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PONTIAC Highway Plan

Planning Division Michigan State Highway Department John C. Mackie, Commissioner



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OBJECTIVES

The Pontiac State Highway Plan is an integral part of an ambitious local program designed to embark Pontiac upon a new era of development. As Pontiac gradually becomes more integrated with the dynamic Detroit Metropolitan Area, the problems which it faces will change in character. One of its most important problems will be the provision of highway network adequate to relieve current and anticipated congestion, and to protect and enhance investments which comprise the existing and future tax base of the area. The National System of Interstate and Defense Highways and other high speed arterial routes will produce a framework to facilitate unimpaired traffic movement throughout the Detroit Metropolitan Area and link it to nationwide traffic.

A wide range of interests is represented in the highway development plan for Pontiac and environs. The proposed highway system will not only provide for traffic circulation in the area, but will act as a force for economic development, enabling Pontiac to revitalize its downtown area and enhance its overall competitive position. In the preparation of the highway plan, the comprehensive planning approach has been used to relate and integrate the area highway system with other important factors involved in private and public development.

Generalized objectives of the report are:



To develop a system of area highways which will expedite the flow of traffic into and through the City of Pontiac and its growing urbanized area.



To integrate the area state highway system with a network of national, regional and state trafficways designed to connect the Pontiac area with other urbanized regions.

To provide a system of highways which will maintain existing land and property values while creating new potential for growth and development.



To coordinate highway construction with other federal, state and local projects, such as urban renewal, central business district revitalization and flood control projects.



To establish a framework within which interrelated highway and street projects can be selected for construction in stages with the assurance that each project will eventually be a part of an overall area and state system.

RECOMMENDATIONS

On the basis of facts revealed by extensive study and research in the Pontiac area, and because of the probability of its future development, the Planning Division of the Michigan State Highway Department recommends the following:



Construction of the downtown state highway loop as shown on Maps 9 & 10.

- 1. One-way counter-clockwise operation of the loop
- 2. Control of access to the loop
- 3. Design of the loop to permit rapid and progressive traffic flow



Operation of Cass and Oakland Avenues as one-way streets from the loop to point of convergence.

- 1. Use of Cass southbound and Oakland northbound
- 2. Improvement of Cass to state highway standards

Retention of two-way operation on West Huron Street, State Street and Elizabeth Lake Road. Until traffic and congestion warrant the placement of State Highway M-59 on Huron Street one-way eastbound, and State Street-Elizabeth Lake Road one-way westbound.



Improvement of Sanderson Avenue from Oakland Avenue to State Street to state highway standards.

- 1. One-way operation west when traffic volumes warrant
- 2. State highway routing if Elizabeth Lake and State Street are made one-way west from the city center
- 3. City construction of a connection between Baldwin Avenue and Cass Avenue, using Sanderson Avenue



Initiation of study for a possible major improvement to replace M-59 west of the City of Pontiac.



Construction of a limited access M-59 penetrator connection from downtown to I-75, and M-59 along the Clinton River alignment.

Improvement of Mt. Clemens Avenue to higher standards, particularly between the improved pavement and the I-75 Interchange in Pontiac Township and the Michigan State University-Oakland property.



Retention of two-way operation on Auburn Street from the loop eastward. State highway traffic will be removed to the Clinton River alignment when it is completed.

Improvement of Telegraph Road by extending its northern terminus to Baldwin and the interchange with I-75. This improvement includes the reversion of portions of US-10 and M-15 to local jurisdiction.

Development of Square Lake Road as a major east-west artery which can accommodate higher volumes of traffic than at present. This additional traffic will warrant high capacity interchanges at Woodward and Telegraph Road.

MICHIGAN STATE HIGHWAY DEPARTMENT

LANSING, 26



JOHN C. MACKIE COMMISSIONER HOWARD E. HILL MANAGING DIRECTOR

JOHN E. MEYER DIRECTOR FOR ENGINEERING FREDERICK E. TRIPP DIRECTOR FOR ADMINISTRATION ADVISORY BOARD J. CARL McMONAGLE STACEY DE CAMP J. PAUL SMITH GEORGE N. HIGGINS

E. J. EAGEN

July 7, 1961

E. A. Bellenbaum Chief Planning Engineer Office of Planning

Dear Mr. Bellenbaum:

The Urban Planning Section of the Planning Division herewith presents "The Pontiac Highway Plan". This study has been made possible by the cooperation of various divisions of the Michigan State Highway Department, the Oakland County Road Commission, and municipalities of the Pontiac area, and prepared in participation with the U.S. Department of Commerce, Bureau of Public Roads. It is based on extensive analysis of existing community conditions and future development potential of the area. Decisions and recommendations are compatible with objectives and long-range development plans of local municipalities, and represent the current level of agreement between the Planning Division and local planning officials. Those conclusions which are mutually agreeable to the City and the Planning Division are to be recommended to the Route Location and Programming Divisions for precise design and construction consideration.

Final recommendations include those objectives which will be implemented through the programming procedure of the Department in the next few years, as well as those which should eventually become a part of the highway system of the Pontiac area. It is anticipated that changing conditions between now and the time of construction may require variations of the proposals presented. Undoubtedly, additional community development will call for continuous study of this dynamic and rapidly changing area.

Respectfully

Robert F. VanHoef, Director Planning Division

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PREFACE

The goal of urban highway transportation planning is to serve the public interest by providing facilities for the expeditious movement of people and goods in harmony with long-range development objectives of the community. The practice of the Michigan State Highway Department is to develop a state highway plan for every city or village prior to the undertaking of major construction. A plan for an urban highway system should have the mutual agreement of planners from the municipality and from the state.

Joint efforts by the local community and the Highway Department are necessary to derive a highway system which will adequately serve the needs of the local community, as well as those of state highway users. Responsibility for the role of the State Highway Department in the preparation of urban highway plans is lodged in the Planning Division. Staff members of this division gather information and present factual material essential to the planning of a highway system which will be adequate for many years. Decisions are based on a comprehensive study of existing and future community characteristics and traffic service needs. Following completion of the initial planning work, the report is submitted to the Route Location and Programming Divisions for implementation. Final agreement on proposed improvements rests with the legislative body of the community and the State Highway Commissioner.

ORGANIZATION

This report contains the documentation of the Planning process which has led to the drafting of long-range objectives for highways in the Pontiac area. Information has been grouped into four sections:

- I Inventory of Existing Conditions
- II Forecast of Development Potential
- III Analysis of Data and Proposals
- IV Conclusions and Recommendations

The first section contains data essential to the effective study of the urban highway system, including a description of basic community characteristics and an evaluation of the existing highway facilities. Section II contains data used in the forecasting of future conditions and service needs. Section III is an analysis of existing conditions and future needs in relation to various alternative solutions for immediate and long-range highway transportation problems. Section IV contains conclusions and recommendations derived from these analyses.



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Political boundaries no longer provide limits to the problems which face urbanized areas because urban functions overlap into surrounding suburban and rural districts. Delimitation of the Pontiac area was based upon investigations of land uses and economic influences operating in the urbanized areas surrounding Pontiac. It encompasses communities which are generally oriented toward the city for shopping or employment as well as those municipalities which are contiguous but which have social and economic orientation to the south. Detroit-oriented communities extend almost to the south city limits of Pontiac, and the area influenced by the City of Pontiac generally extends to the north, west and east. Because of these relationships, the characteristics of this entire area will determine the need for state highway service now and in the future.

ECONOMIC BACKGROUND

Pontiac became one of the first important settlements in the interior of Michigan because of two factors: a major north-south overland route, the Saginaw Trail crossed the Clinton River at this point, and in addition, Pontiac occupied the first site below the chain of lakes drained by the Clinton River where the flow of water could be harnessed for power production. (See Map 7) The selection of Pontiac as the seat of Oakland County government began a period of growth which saw the population increase from 330 in 1816 to 30,000 in 1845. The advent of the Pontiac and Detroit Railroad served as added stimulus to rapid agricultural and industrial growth. The auto industry got an early start in Pontiac and accounts for the rapid growth in the beginning of the twentieth century.

Until World War II, Pontiac remained a distinct center of urban activities. The war effort boosted the economy of the Detroit region and resulted in an upsurge of urban growth which has tended to engulf Pontiac. Regional development surrounding Detroit in the postwar period took place primarily north of Detroit, pushing the population of Oakland County to 690,000 persons in 1960. The major axis of this development in Oakland County has followed the rail line, now the Grand Trunk Railroad, and the old Saginaw Trail, now the six-lane boulevard called Woodward Avenue or US-10.

Manufacturing

Pontiac has generally the same economic base as the Detroit Metropolitan Area. It produces similar products, uses the same sources of supplies, and is within the influences of the great corporations headquartered in Detroit. Labor performs similar tasks and has similar skills, primarily related to the automobile industry. Because motor vehicle manufacturers are the principal employers, Pontiac, like Detroit, is not an area of diversified or balanced economy, but is essentially a one-industry town.

More than half of the Pontiac labor force is employed in manufacturing industries, ninety percent of which are engaged in the manufacture of durable goods -- automobile, truck and motor coach vehicle production and assembly. Ten years ago manufacturing provided jobs for two-thirds of the labor force, showing the decreasing importance of manufacturing as a part of the total employment picture.

Pontiac employs approximately forty-one percent of all manufacturing workers in Oakland County. Compared to other governmental units in the county, Pontiac experienced the greatest decline in manufacturing employment, primarily because of the reduction of

employment in existing plants. Chart 1 indicates total employment in manufacturing, retail and wholesale trade and selected services for the past ten years. There has been little increase in the number of manufacturing employees in Oakland County. Expansion in some plants has been balanced by the fact that other plants have closed, moved out of the county, or discharged employees because of production improvements.

