WAYNE STATE UNIVERSITY

MAIN CAMPUS
COMPREHENSIVE DEVELOPMENT PLAN

PHASE I: INVENTORY & ANALYSIS

JULY 1981

State of Michigan
Department of Management and Budget

Account Number 110-07-2750-096

Parkins/Rogers & Associates/Inc. Detroit, Michigan

July, 1981

In accordance with the Agreement of October 8, 1980 with the State of Michigan Department of Management and Budget, we are submitting herewith Phase I of the Comprehensive Development Plan for Wayne State University's Main Campus. The primary objective of the Plan will be to evaluate the potentials for the University's physical resources, including land uses, buildings and facilities, and formulate a comprehensive development plan and effective program to meet the changing requirements of the times and society.

Phase I of the project encompasses all necessary background technical studies of the physical plant, including an inventory and analysis of existing land uses, circulation, parking, and infrastructure. In addition, an architectural survey of selected "marginal" structures, conducted by specialists from Louis G. Redstone Associates, Inc. (Architects and Engineers), and an analysis of the quality of the overall environment of the Main Campus were also undertaken during the initial phase of the study.

Concurrent with the preparation of Phase I, the University Planning Committee, comprised of representatives of the faculty, staff and students and the Department of Campus Planning, is involved in the preparation of a Long-Range Academic Plan for the University.

During the preparation of Phase I, this Consultant interfaced his effort with the Planning Committee through participation in their meetings and progress reports to insure closer coordination and consistency with the goa of the University.

In the decade of the 1980's, Wayne State University along with other colleges and universities in Michigan and the nation, will face new challenges. These include changing socio-economic requirements, demographic patterns, ethnic and student mix, declining enrollments, increase in part-time students, and greater demands for higher education from older age groups not previously served by the University. Phase II of the Comprehensive Development Plan - based on the findings of Phase I and the completed Academic Plan - will be shaped by these new challenges, and the strategies it will propose will be designed to meet them now and in the future.

Respectfully submitted,

Maurice F. Parkins

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It has become critically important that Wayne State University's Main Campus attain maximum utilization of its physical plant and that the University develop a method for more clearly articulating its mission, goals and management of its resources.

Phase I of the Comprehensive Development Plan for Wayne State University represents the inventory and Analysis of the physical facilities, land uses, pedestrian and vehicular circulation, parking, and utilities and services of the Main Campus. This phase also begins to identify those major campus patterns which are worthy of preservation and those problems for which alternative solutions need to be developed in order to make the existing campus more efficient and aesthetically more attractive.

Phase I will form the data base for the Phase II - the Main Campus Comprehensive Development Plan- which will identify appropriate and effective actions and programs the University should pursue in the immediate future and over a longer period of time in accordance with the academic mission and goals of the University. Hopefully, the Plan will provide direction in the effective adjustments of previous campus plans and educational goals of the Main Campus.

Certain basic planning factors have become evident from the study of Phase I and these will form the main focus of the planning effort of Phase II. A few of these are as follows:

1. The Main Campus of Wayne State University is centered in a highly urbanized portion of the City of Detroit which presents unique challenges regarding boundary definition, accessibility and identity. Campus directional signage and building identification must be developed. In addition, efforts must be made to establish and maintain a compatible and supportive use of the land and facilities in the community which surrounds the University's Main Campus.

2. Many Campus plans have been developed over the past 45 years, but each has been piecemeal, geared to specific problems and solutions, and none of them comprehensive. As a result, and because of its urban setting, competing land ownership and City and community resistence, the University has grown more by chance and opportunity than by plan. As a result, the University has inherited a number of land use problem areas affecting the physical layout and efficient function of the Main Campus. These include friction between differing land use areas, reduced

opportunity for future expansion, and the fragmentation of academic disciplines into scattered facility locations across the Campus. The Plan must address these issues.

3. Many of the permanent academic and academic support facilities are structurally and functionally obsolete, experiencing mechanical and electrical system failure and roof and other structural problems. Action plans are needed to be developed for building and system renewal. In addition, steps need to be taken to reduce the use of marginal, temporary structures never designed for academic or university purposes.

4. The Campus is fragmented by the regional and local transportation network. Vehicular traffic and movement into, through, and around the Main Campus is confused and tangled. Internal Campus routes have to be improved and recognized in the City's Master Plan. Special attention must be given to the continued development of malls, walkways and open spaces to focus the environment into one that is attractive and conducive to educational goals, yet one which will provide service access to facilities.

5. With 97 percent of its student population commuting by automobile from locations in the Wayne-Oakland-Macomb-County Area, parking in and around the Main Campus is a major factor. The Plan must establish effective actions which can address the difficulties posed by the amount of land consumed by parking, shortages of space, and circulation of students from parking zones into the core of the Campus. In addition, the use of perimeter areas of land and abandoned and active City streets compound the problem. There are several areas of the Campus where conflicts between vehicular and pedestrian traffic create danger points. Alternative solutions must be found to enhance the safety of the students.

6. Major increases in the cost of utility services together with problems encountered in supply and distribution need to be evaluated for determining options and clear decisions for the future.

7. Although isolated projects regarding campus beautification have taken shape, more plans need to be developed to tie the Main Campus together and provide the visual amenities necessary to a meaningful campus environment. These include better illumination to enhance personal security.

Phase II will continue the planning process which will further refine these and other similar issues and propose meaningful solutions and an action program.

Chapter 1
BACKGROUND

Introduction

The purpose of this Chapter is to provide an overview of the University's background and its relationship with the local and regional areas of which it is a significant part and the various micro-economic, political and environmental factors which have helped shape the University's growth and development. Specifically, it examines the University's Main Campus site location in relation to predominant surrounding land uses, major facilities, and University-community relationships. This examination is followed by a review of the University's historical background and the development of the Main Campus, and a problem assessment, which sets the framework for long-range action programs of the Main Campus.

Main Campus Site Location And Area Influences

The Main Campus of Wayne State University is located in the Detroit Cultural Center, just two and one-half miles north of the Central Business District (CBD) (Figure 1). The Main Campus is generally bounded by Trumbull Avenue on the west, the Edsel Ford Freeway on the north, Woodward Avenue on the east, and Forest Avenue on the south (Map 1).

Map 1
WAYNE STATE UNIVERSITY
MAIN CAMPUS & BUILDINGS

Building Number	Building Name	Building Number	Building Name	Building Number	Building Name
001	Old Main	058	Sprague House	120	Faville Residence Hall
003	Physics Building	060	University Services Building	121	Humanities Offices
005	Science Hall	064	University Development Offices	123	Library Court Office Building
006	Life Science Building	069	David Mackenzie Hall	124	Santa Fe Apartments
007	Chemistry Building	072	Parking Structure #3	125	Helen Newberry Joy Residence
008	Science Library	074	University Theatre Production Center	134	Helen DeRoy Apartments
016	State Hall			136	Chatsworth Tower Apartments
017	Biology Auxiliary Offices	075	Faculty Office Building	137	Chatsworth Annex Apartments
018	Monteith Child Care Center	076	Biology Research Labs	140	Education Building
019	Humanist Studies	077	Public Safety Offices	141	Music North Unit
022	Prentis Building	078	Wayne State University Stadium Dressing and Lockering Facility	145	Teal Building
023	DeRoy Lecture Hall			150	General Lectures Hall
026	Purdy Library	079	Wayne State University Stadium	155	Alex Manoogian Hall
027	Kresge Library	080	Frederick C. Matthaei Physical Education Center	167	Engineering Technology Building
028	Center for Urban Studies			168	Engineering Acceleration Lab.
033	Art History Building	081	Multiple Assignment Offices	181	Sherbrook Apartments
034	Student Center Building	090	College of Engineering Building	186	Forest Apartments
036	Reuther Library	092	University Bookstore	187	Theatre Rehearsal Hall
038	Music Building	093	Upward Bound Offices	188	David Mackenzie House
039	Community Arts Auditorium	094	Metro Detroit Bureau Offices	189	Hilberry Theatre
040	Art Building	095	Family & Consumer Resource Offices	190	University Counseling Services
041	Music Annex			191	Administrative Services Offices Building #1 & 2
042	Alumni House	106	Psychology Offices		
043	McGregor Conference Center	107	Psychology Offices	192	Administrative Services Offices Building #3
048	Cohn Building	108	Art Department Offices		
049	Law Annex	109	WAYN Student Radio	193	Computer Center
050	Shapero Hall	110	College of Engineering	194	University Storage Services/ Motor Pool
051	Parking Structure #1	111	Engineering Offices & Student Study		
052	Nursing & Social Work Auxiliary Offices			195	Mil. & Vets. Affairs Offices/ Art Foundry
		112	South End Newspaper		
053	Law School	113	Industrial Engineering Offices	196	Justice Building
054	University Storage Warehouse	114	Industrial Engineering Offices	197	General Service Office Building
055	C.I.T. Still Photo Office	117	Industrial Relations Offices	198	Storage (Leased)
056	Parking Structure #2	118	WDET-FM Radio Station	199	Simons Building
057	Commercial Stores (Leased)	119	College of Engineering Offices		

COMPREHENSIVE DEVELOPMENT PLAN / PHASE I
Wayne State University / Main Campus

0 300 600 1200 feet

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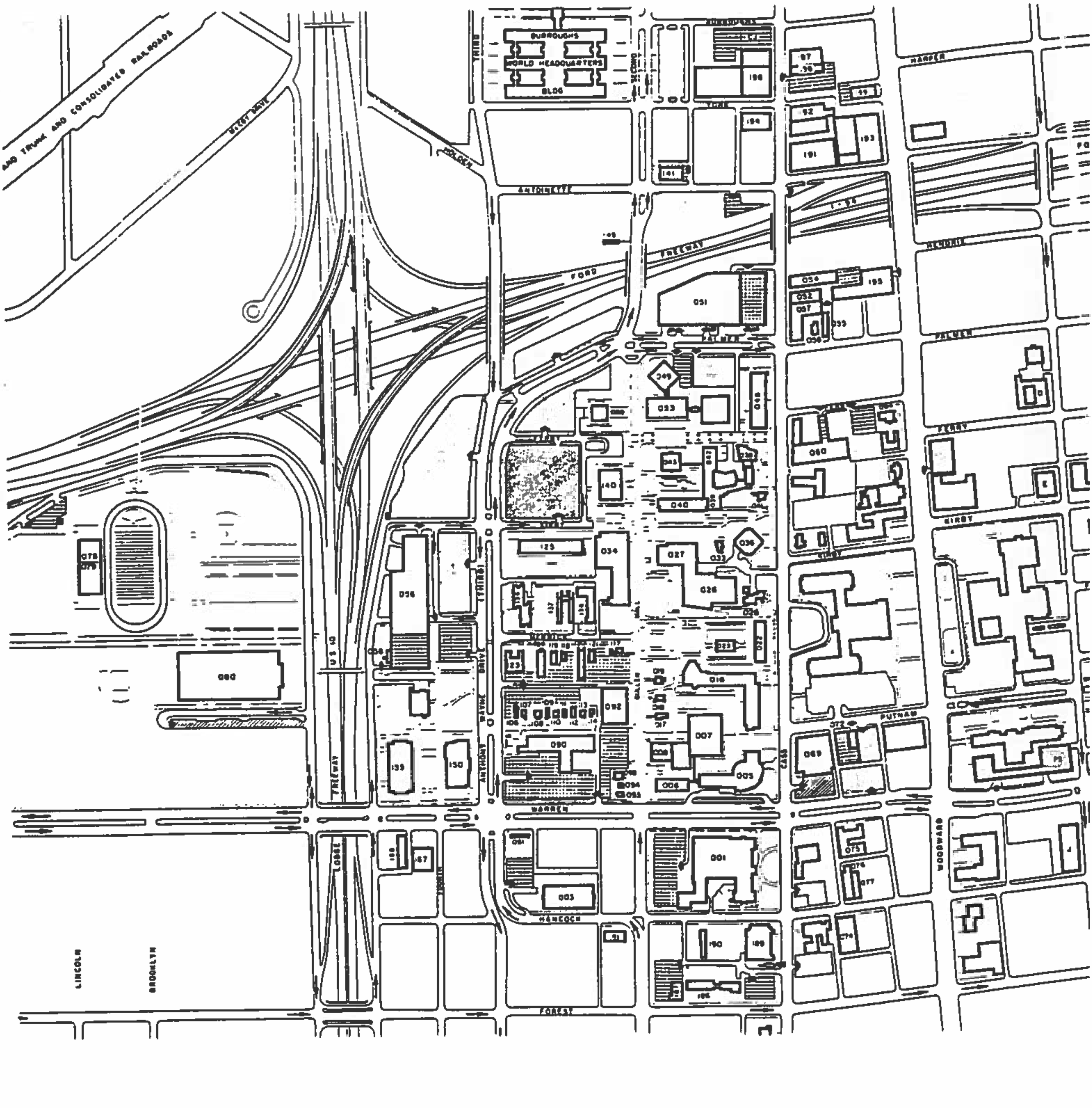


BURROUGHS
WORLD HEADQUARTERS
BLDG
THIRD
SECOND
YORK
HOLDEN
ANTOINETTE
FORD
FREEWAY
I-94
HARPER
HENDRIE
PALMER
PERRY
KIRBY
PUTNAM
WARREN
HANCOCK
FOREST
WOODWARD
CASS
ANTHONY
WAYNE
DRIVE
U S 10
FREEWAY
LODGE
LINCOLN
BROOKLYN
AND TRUNK AND CONSOLIDATED RAILROADS

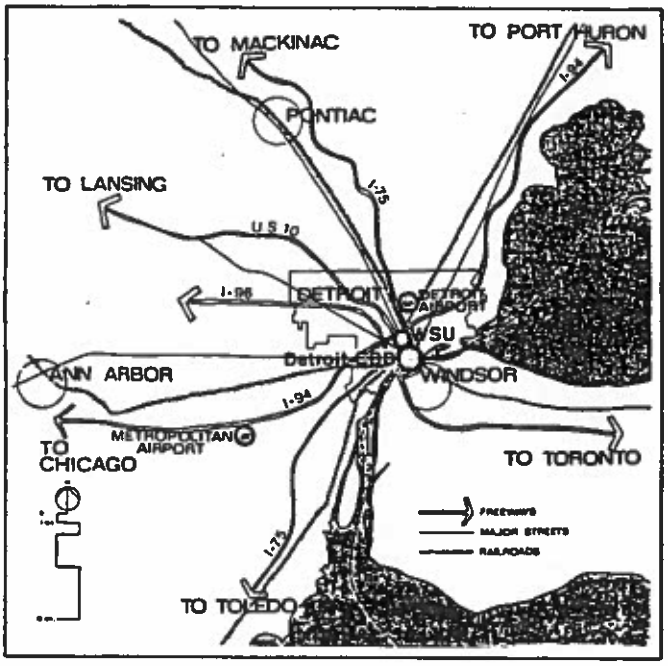


FIGURE 1
WAYNE STATE UNIVERSITY MAIN CAMPUS
SITE LOCATION

The University is framed by a network of freeways which provide access throughout the Southeastern Michigan Region and southwestern portions of the Province of Ontario, Canada. The Edsel Ford Freeway (I-94) approximates the University's northern boundary and is the major east-west artery in the region. The Chrysler Freeway (I-75), the principal north-south arterial in Southeastern Michigan, is nearly one mile east of the Main Campus. The John C. Lodge Freeway (U.S. 10) roughly defines the University's academic western boundary. The Jeffries Freeway (I-96), just two miles west of the Main Campus property, also provides access to the campus from the west via connection with I-94. From a vehicular accessibility standpoint, the location of Wayne State University's Main Campus is in a very strategic center of the region.

Facility Locations

Since Wayne State University is located within the City of Detroit, it is close to the major shopping, cultural and employment facilities of the City. The Central Business District of Detroit is located two and one-half miles south of the Main Campus. The City of Windsor, Ontario, Canada is located immediately south of Detroit's CBD offering additional sources of shopping and employment. North of the Main Campus is the New Center Area. This district association of office and commercial establishments contains, among others, the world headquarters of Burroughs Corporation and General Motors Corporation. The Cultural Center is located immediately east of the Main Campus and contains such important City institutions as the Public Library, Art Institute, Science Center, and Historical Museum. Southeast of the Main Campus is the Detroit Medical Center which provides medical treatment and research facilities centered on Wayne State University's Medical School (Figure 2).

Reasonable access is provided to these facilities by bus lines and via a network of excellent freeways and secondary road facilities. In addition, Woodward Avenue has been designated as the route of the Region's first fixed light rail transportation line. If constructed, this facility will provide additional convenient travel from Detroit's Central Business District to Wayne State University which may have a major impact on the parking program of the Main Campus.

Predominant Surrounding Land Use

The Main Campus is centered in a highly urbanized portion of the City of Detroit. It is surrounded predominantly on the east by institutional facilities of the Cultural Center, on the south and west by residential development and on the north by commercial uses (Figure 3). Little room is available for future expansion of the Main Campus.

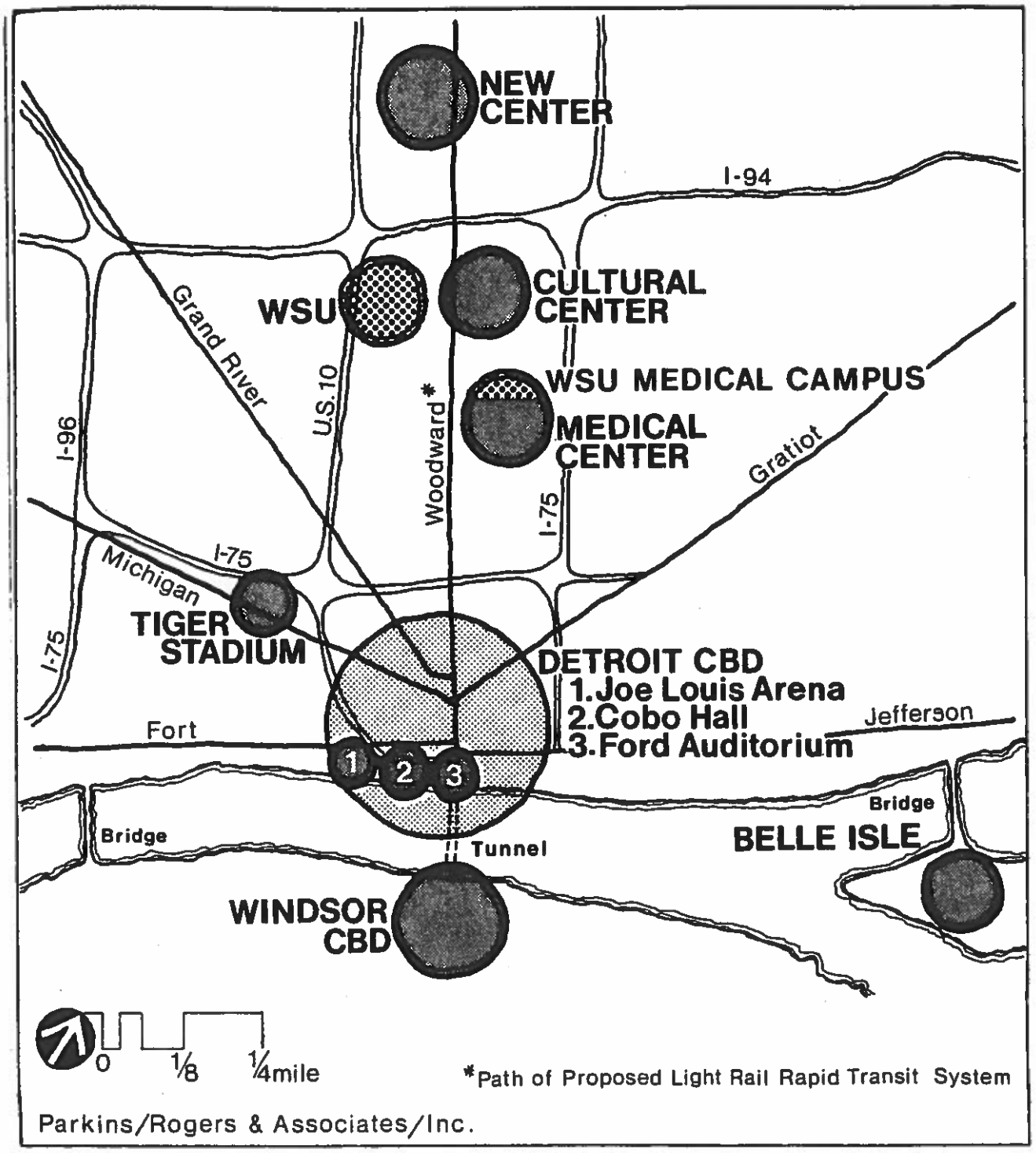


FIGURE 2
DOMINANT FACILITY LOCATIONS NEAR WAYNE STATE UNIVERSITY MAIN CAMPUS

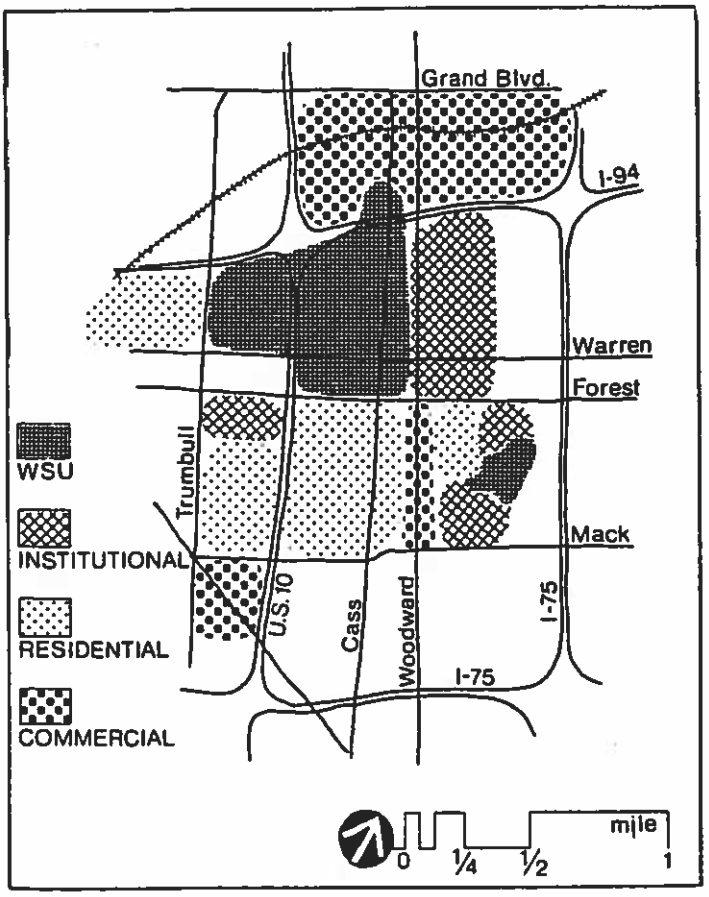


FIGURE 3
PREDOMINANT SURROUNDING LAND USES
NEIGHBORING WAYNE STATE UNIVERSITY
MAIN CAMPUS

The University-Community Relationship

Figure 4 depicts the Woodward Corridor, neighborhoods, institutions, and organizations active in community involvement in both City and institutional planning. There are 12 civic organizations or district projects which exist near the Main Campus. These are spread over a three-mile area straddling Woodward Avenue. Most of these neighborhoods and districts are separated by major physical barriers, each having dominant land use. Nevertheless, the Main Campus and its neighbors are bound together in an inter-dependent relationship. Residential areas provide housing for students. The Main Campus in turn, provides employment and recreational facilities for residents of surrounding communities. Both generate commercial, medical, and entertainment facilities.

There is a need for a better concept of Wayne State University and its relationship to and its function with the surrounding community. The interplay of these areas, institutions and organizations with University decisions must be considered in order to effectively plan and coordinate future Main Campus facility strategies with the mutual desires of the surrounding community.

Historical Development

The historical development of both the City and the University are strongly related and intertwined with each other and cannot be examined separately.

The growth of the City of Detroit occurred outward in a series of semi-circular rings served by a set of radial thoroughfares which emanate from the City of Detroit's Central Business District. Woodward Avenue is the main north-south spoke that served as the impetus of many of Detroit's principal land developments including Wayne State University.

The University evolved over the past 112 years from many originally unrelated educational institutions which were united in 1923 by the Detroit Board of Education into a single university organization, called the Colleges of the City of Detroit. The University's early history dates back to 1868, the year the Detroit Medical College, forerunner of the present Wayne State University School of Medicine, was founded. Since that time, the institution has witnessed extended growth. In 1917, the Detroit Junior College was established as a two-year program in general education in Detroit's Central High

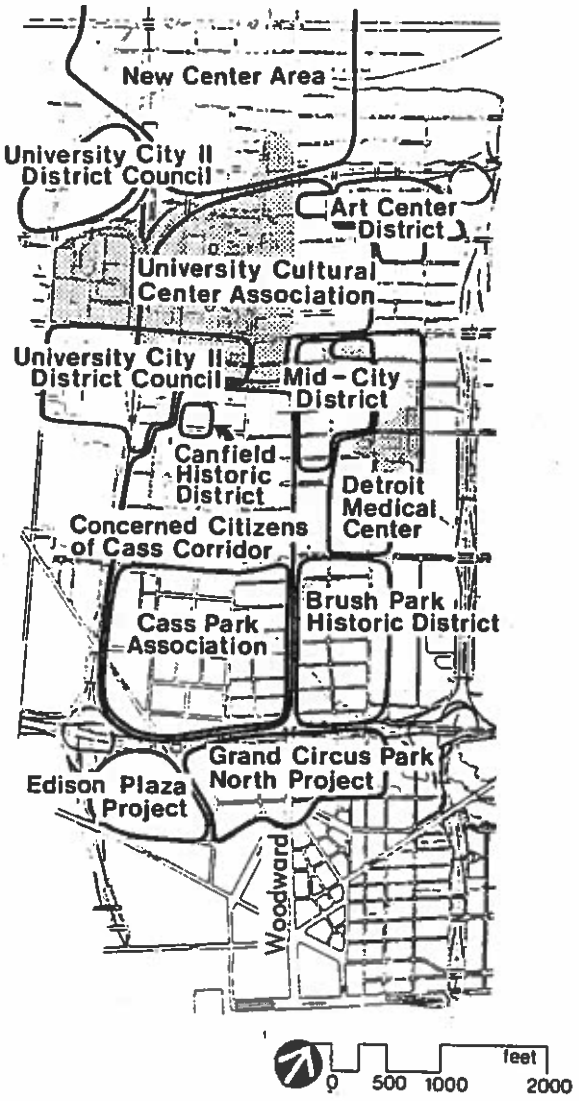


FIGURE 4
THE UNIVERSITY - COMMUNITY RELATIONSHIP
DETROIT WOODWARD CORRIDOR

School and later developed into the College of Liberal Arts. In 1923, it became the College of the City of Detroit with four-year degree programs in general education. During the next decade, many new colleges were organized and in 1934, the name "Wayne University" was adopted. Wayne University became Wayne State University by official Public Act of Michigan in 1956. This institution has emerged from a commuting, "street car" city college to one of the major urban institutions of higher learning in the country.

Campus Planning

The development of planning of Wayne State University must be viewed in historical perspective, not so much as a record but as a means of understanding the inherent character of the Main Campus and its potential.

At the time the Colleges of the City of Detroit officially became Wayne University in 1934, its Campus was the Central High School building. This structure, presently identified as "Old Main", is still an important University facility as it houses 12 percent of the total classroom and laboratory stations of the institution. As the University began to expand and increase in enrollment, pressures for new facilities began to mount. To better guide the growth of the physical plant, the University began to prepare plans and development proposals to solve existing problems. This planning activity, which began in the middle 1930's and continues to the present, is briefly summarized below.

1936 - Citizens Committee on Campus Expansion

In 1936, a Citizens Committee on Campus Expansion was formed to study the physical needs of the University. It considered two alternatives: move to a new location in the Metropolitan Detroit Area or remain and expand around the old Central High School. The Committee recommended the University remain at its present site and acquire a three-block area directly to the north of the old Central High School for immediate expansion. This decision set the direction in which the Main Campus was to develop in the future.

1942-1945 - Detroit Board of Education Plan

In 1942, the Detroit Board of Education sponsored a competition for the selection of an architectural scheme for a campus plan which resulted in the appointment of an architect for a proposed Student Center Building. The idea of campus planning received much support from the City of Detroit which became interested in Wayne University expansion and planning in general at that time. Also during that time, two new depressed freeways were planned for construction in the vicinity of the Wayne Campus (the John C. Lodge and the Edsel Ford Freeways) which offered natural western and northern boundaries for a campus area of about 85 acres. The Board, in selecting the development plan, subsequently referred to as the Detroit Board of Education Plan, reserved this 85-acre area for the University campus. The plan was approved by the Detroit City Planning Commission and other public agencies, including the City Council, and included in the public improvement program for Main Campus expansion (Figure 5).

During this period a three-person Board of Architects was appointed to study campus developments at other universities and to select an architect to design a Student Center Building. The Board's recommendations did not include campus planning, but were limited only to general principles on architectural building design, such as limiting height of structures to three stories above ground, using current design structural methods, and others. These recommendations still have a strong influence on the development of the Main Campus to this day.

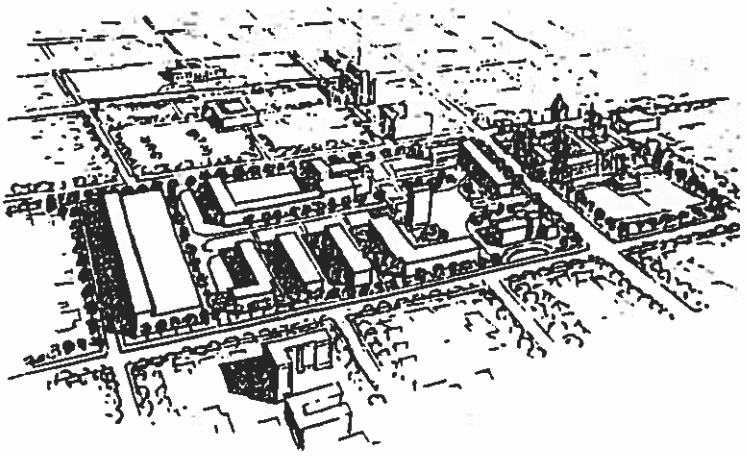


FIGURE 5
DETROIT BOARD OF EDUCATION PLAN - 1942-1945

1946-1948 - The Pilafian Plan

The immediate post-World War II period created a surge in interest in higher education. This interest was heightened by returning G.I.'s whose college education was subsidized by government grants. Institutions and states began to expand their facilities without the benefit of comprehensive planning. The Michigan State Legislature appropriated money

to Wayne University to construct a new Classroom Building and a new Science Building. This action prompted the development of an overall campus master plan to properly site these buildings. During 1946-1948 a plan was developed which came to be known as the Pilafian Plan, named after Suren Pilafian (Figure 6).

superblock consisted of four quads to be connected by malls: the northwest quad was to contain the senior college and graduate level of education; the northeast quad was to house the professional schools and colleges; the southeast quad, where both Science Hall and State Hall were located, was to be occupied by junior college education, and the southwest quad was

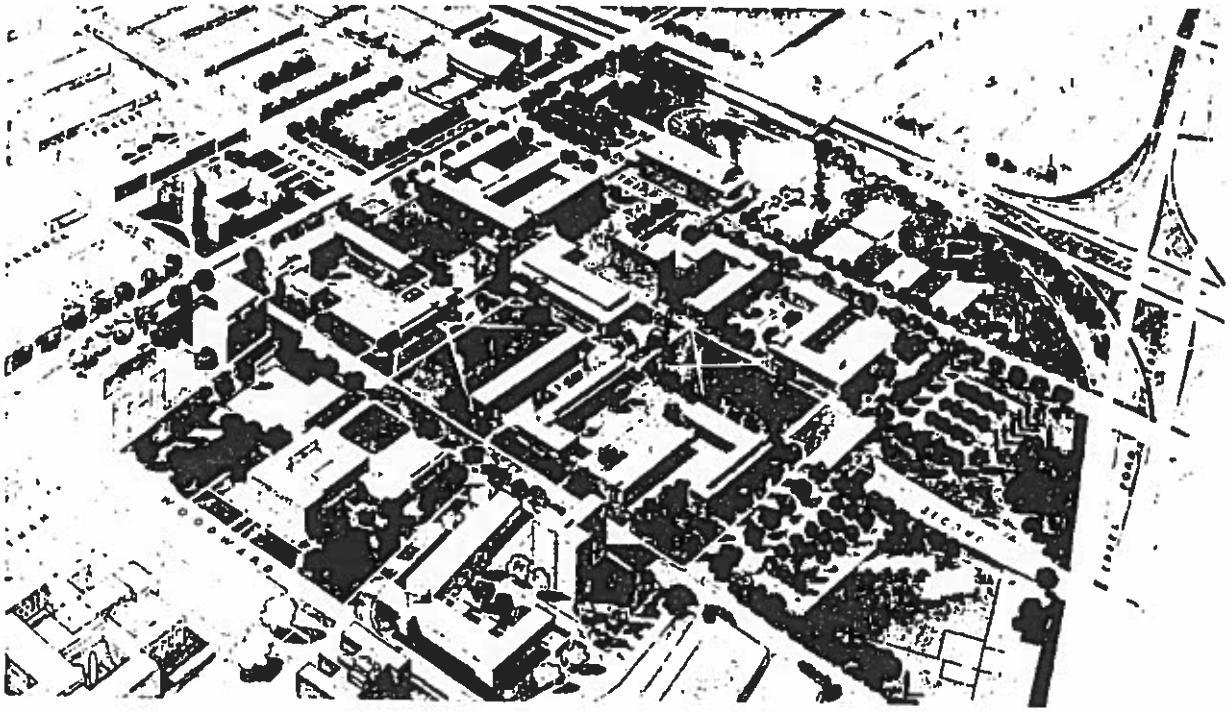


FIGURE 6
THE PILAFIAN PLAN - 1946-1948

The Plan recommended that Second Avenue be closed between Warren and Palmer Avenues, and that side streets be closed from Cass Avenue to Third Avenue (now Anthony Wayne Drive for that segment which traverses the Main Campus) thus creating a large academic superblock free from vehicular traffic. This

designed for the College of Engineering. The General Library, located in the geographic center, would serve as the focal point. The Plan also provided for athletic fields, parking spaces and future expansion at the north and west boundaries of the academic area of the Campus. The Detroit City Plan Commission's

Cultural Center scheme, developed during the same period, incorporated the Pilafian Plan.

