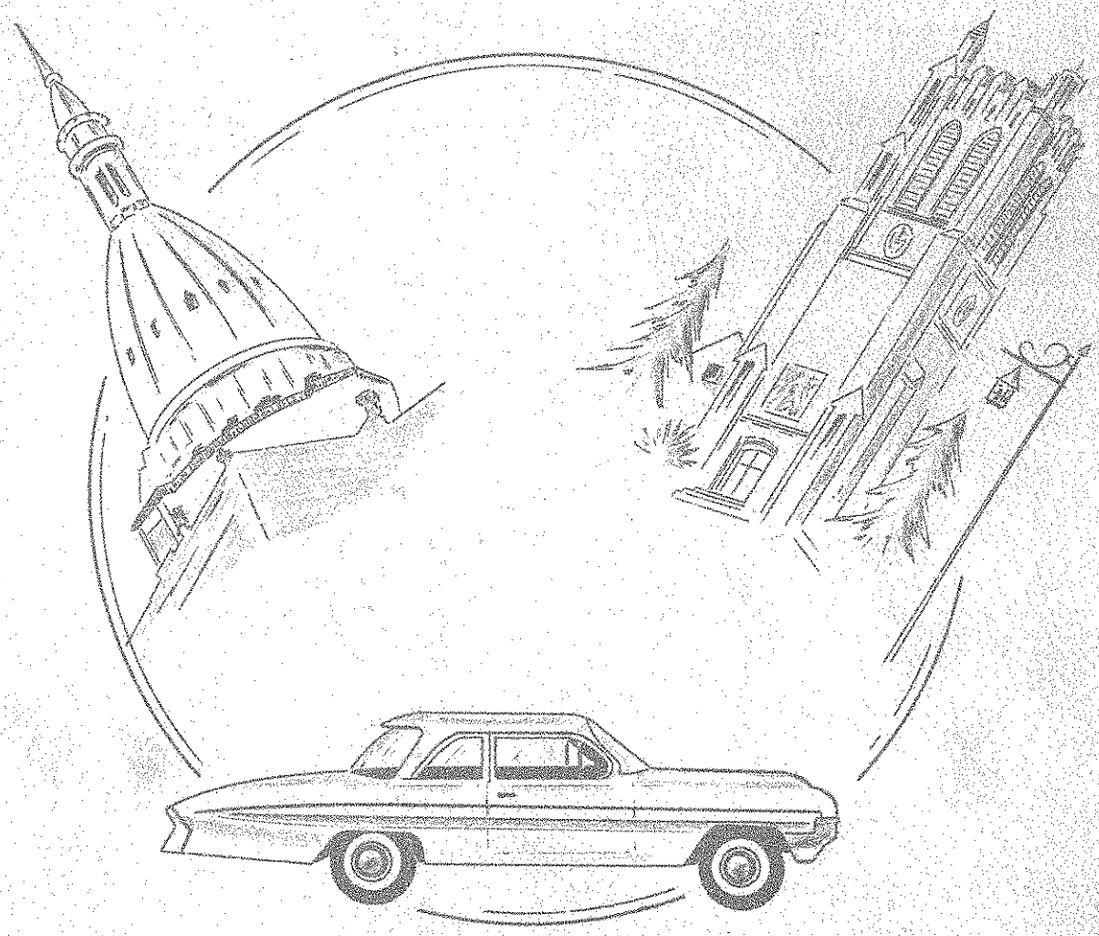
LANSING AREA

TRUNKLINE PLAN



MICHIGAN STATE
HIGHWAY DEPARTMENT

JOHN C. MACKIE, COMMISSIONER

65-3222

LANSING AREA TRUNKLINE PLAN

PREPARED BY
THE
PLANNING DIVISION
OF THE
MICHIGAN STATE HIGHWAY DEPARTMENT

IN COOPERATION WITH THE
CITY OF LANSING
CITY OF EAST LANSING
MICHIGAN STATE UNIVERSITY
MERIDIAN TOWNSHIP

WITH THE PARTICIPATION
OF THE
UNITED STATES DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

— SEPTEMBER 1961 —

STATE OF MICHIGAN

HIGHWAY DEPARTMENT

STEVENS T. MASON BUILDING • • • LANSING 26

JOHN C. MACKIE • COMMISSIONER

HOWARD E. HILL
MANAGING DIRECTOR

JOHN E. MEYER
DIRECTOR FOR ENGINEERING

FREDERICK E. TRIPP
DIRECTOR FOR ADMINISTRATION

JOHN B. SWAINSON
GOVERNOR

Mr. E. A. Bellenbaum
Chief Planning Engineer
Michigan State Highway Department
Lansing, Michigan

Dear Mr. Bellenbaum:

This will serve to introduce the "Lansing Area Trunkline Plan". The plan was developed by R. J. Lilly and J. G. Venturino of the System Planning Section in cooperation with the Planning Departments of Lansing and East Lansing, representatives of Michigan State University and the Meridian Township Planning Board. In addition, various members of the Highway Department's Route Location, Programming and Traffic Divisions were consulted on problems in their specialized fields. In each instance the excellent cooperation received and the many pertinent suggestions put forth were of valuable assistance in arriving at the conclusions reached in this report.

It is anticipated that the trunkline system as outlined in Stage III of this plan will meet the area's motoring needs for many years. However, the construction projects included in the initial stages of the plan will enhance traffic movement in and through the area and provide many essential services prior to the incorporation of the plan in its entirety.

We recommend that Route Location engineers be requested to make engineering feasibility studies of the proposed routes so that they may be referred to the Programming Division for inclusion in their schedule of construction projects.

Respectfully submitted,

R. F. Van Hoef, Director
Planning Division

RFV:JCV:jp

Enc.

PREFACE

LANSING AREA TRUNKLINE PLAN

PREFACE

General

The vital role played by our cities in providing low-cost public utilities and a general climate conducive to the successful establishment of business and industrial concerns is a major factor in the continued growth and prosperity of our urban areas, in particular, and our nation as a whole. The availability of these reasonable rates for public services is based primarily on the economics involved in concentrated development of land use. Consolidation of industry and intensified uses of land results in untold "tax dollar" savings. These savings are brought about by minimizing the number of miles of sewage lines, power cables, water mains, streets and the myriad of other public services needed for successful industrial, commercial and residential developments. That this city-type development is feasible and an underlying factor in the prosperous and continued advancement of our nation's economy is substantiated by the fact that in 1957, 83% of our national employment was in pursuits located in these urban areas. That our cities must be preserved, and actions taken to rejuvenate our older cities and invigorate the growth and development of our newer cities, is an economic necessity.

A major contribution to achieving this end result can be made in the field of transportation planning. The past few decades have seen a tremendous increase in the use of rubber-tired transportation. This change in our basic mode of travel has presented a new and challenging problem to our cities. The problem referred to, and presently confronting the vast majority of our urban areas, is the necessity of developing a network of roads and streets sufficient in scope to efficiently service this influx of vehicular traffic. The fact that trucks and automobiles have become our prime movers of materials and people is undeniable. Within this realm, studies reveal that 49% of the vehicle miles of travel in Michigan occur within incorporated areas on only 14% of the total network of highways and streets in the state. Methods must therefore be developed and means found to provide a system of interior state trunklines, augmented by an extensive network of local arterials, to provide for this traffic desire. If a solution to this problem is not forthcoming our cities will stagnate and our economy will suffer accordingly.

In view of these considerations, all efforts must be put forth to insure that a sound and adequate system of trunkline routes be established and correlated with the local network of city streets, and that future plans and goals be defined so as to facilitate the expansion of these road systems as the need arises. Following is an exerpt from a report prepared by the Office of Planning of the Michigan State Highway Department entitled "A Policy on Urban Connectors to Interstate and Arterial Routes" which vividly summarizes the theory of transportation planning.

> "Our economy functions by and through transportation, automotive or otherwise; without transportation it would cease to function. Therefore, transportation comes first, and always first; the other elements and features of our physical environment and our social needs must be adjusted to the basic transportation plan. If it is not good transportation it is not good planning."

This particular report is concerned with an individual urban complex which is composed of two cities, Lansing and East Lansing, and their immediate environs. The proximity of the cities involved and the interrelated functions of their respective local trunkline systems and city streets makes a cooperative report of this nature the only feasible method of presentation.

Local Situation

The eminent position that Lansing occupies as the seat of state government, its extensive manufacturing, wholesale and retail trade facilities and its geographical location in the heart of populous south central Michigan combine to form an environment which attracts traffic from all corners of the state. A similar situation exists in East Lansing which provides the locale for Michigan State University. With an enrollment that ranks it among the eight largest universities in the nation, M.S.U. is a year round traffic attractor. As the majority of Greater Lansing's trade and service establishments are centrally located it is necessary for motorists to wend their way through extensive areas of concentrated development prior to reaching their destinations.

A condition is thereby established which dictates that appropriate trunklines with suitable traffic capacity be established within the two cities to accommodate this terminal traffic. The most feasible method of moving high traffic volumes through an urban area with maximum efficiency, high safety standards and a minimum of conflicting turning movements is through the establishment of controlled-access facilities or through the utilization (and improvements where necessary) of one-way streets. The city of Lansing has been included among those cities in the state which warrant an Interstate Urban Loop (I-496). As one of the criterion governing the construction of roadways included in the Interstate System is that these routes must conform to freeway standards, it will be possible to combine a system of controlled access trunklines and one-way streets to provide the city with suitable internal trunkline routes.

Stage Development

As it is economically impossible to construct all phases of the proposed Area Trunkline System over an abbreviated period the plan is presented so as to facilitate stage development.

– Stage I is concerned with the trunkline system which is currently programmed and to be constructed or contracted for prior to 1967.

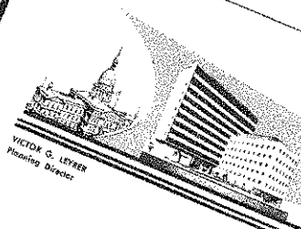
– Stage II is an extension and enlargement of the initial stage of the trunkline development plan and includes the interim system of trunkline routes.

– Stage III represents a long range projection of the area trunkline system and will provide the cities of Lansing and East Lansing with a complete system of perimeter routes and a series of high capacity urban penetrators and internal circulators and distributors.

Of necessity, the Stage II and III development phases are tentative in nature. The ultimate determinations will depend upon final route location studies and further negotiations with city and county officials which will undoubtedly result in minor deviations from the plan as presented. However, the overall plan for the area has been accepted in principal and will undoubtedly approximate the system which is finally adopted. Thus, the Lansing Area Trunkline Plan provides a framework for future construction programs, assures that each succeeding phase of trunkline construction will remain an integral part of the ultimate plan, and provides a guide for area communities in planning their land use so as to realize the fullest benefits from the future trunkline network.

In the Stage II and Stage III phases of the Area Trunkline Plan it may not be possible to program all of the projects included in each stage in successive five year state trunkline construction programs. This five year projection of programming projects is the current policy of the Highway Department. It has been very successful in the past and there is little to indicate that this policy will be altered in the future. Hence, the various stagings as set forth in the report (excluding Stage I) do not represent suggested construction programs nor should they be construed as such. The stagings are set forth as a means to integrate various facets of the plan in a systematic manner and to indicate the desirable sequence of construction projects as funds are made available. Actual future construction projects in the area must be related to statewide trunkline needs and programmed accordingly. In view of this, the futuristic nature of the latter stages of the plan would make the basis for explicit construction programming mere conjecture and of questionable value.

In arriving at the conclusions reached in this report close contacts were maintained and excellent cooperation was received from local planning agencies. Their concurrence and support of the trunkline plan, as contained herein, is evidenced by the resolutions which appear on the following pages.



VICTOR G. LEYRER
Planning Director

City of LANSING

LANSING 7, MICHIGAN
PLANNING DEPARTMENT
613 CITY HALL

RESOLUTION OF THE CITY PLANNING BOARD
City of Lansing, Michigan

WHEREAS: The City of Lansing has a (recognized) Planning Board (duly constituted according to existing planning enabling legislation), which Planning Board has been given the responsibility for the preparation of a Master Plan for the city, and;

WHEREAS: The Planning Board, in pursuance of this delegated responsibility, has caused to be made detailed and comprehensive studies of existing conditions and development trends, and on the basis of the studies, made projections of the future development of the community, part or parts of which have been adopted as elements of a Master Plan of community development and;

WHEREAS: The Planning Division of the Office of Planning of the Michigan State Highway Department in cooperation with local planners, has been delegated the responsibility of preparing a trunkline plan, which plan represents the level of agreement which has been reached on long range planning objectives, and;

WHEREAS: The City Planning Board and representatives of the Planning Division, through cooperative study, have prepared such a trunkline plan, now;

THEREFORE BE IT RESOLVED: That the plan entitled 'Lansing Area Trunkline Plan' as presented, is generally consistent and compatible with the planning and development objectives of the City of Lansing, and;

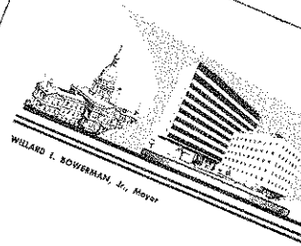
BE IT FURTHER RESOLVED: That it is deemed desirable that the west end of the proposed Oakland One Way Street stay as close to the rear of the commercial properties on the north side of Saginaw Street as possible, and;

BE IT FURTHER RESOLVED: That prior to any final determination for the solution of the Logan Street area, both the Michigan State Highway Department and the City of Lansing will review jointly the various proposals in search of the most effective and compatible solution to this problem, and;

BE IT FURTHER RESOLVED: That the remainder of the said trunkline plan as cooperatively developed and presented herewith be approved for presentation to the State Highway Department for programming.

APPROVED: June 15, 1961

Victor G. Leyrer
Planning Director



WILLARD L. BOWERMAN, Jr., Mayor

City of LANSING

LANSING 7, MICHIGAN

I, Millie M. Brown, City Clerk of the City of Lansing, Michigan do hereby certify that I have compared the annexed copy of a resolution adopted by the City Council at a meeting held on June 26, 1961.

By Special Committee on Bridges and Grade Seperations—

Resolved by the City Council of the City of Lansing:

That the attached plan for the Michigan State Trunklines for Lansing as submitted to the City of Lansing by the Michigan State Highway Department and as reported upon by the City Planning Board be and is hereby adopted for the City of Lansing, and be it further

Resolved that a copy of this resolution be transmitted to the Michigan State Highway Commissioner.

Adopted by the following vote:

Unanimously.

with the original now on file in my office, and that it is a correct copy thereof, and of the whole of such original.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal of said City, this 6th day of July, A. D. 1961

(SEAL)

S/ Millie M. Brown
City Clerk

400 Abbott Road

Telephone ED 2-1731

CITY OF EAST LANSING MICH.

RESOLUTION OF THE CITY PLANNING COMMISSION

City of East Lansing, Michigan

WHEREAS: The city of East Lansing has a Planning Commission duly constituted according to existing planning enabling legislation, which Planning Commission has been given the responsibility for the preparation of a Master Plan for the city, and;

WHEREAS: The Planning Commission, in persuance of this delegated responsibility, has caused to be made detailed and comprehensive studies of existing conditions and development trends, and on the basis of these studies, made projections of the future development of the community, and;

WHEREAS: The Planning Division of the Office of Planning of the Michigan State Highway Department has been delegated the responsibility of preparing, in cooperation with local planners, a trunkline plan, which plan represents the level of agreement which has been reached on long-range planning objectives, and;

WHEREAS: The City Planning Commission and representatives of the Planning Division have cooperatively studied this problem and have prepared such a trunkline plan, now;

THEREFORE BE IT RESOLVED: That the plan entitled "State Trunkline Development Plan for the Lansing Area", as presented, is consistent with and compatible to the planning and development objectives of the city of East Lansing, and;

THEREFORE BE IT FURTHER RESOLVED: That the said trunkline plan as cooperatively developed and presented herewith be approved for presentation to the State Highway Department for programming.

APPROVED: April 19, 1961

Keith M. Honey
Acting Secretary

RESOLUTION OF THE TOWNSHIP PLANNING BOARD

Meridian Charter Township Planning Commission

WHEREAS: The Michigan State Highway Department has met with the Meridian Charter Township Planning Commission and has informed them of a plan outlining the trunkline system of the Greater Lansing Metropolitan Area, and;

WHEREAS: said plan takes into consideration the major streets and highways plan, and the future land use plan of Meridian Charter Township;

THEREFORE, BE IT RESOLVED: The Meridian Charter Township Planning Commission commends the Michigan State Highway Department's trunkline plan for Greater Lansing and urges initiation of the proper engineering studies necessary for more thorough definition of the proposals extending the Main Street route across the Michigan State University Campus and connecting with the US-16 route and industrial zoning area in Meridian Township.

APPROVED: May 22, 1961

Dorothy Falk
Secretary

SECTION I

INVENTORY — FORECAST

LANSING – EAST LANSING

Past . . . . . Present . . . . . Future

Population

Lansing:

From the time of its designation as the State Capitol in 1847 and its subsequent incorporation as a city in 1859 the city of Lansing has experienced a continued and substantial rate of growth. Recently celebrating its one hundredth anniversary, Lansing has grown from an urban complex with an initial population of 3,000 contained within four square miles to a prosperous industrial, commercial and governmental center with a 1960 population of 113,058 residents and an incorporated area which exceeds twenty-four square miles. Projections by local city planners, indicate that the 1980 population will have increased to 135,000 and the incorporated area expanded to thirty square miles.

East Lansing:

East Lansing, which received its city charter in 1907, has also experienced a considerable increase in population and physical growth, particularly during the past few decades. Latest census figures indicate that East Lansing has a current population of 30,198. Included in this census are the 22,560 students enrolled at Michigan State University who occupy an important position in the city's social and economic environment. The university will undoubtedly continue to be a motivating force in the growth of the city. Representatives of the college predict that by 1965 the school's enrollment will have increased to 30,000 students. This anticipated increase in the student body will necessitate an attendant expansion of the school's physical plant and the city's recreation, social and commercial facilities. These factors alone are sufficient indication that the physical and economic growth of East Lansing will continue unabated.