Total Employment	Year	Number	Percent	Percent
in all groups		Employed	Change	of Total
0	1948	67, 549		
	1954	97, 884	44.9	
	1958	94, 517	-3.4	
	1948-58		39.9	
Manufacturing	1948	44, 566		66.0
Employment	1954	57,624	29.3	58.9
	1958	47,458	-17.6	50.2
	1948-58		6.5	
Retail Trade	1948	18,428		27.3
	1954	28, 252	53.3	28.8
	1958	32, 226	14.1	34.1
	1948-58	Wa wa bar on	74.9	
Wholesale Trade	1948	1, 703		2.5
	1954	4,677	174.6	4.8
	1958	5, 158	10.3	5.5
	1948-58		202.9	244 446 456 475 477
Selected Services	1948	2,852		4.2
	1954	7, 331	157.0	7.5
	1958	9,675	31.9	10.2
	1948-58		239.2	

Chart 1: Manufacturing, Retail, Wholesale and Selected Services Employment in Oakland County, 1948-58

Source: U.S. Bureau of Census

Non-Manufacturing

Since 1939. Pontiac has been Oakland County's largest retailing center in terms of sales volume. The city still has the largest drawing power for retail trade in the county, but

Location of Pontiac Shoppers & Retail Purchases

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the percentage of total county sales in Pontiac has been steadily decreasing. Pontiac dominates a five hundred square mile market area which has a total population in excess of 250,000. The Oakland County Planning Commission found in sample interviews that sixty percent of the area persons indicated that they shopped in Pontiac. (See Map I) Not included in this retail market area are the heavily populated communities to the south and east of Pontiac along Woodward. The growing importance of retail trade employment in Oakland County is indicated on Chart 1. During the 1948-58 period, the number of employees and proprietors engaged in retail trade increased from 27.3% to 34.1% of the total employment illustrated.

Wholesale trade has become increasingly important to Oakland County. From 1948 to 1958 the number of employees and proprietors in wholesaling occupations increased 202.9%. Wholesale trade provided work for 2.5% of the four groups in 1948, but in 1958 it employed 5.5% of the same totals, a doubling of its position as a major employer in Pontiac.

The number of proprietors and employees engaged in service trades increased 239.2% from 1948 to 1958. Selected services provided work for 4.2% of the total employees of the four groups in 1948. In 1958 it employed ten percent of the same total, reflecting the growing importance of this employment category.

Purchasing Power

Per capita income, which reflects the average income per person minus taxes, has been gradually increasing during the last decade. Chart 2 shows the effective buying income per capita and Pontiac's relative position compared to the county and to the state.

Year	Pontiac	Oakland County	Detroit Metropolitan Area	Michigan
1957	\$ 1,939	\$ 2,025	\$ 1, 962	\$ 1,812
1958	1, 985	2,028	1, 986	1,857
1959	1, 910	1, 962	1, 918	1,810
1960	2,080	2, 121	2, 083	1,964

Chart 2: Effective Buying Income per capita, 1956-1959

Source: Sales Management Magazine

Effective buying income in Pontiac has increased steadily since 1956, paralleling the state trend. In this respect, Pontiac ranks slightly below Oakland County, but well above the state average. If trends in effective buying income and employment continue, the need for retail and other services will expand.

Automobile Registration

A significant proportion of area sales and service revolves around the use of the automobile, and trends in automobile registration are somewhat indicative of anticipated use of highways. Registration of automobiles in Oakland County and the Detroit Metropolitan Area (Oakland, Macomb, and Wayne Counties) has been steadily increasing despite fluctuations over the past ten years. (See Chart 3)

	1950	1952	1954	1956	1958	1960
Oakland County	159, 927	181, 823	218, 199	257, 118	257, 187	292, 748
Percent Change		13.69	20. 0	17.84	0.03	13.83
Detroit Metro- politan Area	1, 108, 770	1, 172, 168	1, 325, 435	1, 456, 274	1 , 42 1, 597	1, 472, 557
Percent Change		5.72	13.08	9.87	-2.38	3.58
1950-60 increase:		Oakland Co Metro Area	•			

Chart 3: Automobile Registrations

Source: Michigan Secretary of State

The growth rate in Oakland County shows a continuous increase over the decade, with a slight leveling during the 1956-58 period. Auto registration has increased at a more rapid rate in Oakland County than in the three county area. Population growth trends offer a possible index to determine the future course of automobile registration and highway use.

AREA POPULATION

In the past decade, Oakland County has surpassed fast-growing Wayne County in numerical increase of population. Although Oakland County population grew 74.3%, the Pontiac study area had a much greater growth -- 101.4% during the same period. The expansive growth of the Pontiac area was encouraged by the dispersion of industry, commerce and residences, by the proximity of Detroit and by growth in retail, wholesale and service trades in the Pontiac area itself.

Distribution of this population increase has taken place generally outside the city limits of Pontiac. Nevertheless, the 1950-60 rate of population increase for the city exceeded that of the previous decade. (See Chart 4) The greatest increase in area population took place

Chart 4: Population Trends

Political Unit	1940	1950	1960	Numerical Change 1950-1960	Percent Change 1950-1960
Avon Township	8, 776	13, 182	21, 377	8, 195	62.1
-					
Bloomfield Hills	1, 281	1,468	2,378	910	61.9
Bloomfield Twp.	1, 771	3, 851	22, 530	18, 679	485.0
Clarkston	653	722	769	47	6.5
Independence Twp.	2, 2 80	4,170	10, 890	6, 720	161.1
Keego Harbor	*	*	2, 761	2, 761	*
Lake Angelus	139	123	231	108	87.8
Oakland Twp.	966	1, 343	2,469	1, 126	83.8
Orchard Lake	295	696	1, 127	431	61.9
Orion Twp.	4, 333	7, 165	11, 844	4,679	65, 3
City of Pontiac	66, 626	73, 6 81	82, 233	8, 552	11.6
Pontiac Twp.	3, 581	6, 292	9,091	2, 799	44.5
Springfield Twp.	1, 273	1,825	2,664	839	45.9
Sylvan Lake	1,041	1,165	2,004	839	72.0
Troy	8, 505	10,087	19,058	8, 971	88.9
Waterford Twp.	12, 396	24, 316	47, 107	22, 791	93.7
W. Bloomfield Twj	p. 6, 579	9,416	14, 994	5, 578	59.2
White Lake Twp.	1,643	4, 182	8, 381	4, 199	100.4
Pontiac Area	122, 138	163, 684	261,908	98, 224	60.0
Pontiac Area excluding city	55, 512	90,003	179, 675	90, 494	99.6
Oakland County	254 , 068	396,001	690, 259	294, 258	74.3

* Data not available

in municipalities oriented toward both Pontiac and the Detroit northern suburbs -- the municipalities of Bloomfield Hills, Troy and the townships of Waterford, Bloomfield, West Bloomfield, and Avon. Excluding the City of Pontiac, the study area gained 90,494 persons in the past decade, with nearly 25% of these persons moving into Waterford Township.

The changing distribution and growth of area population has encouraged the development of new uses of the land. A study of these uses will give some indication of the amount of traffic which may be using the streets and trunklines of the local area.

LAND USE

The relationship of highway transportation to the uses of land is reciprocal in nature, for not only do land uses affect the highway system, but highways will affect the manner in which the land will be developed and utilized. Land use patterns result from the functional location which establishments or groups of establishments choose in relation to one another. Interaction between land uses is facilitated by highways which provide communication between existing land uses. New highways often provide access to relatively undeveloped areas and encourage new uses as well as intensifying the land uses already developed.

For purposes of study, area land use patterns have been generalized into four major categories. (See Map 2) Residential land uses include all areas used for housing regardless of distinctions between type of structure or number of inhabitants. Residential growth outside the City of Pontiac has been widely dispersed. New residential development in the past several years has tended to be located west of the city and around the lakes; however, the establishment of MSU-O east of Pontiac is already encouraging new growth in that area. South of Pontiac, a great deal of new residential development is occurring as suburban Detroit expands along US-10 (Woodward Avenue).

Commercial uses shown on Map 2 vary from a neighborhood store to a large business enterprise. The largest concentration of commercial uses is in the central business district of the City of Pontiac. Commercial establishments are scattered throughout the study area, with concentrations especially along the state highways and major thoroughfares. Scattered large shopping centers attract considerable traffic and are often the source of congestion and friction.

Area industrial uses, both light and heavy, have concentrated around two major plants; the Pontiac Motor Company in the north portion of the city and the General Motors Truck and Coach Division in the southeastern section. Other industries are scattered throughout the study area with some concentration along the railroads. Industrial location in relation to other land uses and to the transportation system has caused problems because of traffic congestion around old plants and problems of access to widely-spread new plants.

Public and semi-public uses including schools, parks, churches, public buildings, and cemeteries are illustrated as one category. The more prominent traffic generators included in this group are the huge regional park on M-59 west of Pontiac, MSU-O east of the city, the Oakland County Center and the State Hospital northwest of central Pontiac.



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SOURCE: DETROIT METROPO REGIONAL PLANNIN OAKLAND COUNTY F PONTIAC CITY PLA WATERFORD TOWNSHI



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Additional small parks, cemeteries, schools and churches are found throughout the area.