The Pilafian Plan has played a significant role in the expansion of the Main Campus. It did not, however, attempt to make long-range growth projections, or relate the Plan to educational goals and objectives.

1954-1958 - Yamasaki Site and Density Study

In 1954, a new campus study was undertaken. The Yamasaki Concept, named after its author Minoru Yamasaki, Architect, had a double mission: to investigate the feasibility of creating a dense urban campus adequate for projected enrollment within available land, and to determine whether such development could occur in an aesthetically pleasing manner. The study showed that both could indeed exist (Figure 7). Mall and courtyard designs proposed by the study are still evident. Buildings with a 2.5 floor area ratio were found to be feasible as an overall density of building area to land area from both education and aesthetic points of view. In addition, some buildings which exist today (McGregor Memorial Conference Center, Community Arts Complex, Cohn Building, and Education Building) were sited at that time.

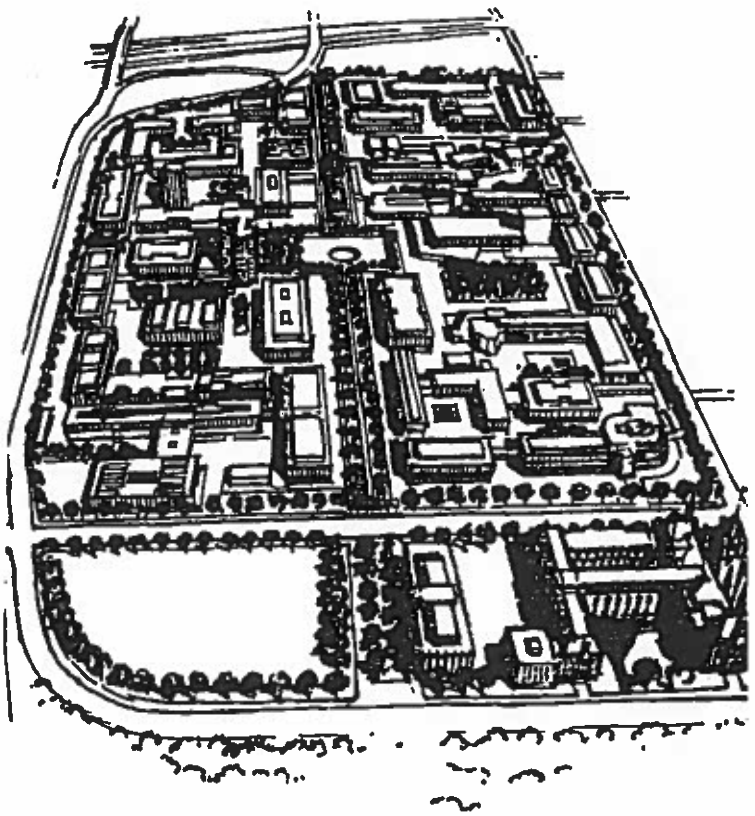


FIGURE 7
YAMASAKI SITE AND DENSITY STUDY

1960-1964 - University City Urban Renewal Project

In order to assist institutional expansion in urban areas, the Federal Housing Act of 1959 broadened the concept of Urban Renewal to include learning institutions. Within a short period of time after passage of the legislation, the City of Detroit and Wayne State University embarked on a joint 304-acre Urban Renewal Project called "University City". This plan provided for University expansion along with private residential, commercial, industrial development and related street and street facilities on properties which adjoined the Campus to its south, across Warren Avenue, and to the west across the John C. Lodge Freeway to Grand River Avenue.

The University's portion of the proposed University City Urban Renewal Project included an area to be developed on both sides of the Lodge Freeway with large automotive-free pedestrian superblocks, and four major campus zones: academic, student housing; physical education and recreation; and parking. The academic zone was proposed to be developed on the east side of the Lodge Freeway, student

housing and physical education and recreation zones located between the Lodge and Ford Freeways on the west and north of the academic zone and accessible to all areas of the Main Campus. Phase I of the project, earmarked entirely for the University, covered 48 net acres and was completed in 1966 (Figure 8).

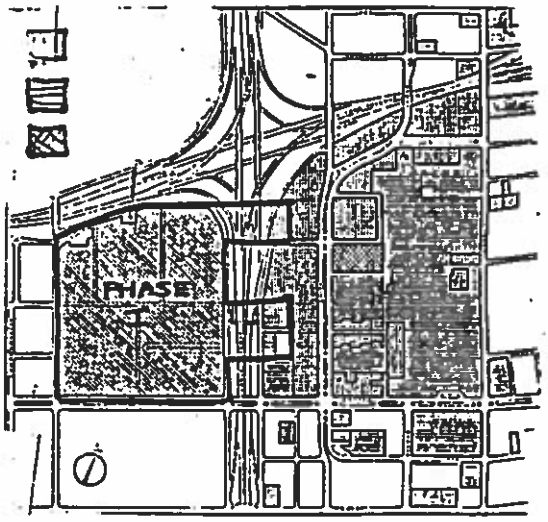


FIGURE 8
UNIVERSITY CITY URBAN RENEWAL PROJECT
1960-1964

1962-1967 - The Long Range Master Development Program for the Main Campus of Wayne State University

After five attempts at developing the "Master Plan" for the University, over a 30-year period, the first move toward a long-range, comprehensive plan occurred in 1962 when the Office of Capital Programs was directed by the University Administration to prepare a "Master Plan" for the development of the Main Campus.

This master plan, which was completed in 1967 by the professional staff of the Office of Capital Programs together with the Planning Consultant, Sasaki, Dawson, Demay Associates, was characterized by four basic principles: it was academically related and functionally organized; it was flexible; it emphasized aesthetics as the basis for individual projects; and it attempted to relate its proposals with existing permanent structures in accordance with the accepted design principles of previous planning efforts.

The plan divided the Main Campus into three basic functional zones: academic, student housing, and physical education and recreation. The earlier Pilafian design principles on the use of academic superblocks, contemporary design, planning and structural methods for all University buildings were continued. Parking was located at certain key anchor locations on the periphery of the Campus. Particular attention was paid to the design of open spaces between University buildings (Figure 9).

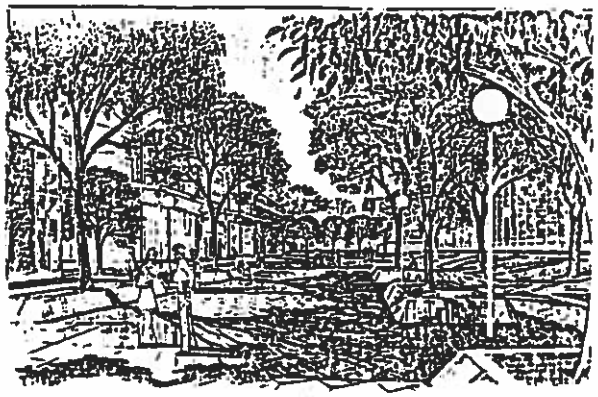


FIGURE 9
FERRY MALL, 1969

Many of these plan components are evident in today's Main Campus. This internal plan received no official designation by the University Board of Governors but rather served as a basis for future Main Campus planning efforts.

1973 - Long-Range Development Plan

The Department of Capital Programs and the University Planning Consultant, Beckett, Jackson, Raeder, Inc., prepared a series of 28" x 44" panels on existing and proposed planning elements of the Main Campus (i.e., land use, circulation, parking, open space). Their purpose was to primarily present physical development studies for use by the University Board of Governors as a guide for land acquisition and development of the Campus. This study echoes the design features of previous planning efforts, particularly the 1962-1967 Long Range Master Development Plan for the Main Campus. An interesting feature in this study is the proposed closing of Cass Avenue from Warren to Palmer Avenues. There is no written report accompanying the charts but this series of graphic panels, called "Long-Range Development Plan" was officially approved by the University Board of Governors on May 11, 1973.

Summary

In reviewing the past 45 years of planning and development of the Wayne State University physical plant, two major characteristics of all the previous plans vividly stand out: most of them were short-term programs, limited to proposals to solve the immediate problems, and they were not comprehensive. They did not define and clearly articulate the academic mission and objectives of the University; they did not develop programs to meet the needs, solve the problems, affect the conditions, and respond to the public's interest by setting goals, describing the time required to meet these goals, identifying the resources needed to achieve the goals, and establish priorities.

However, many of the physical design studies of the Main Campus still have pertinence today. The evaluation of the Main Campus plans since 1936 has been one of a process of refinement, to better accommodate the needs of the University. The Main Campus has reached a state of maturity; its future destiny can be deduced from its historical background and existing information. Because of its present size and state of development, it already has momentum which largely establishes its direction.

A master plan for an institution of higher education must address the following basic issues:

- An inventory and analysis of existing conditions.
- A determination of the future of the institution based on a comprehensive academic and physical development plan.
- An outline of a program to implement the plan.

This Phase I report of the Comprehensive Development Plan of the Main Campus meets the requirements of the first issue. The University is currently in the process of analyzing its mission, goals and objectibes which will provide the information needed for the preparation of the second task. Phase II of the Comprehensive Development Plan will complete the process by establishing an implementation program.

Problem Assessment

The significant events in the history of Wayne State University's growth and development have helped shape the present character and physical na-

ture of the Main Campus and its surrounding area. The influences of these past events on the University presently reveal themselves in the form of the Main Campus' current condition and defines planning considerations the University must address. Many of these problems are broad in scope and are beyond the realm of solution by this study alone. They are identified here so that action programs recommended for the Main Campus are not isolated from outside interests in the surrounding community which form its soft boundaries.

Limited Convenience Commercial

A major identifiable problem existing in the University environment is lack of existing shopping facilities (i.e., supermarket and drugstore) convenient to the Main Campus. Resident students, faculty and staff on the Main Campus are required to drive about one mile to the nearest supermarket. Optimally convenience shopping facilities should be sited within an approximately one-half mile walking radius of its patrons. There is only a limited amount of convenience commercial uses within a one-half mile walking radius of the Main Campus.

The recently built shopping center near St. Antoine Avenue on Warren Avenue is located outside the desirable utility radius for Main Campus students, faculty and staff. Future planning recommendations, particularly with regard to the expansion of student housing, should consider the availability of suitable convenience commercial shopping facilities.

Supplemental Services

The coexistence of the Main Campus facilities near the Cultural Center institutions introduces the existence of mutual needs of both and also the availability of supplemental services.

There is a complementary need for parking spaces where the Cultural Center instutional facilities (the Library, Art Institute, Historical Museum) and the School Center Building (administrative offices of the Detroit Board of Education, at Putnam Avenue and Woodward Avenues), are located near the University. The Detroit Public Library and Art Institute bring the largest number of visitors into the area whereas the greatest number of employees generated by institutions other than the University in the immediate vicinity is the School Center Building. Thus, there is a severe parking problem at this juncture.

The Cultural Center also complements the University in terms of educational opportunities. A number of its institutions offer instruction in duplicating disciplines. For example, the Rackham Building offers instruction by the University of Michigan in Education, Social Work, Public Health and Psychology. On the other hand, adult education classes are also jointly sponsored by the University of Michigan and Wayne State University at this facility. Other facilities offer instruction in certain specialized programs not available at Wayne State University. These include the Detroit Community Music School, the Center for Creative Studies and Merrill-Palmer Institute.

There are compelling reasons for cooperating with these and other instructional institutions and definite advantages in utilizing the museum facilities for University teaching and research, thus providing a strong link with the community. Future academic facility plans must be cognizant of similar instructional opportunities located nearby.

Woodward Light Rail Transit Station

The intersection of Woodward and Warren Avenues is the busiest corner of the entire Cultural Center. This is also the site for a station of the proposed new Woodward Avenue Light Rail Transit Sys-

tem. The proposed facility will undoubtedly create a demand for intensive land development in this sector, which extends from Cass Avenue on the west, Putnam Avenue on the north, Woodward Avenue on the east, and Forest Avenue on the south. Since the University owns considerable property in this area, any future development of this intersection must consider the University's role and interest.

Adjacent Development Concerns

One of the interested district councils in the University-Community area, the Mid-City Council, is presently preparing plans for a major commercial-residential complex for the development north of the Medical Center. Covering approximately nine blocks, this property is well-suited for such development. Its proximity to the proposed Woodward Avenue light rail transit line and station would also enhance the property for both residential and commercial uses. Further, most of the property is under the ownership of a single individual.

This proposal is relevant to ongoing University facility planning considerations for several reasons. Foremost among these is its impact upon a logical land use connection between the Main Campus and the Medical School Campus and the Detroit Medical Center. Providing a rational transition of land use which "interconnects" the Main Campus through a clearly visual and physical tie with the Medical Center remains one of the more important Campus planning decisions facing Wayne State University. At present there is an 18-month waiting list for University student housing. Thus, a residential-commercial complex in this area may prove beneficial. However, it becomes imperative that University intentions are accurately conveyed in public interest organization proposals in order that a harmonious blend of land use development and desires be achieved.

The area between the Grand Trunk (Norfolk and Western Conrail) Railroad and Edsel Ford Freeway and John C. Lodge Freeway and Woodward Avenue, is the southern portion of the New Center Area in which Burroughs Corporation, General Motors Corporation and Wayne State University are the largest landowners. Many of the buildings in this area had been at one time or another commercial buildings of some kind, predominantly automobile sales and service agencies.

During the 1958-1959 Main Campus expansion period, the University acquired several of these commercial buildings along Cass Avenue and developed an Administrative Services Building complex that houses most of the offices associated with the actual operation of the University. However, this major administrative office group is separated from other administrative office facilities located in the southern section of the Main Campus by nearly three-quarters of a mile.

Research Development

Michigan has recognized the importance of high growth technology-based industry in the State. Wayne State University has recently developed a report depicting the tupe of high technology research in which it could be involved. Several areas have been identified where research parks for this purpose could be established. One such area is located north of the Main Campus in the New Center Area and that extends from Baltimore Avenue on the north, Edsel Ford Freeway on the south, Trumbull Avenue on the west and Brush Avenue on the east. The other area is located adjacent to Cass Park. One important characteristic of these suggested sites is their proximity to freeways, the University-Cultural Center and the proposed Woodward Avenue Corridor light rail transit system. Existing large scale buildings of 200,000 to 250,000 square feet are available at these locations and could house potential users.

The proposed research park sites should be recognized as important factors for future Main Campus development.

Chapter 2
EXISTING LAND USE

Introduction

An adequate knowledge of land uses furnishes the basic vehicle by which decisions can be made concerning proposals for land development, circulation and parking for the Main Campus of Wayne State University. The existing land use inventory will serve as a ready reference for the University in its assessment of everyday problems in planning, land use management and public improvement proposals on its own property and those proposed for non-University owned parcels on the Main Campus or on its periphery.

During the month of February 1980, Parkins, Rogers and Associates, Inc. conducted a land use survey of the Wayne State University Main Campus. A parcel by parcel inspection of all existing land uses within the Main Campus was then recorded and graphically presented on a map which is included in this report.

The existing land use study includes an inventory and analysis of all the land in the Main Campus area, including both University and non-University owned property. University buildings and functional areas are classified into specialized land use categories, such as administration, academic, housing, physical education and recreation, and ancillary development. For the non-University parcels of land

the conventional land use categories are used. These include residential, commercial, industrial, institutional, parking and open space. Acreage calculations for each land use category and University building and functional areas were obtained by direct measurements. Photographic examples of each major land use grouping are presented to further clarify the various land uses. Following this inventory and analysis, issues and problems involving the dynamics of land use and functional areas and activities are examined.

Land Use Inventory and Analysis

The major land use categories and functional uses are presented on Map 2. In total, there are approximately 140 acres of University-owned land and about 102 acres of non-University property in the Main Campus area.

University Land Use and Functional Areas

Table 1 summarizes University property by major categories of functional areas and land uses in the Main Campus area. A more detailed discussion of these land uses is presented below.

Administration.-- Roughly 2.5 acres, or two percent of University property is classified as Administration. This category consists of areas used for the housing of offices and departments devoted to exercising the execution of University management affairs and support services. Examples of administration uses include Office of Financial Aid, University Admissions, Registrar's Office, Job Placement Services, University Records Department and the offices of Wayne State University's executive officers. Two administration areas are shown on Map 2. The northernmost is sited on the northeast corner of Antoinette Avenue at Cass Avenue in Administrative Services Buildings 1, 2 and 3. The other principal administration office facility is Mackenzie Hall, located on Cass Avenue at Putnam Avenue.

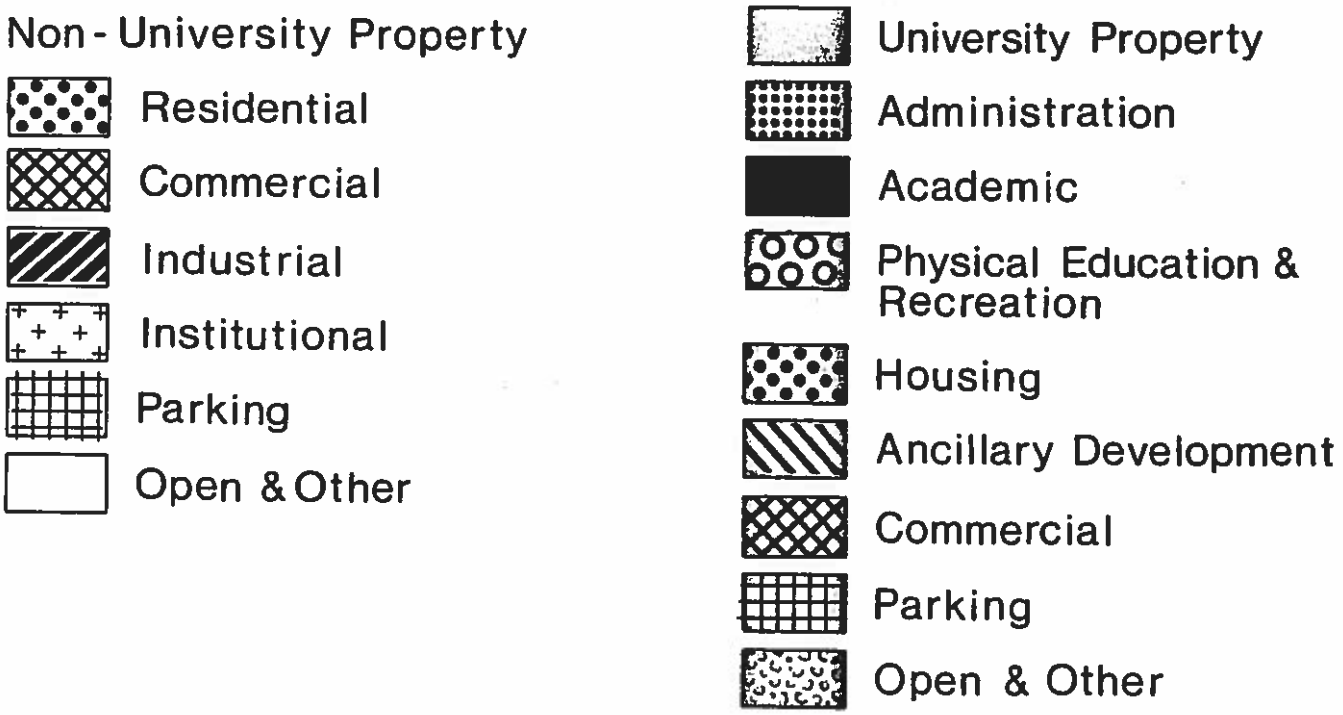
Academic. -- Lands utilized for academic use comprise 17.4 acres, or 12.4 percent of the total land area of University property. Such uses are those facilities which provide a setting of formal study and instruction typically containing classrooms, lecture halls, laboratories and libraries. Most academic facilities, with the exception of Old Main and the Physics Building, are found in the superblocks bounded by John C. Lodge Freeway on the west, Palmer Avenue on the north, Cass Avenue on the east, and Warren Avenue on the south.

Physical Education and Recreation. -- This category includes the University physical education and recreation lands and facilities. Wayne State University Stadium and locker rooms, the Matthaei Physical Education Center and adjoining playfields and tennis courts are the only land properties classified under this heading. This site, located west of the John C. Lodge Freeway and bordered by Warren Avenue on the south, Trumbull Avenue on the west and the Edsel Ford Freeway on the north, accounts for about 43 acres, or 31 percent of the total Main Campus property land area.

Housing. -- At the present time, a little over two acres, or about two percent of University property is used for University residence. Included in this category are both dormitories and apartments. Table 2 lists the buildings and number of dwelling units by address.

Support Uses. -- Support Uses may be defined as those University facilities which are in part contributory, incidental of and accessory to the operation and/or activities of the primary use they support.

Map 2
EXISTING LAND USE



COMPREHENSIVE DEVELOPMENT PLAN / PHASE I
Wayne State University / Main Campus
July 1981

0 300 600 1200 feet

Parkins / Rogers & Associates / Inc

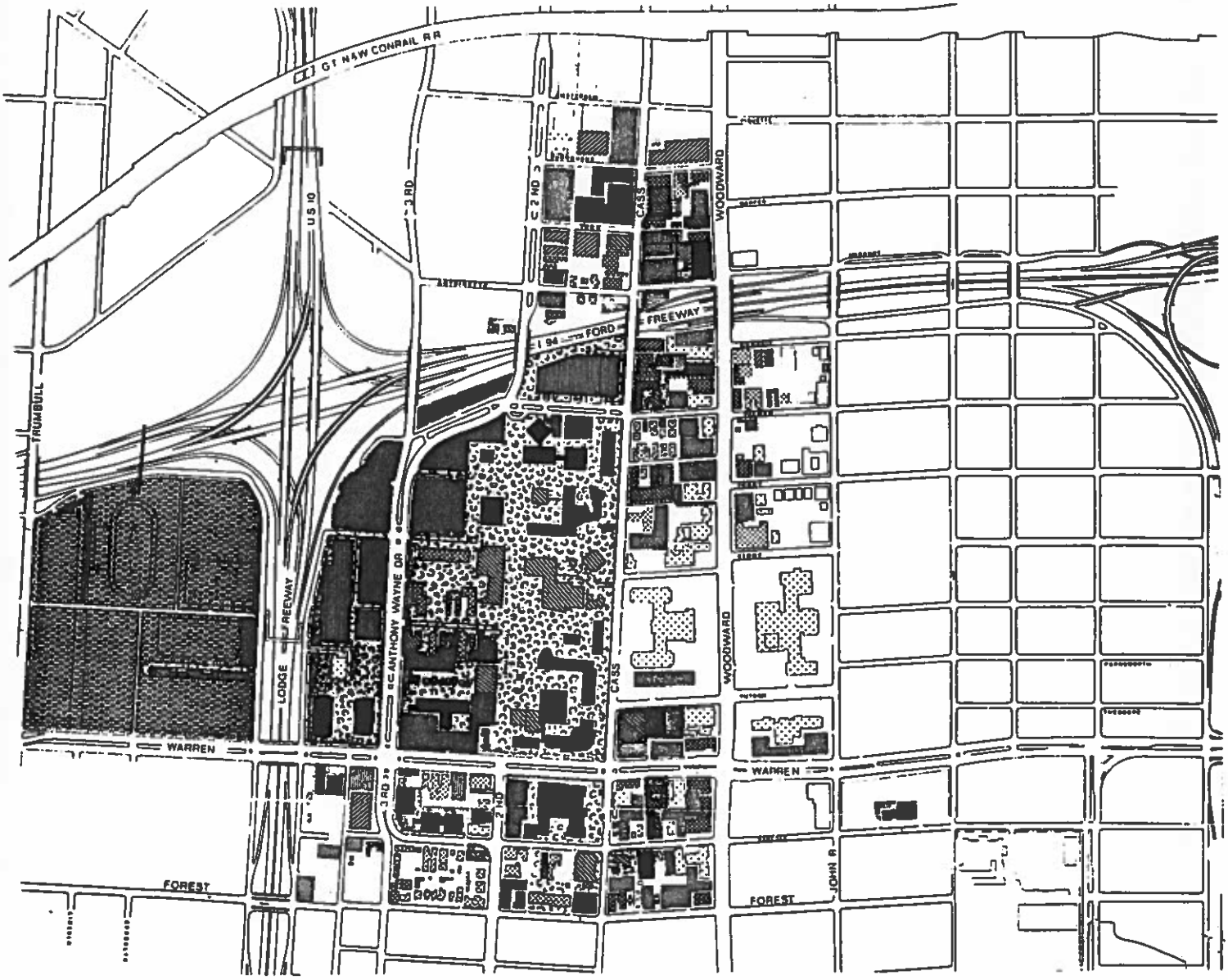

GT NAW CONRAIL RR
TRUMBULL
US 10
LODGE FREEWAY
3RD
2ND
CASS
WOODWARD
I 94 FORD FREEWAY
ANTHONY WAYNE DR
WARREN
FOREST
JOHN R

TABLE 1

UNIVERSITY PROPERTY AND LAND USE
WAYNE STATE UNIVERSITY MAIN CAMPUS, 1981*

Land Use Category	Building Ground Space and Open Area (Acres)	Percent of Total
Administration	2.5	1.8
Academic	17.4	12.4
Physical Education/Recreation	43.2	30.9
Housing	2.2	1.6
Support Uses	7.3	5.2
Commercial	0.4	0.3
Parking	21.6	15.4
Open and Other	45.4	32.4
TOTAL	140.0	100.0

*Analysis by Parkins, Rogers and Associates, Inc. from Field Survey, February, 1981.

Examples include administrative service office buildings, libraries, student centers, and physical plant maintenance facilities, among others. Roughly seven acres, or five percent of University property are so classified.

Commercial. -- University owned commercial land use occupies less than one-half acre, or 0.3 percent of the Main Campus total land area. Of the two such areas identified, the first, located on Gullen Mall northeast of the College of Engineering Building, is the University Bookstore. The second, found on the northeast corner of Cass Avenue at Palmer Avenue represents a series of attached commercial units which the University leases to private businesses.

Parking. -- University-owned parking facilities occupy approximately 22 acres, or 15 percent of the land area defined as University property. The parking category covers those areas devoted strictly to off-street parking and includes both parking structures and surface parking for general University use or assigned space for faculty, staff, housing and visitors. Main Campus parking facilities are graphically portrayed on Map 1.

Open and Other. -- The greatest share of University property is classified as Open and Other. Included are all pedestrianways, plazas, building setback areas, internal service routes and loading zones. A little over 45 acres, or about 32 percent of University property is labeled as Open and Other, most of which lies within the superblocks framed by John C. Lodge Freeway on the west, Edsel Ford Freeway on the north, Cass Avenue on the east, and Warren Avenue on the south.

TABLE 2

UNIVERSITY HOUSING

WAYNE STATE UNIVERSITY MAIN CAMPUS, 1981*

Name	Address	Rooms	Number of Units
Helen DeRoy Apartments	5200 Anthony Wayne Drive		252
Forest Apartments	460 W. Forest Avenue		211
Sherbrook Apartments	615 W. Hancock Avenue		25
Santa Fe Apartments	681 Merrick Avenue		38
Chatsworth Towers Apartments	630 Merrick Avenue		85
Chatsworth Annex Apartments	650 Merrick Avenue		32
Helen Newberry Joy Residence	655 W. Kirby Avenue	132	
Katherine Faville Hall	645 Merrick Avenue	49	
TOTAL		181	643

*Analysis by Parkins, Rogers & Associates, Inc. from data obtained from Wayne State University Housing Office.

Non-University Land Use

The non-University owned parcels within the Main Campus area are presented in Table 3. Most of these uses are located north of the Edsel Ford Freeway to Burroughs Avenue and between Second and Woodward Avenues, the western frontage of Woodward Avenue from the Edsel Ford Freeway to a line immediately south of the University properties opposite Ferry Avenue, and from Putnam Avenue to Warren Avenue; the area between Warren and Forest Avenues and between Anthony Wayne Drive and Woodward Avenue; and the area bounded by John C. Lodge Freeway, Warren Avenue, Anthony Wayne Drive and Hancock Avenue. The area occupied by the freeways traversing the Main Campus are excluded from calculations.

As can be seen from Map 2, most of the residential properties, in the form of apartment units, are concentrated at the south end of the Main Campus area between Forest and Warren Avenues and Cass Avenue and Anthony Wayne Drive and in the Cultural Center Area along Ferry and Palmer Avenues between Cass and Woodward Avenues. The greatest concentration of commercial and industrial properties are in the Cultural Center Area, bounded by Putnam Avenue on the north, Woodward Avenue on the east, Forest Avenue on the south, Cass Avenue on the west, and in the New Center Area north of the Edsel Ford Freeway.

Land Use Issues and Problems

An examination of the juxtaposition of existing land use patterns within the Main Campus area reveals that the bulk of buildable land has been pre-

TABLE 3

NON-UNIVERSITY LAND USE
WAYNE STATE UNIVERSITY MAIN CAMPUS, 1981*

Land Use Category	Area (Acres)	Percent of Total
Residential	3.5	3.4
Commercial	4.4	4.3
Industrial	4.0	3.9
Institutional	2.9	2.9
Parking	9.4	9.3
Open and Other	77.3	76.2
TOTAL	101.5	100.0

*Parkins, Rogers and Associates, Inc., field survey, February, 1981.

empted by development. Development of the Main Campus has occurred piecemeal over a 35-year period, utilizing many existing buildings on a street system originally designed for non-university purposes. As a result, Wayne State University inherited a number of land use problem areas affecting the physical layout and efficient function of the Main Campus, including friction between different use areas, lack of room for future expansion, scatteration of academic buildings, incompatible land uses, tenancy of land use, and amenity. The latter four issues are briefly discussed below.

Scattering of Academic Buildings

Scattering of academic building sites exists, particularly for the College of Liberal Arts. The College of Liberal Arts is primarily centered around Old Main, located on Cass Avenue south of Warren Avenue. However, additional satellite areas of this College are found near Anthony Wayne Drive and Warren Avenue, Cass Avenue and Ferry Avenue, and north of Edsel Ford Freeway. Indeed, within that College, the Department of Biology is scattered in four different locations throughout the Main Campus, which causes inefficiency in the operation of the Department. Another example is the isolation of the Physics Building, located one block south of Warren Avenue, from the other science facilities, which are located north of Warren Avenue. Similarly, the College of Engineering Building, sited between the Gullen Mall and Anthony Wayne Drive, is separated from its Technology and Acceleration Lab. These are located in two buildings nearly two blocks away.

Incompatible Uses

Incompatible land uses are land uses and/or structures, which by their nature of function and scale of development, create an environment wherein they are unsuitable for association with other but dissimilar uses. Common examples are industrial or business establishments located in proximity to academic or residential use lacking proper transition and screening. Although certain small retail areas convenient to students and faculty for supplies, books, lunches, etc., are desirable on a campus, particularly an urban commuter campus like Wayne State University's Main Campus, the ultimate effect of non-related incompatible uses is an adverse impact on the immediate environment.

