable open space settings that bring a natural landscape character into and across the campus. Goldsworth Valley (see Figure 4-C.1) demonstrates how careful landscape treatments can capitalize on the valley system. Goldsworth Pond and the pastoral character of the landscape on much of the valley floor make Goldsworth Valley a unique place. Nevertheless, roads, surface parking lots, and the Valley Apartments disrupt the valley’s natural character. (The apartments are considered to be beyond feasible renovation.)

Arcadia Valley presents the same open space potential, although some existing uses (including the car impoundment lot, remnant coal piles at the Power Plant, and the Stadium Drive Apartments) create a negative impression today. The removal of these uses, and improved landscaping in the valley and on Stadium Drive, can create a positive image for the campus and a powerful arrival experience. Arcadia Valley can also play a critical visual role in linking the West and Oakland Drive Campuses.
Campus Edges

Campus edges define visual and functional relationships with the surrounding neighborhoods.

- Oakland Drive provides the best of all campus edges. The generous setbacks, clearly defined paths, open lawns, and stately trees communicate an image of quality.
- Athletic and intramural edges also work successfully because of their open space character and natural treatments. Issues related to night illumination and hours of use must be addressed, however.
- Other campus edges are less successful and project an appearance of neglect, with large unscreened surface parking lots and poorly maintained landscapes.
Campus Arrival Areas

The open space treatment of campus arrival areas, including the character of architecture, landscaping, lighting, and signs, has an important impact on institutional image.

- When approaching campus from the west on Stadium Drive, Arcadia Creek and the valley have a significant impact, but also convey years of neglect. This arrival area lacks the signage, landscaping, and screening needed to create a more attractive campus image.

- The intersection of Howard Street and Oakland Drive offers expansive views of the Oakland Drive Campus. Tall trees, broad lawns, the Kalamazoo Regional Psychiatric Hospital quad, and the red brick Water Tower make this a memorable arrival experience.

- The intersection of West Michigan Avenue, Stadium Drive, and Oakland Drive delineates where the campus and downtown Kalamazoo meet. The image of this arrival area is impacted by older physical plant buildings and vehicle storage. Further south, athletic facilities on Stadium Drive
convey a sense of campus tradition and pride. Open views over Kanley Running Track offer an expansive, uncluttered panorama of West Campus.

The points at which pedestrians, bicyclists, and automobiles first enter the campus also play a major role in shaping the image of the institution. It is important that they be welcoming and friendly, and that they effectively communicate an appropriate level of visual quality. As noted above (Section IV.B.2.b), this is an area where considerable improvement is needed at Western Michigan University. (Traffic conditions at existing entries are described in detail in section IV.C.6, Vehicular Circulation.)

Other open space assets and opportunities include the following:

- Students identify Waldo Library Plaza and Goldsworthy Valley as their favorite outdoor places; they support the addition of more trees and landscaping.
- With the exception of Miller Plaza, there are few open space quadrangles on campus. Future buildings can be positioned to define these important open space and activity focal points. For example, the area adjacent to Schneider Hall and the Fetzer Center offers a prime opportunity to create a new open space quadrangle as the focus for new development.
- There are few places where open spaces are not fragmented by roads and surface parking lots. The reorganization of campus vehicular circulation and parking can help to solve this problem and enhance the pedestrian orientation of campus open spaces.
IV.C.3 Pedestrian Circulation

a. Introduction
Pedestrian corridors serve as the arteries of the campus. The alignment, configuration, design, and character of walkways play a significant role in convenience and the quality of daily life for students and faculty as they crisscross the campus. Almost 40 miles of campus walkways are interspersed with many wonderful places, such as Sundial/Tent Plaza, Miller Plaza, Geidtworth Valley and Pond, Waldo Library Plaza, and The Oaklands.

b. Findings
Because the campus walkway system has developed in response to changing demands as new facilities have been added, it is less logical than it should be. The few prominent corridors that link various campus districts together often follow major roadways. Rather than responding to the human scale and desired routes of people on foot, walkways channel pedestrians along vehicular corridors characterized by wide expanses of asphalt, service docks, and surface parking lots. All too often, walkways—and the people who use them—are treated as less important than vehicles. A comprehensive walk system is needed to provide a continuous and well-defined hierarchy that creates a quality environment for people on foot.

Figure 4-C.3 Accessible Pedestrian Walk
Wayfinding
Changes in topography, multiple building orientations, and fragmented walks make orientation and wayfinding difficult in many campus areas.