Metropolitan Area:

It is anticipated by local city planners that by 1980 the greater Lansing urban area will encompass approximately 87 square miles. This is more than twice the area which is currently used for public and private urban type development. An associated population projection from the same source anticipates a 1980 Greater Lansing population of 250,000. This projected growth of the Lansing Metropolitan area emphasizes the need for a complete and integrated trunkline network from which to meet the area's ever expanding motoring needs. The future trunkline system combined and correlated with the future city arterial systems, as envisioned by local authorities, can well serve as a guide for the orderly and systematic development of the Lansing-East Lansing metropolitan complex.

Land Use

Existing:

As the existing land-use has been included in, and does not conflict with, the future land-use projections of the various local planning agencies it will not receive detailed consideration in this report. Existing areas of concentrated development are readily discernible by observing the existing street network underlying the proposed 1980 land-use exhibits.

Future:

The overall future land-use as indicated on various displays in Section II of this report has been accomplished by integrating the individual projections of the several units of local government directly concerned with the area trunkline plan.

The essence of future land planning is the determination of a generalized spatial distribution of various land uses which will result in the most compatible and efficient use of conflicting industrial, commercial and residential interests. In effect, it is a method of integrating and maintaining the area's natural resources with the needs of its people. The degree to which these various interests will utilize the land is dependent on the area's overall rate of economic growth. However, the important aspect of land planning is that sufficient research has been accomplished by competent personnel to channelize and direct this growth, if, and when, it occurs.

As the location of future industries, commercial enterprises, recreational facilities, airports, transportation terminals and various other components which combine to form the city's basic structure are all important facets in determining the volume and direction of future traffic occurrence the various stages of the trunkline plan have been superimposed over the 1980 land-use as envisioned by local planning agencies. The interrelationship of land-use and traffic desire is a tenet of highway planning and of major significance in trunkline determinations. In indicating the future land-use it is not intended to imply that these various designated areas of future developments will be fully utilized at the time the final stages of the Area Trunkline Plans are completed. It is quite conceivable that some of the outlying areas indicated as residential will continue to be rural in character and sparsely settled for many years to come.

A limiting factor involved in controlling land-use is the lack of jurisdiction which can be exercised in many cases by local officials. Zoning laws provide a certain degree of restriction and control but can be, and are, often times revised or amended as a result of local pressures or for immediate economic gain. This economic gain may be in the form of an increase in the local tax base resulting from an industry being established in a non-conforming area of land-use. Thus, expediency may provide the immediate guide rather than conformity to long-range, well developed planning objectives.

For these reasons, the future land-use as outlined in this report may be subject to minor changes in some areas. However, generally speaking, it does represent the major direction of growth in which various classifications of land-use will occur.

It must also be noted that these estimates of projected urbanization may appear to be somewhat optimistic. If true, it is not deleterious to this particular study. It is far better, within reasonable bounds, to overestimate rather than underestimate the area's growth when planning for future trunkline service.

Economic Considerations

The Lansing Metropolitan Area, is fortunate to have three primary ingredients or economic factors which contribute to both a healthy and stable economic climate. The major ingredients, as depicted on the cover, are large and diversified industry, state government and higher education.

Industry provides the major source of employment with an annual contribution of one hundred and fifty million dollars to the area's payroll. Augmenting this industrial facet of the

area's economy is the one hundred million dollar annual contribution (in payrolls and new construction) by Michigan State University which is second only to Oldsmobile Division in this category. Following closely is state government which employs seven thousand persons and has experienced a forty percent increase in employment over the past decade.

The interaction of these diversified agencies of employment upon the area results in an economy which is both stable and dynamic. The dynamic growth potential is provided by the automotive industry. However, this growth is often times counteracted by periods of reduced activity common to the automobile market which is extremely sensitive to national economic trends. It is, therefore, subject to severe fluctuation marked by extreme high and low points in production. Counteracting this dynamic but vacillating field of employment and underscoring the stability of the area's economic environment is the steady and permanent employment opportunities provided by state government and Michigan State University. The nature and function of these two large agencies make them strongly resistent to all but the most severe economic fluctuations on either the state or national level. This stability is substantiated by the fact that employment in the area averaged 95.6% over the past ten years as compared to the state average of 93.7% for the same period (January average).

Other large sources of employment which further augment the prosperity of the area are found in the fields of retail and wholesale trade. The retail trade industry has an annual payroll of thirty-eight million dollars. Wholesale trade, which has increased 93% over the past decade and which will greatly benefit by the new and improved system of roadways, contributes an annual seventeen million dollar payroll to the area's economy.

There is every indication that these prime supporters of the area's economy will continue to grow and meet the employment needs of the people. At present, various sites are being explored (in some instances already established) for development as industrial parks. These parks, strategically located and properly serviced, are convincing evidence of the area's interest in this particular field and may well be the deciding factor in the inducement of new industries into the area. Michigan State University, as previously stated, is anticipating a large increase in its student enrollment and a vast expansion of its physical plant both of which will lead to new job opportunities in a wide variety of occupations. State government will continue to play an important role in the area's economic picture. There is no reason to assume that state agencies will not expand in proportion to the overall population increases of the state. To assume otherwise would imply a substantial curtailment of state services and would be contrary to past trends. Sales tax figures, which reflect retail sales volumes, indicate that in 1960, Ingham county had the fourth highest per capita collection in the state. The accelerated construction of retail outlets in the area would indicate that this position will be maintained. Wholesale trade, which has doubled in the past decade, and which is complimented by Lansing's central location and the improved highway system presently under construction, will undoubtedly continue to expand and become of increasing importance to the area's economy.

The combination and continued vitality of the aforementioned contributors to the Lansing Metropolitan Area economy, as well as various other smaller agencies, would indicate that the area will continue to expand and retain its present high ranking in the state's socio-economic setting.

Downtown Parking

Recent additions to off-street parking facilities serving the downtown district of Lansing have brought the total of individual parking spaces to 4,162. Included in this figure are spaces for 1,175 automobiles in city owned lots and 3,037 automobiles in privately operated concessions.

In addition, there are state-owned parking lots, available to the public on weekends, which will accommodate another 1,800 vehicles.

These statistics graphically indicate that the city of Lansing is aware of the vital necessity of providing off-street parking in or near the central business district. Readily available parking is a prime requisite in attracting shoppers to the downtown area and a major factor in competing with fringe area shopping centers for the customers' retail dollar. Comprehensive parking facilities, as projected on the exhibit (Section III) depicting the future Central Business District and Capitol Development Area, will compliment the improved network of internal trunkline routes planned for the city.

City Street System

The city street system is separated into the following classifications after which is a brief explanation of their respective functions.

Major Arterial Streets – these streets serve the major flow of local traffic and should connect areas of principal traffic generation and important rural highways entering the city. As vehicular trips along this system of streets are usually quite lengthy, signalizations and speed limits should be adjusted to favor this traffic movement.

Collector Streets – the prime function of this network of streets is to collect and distribute traffic between the local streets and the major arterial streets. Thus, these streets are used primarily for the movement of traffic within residential, industrial and commercial areas.

Local Streets – these streets are used mainly for direct access to residential areas.

The projected 1980 major and collector system of city streets are indicated on the various exhibits which set forth the development stages of the area trunkline plan. This future city street network includes the existing major streets and the projected system as submitted by the city for the Programming Division's twenty-year needs study. It is possible that minor discrepancies may occur between the major city street system as shown and that included on the city's master plan. However the minor nature of these discrepancies will not materially affect the major objectives of local traffic service.

The primary purpose of projections of this nature is to achieve an overall view of the future interrelated functions of the entire system of trunkline routes and city streets. Only by correlating the functions of these various street systems can an optimum of traffic service be provided to the city.

Terminal Facilities

A distinctive legend, which indicates major terminal facilities, has been incorporated into the maps displaying the proposed area trunkline system. These terminals are major areas of traffic attraction and of vital importance to the area's economy. As such, they must be provided with adequate connections to trunkline facilities. Trucking terminals, in particular, which serve large and slow-moving motor carriers should receive as direct trunkline connections as possible. The adverse effect that these huge vehicles have on the overall traffic movement dictates that their internal trunkline routings be held to a minimum.

Future terminal facilities as indicated on the displays contained in Section II of this report have been projected by local planners. However, it is our belief that as the area trunkline

system is developed there will be many more trucking terminals established than are indicated on the above mentioned exhibits.

Convention Trade

Recently the city of Lansing has established a Convention and Visitor's Council whose major function is to actively promote the city's merits as a convention center. Although still an infant organization the council has already proven successful in their initial endeavors. A continuation of these successes through vigorous and sustained efforts will undoubtedly attract increased numbers of motorists to the city.

Assisting the council in their efforts to sell Lansing as a convention center is the recent expansion and rejuvenation which has occurred to most of the city's downtown hotels. New construction has brought the total of first class hotel rooms in Central Lansing to 1,022. In the immediate area an additional 1,378 hotel and motel rooms are within easy driving distance. These first class lodgings along with the additional parking areas discussed previously will greatly enhance the attractiveness of the city to convention and visitor trade. The improved accessibility of the city brought about by an expanded and improved trunkline network will also aid the city in achieving its goals.

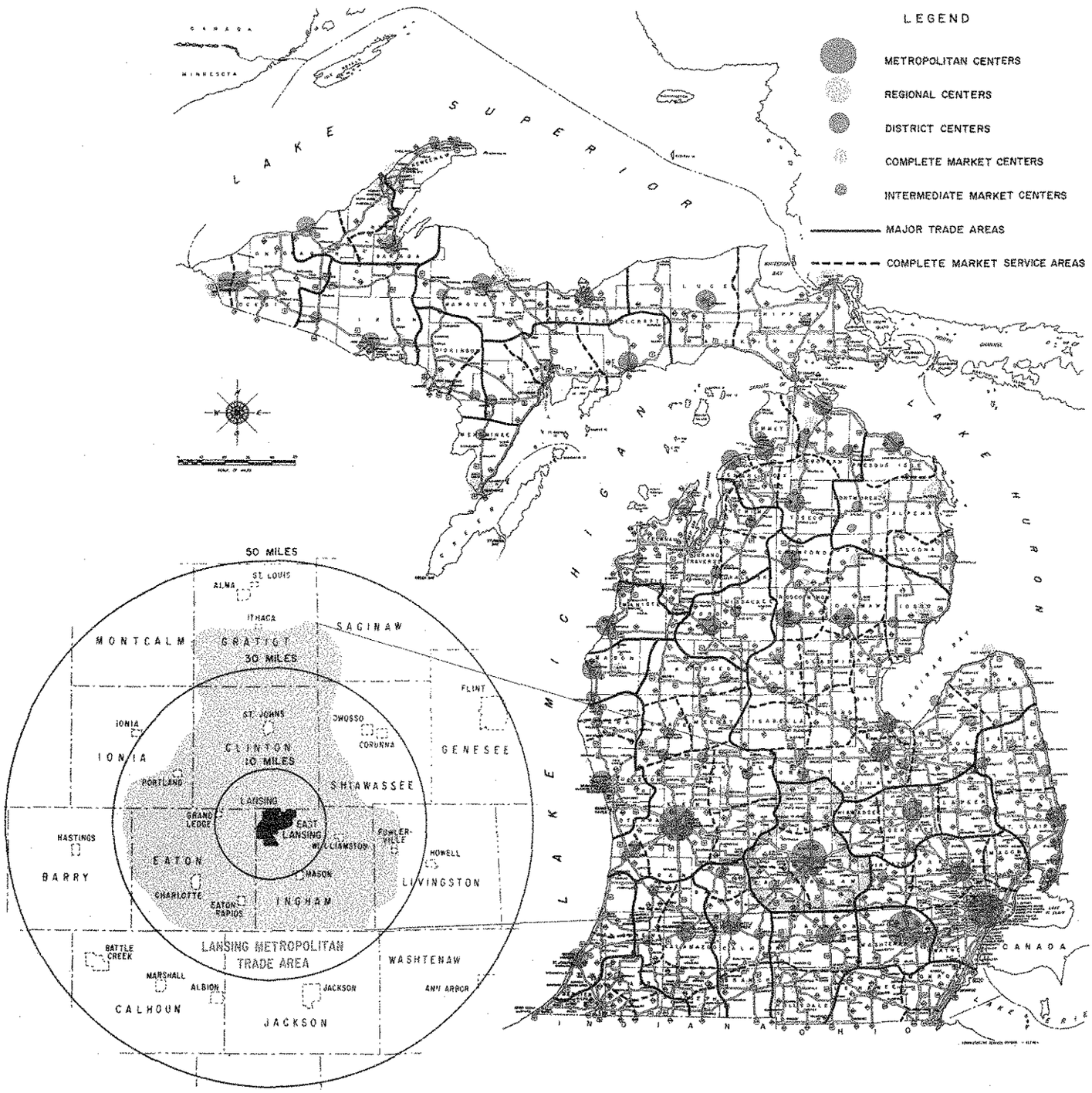
Urban Renewal

The city of Lansing is currently exploring the possibilities of rejuvenating sections of the downtown area through the process of urban renewal. Although no definite commitments have been made preliminary contacts with the federal agency charged with administering these projects have been accomplished. As these studies advance and as definite goals are formulated and individual projects determined, further consideration will have to be given to the impact of these areas of urban renewal upon traffic desire within the city. However, the capacity and design of the inner trunkline system should be sufficient to assimilate additional traffic brought about by urban renewal projects.

Conclusion

The major purpose of this section of the report which deals with existing, and more important, future conditions in the area is an attempt to correlate the projected trunkline system with the projected area development. In all forecasts of this nature there are certain variables and unknowns which must be acknowledged. Despite these obvious pitfalls a forecast based on pertinent data and accomplished with objectiveness and foresight can be sufficiently accurate to provide useful guides. It is not suggested, nor is it of paramount importance, that these projections be one hundred percent correct. What is pertinent is the fact that a basic framework within which these various facets of urban development will occur has been established and the general areas of differing land use delineated.

MICHIGAN'S URBAN CENTERS
AND
TRADE AREAS



SOURCE: MICHIGAN HIGHWAY CLASSIFICATION STUDY

GREATER LANSING RETAIL TRADE AREA IN RELATION TO OTHER MICHIGAN URBAN CENTERS AND RETAIL TRADE AREAS

On the opposite page is a pictorial presentation of the various classes of urban centers in Michigan and an outline of their respective primary and secondary retail trade areas. The source of this material is a study conducted by the Michigan State Highway Department entitled "Highway Classification In Michigan". In conjunction with the study and an integral part of the report was an analysis of the various urban areas in Michigan and the subsequent grouping of these urban centers into five separate classifications or sub-divisions according to their status as significant traffic attractors. The two major criteria selected to determine a city's classification were, a) its social-economic resources and operations which generate traffic and, b) the actual amount of traffic attraction it exerts as revealed by previous traffic, road use, and origin destination surveys. Analyses of the multitude of data collected for the survey indicated that the Lansing-East Lansing urban complex combined to form a state metropolitan center which ranked it along with Detroit, Grand Rapids and Ann Arbor as the leading centers of statewide traffic attraction.

An associate study was also conducted to determine the immediate retail trade areas of these various urban centers situated throughout the state. The trade center, as used in this study, was defined as that area in which the daily economic and social activities of the local population are carried on through a common system of local institutions. It consists of the central city, which is its nucleus, and the adjacent "built-up" sections in which public services such as water, light, sanitation and power become common problems. Hence the trade center for the Lansing Metropolitan Area includes the cities of Lansing and East Lansing and their immediate environs.

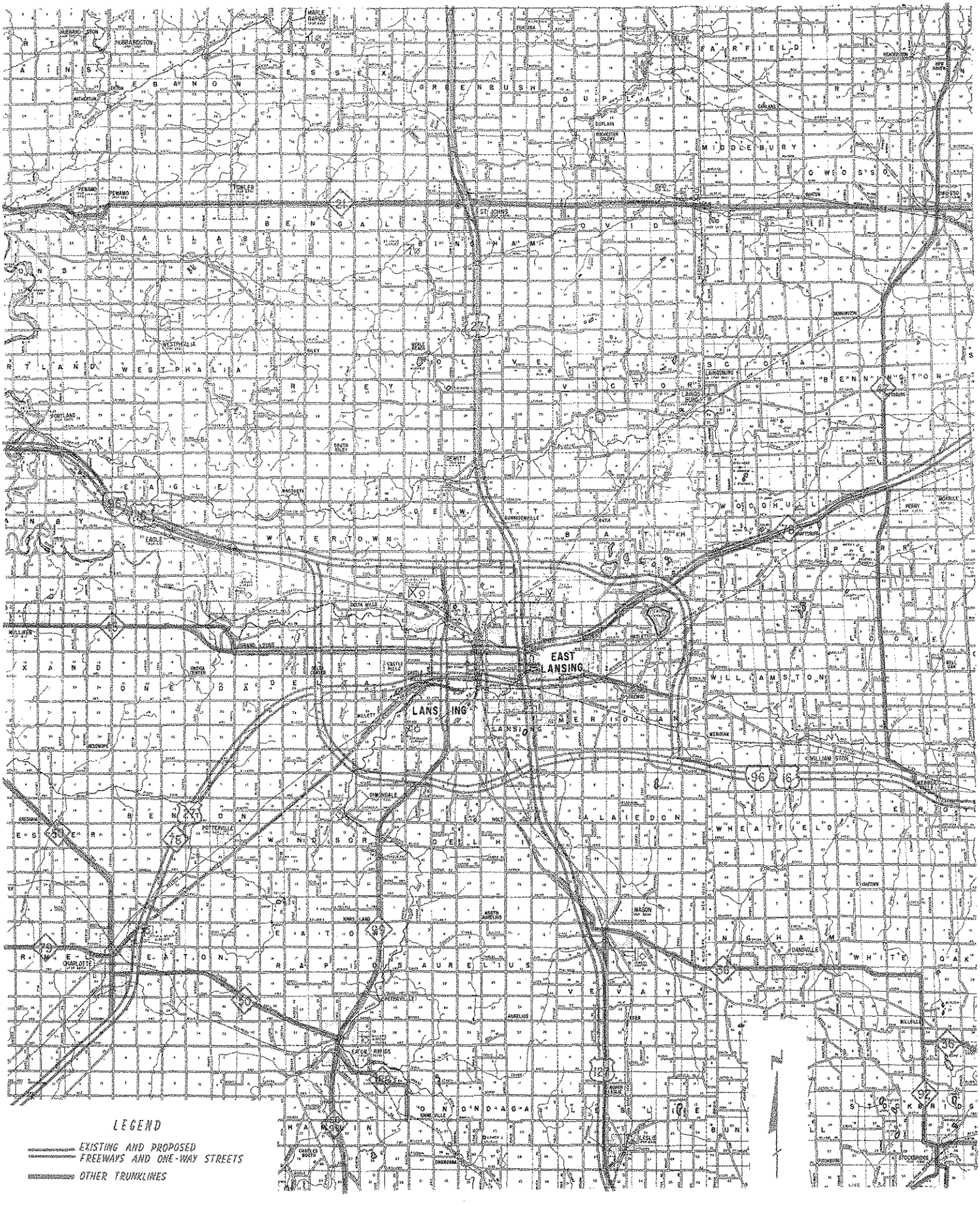
The retail trade area incorporates the trade center and the surrounding outlying rural area within which there is a large daily movement of population to and from the trade center for work, trade, amusement, or other allied purposes. It includes all of that area that is dependent upon the trade center for a majority of its daily social and economic requirements.