Tenancy of Land Use

Tenancy of land uses refers to transitory land uses and "fixed" lands. Transitory land uses are those land developments likely to exist for only a short period of time. Fixed lands are those parcels which, by their nature of development, are unlikely to change or be subject to redevelopment over time. Examples of fixed lands are public utility buildings, institutional facilities, parcels with religious structures and sites of historical and architectural significance. Both transitory and fixed land uses are found within the Main Campus of Wayne State University.

There are two prominent transitory land use areas within the study area. The first is represented by sites with University structures which were found by inspection to be substandard (see Chapter 3 under Structural Quality). These facilities can be considered temporary in nature and offer themselves as prospective University redevelopment sites. Another substantial transitory land use is University surface parking on land originally acquired for academic building sites. Such areas also are considered as short term land uses. Inasmuch as the surface parking areas consume significant acreage, these parcels will be evaluated in future land use planning in Phase II of the Comprehensive Development Plan of the Main Campus as potential development sites.

Fixed land areas require different consideration. These properties constrain flexibility in land planning decisions inasmuch as they must be excluded from active consideration for University use or acquisition. There are several such land uses within the Main Campus, including a Detroit Edison Substation and St. Andrews Episcopal Church located immediately south of Parking Structure No. 2.

Buildings of historical/architectural significance are also contained in this study area. These include Old Main, St. Andrews Church, the Wayne State University Faculty Club, formerly the Thompson Home, the Hilberry Theatre, the David Mackenzie House, the Jacobs House, the Music Annex, and the Beecher House (University Development Office on Woodward Avenue).

Amenity

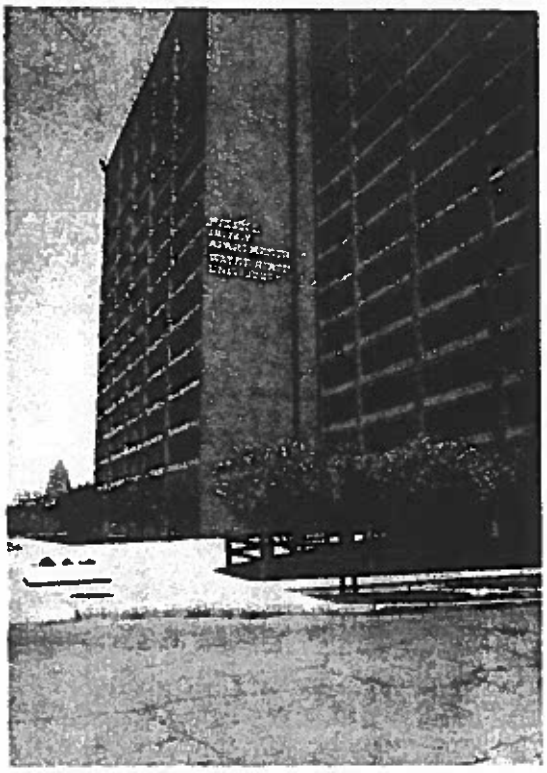
The word amenity as referred to in this section covers those matters which complement positive original design and includes pleasant surroundings -- environmental -- clean air, quiet, tree planted walks, color and harmony with the buildings, combining the skills of the architects and landscape architects to produce something beautiful both as viewed from a distance and near.

The compilation of land use data revealed an unsatisfactory concern for urban amenity. One of the causes of dullness of appearance exhibited by the Campus is found in the uniformity in height of most of the new buildings. A poor physical or visual connection also exists between parking areas and structures. There is lack of a comprehensive planting program on the Main Campus to give it unity and detail of texture, color, and form, especially the surface parking lots along some vacated campus streets, entrances and other important campus points.

There is a need for a policy of identifying buildings with a particular college, school or department with a geographic focus or some symbol for the students, faculty, staff and alumni of the program to provide related groups a greater sense of intimate discipline identity within the University.

There is also a lack of a uniform signage program for building identification and to better guide persons unfamiliar to the Campus setting, and the need to provide other informational and directional signs and display material for the Main Campus. Signage that does exist is not consistent in design or form.

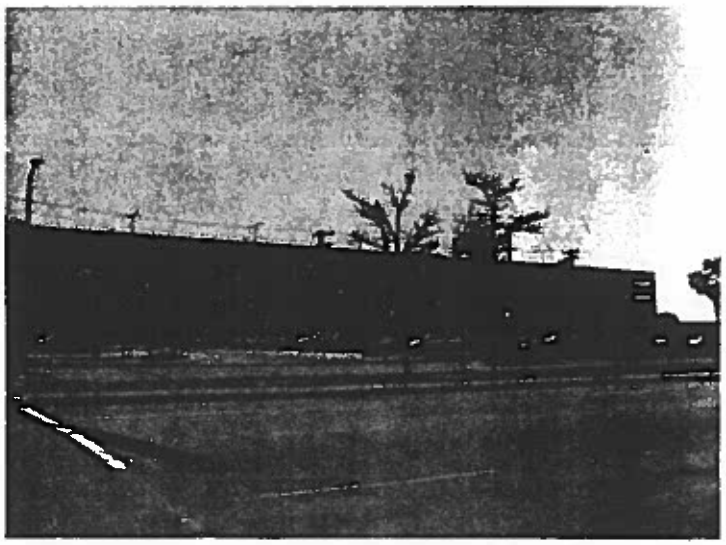
In order for the Main Campus to reach its full potential of human scale, character, convenience and environmental quality, much of the physical plant woul have to be upgraded. Many areas currently dominated by the automobile in a tangle of streets and parking lot should be studied for possible redesign to pedestrian/ transit landscaped areas and malls.



STUDENT HOUSING

OPEN AND OTHER - FERRY MALL

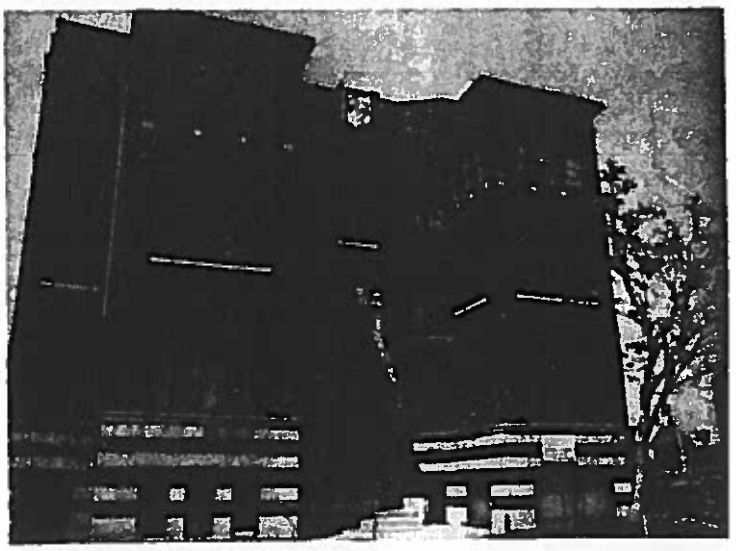
SUPPORT USES - STUDENT CENTER



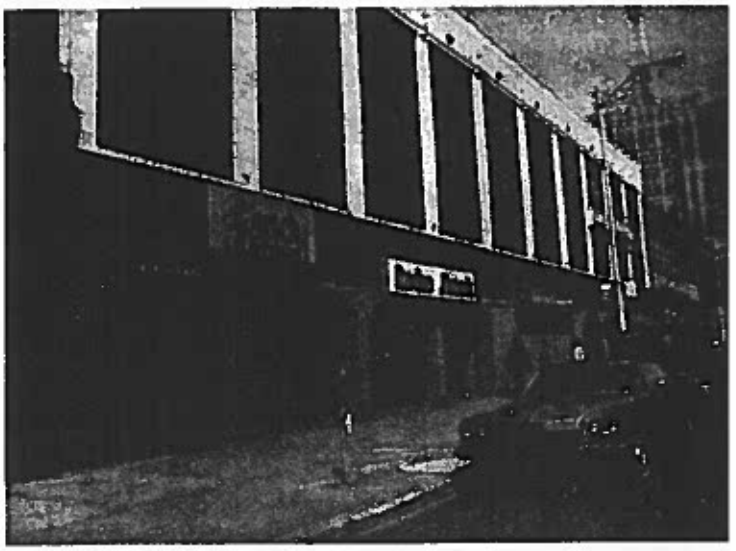
PARKING STRUCTURE

FIGURE 10 - EXAMPLES OF UNIVERSITY LAND USES

SINGLR FAMILY RESIDENTIAL

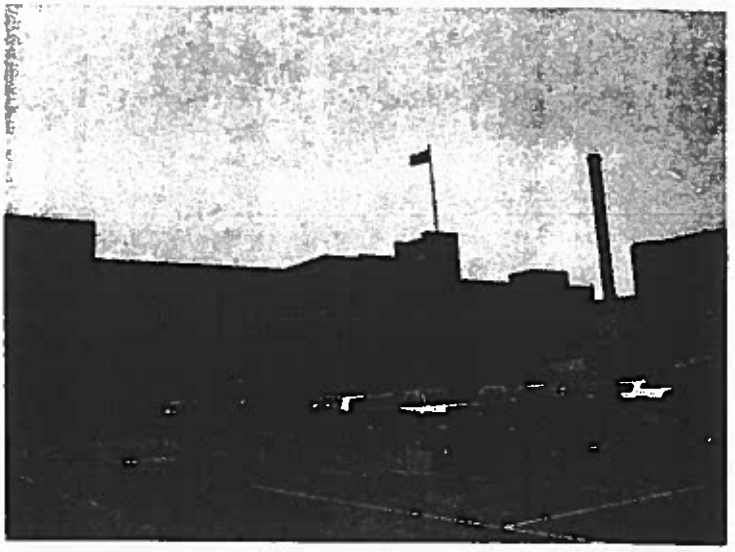


MULTIPLE FAMILY RESIDENTIAL

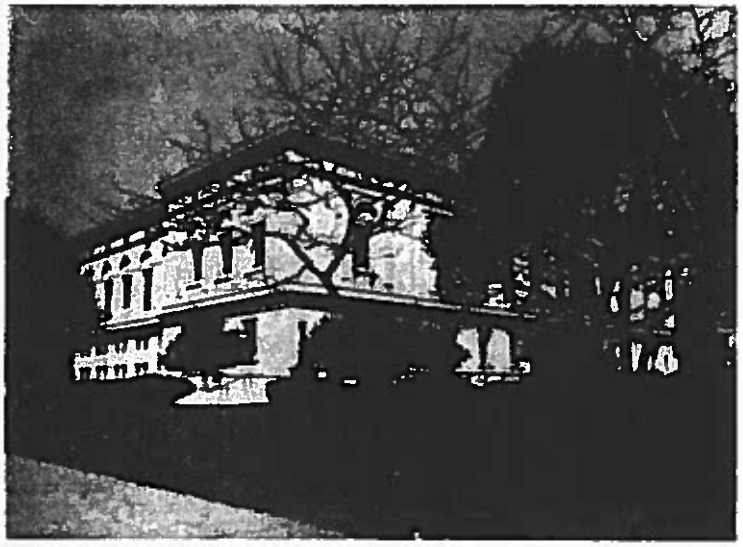


COMMERCIAL

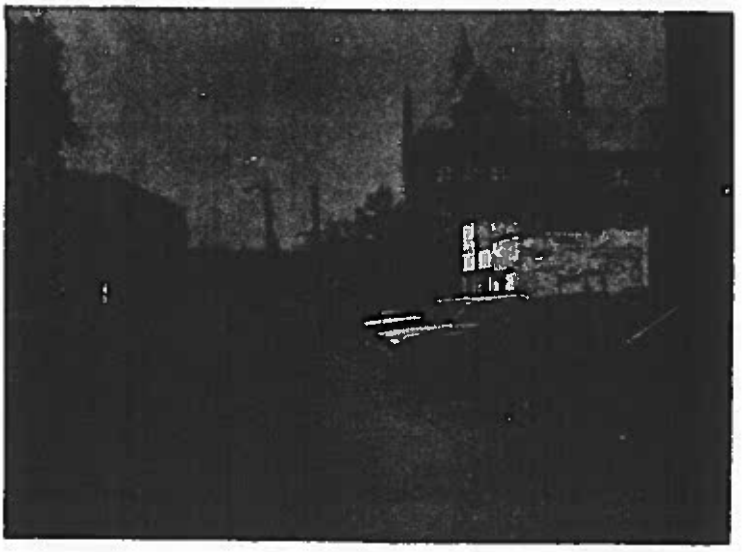
FIGURE 11 - EXAMPLES OF NON-UNIVERSITY LAND USES



INDUSTRIAL



INSTITUTIONAL



PARKING

FIGURE 11 - (Continued)

Chapter 3
MAIN CAMPUS POPULATION, BUILDING SPACE, BUILDING CONDITION & ENVIRONMENT

This chapter reviews, in general terms, the user population, existing building spaces, classroom utilization, and building condition of the Main Campus. In addition, it summarizes on architectural and environmental survey of a group of selected "marginal" buildings, and analyzes environmental security on the Main Campus.

Main Campus Population

Table 4 shows the total population headcount of the Wayne State University Main Campus, as of Fall 1980, consisting of students, faculty, and staff, at 39,012. The ratio of undergraduate students to graduate/post graduate students is approximately 2.7 to one at present, reflecting a relatively high rate of graduate programs. By comparison, the University of Michigan and Michigan State University have ratios of 1.6 to one and 3.4 to one respectively.

The present ratio of full-time equivalent (FTE) students[1] to FTE faculty[2] at the Main Campus is 12 to one.

[1] Full-time equivalent student enrollment is the sum of the total undergraduate credit hours divided by 15.5, total master's credit hours divided by 12, total doctoral credit hours divided by 8, and the actual head count of the graduate professional courses.

[2] A full-time equivalent faculty member is one who teaches a regular academic year.

TABLE 4

STUDENT ENROLLMENT AND TOTAL POPULATION
WAYNE STATE UNIVERSITY
MAIN CAMPUS, FALL, 1980*

Student Enrollment

	Number	Percent of Total Main Campus Student Population
Student Enrollment		
Undergraduate	23,168	73.1
Graduate	8,514	26.9
TOTAL	31,682	100.0

Total Main Campus Population

	Number	Percent of Total Main Campus Population
Student Enrollment	31,682	81.2
Faculty (incl. grad. asssts.)	2,530	6.5
Staff	4,800	12.3
TOTAL	39,012	100.0

*Parkins, Rogers and Associates, Inc. from data supplied by Wayne State University, Office of Institutional Research, July, 1981.

This ratio may appear relatively low when compared with other State public institutions whose FTE student to FTE faculty ratios range from 17 to 20, but compares favorably with the University of Michigan's ratio of 12 to one and Michigan State University's 13 to one ratio, and tends to reflect the high rate of graduate programs in these three major universities.

Combining faculty (including graduate assistants) and student population yields a figure of 34,212 or 88 percent of the total Main Campus population.

The full-time equivalent student (FTE) registrants at the Main Campus as of the beginning of Fall, 1980 totaled 20,683.[3]

More than 90 percent of the total enrollment at the Main Campus come from within the tri-county area of Wayne, Oakland and Macomb Counties. Less than 1,000 students registered in the Fall Term, 1980 were residents of University affiliated housing on the Main Campus. The rest of the students are commuting to the Main Campus.[4]

Utilization of Building Space

Gross and Assignable Space

The Main Campus presently has 91 buildings totaling 4,808,486 gross square feet of space.[5] Of this amount, 2,867,730 net square feet represent assignable space[6] for each functional area available for students, faculty and staff. (See Map 1 and Appendix A.)

[3]Wayne State University, Office of Institutional Research, July, 1981.

[4]Data from Wayne State University, Registrar's Office; Housing Office, June, 1981.

[5]Gross area of a building is the sum of the floor area of the building included within the outside faces of exterior walls for all stories, or areas that have floo surfaces.

[6]Assignable space is the sum of all areas on all floors of a building assigned to, or available for assignmen to, an occupant, including every type of space fun tionally usable by an occupant. This generally rep sents about 55 percent of the gross square footage o the building.

The size of each building and facility, as presented in Appendix A, provides a graphic analogy to the actual size of its related assignable space, establishing a general functional pattern. Considering that most of the buildings currently occupied were designed and constructed in a previous technological era and that many of them were built for purposes other than academic, this proportion of net assignable space appears high. It must be recognized, however, that of the total amount of gross square feet of building space on the Main Campus, there are some 417,000 gross square feet of space in so-called "marginal" buildings that are either structurally deficient or substandard, requiring major rehabilitation or total demolition. This represents about nine percent of the total gross square feet of building space and contains nearly 248,000, or nine percent of the total net assignable square feet of space available on the Main Campus.

Instruction and Instruction Related Space

Instruction and instruction related building space[7] totals 3,794,741 gross square feet as a physical resource to conduct the academic mission of the University on the Main Campus. This figure represents 183 gross square feet of building space per FTE student.

[7]Instruction and instruction related building space is equivalent to the State of Michigan Department of Management and Budget, Building Division, Category I Classification of university building space, which is defined as all building space which is necessary for the fulfillment of the purposes of the institution - instruction buildings, libraries, auditoriums and theaters, administration buildings, shops and storage buildings, instruction facilities in physical education buildings (swimming pools, gymnasium), museum, radio and television studios, and others.

Of the 91 buildings on the Main Campus, 23 are non-instruction and instruction related buildings[8], representing a total of 1,013,745 gross square feet of space. In addition, there is another 1,315,510 gross square feet of enclosed parking space in Parking Structures No. 1, 2 and 3 on the Main Campus.

Classroom Utilization

Figure 12 presents the pattern of classroom utilization for all Wayne State University Main Campus colleges for an average week in the Fall of 1980, as a reflection of the manner in which rooms are scheduled and utilized. This pattern is atypical. In most universities the level of use drops abruptly after 5:00 p.m with some instructional activity continuing until 10:00 p.m. Monday through Friday. In constrast, at Wayne State University, the Main Campus pattern utilizes the classrooms to their optimum both during the day time and particularly between 5:00 p.m. and 10:00 p.m., thus producing savings in facilities operating costs.

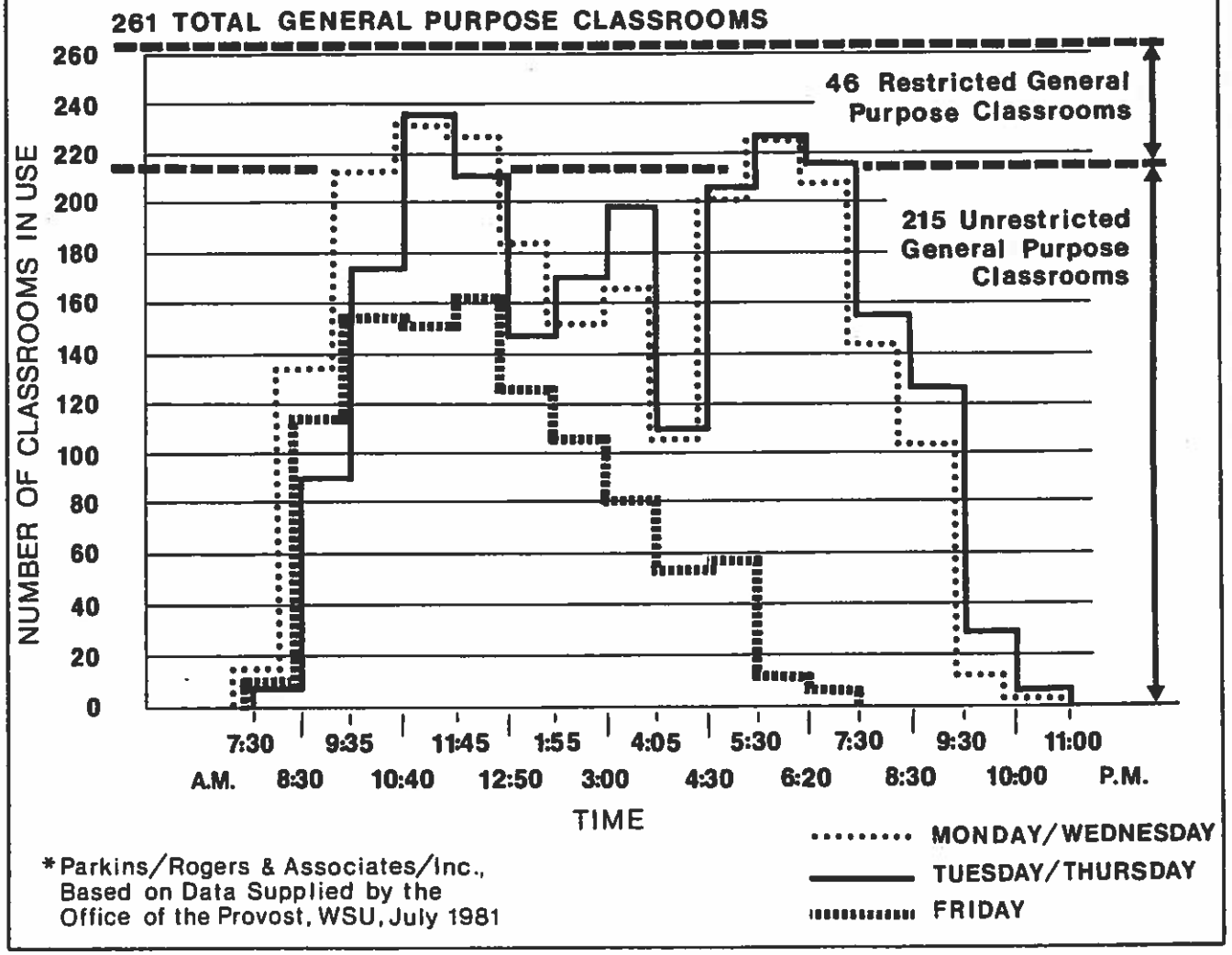
Structural Quality

The Main Campus contains an amalgamation of 91 old and new buildings as well as three parking structures. The growth of the Main Campus physical plant is one of unusual development. This is adroitly conveyed in the introduction of Wayne State Univer-

[8]Non-instruction and instruction related building space is equivalent to the State of Michigan Department of Management and Budget, Building Division, Category II Classification of university building space, which is defined as space which the university could lack and still serve its educational purposes. In this category are residence halls and apartments, food commissaries, student centers, fraternity and sorority houses, faculty clubs, stadiums, bookstores, parking ramps, and others.

Figure 12

HOURLY CLASSROOM USE FOR ALL COLLEGES
Monday through Friday, Winter 1980 - 1981
WAYNE STATE UNIVERSITY/MAIN CAMPUS *



*Parkins/Rogers & Associates/Inc., Based on Data Supplied by the Office of the Provost, WSU, July 1981

sity's 1981-1982 and 1981-1986 Capital Outlay Request:

> Our circumstances at Wayne State are unique in several ways. We began with a facility complement not constructed by the State and remain essentially unfinished with regard to suitable facilities constructed for or adapted to our extensive curriculum. The development of our academic mission has not been matched by the growth of our physical plant. We have never enjoyed the circumstance of being adequately housed in space designed for effective academic and administrative use. We have always been burdened with make-do, makeshift temporary accommodations in space which does not meet either the condition or suitability criteria issued by the State for planning purposes. Over the past decade, the Main Campus of the University has suffered from a lack of State funding support for new facilities or major renovation and expansion. The last facility constructed with State funding on the Main Campus was the General Lectures Building which was completed in 1971. Of the 26,618 classroom and laboratory stations utilized by our students, 85% are more than 15 years in age.
>
> This means that most of the large classroom facilities are approaching advanced age with regard to meeting changing teaching methods and equipment, but even more importantly, mechanical and electrical systems within these facilities have been showing signs of wear and tear and need renewal now as evidenced by the long list of lump-sum special maintenance projects in the pages that follow. Wayne State University has also invested much of its teaching resources in facilities never designed to handle the academic demand being placed on them. Old Main, our century old public high school building, is a key example since it houses over 12% of the total classroom and laboratory stations of this institution.[9]

This statement in the Capital Outlay Budget Request continues to assert the University's position on the necessity for the rejuvenation of existing facilities:

> We are mindful, however, that in the context of present public opinion and apparent State policy, our requests must not be directed either solely or most emphatically toward new construction but rather toward the renewal of facilities. It is not unrealistic to expect the State to protect its enormous investment in these facilities across this campus. Therefore, we have placed high priority on the renewal of major classroom and office facilities.[10]

The present academic, service and auxiliary buildings on the Main Campus have varying degrees of structural quality. Included among these is a group of buildings considered as of "marginal" use. To ascertain the precise condition of all these buildings, two separate structural quality surveys were undertaken wherein the individual buildings were rated for structural condition based upon appropriate criteria. These surveys are described below.

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[9]Wayne State University, Capital Outlay Budget Request for the Five Year Period of 1981-1982 and 1981-1986, September 1980, pp. i and ii.

[10]Ibid.

Survey of all University Buildings

The first structural condition survey of all University buildings on the Main Campus was undertaken by the Department of Campus Planning with the cooperation of the Physical Plant Department and Architectural Engineering Services in the Winter of 1979. The survey was concerned basically with the general condition of each major structure in terms of its suitability for continued use with normal maintenance, whether it could be rehabilitated for less than replacement cost, or whether the building was economically unfeasible for rehabilitation.

Specifically, three criteria were used for structutal evaluation:

Condition 1 - Satisfactory (Standard), if building required only normal maintenance and repairs for next five years.

Condition 2 - Deficient, if building required major renovation and remodeling during the next five years for less than replacement cost.

Condition 3 - Substandard, if building is in such a poor condition that it becomes economically unfeasible to bring it up to standard condition.

The results of this survey are summarized in Appendix B and graphically presented on Map 3.

Of the total 91 buildings and service facilities on the Main Campus surveyed, 40, or 67 percent, were in acceptable or standard condition; 15, or 16 percent, were deficient; and 36, or 40 percent, substandard and unfeasible for rehabilitation. Of the three parking structures, two were found to be standard and one deficient.

Survey of Marginal Buildings

During the winter of 1980-81, a project team consisting of specialists from Louis G. Redstone Associates, Inc. (Architects and Engineers) conducted a detailed structural quality inspection of the exterior and interior elements of a total of 37 marginal buildings.[11] The survey was concerned primarily with ascertaining the exact condition of each of these buildings as compared with applicable building, fire, safety, and utility codes governing the facilities at the time of inspection. Accessory buildings, such as garages, storage sheds, and others, were not rated. Twenty-six of these buildings are former residential structures now used for University related purposes. The remainder are former commercial buildings, now in various University uses, or still occupied as commercial establishments.

The condition of the structures was determined according to the extent and degree of major deterioration or weakening of the structural elements, facilities and equipment. In this manner, each structure was examined to determine whether it was in a standard, deficient or substandard condition. Each structure was placed in one of the three categories, as determined by a weighted summarization of criteria and used in classifying each category.

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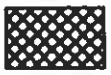
11 A marginal building is: 1, primarily auxiliary in nature that is assigned to a temporary use; 2, property that has been acquired by the University primarily for the land, to be used for future development, rather than for the utility of the building; 3, building designed and constructed for a use other than instructional, was not conducive to academic use, and did not meet the existing codes for academic purposes; and 4, structure required considerable attention and maintenance, and since such a building was of temporary nature, it received only minimum maintenance.

Map 3
STRUCTURAL CONDITION OF ALL UNIVERSITY BUILDINGS
Winter, 1979

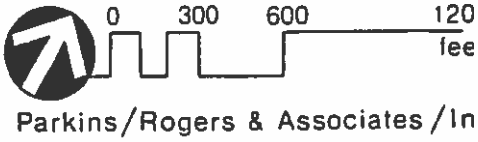

Standard (Condition 1)


Deficient (Condition 2)

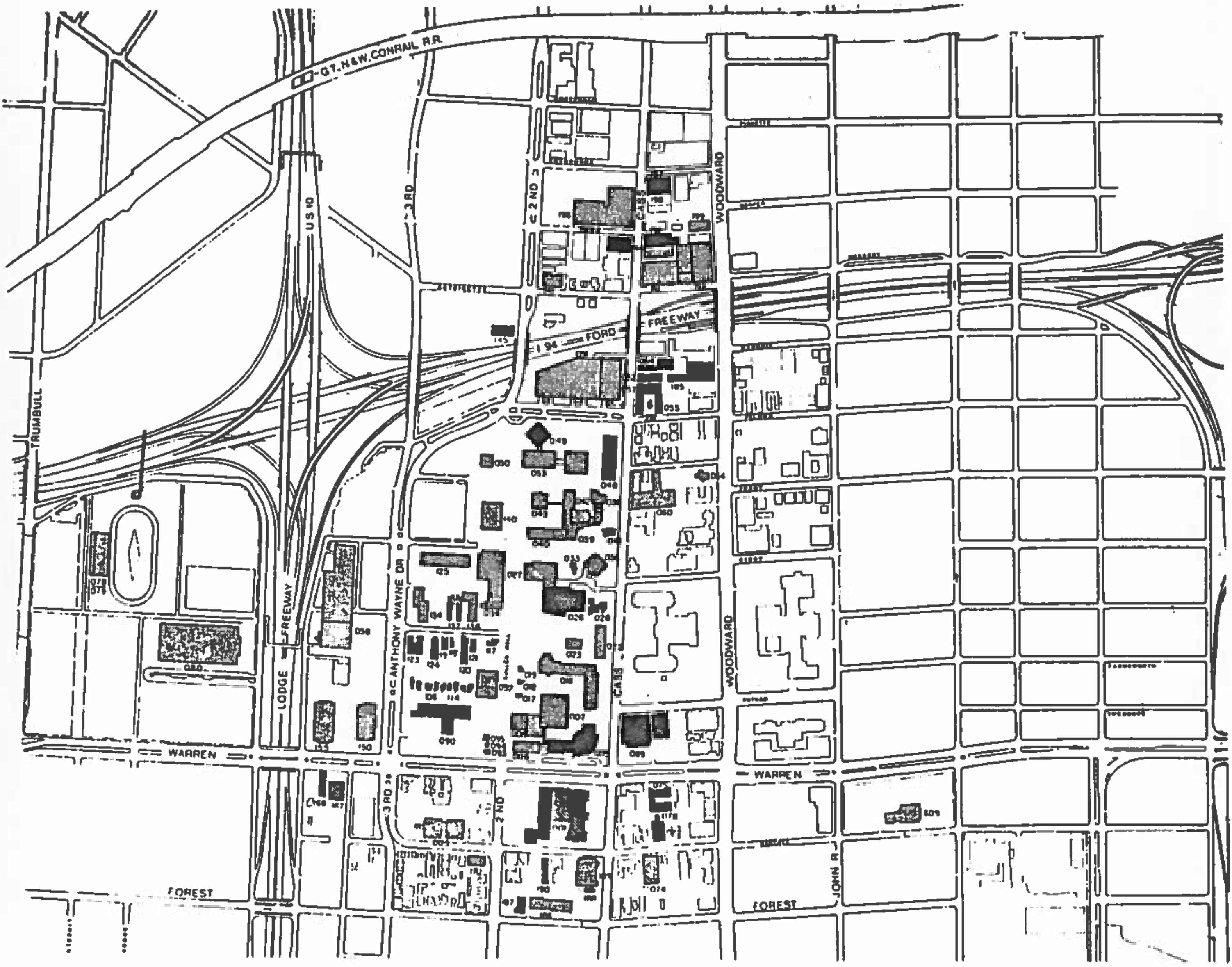

Substandard (Condition 3

195 University Building Identification Number

COMPREHENSIVE DEVELOPMENT PLAN / PHASE I
Wayne State University / Main Campus
July 1981



Parkins/Rogers & Associates/In


G.T. N&W. CONRAIL R.R.
TRUMBULL
LODGE
FREEWAY
US 10
3 RD
2 ND
CASS
WOODWARD
I 94
FORD
FREEWAY
ANTHONY WAYNE DR
WARREN
WARREN
FOREST
FOREST
JOHN R

Criteria for Evaluation of Structures

Each marginal structure was inspected and categorized according to the number of major and/or minor defects observed. A major defect was one that indicated major deterioration or weakening in the primary structural elements of the building. A minor defect was one that indicated major deterioration or weakening in the minor structural elements, or minor deterioration or weakening in the primary structural elements of the building.

A standard survey form was used which included a checklist of structural elements (roof, walls, foundation), non-structural elements (windows, roofing), building systems (heating, electrical), maintenance features (painting) and building codes (including barrier-free regulations). The structural inspection form was used as the basis for preliminary cost estimates of work necessary to bring the properties into compliance with local and state codes and regulations and making it usable for a 20 year life span. In addition, each building was evaluated from the standpoint of its architectural and/or historical significance.