Safety
Pedestrian safety is an important concern across the campus. Pedestrians frequently travel through parking lots, between parked cars, and past service docks. This situation occurs, for example, between Sangren Hall and the Computer Center, behind Rood Hall, and on East Campus. In Arcadia Valley, Stadium Drive and the railroad corridor are barriers to pedestrian flow between campuses. Students frequently cross against the traffic signals or at areas without crosswalks. Personal safety is also a concern. In the student survey (undertaken as part of the Master Plan in spring 2000), large numbers of students (40%) reported that they feel uncomfortable walking across campus at night. (See Volume II for complete student survey results.)
V.C.4 Bicycle Circulation

a. Introduction
Safe and efficient bikeways can provide an attractive alternative to the automobile in connecting the campus and community and allowing efficient movement across campus. An increased emphasis on cycling can help to reduce traffic volumes and parking demand. The City of Kalamazoo has recently completed a Non-Motorized Transportation Plan, which addresses planned bicycle routes. The University is working to coordinate campus and regional bicycle access.

b. Findings

Existing Bicycle System
No well-defined system of bike paths/lanes exists on campus and few bicycle storage opportunities are provided. As a result, frequent conflicts between cyclists and pedestrians occur along primary pedestrian corridors. Because bike lanes are not provided on roadways, and roadway crossings are sometimes poorly defined, bicyclists also face frequent conflicts with vehicles.

Student Survey
Only a small fraction of the students who live on campus currently ride bikes to class. The student survey (spring 2000) found that almost half of the responding students who reside on campus would use their bikes if bicycle paths were provided.
IV.C.5 Transit

a. Introduction
Western Michigan University, in conjunction with Metro Transit, provides bus service connecting the campus with downtown Kalamazoo and important off-campus student residential areas; bus routes also link major campus destinations on the West and Oakland Drive Campuses.

The transit system is underutilized, despite the student survey findings (spring 2000) that it is reasonably priced, services key destinations, and is efficiently operated. Increased transit use would reduce automobile congestion on campus and community roads, as well as reducing on-campus parking demand. Improved transit could also play an important role in linking academic uses on the new Oakland Drive Campus to West Campus. The University leadership recognizes that significant financial and land use savings can be realized if transit ridership can be increased.

b. Findings

Routes
The transit system consists of two routes, respectively called the "Brown" and the "Gold."

Service
The transit system is not always dependable and schedules can be intermittent. Schedules are not always conveniently displayed. Rider facilities offer limited protection from the weather. There is no central transit station where community buses can link with the on-campus transit system.

Students observe that the full-sized city buses that provide campus service have difficulty negotiating the tight turning radii dictated by steep topography. City buses frequently block traffic to take on and discharge passengers and, as a result, contribute to vehicular congestion on campus roads.

Student Survey
Eighty-six percent of students surveyed rarely ride the bus, despite its convenience, low cost, and efficient routes. They observe that the utilitarian appearance of the vehicles is depressing and does not encourage student use.
IV.C.6 Vehicular Circulation

a. Introduction

The Western Michigan University community relies on the private automobile as the preferred mode of travel. The impact of the car in shaping the campus and defining its physical form is clearly evident. As the University has grown and expanded, the vehicular system has increased in complexity. Although some areas of the campus benefit from a well-defined perimeter road system, large segments do not. As a result, finding a specific destination can be confusing and frustrating. Opportunities exist for improving the campus vehicular system to simplify wayfinding and to accommodate increased traffic volumes.

The impact of campus traffic extends beyond the campus boundaries. During peak travel periods, including both week-week commuting and special events, significant congestion and delays are experienced on community roads. In addition, visitors have difficulty finding and entering the campus.

b. Findings

Approach Routes

The interstate highway system includes I-94, on the southern boundary of Kalamazoo, and US-131 on the city’s western edge. Demographics suggest that most campus visitors originate in Southeast Michigan and approach the city and the campus westbound on I-94. A significant number of visitors approach campus from the north on US-131.

Numerous alternative travel routes to the campus are available from highway interchanges. Unfortunately, most of these routes are difficult to follow and visually unappealing.