Correlated studies of highway traffic and business activity indicated that the functions of retail trade are closely related to the daily movement of buying power in terms of traffic flow. The studies further disclosed that the limits of these trade activities could be established by locating the "traffic divides" i.e., where the buying power tends to weaken and to flow toward competitive markets.

These combined studies form the basis for the Lansing Metropolitan Retail Trade Area as presented herein. It is, in fact, an indication of the influence which is exerted by Lansing and East Lansing over a substantial portion of the south-central sector of Lower Michigan. This factor, along with the state-wide Metropolitan rating established for the Lansing-East Lansing area, is indicative of the important position occupied by these twin cities in Michigan's socio-economic environment. The growth and continued prosperity of the Lansing Metropolitan Area during the years subsequent to the issuance of the report precludes the possibility that its results are no longer valid. The high ranking of the Lansing-East Lansing area has, if anything, been enhanced and more firmly established during the past decade.

It is also well to note that the Lansing Standard Metropolitan area, as defined by the Bureau of Census, is the only metropolitan area outside of Detroit which encompasses more than one county (Eaton, Ingham and Clinton). Other areas in the state defined as metropolitan centers include the following counties: Washtenaw, Jackson, Bay, Saginaw, Kalamazoo, Muskegon, Kent and Detroit (Wayne, Oakland, Macomb). In each instance, excluding Detroit, all of these metropolitan areas are contained in one county. Therefore, in terms of area, the Lansing Metropolitan area is the second largest in the state.

REGIONAL TRUNKLINE PLAN



REGIONAL TRUNKLINE PLAN

As the cities of Lansing and East Lansing are situated at the junction and form a hub for four interstate and/or arterial trunkline routes, and, in addition, provide a terminal for two other trunklines of lesser importance, it is evident that traffic activity in and through the area will be greatly accelerated in the coming years. The trunklines referred to which are part of the interstate and arterial trunkline system, i.e., the system of routes deemed most important to the economy of the state, are Interstate Route I-96, US-27, US-127 and M-78. The trunklines of relatively minor statewide importance which have a terminus within the Metropolitan Area are M-43 and M-99.

Conspicuous among the existing system of regional trunklines is the abundance of multi-lane facilities which radiate in all directions from the cities of Lansing and East Lansing. This extensive system of arterial routes converted or relocated to freeway standards, as shown on the opposite page, will accommodate future bypass traffic and traffic which is attracted to the state capitol, the central business districts, Michigan State University and other centers of attraction situated within the greater Lansing urbanized limits.

Following is a brief analysis of the area trunkline routes which combine to form the Lansing Metropolitan Area Trunkline System.

Interstate Route 96

I-96 will serve as a major east-west artery for the state. Passing through the Lansing area, with Interstate Route 496 to serve the city of Lansing, I-96 forms a direct link with the major cities of Detroit, Lansing, Grand Rapids and Holland, with an Interstate 196 connecting route to the city of Muskegon. As a part of the interstate system I-96 will be constructed to freeway standards and provide the optimum of traffic service available to present day motorists.

M-78

M-78 passes through the area in a northeasterly direction and is a multi-lane free access facility in the vicinity of Lansing. A portion of this trunkline is to occupy a major position in the state's arterial trunkline plan as it forms the middle segment of an important overall trunkline routing which includes M-21 to the east and US-27 and I-69 to the south. Upon completion of this portion of the state's arterial trunkline plan the combined routes will form a trunkline loop linking Canada (via the Blue Water Bridge) Port Huron, Flint, Lansing, Marshall, Coldwater and the Indiana Toll Road.

It is further anticipated that this overall route may eventually be incorporated into the Interstate Trunkline System. If this becomes a reality a logical sequel would be the extension of the Interstate 69 number northeasterly to a terminus at the Blue Water Bridge in Port Huron.

In any event, the importance of this trunkline axis dictates that all of the free-access portions of the routes involved be relocated and/or converted to freeway standards. The US-27 interchange with I-94 at Marshall will also facilitate a superior trunkline routing between Chicago and points west and Canada and points east which should result in an increase of intercontinental traffic along the previously described trunkline loop.

US-27 and US-127

US-27 southwest of Lansing was included in the M-78 analysis. US-27 north of Lansing is combined with US-127 in this sub-section because of the direct north-south alignment achieved by the two routes. Upon completion of the Lansing area trunkline plan it is anticipated that US-27 and US-127 will be partially relocated and constructed to freeway standards through the immediate area. This will result in a north-south multi-lane facility traversing the entire length of the lower peninsula from the Indiana State line via Jackson and Lansing, thence due north to a connection with I-75 south of Grayling, which continues to the Straits of Mackinaw, Sault Ste Marie and Canada (via the International Bridge). Presently a good portion of this route axis is constructed as limited access expressways. Ultimately the entire length of the route should be developed to freeway standards.

M-43

M-43 is an east-west route which has its east terminus in the city of East Lansing. Traveling west it is a multi-lane facility between Lansing and Grand Ledge and then continues west as a two lane highway along a very indirect alignment to a terminus in the city of South Haven which is situated on the west coast of the state. Although this is a route of minor statewide significance it is locally important in servicing the regional traffic needs and as a west penetrator route into the city of Lansing.

M-99

M-99 has its north terminus in Lansing and like M-43 is locally important particularly within the city limits (Logan Street). Outside of the confines of the city the route extends south to the Indiana State line and provides trunkline service to many secondary cities and villages in the south central portion of the state.

Conclusion

As detailed in the preceeding analysis each individual trunkline in the area serves an essential function. This function is the servicing of a more or less specific traffic desire. The integration of these routes into a complete trunkline network, with each route complimenting and enlarging on the function of the other, provides the Greater Lansing Area with comprehensive trunkline service. When the routes involved are largely composed of freeways and multi-lane facilities this trunkline service is further extended.

The benefits which accrue to an area from a system of high class transportation facilities are many-fold. The improved accessibility of the overall area augments the other existing social and economic factors which are instrumental in attracting new industry and commerce. Savings in travel time, more economical vehicular operation, more tension-free driving conditions, and high safety standards are other related benefits which are a direct result of an improved transportation network.

SECTION II

TRUNKLINE DEVELOPMENT

LANSING AREA TRUNKLINE PLAN

STAGE I

Stage I of the Lansing Metropolitan Area Trunkline Plan, as depicted on the following pages, has received the approval of all parties concerned and is currently programmed to be constructed or placed under contract prior to 1967. New trunkline locations included in this phase of the plan include the construction of the southeast segment of I-496 from I-96 northerly to Main Street extended; the construction of a trunkline facility along the Sheridan Street axis westerly to Center Street which will combine with Saginaw Street to form an east-west one-way pair; the improvement and extension of Homer and Howard streets and their conversion to a pair of complementary one-way streets; and the completion of Interstate Route 96 along the south and west periphery of the Lansing-East Lansing urban complex. Although these additions to the trunkline system are only the initial phases of the contemplated overall plan they will immediately enhance the movement and dispersal of trunkline traffic in the area.

To aid in the presentation of the verbal analyses each individual project has been assigned a specific number as indicated on exhibits displaying the proposed trunkline system. These project numbers are referred to in the following discussions of various projects leading to the completion of the Stage I phase of the Lansing Area Trunkline Plan.

Project I. I-96

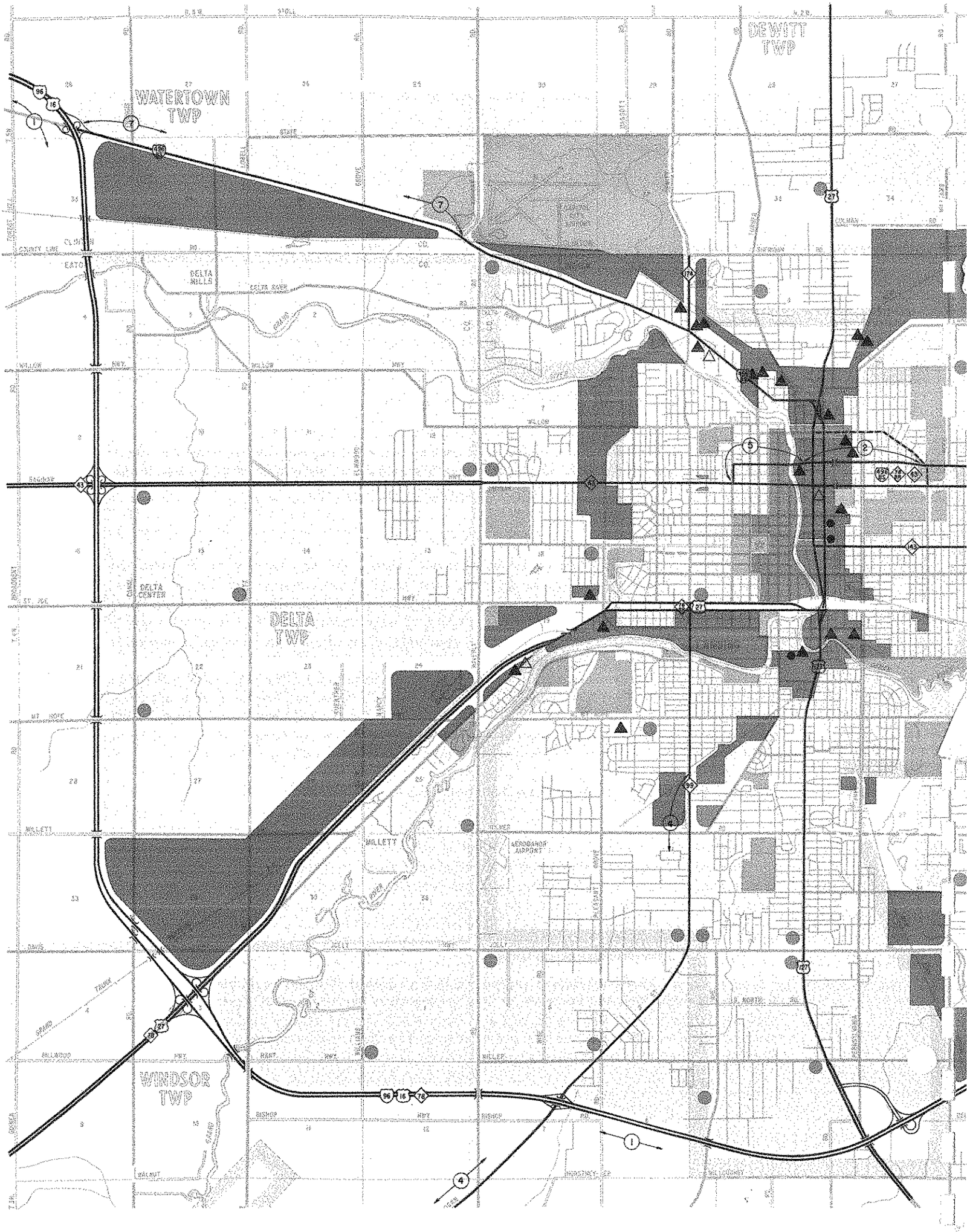
The construction of I-96, which will bypass Lansing and East Lansing to the south and west, is scheduled for early completion in the first stage of the Lansing Area Trunkline Plan. When this facility is placed into operation it will accommodate the through traffic movement currently utilizing US-16 and will aid in relieving to some extent the traffic congestion which exists on US-16 in the Lansing-East Lansing urban area. The city of East Lansing, in particular is experiencing excessive traffic congestion in their central business district and even a minor alleviation of this condition should prove to be of benefit to the city. The segment of I-96 which traverses the south perimeter of Lansing will combine with the I-496 and Howard-Homer axis (P-3) to provide bypass facilities for M-78 traffic. This new routing for M-78 will be composed of high type one-way streets and limited access facilities and will allow the through traffic on M-78 to avoid the urbanized section of Lansing with its inherent delays to traffic progression.

Project 2; Project 5. Extension of Sheridan Street Axis

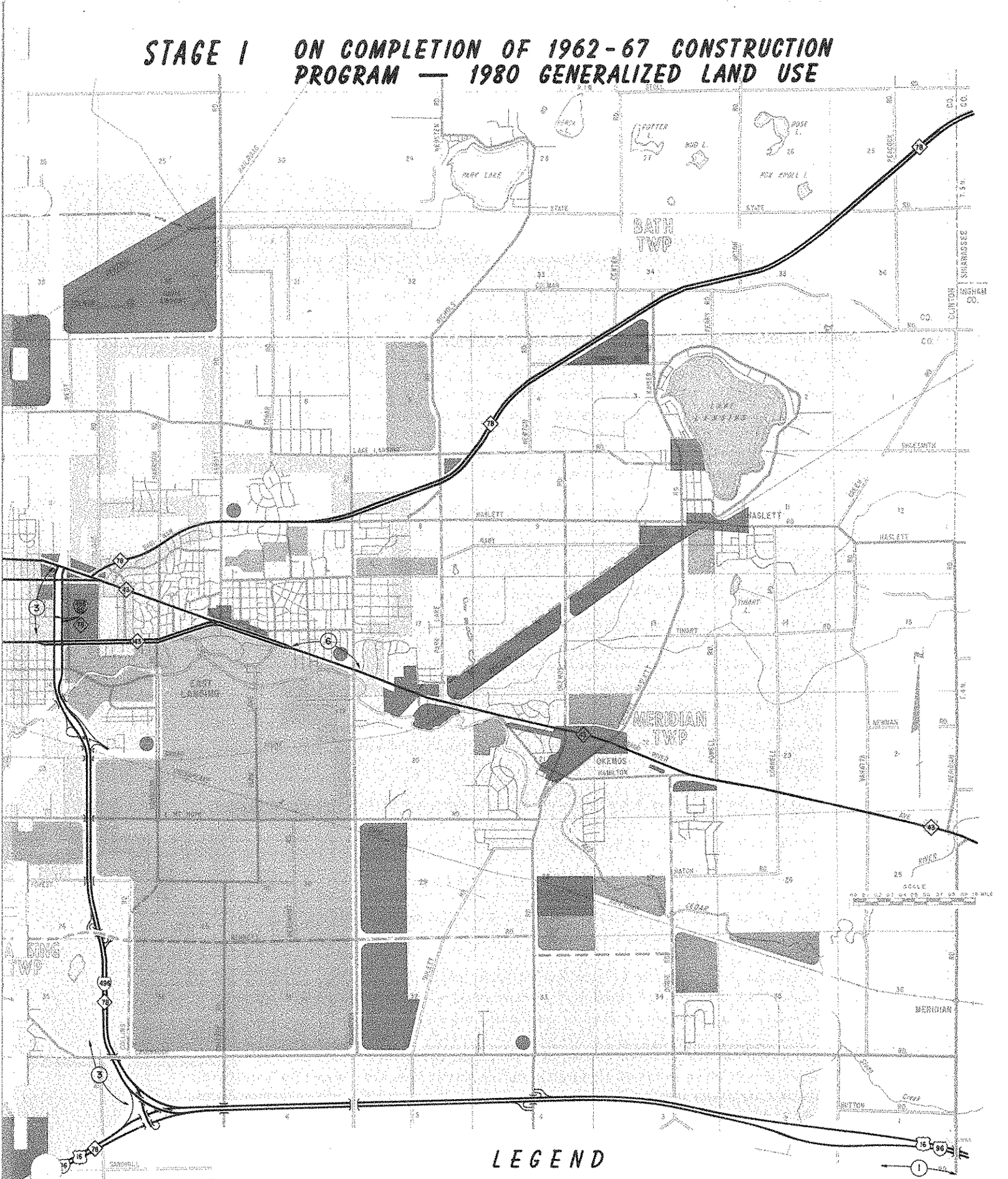
The Sheridan Street project involves the reconstruction of Sheridan Street from its junction with Ballard Street westerly to Center Street in the first phase (P-2) and the extension of the Sheridan axis across the Grand River (via Jefferson Avenue) to Pine Street (or Chestnut) in the second phase (P-5). Sheridan Street, Jefferson Avenue and Grand River Avenue will then serve as a one-way westbound trunkline with Saginaw Street acting as its eastbound counterpart. If necessary, either Chestnut Street or Pine Street will be utilized as a temporary trunkline connection until the Sheridan Street axis can be programmed for further extension to the west.

When the Sheridan-Saginaw one-way system is placed into operation from US-27 (Cedar Street) east it will duplicate the trunkline function presently served by Grand River Avenue (US-16) between Marshall Street and the Cedar-Larch axis (US-27). This section of Grand River Avenue should then be transferred to the city and eliminated from the trunkline system. The same is true of Marshall Street which is presently maintained as a one-way trunkline connector from Grand River

LANSING AREA TRUNKLINE PLAN



STAGE 1 ON COMPLETION OF 1962-67 CONSTRUCTION PROGRAM — 1980 GENERALIZED LAND USE



LEGEND

ROAD SYSTEMS

- STATE TRUNKLINE
- PROPOSED TRUNKLINE ABANDONMENT
- EXISTING LOCAL ARTERIAL
- PROPOSED LOCAL ARTERIAL

1980 GENERALIZED LAND USE

- RESIDENTIAL
- MAJOR COMMERCIAL AREAS
- INDUSTRIAL
- PUBLIC & QUASI PUBLIC

- PROPOSED PROJECTS
- TRUCK TERMINAL EXISTING
- TRUCK TERMINAL PROPOSED
- RAILROAD DEPOTS

Avenue to Saginaw Street.