The survey did not include structural testing, uncovering built-in elements, or any inspection requiring alteration to the building. The survey made no attempt to cost out any potential or feasible change in current use or occupancy of a building. In the matter of architectural or historical significance, only a general attempt was made to indicate the type or class of construction or any special or unique features which might exist and be important enough to merit consideration for its preservation.

Scoring

Using the survey data on the condition of the building elements and systems, each building was placed in one of the following three structural condition categories:

Standard,
Deficient, or
Substandard.

A Standard structure is a sound building which exhibits only slight wear requiring normal maintenance or containing less than five minor structural defects. A Deficient structure is a deteriorating building whose structural elements contain at least one major defect, or a combination of five or more minor defects, provided the minor structural defects are distributed in other categories not involving the one already scored for a major structural defect. A Substandard structure is a building whose structural combination of one major defect plus five or more minor defects, provided the minor structural defects are distributed in other categories not involving the one already scored for a major structural defect. Incidentally, these condition categories were quite similarly arrived at in the earlier structural survey of University buildings by the University Architectural & Planning Staffs.

Structural Quality Results

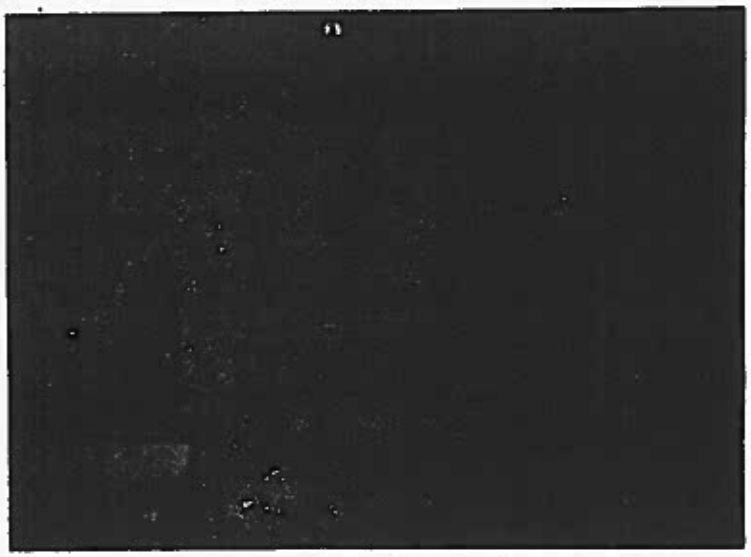
As a result of this survey, the various structural conditions and a summarization of the weighted score of each building surveyed is presented in Table 5 and graphically shown in Map 4 and Figure 13. Of the total 37 marginal structures surveyed, only two structures were found to be in standard condition, eleven structures, or about 30 percent, deficient, and the remaining 24 structures, or 65 percent, substandard and unfeasible for rehabilitation. A detailed accounting of each structure's condition, preliminary rehabilitation cost and architectural historical significance, if any, will appear in a separate report

TABLE 5

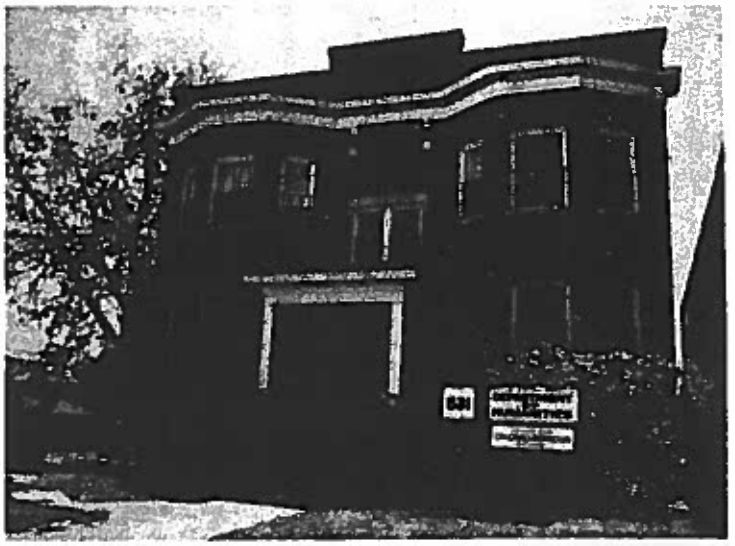
STRUCTURAL CONDITION SURVEY OF MARGINAL BUILDINGS
WEIGHTED SCORING SUMMARY
WAYNE STATE UNIVERSITY MAIN CAMPUS; WINTER 1980-1981

Bldg. No.	Address	Primary Element	Exterior Elements	Interior Elements	Elec./ Mech. Systems	Build. Codes	Total Wghtd. Score	Building Cond. Category	Estimated Cost
017	5104 Gullen Mall	1.0	5.2	0.8	0.2	2.0	9.2	Deficient	$ 60,000
018	5120 Gullen Mall	6.0	3.6	3.4	3.2	3.0	19.2	Substandard	-
019	5140 Gullen Mall	2.0	2.8	1.0	4.0	2.0	11.8	Substandard	-
028	5229 Cass	2.0	1.0	1.6	3.2	1.0	8.8	Deficient	75,000
028	5229 Cass-S.W. Addition	2.0	1.4	2.6	0.2	0.5	6.7	Deficient	110,000
041	5415 Cass	2.0	0.6	2.2	2.4	1.0	8.2	Deficient	16,000
052	5740 Cass	6.0	2.4	0.2	0.2	2.5	11.3	Substandard	-
054	5750 Cass	11.0	3.0	0.2	0.2	0.5	14.9	Substandard	-
055	70 West Palmer	7.0	1.2	0.0	0.0	1.5	9.7	Deficient	45,000
058	80 West Palmer	1.0	7.0	1.6	4.0	2.0	15.6	Substandard	-
076	84 Hancock	7.0	0.6	0.6	0.2	1.0	9.4	Deficient	60,000
077	76 Hancock	1.0	1.6	0.8	0.6	0.0	4.0	Standard	30,000
081	4866 Third Avenue	1.0	3.4	4.6	2.4	1.0	12.4	Substandard	-
093	5021 Gullen Mall	3.0	3.8	2.2	3.0	2.0	14.0	Substandard	-
094	5029 Gullen Mall	1.0	2.6	2.0	0.0	2.0	7.6	Deficient	59,000
095	5037 Gullen Mall	6.0	1.6	1.2	4.0	2.5	15.3	Substandard	-
106	702 Putnam Mall	3.0	3.6	2.8	3.2	1.5	14.1	Substandard	-
107	694 Putnam Mall	3.0	2.8	4.4	3.2	1.0	14.4	Substandard	-
108	680 Putnam Mall	1.0	1.4	2.2	4.4	0.5	9.5	Deficient	15,000
109	672 Putnam Mall	3.0	3.8	4.4	2.2	1.5	14.9	Substandard	-
110	664 Putnam Mall	3.0	2.6	4.2	2.2	2.0	14.0	Substandard	-
111	654 Putnam Mall	3.0	3.4	2.4	3.0	2.0	13.8	Substandard	-
112	648 Putnam Mall	6.0	3.0	4.2	3.0	1.5	17.7	Substandard	-
113	640 Putnam Mall	2.0	2.6	3.6	3.2	2.5	13.9	Substandard	-
114	632 Putnam Mall	2.0	4.2	4.0	3.0	1.5	14.7	Substandard	-
117	5165 Gullen Mall	1.0	0.6	1.0	0.2	2.0	4.8	Standard	6,000
118	655 Merrick	3.0	3.6	6.0	2.2	1.0	15.8	Substandard	-
119	667 Merrick	2.0	2.0	3.0	2.2	1.0	10.2	Substandard	-
121	631 Merrick	1.0	1.0	2.6	1.0	1.0	6.6	Deficient	12,000
123	691 Merrick	15.0	3.6	6.6	2.6	1.0	28.8	Substandard	-
145	5821 Second Blvd.	10.0	3.4	4.4	4.0	2.5	24.3	Substandard	-
167	4855 Fourth	7.0	1.4	0.0	0.0	1.0	9.4	Deficient	140,000
168	929 Warren	2.0	3.2	0.6	0.2	1.5	7.5	Deficient	70,000
187	490 Forest	7.0	2.8	1.0	0.2	2.5	13.5	Substandard	-
190	467 Hancock	2.0	3.8	1.2	3.2	1.5	11.7	Substandard	-
194	5959 Cass	10.0	3.4	1.8	0.4	1.0	16.6	Substandard	-
195	5743 Woodward	7.0	5.2	3.6	0.2	1.0	17.0	Substandard	-

*Parkins, Rogers & Associates, Inc., based on data from Structural Quality Survey conducted by Louis G. Redstone Associates, Inc., Winter, 1980-1981.



STANDARD CONDITION



DEFICIENT CONDITION

SUBSTANDARD CONDITION

FIGURE 13 - EXAMPLES OF STRUCTURAL QUALITY

to be published in 1981. [12]

Environmental Conditions Survey

The living environment of an area is the reflection of many positive and negative pressures that are obtained and exhibited from the surrounding region, vehicular and pedestrian circulation, the land use pattern and quality of structures. All of the ingredients interact on each other and are outwardly displayed as the quality of the physical and social environment.

The quality of the environment - the way it looks, sounds, feels or smells - is not limited only to the way it is perceived by an individual, but also conveys visible settings, projecting community attitudes and intent. Environmental quality improperly formed can lead to visual clutter, personal confusion or complacent surroundings. Conversely, environmental factors correctly designed provide zones of comfort, orientation and observed diversity. Within this framework, this section's purpose is to identify the presence or absence of various factors which impact the environmental quality of the land area abutting and surrounding the Main Campus marginal buildings surveyed for structural conditions.

Methodology

The collection and compilation of environmental quality survey data involved a comprehensive procedure. A field inspection of environmental conditions was conducted to evaluate the quality of the areas of properties encompassing the University permanent academic, service and auxiliary buildings.[13] The micro-environmental status of the areas surrounding each of these buildings was then measured by various indicators of environmental quality. The indicators cover four micro-environmental features: street improvements, nuisances, blighting conditions, and other factors noted around each of the buildings surveyed.

Street and Service Drive Improvements. -- Street improvements include pavement, curbs, entrance walks and sidewalks. These improvements are necessary in urban-type areas, and the lack of any of these constitutes an environmental deficiency.

Nuisances. -- This category of environmental quality indicators includes, among others, excessive vehicular or pedestrian traffic, noxious odors, smoke, dust, excessive noise, and lack of off-street parking. The negative impacts of these factors are significant, and detract from the quality of the overall environment.

Blighting Conditions. -- Blighting conditions include those factors which, when present, have a blighting influence on the environment. These factors, on a greater scale than the above-mentioned

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12 See Wayne State University Main Campus Comprehensive Development Plan, Phase I: Inventory and Analysis. Building Condition Survey, by Louis G. Redstone Associates, Inc. in association with Parkins, Rogers and Associates, Inc.

13 The Environmental Conditions Survey includes nine University properties in addition to the 37 marginal structures covered by the Structural Quality Survey. However, it should be noted that two of the 37 marginal structures evaluated for environmental conditions (the Teal Building and Sprague House) are vacant at the present time. These properties were surveyed to assess their environmental quality if conditions were to warrant their utilization by the University. Further, vacant structures left unattended have a blighting affect on the surrounding area.

Map 4
STRUCTURAL CONDITION OF MARGINAL BUILDINGS, 198

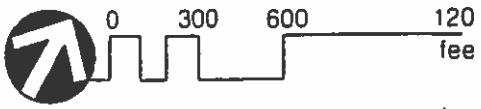
Standard

Deficient

Substandard

195 University Building Identification Number

COMPREHENSIVE DEVELOPMENT PLAN / PHASE I
Wayne State University / Main Campus
July 1981



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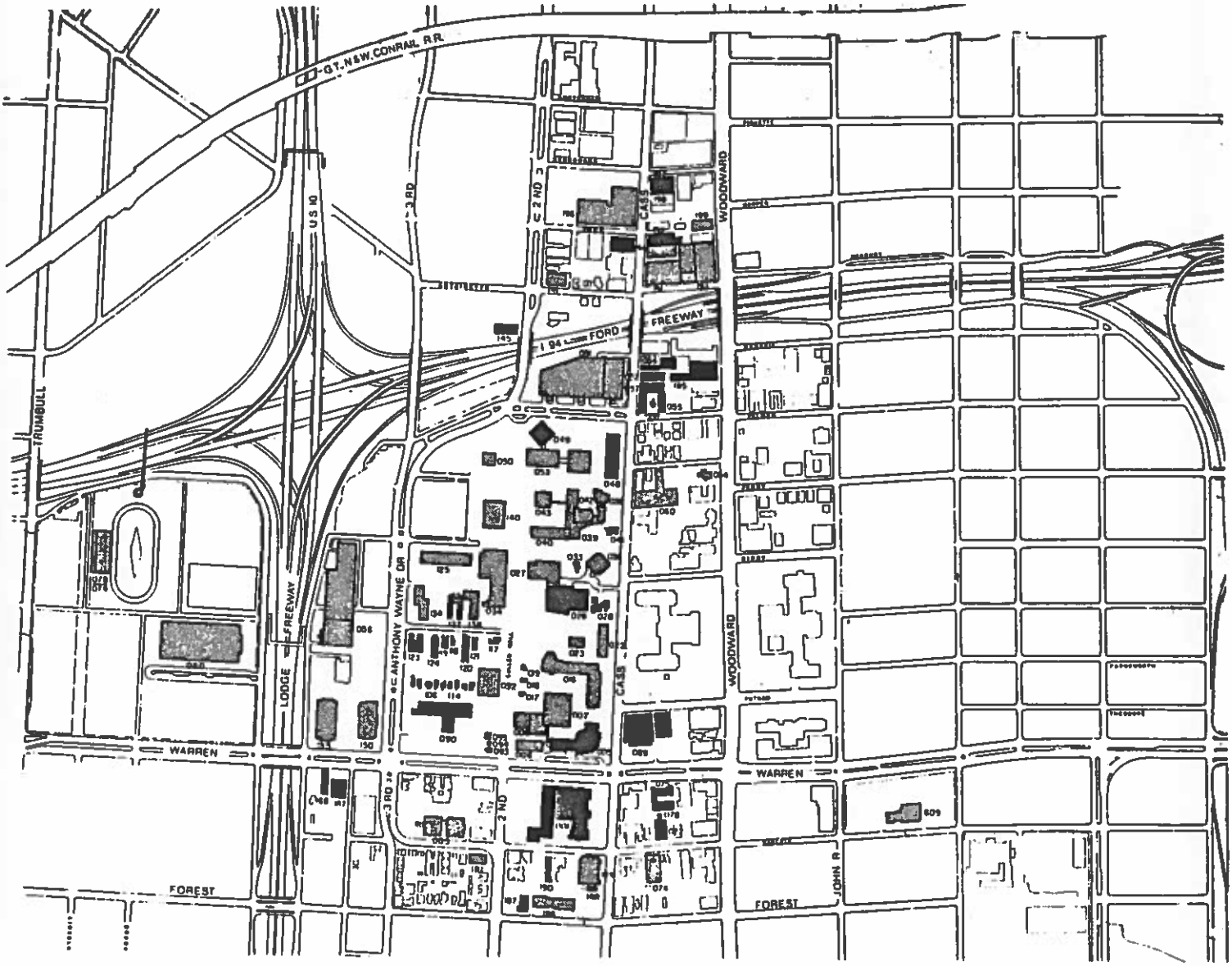

G.T.W.&W.CONRAIL R.R.
TRUMBULL
LODGE FREEWAY
US 10
3 RD
2 ND
CASS
WOODWARD
I 94 FORD FREEWAY
ST ANTHONY WAYNE DR
WARREN
FOREST
JOHN R

nuisance factors, can spread from area to area transforming basically sound areas into blighted and deteriorating ones. These factors are described below.

1. Incompatible Land Uses or Mixed Uses - Land uses and/or structures, which by their nature of function and scale of development, create an environment wherein they are unsuitable for association with other but dissimilar uses. Common examples occur particularly where commercial or industrial uses are located in proximity to academic uses; the effect is an adverse impact on the immediate environment and property values of abutting and adjacent uses.

2. Overcrowing of Buildings on the Land - Lack of open space creates an unsuitable environment for all types of land usage. Further, parcels designed for one building containing more than one principal structure and resulting in a crowded situation tend to add to visual clutter.

3. Excessive Vegetation - Yards and areas around buildings that are unkempt and overgrown with weeds and kept in disrepair, contribute to a poor visual image and environmental decline.

4. Trash, Rubbish and Debris - Such conditions create a blighting influence, detract from property values and contribute to health problems.

5. Sign Blight - Excessive display of signs, inadequate sign maintenance, obsolete signs, inordinantely large and tastelessly designed and poorly located signs can adversely affect urban-type areas, become hazards, and indirectly create an unsightly campus image.

6. Utility Line Blight - The jumble of overhead electric and telephone lines, poles and transformers contribute to a negative visual impact on both the living and working environments.

7. Poor Lighting - Adequate street lighting is a necessary service in urban areas. Deficiencies affect convenience, safety and security.

8. Lack of Trees - Street trees provide shade, absorb noise, screen power lines, and provide necessary visual relief to the streetscape. Their lack is a definite environmental deficiency.

9. Poor Maintenance - A lack of property maintenance, repair and protection against the elements contributes to environmental decline.

10. Blighted Accessory Structures - Parking garages sheds and open storage bins which are deteriora ting and/or in disrepair contribute to an overall environmental deficiency.

11. Inadequate Setbacks - Some structures, if located too close to rights-of-way, parking areas or other buildings are likely to become blighted marginal structures.

Other Factors. -- Other environmental factors which have a blighting influence upon the quality of developed areas were also noted and analyzed for their influence upon the environment. These factors include standing water or drainage problems, lack of a clear entry into the structure, poor connection to surrounding property (either visually or mechanically) and the presence of rodents.

It must be understood that environmental deficiencies listed are not applicable to every property.

For example, noise generated by traffic on a freeway or major thoroughfare may prove excessive to occupants of an academic building. However, such noise would not be deleterious to an industrial establishment. In some instances, excessive traffic (either vehicular or pedestrian) may be disruptive to the functioning of an office building. Yet excessive traffic may actually be a benefit for a commercial establishment as it gains greater exposure. Setbacks also vary between particular land uses. Not only must one consider the activity undertaken in each structure but also whether the building is in character with neighboring parcels. Further, if sufficient buffering devices are utilized on the site (i.e., setbacks, open spaces, walls, landscaping) setback requirements also differ by use. Whereas it may be necessary to have ample off-street parking for a restaurant or other commercial use, it may not be a necessity to provide off-street parking areas for individual academic uses when parking garages and commercial surface parking lots are located nearby. Thus, each parcel must be judged on its own merits.

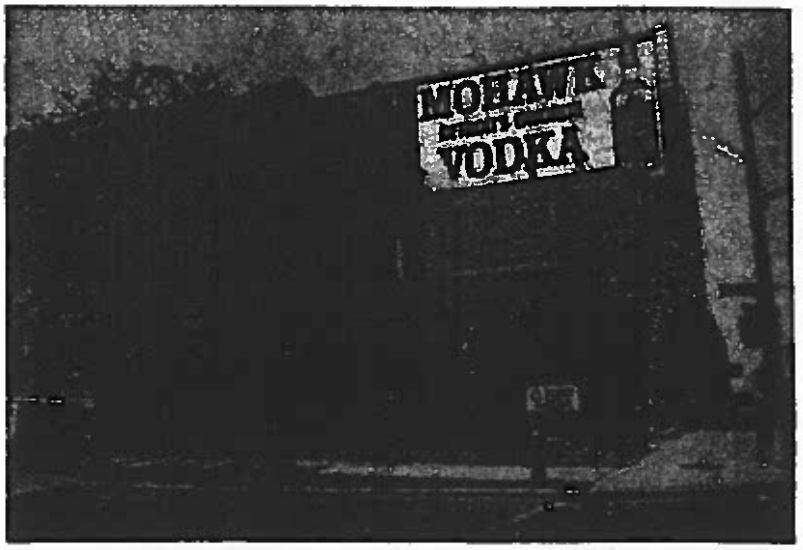
Survey Results

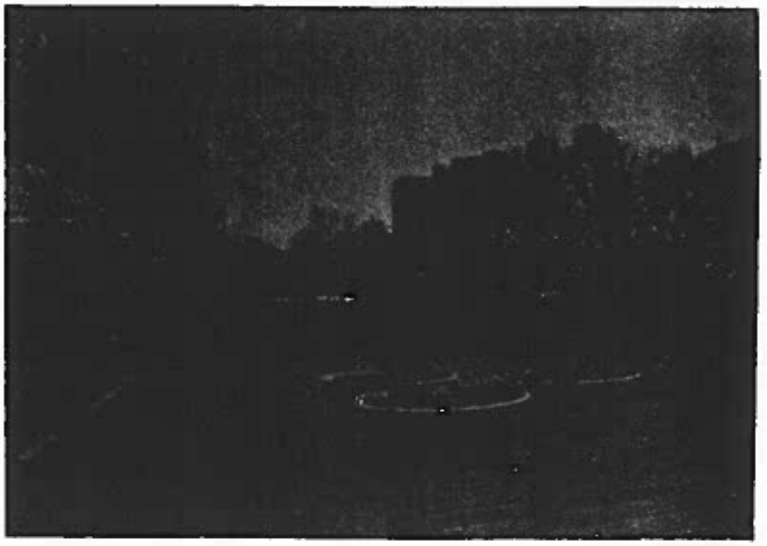
Environmental indicators or factors which were recognized in field inspection for each of the properties surveyed are presented in Table 6, Environmental Conditions Matrix. Examination of the data presented in this table uncovered several conjoint characteristics exhibited by the surveyed parcels. An analysis of these intermutual traits by major environmental factors follows. (Figure 14.)

Street Improvements. -- The presence of unpaved streets was not recorded among any of the surveyed structures. Lack of curbing was found proximate to only four structures; the University Storage Service (Motor Pool) Building, C.I.T. Still Photo Office, Theater Rehearsal Hall and Old Main. The most prevalent deficiency uncovered was inadequate sidewalks. Twenty-six, or 58 percent, of all surveyed structures were cited for this environmental factor, with its incidence being prevalent primarily near the older structures. Each of the nine properties surveyed on Putnam Mall exhibited broken or uneven entrance walkways and sidewalks. Further, three of the four surveyed parcels along Merrick Avenue showed similar deficiencies. Inasmuch as these streets serve as major pedestrian routes, such an environmental factor is severe. Ten of the nineteen former commercial buildings surveyed, representing 53 percent, also evidenced inadequate or missing sidewalks and are clustered in no particular grouping. It should be noted that only one of the seven properties surveyed on the newly completed Gullen Mall had poor sidewalks. This area represents the lone sector being nearly void of this environmental concern.

Nuisances. -- The more prevailing nuisances recorded by the environmental conditions survey were excessive traffic, excessive noise and lack of off-street parking. Noxious odors or smoke were not noticed at any of the survey sites but dust emanating from unimproved parking lots, especially south of the Engineering Building, is present and creates an additional environmental nuisance.

For purposes of this analysis, traffic was defined in terms of either vehicular or pedestrian movement. Correspondingly, excessive pedestrian traffic can be found among areas demonstrating high student patronage whereas excessive vehicular traffic is exhibited on the busier thoroughfares. Significant pedestrian movement was found near each inventoried parcel located on Gullen and Putnam Malls. Similarly, Merrick Avenue and Cass Avenue, also major pedestrian routes, revealed considerable pedestrian traffic. In addition, most properties inventoried located on Cass Avenue are impacted by much vehicular traffic, as are structures near Warren, Second and Fourth Avenues. All totaled 30, or 67 percent, of





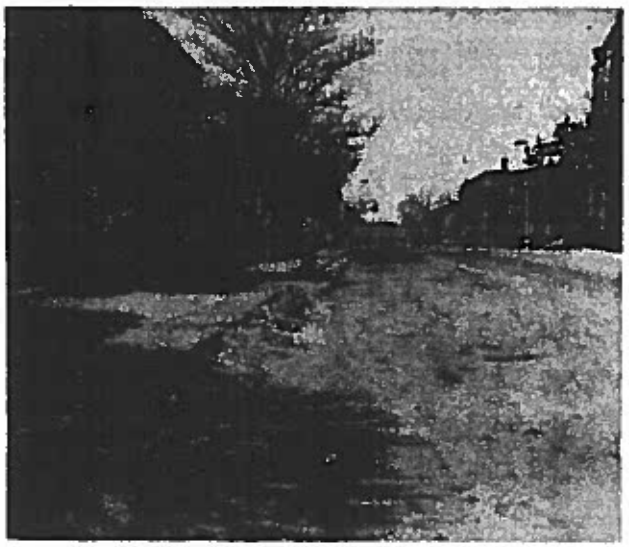


FIGURE 14 - EXAMPLES OF ENVIRONMENTAL QUALITY

Table 6

ENVIRONMENTAL CONDITIONS MATRIX, WAYNE STATE UNIVERSITY MAIN CAMPUS, 1981*

A. FORMER RESIDENTIAL BUILDING PROPERTIES INVENTORIED

ENVIRONMENTAL FACTOR	Sprague House 80 W. Palmer	Auxiliary Office Building (Tool Building) 5821 Second	Manteith Child Center 5120 Gullen Mall	Vacant, No. 019 5140 Gullen Mall	Home Management 5037 Gullen Mall	Upward Bound 5021 Gullen Mall	Metro Detroit Bureau 5029 Gullen Mall	Biology Auxiliary Offices 5104 Gullen Mall	Industrial Relations & Manteith Offices 5143 Gullen Mall	Industrial Engineering: 640 Putnam	Industrial Engineering: 632 Putnam	Engineering Auxiliary Offices: 664 Putnam	Engineering Auxiliary Offices: 654 Putnam	WAYN Radio 672 Putnam	Art Department Auxiliary Offices 680 Putnam	Psychology Auxiliary Offices: 702 Putnam	Psychology Auxiliary Offices: 694 Putnam	Southwood Newspaper 648 Putnam	Humanities 631 Merrick	WDET Offices 655 Merrick	College of Engineering General Offices 667 Merrick	Library Court, Anthropology, Philosophy, Sociology, Urban Planning 693 Merrick	Center of Urban Studies 5229 Cass	Music Annex 5415 Cass	Auxiliary Office Building 4866 Anthony Wayne Drive	Reading & Study Skills 547 Merrick
STREET IMPROVEMENTS																										
Unpaved Streets																										
Lack of Curbing																										
Inadequate or Missing Sidewalks	●								●	●	●	●	●	●	●	●	●	●	●		●	●	●		●	
NUISANCES																										
Excessive Traffic		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●	●		●	
Noxious Odors																										
Smoke																										
Excessive Noise		●				●	●					●		●	●	●	●					●	●		●	
Lack of Off-Street Parking	●	●	●	●				●															●	●		
BLIGHTING CONDITIONS																										
Incompatible Land Uses or Mixed Uses	●	●								●	●	●	●	●	●											
Overcrowding of Buildings on Land					●	●	●			●	●	●	●	●	●	●	●	●			●				●	
Excessive Vegetation																										
Trash, Debris and Rubbish	●		●	●	●														●						●	
Sign Blight		●																								
Utility Line Blight			●																							
Poor Lighting			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
Lack of Trees	●											●	●	●		●	●	●		●	●				●	
Poor Maintenance	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●		●			●			●
Blighted Accessory Structures		●																								
Inadequate Setback	●	●			●	●	●		●	●	●	●	●	●	●	●	●	●		●	●	●			●	●
OTHER:																										
Standing Water, Drainage Problems								●										●	●							
No Clear Entry																										
Poor Connection to Surroundings	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●		●	●
Rodents	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

the properties inspected were impacted by excessive vehicular and/or pedestrian traffic.

Directly related to impacts of excessive traffic is excessive noise. While high traffic volumes can be disruptive to the passage of pedestrian and vehicle alike and "crowd" the environment, excessive noise may disrupt concentration and impair academic instruction and research paramount to university life. Excessive noise was noted near 18, or 40 percent, of the properties surveyed.

Excessive vehicular traffic noise also impinges upon academic and office properties proximate to Woodward, Warren and Cass Avenues and Anthony Wayne Drive. An immoderate amount of noise was also perceived near the WAYN Radio broadcast house, as it projects its on-air programming via a loudspeaker attached to the building's facade. Although this broadcasting proves entertaining to passersby, the continual transmission is not germane to the office operation of the Art Department and Engineering Auxiliary Offices located nearby.

Table 6 (Continued)

ENVIRONMENTAL CONDITIONS MATRIX, WAYNE STATE UNIVERSITY MAIN CAMPUS, 1981*

ENVIRONMENTAL FACTOR	B. FORMER COMMERCIAL BUILDING PROPERTIES INVENTORIED																			
	Military and Veterans Offices and Art Foundary 5743 Woodward	University Storage, Services Building (Motor Pool) 5959 Cass	Nursing and Social Work Auxiliary Offices 5740 Cass	University Storage Warehouse 5950 Cass	C.I.T. Still Photo Office 70 Palmer	Engineering Technology 4835 Fourth	Theater Rehearsal Hall 490 Forest	Biology Research 84 Hancock	Public Safety 76 Hancock	College of Engineering Accelleration Lab 979 Warren	Old Main 4841 Cass	McKenzie Hall 5050 Cass	Justice Bldg. 6001 Cass	Commercial Stores 5700 Cass	University Services 5454 Cass	University Develop. 5475 Cass	Administrative Services: No. 1 & 2 3950 Cass; No. 3 5980 Cass	Computer Center 5925 Woodward
STREET IMPROVEMENTS																				
Unpaved Streets																				
Lack of Curbing		●			●		●				●									
Inadequate or Missing Sidewalks	●	●			●	●	●	●	●	●	●				●					
NUISANCES																				
Excessive Traffic	●		●			●				●	●	●				●	●	●		
Noxious Odors																				
Smoke																				
Excessive Noise	●		●			●				●	●	●				●				
Lack of Off-Street Parking			●	●	●			●	●					●			●	●	●	
BLIGHTING CONDITIONS																				
Incompatible Land Uses or Mixed Uses	●		●	●	●		●	●	●					●	●					
Overcrowding of Buildings on Land		●													●					
Excessive Vegetation																				
Trash, Debris and Rubbish		●		●	●	●				●		●		●						
Sign Blight																				
Utility Line Blight						●				●										
Poor Lighting													●	●		●				
Lack of Trees	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
Poor Maintenance				●	●								●							
Blighted Accessory Structures																				
Inadequate Setback		●	●				●							●						
OTHER:																				
Standing Water, Drainage Problems																				
No Clear Entry		●			●	●				●										
Poor Connection to Surroundings					●	●	●			●		●		●	●					
Rodents	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

*Survey conducted by Parkins, Rogers & Associates, Winter 1981.

Lack of accessible off-street parking represents the third environmental nuisance cited as a result of field survey inspection. While many buildings benefitted from being close to designated parking lots or garages, some structures did not have access to this important urban facility. As indicated in Table 6 only 16 of the total structures surveyed lacked or have inadequate off-street parking.

Blighting Condition. -- A myriad of blighting conditions were evidences among all the inventoried parcels. Incidence of mixed or incompatible land uses were principally confined to the former commercial buildings surveyed. However, this factor is also noted among the former residential structures inventoried. Several merit particular attention. The Sprague House is virtually encased by commercial uses on all but its front side. The Teal Building is next door to the University Motel, a private operation. The Industrial Engineering Buildings are near the University bookstore, whereas both the Engineering and Art Department Auxiliary Offices border the WAYN Radio Station. The University buildings inventoried are housed in former houses and commercial structures and mixed among medical facilities, restaurants, hotels, apartments and active commercial establishments.

Overcrowding of buildings on land is another blighting environmental condition. Such overcrowd-

ing primarily centered on the older structures located on Putnam Mall, Merrick Avenue and Gullen Mall. These residential structures date back to a period where little regard was given to open space and yard setback requirements. Additional buildings crowded on their sites include the Sprague House and the Auxiliary Office Building (a former apartment) located at Anthony Wayne Drive and Warren Avenue. Only two former commercial structures investigated were noted for this deficiency. They include the University Storage Services Building and University Services Building. Both of these facilities are located on Cass Avenue.

Excessive vegetation, sign blight, utility line blight and blighted accessory structures were rarely evident among the survey properties on the Main Campus. Such is not the case for poor lighting, lack of trees, and trash, rubbish and debris found on the properties.