THOROUGHFARES AND TRANSPORTATION

Highway and railroad locations have largely determined the direction of urban land use expansion in the Pontiac area. Because of the focus of these routes on the original settlement of Pontiac, a unique pattern has been developed with major arterials originating in the central business district and extending outward in all directions. (See Map 3)

The principal north and south radial routes are formed by the old Saginaw Trail (Woodward and Oakland Avenues) linking Pontiac to Detroit, Flint, Saginaw, and Bay City. Perry Street (M-24) provides access to and from the northeast via four lanes of recently improved roadway. State route M-59 gives access to Pontiac from the west via Huron Street and from the east via Auburn Road. Elizabeth Lake Road and Huron Street both carry high volumes of traffic to the heavily populated areas west of the downtown area, and south of the Pontiac State Hospital. Franklin Road extends to the southern extremities of Pontiac and connects with Woodward Avenue near the central area. Orchard Lake Road (M-218) provides access to the southwest area of the city and to the lake and resort region. Mount Clemens Road extends north and east of the city from downtown, and is a major artery serving MSU-O and the Rochester vicinity. Lake Angelus and Independence Township are linked to Pontiac by Baldwin Avenue, which connects with Oakland Avenue near the downtown area.

The convergence of these various radial routes in and near downtown creates the need for circumferential streets to permit a directional vehicular movement around the central commercial area. Several streets of this type presently exist, but all of them are segmental in character. For example Lafayette, Clark, Seneca, Parke and Union Streets terminate at the railroad yards on the west side of Cass Avenue or at the Clinton River. Further out, Paddock and Johnson Streets, and East and Montcalm Boulevards illustrate some confusion and discontinuity which characterize the circumferentials of the inner street system of the city. Only upon reaching the outer city limits is the pattern reasonably continuous and apparent. Telegraph Road on the west, Square Lake Road and South Boulevard on the south. Opdyke Road on the east and Walton Boulevard on the north form a partial circumferential route around the city.

The confusion of streets and the lack of continuity of inner city circumferential routes result in congestion of city traffic and encourage the flight of business and residents to more readily accessible areas. A possible solution to the integration of the radial pattern into a functional circulation system is the building of a downtown business loop suggested by the Barton Traffic Study of 1958. This loop would provide the service which the inner city now lacks - that of collecting traffic from the various radials and distributing it to another arterial street or to the downtown business area.

Transportation Facilities

Forms of transportation other than the automobile play important roles in moving goods and people within the Pontiac area. For example, bus and truck transportation facilities provide an effective method of transporting large volumes with a minimum of congestion.



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Bus service has been provided for the major traffic-generating areas, the central business district and the major manufacturing centers by two local bus lines. Recent years have witnessed a decline in the use of the bus transit system in Pontiac. Yearly loads on the Pontiac City Lines were 6, 728, 580 in 1950, and 1, 396, 599 in 1959. This represents a loss of 5, 322, 000 passenger rides, or a 79.2% decline in bus use during the nine-year period. If present trends continue, the bus system will be of little relative value as a method of mass transportation. As a matter directly relating to public convenience and general welfare and to the need for adequate auto parking facilities within major traffic generating areas, it would seem desirable to study the implications of reduced Pontiac bus service.

Seventeen "over-the-road" trucking firms are located at ten different terminals within Pontiac and five firms operate from one location just outside the city limits. Nearly all of the firms within Pontiac are located in areas adjacent to industrial complexes in the southern portion of the city along Woodward and in the north central part of the city. The extent of operations within the area indicates that Pontiac has a relatively good position in regard to trucking transportation. The advancement of the interstate highways and the incorporation of a good urban highway system will probably improve the strength of Pontiac's trucking industry.

Railroad corporations in the Pontiac area are limited to the Grand Trunk and Western Railroad Company, whose facilities include the passenger station, two main freight yards, and two yards serving the General Motors plants. The Grand Trunk runs five passenger trains to and from Detroit, of which two each way are commuter trains operating only to and from Pontiac. According to railroad officials, twenty-three freight trains pass through Pontiac at the west edge of the central business district daily, delaying east-west traffic each time. The need for smooth traffic flow and easy access to downtown requires a solution to the delay if existing highways and major streets are to adequately serve the city.

Pontiac Municipal Airport provides good opportunities for air operations, but thus far has had only experimental scheduled service operating from it. As a major terminal within the state, it has been of secondary importance, because of the proximity of Pontiac to Detroit metropolitan air fields. This imposes limitations upon the local potential for long distance air passenger travel. The primary future function of the airfield will be general airport service for private and charter flights, according to the Federal Aviation Agency.

Traffic Characteristics

Traffic movement is the result of the interacting characteristics of area economics, population and land use. The factors influencing generation of traffic have been studied periodically to determine the effect upon existing highway facilities and the need for new routings or construction. In 1947, the Michigan State Highway Department completed an origin and destination study which determined the relative traffic generation characteristics of the various sectors of the urban area. This information served as a basis for the 1958 traffic study made by consultants retained by the city.

The findings of their report verify the existence and effect of the radial system of thoroughfares on local traffic. (See Map 4) The influence of downtown Pontiac on traffic was

PONTIAC AREA 1957 TRAFFIC FLOW WALTON 8,300 COLUMBIA 14750/ RENNETT ONTCALM 19.000 10,600 GINAN LAKE FEATHERSTORE SCOTT LELEGA ELIZABETH LAKE 12,000 CENTRAL BUSINESS PIKI HURON DISTRICT AUBURN 16,300 24,300 10,100 VOORHEIS 80 11,200 EAST FRANKLIN SOUTH GOLF 18,000 CENTRAL BUSINESS DISTRICT SQUARE LAKE PARKE SCALES ATER SCALES 30,000 20,000 i0,000 FOR CENTRAL BUSINESS DISTRICT ORCHARD LAKE VEHICLES UBUR 20,000 10,000 5,000 VEHICLES MILES FEET 1958 🖌 TRANSPORTATION STUDY HIGHWAY SOURCE BARTON

markedly apparent: over twenty percent of all traffic was found to have either origin or destination in that area. Compounding this traffic were unspecified volumes forced into the central business district by the radial street system. Heavy volumes of traffic were also found to be generated by two major industrial districts, totalling thirty-five percent of all city traffic. The study showed that 43 percent of the industrial traffic came from outside the city limits.

INTERRELATIONSHIP OF INVENTORIED FACTORS

Factors studied have interacted upon one another to form the relatively stabilized growth of the urban area of Pontiac. Its continuous population growth reflects not only the vitality of nearby Detroit, but also the strength of Pontiac as an economic unit and center of population. Non-manufacturing activity appears to be the major force which will sustain employment in the area. The relative importance of manufacturing is decreasing as the service industries and retail-wholesale trades develop new outlets around Pontiac. However, the extension of urban Detroit appears certain to mesh Pontiac with the larger metropolitan complex. State highway development has furthered this close relationship with Detroit and the northern suburbs through the provision of efficient highway access to work and shopping places in both areas. Existing land development indicates that the two urbanized areas are rapidly becoming one economic and social unit, although a physical connection between the two has long been apparent. The future of this new relationship is clouded with uncertainties. Though closely allied to Detroit, the Pontiac area can be expected to retain individual characteristics which will determine the local state highway needs. A forecast of these probabilities follows.



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FORECAST

The preceding inventory presents a generalized picture of the existing character of the Pontiac area. Based on this information, highway plans might be adequate for the present, but could become obsolete relatively soon. By using the available data to forecast future developments, long-range plans can be formulated to permit the incorporation and integration of the solutions to short-range problems. There are obvious elements of uncertainty involved in predicting future needs, but if the process is not attempted, public funds may be expended on projects which could become only temporary, and wasted in satisfying future needs.

The Pontiac area is extremely fortunate to have a continuous history of planning activity which currently includes work by local, county and regional agencies. These agencies have made forecasts for area development, future population, highway needs, and park provision. Pontiac has had growing pains not ordinarily experienced by cities of similar size, because of its relationship to the burgeoning Detroit Metropolitan Area. Planning for the region has effectively benefitted the Pontiac area as well. Development and redevelopment programs underway reflect the efforts of local planning staffs. Recommendations and prognostications of the city, county, and the regional planning staffs have been examined for incorporation into the Pontiac Highway Plan. In all cases where it has been feasible, these sources have been tapped to provide background and forecasts for this report. The following estimates represent the results of local and regional planning activity.

ECONOMIC POTENTIAL

The growing economic and physical expansion of Pontiac into the surrounding region should reduce the comparatively dominant influence of the automotive industry on the local economy. As other regional economic activity becomes more important, economic factors which determine area growth will operate within the context of the region. Automotive firms will probably become somewhat less important in the regional economic factors which will guide future growth.

According to the Detroit Area Traffic Study, automotive manufacturing is a maturing industry. The market that any one manufacturer will have for automobile sales may change but the total employment in the industry will not grow appreciably because of automation and the industrial maturity. The core of Pontiac's manufacturing-- Pontiac Motors, Fisher Body and the General Motors Truck and Coach Division -- is expected to maintain present levels of employment and not change radically. The use of truck transportation is rapidly increasing and the market potential in this area could expand, creating promising growth prospects for the General Motors truck plant in Pontiac. Fluctuations and peaks of employment in these industries may be expected to continue. Variations in total employment which are cyclical in nature occur because a specialized economic base is sensitive to changes in national economy. In the future, employment insurance, unemployment benefits and more salaried workers will improve the stability of the economy and help check the severity of low-level economic activity in the community.