Project 3. Pine Tree Connector; Howard-Homer One-Way System

Construction of the southeasterly segment of the I-496 urban loop (more commonly referred to as the Pine Tree connector) will be accomplished immediately following the completion of I-96 through the area. Extending from a directional type interchange from I-96 southwest of Lansing, I-496 proceeds in a northerly direction generally paralleling the Collins-Harrison Road alignments to a temporary terminus northwest of the Grand Trunk Western and Chesapeake and Ohio railroads intersection. At this point a full interchange will be ultimately constructed to service the city of East Lansing and to provide for a connection with the future extension of I-496 west (Main Street Extension). The city of East Lansing is currently in the process of improving and extending Trowbridge Street to provide a connection between the I-496 interchange and Harrison Road. Farther north, Homer and Howard Streets are to be widened, resurfaced, converted to one-way operation and extended southerly to tie in with I-496 and northerly to connect with the Saginaw-Grand River one-way east-west axis. The combined routing of I-496 and Howard-Homer Streets will not only provide access to Lansing and East Lansing but will also be utilized as part of a bypass route for M-78.

The construction of this segment of I-496 will provide motorists with a free-flowing traffic artery which will carry them from the Interstate System to connections with local major streets and existing trunklines relatively near the Lansing and East Lansing business areas.

Project 4. Widening of Logan Street (M-99)

This project calls for the widening of Logan Street to five lanes from I-96 south of Lansing northerly, for approximately three miles, to Victor Avenue. From I-96 south to the county line, M-99 will be widened to twenty-four feet and resurfaced. These improvements presently programmed for M-99 will facilitate the movement of the increased traffic volumes which are anticipated on the route upon the completion of Interstate Route 96. Logan Street will then provide essentially the same type of service to traffic as will US-16 (Grand River Avenue) in the northwest section of Lansing. The merits of a five lane highway in an urbanized area are discussed in the analysis of Project 6.

Completion of the Logan Street improvements will also provide the city of Lansing with a high-type facility from which to serve the rapidly expanding southwest section of the city. In addition, it will also provide a third major urban penetrator from the south.

Project 6. Widening of Grand River Avenue (US-16) in East Lansing

This project calls for the widening of Grand River Avenue to five lanes from Hagadorn Road westerly for approximately 0.6 mile to the existing divided section of the route.

As previously stated there is considerable traffic congestion on US-16 through the East Lansing area. The concentrated "build-up" of commercial establishments along both sides of the route results in an excessive number of left-turning movements. Recently the area has experienced additional commercial development along US-16 which will further aggravate an already undesirable traffic condition. Project 6, which provides an added traffic lane reserved for left-turn movements, will allow motorists to queue up in the center lane and reserve the outer lanes for through and right-turn traffic. Motorists engaged in right-turn movements encounter no oncoming traffic and can complete the turn with a minimum of delay. Thus the second lane is reserved solely for through traffic, the center lane for left-turns and the first or outer lane for combined right-turn and through traffic. Previous experience shows that this type of facility has

been extremely efficient in distributing and moving traffic through areas of land use similar to that encountered along this section of existing US-16.

Project 7. Widening of Grand River Avenue (US-16) in Lansing

The widening and resurfacing of Grand River Avenue from its junction with I-96 west of the city easterly to Airport Road is to be accomplished prior to 1967. The increased capacity being incorporated into this segment of US-16 is dictated by the high traffic volumes presently utilizing this route. In this stage of the plan it will be necessary to route the Lansing terminal traffic approaching from the northwest on I-96 through the Grand River Avenue interchange until such time as the construction of I-496 is completed. Until this is accomplished the interchange at existing US-16 will serve as the major I-96 northwesterly point of ingress and egress. Existing US-16 through this portion of the city is to be interimly signed as Interstate "green" 496 Business Spur (US-16 will dual with I-96) and will undoubtedly carry the preponderance of terminal traffic. To accommodate this influx of traffic the west segment of Grand River Avenue is to be widened to five lanes. It will then be possible to channelize vehicles engaging in left-turn movements onto the center lane thus providing them with a refuge from the travelled traffic lanes. This feature of traffic control will maximize the route's ability to service all phases of traffic operation in and through the area.

LANSING AREA TRUNKLINE PLAN

STAGE II

The Stage II phase of the Lansing Area Trunkline Plan, as indicated on the following pages, is a continuation and expansion of the trunkline developments contained in Stage I. Although Stage I of the plan will improve the existing metropolitan area trunkline facilities, the anticipated growth of Lansing and East Lansing will necessitate a corresponding expansion in the services provided by the state trunkline system.

Individual projects which combine to complete the second stage of the Lansing Area Trunkline Plan include; the extension of the Sheridan Street axis westerly along Jefferson-Oakland Streets to the vicinity of the Beltline Railroad; the completion of I-496; the construction of an east-west route across the Michigan State University campus generally paralleling the Grand Trunk Western Railroad; the expansion and extension of M-99 north to the Saginaw-Oakland axis; the construction of a connecting route from I-96 to existing US-16 east of East Lansing (Van Atta Road connection); and the extension of the Howard-Homer Street axis northerly, and the Pine Tree Connector southerly to complete a new north-south artery through the area (Relocation of US-127 and US-27).

These additions to the Stage I phase of the area trunkline system are primarily devoted to the internal trunkline routes. By completing an internal trunkline loop and extending cross-town east-west and north-south traffic arteries sufficient facilities are provided to distribute the preponderance of terminal traffic which is involved in the overall traffic movement on the area trunkline system.

The internal circumferential trunkline system for the city of Lansing is composed of the Saginaw-Sheridan axis to the north; the Howard-Homer axis to the east; the Main-St. Joseph axis (I-496) to the south and the Logan-Jenison axis (or one of the alternates) to the west. This system of one-way trunkline routes and the I-496 freeway will allow traffic to circulate on high type arterial streets and then select the most advantageous city street to arrive at their final destination. Enhancing this inner periphery type of trunkline routing is the extensive system of major city one-way streets. These high-type local arteries are capable of distributing traffic from the trunkline system in an expeditious manner and are a contributing factor in the lessening of internal trunkline traffic congestion. Serving the east-west traffic movement and extending through the concentrated business and governmental developments within the inner trunkline periphery are Ionia, Ottawa, Allegan and Washtenaw Streets. Providing a similar service to the north-south traffic movement are Pine, Walnut, Capitol, Grand, Cedar and Larch Streets. Interspersed between these one-way arterial streets and providing an excellent collector-distributor system are city streets which operate in both directions. The planned integration of these local streets with the projected trunkline system will maximize the effectiveness of the total network of roadways in the city.

The individual projects which combine to form the Stage II phase of the Area Trunkline Development Plan include:

Project 1. Extension of the Main Street Axis from Grand Avenue to Grand River Avenue (East of East Lansing)

This project calls for the construction of a limited-access facility from the I-496 and

Howard-Homer Street Interchange west to a connection with the Main-St. Joseph one-way system at Grand Avenue (this will be a segment of I-496) and the construction of a route across the Michigan State University Campus. The campus route will commence at the I-496 and Howard-Homer Interchange and extend easterly along Trowbridge Street; thence continue east along new right-of-way just north of the Grand Trunk Railroad to a connection with existing US-16 near its intersection with Park Lake Road. Thus the new east-west artery combined with the existing Main-St. Joseph one-way pair will provide a major cross-town artery to serve the large traffic desire between Lansing and East Lansing.

See the addendum to this section of the report for a detailed analysis and the recommended design for this proposed segment of trunkline.

I-496:

The extension of I-496 west to Grand Avenue will greatly enhance trunkline service to the city by providing an additional urban penetrator into the central business area from the south. However, until this project is completed existing US-127 (South Cedar Street), which is currently one of the most critical areas of traffic congestion in the city, will be required to carry an additional increment of traffic resulting from the construction of I-96 south of Lansing. It is, therefore, imperative that corrective measures, in the form of an extension of the Main Street axis, be expedited so as to alleviate this undesirable condition on South Cedar Street at the earliest possible date. Not until I-496 is extended westerly to Grand Avenue to serve central Lansing will the city realize the full benefits of the Pine Tree Connector.

Project 2. Relocation of US-127 South of the Pine Tree Connector and,
Project 3. Extension of US-27 North of Howard-Homer Streets

US-127:

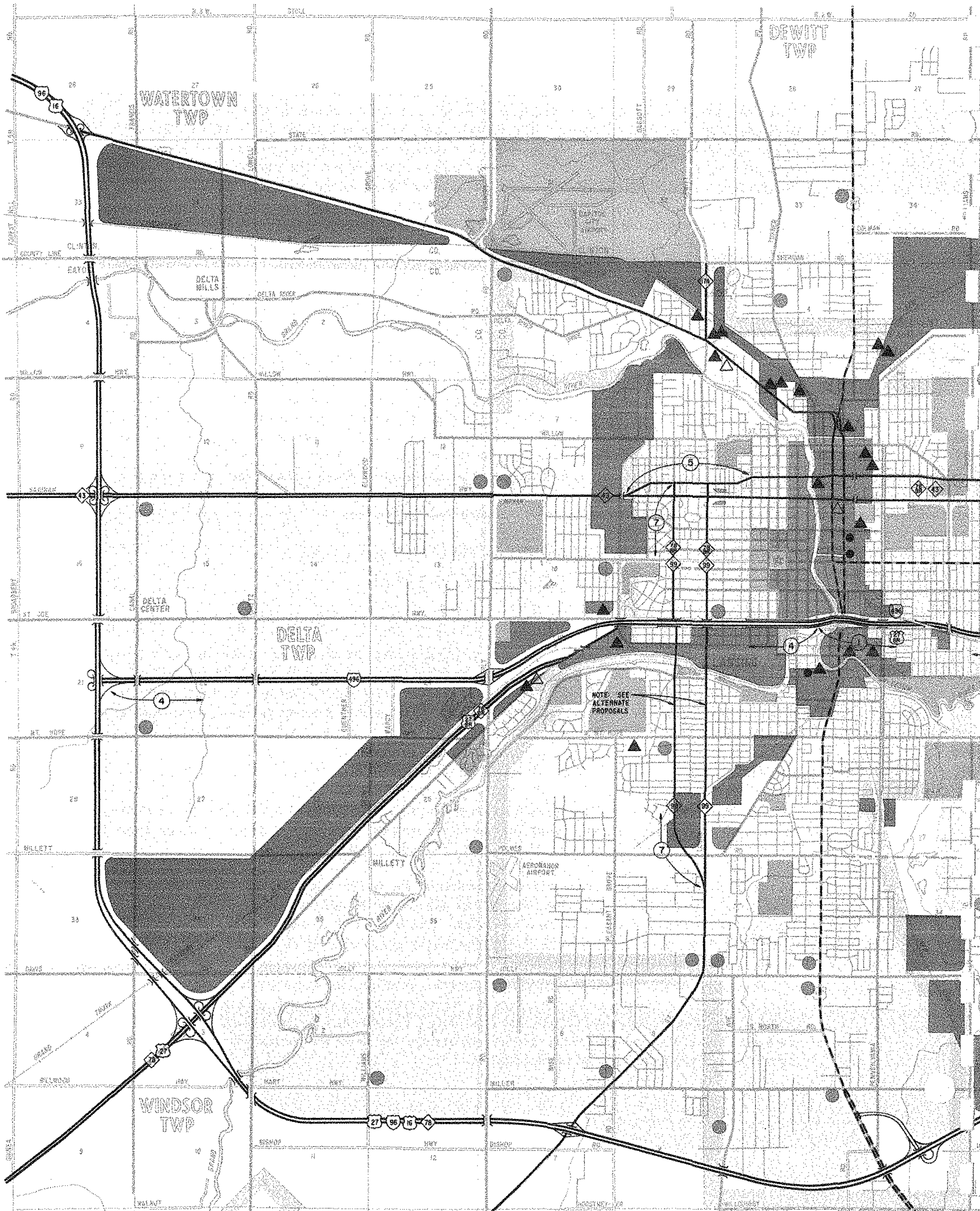
This project calls for the relocation of US-127 from the vicinity of Mason northerly to a connection with the I-96 and I-496 interchange south of East Lansing; thence, northerly utilizing I-496 and Howard-Homer Streets to a terminus at Grand River Avenue. The new routing for US-127 south of I-96 should be constructed as a limited-access facility from its junction with existing US-127 in the vicinity of Mason northerly to I-96.

US-27:

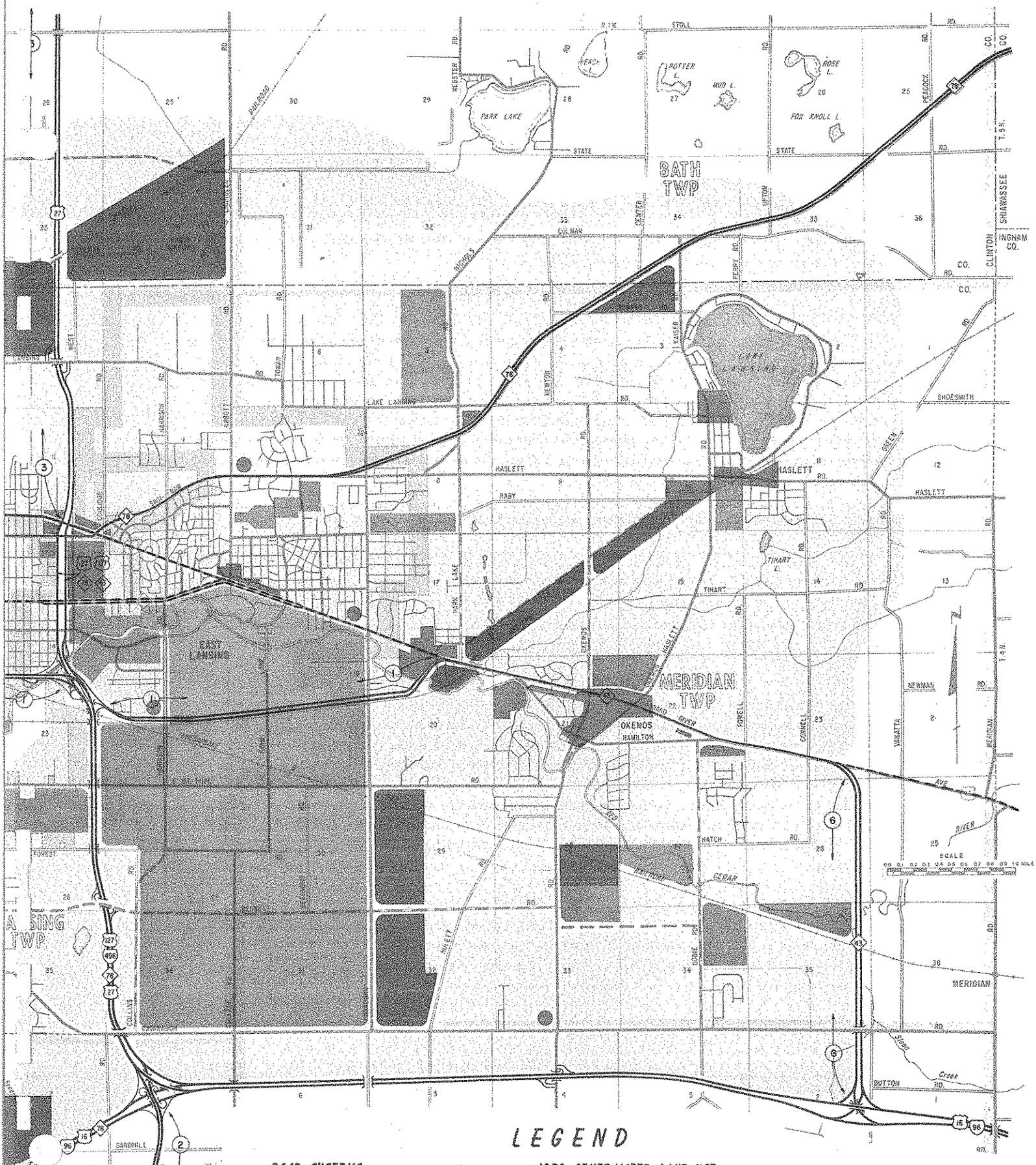
US-27 is to be re-routed from its existing junction with I-96 south-west of Lansing easterly along I-96; thence, northerly along the I-496 and Howard-Homer axis; thence, continue north on new alignment to a junction with existing US-27 north of Lansing.

The new routings which will be established for US-27 and US-127 will remove these heavily-traveled trunklines from the internal core of Lansing easterly to a less-densely populated area and along superior-type trunkline facilities. The bypass alignment established for US-127 should prove to be of special value due to the traffic congestion which presently exists on the south segment of the urban portion of the existing route (South Cedar Street). The same is true of US-27 but to a somewhat lesser degree. However, even a slight decrease in traffic congestion will prove to be of benefit to the city. As for the motorists who are passing through the area the benefits provided by a bypass facility are many-fold. The savings in travel time, the added convenience and the improved driving conditions through the area all combine to make vehicular travel a more enjoyable mode of transportation.

LANSING AREA TRUNKLINE PLAN



STAGE 2



LEGEND

ROAD SYSTEMS

- STATE TRUNKLINE
- PROPOSED TRUNKLINE ABANDONMENT
- EXISTING LOCAL ARTERIAL
- PROPOSED LOCAL ARTERIAL

1980 GENERALIZED LAND USE

- RESIDENTIAL
- MAJOR COMMERCIAL AREAS
- INDUSTRIAL
- PUBLIC & QUASI PUBLIC

- PROPOSED PROJECTS
- TRUCK TERMINAL EXISTING
- TRUCK TERMINAL PROPOSED
- RAILROAD DEPOTS

As these new routings for US-27 and US-127 will replace the services provided by certain portions of the existing trunklines it will be necessary to eliminate these segments of trunkline where duplication of service occurs. Existing US-127 from its junction with the proposed relocation near Mason northerly to Saginaw Street (M-78 BR) and existing US-27 from the existing US-27 and US-16 interchange northerly to the junction with relocated US-27 north of Lansing should be removed from the trunkline system when the new routes are completed and placed in operation. This jurisdictional transfer of routes is consistent with departmental policy covering the establishment and abandonment of state trunklines.