As shown in Table 6, poor illumination is a concentrated problem. This deficiency, which is virtually limited to Merrick Avenue and Putnam Mall parcels, provides opportunities for criminal activities without observations. Only three properties outside these areas also registered this deficiency. They include lands neighboring the Justice Building, University Development and the commercial stores located on Cass Avenue near Palmer Avenue.

Lack of trees is a problem not confined to one area or type of structure. Sixty-two percent of the surveyed properties exhibited this shortcoming.

Trash, rubbish and debris was also displayed on various survey properties. Twelve parcels, or 27 percent, of the total properties studied contained this detrimental environmental factor. In most cases trash and debris was hidden from view via exterior collection behind the principal structure and could not easily be seen by passersby. However, with some of the studied parcels, outdoor waste collection was readily seen from walkways or thoroughfares which bordered these properties. Accumulation of exposed trash, rubbish and debris was particularly visible near the Sprague House, Auxiliary Office Building at Anthony Wayne Drive and the Engineering Technology Building.

Along with the lack of trees and evidence of trash, rubbish and debris, poor maintenance and inadequate setbacks were found among numerous survey buildings. Most building sites reviewed on Merrick Avenue and Putnam Mall contain these deficiencies. A prime example of this blighting condition is demonstrated by the location of the parking area between the Putnam Mall and Merrick Avenue. Vehicles actually park right up to the buildings themselves, offering virtually no setback between the structures and parking areas.

Other Environmental Factors. -- Other factors affecting the environment include such deficiencies as standing water, drainage problems, no clear entry, poor connection to surroundings and presence of rodents. Metro Detroit Bureau, the Southend Newspaper Building on Putnam Mall and the Humanities Building on Merrick Avenue are the only building sites which showed evidence of standing water. Only four commercial buildings -- University Storage (Motor Pool) Building, C.I.T. Still Photo Office, Engineering Technology Building, and the College of Engineering Acceleration Lab -- did not have a clear entry into their respective structure. There was no clear indication of the presence of rodents in the area immediately surrounding the surveyed structures. However, University officials have informed Parkins, Rogers and Associates, Inc. that rodents are a problem in all of the survey buildings as well as some of the other Campus structures.

Also representing one of the more universal deficiencies uncovered through the field inventory was poor relationship to immediate surroundings. Poor relationship to surroundings encompasses many characteristics. Foremost, this criterion embodies a poor physical connection to surroundings either due to the lack of a defined pathway, as a result of an obstacle (e.g., fencing, shrubbery, etc.) which inhibits the movement of goods or people, or by uses sharing a common facility, as a driveway. Second, this factor represents a poor visual interdependence to the surroundings. Such a situation may occur because of the improper scale of a structure to neighboring buildings. Poor visual correlation may also exist when a building's colorant is not harmonious with the prevailing tincture of the area. Each of the above-named deficiencies are found throughout the properties surveyed.

A poor physical connection exists with the C.I.T. Still Photo Office Building. The primary student access point is provided by means of a side entry off the alley. However, no walk is provided. Students must use the gravel alley as their pathway into the building. Yet this alley actually acts as a service drive to a garage bay of the structure behind it. A poor physical linkage to surroundings is also present at the Center for Urban Studies as there is no connection between the rear of this structure and the G. Flint Purdy Library immediately to its west. An undefined pathway is the single detachment between these two points.

Poor visual relationship to surroundings is exemplified by the structures sited on Putnam Mall. The Industrial Engineering Buildings, Engineering Auxiliary Offices, WAYN Radio, Art Department Auxiliary Offices, Psychology Auxiliary Offices and the Southend Newspaper all located in old houses are literally dwarfed by the vast scale of the adjoining College of Engineering Building which extends along their entire southern frontage. Possessing this same characteristic is the Biology Auxiliary Office Building on Gullen Mall, as the visual amenities offered by this old residential home are shrouded by the adjacent seven-story Science Library Building on its south.

An example of a poor visual connection to the surroundings as a result of poor color coordination is evident by WDET offices. Its mauve color does not lend itself well to the dark brown theme conveyed by neighboring structures on Merrick Avenue.

Environmental Security Analysis

A distinct yet contributing factor to environmental quality of a campus is security. The real or perceived presence of crime on a campus can actually diminish the usability of open spaces, plazas, malls, and buildings. Those who must conduct business or traverse such areas often alter their behavior accordingly. Parking lots which remain only partially filled or pedestrianways that are avoided at times of peak demand are examples of behavior modification which may occur, often as a result more of perceived than real presence of crime. The extent of defensible space present on a campus can ultimately reveal itself in the quality and condition of the physical and social environment of that campus.

The analysis of environmental security on the Main Campus area was based on available statistical material, interviews with the Wayne State University Department of Public Safety, selected other interviews with the teaching staff of both the Main Campus and the satellite campuses and a field survey of the Main Campus.

Offenses data reviewed consisted of two types: Part I offenses and Part II offenses. Part I offenses in-

clude crime against persons, such as homicide, rape, robbery, larceny, including breaking and entering, and auto theft, among others. Part II offenses are generally minor offenses, including fraud, embezzlement, drunk and disorderly, loitering and sex violations.

A study of the Uniform Crime Reports,[14] issued annually by the F.B.I., reveals that the crime rate of inner city institutions usually reflects the crime rate of the surrounding community. Yet, the Wayne State University Main Campus crime rate of offenses against persons is relatively low, when compared with the City of Detroit's crime rate against persons.

Most of the reported Main Campus offenses are Part I violations, with the majority being larceny offenses and breaking and enterings, particularly from buildings, parking structures and parking lots. Actually, the crime rate against persons on the Main Campus has been steadily declining since 1975. In 1979, Wayne State University reported only 19 offenses against persons. This represented a crime rate of 0.48 per 1,000 persons on the Main Campus. It compares most favorably with the City of Detroit's crime rate of offenses against persons of nearly 10.0 per 1,000 persons. It also compares very favorably with suburban communities in Michigan of comparable population size, as shown in Table 7.

In attempting to isolate the factors which are known to most affect the crime rate, it has been found by crime studies and police statistics that physical design of buildings and the areas around them

TABLE 7
CRIMES AGAINST PERSONS
WAYNE STATE UNIVERSITY MAIN CAMPUS AREA
AND EQUIVALENT COMMUNITIES, 1979*

University or Community	Base Population[a]	Total Crime Against Persons	Crime Rate
City of East Lansing[b]	48,178	74	1.58
City of Bay City	41,621	363	8.64
City of Lincoln Park	45,087	242	5.37
City of Muskegon	40,518	195	4.81
Wayne State University Main Campus Area	40,732	19	0.48

*Parkins, Rogers & Associates, Inc. based on data from Uniform Crime Report Unit Michigan State Police, 1979 Michigan Uniform Crime Report and Wayne State University Department of Public Safety.

[a]U.S. Department of Commerce. U.S. Bureau of the Census, 1980 Census of Population and Housing, Preliminary Population and Housing Unit Counts, Michigan, February, 1981.

[b]Population and crime data include Michigan State University data.

plays a major role in crime and vandalism. There are many buildings and grounds on the Main Campus that are devoid of defensible space qualities.

There are no specific buildings or areas on the Main Campus that are entirely immune to offenses. Some buildings or activity areas attract more crime incidences than others. For example, most of the University's smaller buildings, containing fewer floors, entrances, corridors and small common areas have been found to have appreciably lower crime rates than larger,

[14]See also The President's Commission on Law and Administration of Justice, The Challenge of Crime in a Free Society, New York: E.P. Dutton, 1968.

high-rise buildings. Large, multi-storied buildings containing numerous entrances and large public spaces, and visually deprived interiors, such as lobbies, halls (particularly those with sharp turns and blunt corners), elevators and fire stairs, provide many more opportunities for potential offenses than smaller classrooms and academic buildings.

It is interesting to note that the field survey revealed some of the University larger buildings with higher crime incidences have a general disregard on the part of the students for the maintenance and cleanliness of corridors and other public places and for furnishings provided in common places.

According to the University Department of Public Safety, some features in the physical design of University buildings reinforce the surveillance officers in their ability to control their environment, while other buildings on the Main Campus, because of their design, are difficult to control. These design features may include orientation, number of access points, placement of doors and windows, lobby interiors, illumination, signage, and others.[15] Several of these features are discussed below.

[15] See Parkins, Rogers & Associates, Inc., Security through Physical Environmental Redesign: Analysis, Findings and Concept; Housing Security, Vol. I - Comprehensive Security System and Pilot Test; Vol. II - Findings and Analysis, Detroit, Detroit Housing Commission and Department of Housing and Urban Development, 1973. See also Oscar Newman, Defensible Space, Crime Prevention Through Urban Design, New York, Collier Books, 1973, p. 49; Op. Cit., Design Guildelines for Creating Defensible Space, Inc., New York: Institute for Community, Design Analysis, December, 1975. Of course, it should be noted that the socio-economic climate also influences the overall crime rate, see Brill Associates, Inc., Assessing the Social Environment, Annapolis, Md., October, 1979.

There are buildings and areas with places of concealment where a person could hide while gaining unauthorized entry to a building or where a mugger could wait for a passing victim. The field survey identified such items of concealment as architectural concealment, outdoor storage, landscaping, parked automobiles, and signs, among others.

Another contributing factor to increased crime incidence is lack of building identification. The field survey noticed many buildings on the Main Campus on which the front or rear address number or name of building were missing. Many offenses can be halted through the quick response of the University Department of Public Safety Patrol Section or passersby. However, such response can be impeded by a missing address number of the location or building.

Poor illumination, especially on the side and in the rear of buildings, is another concentrated problem, providing additional opportunities for criminal violence without observation. It has been well documented that buildings either lacking lighting or having inadequate lighting are subject to considerably greater numbers of burglaries than adequately lighted buildings. This environmental deficiency is found at Merrick Avenue, Putnam Mall, and on lands neighboring the Justice Building, University Development, and the commercial stores located on Cass Avenue near Palmer Avenue.

Wayne State University has a well organized and efficient Department of Public Safety whose primary mission is the prevention of crime and disorder and the provision and maintenance of safety and security on the Main Campus. It has introduced professional and progressive law enforcement programs and many innovative crime prevention measures, including the University building alarm system and the

emergency Blue Light Phone System.[16] Statistically, this department has been able to reduce the overall crime rate, particularly of offenses against persons, but it has not fully solved the building security problem. In addition, the existing negative perception of environmental security on the Main Campus is still persisting and needs to be changed.

To improve the overall environmental security and change the image of the Main Campus would require a more detailed analysis than was possible here of physical environmental features and building spaces and facilities that are vulnerable and contributable to criminal activity.[17]

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[16] The Emergency Blue Light Phone System includes 135 phone instruments, 81 telephone lines, 72 taxi boxes and 100 Blue Lights which cover the Main Campus and the Medical Research Area.

[17] See Parkins, Rogers & Associates, Inc., Security through Physical Environmental Redesign, op. cit.

Chapter 4
CIRCULATION

Introduction

In evaluating circulation and transportation on Wayne State University Main Campus one must begin with an examination of the overall transportation and circulation system of the City of Detroit and the region and an understanding of the relationship between the University and the City and surrounding community. Also, an analysis of the relationship of transportation to total Main Campus development, particularly to land uses, is needed for planning an effective circulation system. In order to develop a meaningful campus circulation planning process, the interaction among all elements of the University must be identified: administrative, academic, housing, recreation, service and transportation.

This chapter inventories and examines the existing major elements of movement of persons and goods, access and egress, external and internal service routes, public transportation, and pedestrianways. Parking, often treated in conjunction with circulation, is discussed in a separate chapter, Chapter 5, Parking. This chapter also analyzes the Main Campus transportation problems in terms of the system's function and capacity to serve University needs. The deficiencies in the circulation system will also be determined on the basis of assumed use standards and user requirements. The results of this analysis will aid in the development of the Circulation Plan for the Main Campus in Phase II.

Motorized Circulation

From a vehicular accessibility standpoint, the Main Campus of Wayne State University has an excellent location in the heart of the City of Detroit, at the junction of Southeastern Michigan's north-south and east-west transportation axis. The Edsel Ford Freeway approximates the University's northern boundary and is the major east-west arterial in the region. The John C. Lodge Freeway roughly defines the University's academic western boundary. The Chrysler Freeway, the main north-south regional route in Southeast Michigan, is approximately three-quarters of a mile east of the Main Campus. The Jefferies Freeway (I-96) located approximately two miles west of the Main Campus, also provides access to the University via interconnection with the Edsel Ford Freeway. In addition, several of the City of Detroit's major thoroughfares, including Woodward and Warren Avenues, Anthony Wayne Drive and Second Avenue,extend through or adjoin the Main Campus area. While the function of most of these routes is to carry traffic outside and through the Main Campus, many also serve as University access and egress channels. This dichotomy of function of the trafficway system (serving both Campus and off-Campus through traffic) illustrates the unique interrelationship of Main Campus circulation to the surrounding transportation system. Therefore, as a result of this interfacing, an analysis of the external vehicular routes and public transportation network, in addition to the Main Campus internal service roads, is necessary.

External Routes

Universities generate large amounts of traffic. A recent study on trip generation rates for universities sponsored by the Institute of Transportation Engineers lends evidence to this statement (see Appendix C). Table 8 reveals the average weekday trip ends per student as 2.41. Trip ends are the total of all trips entering plus all trips leaving a designated land use or building type over a given period of time. Applied to the Main Campus' current head count enrollment of 31,682 students, would result in a total weekday generation of 76,354 trip ends. Thus, thoroughfares traversing the Main Campus area undoubtedly receive much of their traffic volume from Campus generated traffic.

Trafficway Assignment

To adequately accommodate the influx and discharge of vehicles into the Wayne State University Main Campus requires a circulation network of divergent arterials sufficient to serve this population. Map 5 illustrates the location and classification of the trafficways serving the Main Campus area of Wayne State University as identified by the City of Detroit's 1976 Existing Land Use Map. Included are regional arterial major thoroughfares, secondary thoroughfares and local access roads.

The Main Campus of Wayne State University is well served by regional arterials.[1] The John C. Lodge and Edsel Ford Freeways traverse the Main Campus' western and northern perimeter respectively. In addition, the Chrysler Freeway is only three-quarters of a mile east of its eastern boundary.

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[1] Regional arterials are limited access highways designed to carry traffic through or between urban centers with a minimum of conflict with local traffic at maximum speeds. They are multilaned and do not provide access to abutting properties. The few intersections that are provided are generally grade separations that allow traffic to flow without interruptions from other control systems. Traffic volumes are usually in excess of 100,000 vehicles per 24-hour period.

TABLE 8

TRIP GENERATION RATES PER UNIVERSITY STUDENT, 1979*

	Average Trip Rate[b]	Maximum Rate	Minimum Rate	Average Size of Independent Variable/Study
Average Weekday Vehicle Trip Ends[a]	2.41	3.89	1.40	9,875

*Institute of Transportation Engineers, Trip Generation, 1979.

[a]Trip ends are the total of all trips entering plus all trips leaving a designated land use or building type over a given period of time.

[b]Average trip rate is a weighted average of the number of trips or trip ends per unit of related independent variable (i.e., trip end per student). The average rate was calculated by summing all trips or trip ends and all independent variables where paired data were available and then dividing the trip sum by the sum of the independent variable to obtain a weighted average.

Data Limitations: Sufficient data were not available to allow the development of a satisfactory explainer equation. Average weekday vehicle trip end rates varied from a low of 1.40 per student for an institution of very modest size (1,176 students) to a high of 3.89. The largest institution (student population: 23,157) had a trip rate of 2.36. Considerably more sample data should be obtained.

Two major east-west thoroughfares[2] are designated on Map 5; they are Forest Avenue and Warren Avenue. Four north-south routes are similarly described. They are John R Street, Woodward Avenue, Second Avenue, Anthony Wayne Drive and Trumbull Avenue. Each major thoroughfare if multilaned. John R Street, Forest Avenue and segments of Second Avenue and Anthony Wayne Drive are uni-directional.

Cass Avenue is identified on Map 5 as a secondary thoroughfare.[3] This avenue travels in a north-south direction and borders the eastern portion of the Main Campus for its entire length.

[2]A major thoroughfare is often multi-laned, to provide for large volumes of traffic. Its main function is to carry traffic between major land uses within the same urban center, such as between residential sectors and employment areas. It also provides access to the freeways and often augment the freeway when traffic volumes become excessive. Route continuity is an important feature of major thoroughfares. Traffic volumes of 25,000 vehicles per 24-hour period are typical.

[3]Secondary thoroughfares move traffic on an intercity basis and act as principal feeder routes to the major thoroughfares. Their main function is to carry large volumes of traffic and, as a secondary function, to provide access to abutting properties. Traffic volumes on urban secondary roads usually approximate 10,000 - 20,000 vehicles per 24-hour period.

The remaining streets within the Main Campus area are classified as local access streets.[4]

Campus Access and Egress

One of the general problems relating to Main Campus transportation network is that of access and egress. This includes not only vehicular movement into and out of the Main Campus Area, but also traffic routes which must presently traverse the area. Major freeway access points to the Main Campus Area occur at four locations: (1) the John C. Lodge Freeway at Forest Avenue; (2) the Edsel Ford Freeway at Trumbull Avenue; (3) the Edsel Ford Freeway at John R Street; and (4) the Chrysler Freeway at Warren Avenue. As will be discussed with greater detail in Chapter 5, Parking, Wayne State University is a "commuter institution" of which over 90 percent of its enrollment comes from the greater Detroit Metropolitan Area (Wayne, Oakland and Macomb Counties). The aforementioned freeways provide an excellent means whereby these students may gain easy access to the Main Campus. Correspondingly, inasmuch as these access points are the nearest freeway interchanges to the Main Campus proper, they are the most heavily utilized.

Main Campus entry points are more diverse. While access and egress centers are interchanges which serve as regional approach routes to the University community, entry points are characterized by arterials which actually permit not only entry and exit points of vehicles to and from the University, but also provide routes for the movement of traffic that traverse the Main Campus.

Main Campus north-south entry points include Woodward Avenue, Cass Avenue, Second Avenue, and Anthony Wayne Drive. Existing major east-west entry points include Forest Avenue, Hancock Avenue and Warren, Kirby and Palmer Avenues.

Volume Data

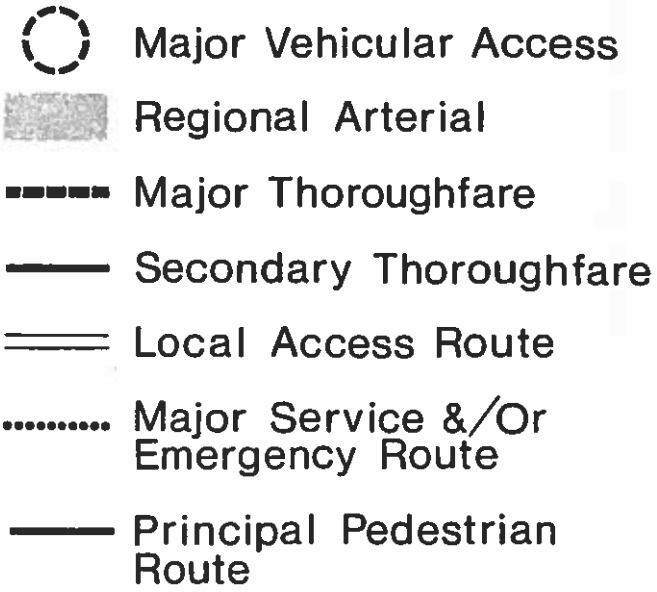
Traffic volume is defined as the volume of traffic to travel over a given point during a given time period. Generally, traffic volumes are expressed in terms of Average Daily Traffic (ADT) or the amount of traffic to pass a given point during a 24-hour period. Counts may be for only one direction of traffic movement or bi-directional (both directions).

Analysis of the traffic volumes can not only reveal which roads are the more heavily travelled, but can, when compared with appropriate traffic capacity standards, aid in the determination of whether any major increases in street capacity are required.

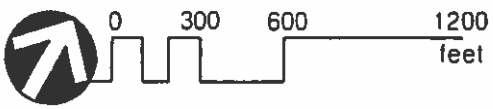
According to Detroit Department of Streets and Traffic most recent statistics, traffic volume generally does not correspond with the thoroughfares assignment classification outlined earlier. The John C. Lodge and Edsel Ford Freeways and regional arterials are by far the more heavily travelled. Traffic volumes representative of their classification between 70,000 - 120,000 vehicles per 24-hour period were recorded. Only two of the major thoroughfare (Warren and Woodward Avenues) show bi-direction

[4] These roads are generally short in length and collect traffic generated by contiguous land development and channel it to the secondary and major thoroughfares. The movement of traffic is secondary and through traffic should be discouraged from using these streets. Local access streets generally carry traffic volumes near 5,000 vehicles per 24-hour period.

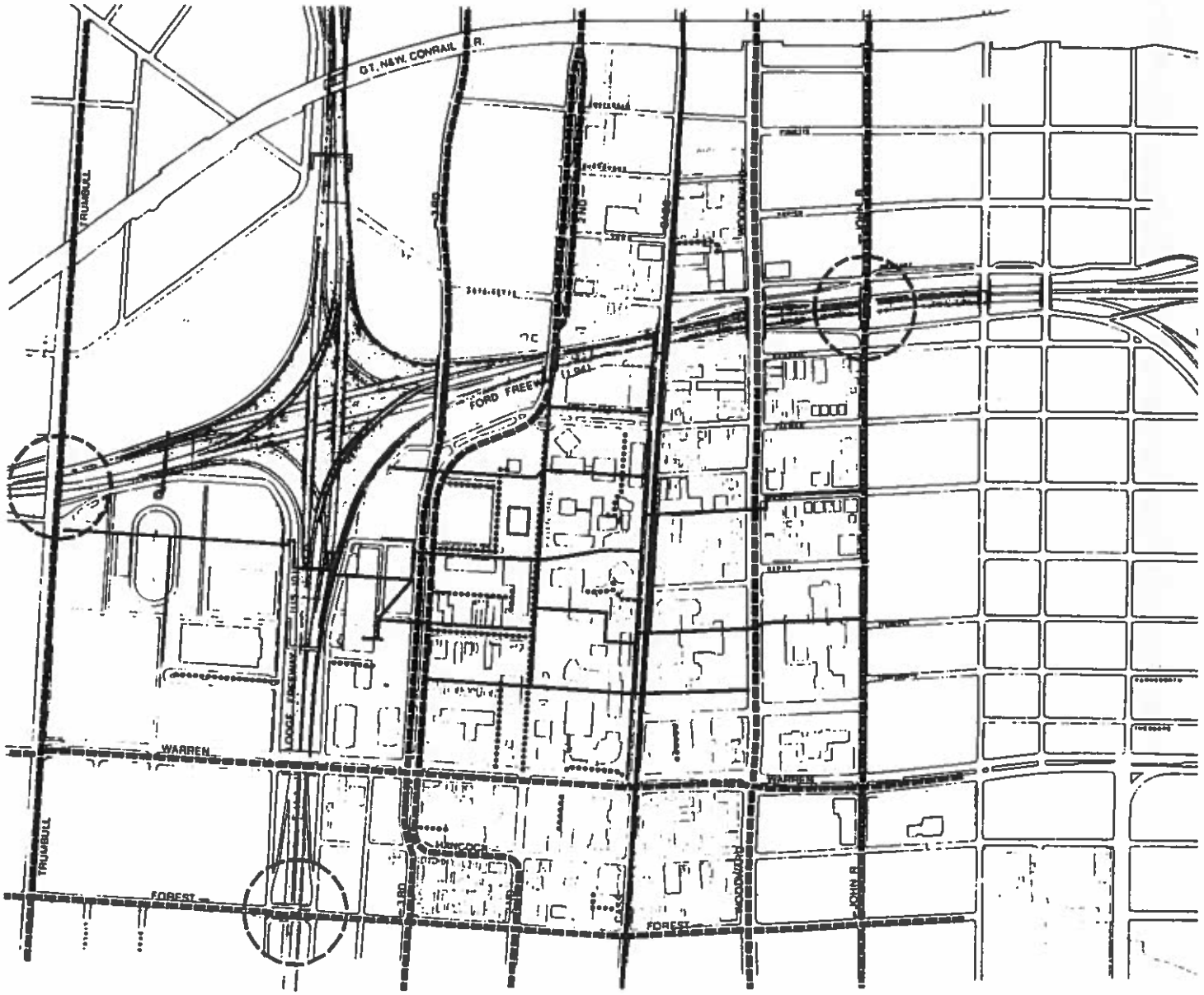
Map 5
CIRCULATION



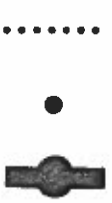
COMPREHENSIVE DEVELOPMENT PLAN / PHASE I
Wayne State University / Main Campus
July 1981



Parkins / Rogers & Associates / Inc


G.T. NEW CONRAIL R.R.
TRUMBULL
FORD FREEWAY
WARREN
FOREST
LINWOOD
WOODWARD
JOHN R

Map 6
PUBLIC TRANSPORTATION



Bus Route

Bus Stop

Proposed Fixed Light Rail Transportation Line

COMPREHENSIVE DEVELOPMENT PLAN / PHASE I
Wayne State University / Main Campus
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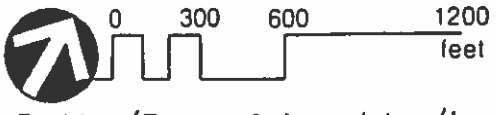
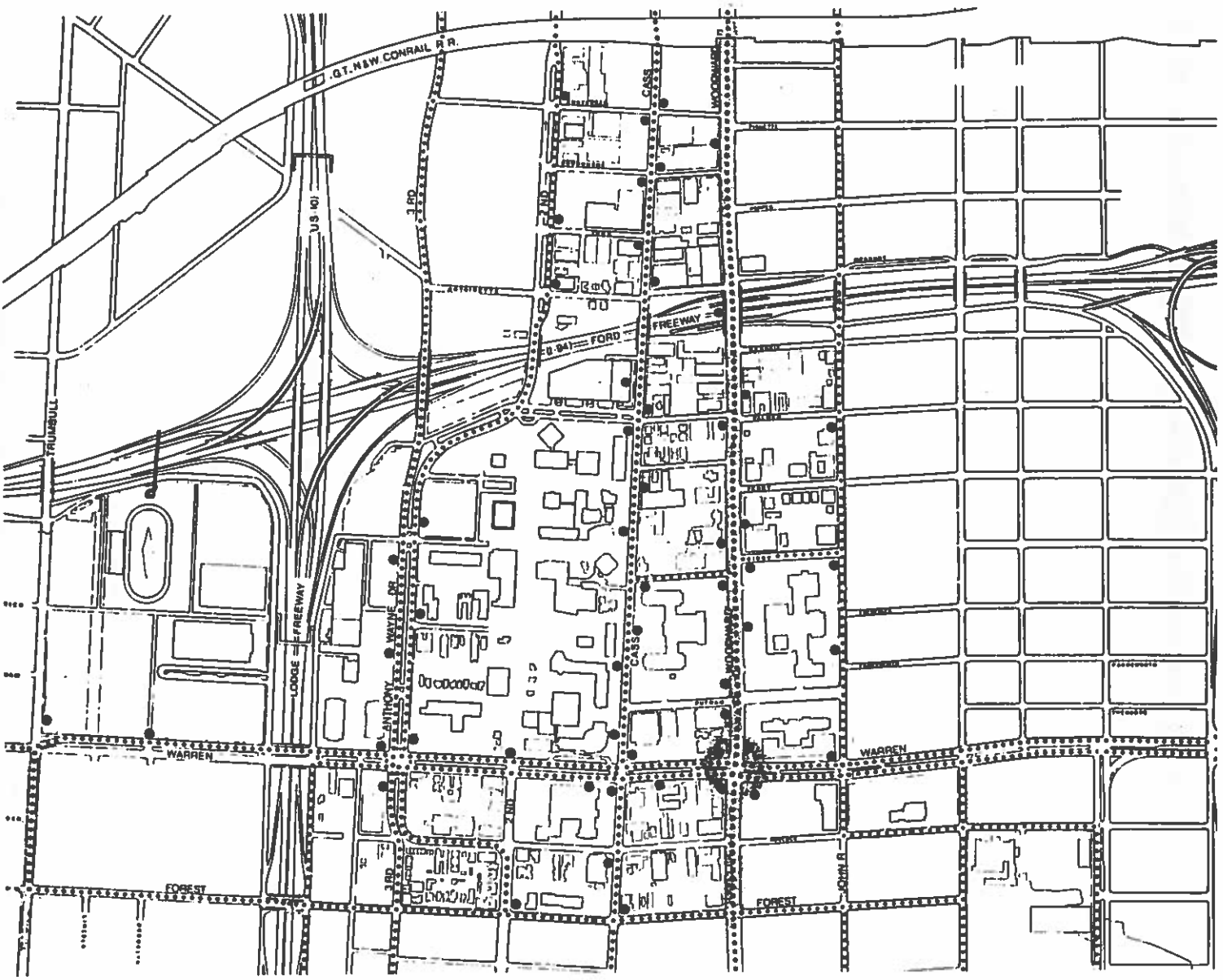


Parkins/Rogers & Associates/Inc


G.T.N&W CONRAIL R.R.
U.S. 101
3RD
2ND
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FREEWAY
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ANTHONY
WARREN
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JOHN R

traffic volumes of approximately 20,000 - 25,000 vehicles per day. John R Street, Second Avenue, Anthony Wayne Drive and Forest Avenue exhibit daily traffic volumes well below the classification standard of a major thoroughfare. These routes revealed traffic volumes ranging between 10,000 - 20,000 vehicles per 24-hour period. Cass Avenue, a secondary thoroughfare, registered a traffic volume of roughly 10,000 vehicles per 24-hour period. Local roads generally have an average daily traffic count under 5,000 vehicles. (For average daily vehicular traffic volumes within the Main Campus area, see Appendix C.)

Problem Assessment

The road system within the Main Campus area is basically rectilinear in design. Little variation in road gradient is evident. Site distances at intersections are generally within the use standards recommended by the American Association of State Highway and Transportation Officials.[5] In instances where they are below the 75 foot standard for distance from the intersection of the street centerline, would be a traffic controlling device (i.e., traffic signal or stop sign) which would regulate vehicular movement at the junction, thus compensating for the sight distance deficiency.

Street off-sets ("jogs" in streets), however, pose problems within the Main Campus area. Off-sets below the minimum standard of 125 feet are evident along Woodward and Cass Avenues. Burroughs Avenue jogs slightly southward as one travels east across Cass Avenue. Antoinette Avenue jogs northward across Cass Avenue for eastbound traffic. In similar fashion, Palmer Avenue jogs slightly southward at Cass Avenue and contains a deficient off-set at Woodward, as does Kirby Avenue. Areas of inadequate off-sets are potential accident zones and reduce traffic continuity. Most of the thoroughfares identified on Map 5 have a present capacity below the standard service volumes. In other terms, the streets are "over classified".

A prime example of this finding is Cass Avenue. Bi-directional traffic volume on this thoroughfare approximates 10,000 vehicles per day, less than one-half the volume associated with secondary thoroughfares. However, it should also be recognized that the majority of the roads within the Main Campus area are not presently operating within the assumed level of service volume and thus, not functioning at their greatest efficiency.

There is a significant amount of on-street parking of varying tenure within the Main Campus area of Wayne State University. This parking pattern adversely impacts the efficiency of the circulation system of the community surrounding the Main Campus. Since the University is a large traffic generator, the overflowing of University-oriented vehicles parking on outlying streets may often be a source of conflict in University-community relations. Reduction of these spaces in full or part, would undoubtedly reduce this source of tension and improve the circulation network and service volume level within the Main Campus area congruous with their trafficway classification. Its application should be explained in Phase II of this planning program.

An additional remedial effort which should also be considered in Phase II would be the closing of selected streets and redistributing traffic flow onto under-capacity routes. This technique may prove the most desirable in the Main Campus area. As a plan-

5 For trafficways design standards, see American Association of State Highway and Transportation Officials, A Policy on Design of Urban Highways and Arterial Streets, Washington, D.C., 1974.

ning principle, it is desirable whenever possible to separate community traffic from campus traffic for the mutual benefit of both in order to increase both capacity and rate of flow in each. This may be accomplished by eliminating direct routes through the Main Campus and by improving the street system on the periphery of the Main Campus.

As noted earlier, there are major vehicular access points to the Main Campus from nearby freeways. These are located at Forest Avenue and the John C. Lodge Freeway, Trumbull Avenue at the Edsel Ford Freeway, John R Street at the Edsel Ford Freeway and Warren Avenue at Chrysler Freeway. Eastbound access onto the Edsel Ford Freeway from Trumbull Avenue and westbound exit from the Edsel Ford Freeway to Trumbull Avenue are not available. The same situation exists at the John R Street at Edsel Ford Freeway junction (although eastbound departure onto the Edsel Ford Freeway is offered three blocks further east from the service drive of the Edsel Ford Freeway near Beaubien Avenue). The Warren Avenue at Chrysler Freeway interchange poses no entrance or departure problems.