• I-94/Kings Highway. Although this is the most direct route from the east, it has three shortcomings. First, Kings Highway conveys a less than desirable industrial image. Second, because Western Michigan University is located west of downtown, traffic using this route will contribute to, and be impacted by, downtown congestion. Delays at rail crossings will also be encountered. Finally, the route is circuitous and numerous turns are required.
• **I-94/Portage Street.** This indirect route leads through downtown Kalamazoo and is complicated by one-way streets and multiple turns.

• **I-94/Westnedge Avenue.** This route passes through strip commercial areas, mature residential neighborhoods, and the downtown. It requires a number of turns that are likely to confuse first-time visitors.

• **I-94/Oakland Drive.** This easily followed route leads directly to the Oakland Drive Campus. Unfortunately, it has limited capacity, and residents of abutting neighborhoods are concerned about increased traffic congestion.

• **US-131/West Main Street.** This route passes through a heavily developed commercial area. A single, rather unexpected turn is required to reach the west side of campus (via Howard Street).

• **US-131 at Stadium Drive.** Stadium Drive is a commercial corridor that connects directly to the campus. No turns are required, and the intersection of Stadium Drive and Howard Street provides direct access to both the West and Oakland Drive Campuses.

The arrival areas that serve the campus fail to create a clear, positive institutional image. In addition, an analysis of the Level of Service (LOS) at a number of key campus arrival intersections (undertaken in 1999 by traffic consultants HNTB) identified existing and future operational problems (see Table 4-C.1 for findings and a definition of Level of Service).
- **Stadium Drive and Howard Street.** Traffic counts indicate that this intersection functions at an acceptable Level of Service (LOS) during the morning peak, but not in the evening hours. In the evening peak hour, the LOS at this intersection has an unacceptable grade of F. (LOS D is minimally accepted – see Table 4-C.1).

Signage to orient visitors to West Campus entries is inadequate. As the Oakland Drive Campus is developed, additional signage will be needed.
Figure 4-C.10 Stadium Drive and Howard Street Aerial

The Conrail and Amtrack rail tracks parallel the western edge of Stadium Drive and complicate vehicular access to West Campus. High-speed passenger service, and/or ultra-long freight train use, on these tracks has been discussed. If these proposals were actually implemented, turning movements into West Campus from Stadium Drive could be made significantly more difficult.

- **Howard Street and Oakland Drive.** Oakland Drive is an often-favored back door approach to campus for those who live in the southern half of Kalamazoo. This intersection is currently operating at an acceptable morning and evening LOS. (During the evening period, it functions at a D level.) Growth on the Oakland Drive Campus, and private development to the south, could generate traffic increases that cause the current LOS to decline to an unacceptable level of F.

- **Stadium Drive and Oakland Drive.** This intersection is the confluence of four major arteries: West Michigan Avenue, Stadium Drive, Oakland Drive, and West Lovell Street. The intersection currently functions at an acceptable LOS both during peak morning and evening hours.
Campus Entries

Campus entries are gateways at which vehicles enter the campus from the external road system. These entries vary in both functional and visual quality. Because entries shape visitors’ overall impression of the campus, it is critical that they provide a positive experience and inviting image.

- **Howard Street and Crane Lane/Vande Giessen Road.**
  These entrances are used for special events and to access the southwest quadrant of West Campus. They currently operate at acceptable levels of service for both the morning and evening peak hours. During special events, inbound traffic backups can be anticipated along Howard Street from Crane Lane to Stadium Drive, as well as from Crane Lane to West Michigan Avenue. As a result, both north and southbound right turning vehicles from Crane Lane to Howard Street are restricted, and the Recreation Drive exit to southbound Howard Street becomes unusable.

*Figure 4-C.11 Roell Drive Bridge over Howard Street Aerial (Crane Lane & Western Ave.)*
VERICULAR CIRCULATION
CAMPUS-WIDE ANALYSIS
(1999-2000)

- *Howard Street and West Michigan Avenue.* This is the most heavily utilized campus entrance. Because this area has only recently been acquired by the University, it conveys an inappropriate and unattractive appearance. Scattered retail and office facilities, overhead utility lines and poles, lack of landscaping, extensive parking, and lack of signage are immediate concerns. This is a high priority improvement area.

![Figure 4-12 West Michigan Avenue East of Howard Street Aerial](image)

This intersection plays a key role not only for the University, but also for the community. Significant private residential development has occurred west of the campus. Few infrastructure upgrades have occurred, and traffic volumes are a significant problem. The intersection currently operates at an unacceptable LOS E in the evening peak hour. This is due in large part to the high volume of left-turning vehicles (550 vehicles in the evening peak hour - 4:45 to 5:45 PM) from northbound Howard Street to westbound
West Michigan Avenue. In upgrading this campus entry, care must be taken to allow traffic to enter and leave campus without exacerbating this congestion. Congestion at this intersection could also be improved by distributing parking more evenly across the campus.