Project 4. Extension of I-496 from Grand Avenue West to I-96

The extension of I-496 through the city will provide Lansing with an urban loop of completely controlled access. Traversing an area immediately south of the central business district of Lansing, I-496 will remove traffic from I-96 and carry it rapidly and safely to the vicinity of major traffic attractors and then distribute it along city one-way streets to specific destinations. The major advantage of a facility of this nature is the ease with which vehicles can be moved through urban areas; the high traffic volumes and continuous flow of traffic which is maintained; the added safety resulting from the lack of conflicting turning movements and the insulation of trunkline traffic from the local traffic movement.

Project 5. Extension of the Sheridan Street Axis to the Beltline Railroad

The extension of the Sheridan Street axis along Jefferson and Oakland Streets to the Beltline Railroad and a railroad grade separation at this point will service the east-west traffic movement through the northern part of the city and will compliment a similar service provided by the Main Street axis in the southern part of Lansing. In addition, this project (combined with the extension of Logan Street) will complete the inner trunkline loop for the city (See discussion of Project 7).

The completion of this east-west cross-town route will fulfill a traffic need of long standing in the north section of Lansing. Presently this traffic movement is provided for by Saginaw Street and to some extent by the Willow Street-Grand River Avenue axis. Neither of these routings provide sufficient capacity, nor, traffic operational features to provide for a free flowing traffic movement. The westerly segment of Saginaw Street is especially prone to traffic congestion. This is due to the combination of heavy left turning movements on an existing four lane facility, on-street parking, high traffic volumes, a large number of intersecting streets and the crossing at grade of the Beltline Railroad which results in periodic disruptions of traffic flow of considerable duration.

The establishment of a pair of one-way streets through this corridor will provide sufficient traffic capacity, allow for a superior system of signalization which will greatly facilitate traffic progression, simplify the completion of all turning movements, maximize safe driving conditions by minimizing points of conflict in the traffic movements, and enhance the overall speed and convenience with which motorists can traverse the entire breadth of the city.

Project 6. Van Atta Connector

This trunkline connecting route between I-96 and existing US-16 (Grand River Avenue) east of Okemos will provide an east entrance to the city of East Lansing and Michigan State University which is an area of extensive year-round and statewide traffic attraction. Furthermore, the placement of the route in this particular area takes full advantage of relatively open land which results in lower right-of-way costs; allows sufficient space for urban expansion; provides an excellent location for a future northerly extension which will serve as part of a

contemplated east bypass route for the area; and serves not only East Lansing but the villages of Okemos and Haslett and the anticipated subdivision developments in Meridian Township. It must also be noted that until this project is constructed it will be necessary to retain and maintain nine miles of existing US-16 (Grand River Avenue) from Van Atta Road easterly to M-47.

Although a traffic interchange is provided at Okemos Road and I-96, the limited capacity of Okemos Road and its alignment, which passes through the village of Okemos, eliminates this facility from consideration for future development as the major area connector route. What is needed, and what is provided for by the proposed Van Atta Road Connector, is a smooth flowing, high-type arterial route capable of moving high volumes of traffic off from and onto the Interstate facility with a minimum of conflict and delay. The design basis for this route is the volume and direction of future traffic flow as projected by the Traffic Division of the Michigan State Highway Department.

Upon completion of this project, existing US-16 from M-47 west of Webberville westerly to the new Van Atta Road Connector should be transferred to local authority. This will be in keeping with the departmental policy of abandoning trunkline routes whose functions have been replaced by new trunkline construction.

Project 7. Extension of M-99 to the Saginaw Street Axis

This project calls for the extension of M-99 northerly to the Saginaw Street (M-43) axis. Also included as part of the project is the incorporation of additional capacity into the route either by widening Logan Street or utilizing an existing paralleling street to form a one-way pair. The details of these alternate proposals are presented in an addendum to this section of the report.

The extension and improvement of the M-99 axis will complete the inner trunkline loop for the city of Lansing (along with Project 3) and greatly facilitate the movement of trunkline traffic to vicinities of traffic attraction and traffic generation. In addition to serving the trunkline traffic, this facility, in conjunction with the existing city one-way street system, will also provide an optimum of service to local traffic destined for central Lansing.

LANSING AREA TRUNKLINE PLAN

STAGE III

The objective of the third stage of the Lansing Area Trunkline Plan is to integrate and expand on the projects contained in Stages I and II so as to meet the long range motoring needs of the Lansing–East Lansing Urban Complex. The location and design of these routes must be adequate to carry anticipated traffic volumes and to service future traffic desires.

Individual projects which combine to form the Stage III phase of the area's trunkline development plan include the conversion of the Howard-Homer one-way system to a controlled-access facility; the construction of a Lansing Northbelt from I-96 west to M-78; the extension of Logan Street from M-43 north to the Lansing Northbelt; the relocation of existing US-27 and M-78 southwest of Lansing; the conversion or relocation of M-78 northeast of East Lansing to freeway standards; and the extension of the Van Atta connection north of M-78.

These final stages of construction will result in the culmination of the Lansing Area Trunkline Plan and provide the area with a system of trunklines which will service all facets of traffic desire in and through the area for the foreseeable future. Following is an individual project analysis of the Stage III development phase of the plan:

Project 1. Conversion of Howard and Homer Streets to a Controlled-Access Facility

The time that this project can be submitted for consideration as a program item will depend on the ability of the Howard-Homer one-way system to adequately serve the traffic desire in this corridor. It is anticipated that the traffic desire along this axis will increase sufficiently to eventually warrant the construction of a controlled-access facility.

A contributing factor to this anticipated increase in traffic is the fact that extensions on either end of the Howard-Homer axis will be initially constructed to freeway standards. Hence it is safe to assume that the superior service to traffic which is provided by a facility of this nature will induce added traffic onto the Howard-Homer axis. This induced traffic, combined with natural increases in the number of motor vehicles and the general upward trend in the average miles of travel being driven by individual motorists will severely tax the capacity of this one segment of trunkline which is constructed to lower standards than the remainder of the route. The east-west cross roads will also realize an increase in traffic, which will further add to the congestion and signalization problems along Howard and Homer Streets. The Heavier load of cross traffic will require additional time to cross Howard and Homer Streets and will, in effect, decease the "green time" allowed for the major north-south artery. For these reasons, it is imperative that this trunkline axis be converted to freeway standards to assure a smooth flow of traffic by eliminating all crossings at grade.

Project 2. Lansing-East Lansing Northbelt

This project calls for the construction of a limited-access east-west facility north of Lansing along the general location of State Road. In addition to the immediate benefits this route would provide to area motorists, there is also the possibility that it may be included as a segment of a proposed new Interstate Route. This route would be an extension of I-69 from its

present north terminus at I-94 west of Marshall, northeasterly along US-27 and M-78 to the vicinity of Flint; thence easterly along M-21 (relocated) to a terminus at the Blue Water Bridge in Port Huron. Although the seeds of this idea are still in the germination stage, there is a wealth of data and material available which when collected, analyzed and presented would surely substantiate the wisdom of such a proposal. This idea was previously explored in the section of this report which deals with the regional trunkline system.

Aside from the Interstate aspect of this Lansing Northbelt there are also plausible reasons of regional and statewide significance for providing such a facility.

Regionally the route provides for the exchange of traffic between M-78 and I-96 west which will relieve the internal city trunkline routes of this responsibility. It will also allow traffic approaching the city from the west on I-96 to follow the northbelt to Logan Street extended (Project 3) and penetrate the urban area along a trunkline facility which is superior to the one presently afforded them (US-16, Grand River Avenue). In addition, the Lansing Northbelt is part of an overall system of periphery routes being planned for the Greater Lansing area which will, upon completion, facilitate the through traffic movement in the area and remove all extraneous traffic from the internal trunkline network. In addition, it will allow the motorist to utilize freeways until reaching the most advantageous entrance to the internal area.

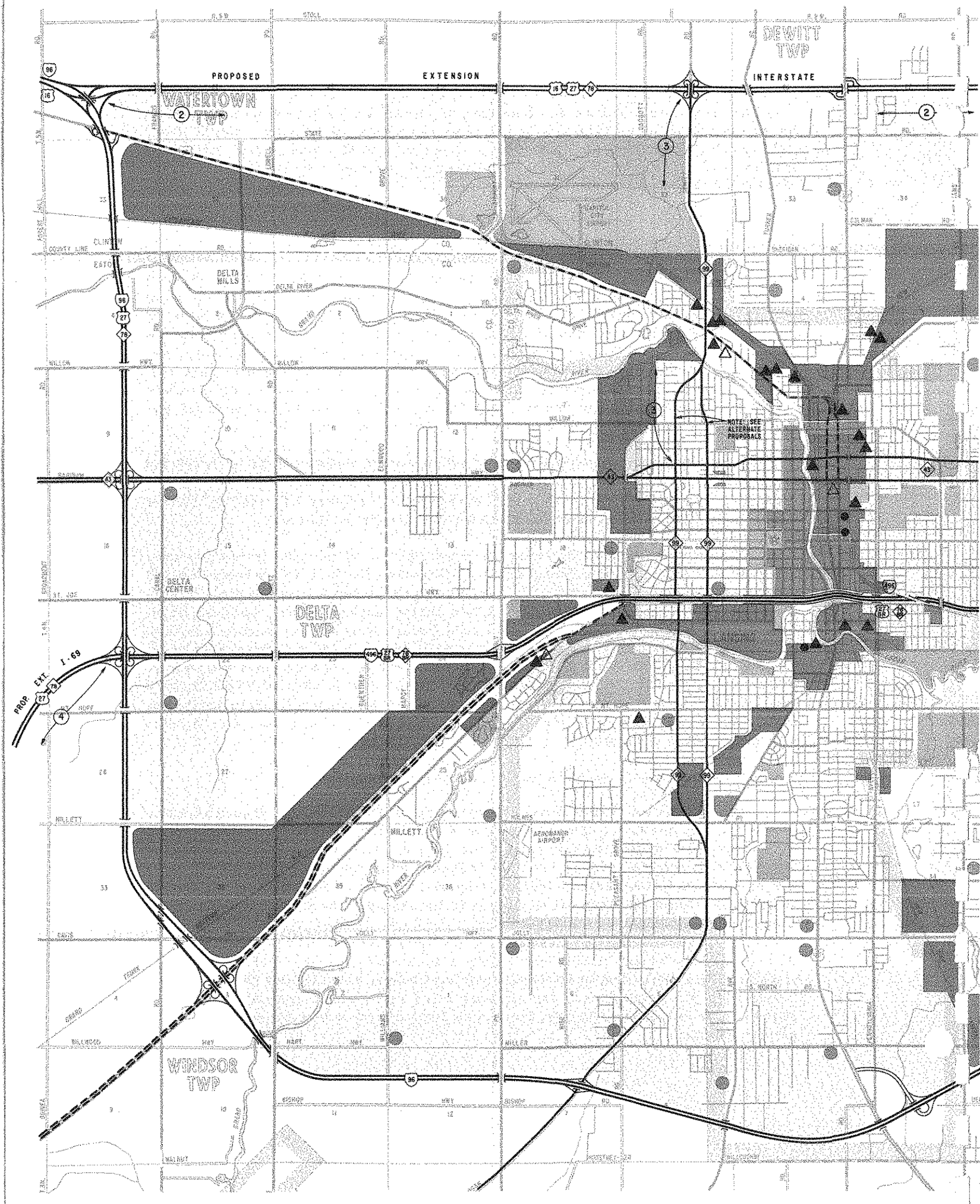
Statewide the route could well serve as part of a major east-west traffic artery between Port Huron and Muskegon. The overall route would be composed of M-21 between Port Huron and Flint; M-78 between Flint and Lansing; the Lansing Northbelt between M-78 and I-96; I-96 between Lansing and Grand Rapids and I-196 between Grand Rapids and Muskegon.

The major east-west traffic movement through this part of the state is currently being served by M-21. To provide a limited access facility along the M-21 axis between Flint and Grand Rapids would require approximately one hundred miles of freeway construction. To complete a similar routing, utilizing existing M-78, I-96 and the Lansing Northbelt, would only entail fourteen miles of freeway construction. This major savings in freeway construction along with the fact that the latter routing results in only six or seven miles of adverse distance would appear to lend a good deal of credulance to the idea of developing it as the major east-west artery through this south central part of the state. The further fact that the overall routing could be completed and placed into operation immediately upon the completion of the Lansing Northbelt may be sufficient inducement to advance the Northbelt's priority rating in the tentative order of construction projects set forth in this report.

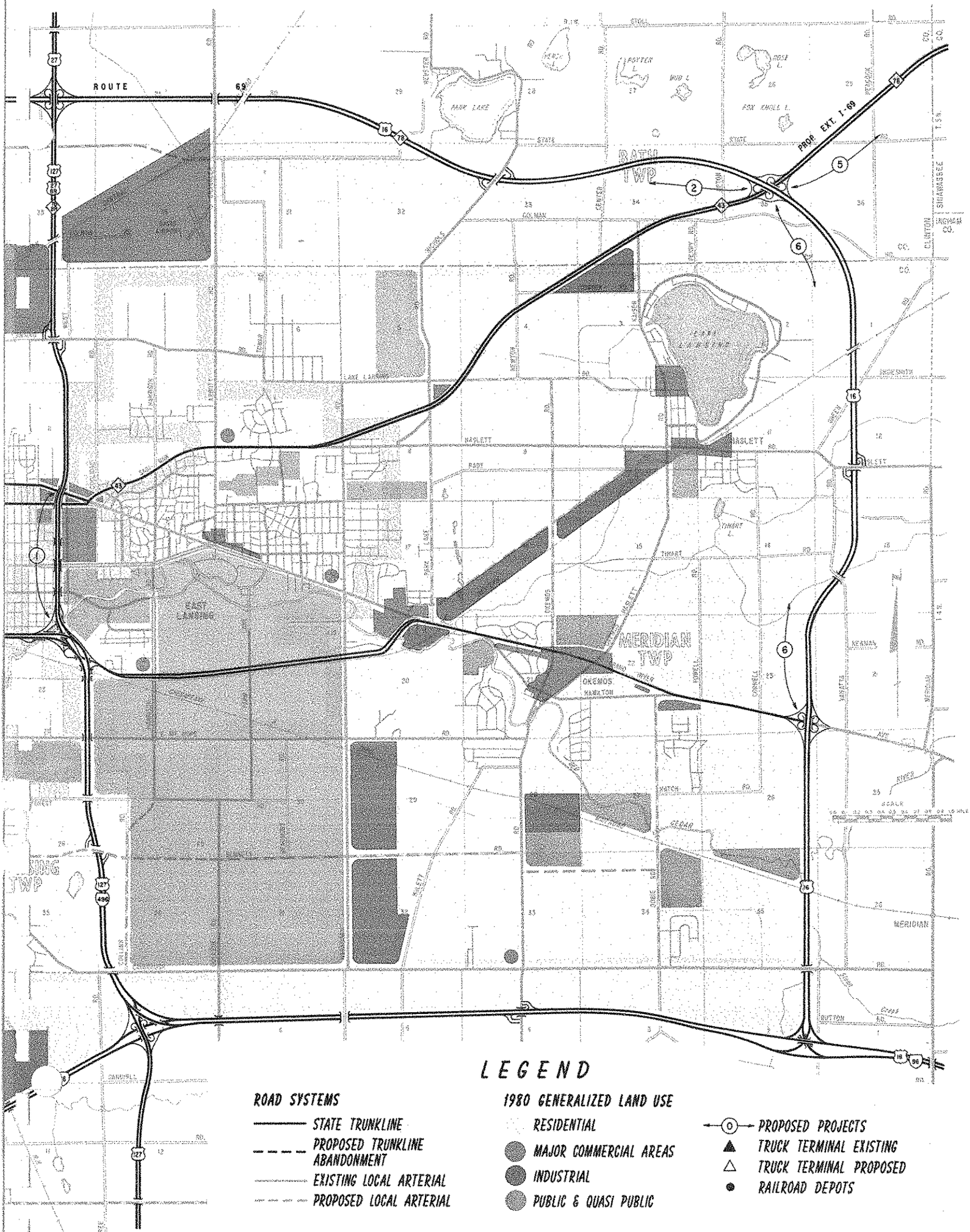
Project 3. Extension of Logan Street North to the Lansing Northbelt

The continuation of M-99 north along the Logan Street axis from M-43 to the Lansing Northbelt would provide the city of Lansing with a high-type trunkline facility which would traverse the entire length of the city. Inherent in this proposal is a bridging of the Grand River. The construction of this bridge by the city is presently nearing completion and will be placed into operation in the near future. Thus, an additional north entrance to the city will be made available long before this phase of the plan is to be effected. However, the extension of the Logan Street axis north to the Lansing Northbelt will multiply the traffic services made possible by this river crossing by extending trunkline service through the area and replacing the existing US-16 (Grand River Avenue) trunkline routing with a superior and more direct facility. Upon completion of this project, existing US-16 from I-96 southwest to M-43 (Saginaw Street) should be transferred to local authorities. This proposal, along with previous proposals contained in Stages I and II will complete the final phase of the internal cross-town routings which are advocated in this report.

LANSING AREA TRUNKLINE PLAN



STAGE 3



LEGEND

ROAD SYSTEMS

- STATE TRUNKLINE
- PROPOSED TRUNKLINE ABANDONMENT
- EXISTING LOCAL ARTERIAL
- PROPOSED LOCAL ARTERIAL

1980 GENERALIZED LAND USE

- RESIDENTIAL
- MAJOR COMMERCIAL AREAS
- INDUSTRIAL
- PUBLIC & QUASI PUBLIC

- (0) PROPOSED PROJECTS
- ▲ TRUCK TERMINAL EXISTING
- △ TRUCK TERMINAL PROPOSED
- ● RAILROAD DEPOTS

Project 4. Relocation of US-27 Southwest of Lansing

This project calls for the relocation of US-27 from the limited-access right-of-way at Charlotte northerly and easterly to the interchange of I-496 and I-96 west of Lansing. This project is essential to the development of Michigan's Arterial Network to freeway standards. Completion of this project will facilitate the bypass routing for US-27 (utilizing I-96 and the Lansing Northbelt) and conform to the increased capacity and bypass facilities being incorporated into the southern and northern portions of US-27. In addition, it also forms a segment of the overall proposal dealing with the northeasterly extension of I-69. This possibility is discussed in the section of the report concerned with the Regional Trunkline Plan. Upon completion of the relocation of US-27 the existing trunkline from I-496 (Main-St. Joseph) southeasterly to the vicinity of Charlotte should be transferred to local authorities.