Departure at the Forest Avenue interchange poses a problem for vehicles desiring to travel northbound on the John C. Lodge Freeway. The exit ramp for northbound John C. Lodge Freeway traffic lies immediately north of Forest Avenue. However, at present, Forest Avenue is a one-way eastbound trafficway. Vehicles (emanating from south of Warren Avenue) desiring to reach the northbound exit from Cass, Second and Anthony Wayne Drive via Forest Avenue cannot do so. Those desiring to use the northbound exit must travel west on Warren Avenue, go over the John C. Lodge Freeway, travel south on the southbound Freeway service drive, head eastbound on the Forest Avenue-John C. Lodge Freeway overpass and then head north to the exit ramp. This problem, however, will soon be corrected when Forest Avenue is made into a two-way street between John C. Lodge and Anthony Wayne Drive (Third Avenue).

Internal Service Routes

Vehicular traffic is not only concerned solely with access provided by external thoroughfare routes. There is another kind of vehicular access that must be provided, and this concerns routes for emergency vehicles and deliveries. While most service vehicles can utilize the system of external routes, the location of Main Campus structures requires the use of internal service routes. An inventory of these service routes is presented below.

Existing Conditions. -- Map 5 illustrates the location of the principal service drives which presently serve the Main Campus. They can be summarized as follows:

1. Gullen Mall (vacated Second Avenue)

The former Second Avenue right-of-way betwe Warren Avenue on the south and Palmer Avenue on the north, has been closed to vehicular through traffi and now serves as the main north-south pedestrian mc on the Main Campus. This pedestrianway has a dual function, since it also acts as the main emergency ac cess route through the center of the Campus.

In case of a crisis, emergency vehicles can enter the Gullen Mall from Palmer Avenue and Warren Avenue as well as Merrick Avenue. The Gullen Mal has been constructed to accommodate a weight of 40,000 pounds, the weight of the heaviest Detroit Fire Department pumper truck.

2. Anthony Wayne Drive (Third Avenue)

Three internal service routes provide access from Anthony Wayne Drive. The Kirby-Ferry access loop serves as a feeder street to the parking area it surrounds, and as the access routes to the Helen Newberry Joy Residence, the College of Education Building and Shapero Hall. South of this loop is the service drive to the Student Center Building which also services the Chatsworth Tower and Chatsworth Annex Apartments and Helen DeRoy Apartments. South of this service drive is old Merrick Avenue (now G. Mennen Williams Mall) which serves residential units on both sides of the street.

3. Community Arts Service Access

A north-south service route, originating from Palmer Avenue, serves the Community Arts Complex. This route uses an approach which lies between the Law Library and Cohn Building before ultimately reaching the Community Arts Complex. It is approximately 500 feet in length.

4. Cass Avenue Service Access

Three principal service routes have as their point of origin Cass Avenue. The northern most route is at Cass Avenue, opposite York Avenue, and serves the Administrative Services Buildings 1, 2 and 3. The other service route emanating from Cass Avenue, immediately south of W. Kirby Avenue, provides access to the Purdy Library, Kresge Library, Reuther Library of Labor and Urban Affairs and the Center for Urban Studies. A third service access route off Cass Avenue is located north of Forest Avenue and serves the Forest Apartment Building and the Hilberry Theater.

5. Warren Avenue Service Access

Three service routes emanate from Warren Avenue. The first is located west of the Gullen Mall, east of the Engineering Building. It extends northward and terminates at the rear of the University Book Store. The second service drive, located west of Cass Avenue, provides access from Warren Avenue and serves Science Hall, Life Science and the Chemistry Building. A third service route off Warren Avenue and located east of Second Avenue, serves Old Main.

6. Other Service Routes

Other significant service routes can be found on Hancock Avenue near Anthony Wayne Drive which serves the Physics Building and off the Lodge Freeway west service drive and services the Matthaei Physical Education Center.

Problem Assessment. -- Foremost among the problems uncovered was a lack of adequate fire access to the north side of the Engineering Building. This structure, sited on the corner of Anthony Wayne Drive and Warren Avenue is a multi-storied building bordered by surface parking on its south and east, Anthony Wayne Drive on its west and a pedestrian walkway flanked by academic support facilities to its north. In the event of a major fire, gaining access to the Engineering Building's north side would be impaired. A service roadway of adequate construction and dimension is not available. Space between this building and structures to its north is limited. Thus, maneuverability of large fire trucks would be severely prohibited.

A fire accessibility problem also exists along the Chemistry Building's eastern edge, immediately north of the Science Hall and south of State Hall. There is no direct means of access to this pedestrian

area which can be used by emergency vehicles. Service vehicles must either enter from Cass Avenue and traverse into this zone or enter via Warren Avenue/Gullen Mall and negotiate their movement around the Biology Auxiliary Offices and northern side of the Chemistry Building to reach this area.

A third problem is created by the location of the service route serving the Community Arts Complex. This route crosses a pedestrian mall area which separates the Law School from the McGregor Conference Center. Further, the arterial loading/unloading area is limited inasmuch as it is set below grade amid several of the buildings which form the Community Arts Complex.

A more serious problem is evident near State Hall. At present, it is intended that service access to State Hall be provided via the front door (Cass Avenue side). However, due to the shape and scale of this facility, service vehicles often seek to park closer to their destination. Two common areas where unassigned parking of service vehicles occurs is north of the Chemistry Building towards the western end of State Hall and near the southwestern corner of the Prentis Building. This poses two problems. First, continued use of service vehicles other than for emergency use at the west end of State Hall may ultimately interfere with emergency vehicles in time of crisis. Second, approximately one-third of the usable floor area provided by the Prentis Building remains underground and extends beyond the surface limits of the structure. Service vehicles parking in this sector could actually foster structural damage to facilities located beneath the surface. An additional concern regarding service routes is whether the service or delivery routes are segregated from pedestrian activity and other vehicle flow. The Community Arts service access crosses Ferry Mall, a major pedestrian pathway. Service trucks must also compete with pedestrians near State Hall, as deliveries are intended to be provided via the Cass Avenue entrance. Wherever possible, access drives should be planned to avoid contact with pedestrianways. They should also not be used for normal vehicular traffic flow. Thus, the deficiencies cited above should be corrected, if possible.

Public Transportation

The Main Campus area is presently well served by a vast network of public transportation in the form of buses. Currently, the Detroit Department of Transportation and the Southeastern Michigan Transportation Authority (SEMTA) operate buses which either utilize thoroughfares within the Main Campus area as part of through trips to other destinations or which actually provide service to the Main Campus area. In addition, a light rail rapid transit system is proposed to run underneath Woodward Avenue. Map 6 shows which thoroughfares within the Main Campus area are used by these bus routes and also the location of all coach stops. There are 20 bus routes which traverse through the Main Campus area, of which 12 actually have stops within this area. In addition, there are 48 coach stops within this same study zone. Many of these are sheltered in modern canopies for weather protection.

In addition, the Southeastern Michigan Transportation Authority (SEMTA) offers a program whereby anyone can transfer from any SEMTA bus which comes into Downtown Detroit to a SEMTA Woodward bus for travel directly to the Main Campus. SEMTA also operates a Commuter Rail Service on the Grand Trunk Railroad from the City of Pontiac to Detroit with a stop at Milwaukee Junction serving the Main Campus and the Cultural Center.

A main terminal point of the proposed subway system is suggested to be sited at the junction of Warren Avenue and Woodward Avenue. At present, preliminary engineering studies have been completed

for this system which is intended to follow Woodward Avenue from the City of Detroit's Central Business District past the Main Campus to the New Center Area.[6] The construction phase of this undertaking is currently awaiting a Federal funding commitment.

In sum, it can be concluded that public transportation as it exists, and as projected, is a major circulation consideration within the Main Campus area of Wayne State University. Future planning recommendations must continue to recognize its importance when devising future planning strategies.

Pedestrian Circulation

Fundamental to the analysis of a circulation network within a university setting is a need to examine the pedestrian transportation system. The ease at which students may walk between classes, the availability of defined pedestrianways among university facilities and proper application of design standards in walkway construction all influence the utility of a campus environment. Without an adequate network of pedestrian routes, human locomotion on campus will not only greatly impede the interchange of pedestrian access but may heighten the propensity of vehicle-pedestrian conflicts.

Existing Conditions

Route Location. -- The Wayne State University Main Campus pedestrian circulation system consists of a network of major pathways (connecting pedestrianways between major quadrants of the University), minor walkways (which connect building to building, or feed from buildings to major paths) and congregation areas (courtyards, plazas, etc.). The major pedestrian routes (those where the greatest concentrations of pedestrian movement occurs) within the Main Campus area are illustrated on Map 5. The emphasis is on north-south rather than east-west routes. This is due to the fact that the Main Campus itself has been developed in such a fashion. The east-west pedestrian traffic is primarily used for pedestrian movement from the academic zone of the Main Campus to the physical education and recreation area located on the west side of the John C. Lodge Freeway and to reach the institutions of the Cultural Center located east of Woodward Avenue.

North-south access occurs along several "spines" of the Main Campus. These include Cass Avenue, Gullen Mall and Anthony Wayne Drive. East-west access is primarily along Merrick Avenue, Palmer, Putnam, Warren, Kirby and Hancock Avenues.

Only one pedestrian-only overpass is found within the Main Campus area. It is located over the John C. Lodge Freeway and connects the physical education/recreation complex with the academic zone of the Main Campus and serves as the most prominent east-west pedestrianway connecting these two areas.

Time-distance relationships are adequate for major portions of pedestrian trips on the Main Campus as most of the interchange which occurs is confined to that area bound by Warren Avenue, Palmer Avenue, the John C. Lodge Freeway and Cass Avenue. Problems are evident when pedestrian movement exceeds this district.

Past pedestrian circulation planning efforts of the Main Campus have focused on the separation of vehicular and pedestrian movements. It has been designed to create vehicular free academic zones with vehicular traffic restricted to certain specified drives and City streets. All major pedestrian walkways and malls have and are being constructed to

[6] Southeastern Michigan Transportation Authority, May, 1981.

accommodate emergency vehicle traffic and an improved visual quality. As one travels the pedestrian circulation system on the Main Campus, an appreciation for the attention to design of some amenities is acquired. Walkways as a whole are generally well maintained. Different surface materials are deployed. Walkways are suitably lighted and contain numerous congregation points (i.e., courtyards) where benches and bulletin board standards avail themselves. Pedestrianways are also bordered by a well landscaped variety of plant materials. In short, the pedestrian circulation system on the Main Campus conveys an image conducive to human movement.

It should be noted, however, that not all University property within the Main Campus area is provided with a well designed and equipped pedestrian walkway system. This is generally true only for that portion of the Main Campus bound by Cass Avenue, Warren Avenue, the John C. Lodge Freeway and Palmer Street. Once outside this area, the pedestrian confronts sidewalks virtually void of urban amenities and adequate construction. These problems are discussed in greater detail under Problem Assessment.

Pedestrian Traffic Volumes. -- The Warren Avenue/Woodward Avenue intersection and Cass Avenue/Warren Avenue junction represent the most active pedestrian location sites for which most recent data are available. Pedestrian volumes averaged between 100 to 200 pedestrian movements per hour of record. (For 12-hour pedestrian volume counts for selected locations within the Main Campus area, 1977-1980, see Appendix D.)

Problem Assessment

An assessment of deficiencies within the pedestrian circulation system, based on the field survey conducted by the Planning Consultant, interviews with University officials and appropriate planning and design standards,[7] is presented below.

The most common pedestrian system deficiency is that of conflict with vehicular traffic, principally caused in most part by jay-walking. There are two major areas where vehicles and pedestrians converge across Warren Avenue between Cass and Anthony Wayne Drive and across Anthony Wayne Drive between Warren Avenue and Palmer Avenue. At the present time, there is a signaled crosswalk on Anthony Wayne Drive at Merrick Avenue. Unfortunately it is a flashing signal only. Vehicular traffic does not have to stop for pedestrians. Inasmuch as this is a heavily travelled pedestrian area (owing to a great extent by the availability of Parking Structure Number 2 being sited immediately east of this crosswalk) this is inappropriate. The City of Detroit should install a vehicular traffic yielding signal at this location.[8]

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[7] John J. Fruin, PhD., Pedestrian Planning and Design, New York: Metropolitan Association of Urbar Designers and Environmental Planners, Inc., 1971; Federal Highway Administration, A Pedestrian Planning Procedures Manual, Report No. FHWA-RD-79-46, Vol. II, November, 1978, p. 71; U.S. Department of Housing and Urban Development, Office of Parking Development Research, Barrier Free Site Design, HUD-PDR-84., Washington, D.C., April, 19

[8] The University has petitioned for this traffic signal several times, but the City of Detroit has always deemed it unwarranted.

Jay-walking across Warren Avenue between Cass Avenue and Anthony Wayne Drive poses an even greater hazard. Motorized vehicular traffic on Warren Avenue far surpasses that experienced on Anthony Wayne Drive. In addition, there is no one single pedestrian traffic generator along this route. There are three large academic facilities (Old Main, Science Hall and the Engineering Building) which among them interchange large numbers of students. Further, Gullen Mall, the primary pedestrian thoroughfare on the Main Campus, terminates at Warren Avenue. Pedestrians exiting south of this point desiring to cross Warren Avenue must walk one block east or west before reaching the nearest signalized intersection. These traffic signals and crosswalks are found at the junctions of Warren Avenue and Cass Avenue, Anthony Wayne Drive and Warren Avenue. However, most pedestrians ignore this alternative and continue to travel directly south from Gullen Mall to Second Avenue. The City of Detroit is currently planning to install a traffic signal at the intersection of Warren and Second Avenues. This would greatly reduce the incidence of jay-walking hazard in this area.

Pedestrian travel is also difficult between the Main Campus and the Cultural Center area. The interchange of pedestrians between these two areas located across the 120-foot right-of-way of Woodward Avenue will increase in importance inasmuch as the University anticipates acquiring the facilities of the Merrill-Palmer Institute (fronting Ferry Avenue) during the ensuing year. At the present time, due to the traffic signalization timing sequence along Woodward Avenue and the width of Woodward Avenue, little time is available for pedestrians to completely cross this thoroughfare "between lights". A possible solution to this problem is the creation of a boulevard median on Woodward Avenue. This island would afford pedestrians a chance to safely complete their movement across Woodward Avenue in two steps. Possible sites for such an island could include near Kirby, Palmer, or Ferry Avenues.

A pedestrian route deficiency is also evident immediately south of the Law School and north of the Community Arts Center. Between these structures is Ferry Mall, an active pedestrian thoroughfare providing access from Cass Avenue to the heart of the Main Campus. Traversing this pedestrian route is a service route which provides right-of-way for delivery vehicles to the Community Arts Center, the Law School and the Cohn Building. While conflicts between vehicles and pedestrians are infrequent, this competition represents an example of inadequate vehicular-pedestrian separation.

An inventory of existing walkway widths on the Main Campus reveals most width dimensions of the original City-built walks being approximately five feet, which is inadequate for moderate two-way University population traffic. However, the newer pedestrianways, which have been built to accommodate emergency vehicles are in excess of 30 feet in width. In every instance, sidewalks on the Main Campus should be a minimum of 5'-6" (6'-0" preferred) in width for moderate two-way traffic. However, the actual dimensions of walkways must be based on a detailed analysis of pedestrian volume as applied to the applicable standards tempered by common-sense judge ment and adjusted for special circumstances.

Merrick Avenue is a dominant east-west pedes trian thoroughfare connecting Anthony Wayne Drive with Gullen Mall. At present, sidewalks of only five feet are available on either side of the route. They appear restricted for normal walking speeds due to difficulties in by-passing slower moving traffic and avoiding conflicts. Merrick Avenue itself is open for vehicular traffic inasmuch as vehicular access is needed to reach the underground parking garage of the Chatsworth Tower residence. On-street parking is also permitted along this arterial serving the remaining residential units on the Avenue. This route is subject to large surges of pedestrian movement and exposed to vehicular-pedestrian conflicts. It has recently been redesigned as G. Mennen William Mall

to provide for improved pedestrian movement. Plans have been prepared with implementation scheduled to occur in the near future. This project is expected to be completed by August, 1982.

The quality of surface material also impacts pedestrian flow characteristics. As previously identified in Chapter 3, under the Environmental Conditions Survey, instances of broken or inadequate sidewalks and curbs were evident on the surveyed properties. Walkways in disrepair are similarly found in other locations within the Main Campus area. Northeast of the Kresge Wing of the Purdy Library the concrete walkways are beginning to crumble. North of the Engineering Building, a closed asphalt surfaced street, now used as a pedestrianway, is in disrepair with major cracks producing an unlevel surface condition. Numerous other cracked or uneven surface conditions on walkways exist on the Main Campus. Every effort should be made to remedy this situation.

Chapter 5
PARKING

Introduction

Historically, the parking program at Wayne State University has involved little more than using existing thoroughfares for on-street parking and cleared land for surface parking lots before construction of a particular project was undertaken. As long as there was enough vacant land or spaces, there were few complaints from faculty or students.

As Wayne State University's enrollment expanded and use of cars increased, considerable pressure was being felt by the University concerning this critical need, since less land could be devoted to parking and few spaces remained available in the University's Main Campus area. In addition, the problem of balancing the supply of parking with existing and projected demands is becoming increasingly more difficult inasmuch as Wayne State University is predominantly a "commuter" institution. This commuter enrollment character is expected to definitely continue in the decade of the 1980's.

The demand for parking is especially sensitive to the University administrative decisions concerning location and amount of student housing, class scheduling and enrollment policies. By resolving these factors the University can effectively influence the future demand for parking facilities on the Main Campus and more effectively plan the location and distribution of future parking spaces. The existing proposed

mass transportation systems and general policies regarding use of vehicles on the Main Campus, including on-street parking in the immediate vicinity of the Main Campus, must also be evaluated.

In establishing a planning framework from which a determination of the suitability of Wayne State University's parking facilities can be based, five areas of investigation are presented: 1) parking standards to facilitate a determination of the adequacy of parking facilities to meet current and projected needs; 2) an inventory of existing indoor and outdoor parking facilities, either operated by the University or privately provided; 3) determination of adequacy of private and public parking within the Main Campus area, based upon the data revealed from items one and two; 4) identification of deficiencies and needs to improve accessibility and use of parking facilities; and 5) conflicts that may exist between parking and other Main Campus uses.

Parking Facilities

Parking Standards

Parking programs at other universities were investigated in an attempt to find a commonality of approach and standardization of methodology in the development of parking standards for university purposes. Many campus planning reports appear to apply a simple student-automobile ratio formula cautioned by the inclusion of stated assumptions.[1] Such a technique is in disregard of variations resulting in how vehicles are attracted to a campus by type of driver. It is important to distinguish between the various kinds of parking required. Three types of parking needs are generally considered germane to most campuses. These are for staff, commuter students and resident strudents, making up the university population. Parking requirements, particularly in terms of tenure, number of spaces and location can vary significantly between these groups. In planning for the most efficient use of the existing parking supply, these varying parking characteristics must be identified and the demand for each measured. Wayne State University has historically made such a distinction in the provision of its parking facilities in tandem with consideration of the "congestion level concept.

"Congestion Level" Concept. -- Wayne State University has employed the use of the "congestion level" concept in development of parking standards for its students and staff. In general terms, student and staff personnel accommodate themselves to whatever amount of parking is actually available. If larg amounts of parking are provided in terms of total cam pus population, more people tend to drive and a grea er number of cars need to be parked. Conversely, if fewer parking spaces are provided, more persons may return to other transportation modes. As a result, the congestion level of the parking lots returns to what drivers consider an acceptable level.

Awareness of this concept is important to the understanding of a parking facilities strategy for Wayne State University. Its significance has been established in the Long Range Master Development Program for Wayne State University, published in 1967:

> This concept of congestion level is important, for at Wayne, history has clearly shown that students and faculty become

[1] University of Minnesota Duluth Campus, Long Range Development Plan, December, 1978, p. 51.

> accustomed to any reasonable level of congestion so long as it is consistently maintained. From a personnel relations standpoint, therefore, it becomes imperative to maintain a consistent relationship between available parking spaces and the campus population. If such a ratio can be maintained, the program will be deemed successful.[2]

Parking Ratio. -- Wholesale use of the congestion concept must be moderated as it only works between specified limits. There must be a minimum number of parking spaces provided. Also, if too many spaces are provided, some would remain idle. Therefore, efforts to apply a consistent ratio relationship between parking spaces and campus population groups must strive to seek an acceptable median.

Wayne State University has previously proposed to provide one parking space for every five full time equivalent (FTE) students and one parking space for every two staff persons.[3] The student parking formula did not fully reflect the student parking needs. More recently, it has been recommended that a one-to-four ratio would more realistically meet the student parking requirements.[4] These standards will be reviewed in the preparation of the Parking Plan element during Phase II of the Comprehensive Development Plan for the Main Campus and may require adjustment due to anticipated changes in the student mix and lifestyles.

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[2]Wayne State University, Office of Capital Programs, The Long Range Master Development Program for Wayne State University, 1967, p. 90.

[3]Ibid., p. 91.

[4]Interviews with Wayne State University Department of Campus Planning and Parking Authority, July 5, 1981.

Current Parking Needs. -- Based on the above criterion and present levels of student enrollment and staff employment, it is possible to determine the required number of student and staff parking spaces.

As noted earlier, there were 20,683 FTE students enrolled at Wayne State University's Main Campus in 1980. Applying the parking ratio of one parking space for every four FTE students would result in a total of 5,171 student parking spaces required. In similar fashion, applying the accepted 1:2 parking ratio to the staff of 4,800 employed at the Main Campus in 1980, would result in a total of 2,400 staff parking spaces needed at the present time.

Parking Space Inventory

In February of 1981, a detailed inventory was conducted of all on-street and off-street parking spaces available to University students and staff within the Main Campus area. Private parking areas (those spaces restricted to parking for a particular user and not serving as a general parking area) while noted, were excluded from detailed analysis. In addition, parking spaces not officially designated as either general University or assigned staff parking but utilized as such were recorded and included in this investigation.

The condition of the parking areas, whether they were improved (hard surface) or unimproved (gravel) was also recorded. Further, the number of available spaces of each area was compiled by field inspection or obtained from the Wayne State Universit Parking Authority. In parking areas where individual parking stalls were not marked, an estimate of the number of available spaces was made and considered such factors as typical maneuvering lane, parking space width and length of dimensional requirements.

Off-Street Parking. -- Off-street parking facilities are illustrated and defined on Map 7. Five different categories were developed for investigating off-street parking. They consist of general University parking, coin operated, after 5:30 p.m. only, assigned staff parking, public parking, and private parking. Visitor parking areas were combined with the general University parking classification for purpose of this analysis. Private parking areas, while graphically portrayed on Map 7, were excluded from parking computations inasmuch as they are not intended to serve as general purpose parking capable of meeting Main Campus parking needs.

There are 4,650 general University parking spaces within the Main Campus area; 4,216 are all-day coin operated spaces whereas 434 are coin operated after 5:30 p.m. only. Nearly all (4,549, or 98 percent) of the total general University parking space is confined along Anthony Wayne Drive and Palmer Avenue in the northwest corner of the Main Campus area. There is no general University parking space provided south of Warren Avenue. Only 101 spaces or two percent, are distributed between the northeast corner of Warren and Woodward Avenues (36 spaces) while the remainder (65 spaces) are located west of the Lodge Freeway immediately south of the Matthaei Physical Education Building. Two parking structures located on Palmer Avenue at Cass Avenue (Parking Structure No. 1 with a total capacity of 1,939 vehicles) and at Merrick Avenue (Parking Structure No. 2 with a total capacity of 1,783 vehicles) provide 1,656 and 1,575 general University parking spaces, respectively. Of the total general University parking spaces, 1,097, or 24 percent, are unimproved.

Assigned staff parking, scattered throughout the Main Campus area, totals 1,727 spaces. Of this total, 560, or 32 percent, are furnished in parking structures. Parking Structure No. 1 and No. 2 provide 282 and 208 assigned staff parking spaces respectively. Parking Structure No. 3, located east of Mackenzie Hall, furnishes its entire 70 parking spaces for assigned staff use. Unimproved assigned staff parking totals 335 spaces.

There are only four non-University owned public parking areas within the Main Campus area consisting of 384 parking spaces, all in surface lots and improved.

On-Street Parking. -- There are a total of 753 on-street parking spaces presently available within the Main Campus area, of which 461, or 61 percent, are unrestricted and 292 spaces, or 39 percent, restricted. The most prevalent type of restricted on-street parking space is the one-hour time limit. Two hour parking areas are also available, but these are concentrated mostly along Warren Avenue. Restrictions by type of vehicle was also evidenced on the southern side of Warren Avenue east of Anthony Wayne Drive. These areas are reserved only for motorcycles, with a limit to a two-hour time parking period.

Adequacy of Parking Facilities

Based upon the assumed standards concerning number of required parking spaces applied to the number of available spaces counted in the parking facility inventory, the adequacy of parking facilities directly serving Main Campus users can be determinec

Several concerns arise when applying the stan dard requirements to the number of available spaces within the Main Campus area. Utilizing only Univer· sity provided off-street parking facilities, there are a present 4,650 student and 1,727 staff parking spaces available. In addition, there are many existing on-street parking spaces located on City of Detroit street within and on the periphery of the Main Campus whic

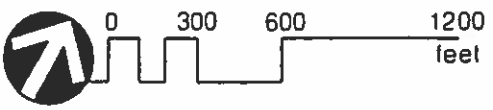
Map 7
OFF-STREET PARKING

University Parking

- General, All Day - Coin
- Assigned
- General, After 5:30 p.m. - Co

Non-University Parking

- Public
- Private
- 27 Number of Spaces
- 4 Improved
- 9 Unimproved
- PS Parking Structure
- UP Underground Parking



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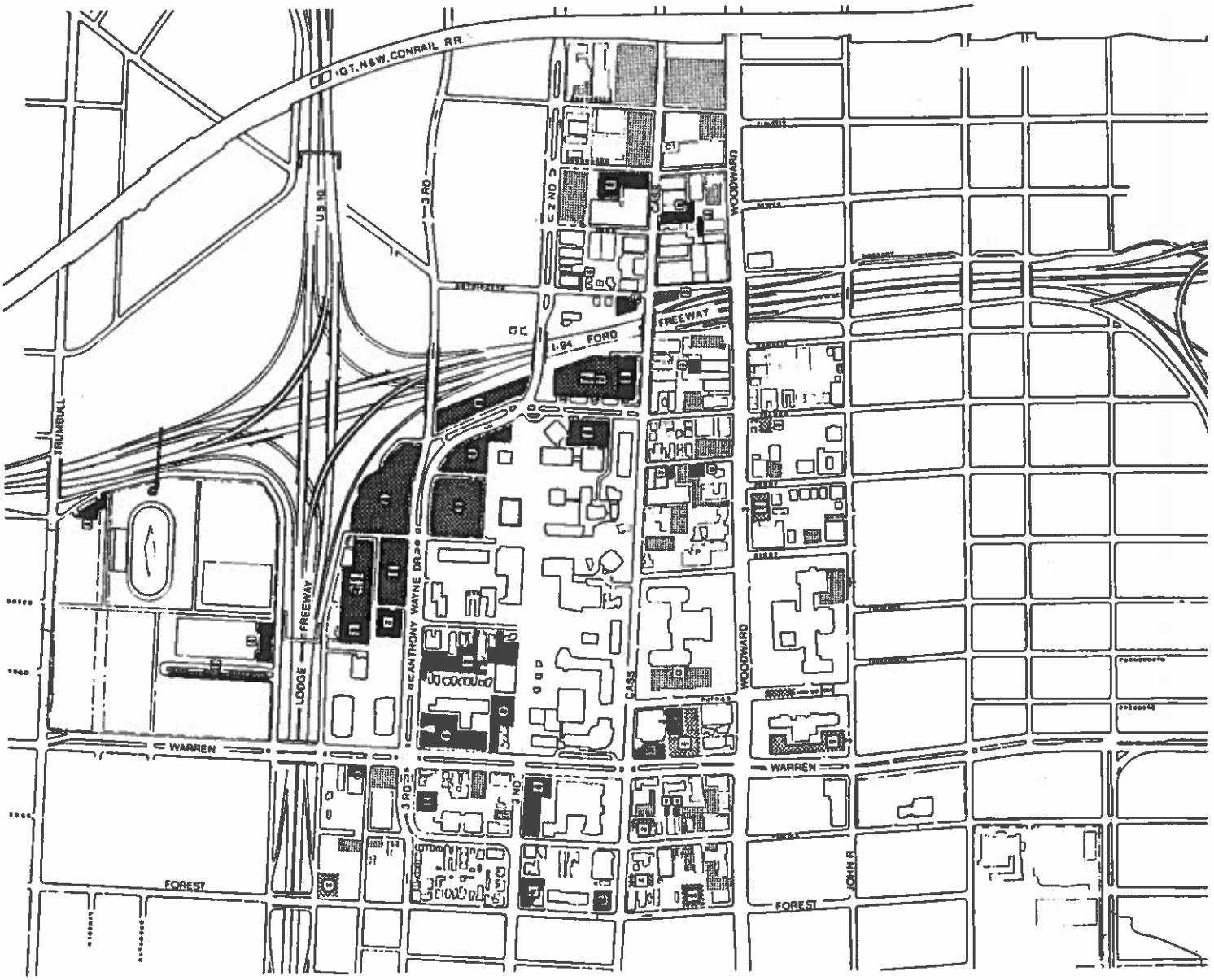
GT.N&W.CONRAIL RR
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are heavily patronized by both students and faculty. However, since the University has no control over them, they are not considered as part of the total supply of parking spaces.

It should be noted that of the total 4,650 student off-street parking spaces, only 4,216 are available until 5:30 p.m. The remaining 434 spaces become available only after 5:30 p.m.

As previously described, there is a need of 5,171 FTE student parking spaces on the Main Campus. Considering only student parking spaces available all day (4,216), there presently exists a student parking deficiency of 955 parking spaces.

Application of the 2:1 staff/parking space ratio reveals a staff parking space need of 2,400 spaces. Counting only the 1,727 available University assigned staff parking spaces, there is a shortage of 673 staff parking spaces.

Beyond the shortages in number of parking spaces for both students and staff, there exist other deficiencies in parking facilities serving Main Campus users. These include quality of parking lot development, location of parking facilities and user-cost of University parking. Each of these items are discussed below.

Quality of Parking Lot Development. -- The quality of design, construction, maintenance and landscape improvements of parking lots directly correlates to their degree of use and significantly affects the overall image of the Main Campus. The parking areas of Wayne State University generally exhibit poor ratings in this regard.

There are 1,097 general University parking spaces on the Main Campus which are unimproved. Unimproved assigned staff parking totals 335 spaces. The majority of these lots are located on property originally purchased by the University for future academic building sites. Many have been considered as a transitional land use. It is conceivable that many of these surface parking lots will be improved as permanent parking facilities. Unimproved parking areas tend not to dispose of surface water properly, permitting water to collect in parking areas making them unusable during raining periods and icy in the wintertime. In dry weather they are dusty.

Many of the surface lots on the Main Campus also lack such landscape improvements as appropriate screening in the form of low walls or vegetation, to reduce the negative visual impact inherent in large surface lots. Appropriate landscaping can also soften the unfavorable optic effect imposed by parking structures on surrounding development. Landscaping can also act as a transitional force, unifying parking lots and neighboring academic facilities. Efforts to require all parking to be hard surfaced, properly drained and landscaped should be considered as key planning elements in the improvement of Wayne State University's Main Campus.

Location of Parking Facilities. -- Ideally, parking facilities should be on the periphery of the academic core to reduce vehicular traffic within the campus area and to provide direct access to the facilities they serve. The University's application of this concept has been the development of student parking areas concentrated in the northwest sector of the Main Campus whereas staff parking is distributed in random fashion throughout the Main Campus area. There are no student parking facilities serving the southern section of the Main Campus particularly south of Warren Avenue. This market deficiency force the students to utilize the limited on-street and commercial off-street parking spaces within that part of the Main Campus and on its immediate periphery.

Future parking proposals should be adjusted to reflect the peripheral parking strategy with parking facilities appropriately anchored at various locations.

User-Cost of Parking Facilities. -- In 1969, Wayne State University established a University Parking Authority to administer all aspects of parking. The University policy on parking calls for no free parking to anyone on University owned parking facilities; also, that parking must be self-supporting.