A possibility for increasing employment in the manufacturing fields in Pontiac lies in the encouragement of diversified manufacturing industries. Pontiac has a relatively good position to attract these because of the concentration of an experienced, trained labor

force and the amount of capital already invested.

Pontiac's non-manufacturing employment has not yet reached its potential in relation to manufacturing employment, because the emphasis of Pontiac's economic base has been on the latter. Possible sources for increased future employment may come from the wholesale and service industries as well as potential retail trade. Pontiac can retain its present position as a regional trade center, and can improve it if the proper facilities are provided. The local program proposed for the central business district will offer the opportunity to enhance its position as well as retain it. Population increases and shifts in location, along with the increasing levels of income, may have a profound effect upon future retailing opportunities. An increase in population in the townships immediately adjacent to the city will greatly increase Pontiac's retail market if it is to the time and distance advantage of the customer.

With a good highway network, Pontiac's proximity to Detroit could result in additional wholesale business because of the tendency of these operations to have branch offices within a metropolitan or regional trading area. Improved and additional development in highway transportation and terminal storage facilities for automobiles will play a vital part in this change. Rail facilities should not be overlooked as a potential development factor. Pontiac's rail facilities are in a favorable position to serve the transportation of goods and supplies for industrial, retail and wholesale activity.

The continued future development of the service trade, would strengthen and balance Pontiac's economic base. Increased retail trade in addition to an increase in wholesale and service employment should be able to extend the trends indicated in Chart 1. The effect of the growing economy of the Detroit metropolitan area will gradually become a more important influence on the Pontiac urban area. As expansion of the economy continues, population growth of the region will continue unabated, helping the Pontiac area to move outward with the Detroit urban complex.

ANTICIPATED POPULATION

Community facilities and services will be demanded to meet the physical, economic, social, and cultural needs of these inhabitants. New residents create the need for additional facilities as standards of living are increased, and as development appears. The number of inhabitants is obviously a factor to be considered when designing facilities. The characteristics of this population and labor force, as well as its distribution on the land, determine the future need for community facilities. In addition, the density of the population will determine the size and capacity of facilities which must be built to provide for the needs of traffic concentrations.

Population growth trends, distribution, and density in the Pontiac area provide indicators of local needs and requirements for highway facilities. Area population trends, portrayed graphically on Map 5, include 1970 and 1980 population estimates from two published reports: "Population Growth in the City of Pontiac 1950-1975," by Geer Associates, and "1970-1980 Population Projections with 1950 and Preliminary 1960 Census Figures, "by the Detroit Metropolitan Area Regional Planning Commission. According to the latter, the City of Pontiac is expected to have a total population of 88,000 persons by 1970. The projected 1970 population of the study area, including the City of Pontiac, is 319,200

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MAP 5

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persons and the 1970 population of Oakland County is estimated to attain 920,000 persons. (See Chart 5)

Projected Population Density and Distribution

Utilizing information obtained from local sources, projections in Chart 5 show the ranges of growth which may be anticipated. The rapid growth of Oakland County will continue at a decreasing rate, while that of the Pontiac study area may increase at a faster rate than previously experienced. Growth within the city limits of Pontiac will taper off as physical development expands to fill its present boundaries. Should annexation take place, the city will probably gain in population. These area population estimates should prove to be reasonable, barring major disasters or economic changes in the region. With the increased growth that is anticipated, the area could experience drastic changes in current population distribution, causing land use patterns which will result in the need for new highway facilities.

Projected density figures represent the expected ultimate dwelling units per square mile as determined in land use analyses and population studies by the Oakland County Planning Commission. In general, the municipalities and townships immediately west and northwest of Pontiac are expected to have the highest dwelling unit density rate. The ultimate density is estimated to range from 700 to 1300 dwellings per square mile, with some scattered higher densities. Oakland County figures indicate that highest population densities will occur in a westerly direction from Pontiac. Areas south and southeast of Pontiac will contain a substantial portion of the area population growth, but at a lower dwelling unit density than the areas west and northwest. Projected densities range from 700 to 1,000 dwelling units per square mile within the City of Pontiac. (See Map 6)

DEVELOPMENTAL FACTORS

The pattern of development which will be established by the increased number of dwelling units is in part predictable. Physical location is the result of numerous factors which work to guide development into one area which is more favorable for development than another. Where a great many of these factors coincide and operate simultaneously, the pattern of development will evolve quite rapidly. The projection of economic and population growth can thus be translated into a generalized physical pattern which will tell when and where development will take place and what type of highway facilities will be needed. A general knowledge of evolving patterns permits highway location with some degree of accuracy and with assurance of a long useful life.

The Pontiac area has been very attractive to development because of the predominance of soil types suitable for building, interspersed with numerous attractive lakes. However, the low quality of some existing development and several large areas of swamplands may act to depress continued rapid growth west of Pontiac. Areas north and east of the city, characterized by undulating and rolling topography, will be conducive to low density residential development of the type now occurring near Michigan State University-Oakland. This topography is well adapted to the establishment of artificial lakes and lacks the restricting effects of swampy areas. Natural factors such as soils and lakes have induced development in the past, and will work in conjunction with newly added man-made features to promote future development.



SOURCE: OAKLAND COUNTY

MAP 6



Nearly every street in the urban area of Pontiac has gas mains, electrical cables, telephone lines and sewer and water mains within its right-of-way. Most of the area will be adequately served by extensions of these public utilities in the future, posing no ultimate limitation to area development. Utility alterations are obviously less expensive when taken into account in the planning stage of the possible alternative solutions considered in overall urban highway location. Local public service companies have been contacted with regard to the planning of state highways in the Pontiac area, and have been of much assistance in the review and coordination of proposed alternatives with their facilities.

Water for the Pontiac area is supplied primarily by the City of Pontiac and by scattered small water systems dependent upon ground water sources. Systems outside the city, operated and maintained by both Oakland County Department of Public Works and by the local townships, are supplemented by the City of Detroit, which has already begun the extension of mains into Troy. Both present and proposed water supply facilities are designed with these goals in mind: first, to provide a uniform water supply to commercial, industrial and residential areas presently in existence, and secondly, to attract new industry to the area and eventually to merge supply and transmission with the Metropolitan Detroit Water Supply System.

Existing area sewage disposal facilities are concentrated within Pontiac City, which maintains a sewage treatment plant on East Boulevard and has proposed a new site on Opdyke Road. New subdivisions with small private sewage disposal plants in the surrounding areas have created a haphazard pattern of utility construction. The Clinton River System, initiated to serve Michigan State University-Oakland, will eventually incorporate most of the present systems outside the city. Now partially completed, it will encompass 290 square miles in northeastern and central Oakland County. Portions of the study area not included in the plans for the Clinton River project will be serviced by the Evergreen Sewage Disposal System, the Maple-Hamilton Relief Sewer or the Keego Harbor Sanitary System.

Highways constitute an important developmental factor, because land adjacent to transportation lines has historically been susceptible to rapid development. The decentralization of urban areas has resulted in an explosive increase in the amount of travel and traffic necessary for everyday living. Expansion of regional traffic and land use has created the need for an integrated circulation system which will connect the Pontiac area to other portions of the Detroit urban complex as well as to other urban areas in the state. Improved metropolitan highway facilities will benefit the Pontiac area as a total system takes shape to give efficient and safe travel.

The system of highways shown on Map 7 was drafted by the Detroit Metropolitan Area Regional Planning Commission. Evaluating alternative possibilities for metropolitan highways, this agency has published an overall plan for the five-county Detroit region, which includes Oakland County and the Pontiac area. The basic skeletal circulation system is the proposed freeway network, which provides fast and efficient vehicular movement over relatively long distances. The freeway system is supplemented by modified expressways which provide the remaining intra-regional routes necessary for largescale traffic capacity. These intra-regional routes are intersected by numerous arterial routes and collector streets which serve much of the area with highway access.





LAND USE FORECAST

Forecasts of area urban expansion must take into consideration the impetus and extent of development, and the factors which tend to accommodate more growth in one area than another. Developmental factors are highly interrelated and collectively determine the force and direction of forecasted growth. Based on an interrelationship of these factors, an estimate may be made of the pattern of land uses which may emerge. Anticipated highway needs can then be related in time and location to the developing pattern. The ultimate pattern of land use development in the area can be estimated from several existing factors.

Private land development projects indicate a possible emerging development pattern. Local master plans, regulations and zoning ordinances also guide a community's physical growth. The chief limitation to the use of these factors is their tendency to change within a relatively short period of time. Major developments within the Pontiac area which will have significant effect as traffic generators, giving direction to community growth, include Michigan State University-Oakland, and the proposed Chrysler Corporation Technical Center located in the northwest corner of Troy. Private development plans and projects which may emerge to become relatively large traffic generators include subdivisions, shopping centers, and new industrial concerns.

Beyond these immediate developments, long-range objectives and current public policy of the community are expressed in plans and regulations approved by public officials. Public plans and regulations of major significance include the comprehensive plan, land development controls and urban renewal projects. Municipalities in the Pontiac area have made use of one or more of these instruments, but in some cases, plans and regulations are obsolete and require updating for modernization and administrative efficiency.

State and urban highway programs should be developed in accordance with a plan that can be jointly formulated and mutually agreed upon. Items of concern in locating state highways through local communities have been considered in the formulation of Pontiac's master plan. This plan is presently under review and is to be brought up to date. Additional master plans and community objectives, to which urban highway plans should be closely aligned, will result from activity currently in progress in other local municipalities.