Project 5. Conversion or Relocation of M-78 Northeast of Lansing to Freeway Standards

This project is similar to the treatment advocated for US-27 west of Lansing whereby it will be necessary to develop this route to freeway standards. Upon completion, the entire length of M-78 between Lansing and Flint will be a controlled-access type facility. (The northeasterly segment of M-78 between Flint and Perry is currently in the process of being relocated and constructed to Freeway Standards). Here too, the possibility exists that M-78 (in the immediate area) may ultimately become a part of an extension of I-69.

Project 6. Extension of the Van Atta Road Connection to M-78

The extension of the Van Atta Road Connection from Grand River Avenue northerly to M-78 is the final project recommendation in the Lansing Area Trunkline Plan. When constructed it will completely integrate the system of periphery freeway routes recommended for the area. The anticipated growth of Greater Lansing makes it imperative that these perimeter routes be sufficiently removed from the existing urban area so as not to impede its growth potential. Rather they should be used as a positive tool to aid and work in conjunction with the other factors that contribute to the physical and economic growth of the area. Thus, the perimeter series of trunkline routes delineate the central area where it is anticipated that the vast majority of physical growth will occur.

In addition, sufficient removal from the city core development and the limited access right-of-way assures that these outer routes designed primarily for through trunkline traffic will not become congested by unwarranted local usage.

ADDENDUM

SPECIAL CONSIDERATIONS

LOGAN STREET AXIS

A major area of contention in the report centers around the ultimate treatment for the Logan Street axis. Presently a major north-south artery the importance of the route will increase as the southwest section of the city continues to develop and grow. This section of Lansing is currently realizing the greatest rate of overall growth as readily evidenced by the latest subdivision developments and the most recent annexations to the city. Due to the availability of extensive tracts of open land this southwest sector of Lansing will undoubtedly continue to realize substantial growth and urbanization. The full impact of this development on Logan Street will come to bear in the not too distant future in the form of increased traffic volumes. To service this anticipated increase in traffic will require substantially more capacity then presently exists on the route.

That adequate transportation facilities are an underlying factor in the successful development of any area is exemplified by the following quotation of Mr. Henry Fagin, Executive Director, Penn Jersey Transportation Study.

> "The thing that will bind together the million of separate activities in the evolving Penn Jersey regional community will be its transportation system. Where adequate . . . . . highway services will be available, development is likely to be very rapid. Where the supply is pinched off, deterioration will take place. Where accessibility permits, growth may be of a desirable type, but where congestion chokes movement, early absolescence and blight will inevitably occur."

It is therefore, imperative that sufficient capacity be incorporated into the Logan Street axis to provide for future traffic and to augment the other factors which are pertinent to successful residential, commercial and industrial development.

At present there are three separate proposals under consideration. As each recommendation has certain merit it was deemed advisable to explore all of these alternates in this section of the report. Therefore, an effort is made to disect and analyze each proposed alignment with respect to traffic operation; construction and right-of-way costs; existing and future land values; esthetics; induced living conditions and various other considerations.

The three proposals which will be examined and their order of presentation are as follows:

Plan I Logan and Pattengill One-Way System connected to the Logan and Jenison One-Way System

Plan II Logan and Pattengill One-Way System connected to the Logan and Butler One-Way System

Plan III Logan Street Widening (Boulevard) and the Logan and Butler One-Way System

On the succeeding pages is a verbal analysis of each proposal supplemented by a graphic

display of the route alignment in question. The order of presentation is arbitrarily based on preliminary cost estimates prepared by Route Location Engineers. The estimated costs along with the bases from which the costs were derived are as follows.

Assumptions –

1. Estimated traffic will not warrant more than three lanes in each direction.
2. Pattengill Avenue will have to be reconstructed (Plans I and II).
3. Logan Street will be resurfaced – otherwise will remain as is (Plans I & II).
4. In Plan III a wide-median, boulevard-type facility will be constructed from Olds Avenue to Victor Avenue.
5. Estimates are confined to the area between St. Joseph Street and Holmes Road.
6. Logan Street improvements will end at the railroad south of which, it is assumed, will already be five lanes with an adequate surface.

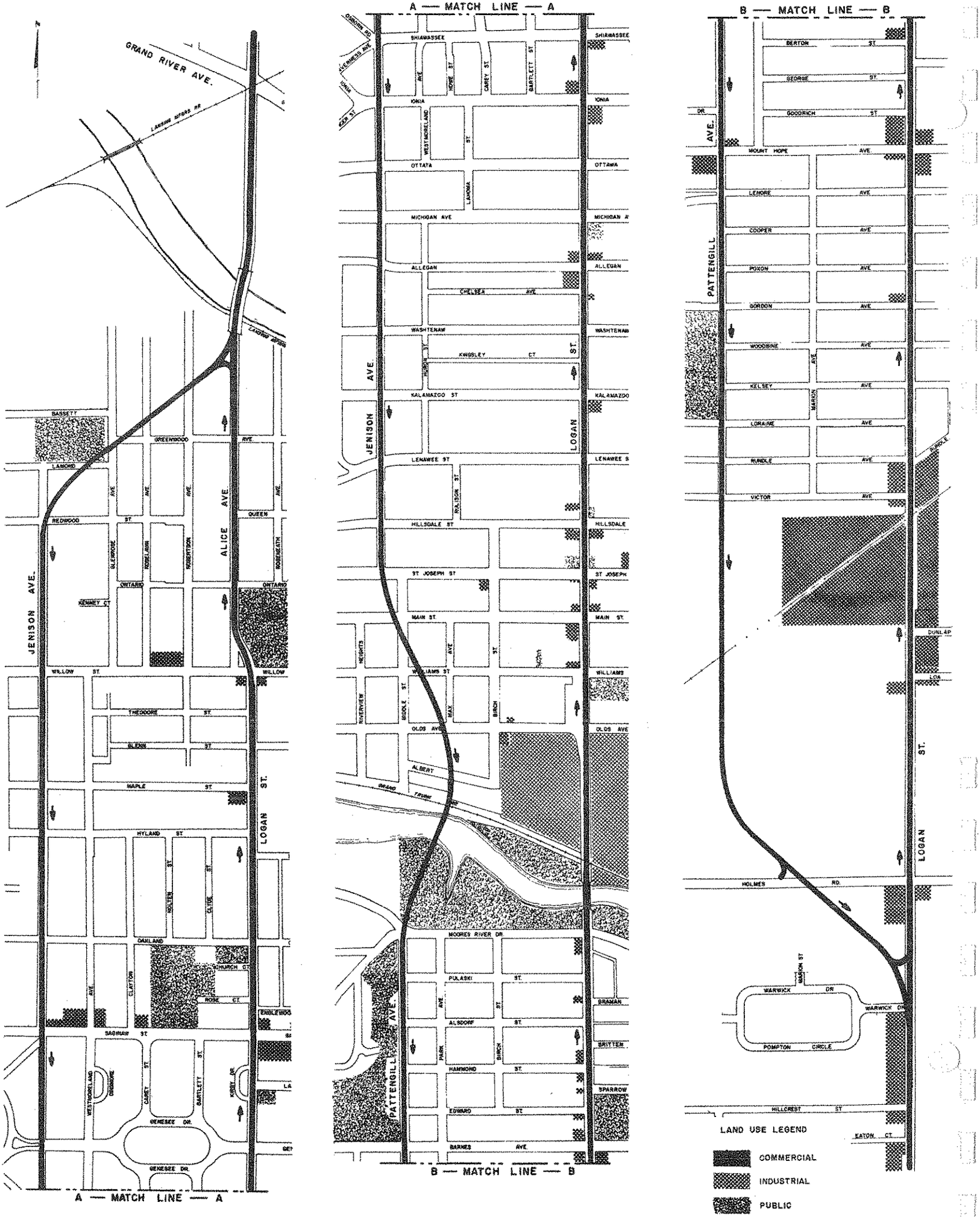
Cost Analysis –

	Plan I	Plan II	Plan III
Right-of-way	$200,000	$700,000	$1,850,000
Construction	700,000	700,000	650,000
Structure	650,000	650,000	1,000,000
Total	$1,550,000	$2,050,000	$3,500,000

As previously stated these cost estimates apply only from St. Joseph Street south. When analyses are completed for the north segments of these alternate routings the differences in costs may be considerably reduced. From field observations it would appear that either Plan II or Plan III north of St. Joseph Street could be implemented at a lesser cost than Plan I. This is due to the fact that the existing width of Butler Street (Plan II) from St. Joseph north to Saginaw is sufficient and may only require resurfacing. On the other hand, Jenison Avenue (Plan I) would have to be widened and reconstructed for its entire length. It also appears that the right-of-way along Butler Street (if needed) would be less expensive than along Jenison Avenue.

The Route Location Division has been assigned the task of making engineering studies on all three of these proposals. When this is accomplished a complete cost analysis will be available from which to compare the merits of the three alternate proposals from this particular aspect.

LOGAN STREET AXIS - PLAN I



PLAN I Logan and Pattengill One-Way System Connected to Logan and Jenison One-Way System

The exhibit on the opposite page depicts the proposed Logan-Pattengill-Jenison one-way trunkline system.

Advantages:

This proposal provides an optimum of service to both the through and terminal traffic which will utilize this trunkline axis. The extension of the one-way system through the entire length of this corridor, from south of Holmes Road to the north branch of the Grand River, will assure that sufficient traffic capacity is provided along the entire route. The utilization of one-way streets having direct route alignment will also facilitate effective traffic signalization. Operation-wise, this proposed routing will simplify the heavy turning movements anticipated along the major portion of the route. Traffic engaging in left-turn movements, in particular, will be able to complete the maneuver with maximum efficiency and a minimum of delay, thus eliminating a major cause of traffic congestion.

Another major advantage of the Plan I proposal is the savings which would result in initial construction and right-of-way costs south of St. Joseph Street. The expenditure for road construction, structure and right-of-way would result in a savings of $500,000 when compared with Plan II, and approximately $2,000,000 when compared with Plan III. The cost differential, between Plan I and Plan III is particularly noteworthy and results from the additional right-of-way and the longer structure over the Grand River required in the implementation of Plan III.

Incorporation of the Plan I proposal would also preserve the tax base of the city within the route corridor. This results from land acquisition for right-of-way purposes being held to a minimum. On the other hand, Plan III would require the purchase of a tier of development properties along one-side of the entire segment of Logan Street which lies south of Moore's River Drive. Thus, substantial income from property tax collections would be retained by the city through the effectuation of the proposals contained in Plan I.

Disadvantages:

The disadvantages of this proposal are: 1) Two very stable residential areas will be subjected to high volumes of one-way traffic. This increase in traffic would be especially detrimental in the case of Pattengill Avenue. Jenison Avenue is already classified as a city major street and it is presently carrying relatively high volumes of two-way traffic. 2) In some areas the east-west street system between Jenison and Logan which must carry the interchange of traffic between the two one-way streets, is not conducive to this type of movement. This is especially true both north and south of Willow Street and in the Genesee Drive area south of Saginaw Street. Both Plans II and III, which utilize Logan and Butler Streets as a one-way pair, are superior in this respect. 3) The narrow existing right-of-way (50 feet) on Jenison Avenue between Shiawassee and Saginaw Streets would also require that a substantial number of mature trees along Jenison Avenue be removed to provide adequate room for the proposed widening project. This would seriously affect the amenities of the existing neighborhood and serve to downgrade property values (in conjunction with increased traffic volumes, etc.).

Summary – Plan I

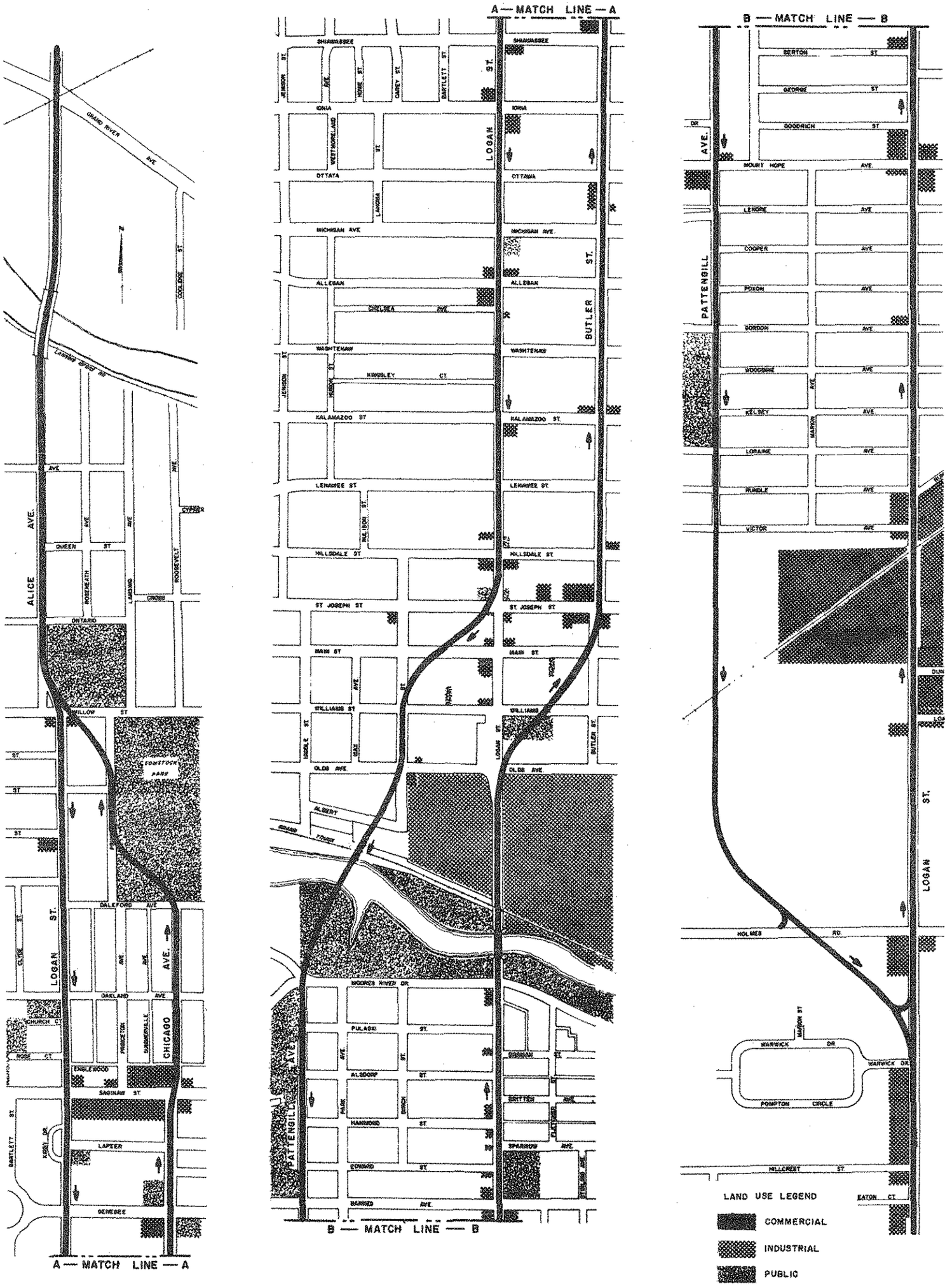
Advantages:

1) Comprehensive service to all phases of traffic desire, 2) possible savings in construction and right-of-way costs, and 3) monetary savings to the city through the preservation of its existing tax base.

Disadvantages:

1) Adverse effects on stable residential areas from additional traffic being routed through the area, 2) circulation difficulties between the one-way system north of St. Joseph Street, 3) substantial removal of mature trees which detracts from the amenities of the area.

LOGAN STREET AXIS — PLAN II



PLAN II Logan-Pattengill One-Way System Connected to Logan-Butler One-Way System

The exhibit on the opposite page depicts the Logan-Pattengill-Butler one-way trunkline system. South of Moore's River Drive this plan is identical to the proposals called for in Plan I. North of Moore's River Drive, Butler Street replaces Jenison Avenue as the one-way counterpart of Logan Street.

Advantages:

The major advantage of this proposal is that it does not disrupt stable residential areas to the extent of Plan I. By utilizing Butler Street the existing property along Jenison Avenue will be preserved as a homogeneous part of a stable neighborhood. In fact, it will actually improve because a considerable amount of the traffic now utilizing Jenison will transfer to the Logan-Butler one-way system. On the other hand, the property which abuts Butler Street is presently serving a mixture of commercial and residential uses. Its value as a residential area is therefore limited. In addition, the volumes and character of traffic currently utilizing Butler Street is similar to trunkline traffic and its transition to a trunkline facility could be achieved with less disruption to existing living conditions than would the Jenison Avenue proposal.

Another favorable aspect of the Plan II proposal is the existing right-of-way (87'5") and pavement width on Butler Street. Field observations indicate that the segment of Butler Street between Michigan and Saginaw Streets has sufficient capacity to meet the anticipated northbound traffic requirements of the route. South of Michigan Avenue to St. Joseph Street it may be necessary to widen the existing surface. However, the minor nature of this widening project would not disrupt the abutting properties nor would it require the removal of mature trees which line both sides of the existing roadway.

The incorporation of the Logan-Butler proposal would also result in superior traffic circulation between the two routes which is an advantage over the Jenison-Logan proposal.

Disadvantages:

In the realm of traffic capacity and traffic operation the trunkline routing in this proposal does not quite reach the standards contained in the Plan I routing. There are two reasons why this is so. The major one is that the one-way system does not extend as far north as does the Logan-Jenison proposal. Due to the planned expansion of facilities serving the School for the Blind, which are well advanced, and the location of the Willow Street School it will be necessary to terminate the one-way system south of Daleford Avenue. Thus, the advantages of one-way trunkline routing are not explored to their fullest. In addition, this plan would undoubtedly require that Alice Street, between Willow Street and the bridge over the Grand River, be widened sufficiently to carry the large volumes of traffic which would be encountered if the street were maintained in two-way operation. The second factor is the narrowness of the median, as compared to Plan I, which results in some limitations in storage space for turning movements and less efficient signalization. In spite of these two operational deficiencies, the Logan-Butler axis would still provide good service to through and terminal traffic south of Oakland Street. However, difficulties would be encountered in the long range plan when additional capacity is needed north of Oakland Street.