At present, the daily parking user-charge for University parking for students and guests is 75 cents. Assigned faculty and staff user-charge ranges from $160 to $180 per 12 months or $130 per nine months parking periods. According to the University Parking Authority, the revenue generated from these user-charges is insufficient to cover the interest and principle of the bonds plus parking operation costs on the Main Campus. However, when combined with the total University parking system, its revenue barely covers the total cost.

Land Use Conflicts

The provision of parking facilities within an urban setting imposes many deleterious ramifications upon land development. These effects involve land consumption, land use compatibility and competition for space.

Land Consumption

The real expense of parking is in its consumption of land area. Each parking space, including access lanes, consumes approximately 300 square feet per user. This cost is heightened in highly urbanized areas where competition among various land users is keen and the demand for parking space is significant.

An unmet demand for additional parking spac conjoined with potential expansion programs envision by Wayne State University will force a determination over the highest and best use for parcels petitioned b both. Inasmuch as little vacant land remains availab within the Main Campus area, future choices will be difficult.

Land Use Compatibility

Parking lots are intensive land developments, particularly within a densely developed urban campu setting. The stark visual image of parked cars coupl with the constant influx and discharge of motor vehicles within this environme nt are by their function incompatible with the more passive academic zones in proximity to parking facilities. The University is presently beset with parking areas that do not exhibi these traits. A prime illustration of the disregard for the use of ameliorating measures mentioned above is found in the assigned staff parking area east of Anthc Wayne Drive, south of Merrick Avenue.

This parking lot epitomizes the many conflict that can occur between parking areas and other campus uses. There are virtually no transitional setback areas between the parking lot and neighboring buildings. Parked vehicles virtually abut adjoining structures. It lacks landscaping and proper screening fro Anthony Wayne Drive traffic. The image conveyed is bleak at best, and as noted in the Environmental Conditions Analysis, constitutes a blighting influenc on contiguous structures.

Many other University operated and privatel run parking areas within the Main Campus area render similar noncompatible tendencies. Future campu planning recommendations must, therefore, consider reducing such conflicts between parking and other Main Campus uses and set controls for new construction of parking facilities.

Competition for Space. -- To guide in the distribution of a limited supply of parking spaces, one important objective of the Main Campus parking plan that will be developed in the Phase II of the Comprehensive Development Plan for Wayne State University would have to be the establishment of a priority system based on sound user standards and relative needs. Also, locational considerations should insure the most efficient use of existing parking facilities from the standpoint of convenience. This plan should consider all parking users and be flexible enough to adjust to changing demands and conditions.

Chapter 6
INFRASTRUCTURE
(Utilities & Services)

Introduction

The existing system of utilities, including water and sewers, electricity, steam and communications, were inventoried for the entire Main Campus area of Wayne State University. The compiled data were then mapped showing the location and dimension of each of the systems where appropriate (see Maps 8 through 10). The following is an inventory and analysis of the existing utility systems serving the Main Campus area.

Water Supply System

The Main Campus area is served by the City of Detroit Water and Sewerage Department. Water is brought into the area by a major transmission of 30 and 42 inch diameter lines along Hancock Avenue and Palmer Avenue respectively. The water is then carried into 10" - 16" diameter feeder lines which carry the water throughout the area. These feeder lines generally follow the major north-south arterials in the area, bounded by Woodward Avenue, Cass Avenue, Second Avenue (Gullen Mall), and Third Avenue (Anthony Wayne Drive). Six to eight inch diameter distribution lines service the individual structures in the Main Campus area.

Map 8
WATER & SEWER UTILITY LINES

— Water

— Sewer

8 Size (Indicated when known)

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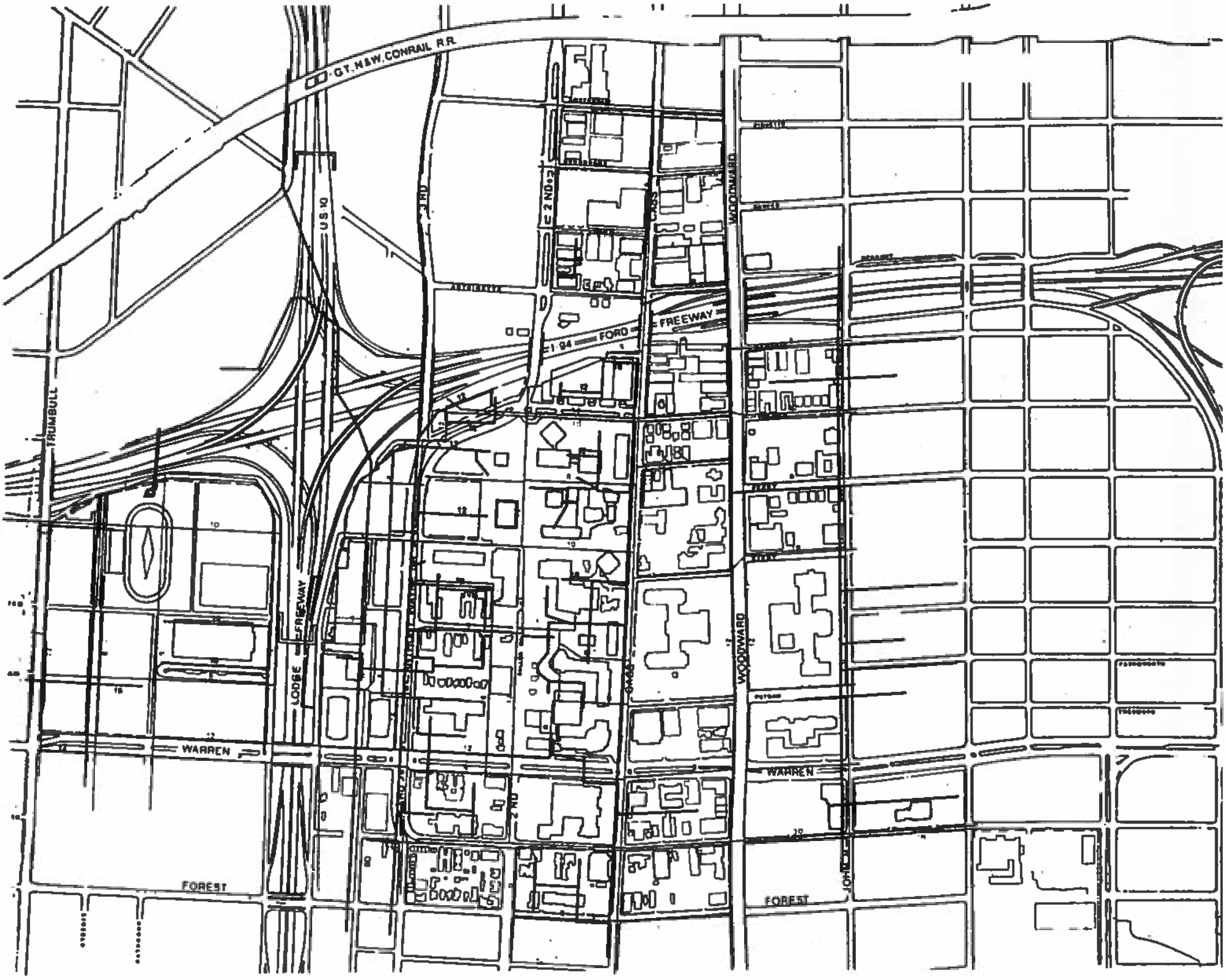

G.T., N&W, CONRAIL R.R.
TRUMBULL
US 10
LODGE
FREEWAY
3 RD
2 ND
CASS
WOODWARD
I-94
FORD
FREEWAY
WARREN
FOREST
JOHN R

Map 9
GAS & STEAM UTILITY LINES

— Gas

— Steam

8 Size (Indicated when known)

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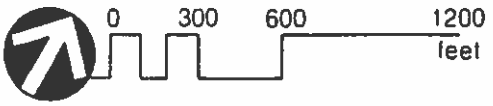
Wayne State University / Main Campus
July 1981



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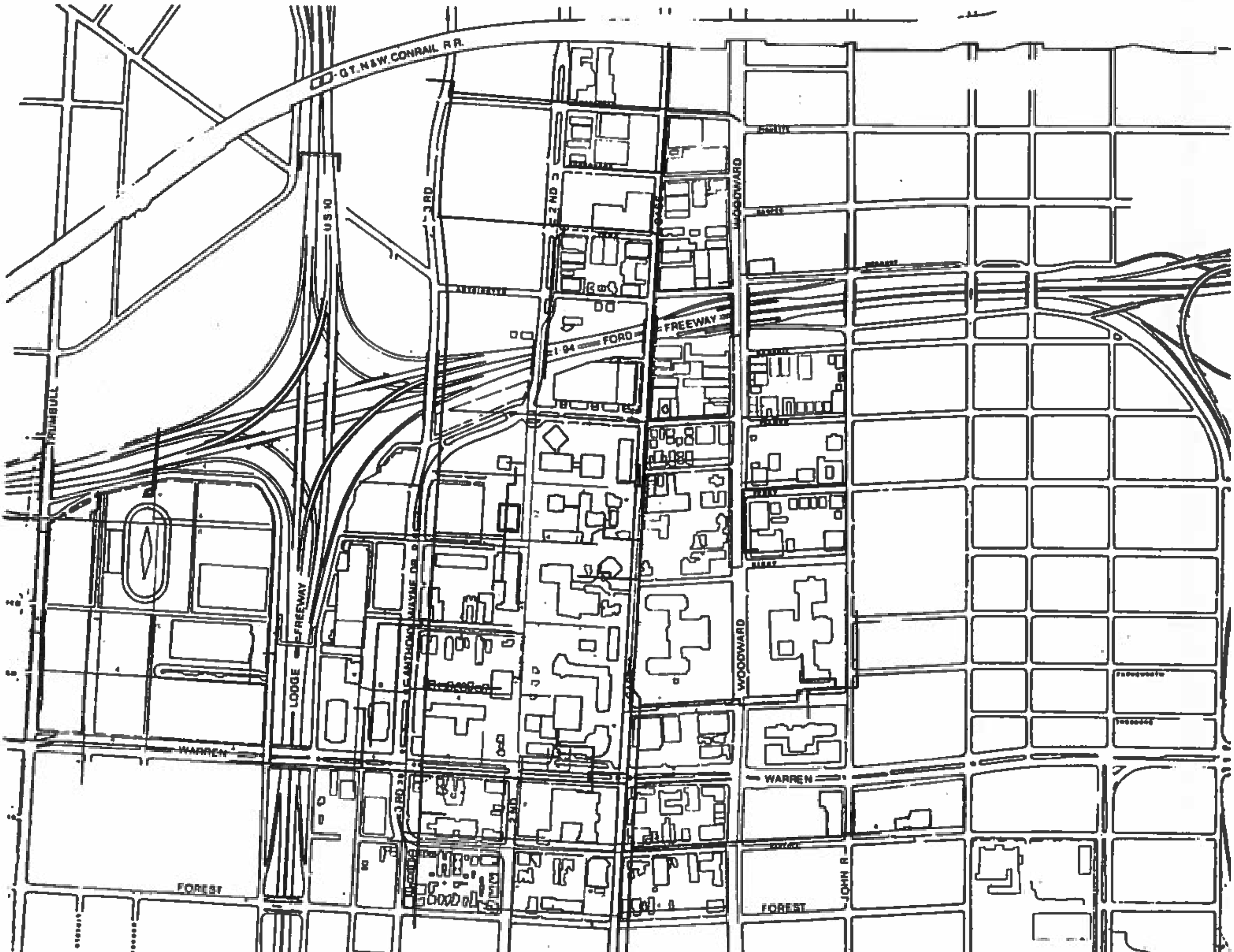

G.T. N&W. CONRAIL R.R.
TRUMBULL
US 10
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FREEWAY
3 RD
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FORD
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WOODWARD
WARREN
WARREN
WARREN
FOREST
FOREST
JOHN R

Most of the water lines in this area were installed in the early 1900's and are of cast iron construction. They are considered to have a lifespan of 100 years. However, since their installation some lines were replaced. Where this occurred, ductile iron was used inasmuch as it has better load bearing characteristics.

The current condition of the existing water system is sound. However, due to the age of the original lines, there is a tendency for mineral deposits to accumulate within the lines. This effectively reduces their capacity by about 25 to 33 percent. For this reason, it is City policy not to install any new water lines below an 8" diameter. No lines within the primary study area have as yet been cited for this deficiency.

The existing water system in the Main Campus area is capable of meeting future University demands. However, prior to the construction of any new buildings or facilities, an evaluation of the capacity of potential lines to be used must be done by the City of Detroit's Water and Sewerage Department. This most often consists of a run flow test (measuring the discharge of water from nearby fire hydrants) which determines the adequacy of existing water lines. Such a determination may include the recommendation that existing 6" diameter distribution lines intended to be used be replaced by 8" diameter lines. The cost of this replacement would be borne by the University.

No major alterations to the existing water system are proposed by the City of Detroit which would impact the Main Campus area. Repairs to the water system have been minimal. The last alteration to the water system was the installation of a 12" diameter water line on the Main Campus along Anthony Wayne Drive.

Sewer System

The main lines which service the Main Campus area consist of a combined storm and sanitary sewer system. Ideally, sanitary and storm sewers should be separated. Separate systems are usually less expensive to maintain. Sewage disposal plants can be scaled down in capacity if wastes are only to be treated. In combined systems, storm water arrives at the treatment plant sporadically and often in surges that exceed normal sewer flow. There is also a danger of sewage in a combined system backing up into structures if a flood were to occur.

The sewer system which serves the Main Campus area is provided by the City of Detroit Water and Sewerage Department. There are two main sewer lines in the area. A nine foot diameter line extends along Woodward Avenue. A 15' - 6" concrete line, constructed in 1969 and representing the most recent major alteration to the sewer system within the Main Campus area, parallels Fourth Avenue. Other sewer lines include a 3' - 6" x 4' - 8" line along Anthony Wayne Drive, a 3' - 3" x 4' - 4" line along Cass Avenue, and laterals of various sizes (i.e., 10", 12", 15", and 30" among others) running throughout the Main Campus area.

Approximately 80 percent of the sewer lines in the Main Campus area were constructed in the late 1800's and are vetrified (clay) lines. Some additional lines are of brick composition or concrete. However, most of these old sewer lines need replacing. The capacity of the sewer system is designed to accommodate a 10-year storm. Current condition and dimension of the existing sotrm sewer system are considered walkable and inspected on a regular basis. The lines four feet and under are inspected on a complaint basis.

Effluent that is collected by the sewer system in the Main Campus area travels southward approximately two miles to the Jefferson Interceptor line (which follows Jefferson Avenue). This interceptor line feeds into the City of Detroit's Wastewater Treatment Plan located on West Jefferson Avenue near the Detroit River. Its capacity is one billion gallons per day. Typical operation levels reach 800 million gallons per day. Thus, the additional capacity permits future growth. However, according to the City Engineer, development plans for the Main Campus area must first be reviewed by the Department of Water and Sewerage.

Electrical System

The Detroit Public Lighting Department provides electrical power to Wayne State University facilities on the Main Campus. Electrical power is generated from its plant located on West Jefferson Avenue. This main generating plant is also the site of its main switching station whereby electrical energy is distributed to any of its 33 substations. Transmission to the substation occurs via a three phase, three wire, grounded, underground cable carrying 24,000 volts. The substation serving the Main Campus is located on Canfield Avenue at John R Street and provides electrical power through an underground, three wire cable carrying 4,800 volts. Each major building on the Main Campus has its own meter and transformer which reduces this voltage for individual use.

Electrical energy consumption by the University approximates a monthly average of five million kilowatts. The 4,800 volt underground service to the University has reliably and readily met this demand. In addition, the utility has the capacity at the present time to provide 13,200 volts to the University if demands so warrant it.

Most of the newer buildings on the Main Campus are fed electrical power by a two cable parallel system. If one cable were to fail, the second cable would take over.

No major changes have occurred to the electrical distribution system serving the Main Campus. Minor repairs and maintenance of the network are ongoing. Future changes envisioned by the utility include the possibility of using coal as the fuel for its generating units. A coal conversion study is anticipated by the utility.

Private commercial, residential and industria establishments within the study area receive their electrical power from the Detroit Edison Company. Transmission of electrical power occurs in overhead and underground cables. A Detroit Edison Company substation is located at the northern end of the study area, at the northeast corner of Burroughs and Secon Avenues. No major deficiencies exist. Electrical energy is able to accommodate future electrical ener gy needs.

Steam System

Steam service is provided by the Detroit Edison Company to the Main Campus. Wayne State University is the largest single user of steam within the City of Detroit. It purchases roughly 610,000,0 pounds per year.

Steam as a fuel source, however, is beset with several major problems. First, it is difficult to maintain pressures and temperatures over a large are Second, condensation within the steam lines must be kept to a minimum. Third, steam mains must be easily accessible, heavily insulated against heat loss properly supported and well drained. Fourth, and m important, the cost of the operation is excessively high compared to other fuel sources.

Wayne State University is adequately served by this utility system. Two heating plants of the Detroit Edison Company currently feed the Main Campus heating system. They are the Willis Plant (coal fired) at Willis Avenue, about one-half mile south of the Main Campus area, and the Beacon Plant (gas fired) on Madison Avenue, approximately two miles south of the Main Campus area.

Steam is transported throughout the Main Campus area by a series of lines ranging in size from between 6" in diameter to 16" diameter. Lines along Cass Avenue, Anthony Wayne Drive and portions of Warren Avenue are of 16" diameter. Lines running parallel to Warren Avenue also measure 8" and 12" diameters. Putnam Avenue lines are of 10" diameter whereas steam lines following Hancock Avenue are 8" in diameter. An example of a 6" diameter line is evidenced along Putnam Avenue.

The current condition of this steam utility network within the Main Campus area is generally good. However, there is evidence of steam escaping through some of the manholes particularly near the southern end of the Main Campus area. Detroit Edison Company maintains a continuous monitoring program of the steam system, and repairs and/or replaces faulty equipment where necessary. Most recently, Detroit Edison Company replaced a 30' section of a 6" main near the junction of Second Avenue and Alexandrine Avenue, three blocks south of the Main Campus.

The existing Detroit Edison Company steam system's capacity can accommodate future growth depending upon the scale of development. The existing capacity is well suited for smaller loads. Larger loads are subject to special investigation and approval by the Detroit Edision Company.

In order to increase the capacity of this steam system there is a recent proposal for construction of a new steam generating plant in the vicinity of Russell and Ferry Avenues (approximately one mile due east of of the Main Campus). The City of Detroit, realizing that landfill sites for its refuse are rapidly diminishing, has developed an idea, in cooperation with the Detroit Edision Company, for constructing a "Resource Recovery Plant" wherein refuse would be burned to generate steam. Financing of this project has tentatively been resolved, with implementation proposed to commence at the end of 1981. This proposed steam generation plant would have the effect of reducing the production of the Beacon Plant (with a concommitant reduction in natural gas costs) and could conceivably provide steam at a less costly rate. The Beacon Plant, however, would remain operative, but at a reduced scale.

In sum, the University is concerned with the present inefficient and expensive use of steam to heat its physical plant. Should the Detroit Edison Company proposed resource recovery plant not materialize, Wayne State University may consider other alternate, more cost-effective energy systems to heat the Main Campus than the present steam heat system.

Natural Gas System

Natural gas service within the Main Campus area is provided by the Michigan Consolidated Gas Company primarily by a network of 12", 8" and 4" diameter lines. The gas is transported for distribution to the Main Campus area gas lines through the Euclid transmission line (located along Euclid Avenue), roughly two miles north of the Main Campus area. By comparison, the Euclid line is a 24" line operating at 150 p.s.i. Natural gas lines along Woodward Avenue and Gullen Mall are 12" diameter. Eight inch diameter lines are evident along Warren Avenue and Hancock Avenue. Four inch diameter lines are dispersed throughout the Main Campus area.

Gas consumption by Wayne State University approximates 64,000 MCF per year. Gas supplies in the Main Campus area are easily met and can accommodate new growth as gas pressure can be increased on existing 8" or 4" lines from two p.s.i. to ten p.s.i. if demands so require.

Michigan Consolidated Gas Company continually monitors the gas supply and supply line condition. Recent changes to the system within the Main Campus area have been "renewals". This entails inserting plastic pipe inside old cast iron mains. This improves the system while keeping down costs a total replacement would incur. Renewals have been occurring around the Main Campus over the last three-four years.

Communication Systems

Communication systems include telephone and alarm systems. The following is an inventory of these existing facilities within the Main Campus area.

Alarm System

The City of Detroit Lighting Department is responsible for maintaining the alarm systems which traverse the Main Campus area of Wayne State University, more commonly referred to by this department as the City Communications System. This underground system handles fire alarms, police communication lines and other systems including computer lines. Most lines fall within the public rights-of-way. No major deficiencies exist. Further, most ducts (channel encasements in which individual lines are housed) contain vacant banks (tubes) in which additional lines may be added in future years as conditions warrent.

Telephone System

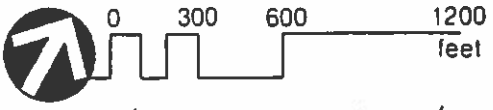
Telephone service is provided by Michigan Bell Telephone Company. Wayne State University also maintains its own "in-house" telephone network which services the Public Safety Department "Blue Light" emergency telephone. The majority of the telephone lines on the Main Campus are located in the Student Center Building. The existing network contains no major deficiencies and can readily accept future Main Campus additions.

Map 10
ELECTRICITY & COMMUNICATION SYSTEMS

— Telephone

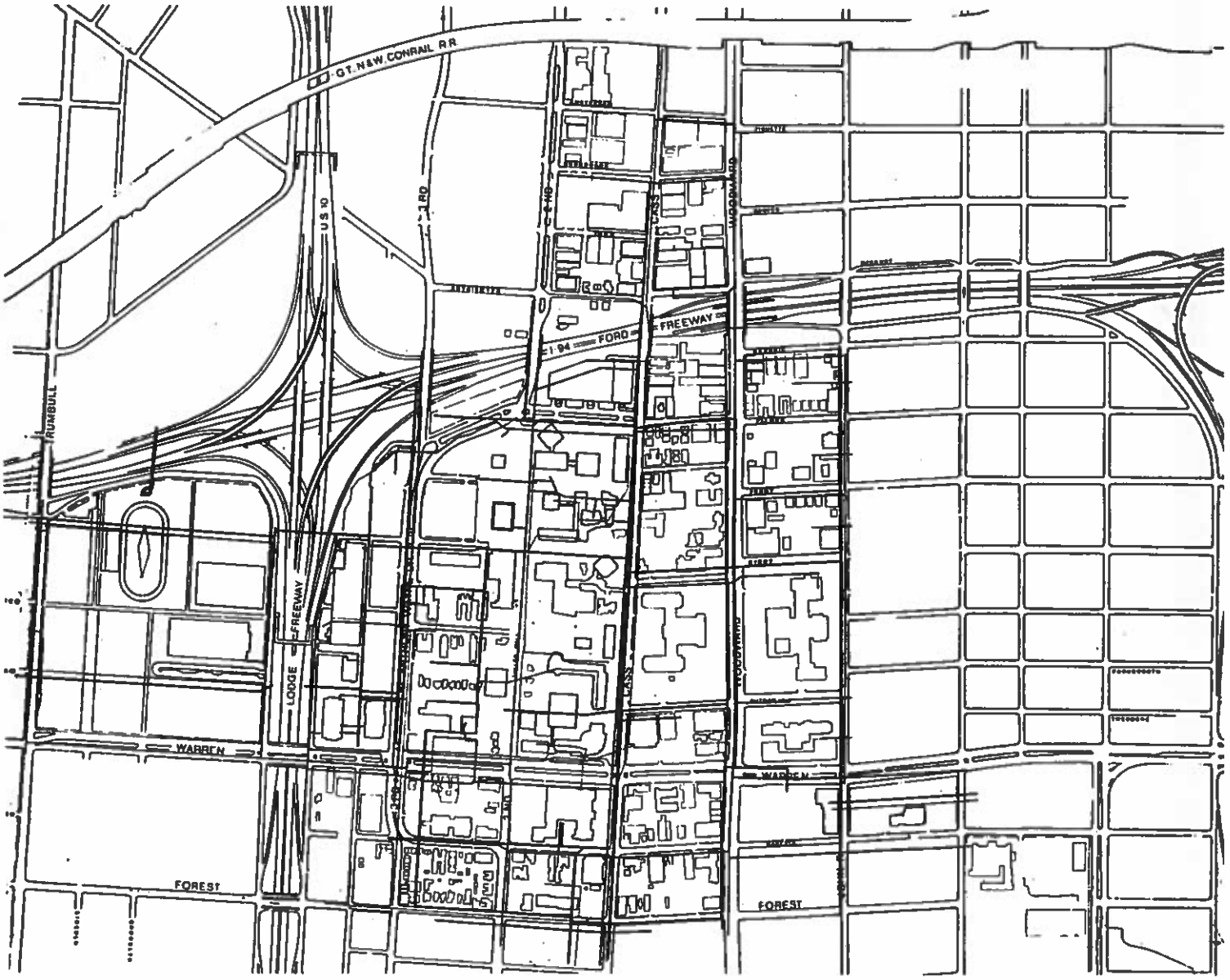
— Electricity

— Alarm Systems



COMPREHENSIVE DEVELOPMENT PLAN / PHASE I
Wayne State University / Main Campus
July 1981

Parkins/Rogers & Associates/Inc


G.T. N&W CONRAIL R.R.
US 10
I-96
I-94
FORD
FREEWAY
CASS
WOODWARD
RUNBULL
LODGE
FREEWAY
WARREN
FOREST

Chapter 7
PREPARATION FOR PHASE II

Introduction

This inventory and analysis report, as described in the preceding chapters, represents the first phase of an ongoing planning process in the preparation of a comprehensive development plan for Wayne State University's Main Campus. It has been approved in principle by the University Planning Committee as a basis for developing Phase II of this planning process.

The primary objective of Phase II will be to prepare an action plan and program for short-term and long-range development strategies for the Main Campus which will provide the best uses or combination of uses of land, buildings and facilities to meet the identified needs of the University. This multi-year comprehensive development plan will guide the growth and development of the University's Main Campus as it reflects its academic plan and programs, budgets and available resources. This Chapter discusses the academic plan for Wayne State University and presents an outline of the tasks to be completed in Phase II.

Academic Plan

One of the most important ingredients of comprehensive planning for institutions of higher learning is the academic plan. Generally, the academic plan is formulated by a planning committee appointed

by the president of the institution and is organized as a formal document for use by campus planners or consultants in physical planning and as a statement of policy for future development. In July of 1979, a University Planning Committee of Wayne State University was established and charged by the President with the overall responsibility of designing a comprehensive five-year academic plan for the University and the development of a new Main Campus plan based upon the academic plan.

The Committee established the following three-phased procedure for completing its planning task: Inventory Phase; Planning Phase; and Writing Phase. The Inventory Phase has already been completed. This task consisted of collecting background information from representatives of State and City government agencies, the Wayne State community of faculty, students, alumni and administration, other universities, and citizens district councils surrounding the University. The Planning Committee is now involved in the second phase of its planning task. In the Spring of 1981, it completed a report entitled "Draft of Mission and Goals Statement for Wayne State University" and distributed it for review and comment.

The next task of the Committee is to determine the best method of involving all of the University's Schools, Colleges and other major units in devising a comprehensive academic plan and statement. This task is scheduled to be completed during the early period of Phase II of the Comprehensive Development Plan for the Main Campus. In the process of formulating this academic plan, the following organizational outline, guidelines, and observations on issues and trends are offered for consideration by the Planning Committee:

Purpose

The major purpose of the academic plan statement is to attempt to identify the mission and goals and diagnose the problems, opportunities, and challenges of Wayne State University during the decade of the 1980's and beyond, and to develop the academic, educational and resource policies which will guide the changes in the physical aspects of the University.

Issues and Trends

The decade of the 1980's will be a period in which Wayne State University, like many other institutions of higher learning, may encounter significant difficulties. These emanate from a combination of economic, demographic and social problems and trend

First is the prospect of continuing economic d nationally, and particularly in the State of Michigan the unrelenting increases in the cost-of-living and the high rate of unemployment in the State. These trends are prompting public outcry for curtailment of public expenditures which are echoed in the State leg lature, resulting in substantial reductions in appropri tions for higher educational institutions.

Second is the certain prospect of a steady decline in the nation and the State of the college-age population (18-21). This may adversely affect the er rollments of full-time students at the University and directly affect all programs and services.

Third is the declining market potentials for some fields of knowledge (Education, Urban Planning Studies of the Arts and Social Sciences) and the risin demand of the majority of students at all levels for vo cational pursuits, with particular emphasis on the are of business and management, communications, and

computer sciences. There is also the continuation of the trend in the diminution of opportunities in some segments of the doctorate employment market.

Fourth is the gradual change in the ethnic composition of the population attending the University. The results of this change will be a relatively significant increase in the size of those ethnic groups that, historically, have not attended higher educational institutions in large numbers, and a proportionate decline in the traditional college-age population that has, historically, formed the majority of the University's student body.

Given these trends of economic uncertainty, the changes in the student enrollment and composition, and changes in patterns of student demand for higher education, Wayne State University must make critical decisions regarding its future development. To aid in its problem-solving process, the University, through its Planning Committee, is now formulating a Comprehensive Long-Range Academic Plan. This academic plan will be based on the nature of the University's updated mission, the immediate short-run and long-range goals, objectives and policies related to enrollment policies, academic programs and space needs of the University.

An academic plan statement should define the single, central issue or issues of the university: the need to maintain current levels of enrollment in the face of evident decline of public support and to prescribe the academic, educational and resource policies which will enable the university to overcome these problems and challenges.

It should reiterate Wayne State University's main mission as an urban University committed to providing strong instructional programs at all levels, promoting research and graduate programs of excellence in basic and applied fields. As an urban University it should be responsive to the needs of the society in which it exists by making extensive use of its Detroit location for teaching, research and service. It should serve as an effective partner in the City's renaissance and Michigan's economic revitalization. It should also set general goals for the development of its Main Campus in the future, not so much through expansion of its terriroty and construction of new facilities, but through clearance of old, obsolete and substandard structures and redevelopment, and rehabilitation, conservation and preservation of standard structures and facilities. But the aim at this point is to concentrate attention on the assessment of future conditions and on the choice it is asking the University community to make.

The Institution

Wayne State University's special responsibility to the Detroit Metropolitan Area, the State of Michigan, and the nation is significant. Its obligations to society and its academic program span most of the extant fields of human knowledge, providing undergraduate and graduate training of high quality. The Statement should define Wayne State University's contributions to the intellectual and economic development of the State and to its cultural life, its productivity level, number of graduate and baccalaureate degrees annually, annual inflow of Federal and private funds to the economy of the Detroit Area and the State in support of research and development. The University is the employer of approximately 7,200 persons, constituting the ninth largest employer in the City of Detroit and a definite economic asset to the City.

Despite the current National levelling off of enrollment and its concomitant problems, Wayne State University retains its attractiveness for both undergraduate and graduate students seeking entry. It reflects the variety and depth of Wayne State University academic programs and the quality of the education it offers.

Wayne State University in its multiferous activities as an urban center of advanced studies, as a provider of education opportunities and a service institution, is a magnet to large numbers of people in all walks of life, in Michigan and throughout the world.

Academic Planning Constraints in the 1980's

As mentioned earlier, the Academic Plan of Wayne State University may encounter many difficulties in the decade of the 1980's. The continued escalation of the cost of living may perpetuate the current trend to reduce and control public expenditures. The Academic Plan Statement should determine the effect of tuition increase on enrollment and the decline in the college-age population, coupled with the change in distribution of student mixes. The change in the pattern of student demand for University education and retrenchment in public support evaluated in terms of planning for programs and services should be considered along with the neccessity for maintaining faculty strength and the quality of programs.

Other challenges that may affect a departure from present standards, size, programming mix, cuts in faculty and non-faculty positions in disposition of resources of the University should also be considered.

Enrollments

Wayne State University must decide on the question of enrollment. Should the University maintain its current level of enrollment? Should it make adjustments in the peak of enrollment? What should be the minimum enrollment? Average? Should the University, in full knowledge of the declining undergraduate-age college population, more actively promote new programs, the expansion of programs for other age groups, such as the increasing population of the 25-35 year old age group that participates mos heavily in the continuing education programs, the 36-60 year old age group, and the women who are seeking new appropriate careers? The University's goal must be determined.