The Control of Land Use

Through the use of land development regulations, new growth and development can be guided to conform with a comprehensive plan for the community and to integrate with the highway system of the region. Zoning ordinances and subdivision regulations can be used to guide a community's growth along orderly lines and help effectuate rational land use patterns. Pontiac has both a zoning ordinance and subdivision regulations; most area municipalities also have zoning ordinances, but only a few have subdivisions regulations. Zoning will be the chief guide to development outside the City of Pontiac because master plans do not exist. These areas will probably be urbanized in a pattern of uses not unlike that enforced by zoning. Because these future uses will have to be serviced by highway facilities, a knowledge of proposed land use patterns is important to future construction plans.



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MAP 8


The generalized zoning districting portrayed on Map 8 indicates that a majority of the areas surrounding Pontiac are zoned for extensive residential uses (more than 10, 000 square feet per residential lot). The city itself is largely zoned for intensive residential uses (less than 10, 000 square feet per residential lot), as well as certain heavily developed sectors within incorporated cities and villages, in Pontiac Township, and West Bloomfield Township. Industrial zones are concentrated in four major locations: the City of Pontiac; the City of Troy (the Chrysler Technical Center); adjacent to the Grand Trunk Western Railroad; and along US-10 and M-59. Major commercial zoning districts are located in the core areas of the incorporated municipalities and on major traffic arteries, in strips on US-10 northwest, on M-59 east and west, on Orchard Lake Road southwest, on the Telegraph Road bypass and on Opdyke Road east on Pontiac. Strip zoning along state highways has severely affected their efficiency and safety. It has been noted that a comparison of zoning districts and the existing land use in the Pontiac area points out many undeveloped residential areas, and that much more land is zoned for commercial and industrial uses than is actually likely to be developed.

The City of Pontiac has initiated the urban renewal program outlined on Map 9. Pontiac has two urban renewal projects in progress on the fringe of the central business district. Both of these can be coordinated with the construction of the highway loop within the central area of Pontiac. Included within the first of the two renewal projects is the civic center, already partially completed. The location of the urban highway through the renewal projects will assist in land clearance for both projects and will also help to separate land uses that are dissimilar. Joint action on these projects by the Highway Department and the City will result in cost sharing and considerable savings to the community. The overall development pattern, guided by the master plan, zoning ordinance, and urban standards, correlates with economic and population projections.

TRAFFIC SITUATION

As the Pontiac area population grows and develops an increased standard of living will result in a greater use of the automobile for work, shopping, recreation and other leisure time activities. The forecasted land use pattern provides a guide to estimating relative future traffic generating characteristics. To accommodate the potential increase, future highways and streets will need additional traffic capacity. Conclusions can then be drawn concerning the relative traffic activities of different sectors of the Pontiac area.

Highway traffic in the Pontiac area will increase considerably if the population of the area grows from the 262,000 inhabitants of 1960 to the 645,000 persons forecast for 1980. Destinations of the huge increase in traffic will depend upon the type of development and upon the relative efficiency of the highway and street network. Whether the central business district of Pontiac continues to attract a substantial share of shoppers will depend upon relative ease of access, parking facilities and the potential customers. Improved freeway access to Detroit via I-75 (the Chrysler Freeway) will place Pontiac within easy time-distance access of Detroit shopping facilities. This should emphasize the importance of providing an improved transportation network into central Pontiac.

Estimates made by the Traffic Division of the Michigan State Highway Department indicate that a 1975 total of approximately 125,000 vehicles have their origins or destinations beyond

I-75 in the east, northeast, and northern quadrants of the Pontiac study area. These estimates indicate the potential importance of I-75 to local area traffic service. Traffic estimates on the Pontiac side of I-75 interchanges show 41, 800 vehicles on Square Lake Road, 37, 800 at the proposed M-59 Freeway, 16, 500 at Mt. Clemens Road, 15, 600 at Lapeer Road (M-24), 6, 500 at Joslyn Road, 11, 500 at Baldwin Road, 9, 200 at Sashabaw Road, 12, 500 at M-15, and 19, 400 at old US-10. Considering the tremendous growth that the proposed Chrysler Technical Center and Michigan State University-Oakland will induce, these estimates seem reasonable when correlated with population projections and anticipated land use changes. Proposed growth in university educational facilities indicates that it will be an increasingly important generator of area traffic. Coupled with other projected traffic on roads not interchanging with I-75, there is estimated to be a total of 224, 420 vehicles moving between the immediate Pontiac area and the east and north in 1975.

Based upon population predictions of this report (Chart 5), the Planning Division of the Michigan State Highway Department estimates that an additional 160,000 vehicles will have their origins or destinations northwest, west, southwest, and south of the City of Pontiac by 1980. Nearly 300,000 vehicles may be moving between Pontiac and surrounding areas in 1980, provided the city remains relatively as attractive for shopping, work and business as it was in 1947 - the time of the Pontiac origin and destination study. The same relationship of area population to vehicle volumes as existed in 1960 would mean about two and one-half times more area traffic in 1980. The growth outside the city, according to the Barton Traffic Report of 1958, will result in 62 percent of the future traffic. Other traffic movements will increase at lesser rates, but through movement can easily reach 25 percent of the 1975 state highway traffic, representing an additional 50,000 to 60,000 trips per day. The portion of this total traffic movement choosing to do business within the City of Pontiac will depend upon the future development of the city.

ANALYSIS

Numerous possible alternative solutions to the traffic problems of the Pontiac area have been considered by local officials and the Planning Division of the Michigan State Highway Department. Many of these alternatives have merit for solving traffic difficulties in Pontiac; however, examination reveals that some do not correlate with other community desires for development. Much of the commercial activity in the area has historically taken place in the central business district of Pontiac. This has resulted in a rather fixed pattern of streets to serve such activity, producing a distinct radial pattern with a focus in the city's center. Congestion and problems of traffic routing have resulted from the imposition of high volumes of traffic upon these radials and upon the central business district, where no really effective interconnection of the various radials exists. Projections of population, economic activity, and land use development show that new demands will be placed upon the existing transportation patterns, creating a need for additional traffic capacity.

DETERMINATION OF ALTERNATIVES

With the completion of Interstate 75, much of the traffic formerly using US-10 and M-24 through the city will be removed, but will gradually be replaced by increased local traffic destined for the city and its business and industrial areas. In time, volumes could exceed those of the present, but the functions served by the north-south routes inside the city will have changed.

Projections of area traffic indicate that east-west oriented through traffic, currently small in volume, will grow as the population and land uses develop both east and west of the city. Traffic arteries connecting these two areas will become more vital as this growth occurs. The problems of circulation around the central business district will become more apparent with increased area traffic, especially in view of the existing radial street system which funnels traffic downtown from all directions.

CIRCULATION FOCUS

The heaviest traffic movement in the central business district is on the north-south axis. I-75 will alleviate the problem by removing much of the north-south through traffic from downtown streets. One of the first steps which could further ease circulation problems in the central business district is one-way operation of Oakland and Cass Avenues. More efficient access will thus be provided through smoother flow of traffic and fewer conflicts of turning movements. An inherent disadvantage of the route is that one-way traffic would still be routed through the heart of the business area on Oakland Avenue. This difficulty could be avoided by transferring the one-way traffic to Parke-Perry Streets, thereby avoiding the downtown business street almost entirely. This involves some construction to connect Perry Street back to Oakland Avenue, but such construction would assist in providing means for radial routes to reach the northsouth routes by bypassing the business streets.

East-west traffic could continue on Auburn and Huron Street, but traffic volumes might necessitate making downtown sections of Huron and Auburn-Orchard Lake one-way. Confusion in turning movements and congestion could result, largely because of the problems involved in connecting two-way radial routes to one-way streets. The routes also do not avoid the business streets, and Huron Street completely bisects the main shopping district.

Nonetheless, the routes do utilize existing facilities, with a minimum of new construction and investment.

THE PONTIAC DOWNTOWN LOOP

As traffic volumes increase, congestion could result in the need for further improvements to downtown traffic facilities. A solution to some of these problems could be the improvement and extension of Parke Street between Perry, Oakland and Cass, in effect providing a huge traffic circle around the central business district. This route could absorb the traffic from all the radial routes and distribute the traffic not only to shopping and parking facilities, but also to other radial routes, providing a natural inter-connection. Simultaneously, it places the central business district in an advantageous position in relation to the shoppers of the area.

Several limitations exist to guide the placement of the loop. The Grand Trunk Railroad provides the most permanent and formidable barrier to location, making Cass Avenue the logical western side of the loop. Existing streets serve in part to guide placement of the loop on the east, but do not of themselves constitute a drawback, principally because the city is involved in the redevelopment of portions of the low-quality residential area through which the loop would pass.

The first logical eastern portion of the loop is South Parke Street, which affords a good connection to Woodward and bypasses the concentrated business area. On Parke Street north of St. Frederick's School, the loop could be enlarged to permit expansion of the central business district to the east and north, and for the development of the civic center on a scale larger than currently contemplated. However, the very size of the loop could create adverse distance for traffic circulation around the downtown area, placing more strain on cross streets between the various sides of the loop, causing invonvenience in reaching parking areas near the downtown stores. New establishments inside the loop might have a tendency to orient themselves toward the access provided by the loop, creating a ring of new development apart from the existing center of activity, to the detriment of the existing downtown investment.

Downtown Renewal

A smaller one-way loop, more closely oriented to existing commercial development, would protect the downtown land values, yet still provide room for business expansion and parking. Simultaneously, the smaller loop could provide better traffic service by permitting traffic, which would otherwise cross the loop, to use the loop to reach destinations without interfering with downtown circulation. The proposed small one-way downtown loop involves maximum utilization of existing streets, cutting through relatively low-value areas in its course around the central business district. (See Map 9) Streets comprising the loop will function to separate land uses, with commercial areas generally encompassed within the route of the loop, and residential areas outside the loop.