- **Stadium Drive and West Michigan Avenue.** This area is one of the least attractive campus entries. Because it includes a cluttered mix of commercial facilities, overhead utility lines and poles, and an electrical substation, it conveys a back door image. The functional efficiency of the intersection is complicated by its configuration at an acute angle. Currently, the intersection functions at an acceptable LOS C during both morning and evening peak hours for those traveling Stadium Drive. However, drivers attempting to turn north (towards downtown) onto Stadium Drive from West Michigan Avenue encounter an unacceptable (LOS F) situation. Heavy through traffic on Stadium Drive makes it difficult to find an acceptable opening to turn onto northbound Stadium Drive.

![Figure 4.C.13 Stadium Drive/West Michigan Avenue Intersection Aerial, Looking Southwest](image-url)
**Vehicular Circulation**
**Campus-Wide Analysis**
(1999-2000)

- **Oliver Street and Stadium Drive.** Oliver Street crosses Stadium Drive to connect West Campus with the East and Oakland Drive Campuses. The Stadium Drive/Oliver Street intersection is a critical and highly visible campus entry point. It currently operates at an acceptable LOS C. When travelers on Stadium Drive turn onto West Campus at the Student Recreation Center, they experience an attractive entry that celebrates the campus athletic tradition. While the Bronco Sculpture serves to distinguish the entry, additional signage and landscape treatments are needed between the railroad tracks and Stadium Drive.

- **Oliver Street and Oakland Drive.** Oliver Street from Stadium Drive to Oakland Drive carries a significant amount of traffic and is a critical link between West Campus and the East and Oakland Drive Campuses. This route also serves as an unofficial, or back door, route for motorists on Oakland Drive to enter West Campus, as well as serving as an evening exit route.

  The Oliver Street intersection on Oakland Drive is located on a curve and descending hill. Vehicles traveling east on Oliver Street (toward Oakland Drive) who wish to turn south on Oakland Drive (right) are not a major concern. However, because of limited sight lines and heavy traffic on Oakland Drive, northbound (left) turns are hazardous. Opportunities to reconfigure this intersection warrant exploration.

The PM peak hour Levels of Service for important intersections are summarized in Table 4-C.1. The PM peak hour was identified as the most critical by comparing manual turning movement (MTM) volumes from the AM (7:45 – 8:45 AM), noon, and PM (4:45 – 5:45 PM) peak hours.
Table 4-C.1
Summary of Existing Intersection on Level of Service (LOS)\(^1\)

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<td>Signal</td>
<td>1999 HNTB</td>
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<tr>
<td>Stadium and West Michigan A(^3)</td>
<td>Stop Sign</td>
<td>RC&amp;MI Traffic Study(^2)</td>
<td>C</td>
</tr>
<tr>
<td>Stadium and West Michigan B(^4)</td>
<td>Stop Sign</td>
<td>RC&amp;MI Traffic Study(^2)</td>
<td>F</td>
</tr>
<tr>
<td>Stadium and Oliver</td>
<td>Signal</td>
<td>1999 HNTB</td>
<td>C</td>
</tr>
</tbody>
</table>

\(^1\) This identifies the operating conditions on roadways and at intersections based on detailed capacity/LOS analysis conducted in accordance with the standard techniques outlined in the “Highway Capacity Manual.” By definition, capacity represents “the maximum rate of flow that can reasonably be expected to pass a point on a uniform section of a lane or roadway under prevailing roadway, traffic, and control conditions.” The concept of LOS is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. An LOS definition generally describes these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience, and safety.

- **LOS A** represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.
- **LOS B** is the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A. The level of comfort and convenience provided is somewhat less than at LOS A, because the presence of others in the traffic stream begins to affect individual behavior.
- **LOS C** is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.
- **LOS D** represents high-density, but stable, flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.
- **LOS E** represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to “give way” to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.
- **LOS F** is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion. LOS F is used to describe the operating conditions within the queue, as well as the point of the breakdown. It is the point at which arrival flow exceeds discharge flow which causes the queue to form, and the LOS F is an appropriate designation for such points.