Undergraduate Enrollment

1. Upper-Division/Lower Division Mix. -- A decision must be made in the Academic Plan Statement as to the optimum goal for an upper-division/lower-division enrollment ratio for Wayne State University. This goal is an important element in University planning with respect to curricula, staffing, hou ing and facilities. What is the present volume of enrollees to the University from community college tran fer students? What volume can be expected in the decade of the 1980's?

Has there been a change in the number of transfer students to the university level in recent years? Also, is there a shift in the subject matter interest of such students from the more general fields of study to the high demand major fields? How can Wayne State University respond to such shifts in student demands?

Is it reasonable to assume that Wayne State University's present upper-division/lower-division ratio will continue to decrease in the 1980's? How will enrollment in academic subject fields in the community colleges respond to the projected decline in the State's college population? Are the community colleges assuming greater responsibilities in vocational education?

What is the goal for increasing enrollment of lower-division (and hence assuming greater internal inflow into the upper-division)? Should Wayne State University undertake a program of encouraging community colleges to identify and prepare students with

university potential? What is the projected future enrollment of new freshman in the next five years? In the next ten years? Assuming a greater shift in the lower-division enrollees, what programmatic changes and instructional responsibilities is the University planning to make?

2. Undergraduate Student Retention. -- The Statement should determine the incidence of student attrition. A declining student retention rate, particularly if it is early in the full cirriculum cycle, is an important dimension of campus enrollment policy. Also, statistics for attrition for freshman entrants, junior entrants, pre-entries, their characteristics and trends should be included in the Statement. If there is a trend, it will affect the established upper-division/lower-division ratio.

What plans are being advanced for improving and reinforcing the academic competencies of undergraduate students and at reorganizing lower-division curricula to provide greater cohesion of subject matter and more sequential patterns of learning?

Graduate Enrollment

The Academic Plan Statement should identify the present status of graduate education at Wayne State University and the University's policy toward graduate education. In spite of a general declining demand for graduate training in certain areas, Wayne State University's graduate enrollment is experiencing a slight increase. How would graduate growth affect present academic resources, both of faculty, personnel and physical facilities? In what programs should additional growth take place? Should it be in the basic disciplines, with sciences, arts, humanities, and social sciences, or with professional programs, such as Business Administration and Engineering? The Academic Plan Statement, thus, should envisage for the University in the 1980's a yearly average for the graduate enrollment and program distribution, faculty requirements and space needs.

Academic Programs

Undergraduate Programs. -- What is the quality of the high school graduate entering Wayne State University? Is there a larger proportion of the students of all ethnic backgrounds coming to this institution than five or ten years ago? How can the University most efficiently provide these pre-baccalaureate students with a thorough grounding in the academic skills of reading, expository writing and quantitative and rhetorical reasoning? The objective, then, is a thorough review of the lower-division program, to combine introductory subject matter with the development of advanced competency in exposition and reasoning.

Graduate Programs. -- What is the nature of the graduate programs, both professional and disciplinary at Wayne State University, and their relationship to doctoral studies and research activities?

How do graduate programs of the University relate to professional and social needs? What is the interrelationship between graduate and undergraduate programs? How can the departments best provide sufficient options to satisfy the needs of the students?

Research. -- The research effort of the University should be reviewed to determine present and future areas of promise for education, funding and service. Special attention should be given to interdisciplinary programs and those which can interface with the needs of the business and industrial community. Wayne State University's location makes urban directed studies especially attractive. It is hoped to identify areas where initial support by the University will yield high returns in new knowledge, opportunities for graduates and service to the community. Projections for outside funding for research, which is an important mechanism for supplementing state support, will be made. Planning is an important element in helping the University use its financial, physical and personnel resources to improve its research productivity.

Wayne State University Social and Community Responsibility

Should special measures be initiated to encourage even larger numbers of minority students and particularly Black and Chicano students to enroll as freshmen? Wayne State University clearly has a social responsibility to encourage participation of minority students at the University.

Resources

How can the University most efficiently employ its financial resources to change its programs to meet its future needs? What are the plans and policies for University fiscal management in order to insure adequate short-term funding of top-priority programs and services, to provide for an annual increment of a special number of new appointments to regular ladder rank, keep intact its instructional man-power and operational support, provide for renewal of regular faculty at an average established rate per year, and maintain its academic standards? The State policy and funding formulas with respect to University funding in the 1980's should be reviewed. How is the University going to maintain its responsibilities in the event of substantial losses in faculty resources, or reduction in academic resources, because of enrollment decline and State budgetery cuts?

Summary

Planning a university is an intricate and complex process. Academic planning is an integral part of the larger planning process. The primary requirement for programming educational facilities, administrative and service spaces is the Academic Plan. The Academic Plan must precede and serve as a basis for the physical plan. The Academic Plan identifies the University mission, issues, goals and objectives related to academic programs. It recommends policies and procedures for long-range academic programs and space requirements to meet the educational objectives. The Academic Plan is followed by the financial plan which, together form the basis for the physical facilities plan that will serve the educational programs of Wayne State University.

Outline of Phase II - The Comprehensive Development Plan for Wayne State University's Main Campus

The formulation of a coordinated comprehensive development plan for the Main Campus will involve a series of tasks, events, and their subsequent products covering a 10-12 month period. These are described briefly below:

Tooling-Up

At the initiation of the study, the Planning Consultant will schedule meetings with the Planning Committee, Department of Campus Planning and administration of the University for the purpose of reviewing and firming up the proposed work plans, time phasing and scheduling of work sessions and progress reports.

Interviews

A series of concentrated, extensive interviews of representatives of constituent interest groups will be conducted by the Planning Consultant within the first few weeks of the initiation of the study to identify and probe specific physical planning problems, issues and opportunities. In addition, leaders of citizen district councils of neighborhood areas surrounding the Main Campus, local departments and government officials, business and industry will be surveyed for this input. The results of these probings will form part of the back-up for the formulation of the Main Campus Comprehensive Development Plan.

Review of University Academic Plan and Program

Wayne State University's Academic Plan Statement, consisting of the University mission, goals and objectives, policies, plans and programs, prepared by the University Planning Committee, will be analyzed to provide input for determining the immediate and long-range needs for land use, buildings, and facilities development, redevelopment and rehabilitation potentials, and their impact on the resources and surrounding areas. The results of this analysis will form the framework for the proposed program of development and implementation strategy of the Main Campus.

Synthesis of Data and Information

All collected data and information, surveys, studies, analyses, and work programs will be synthesized and their findings with comprehensive development plans and public improvement programs of surrounding areas and City-wide adopted Master Plans will be coordinated.

Based on the results of this synthesis, the conclusions in the form of a preliminary land use and development plan and a statement will be presented, backed by appropriate statistical data, to the University Planning Committee, University Administration and staff of the Department of Campus Planning for discussion, to reach internal judgement and conclusions as to solutions to problems and needs, such as accessibility to transportation systems, circulation, availability of building space, development, redevelopment and improvement of land for academic, recreational sports/athletic facilities, parking, housing, open space/landscape, and services and utilities, future growth opportunities, and alternative development program. This preliminary plan and statement, along with Phase I inventory analysis will be the basis for the development of a series of planning goals and guidelines on basic planning issues, a process for determining and evaluating land use decisions and strategies shaping the physical environment of the Main Campus. This statement will also form the basis for the formulation of the Main Campus Comprehensive Development Plan and Implementation Strategy.

Development of Main Campus Plan

This phase of the study includes the actual formulation of the Main Campus Comprehensive Development Plan, including proposed new boundaries of each Main Campus component, a land use and building plan, building density, circulation plan, parking plan, housing plan, site development plan and amenities (to be supplemented with design schematics), and recreational facilities and services.

The proposed development plan and program will also identify further specific planning studies and programs which the University should pursue.

Implementation Strategy

An implementation process will be outlined including a proposed set of priorities and time frame dealing with land use development and building programs, circulation, open space, landscaping and campus amenities, and other major categories of the action plan and programs. Also, the establishment of a logical system for making revisions in the Plan as conditions and circumstances change during the period of implementation will be presented.

APPENDICES

A. University Buildings and Assignable Space, Wayne State University Main Campus, 1981

B. Building Condition Survey of All University Buildings, Wayne State University Main Campus, 1979

C. Average Daily Vehicular Traffic Volumes, Wayne State University Main Campus Area

D. 12-Hour Pedestrian Volume Counts at Selected Locations, Wayne State University Main Campus Area

APPENDIX A

UNIVERSITY BUILDINGS AND ASSIGNABLE SPACE
WAYNE STATE UNIVERSITY
MAIN CAMPUS, 1981*

Bldg. No.	Address	Bldg. Name And Use	Total Gross Square Feet	Net Assignable Square Feet	Percent Assignable
001	4841 Cass	Old Main - classrooms and offices	331,426	174,055	52.5
003	666 W. Hancock	Physics Bldg. - classrooms, labs, offices	121,689	64,524	53.0
005	5045 Cass	Science Hall - classrooms, labs, offices	129,943	65,176	50.2
006	5000 Gullen Mall	Life Science Bldg. - classrooms, labs, offices	56,700	29,623	52.2
007	5101 Cass	Chemistry Bldg. - classrooms, labs, offices	218,571	127,405	58.3
008	5048 Gullen Mall	Science Library	111,700	78,258	70.1
016	5143 Cass	State Hall - classrooms and offices	156,017	77,308	49.6
017	5104 Gullen Mall	Biology Auxiliary Offices	8,513	2,434	28.6
018	5120 Gullen Mall	Monteith Child Care Center	6,289	1,904	30.3
019	5140 Gullen Mall	Humanist Studies - offices	7,353	2,672	36.3
022	5201 Cass	Prentis Bldg. - classrooms and offices	64,533	33,601	52.1
023	5203 Cass	DeRoy Lecture Hall	13,705	8,248	60.2
026	5244 Gullen Mall	Purdy Library	157,307	107,524	68.4
027	5294 Gullen Mall	Kresge Library	65,936	34,123	52.2
028	5229 Cass	Center for Urban Studies - offices	19,811	11,591	58.5

APPENDIX A (Continued)

UNIVERSITY BUILDINGS AND ASSIGNABLE SPACE
WAYNE STATE UNIVERSITY
MAIN CAMPUS, 1981*

Bldg. No.	Address	Bldg. Name And Use	Total Gross Square Feet	Net Assignable Square Feet	Percent Assignable
033	451 Reuther Mall	Art History Bldg. - offices	7,866	3,644	46.3
034	5221 Gullen Mall	Student Center Bldg.	194,760	110,569	56.8
036	5401 Cass	Reuther Library	49,287	28,422	57.7
038	5451 Cass	Music Bldg. - classrooms, practice rooms, offices	29,400	17,835	60.7
039	450 Reuther Mall	Community Arts Auditorium	51,176	30,625	59.8
040	5400 Gullen Mall	Art Bldg. - classrooms, workrooms, offices	66,040	39,174	59.3
041	5415 Cass	Music Annex - practice rooms, offices	9,185	5,905	64.3
042	441 Ferry Mall	Alumni House - offices	22,400	8,838	39.5
043	495 Ferry Mall	McGregor Conference Center - conference rooms	28,611	13,278	46.4
048	5557 Cass	Cohn Bldg. - classrooms and offices	88,907	48,978	55.1
049	495 W. Palmer	Law Annex - offices	13,983	9,821	70.2
050	5501 Gullen Mall	Shapero Hall - classrooms, labs, offices	39,467	22,288	56.5
052	5740 Cass	Nursing, Social Work Auxilliary Offices	19,760	14,888	75.3
053	468 Ferry Mall	Law School - Law Library, classrooms, offices	101,983	63,056	61.8
054	5750 Cass	Univ. Storage Warehouse	11,022	9,759	88.5

APPENDIX A (Continued)

UNIVERSITY BUILDINGS AND ASSIGNABLE SPACE
WAYNE STATE UNIVERSITY
MAIN CAMPUS, 1981*

Bldg. No.	Address	Bldg. Name And Use	Total Gross Square Feet	Net Assignable Square Feet	Percent Assignable
055	70 W. Palmer	C.I.T. Still Photo Office	7,000	4,505	64.4
057	5700 Cass	Commercial Stores (Leased Out)	11,884	1,024	8.6
058	80 W. Palmer	Sprague House (Vacant)	4,600	0	0.0
060	5454 Cass	University Services Bldg. - physical plant offices and shops	73,520	67,273	91.5
064	5475 Woodward	University Development Offices	18,790	9,562	50.9
069	5050 Cass	David Mackenzie Hall - offices	209,916	152,926	72.9
074	95 W. Hancock	WSU Theater Offices and Shops	23,447	17,891	76.3
075	71 W. Warren	Faculty Office Bldg.	34,292	19,103	55.7
076	84 W. Hancock	Biology Research Labs	11,577	7,690	66.4
077	76 W. Hancock	Public Safety Offices	10,384	6,399	61.6
078	1401 Edsel Ford	Dressing and Lockering Facility	8,622	5,997	69.6
079	1401 Edsel Ford	WSU Stadium	21,776	0	0.0
080	5101 John C. Lodge	Matthaei Physical Education Center - gymnasiums, swimming pools, dressing facilities, offices	155,943	81,873	52.5

APPENDIX A (Continued)

UNIVERSITY BUILDINGS AND ASSIGNABLE SPACE
WAYNE STATE UNIVERSITY
MAIN CAMPUS, 1981*

Bldg. No.	Address	Bldg. Name And Use	Total Gross Square Feet	Net Assignable Square Feet	Percent Assignable
081	4866 Third	Multiple Assignment Offices	10,045	5,721	57.0
090	5050 Anthony Wayne Drive	College of Engineering Building - classrooms, labs, offices	135,900	70,521	51.9
092	5125 Gullen Mall	University Bookstore	28,865	23,498	81.4
093	5021 Gullen Mall	Upward Bound Offices	4,624	2,097	45.4
094	5029 Gullen Mall	Metro Detroit Bureau Offices	3,247	1,293	39.8
095	5037 Gullen Mall	Family & Consumer Resource Offices	5,773	2,278	39.5
106	702 Putnam	Psychology Offices	5,995	2,818	47.0
107	694 Putnam	Psychology Offices	4,968	2,351	47.3
108	680 Putnam	Art Dept. Offices	7,444	2,351	31.6
109	672 Putnam	WAYN Student Radio - offices	5,210	1,677	32.2
110	664 Putnam	College of Engr. Offices	5,576	1,704	30.6
111	654 Putnam	Engr. Offices & Student Study	5,160	1,466	28.4
112	648 Putnam	South End Newspaper - offices	6,817	2,973	43.6
113	640 Putnam	Industrial Engineering Offices	4,320	1,693	39.2

APPENDIX A (Continued)

UNIVERSITY BUILDINGS AND ASSIGNABLE SPACE
WAYNE STATE UNIVERSITY
MAIN CAMPUS, 1981*

Bldg. No.	Address	Bldg. Name And Use	Total Gross Square Feet	Net Assignable Square Feet	Percent Assignable
114	632 Putnam	Industrial Engineering Offices	3,765	1,650	43.8
117	5165 Gullen Mall	Industrial Relations Offices	6,204	2,710	43.7
118	655 Merrick	WDET-FM Radio Station - offices	5,760	2,781	48.3
119	667 Merrick	College of Engineering Offices	12,665	7,401	58.4
120	645 Merrick	Faville Residence Hall	24,400	16,243	66.6
121	631 Merrick	Humanities Offices	7,315	4,119	56.3
123	693 Merrick	Library Court Office Building	33,920	25,933	76.5
124	681 Merrick	Santa Fe Apartments	29,925	23,310	77.9
125	655 Kirby	Helen Newberry Joy Res.	64,509	42,073	65.2
134	5200 Anthony Wayne Drive	Helen DeRoy Apartments	206,464	141,812	68.7
136	630 Merrick	Chatsworth Tower Apartments	126,337	87,307	69.1
137	650 Merrick	Chatsworth Annex Apartments	43,780	30,149	68.9
140	5425 Gullen Mall	Education Building	100,716	58,942	58.5
141	5900 Second Blvd.	Music North Unit - practice rooms & offices	22,440	14,853	65.0

APPENDIX A (Continued)

UNIVERSITY BUILDINGS AND ASSIGNABLE SPACE
WAYNE STATE UNIVERSITY
MAIN CAMPUS, 1981*

Bldg. No.	Address	Bldg. Name And Use	Total Gross Square Feet	Net Assignable Square Feet	Percent Assignable
145	5821 Second Blvd.	Teal Building (Vacant)	11,086	3,215	29.0
150	5045 Anthony Wayne Drive	General Lectures Hall	30,159	15,255	50.6
155	906 W. Warren	Alex Manoogian Hall - classroom and offices	186,035	102,342	55.0
167	4855 Fourth	Engineering Technology Building	23,846	17,454	73.2
168	929 W. Warren	Engineering Acceleration Lab.	9,874	8,170	82.7
181	615 W. Hancock	Sherbrook Apartments	23,670	16,275	68.5
186	460 W. Forest	Forest Apartments	144,803	109,728	75.8
187	490 W. Forest	Theatre Rehearsal Hall	12,580	7,014	55.8
188	4735 Cass	Mackenzie House (Vacant)	10,210	0	0
189	4743 Cass	Hilberry Theatre	37,000	21,125	57.1
190	467 W. Hancock	Univ. Counseling Services	15,828	10,696	67.6
191	5950 Cass	Administrative Services Offices Bldg. #1 & 2	144,939	98,531	68.0
192	5980 Cass	Administrative Services Offices Bldg. #3	18,370	13,443	73.2
193	5925 Woodward	Computer Center	32,733	24,217	74.0
194	5959 Cass	Univ. Storage Services/ Motor Pool	54,035	36,215	67.0

APPENDIX A (Continued)

UNIVERSITY BUILDINGS AND ASSIGNABLE SPACE
WAYNE STATE UNIVERSITY
MAIN CAMPUS, 1981*

Bldg. No.	Address	Bldg. Name And Use	Total Gross Square Feet	Net Assignable Square Feet	Percent Assignable
195	5743 Woodward	Mil. & Vets. Affairs Offices/Art Foundry	35,568	24,288	68.3
196	6001 Cass	Justice Bldg. - offices	263,360	130,263	49.5
197	6012 Cass	General Service Office Building	5,838	3,892	66.7
198	6030 Cass	Storage (Leased Out)	25,200	20,898	82.9
199	5959 Woodward	Simons Building - University Press Offices	6,117	3,216	52.6
	TOTAL	91 Buildings	4,808,486	2,867,730	59.6
	Main Campus Parking Structure List - 1981				
051	450 W. Palmer	Parking Structure #1	667,206	638,412	95.7
056	5150 John C. Lodge	Parking Structure #2	594,750	571,325	96.1
072	69 Putnam	Parking Structure #3	53,554	51,935	96.9
	TOTAL	3 Parking Structures	1,315,510	1,261,672	95.9
	GRAND TOTAL	94 Buildings	6,123,996	4,129,402	67.4

*Parkins, Rogers and Associates, Inc. based on data from Wayne State University, Department of Campus Planning, Space Inventory, June, 1981.

APPENDIX B

BUILDING CONDITION SURVEY OF ALL UNIVERSITY BUILDINGS
WAYNE STATE UNIVERSITY MAIN CAMPUS, WINTER, 1979*

Bldg. No.	Address	Bldg. Name And Use	Condition 1[a]	Condition 2[b]	Condition 3[c]
001	4841 Cass	Old Main - classrooms and offices		X	
003	666 W. Hancock	Physics Bldg. - classrooms, labs, offices	X		
005	5045 Cass	Science Hall - classrooms, labs, offices		X	
006	5000 Gullen Mall	Life Science Bldg. - classrooms, labs, offices	X		
007	5101 Cass	Chemistry Bldg. - classrooms, labs, offices	X		
008	5048 Gullen Mall	Science Library	X		
016	5143 Cass	State Hall - classrooms and offices	X		
017	5104 Gullen Mall	Biology Auxiliary Offices			X
018	5120 Gullen Mall	Monteith Child Care Center			X
019	5140 Gullen Mall	Humanist Studies - offices			X
022	5201 Cass	Prentis Bldg. - classrooms and offices	X		
023	5203 Cass	DeRoy Lecture Hall	X		
026	5244 Gullen Mall	Purdy Library		X	
027	5294 Gullen Mall	Kresge Library	X		
028	5229 Cass	Center for Urban Studies - offices		X	

APPENDIX B (Continued)

BUILDING CONDITION SURVEY OF ALL UNIVERSITY BUILDINGS
WAYNE STATE UNIVERSITY MAIN CAMPUS, WINTER, 1979*

Bldg. No.	Address	Bldg. Name And Use	Condition 1[a]	Condition 2[b]	Condition
033	451 Reuther Mall	Art History Bldg. - offices	X		
034	5221 Gullen Mall	Student Center Bldg.	X		
036	5401 Cass	Reuther Library	X		
038	5451 Cass	Music Bldg. - classrooms, practice rooms, offices	X		
039	450 Reuther Mall	Community Arts Auditorium	X		
040	5400 Gullen Mall	Art Bldg. - classrooms, workrooms, offices	X		
041	5415 Cass	Music Annex - practice rooms, offices		X	
042	441 Ferry Mall	Alumni House - offices	X		
043	495 Ferry Mall	McGregor Conference Center - conference rooms	X		
048	5557 Cass	Cohn Bldg. - classrooms and offices		X	
049	495 W. Palmer	Law Annex - offices		X	
050	5501 Gullen Mall	Shapero Hall - classrooms, labs, offices	X		
052	5740 Cass	Nursing, Social Work Auxilliary Offices			X
053	468 Ferry Mall	Law School - Law Library, classrooms, offices	X		
054	5750 Cass	Univ. Storage Warehouse			X

APPENDIX B (Continued)

BUILDING CONDITION SURVEY OF ALL UNIVERSITY BUILDINGS
WAYNE STATE UNIVERSITY MAIN CAMPUS, WINTER, 1979*

Bldg. No.	Address	Bldg. Name And Use	Condition 1[a]	Condition 2[b]	Condition 3
055	70 W. Palmer	C.I.T. Still Photo Office			X
057	5700 Cass	Commercial Stores (Leased Out)			X
058	80 W. Palmer	Sprague House (Vacant)			X
060	5454 Cass	University Services Bldg. - physical plant offices and shops	X		
064	5475 Woodward	University Development Offices	X		
069	5050 Cass	David Mackenzie Hall - offices		X	
074	95 W. Hancock	WSU Theater Offices and Shops	X		
075	71 W. Warren	Faculty Office Bldg.		X	
076	84 W. Hancock	Biology Research Labs			X
077	76 W. Hancock	Public Safety Offices			X
078	1401 Edsel Ford	Dressing and Lockering Facility	X		
079	1401 Edsel Ford	WSU Stadium	X		
080	5101 John C. Lodge	Matthaei Physical Education Center - gymnasiums, swimming pools, dressing facilities, offices	X		

APPENDIX B (Continued)

BUILDING CONDITION SURVEY OF ALL UNIVERSITY BUILDINGS
WAYNE STATE UNIVERSITY MAIN CAMPUS, WINTER, 1979*

Bldg. No.	Address	Bldg. Name And Use	Condition 1[a]	Condition 2[b]	Condition
081	4866 Third	Multiple Assignment Offices			X
090	5050 Anthony Wayne Drive	College of Engineering Building - classrooms, labs, offices		X	
092	5125 Gullen Mall	University Bookstore	X		
093	5021 Gullen Mall	Upward Bound Offices			X
094	5029 Gullen Mall	Metro Detroit Bureau Offices			X
095	5037 Gullen Mall	Family & Consumer Resource Offices			X
106	702 Putnam	Psychology Offices			X
107	694 Putnam	Psychology Offices			X
108	680 Putnam	Art Dept. Offices			X
109	672 Putnam	WAYN Student Radio - offices			X
110	664 Putnam	College of Engr. Offices			X
111	654 Putnam	Engr. Offices & Student Study			X
112	648 Putnam	South End Newspaper - offices			X
113	640 Putnam	Industrial Engineering Offices			X

APPENDIX B (Continued)

BUILDING CONDITION SURVEY OF ALL UNIVERSITY BUILDINGS
WAYNE STATE UNIVERSITY MAIN CAMPUS, WINTER, 1979*

Bldg. No.	Address	Bldg. Name And Use	Condition 1[a]	Condition 2[b]	Condition 3[c]
114	632 Putnam	Industrial Engineering Offices			X
117	5165 Gullen Mall	Industrial Relations Offices			X
118	655 Merrick	WDET-FM Radio Station - offices			X
119	667 Merrick	College of Engineering Offices			X
120	645 Merrick	Faville Residence Hall			X
121	631 Merrick	Humanities Offices			X
123	693 Merrick	Library Court Office Building			X
124	681 Merrick	Santa Fe Apartments			X
125	655 Kirby	Helen Newberry Joy Res.	X		
134	5200 Anthony Wayne Drive	Helen DeRoy Apartments	X		
136	630 Merrick	Chatsworth Tower Apartments	X		
137	630 Merrick	Chatsworth Annex Apartments	X		
140	5425 Gullen Mall	Education Building	X		
141	5900 Second Blvd.	Music North Unit - practice rooms & offices	X		

APPENDIX B (Continued)

BUILDING CONDITION SURVEY OF ALL UNIVERSITY BUILDINGS
WAYNE STATE UNIVERSITY MAIN CAMPUS, WINTER, 1979*

Bldg. No.	Address	Bldg. Name And Use	Condition 1[a]	Condition 2[b]	Condition 3
145	5821 Second Blvd.	Teal Building (Vacant)			X
150	5045 Anthony Wayne Drive	General Lectures Hall	X		
155	906 W. Warren	Alex Manoogian Hall - classroom and offices	X		
167	4855 Fourth	Engineering Technology Building		X	
168	929 W. Warren	Engineering Acceleration Lab.			X
181	615 W. Hancock	Sherbrook Apartments	X		
186	460 W. Forest	Forest Apartments	X		
187	490 W. Forest	Theatre Rehearsal Hall			X
188	4735 Cass	Mackenzie House (Vacant)		X	
189	4743 Cass	Hilberry Theatre	X		
190	467 W. Hancock	Univ. Counseling Services			X
191	5950 Cass	Administrative Services Offices Bldg. #1 & 2	X		
192	5980 Cass	Administrative Services Offices Bldg. #3		X	
193	5925 Woodward	Computer Center	X		
194	5959 Cass	Univ. Storage Services/ Motor Pool			X

APPENDIX B (Continued)

BUILDING CONDITION SURVEY OF ALL UNIVERSITY BUILDINGS
WAYNE STATE UNIVERSITY MAIN CAMPUS, WINTER, 1979*

Bldg. No.	Address	Bldg. Name And Use	Condition 1[a]	Condition 2[b]	Condition 3[c]
195	5743 Woodward	Mil. & Vets. Affairs Offices/Art Foundry			X
196	6001 Cass	Justice Bldg. - offices		X	
197	6012 Cass	General Service Office Building		X	
198	6030 Cass	(Leased Out)		X	
199	5959 Woodward	Simons Building - University Press Offices	X		
	TOTAL	91 Buildings	39	16	36
		Percent of Total	43%	17%	40%
	Main Campus Parking Structure List - 1981				
051	450 W. Palmer	Parking Structure #1	X		
056	5150 John C. Lodge	Parking Structure #2	X		
072	69 Putnam	Parking Structure #3		X	
	TOTAL	3 Parking Structures	2	1	0
		Percent of Total	67%	33%	0%

*Parkins, Rogers & Associates, Inc. based on data supplied from Wayne State University, Department of Campus Planning, Space Inventory, conducted during Winter, 1979.

[a]Condition 1: Satisfactory (Standard), if building required only normal maintenance and repairs for next five years.

[b]Condition 2: Deficient, if building required major renovation and remodeling during the next five years for less than replacement cost.

[c]Condition 3: Substandard, if building is in such poor condition that it becomes economically unfeasible to bring it up to standard conditions.

APPENDIX C

AVERAGE DAILY VEHICULAR TRAFFIC VOLUMES
WAYNE STATE UNIVERSITY MAIN CAMPUS AREA*

Road	Location	Direction	Date of Latest ADT	Traffic Volume
Brush	N of Canfield	NB	1980	2,965
	S of Forest	NB	1978	3,286
	S of Warren	NB	1980	8,271
Warren	W of Woodward	WB	1980	18,906
	W of Woodward	EB	1979	7,175
	W of Second	WB	1980	15,861
	W of Lodge	WB	1980	12,402
	W of Lodge	EB	1979	908
	W of Cass	WB	1980	14,301
	W of Cass	EB	1979	6,842
	W of Third	WB	1980	18,952
	W of Third	EB	1979	5,052
	E of Woodward	WB	1980	16,521
	E of Woodward	EB	1980	11,121
	W of John R	EB	1978	8,530
	E of Brush	EB	1978	11,733
	E of Cass	EB	1978	7,163
Third (Anthony Wayne Drive)	S of Forest	SB	1977	6,899
	N of Forest	SB	1977	4,622
	S of Canfield	SB	1977	6,837
	N of Warren	NB/SB	1980	14,911
Second	S of Canfield	NB	1977	6,669
	S of Forest	NB	1977	6,225
	N of Forest	NB	1980	5,481
Palmer	W of Woodward	EB	1978	3,083
	E of Woodward	WB	1978	892
John R	N of Canfield	SB	1980	10,656
	S of Warren	SB	1980	6,826
	S of Ford	SB	1978	8,912
	S of Forest	SB	1978	8,421

APPENDIX C (Continued)

AVERAGE DAILY VEHICULAR TRAFFIC VOLUMES
WAYNE STATE UNIVERSITY MAIN CAMPUS AREA*

Road	Location	Direction	Date of Latest ADT	Traffic Volume
Hendrie	E of Woodward	WB	1976	1,863
Hancock	W of John R	EB/WB	1980	1,673
	W of Brush	EB/WB	1980	1,900
	E of John R	EB/WB	1980	1,665
Forest	E of Second	EB	1977	11,675
	W of Third	EB	1977	12,342
	E of John R	EB	1978	6,174
	W of Lodge	EB	1977	14,615
	E of Woodward	EB	1978	8,716
	W of Brush	EB	1980	5,138
	W of John R	EB	1980	5,810
Putnam	E of Cass	EB	1979	3,537
Woodward	S of Warren	NB/SB	1979	23,600
	N of Warren	NB/SB	1979	27,800
	S of Antoinette	NB/SB	1979	29,100
Cass	N of Antoinette	NB	1980	5,950
		SB	1980	4,868
	at Warren	NB	1978	5,402
		SB	1978	3,850
John C. Lodge	S of Forest	NB/SB	1979	73,900
Freeway	Merrick	NB/SB	1979	86,900
	S of Railroad	NB/SB	1979	109,100
Edsel Ford	W of Trumbull	EB/WB	1979	110,500
Freeway	W of John C. Lodge	EB/WB	1979	118,200
	W of Third	EB/WB	1979	123,500

*Parkins, Rogers and Associates, Inc. based on most recent data available from City of Detroit, Department of Streets and Traffic, Research Department and Michigan Department of Transportation.

Note: EB, WB, NB, SB refer to East-bound, West-bound, North-bound, South-bound directional flow.

APPENDIX D

12-HOUR PEDESTRIAN VOLUME COUNTS AT SELECTED LOCATIONS WAYNE STATE UNIVERSITY MAIN CAMPUS AREA*

Location	Pedestrian Movement	Date	Pedestrian Volume
Anthony Wayne Drive	E & W	1980	1,175
	N & S	1980	2,549
Woodward Avenue at Forest Avenue	N & S	1980	950
	EB	1980	1,147
Woodward Avenue at Kirby Avenue	E & W	1978	1,360
	N & S	1978	995
Warren Avenue at Woodward Avenue	E & W	1980	1,562
	N & S	1980	1,710
John C. Lodge Freeway at Warren Avenue	E & W	1978	896
	N & S	1978	232
Forest Avenue at Second Avenue	N & S	1977	438[a]
	E & W	1977	284[a]
Cass Avenue at Warren Avenue	N & S	1978	1,635[a]
	E & W	1978	2,426[a]
John R Street at Hendrie Street	N & S	1980	164
	E & W	1980	140[a]
John R Street at Warren Avenue	N & S	1980	191
	E & W	1980	165[a]
Brush Avenue at Warren Avenue	E & W	1980	263
	N & S	1980	77
Brush Avenue at Kirby Avenue	N & S	1978	60[a]
	E & W	1978	71[a]
Brush Avenue at Forest Avenue	N & S	1980	393
	E & W	1980	78

*Parkins, Rogers and Associates, Inc. based on latest available data from City of Detroit, Department of Transportation, Research Department.

[a]Eight hour total figure only.

Note: N, S, E, W represent North, South, East and West respectively.