Local plans for the central business district involve redevelopment to provide a commercial area, with perimeter parking spaces around the core and adjacent to the loop. Access to parking would be provided at selected locations, primarily the existing radial streets.



It is essential that uses adjacent to the loop be developed in accordance with an overall plan, implemented by effective land use controls. Commercialization and adverse development should be prohibited along the loop. Proper functioning of the loop hinges upon the elimination of congestion in and around the facility. Movement within the loop would be provided only for access to parking areas and for service to commercial uses. Traffic moving across the central area should be kept to a minimum, retaining the loop for primary circulation, and to allow traffic to bypass the central business district.

Traffic on the Loop

Estimates of 1980 traffic made by Michigan State Highway Department Traffic Division indicate the average daily traffic volumes which may be expected on the downtown loop. (See Map 10) The estimates are considerably higher than the 1975 traffic estimates of Barton Associates and appear somewhat more refined, particularly for volumes on specific segments of the loop. Highest volumes are expected between Auburn and Pike Streets, reflecting merging traffic from south, east and west. High volumes are expected to enter the loop from the west on Huron Street. This traffic will in large measure cross the loop on Huron Street, traveling to parking areas near and beyond the main business corner of the city. Traffic passing inside the loop could become involved in congestion and conflict with pedestrians and other vehicles. The need for an internal system of circulation is thus apparent to afford access to places of parking for shoppers. Such a system could take the shape of an internal loop, integrated and complementary to the outer loop.

The principle of the downtown loop, proposed several years ago, appears to solve many of Pontiac's traffic ailments. For effective operation, it is imperative that the loop be a one-way operation. Two-way status for this road would do no more than place present congestion onto the loop, because turning movements would create the same congestion points now present in the central area. One-way operation will enable all traffic to move with a minimum of conflict while allowing turning movements on and off the facility.

ACCESS TO THE LOOP

Southern access to the loop is at present adequately provided by Woodward Avenue, an eight-lane facility. The northern access is provided by Saginaw Street, Baldwin, Cass and Oakland Avenues, with the latter providing primary access by state highway. Cass Avenue has already been improved from Montcalm Street to Johnson Street. By extending Cass Avenue southward as a one-way street into the loop, and by making Oakland Avenue one-way north, added movement capacity could be achieved in this direction. Baldwin Avenue is exceedingly important because of its interchange with I-75 north of the city, and because of its service to Pontiac Motor Company. A connection between Baldwin and Cass Avenue is desirable to facilitate the free flow of traffic from the north onto the loop. Perry Street (M-24) provides adequate access to and from the northeast. It was recently improved and is now a four-lane divided route from the downtown area to the north county line. Perry will give access from downtown to I-75 northeast of the city.

Access to and from the west, afforded by Huron Street and Elizabeth Lake Road, would be adequate under ordinary circumstances. Telegraph Road, a four-lane divided highway with

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1980 TRAFFIC



heavy traffic, intersects both of these routes at locations heavily built up with commercial uses which contribute to congestion. Neither Huron nor Elizabeth Lake Road alone can carry state highway volumes of traffic expected to be using M-59 west of the city in the future, particularly in view of the population projections and predictions that more growth is to occur in that direction. Initial measures for improvement could include the removal of parking near crucial intersections. Movement to downtown on these routes must be as efficient and rapid as those proposed for the downtown loop, or the benefits of the loop cannot be fully realized. When traffic volumes exceed the current capacity of the two routes, both streets could be made one-way. One-way pairs would alleviate the problem of congestion by providing rapid traffic movement, on which the success of the downtown loop depends. Because of anticipated congestion on the section of Huron Street from State Street to Cass Ayenue, it might be advisable to route westbound traffic from the loop onto Oakland Avenue and either Johnson Street or Sanderson Street, with possible one-way operation. Should future traffic continue to increase, an improved facility from the west may be necessary to tie downtown Pontiac to the proposed Haggerty Road north-south freeway. This route, located west of the city an appreciable distance, will provide a bypass for the Detrout Metropolitan Area from the Down River communities to a point north of Clarkston.

Orchard Lake Road provides primary access to and from the southwest. Volumes on this facility indicate its importance to the area, but because this traffic is basically local in character, the route is to be transferred to the Oakland County Road Commission and the City of Pontiac for administration and maintenance.

The I-75 and M-59 Freeways

Access to and from the southeast will be provided by I-75, which will serve as a bypass route on the east side of the City of Pontiac. An interchange between present M-59 (Auburn Road) and I-75 is precluded by the close proximity of the Square Lake Road Interchange. M-59 is to be made into a freeway from Pontiac to Mt. Clemens and it will be located on a new alignment, providing rapid access between Pontiac and the east. This alignment has been located north of Auburn because of the need for an interchange with I-75, which could not be met south of Auburn Road.

The M-59 freeway will terminate at Opdyke, but a limited access facility could be built to tie the city into M-59 freeway. Alternatives available for this include connecting the freeway to Auburn, to Auburn and Pike (as one-way pairs) or directly to the loop on a new alignment along the Clinton River. Traffic capacity of the Auburn alternative would be limited as a two-way street, but if Auburn were used in conjunction with Pike as a one-way pair, Pike would have to be resurfaced. Pike Street is to be the spine of a proposed renewal area, and increased traffic would make the route a rather permanent feature which does not fit into the city's plan for the area. The eventual solution to eastern access is weighed heavily in favor of the Clinton River route, because it provides a direct and limited access route for traffic to the downtown area, following the natural river boundary between residential neighborhoods. The rapid movement provided by this freeway to the central business district is vital to the success of the loop and the revitalized downtown area. Besides alleviating congestion on radial routes east of the central business district, the route could be attractively landscaped and become an impressive entrance to the city from the M-59 and I-75 freeways. Right-of-way costs along this alignment do not greatly exceed the cost of a connection from the M-59 freeway to Auburn Avenue.

BYPASS ALTERNATIVES

The existing highway network provides fairly adequate facilities for traffic wishing to avoid the industrial and commercial areas of the city. Traffic moving in the northsouth direction can use Telegraph Road on the west and Opdyke on the east. With the completion of I-75 north and east of the city, Pontiac will be virtually surrounded by state highways. The missing link will be the connection between Telegraph Road and Baldwin Road, which connects to I-75 north of Pontiac. Construction of this link would complete the north-south bypass west of the city and permit the reversion to the county of some 10 miles of state highway from Telegraph Road to the vicinity of Clarkston.

At the present time, Square Lake Road is the only east-west connection which effectively bypasses the city to the south. South boulevard is an east-west city route but it will have no direct connection to I-75, and is already congested because of its service to the industrial plants which it passes. A proposal has been offered for a freeway adjacent to the right-of-way of the Grand Trunk Railroad south of Auburn, but this route appears to be expensive because of the excessive land clearance required. Additionally, access to I-75 would be difficult because of the necessity of locating the interchange north of Auburn.

The City of Pontiac has suggested a route which would use Featherstone Avenue, Montcalm Boulevard and an extension across the railroad through the state hospital grounds to M-59 west. This route has many difficulties. It passes through business areas and adjacent to the Pontiac Motors plant, which has heavy volumes of traffic entering and exiting at various times of the day. Construction costs involved in crossing the railroad are prohibitive because of gradient problems and the numerous railroad tracks.

Alternative solutions to the problem of providing an east-west bypass resolve into two possibilities: the connection of M-59 east and west via Square Lake Road or the use of the proposed Clinton River Route, which would the into Huron-Elizabeth Lake Road, or into a new freeway entering the city through the state hospital grounds. Should traffic volumes necessitate such a facility, further study should be given to the problem of providing the connection between the two freeways in the downtown area.

INTERRELATIONSHIP OF ALTERNATIVES

It is the policy of the Michigan State Highway Department that a state highway should be continuous from one area of the state to another, serving to connect cities of statewide importance, and providing access to other state routes. These functions point out the need for a classification of highways according to their importance to traffic service in Michigan, with a graduation down from the highest type of highway to the lowest in the state. Most of the routes are so located that a great deal of local traffic is also served which should not be overlooked in the planning of new state highway facilities.

Under this system of classification, highways in the Pontiac area connect generally in all cardinal directions. It is imperative that the routings in the area be continuous and direct in order to facilitate traffic movement. This may be difficult to accomplish in view of the many alternatives which present themselves in Pontiac, particularly if the downtown loop is not placed in operation. Without the loop, the confusing street pattern remains and

radials would still end with no connection through the downtown area.

If the loop is not built, there will be a need for the establishment of certain streets as one-way facilities to handle traffic efficiently. These streets will bisect the business area carrying traffic not oriented to the central business district, and will necessitate a circuitous route with several right-angle turns to the connections between state highway routes. Through the use of the loop, an interconnection between radials is possible. Any route leading into the city eventually ties into the loop, in turn tying into the other radials, providing freedom of movement from one radial to another or to the central business district by a relatively simple means, easy for the driver to understand and to follow.

The most important traffic of regional significance is the north-south movement around the city from Detroit to the north. This movement will be served by Telegraph Road west of the city and by the construction of I-75 east of Pontiac. As an essential link between Opdyke Road (M-24), Woodward Avenue (US-10), and Telegraph Road (US-24), Square Lake Road lies astride the path of urbanization from Detroit toward Pontiac. Because of the directional construction design of the Square Lake and I-75 interchange, the road will serve as major access between Pontiac and its western urbanized area. It is imperative that the capacity of Square Lake Road be increased to afford the traffic capacity which its situation requires.