\(^2\)MTM counts from the 1991 Reid, Cook & Michalski Traffic Study were used.

\(^3\)Stadium and West Michigan A refers to the intersection that supports the movements from eastbound West Michigan Avenue to southbound Stadium Drive, and from northbound Stadium Drive to westbound West Michigan Avenue.

\(^4\)Stadium and West Michigan B refers to the intersection that supports the movement from eastbound West Michigan Avenue to northbound Stadium Drive.
As the Western Michigan University campus has grown, so have the demands placed on its road network. The campus road system is comprised of a combination of municipal roads, former municipal roads modified to serve campus needs, and — in a few areas on West Campus — newer segments of the perimeter road, as well as major entry roads. In general, West Campus reflects a combination of older community roads that have been retained and combined with smaller, newer road segments that snake between buildings. Oakland Drive Campus utilizes a road system created in the mid 1960s to service the Kalamazoo Regional Psychiatric Hospital facilities, while East Campus is largely dependent on community roads.

**West Campus.** The partially completed perimeter, or loop, road is comprised of eight separate, but connected road segments. These include Goldsworth Drive, Gilkison Avenue, North Dormitory Road, Western Avenue, Auditorium Drive, Knollwood Avenue, Rankin Avenue, and West Michigan Avenue. The variety of names referencing the original city street system in itself is confusing. The interruptions and frequent intersections along the partially completed loop road compromise its efficiency and limit its traffic carrying capacity. Ideally, the loop road should be a single continuous alignment with a consistent visual treatment. Areas of particular concern include:

- The segment between West Michigan Avenue and Roell Drive bridge, where former residential streets have been connected in an irregular alignment.
- The narrow cross-section of Western Avenue from Vande Giessen to Oliver Street.
- The awkward intersection of Goldsworth Drive, Gilkison Avenue, and North Dormitory Road in Goldsworth Valley.
- The abrupt and inadequately signed turn from West Michigan Avenue to North Dormitory Road.

Numerous roads penetrate the campus core, creating conflicts with pedestrian movement and compromising the quality of open space areas. These roads provide access to service docks and numerous small parking lots.
Oakland Drive Campus. Oakland Drive and Oliver Street provide vehicular access to this sub-campus. Oliver Street functions as an important vehicular connector, linking Stadium Drive and Oakland Drive. This is the newest road on campus and has a relatively high capacity level. The intersection of Oliver Street and Oakland Drive should be reconfigured to improve sight lines and the safety of those traveling eastbound on Oliver Street and wishing to turn north onto Oakland Drive.

Within the sub-campus, narrow two-lane roads meander between mature trees, leading drivers to Kalamazoo Regional Psychiatric Hospital destinations. A number of drives simply dead end where former buildings have been demolished. Wayfinding is difficult. As new buildings are constructed, the road system will need to be modified to serve these destinations.

East Campus. Oakland Drive and steep topography divide East Campus. High traffic volumes and travel speeds make crossing Oakland Drive difficult and hazardous for pedestrians. Access to the portion of East Campus to the east of Oakland Drive requires a sharp turn and a steep, and relatively sudden, ascent up the hill.

Within this portion of the sub-campus, historic buildings are serviced by long and irregular drives. Modifying these routes will be difficult.

Opportunities to create a back door entry from Austin Street, along the south side of East Campus, were explored. Steep grades and existing ownership patterns complicate this access alternative.

Visitors have difficulty finding their way along meandering campus roads; indirect routes also increase travel time and add to traffic congestion. A number of poorly configured intersections create safety concerns. These deficiencies will increase in importance as growth takes place on the West and Oakland Drive Campuses and the importance of moving between sub-campus areas increases.
Student Use Patterns

Students have a significant impact on the volume of traffic on campus roads. The student survey, conducted in spring 2000 (see Volume II), showed that 92% of all students responding have a car on campus. Of those who have cars, 75% use them every day. Seventy-two percent of those polled stated they need their car to commute to campus or to a job. While 44% said they do not use their car to commute between classes, an alarming 52% reported that they frequently do.

Subcampus Connections

Stadium Drive, the railroad tracks, and Oakland Drive are significant physical obstacles that separate the subcampuses. These barriers limit movement, isolating areas of campus from one another. Creative strategies will be needed to effectively link and integrate these subcampus areas.
IV.C.7 Parking

a. Introduction

Because Western Michigan University is primarily a commuter campus, automobile access and storage are important. Parking is a hotly debated campus issue. It is the most significant concern expressed by students.