Summary – Plan II

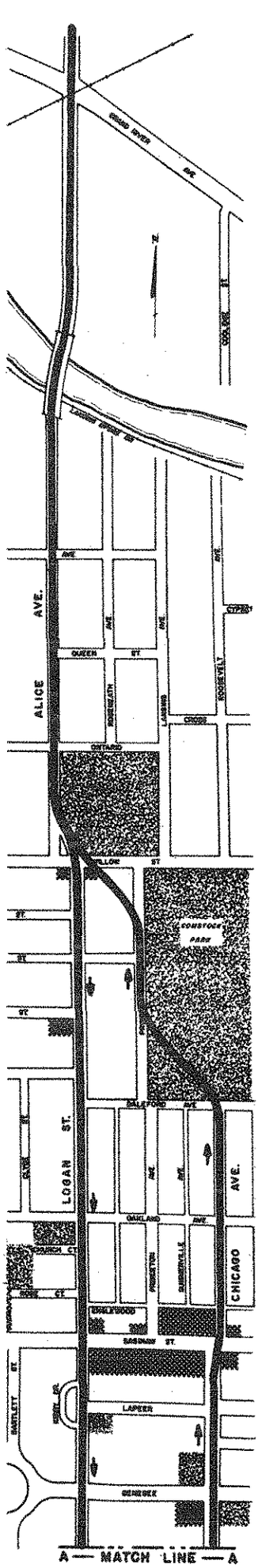
Advantages:

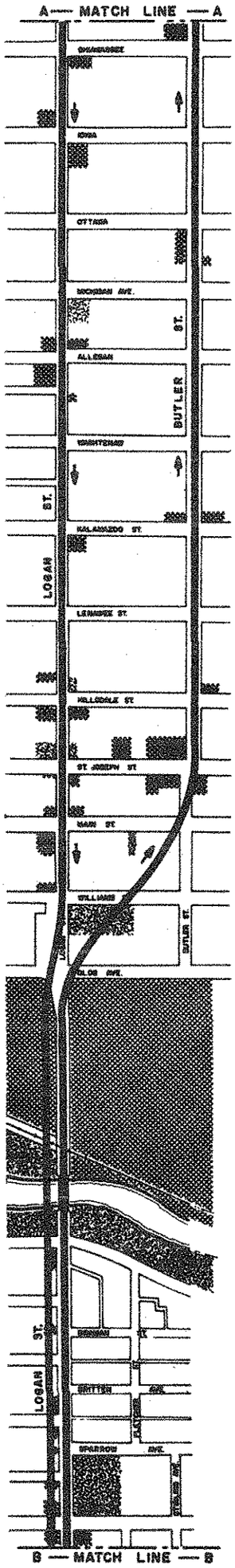
1) Does not disrupt stable residential areas to the extent of Plan I. 2) major portion of Butler Street is sufficient to serve anticipated volumes of one-way traffic. 3) provides for good traffic circulation between the two one-way streets.

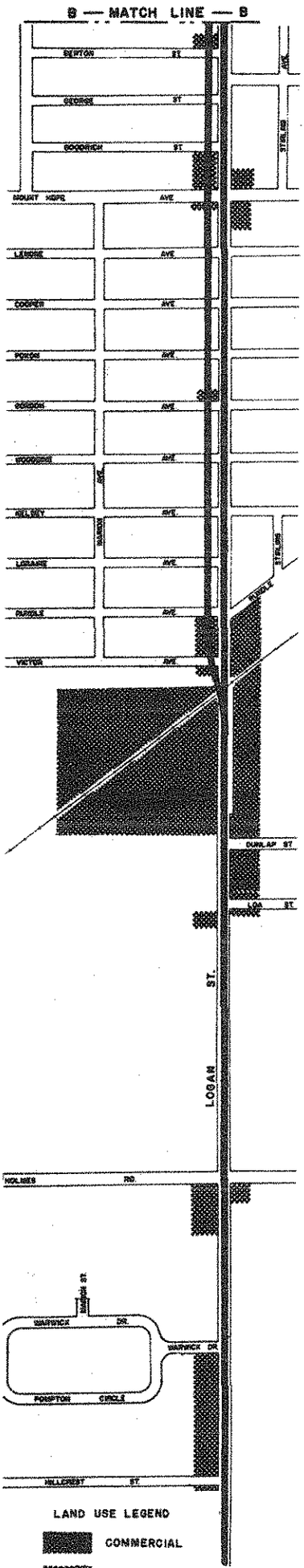
Disadvantages:

1) One-way system does not extend through the entire length of the corridor thus reducing the capacity and operational efficiency of the route. 2) horizontal alignment is slightly inferior to either Plans I or III 3) plan does not facilitate as efficient signalization as Plan I.

LOGAN STREET AXIS - PLAN III







PLAN III Logan Street Boulevard, and the Logan-Butler One-Way System

The exhibit on the opposite page depicts the Logan Boulevard and Logan-Butler one-way trunkline system.

Advantages:

The major advantage of this proposal is the establishment of the route along an existing trunkline axis which holds to a minimum long range deterrent effects on other land values in the area. By refraining from routing the trunkline facility through established and stable residential areas the property values of these areas are maintained, the esthetic qualities preserved and the hardships on home owners in the vicinity held to a minimum.

Proponents of Plan III contend that although the city may suffer initial tax losses due to the additional right-of-way required along Logan Street, the long-range tax gain brought about by the preservation of property values along Pattengill and Jenison Avenues will more than compensate for this initial reversal in city income. They further avow that the location of an industrial site on the south end of the Pattengill Avenue (Plans I and II) will induce repugnant industrial type traffic onto that facility and hasten the blight of contiguous properties. The end result will be the deterioration of a high type residential area into a semi-slum with minimum property values which will eventually become a drag on the city's tax roll.

Note: Although this approach may have some validity it is not a proven fact and must be viewed in that light. Undoubtedly examples can be cited which substantiate this theory. Then again, other examples can be set forth which either completely nullify the theory or temporate the end results. It is undeniable that the route alignments proposed in Plan I and Plan II will have some adverse effect on contiguous property values. The moot question is the severity and extent of these adverse effects.

Another advantage of Plan III is that the trunkline is not routed past the Elmhurst School. Proponents of Plan III insist that the increase in traffic volumes will result in a safety hazard to school children in the area if either Plan I or Plan II is adopted. Here again it cannot be denied that accelerated traffic volumes will create a safety hazard. However, the fact that the traffic flow will be in one direction will minimize these hazards to a certain degree. A further fact that the children will be acutely aware of the heavily traveled traffic artery and under the supervision of an appointed traffic safety officer at this point should further temperate these acknowledged hazards.

Disadvantages:

Traffic operation-wise this proposed facility provides the least service. The major disadvantage of a boulevard type facility, when compared to one-way streets, is the lack of storage space which is provided for the left-turn movements. This is due to the narrowness of the median which requires vehicles to queue up in a moving traffic lane or a turning lane prior to accomplishing this maneuver. By so doing the number of turns which can be accomplished over a given period is definitely limited.

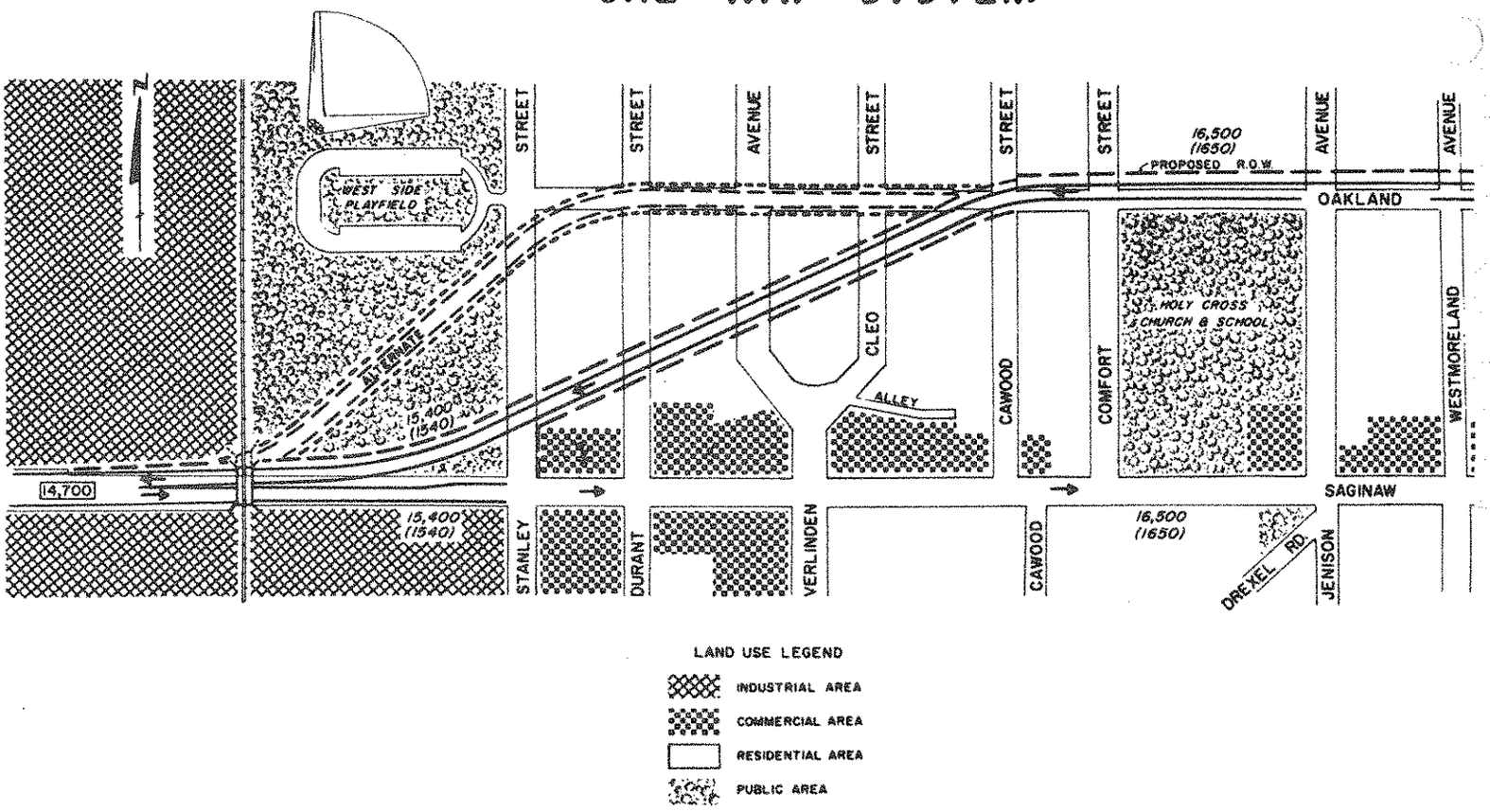
The significant cost differential on the southerly portion of the route between this plan and Plans I and II, as previously mentioned, is a further factor which must be considered and one which cannot help but be a factor in the final route determination.

Summary – Plan III

Advantages – 1) preserves the property values of the stable residential areas along Jenison and Pattengill 2) maintains the route through an area already oriented to large traffic volumes.

Disadvantages – 1) provides for neither the traffic operation nor traffic capacity of either Plan I or II. 2) requires substantial property for right-of-way along the south segment of Logan Street. 3) appears to be more costly than the other alternates. 4) should Plan III fail to meet future traffic needs through this corridor it may be necessary to once again consider the Pattengill-Jenison alignment for development as a major traffic artery.

PROPOSED OAKLAND - SAGINAW ONE - WAY SYSTEM

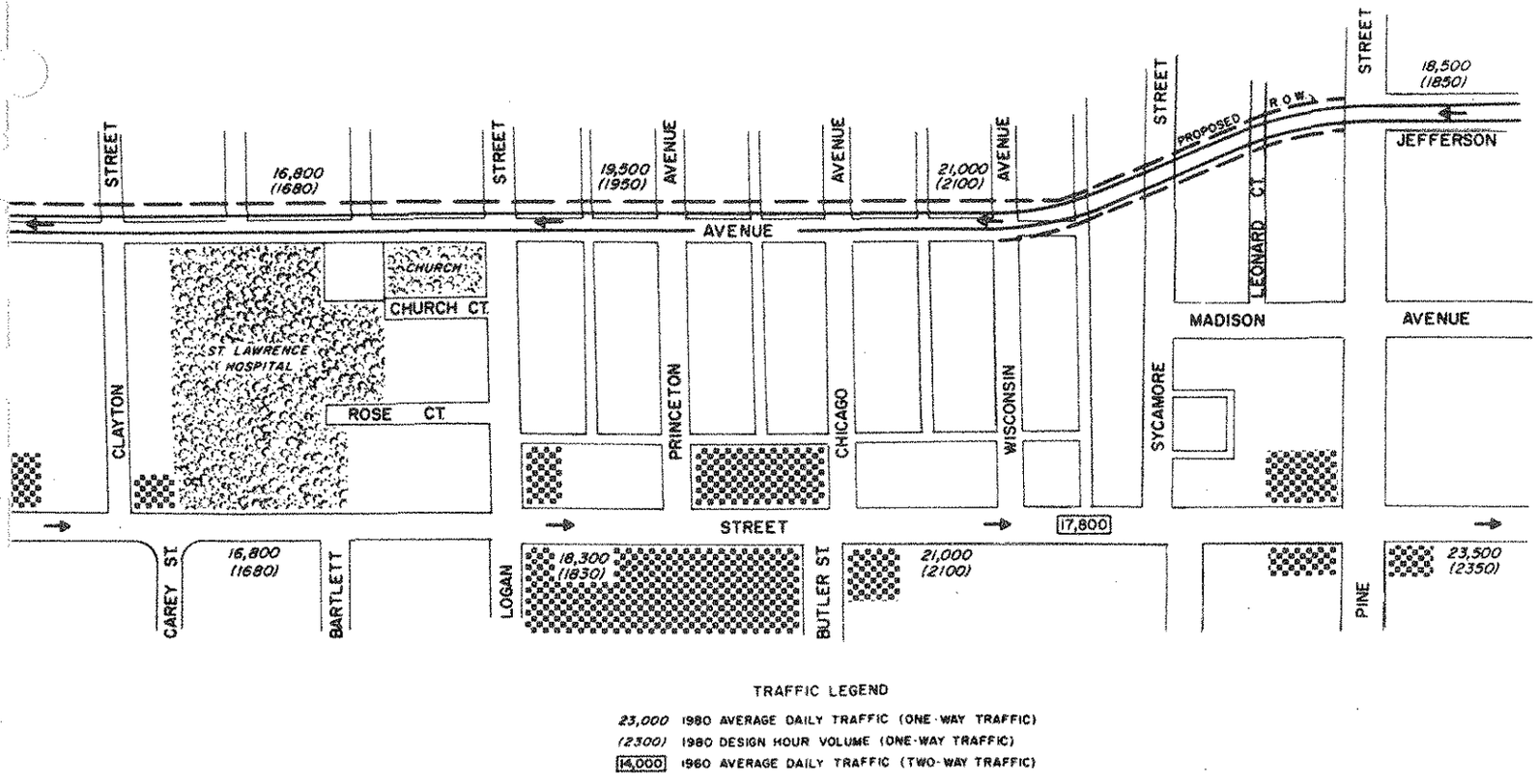


Oakland – Saginaw One-Way System

It is the recommendation of this report that the Saginaw Street one-way axis be extended west to the Beltline railroad as indicated above. Through this particular area Oakland Street would carry west-bound traffic thus extending the function of Jefferson Avenue and Sheridan Streets which provide a similar service east of Pine Street.

A major basis for this proposal is found in future traffic projections prepared by the Traffic Division of the Michigan State Highway Department. They anticipate that in 1980 approximately 30–34,000 vehicles will pass through this immediate corridor. To provide sufficient capacity for this anticipated traffic on Saginaw Street (in two-way operation) would require drastic expansion of the roadway and acquisition of extensive, highly developed, property for right-of-way. Even these measures would not provide overall service to traffic comparable to the one-way recommendation. In addition, the continuation of this one-way axis through the entire highly developed urban area will provide continuity of trunkline design which will result in the most efficient utilization of signalization and other devices of traffic control.

As indicated on the display, two alternate treatments for Oakland Street between Cawood Street and the Beltline railroad have been set forth. The recommended alignment would provide a more desirable west connection to Saginaw Street by incorporating a larger radius into the curvature of the route. It would also conform to the city's thinking, as expressed in their resolution, which indicates a desire to maintain the westbound leg of this one-way system as near to the commercial property on the north side of Saginaw Street as possible, consistent with sound traffic



TRAFFIC LEGEND

23,000 1980 AVERAGE DAILY TRAFFIC (ONE-WAY TRAFFIC)
(2300) 1980 DESIGN HOUR VOLUME (ONE-WAY TRAFFIC)
14,000 1960 AVERAGE DAILY TRAFFIC (TWO-WAY TRAFFIC)

principles and economic considerations. The alternate proposal would traverse a lesser area of developed properties but would also result in a less desirable horizontal alignment. In addition, the alternate proposal would require property acquisition on both sides of Oakland Street, presently contained within fifty feet of existing right-of-way, which would undoubtedly result in additional payments for resulting damages to the properties involved. This alternate alignment would also involve substantially more city park property for right-of-way and would probably require a longer structure to carry the Beltline Railroad over Saginaw Street.

From Cawood Street east to Wisconsin Avenue, where only one alignment is presented, it will be necessary to acquire additional right-of-way to expand Oakland Street to thirty-six feet. It is recommended that a tier of property north of the facility be acquired for this purpose. This would provide approximately ninety feet of right-of-way which would allow the remaining property sufficient room for desirable set-back from the trunkline facility.

Between Wisconsin Avenue and Pine Street it will be necessary to construct a short segment of roadway along new right-of-way to link the Jefferson Avenue and Oakland Street one-way westbound axis.

It must be noted that these proposed treatments are preliminary recommendations. The final decision as to exact route alignment and route design are dependent upon further, more detailed studies by route location and design engineers.