East-west traffic through the area is not currently offered the same high quality service as north-south movement. Improved access to the Pontiac central business district, which at present is the principal generator of east-west oriented traffic, can be provided by choosing any alternative which gives access to the downtown area.

Traffic on the M-59 freeway east of the city could be afforded access to the central business district, perhaps on a limited access alignment. If this route were to be made a freeway west of the city, a connection to the eastern section will be needed to complete this portion of the system. The need for a connection between these two routes in the future could result in some problems in downtown Pontiac. If Square Lake Road is improved to the point where it affords good bypass characteristics, the possibility of routing M-59 there could become an important alternative. Traffic volumes on Square Lake and M-59 may necessitate the construction of a new facility for M-59 on an alignment which will serve the east-west movement desire most effectively. This might bring about the need for construction of a new route from the west into and through Pontiac to the east M-59 freeway. This link appears to be needed as an essential part of the future state highway system in this area. CONCLUSIONS

The selection of specific locations for state highway routes should be based upon as much data as can possibly be inventoried, analyzed and forecasted. Factors to be included must take into account the existing area characteristics, potential future development, and natural and social features which have bearing upon the physical placement of highways. Based on these factors, routes included in the state highway system should offer advantages which tend to make a selection of other alternatives easier.

CHOICE OF ALTERNATIVES

Many alternatives have been considered as possible solutions to the traffic and highway development problems of the Pontiac area. The result has been a recommendation for a highway system which provides an interconnection between all of the radial routes emanating from the city center. This system has evolved from a thorough study and analysis of the community characteristics which indicate future trends in the Pontiac area. The continued strength of manufacturing and potential growth in retail, wholesale and service trades point toward a prosperous future for the region. Expansion of the Detroit Metropolitan Area as well as the growth expected in the Pontiac area will mean additional population influx. The projection of more than 500,000 inhabitants for the Pontiac area would considerably alter current land use patterns. Natural features, improved access and expanding public services will give incentive and direction to the anticipated growth. Translated into future traffic, population increase and land use changes more clearly delineate the highway problems which must be solved. The development of the city street system, incapable of meeting the great changes in use and ownership of automobiles, has caused confusion, congestion and the need for new facilities to cope with regional and local traffic. The Planning Division of the Michigan State Highway Department therefore concurs in recommending the following solutions to Pontiac area highway problems.

RECOMMENDED HIGHWAY SYSTEM

The proposed downtown loop as shown on Maps 9 and 10 and recommended by the local planning commission and its consultants should be constructed and developed to standards which will allow rapid progressive traffic movement. Control of access and land use adjacent to the loop should reduce traffic conflict and maintain downtown values by limiting commercial decentralization and preserving the useful life of the loop. To facilitate rapid and efficient traffic flow, the loop should operate in a one-way counterclockwise direction. In conjunction with the loop, Cass and Oakland Avenues should operate as one-way streets from the loop to the point where the two streets converge. (See Map 11) For maximum traffic capacity, Cass Avenue should be improved to state highway standards. Access between northern industrial areas and the west may require that the city build a connection of Baldwin Avenue through to Sanderson and Cass Avenues.

Complementing the improved access to the downtown area, and as traffic volumes and congestion warrant, Huron Street should be made one-way eastbound and State Street-Elizabeth Lake Road one-way westbound. Expanding development will point out the need for an improved facility to replace M-59 on the western approach to the City of Pontiac and to connect to the proposed Haggerty Road Freeway. Although it will probably not be constructed for many years, the generalized location of M-59 should be known to permit planning of public facilities and private development.



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Access to and from the east should be improved considerably, by building a limited access connection from the downtown loop to I-75 and M-59, along the Clinton River. (See Map II) From the loop eastward, this route would replace present M-59, (Auburn Street) which would then return to local operation. A part of the new alignment will involve Mt. Clemens Avenue, which is currently an important major street inside the city and west of Opdyke Road. East of Opdyke, Mt. Clemens is a dirt road, but plans for I-75 include an interchange to provide access to Michigan State University-Oakland. The interchange and the increased importance of Mt. Clemens necessitates its improvement from Opdyke to M, S, U. -O.

Another radial state highway which will lead to and from the downtown loop is the M-24 Business Route which uses Perry Street, the Loop and Woodward Avenue for its service to Pontiac. Perry Street and Woodward are both adequate and will need only minor maintenance and repair. An additional heavily traveled radial route, Orchard Lake Road, is to be abandoned as state highway. Further study is warranted to discern the place which this route should have in a new system of highways for the Pontiac area.

Square Lake Road occupies a unique position between three major arterials in the system of highways in the Pontiac area. A section of this road, only two and one-half miles long, maintains a strategic location as a major east-west thoroughfare between Telegraph Road, Woodward Avenue and I-75. With the completion of the I-75 Freeway, a directional interchange will transform Square Lake Road into the most important entrance to the freeway from the southern and western part of Pontiac. Square Lake Road may therefore carry extremely high volumes of traffic, necessitating improvement to a facility of greater capacity than at present anticipated. The additional traffic will probably demand greater capacity for interchanges at the intersection of the Business Routes M-24 and US-10 (Woodward Avenue) and at US-24 and US-10 (Telegraph Road).

Coupled with Square Lake Road, I-75 will provide a portion of a circumferential route around the city. Its counterpart on the west, Telegraph Road, will need some improvement to maintain capacity for large volumes of traffic. An initial improvement should be the extension of Telegraph Road to a terminus with Baldwin Street and the interchange of I-75. This would, in effect, provide a new Pontiac circumferential route, including Telegraph Road, the I-75 Freeway and Square Lake Road. This improvement to Telegraph Road includes the reversion of some portions of M-15 and US-10 to Oakland County jurisdiction.

A smaller segment of needed state highway, which would facilitate downtown traffic flow to great degree, is Sanderson Avenue near the loop. This street provides an interconnection between Oakland Avenue and Cass Avenue, State Street and Elizabeth Lake Road, and as such should be operated in conjunction with the one-way proposals for those thoroughfares. This provides a route for traffic to utilize in avoiding a potentially congested portion of downtown streets, particularly the Huron Street railroad crossing. In accordance with Act 172, Public Acts of 1929 as amended, all proposed new plats in cities and villages lying adjacent to state highways will dedicate a minimum right-of-way for such highways of fifty (50) feet each side of the centerline for two-way highways and thirty-three (33) feet each side of the centerline of highways that are established and operated as increments of a oneway pair. State highway plans including facilities on new locations require the cooperation of local officials in maintaining a clear right-of-way for future development through such means as local subdivision control and zoning. It cannot be overemphasized that cooperation between the city and the highway department is vital to produce an integrated and interconnecting system. Shortsighted or piecemeal planning, on the part of either, could result in a waste of tax resources on short-lived proposals. The system suggested in the Pontiac Highway Plan avoids some of the pitfalls of not integrating projects with each other, or with local desires and community characteris-ti tics. Investigation of the recommendations of this plan should be carried on from time to time to assure the validity and future usefulness of the proposals.

OFFICE MEMORANDUM

MICHIGAN STATE HIGHWAY DEPARTMENT

JOHN C. MACKIE, COMMISSIONER

July 19, 1961

File: 63000 C-140 (1) 63000 C-140 (2)

To: R. F. Van Hoef, Director Planning Division

From: H. H. Cooper, Director Traffic Division

Subject: Pontiac Trunkline Plan - Traffic Division Review

We have reviewed the proposed trunkline plan for the City of Pontiac. We feel the plan provides for existing and future trunkline traffic needs in the City and the Pontiac area. Failure to provide for increased travel demand on the other hand would not only affect the welfare of the traveling public but also adversely affect existing development and restrict the future economic expansion of the area. Detailed comment is as follows:

Proposed Central Business District Loop

At the present, a very large proportion of trunkline traffic and other arterial traffic must pass through the central business district even though they do not have origins or destinations within the central business district. This traffic added to the traffic which does have origins or destinations within the central business district results in congestion throughout this area. This, in turn, poses a hardship on trunkline traffic and on other arterial traffic which must pass through the business area. Also, this situation reduces the attractiveness of the central business district considerably for those who might otherwise wish to shop there or conduct business there. Construction of the proposed loop will ease the undesirable situations outlined above. It will provide a high-capacity facility for traffic wishing to bypass the central business district the use of this high-capacity facility in order to approach their destination in the area. Thus, it provides for through traffic and at the same time increases the attractiveness of the central area by making it much more accessible.

Obviously the proposed loop will be a most important facility and it is important not only that the highest standards of design be followed in its construction but that every means available be used to maintain a very high standard of operation on the facility. It is imperative that the detail traffic plan for the arterials within the loop area and just outside of it be such as to allow the loop to function at its full-potential capacity. Any compromises in this regard will result in congestion on the loop. Frictions along the loop should be reduced to a bare minimum by utilization of high design standards, planning techniques, and traffic control measures. If such measures are taken, the route becomes a facility which will not only add considerably to existing capacity and operational standards for trunkline traffic and arterial traffic wishing to bypass the central business district but also adds considerably to accessibility to the central business district.

R. F. Van Hoef

It should be noted that construction of the loop will add to the capacity for all present arterial routes which presently pass through the central business district. On the other hand, traffic estimates for the central area indicate that, in the future as traffic desires through the area increase, additions to the capacity for arterial traffic which wishes to bypass the central business district should be considered. We assume that these would take the form of additional routes outside of the central area.