Approximately 120 acres of campus land area are committed to parking. Frequently these lots are located at major campus entries and fundamentally influence initial impressions of the campus. Parking lots and service docks also disrupt pedestrian movements. Pedestrians are forced to move between stored vehicles (and dodge moving vehicles) as they find their way across the campus.

b. Findings

In February 1999, there were over 12,320 parking spaces on campus. Parking for commuting students represents the largest block of reserved spaces (4,300 spaces or 35% of total spaces). (See Table 4-C.2).

In comparing the campus parking supply to patterns of actual use during the peak hour, it is apparent that the major parking issue facing the campus today is not the number of available parking spaces, but rather the distribution of those spaces. With an actual peak utilization (demand) of 9,710 spaces out of a total supply of 12,320 available spaces, the occupancy rate is only 74%. This means that more than 25% of the existing parking spaces are vacant during peak periods, although some of these spaces are filled during special events. To better understand the distribution issue, parking space availability and utilization are presented by geographic area in Table 4-C.2.
Table 4-C.2
Parking Utilization Evaluation (10:00 AM, Thursday, February 04, 1999)

<table>
<thead>
<tr>
<th>PARKING TYPE</th>
<th>PARKING SPACES AVAILABLE</th>
<th>PARKED VEHICLES</th>
<th>PERCENT OCCUPIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commuter</td>
<td>4,319</td>
<td>3,133</td>
<td>73%</td>
</tr>
<tr>
<td>Employee</td>
<td>2,877</td>
<td>2,175</td>
<td>76%</td>
</tr>
<tr>
<td>Residence Hall</td>
<td>1,655</td>
<td>1,620</td>
<td>98%</td>
</tr>
<tr>
<td>Any</td>
<td>1,324</td>
<td>869</td>
<td>66%</td>
</tr>
<tr>
<td>Apartment</td>
<td>1,015</td>
<td>675</td>
<td>67%</td>
</tr>
<tr>
<td>Visitor</td>
<td>829</td>
<td>491</td>
<td>59%</td>
</tr>
<tr>
<td>Resident</td>
<td>208</td>
<td>141</td>
<td>59%</td>
</tr>
<tr>
<td>Special</td>
<td>87</td>
<td>52</td>
<td>59%</td>
</tr>
<tr>
<td>Handicap</td>
<td>25</td>
<td>14</td>
<td>57%</td>
</tr>
<tr>
<td>Total</td>
<td>12,339</td>
<td>9,170</td>
<td>74%</td>
</tr>
</tbody>
</table>
Area #1: North of West Michigan and South of N. Dormitory Rd. (West)
Area #2: North of N. Dormitory Rd. (West-Residential)
Area #3: South of West Michigan and West of Vande Giessen (West)
Area #4: South of West Michigan and East of Vande Giessen (West)
Area #5: South of Howard (West-Lawson Ice Arena)
Area #6: South of Stadium (South-Apartments)
Area #7: South of Stadium and North of Oliver (East)
Area #8: South of Oliver (South)
### Table 4-C.3

<table>
<thead>
<tr>
<th>West Campus</th>
<th>Parking Spacing Available</th>
<th>Parked Vehicles</th>
<th>Percent Occupied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North of West Michigan Avenue and South of Dormitory (West)</td>
<td>3,774</td>
<td>3,076</td>
<td>81%</td>
</tr>
<tr>
<td>Area 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North of Dormitory (West-Residential)</td>
<td>1,561</td>
<td>1,388</td>
<td>89%</td>
</tr>
<tr>
<td>Area 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South of West Michigan Avenue and West of Vande Giesen (West)</td>
<td>2,530</td>
<td>2,007</td>
<td>79%</td>
</tr>
<tr>
<td>Area 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South of West Michigan Avenue and East of Vande Giesen (West)</td>
<td>1,636</td>
<td>1,380</td>
<td>84%</td>
</tr>
<tr>
<td>Area 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South of Howard Street (West-Lawson Ice Arena)</td>
<td>801</td>
<td>147</td>
<td>15%</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>10,302</strong></td>
<td><strong>7,998</strong></td>
<td><strong>78%</strong></td>
</tr>
<tr>
<td>East Campus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South of Stadium Drive and North of Oliver Street (East)</td>
<td>1,028</td>
<td>562</td>
<td>55%</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>1,028</strong></td>
<td><strong>562</strong></td>
<td><strong>55%</strong></td>
</tr>
<tr>
<td>Oakland Drive Campus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area 8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South of Oliver Street (South)</td>
<td>665</td>
<td>402</td>
<td>61%</td>
</tr>
<tr>
<td>Area 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South of Stadium Drive (South-Apartments)</td>
<td>397</td>
<td>208</td>
<td>52%</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>1,062</strong></td>
<td><strong>610</strong></td>
<td><strong>57%</strong></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>12,339</td>
<td>9,170</td>
<td>74%</td>
</tr>
</tbody>
</table>
PARKING
CAMPUS-WIDE ANALYSIS
(1999-2000)