CENTRAL BUSINESS DISTRICT AND CAPITOL REDEVELOPMENT AREAS

CENTRAL BUSINESS DISTRICT AND CAPITOL DEVELOPMENT AREA

A unique feature of downtown Lansing is the Capitol Development Area which is to be reserved for structures housing state and local civic agencies. Situated just west of the central business district this proposed development will appreciably enhance the amenities of the central core area. Functionally this grouping of public buildings will allow the exchange of related activities between the various governmental units to be achieved with maximum efficiency.

The Central Business District, will be generally contained within the framework of streets comprised of Saginaw and Main on the north and south and Grand and Capitol on the east and west. This concentrated area of commercial and professional establishments provides a major source of tax revenue to the city. The planned expansion of the area combined with anticipated improved street and parking facilities will maximize the area potential, provide a firm basis for future development, and assure the city of a continued source of tax revenue.

The development plan of these two vital core areas is depicted on the exhibit displayed on the opposite page. Due to the futuristic nature of portions of the proposed developments the plan as shown is schematic. However, the land use of the area, ie., business, professional, governmental and commercial, and the general boundaries can be predicted with confidence.

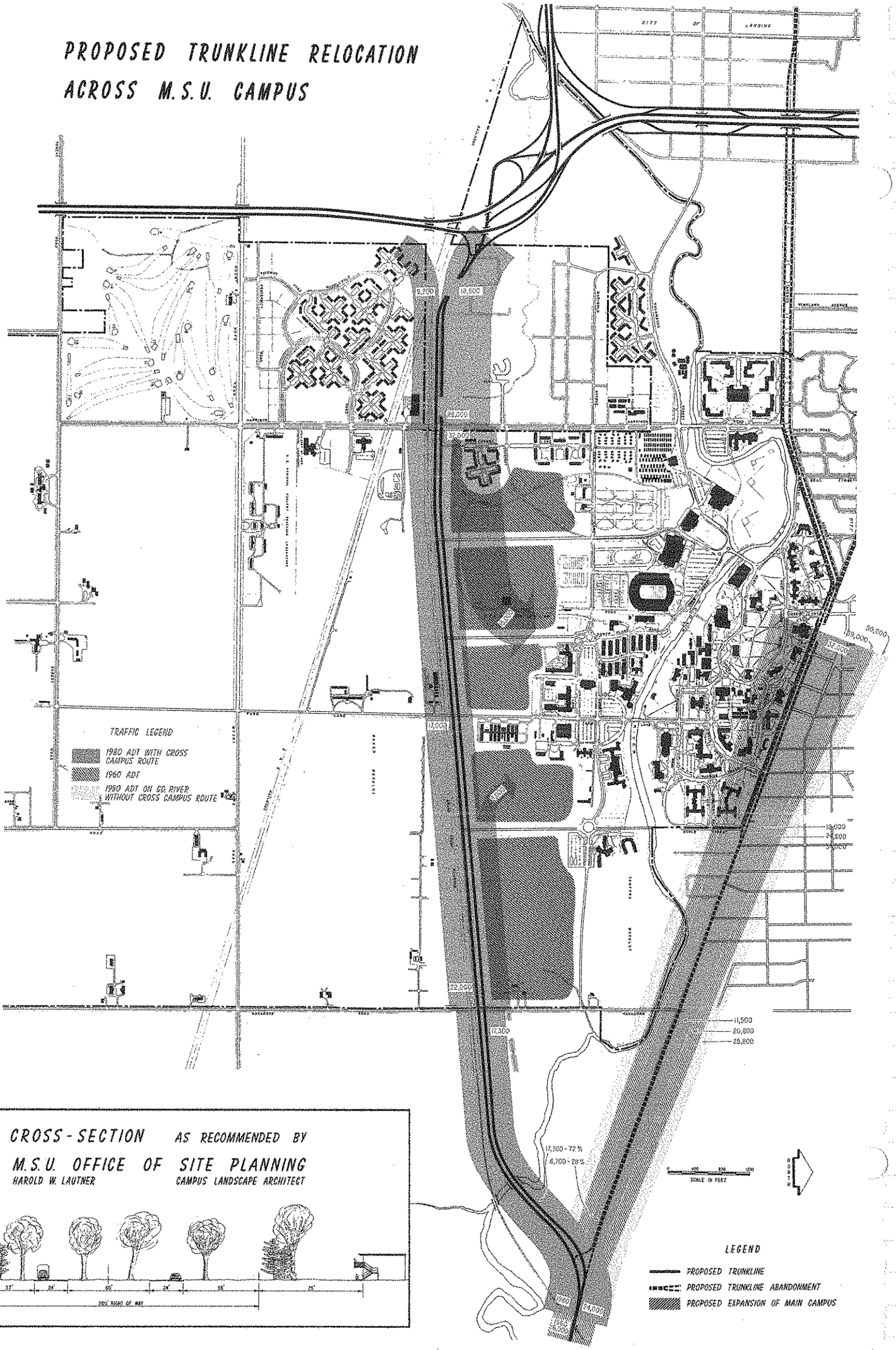
Traffic Service:

As the capitol development area is a focal point of state-wide importance and traffic attraction it is essential that it receive complete traffic service. Being contiguous to the central business district of the city it will be possible to serve both of these vital areas with the same internal trunkline routes and city streets. The trunkline facilities will serve as an internal loop and be composed of high capacity one-way streets or expressway routes. Intersecting these trunkline facilities is the excellent grid-work of city one-way streets which will take traffic off from the trunkline loop and distribute it to specific areas of destination. It will, therefore, be possible to gain direct access to the central business district entirely on high type facilities with a minimum of congestion and delay. This improved accessibility of the downtown area combined with the expanded parking program currently being undertaken by the city will greatly enhance its future development potential.

A further advantage of the trunkline plan as presented are the savings that result from utilizing existing trunkline alignments which eliminates the necessity of acquiring costly and highly developed land for trunkline right-of-way. In addition, a continuation of the policy of providing indirect trunkline service to the central business district allows ample room for its future expansion.

With these major ingredients which underly the successful establishment and continued prosperity of commercial developments i.e., central location, ease of access, and adequate and convenient parking, it is anticipated that this area will continue to occupy a foremost position in the basic economic and social structure of the city.

PROPOSED TRUNKLINE RELOCATION ACROSS M.S.U. CAMPUS



CROSS-SECTION AS RECOMMENDED BY M.S.U. OFFICE OF SITE PLANNING

HAROLD W. LAUTNER — CAMPUS LANDSCAPE ARCHITECT

Cross Campus Route

This proposal, as displayed on the opposite page, would extend the Main Street axis easterly from I-496 across the Michigan State University Campus to a connection with US-16 (Grand River Avenue) in the vicinity of the Park Lake Road intersection.

East Lansing:

The incorporation of this proposed campus route into the trunkline system provides a vital service to East Lansing. It not only serves as part of the west connection to the city but also provides relief for highly congested US-16 (Grand River Avenue) which presently traverses the Central Business District. This congestion results from a combination of high vehicular volumes and equally high pedestrian traffic between the university and the downtown commercial area. This pedestrian traffic is a severe impediment to motorists passing through the city and also presents a substantial safety problem. The routing of trunkline traffic along the campus route, as proposed in this report, would free up Grand River Avenue for both local and terminal traffic, alleviate the existing congestion on US-16 and allow more motorists access to the downtown area who have definite social and business commitments. In effect, it decreases the total amount of traffic in the CBD but creates a condition which will undoubtedly induce more traffic of specific destination which was previously discouraged by the prevailing traffic conditions.

Meridian Township:

By completing the final link of a high capacity, trans-city east-west artery direct service will also be provided to people living in Meridian Township and working or engaging in other socio-economic activities in the city of Lansing. Although not designed to limited access standards as will be the westerly portion of the facility (I-496), this segment of highway will have similar characteristics due to the minimum of intersecting local streets, the alignment of the route parallel to the GT & W Railroad, and the anticipated design of the roadway as recommended by the Site Planning Department of the University.

Michigan State University:

Extensive service will be provided to the University by allowing traffic direct access to large parking areas which are planned along the north side of the proposed cross-campus facility. This will be particularly beneficial during the periods of specific athletic, social and educational activities when large volumes of traffic are attracted to the area. However, there is need for additional year round traffic service as evidenced by the constant traffic activity in and through the area. The campus of Michigan State University is the largest single attraction for state trunkline traffic in the Lansing area.

The importance of this route to the University is further clarified when the nature and capacity of other local roads in the vicinity which interchange with Interstate Routes 96 and 496 are explored. None of these routes, (Okemos Road, Bennett Road and the Trowbridge-Harrison axis), have sufficient capacity nor adequate alignment to provide direct service to the University. Therefore, the feasibility of incorporating this cross-campus route into the trunkline system is undeniable. It is the only local connection to the Interstate System capable of providing comprehensive service to both East Lansing and Michigan State University.

A further inducement to construct this route is provided by the University's tentative agreement to donate the necessary land required for right-of-way purposes. This will materially reduce the cost of incorporating the route into the trunkline system and clearly indicates the favorable attitude of University Officials toward the proposal.

As this route will replace the trunkline function of existing US-16 through the immediate

area, Grand River Avenue, from its junction with M-78 southeasterly to the east terminus of the cross-campus route should be transferred to local jurisdiction when the new facility is opened to traffic.

Traffic Analysis

The traffic bands which are superimposed on the exhibit depicting the cross-campus route indicate the anticipated 1980 traffic movement as it would occur with the campus route and a similar movement without the campus route. As indicated, Grand River Avenue would have to carry a 1980 average of 50,000 vehicles per day, in the vicinity of Abbott Road, if the campus route is not incorporated into the trunkline system. It would be impossible to adequately serve this volume of traffic without extensive widening of the existing facility. The extent to which widening can be accomplished is severely limited by the abutting commercial establishments north of the route and the University campus south of the route. In addition, any widening project would necessitate the removal of the existing tree-lane divider strip which would downgrade the highly valued esthetic qualities of the area. The already grievous pedestrian problem would also be aggravated by extending the distance required to cross Grand River Avenue. Futhermore, it is extremely doubtful whether sufficient capacity or turning provisions can be incorporated into the existing facility to provide even the minimum service desired of a trunkline facility.

On the other hand, the incorporation of the cross-campus route would result in future traffic conditions on Grand River Avenue being superior than that which presently exists. The current average daily traffic volume in the vicinity of Abbott Road is 39,000. It is anticipated that this volume would be reduced to 32,000 vehicles per day in 1980 with the cross-campus route siphoning off the majority of the traffic not having an origin or destination in the immediate East Lansing area. This traffic relief provided to the city of East Lansing will greatly enhance the city's future economic growth potential which may otherwise be deterred by a stagnating glut of traffic. These improved traffic conditions, the added safety for pedestrians crossing Grand River Avenue and extensive benefits described in the preceding verbal analysis makes the cross-campus route a high priority item in the Lansing Area Trunkline Plan.

TRAFFIC CRITIQUE

The majority of trunkline routes recommended for development in this report have had individual traffic analyses and future traffic assignments prepared by the Traffic Division of the Michigan State Highway Department. Still to be accomplished is the correlation and integration of these various segment analyses with the overall network of proposed area trunkline routes. As this requires months of study and as sufficient traffic data is presently available to substantiate the proposals which are set forth in Stages I and II no overall traffic analysis is included in the report. However, a total analysis should be accomplished prior to programming any projects beyond those called for in Stages I and II of the plan.

On certain route axes, where alternate locations are presented, traffic projections have been included to aid in the comparative analysis. These alternate location studies are contained in the addendum to Section III of this report entitled "Special Considerations".

Further substantiation for the development of the trunkline system as advocated in this report is found in the following traffic critique of the overall plan which was prepared by the Department's Traffic Division.

Proposed Lansing Area Trunkline Plan
Traffic Division Review

We have reviewed the proposed Lansing Area Trunkline Plan prepared by the Planning Division. With some detailed exceptions, we feel that the plan as presented will provide adequate service to trunkline traffic either wishing to bypass the area or with origins or destinations within the area. The proposed plan when it has been implemented will also provide a tremendous amount of service to local arterial traffic, that is traffic with origins and destinations within the Lansing Metropolitan Area. Using the proposed area trunkline plan as a foundation, detailed designs can be developed which serve traffic safely and efficiently.

Portions of the trunkline plan, when they have been implemented, will relieve corridors where there are obvious capacity deficiencies at the present. For example, the proposed I-496 – US-127 Expressway should offer some relief to the Cedar Street corridor; the Logan Street improvement will offer direct relief in that corridor as will the Saginaw Street improvement between the West Belt Railroad and Grand River on the eastern side of Lansing. I-496 (Main Street extension) will act to relieve the congested corridors along Saginaw Street, Michigan Avenue, and Kalamazoo Avenue. Those familiar with the Lansing area will readily agree that relief is definitely needed in these areas if traffic is not to become completely stagnated. Traffic congestion in turn not only adversely affects the traveling public but discourages the economic growth of the affected areas.

Our detailed comments are as follows:

I-496

We agree with the City of Lansing that the portion of this route from the north-south portion of I-496 to south of the central business district should be constructed as early as possible. Until this portion of the Interstate connector has been constructed, some congestion can be anticipated for Interstate traffic with origins or destinations in the City of Lansing along Kalamazoo, Michigan, and the Grand River-Saginaw one-way streets. We realize, however, that the Office of Planning must weigh the needs in this area against the needs throughout the entire State. Thus, we are only pointing out the desirability of this construction.

It should be pointed out further that, with the temporary ending of I-496 in the vicinity of the central business district, there is a potential for the creation of traffic problems at either Cedar Street, Grand Avenue, Washington Avenue, or Capitol Avenue. We will study this situation in detail and will analyze various traffic plans for the accommodation of I-496 traffic into the central business district and into the industrial area south of Main Street and St. Joseph Street. The findings from this more detailed study will be submitted to you at a later date so that detailed decisions can be made as to where I-496 can temporarily be ended.

In a similar manner, the proposed trunkline plan shows I-496 in conjunction with the central business district and Capitol redevelopment areas. The geometrics shown (that is ramp locations and layouts) should be regarded as schematic only in that these items cannot be developed in detail without the benefit of detailed studies.

The problems of freeway construction are complex not only in the design of off and on-ramps for high volumes of traffic but as these ramps affect the traffic plan in the central business district and other large concentrations of traffic desires (such as industrial areas). The local street system must be able to accommodate the vast concentrations of traffic from the freeway. In turn, the ramp location and design and the arterial traffic plan become one over-all integrated plan.

US-127 Freeway

This north-south route will carry US-127 and US-27 traffic. Stage 2 of the trunkline plan shows freeway throughout the entire area with the exception of the Homer-Howard one-way system. In that US-27 will have been constructed as freeway from the State line to the International Bridge at Sault Ste. Marie at that time, we question the advisability of carrying this freeway traffic through a short section of urban one ways. Many of the drivers will have become velocitated by that time and will find it difficult to accommodate themselves to urban traffic conditions. This, in turn, would create a serious safety problem. We, therefore, recommend that this portion of the ultimate freeway be completed as part of the Stage 2 program.

M-99 (Logan Street Axis)

Preliminary study of the three alternate schemes indicates that from a traffic-operational viewpoint the Logan-Jenison one-way pair is the preferred scheme. The space between Jenison and Logan provides for a better signalization pattern for east-west as well as north-south movements. The closer spacing with the Logan-Butler one-way pair would result in signal progression problems for north-south and/or east-west traffic as it crossed the various arterial one-way and two-way streets through the central part of the City. These signal progression problems would be similar to those presently existing along Walnut Street in the City of Lansing. Another factor that acts in favor of the Jenison route is the flexibility that it gives in planning the location of ramp connections from I-496 to the central business district. When more detailed studies are made on I-496 ramp locations, it may turn out that the ramp pattern will dictate the choice of the Jenison scheme. While the proposed plan shows the one-way system ending south of Holmes Road, it would be very desirable to continue the benefits of one-way operation well south of that point, perhaps as far south as the interchange with I-96. The need for a grade separation of the railroad at M-99 and Grand River Avenue should also be anticipated as a future need in the Lansing Area.

Saginaw Street (M-43 and present M-78)

Development of the one-way system on the Saginaw Street corridor is necessary and desirable if this corridor is not to become completely stagnated with arterial traffic. In addition to the need and desirability of the one-way system in the central portion of the metropolitan area, interpolation of available traffic estimates indicates the need to widen Saginaw Street to seven lanes in the future from proposed I-96 to the Belt Line Railroad and from the end of the one-way system on the east side at Grand River out to the existing divided portion of M-78. We do not believe that sufficient right-of-way for such a widening is presently available; however, there is little development along the route which would create serious obstacles to such a widening. Thus, it may be possible to establish set-backs which would make such a widening feasible in the future. Stage 3 of the proposed trunkline plan proposes to use existing M-78 for a proposed extension of I-69. Access control will have to be purchased along the existing right-of-way in such a case beyond the proposed North Belt Freeway.

SUMMARY

The projected trunkline system set forth in this report is designed to meet the two primary functions of trunkline facilities: 1) the expeditious movement of the through trunkline trips which are generated outside of the immediate vicinity and utilize the area trunkline system as part of an overall trip route, and 2) the movement of terminal traffic to general areas of major traffic attraction within the city proper.

The through or bypass trunkline traffic movement will be provided for by a complete series of bypass or relief routes. These routes will enable the through traffic movement approaching the city from all directions to avoid the urbanized areas with their inherent delays to traffic progression thus realizing a savings in both time and money to the motoring public.

Terminal traffic will be served by an internal network of high-type trunkline routes which will dispatch motorists to major areas of traffic attraction in both a safe and efficient manner. The combined limited access and one-way trunkline facilities which will penetrate the vicinities of major commercial, industrial and recreational land-use will insure that comprehensive traffic service is provided to the Lansing Metropolitan Area.

Although final realization of the trunkline network as presented in Stage III of the Area Trunkline Plan remains a distant goal, each succeeding phase of construction leading to the consummation of the plan will add to the overall capabilities of the trunkline system. An improved system of terminal and bypass facilities can be accomplished prior to the completion of the overall plan. However, the future trunkline system as advocated in Stage III of this report will provide an optimum of trunkline service to the capitol city area.