<u>M-59</u>

The proposed construction to the east will be a very worthwhile addition to the Pontiac transportation system. The routing for westbound M-59 traffic about the loop to Oakland to Sanderson to State Street leaves much to be desired in terms of trunkline and arterial continuity. On the other hand, we are aware of the difficulties of developing a more attractive system.

Traffic operation on West Huron Street is becoming a very serious problem. Traffic between Telegraph Road and the Pontiac central business district is congested during the peak hours; and with the increased growth of the area, it is evident that this congestion will become more critical in the near future. Volumes have now reached the point where parking removals on West Huron Street between Telegraph Road and Cass Avenue should be initiated. The timing of such restrictions will depend on further detailed study. However, we feel it is desirable to point this situation out to you in that this item adds to the desirability of the Huron-Elizabeth Lake one-way system proposed in the trunkline plan. If this one-way planning could be implemented at an early date, parking removals would not be necessary for the present on Huron Street.

It should be further emphasized that traffic estimates indicate that future M-59 traffic desires will not be able to be accommodated with Huron Street two way; so, in any case, the proposed Huron-Elizabeth Lake one-way system will become necessary in the future. Failure to implement such a system will result in considerable congestion and reduce tremendously the accessibility of the central area of Pontiac for traffic to and from the west. Again, besides adversely affecting trunkline and arterial traffic, such a condition would certainly have an adverse economic affect on the central area of Pontiac. State-wide experience with trunkline one-way systems indicate that they are safer than two-way streets, they are much more attractive to travel than two-way streets, and they do not adversely affect development either existing or proposed along the affected arteries.

It is suggested that, at such time as the proposed one-way system is implemented, left-turn loops be constructed on Telegraph Road at Elizabeth Lake Road (for the northbound to westbound movement) and on Telegraph Road at West Huron Street (for the southbound to eastbound movement).

R. F. Van Hoef

July 19, 1961

As stated in the report, further study should be made of the need for relocation of M-59 west from the Pontiac central business district and of the problems involved in locating this facility and tieing it into the relocation on the east side of Pontiac.

Oakland-Cass One-Way Pair

This one-way pair will aid immeasurably in the flow of north-south traffic. Extension of Cass at its northern end and elimination of occasional jogs in alignment will be necessary for good operations.

US-10 (Telegraph)

Extension of Telegraph from its northern terminus to Baldwin and improvement of Baldwin to I-75 appears to be a logical part of the trunkline plan. Present rightof-way along Baldwin, we believe, is only 66 feet wide. Therefore, it is suggested that set-back lines should be established before development related to the Baldwin interchange at I-75 comes about. This extension together with the Square Lake Road improvement will serve to increase traffic on existing Telegraph so that solutions must be sought for intersection problems that exist now and those which will develop in the future.

US-10 - Square Lake Road

The Square Lake Road connection to I-75 and the routing of I-75 traffic with origins or destinations in Pontiac will result in Square Lake Road becoming considerably more important than it is at the present. The need for extensive improvement of this facility then follows.

H. H. Cooper, Director Traffic Division

HHC:HMH:mli

cc: S. J. Levine

CITY OF PONTIAC MICHIGAN

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March 3, 1961

Mr. Robert F. VanHoef, Director Planning Division Michigan State Highway Department Stevens T. Mason Building Lansing, Michigan

Dear Mr. VanHoef:

The Pontiac Planning Commission unanimously passed the following resolutions at its meeting of March 3, 1961

Resolution of The City Planning Commission City of Pontiac

WHEREAS: The City of Pontiac 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 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 these 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 has been delegated the responsibility of preparing, in cooperation with local planners, a highway plan, which plan represents the level of agreement which has been reached on a long-range planning objectives, and:

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

THEREFORE BE IT RESOLVED: That the plan entitled "Pontiac Highway Plan", as presented, is consistent with and compatible to the planning and development objectives of the City of Pontiac, and:

<u>BE IT FURTHER RESOLVED</u>: That the said highway plan as cooperatively developed and presented herewith be approved for presentation to the State Highway Department for programming.

Daniel R. Veazey, Chairman 0 City of Pontiac Planning Commission

ames I. Bates

/ James L. Bates Planning & Urban Renewal Director



ERRATA TO ACCOMPANY PONTIAC HIGHWAY PLAN

Page 6 AREA POPULATION

First paragraph, second sentence, should read: Although Oakland County population grew 74.4%, the Pontiac study area had a much greater growth -- 99.9% during the same period.

Page 7 Chart 4

Population trends, Population figures adjusted to:

Political Unit	1940	1950	1960	Numerical Change 1950-1960	Change
Lake Angelus	116	82	132	50	60.9
Troy			9, 925		92.1
Pontiac Area	122, 115	163, 643	262, 133	98, 49 0	60.2
Pontiac Area excluding city	55, 4 89	89, 962	1 79, 9 00	89, 938	99.9
Oakland County	r		690, 583	294, 582	74.4

Page 8 AREA POPULATION

Second paragraph, last sentence, should read: Excluding the City of Pontiac, the study area gained 89,938 persons in the past decade, with nearly 25% of these persons moving into Waterford Township.

Pages

17 & 18 Please note that pages 17 and 18 are to be replaced with the enclosed sheet.

J. CARL McMONAGLE EAST LANSING STACEY DeCAMP FLINT ADVISORY BOARD

J. PAUL SMITH

BIRMINGHAM

GEORGE N. HIGGINS FERNDALE

E. J. EAGEN MENOMINEE

ERRATA - continued:

Page 19 Map 5

Population figures adjusted to read:

Springfield Township	1970	5, 500
Waterford Township	1970	73, 000
Lake Angelus	1980	1,500
Pontiac Township	1980	28, 5 00
Avon Township	1980	49, 000

The source should be:

Detroit Metropolitan Area Regional Planning Commission, "1970 and 1980 Population Projections, Detroit Region and Supplements for St. Clair and Washtenaw Counties", December 1956.

, "1970 Population Projections with 1950 and preliminary 1960 Census figures".

Oakland County Planning Commission, "Land Use and Population, Inventory and Projection" (various Township reports).

Page 26 First paragraph, first sentence --

Please change "districting" and "indicates" to read: districts and indicate

Page 35 First paragraph, last sentence --

Please change "Detrout" to read: Detroit Change "Down River" to: downriver

Page 43 The misprinted "ti" in characteris-ti should be omitted.

force and the amount of capital already invested.

Pontiac's non-manufacturing employment has not yet reached its potential in relation to manufacturing employment, because the emphasis of Pontiac's economic base has been on the latter. Possible sources for increased future employment may come from the wholesale and service industries as well as potential retail trade. Pontiac can retain its present position as a regional trade center, and can improve it if the proper facilities are provided. The local program proposed for the central business district will offer the opportunity to enhance its position as well as retain it. Population increases and shifts in location, along with the increasing levels of income, may have a profound effect upon future retailing opportunities. An increase in population in the townships immediately adjacent to the city will greatly increase Pontiac's retail market if it is to the time and distance advantage of the customer.

With a good highway network, Pontiac's proximity to Detroit could result in additional wholesale business because of the tendency of these operations to have branch offices within a metropolitan or regional trading area. Improved and additional development in highway transportation and terminal storage facilities for automobiles will play a vital part in this change. Rail facilities should not be overlooked as a potential development factor. Pontiac's rail facilities are in a favorable position to serve the transportation of goods and supplies for industrial, retail and wholesale activity.

The continued future development of the service trade, would strengthen and balance Pontiac's economic base. Increased retail trade in addition to an increase in wholesale and service employment should be able to extend the trends indicated in Chart 1. The effect of the growing economy of the Detroit metropolitan area will gradually become a more important influence on the Pontiac urban area. As expansion of the economy continues, population growth of the region will continue unabated, helping the Pontiac area to move outward with the Detroit urban complex.

ANTICIPATED POPULATION

Community facilities and services will be demanded to meet the physical, economic, social, and cultural needs of these inhabitants. New residents create the need for additional facilities as standards of living are increased, and as development appears. The number of inhabitants is obviously a factor to be considered when designing facilities. The characteristics of this population and labor force, as well as its distribution on the land, determine the future need for community facilities. In addition, the density of the population will determine the size and capacity of facilities which must be built to provide for the needs of traffic concentrations.

Population growth trends, distribution and density in the Pontiac area provide indicators of local needs for highway facilities. Area population trends, shown on Map 5, include 1970 and 1980 population estimates from three published reports: "Land Use and Population, Inventory and Projection", by the Oakland County Planning Commission, "1970 Population Projections with 1950 and preliminary 1960 Census figures" and "1970 and 1980 Population Projections", by the Detroit Metropolitan Area Regional Planning Commission. According to the latter, the City of Pontiac is expected to have a total population of 88,000 by 1970. The projected 1970 population of the study area, including the City of Pontiac, is 393,100

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 "Detroit Metropolitan Area Regional Planning Commission, "1970 and 1980 Population Projections", December 1956.
"1970 Population Projections with 1950 and preliminary 1960 Census figures."

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 Oakland County Planning Commission, "Land and Population, Inventory and Projection" (various Township reports).

Detroit Metropolitan Area Regional Planning Commission, "1970 and 1980 Population Projections", December 1956. "1970 Population Projections with 1950 and preliminary 1960 Census figures". Detroit Metropolitan Area Regional Planning Commission, "1970 and 1980 Population Projections", December 1956.