The following parking spaces are viewed as being so far from major destinations that they are significantly underutilized by commuting students. (Nevertheless, these spaces are used during special event periods.)

<table>
<thead>
<tr>
<th>Lot #</th>
<th>Area</th>
<th>Campus Location</th>
<th>Lot ID</th>
<th>Parking Spaces Available</th>
<th>Parked Vehicles</th>
<th>Percent Occupied</th>
<th>Extra Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>5</td>
<td>West Campus</td>
<td>S. Lawson</td>
<td>247</td>
<td>32</td>
<td>13%</td>
<td>215</td>
</tr>
<tr>
<td>64</td>
<td>5</td>
<td>West Campus</td>
<td>E. Lawson</td>
<td>215</td>
<td>0</td>
<td>0%</td>
<td>215</td>
</tr>
<tr>
<td>65</td>
<td>6</td>
<td>Oakland Drive</td>
<td>Stadium Apts.</td>
<td>397</td>
<td>199</td>
<td>50%</td>
<td>198</td>
</tr>
<tr>
<td>63</td>
<td>5</td>
<td>West Campus</td>
<td>N. Lawson</td>
<td>285</td>
<td>95</td>
<td>33%</td>
<td>190</td>
</tr>
<tr>
<td>10</td>
<td>7</td>
<td>East Campus</td>
<td>Press Box</td>
<td>240</td>
<td>64</td>
<td>27%</td>
<td>176</td>
</tr>
<tr>
<td>95</td>
<td>8</td>
<td>Oakland Drive</td>
<td>Campus Services</td>
<td>271</td>
<td>116</td>
<td>45%</td>
<td>155</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>East Campus</td>
<td>E. Stadium</td>
<td>243</td>
<td>108</td>
<td>44%</td>
<td>135</td>
</tr>
<tr>
<td>48</td>
<td>1</td>
<td>West Campus</td>
<td>N. Bern. Center</td>
<td>211</td>
<td>116</td>
<td>55%</td>
<td>96</td>
</tr>
<tr>
<td>92</td>
<td>3</td>
<td>West Campus</td>
<td>At Bridge</td>
<td>137</td>
<td>42</td>
<td>31%</td>
<td>95</td>
</tr>
<tr>
<td>76</td>
<td>3</td>
<td>West Campus</td>
<td>Knollwood</td>
<td>500</td>
<td>414</td>
<td>83%</td>
<td>86</td>
</tr>
<tr>
<td>61</td>
<td>1</td>
<td>West Campus</td>
<td>Rood Empl.</td>
<td>215</td>
<td>130</td>
<td>60%</td>
<td>85</td>
</tr>
</tbody>
</table>

Approximately 92% of the students surveyed in spring 2000 reported having a car. This reflects the high percentage of students who work off campus, travel home on weekends, or feel they need access to surrounding malls and related activity centers. Because working students often return to campus in the early morning hours, parking in close proximity to residence halls is given high priority for safety reasons. This results in growing competition between parking and other land uses and complicates the creation of a vehicle-free central core.

West Campus is the most difficult area to find a parking space. This area has the highest parking occupancy rate (78%). Area #2 (West-Residential) has the highest occupancy rate at 89%, while area #5 (Lawson Ice Arena) has the lowest occupancy rate at 15%. Additional observations concerning parking on West campus include:
Visitor destinations are concentrated and adequately serviced by convenient parking.
Parking is concentrated on the west end of the subcampus, rather than being appropriately distributed to support uses in the subcampus core. This results in increased traffic congestion and greater walking distances.
Large expanses of surface parking are open to view.
Building drop-off points are insufficient, requiring faculty to carry materials considerable distances from parking to their offices or classrooms.