

Mishawaka 2000 **A Comprehensive Plan**

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MISHAWAKA COMPREHENSIVE PLAN

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INTRODUCTION

City planning focuses on the ways cities grow, change, and are renewed. It includes planning for large and small scale private developments, for public projects, guiding land usage, restoring established neighborhoods, designing transportation networks, and protecting the natural environment.

In the case of Mishawaka, the Plan Commission, together with the Department of City Planning, is responsible for city planning activities. Planning for public development, layout of office parks, shopping plazas, apartment buildings, condominiums, industrial plants and residential developments are common almost daily occurrences. An integral part of each project includes the details of location, density, setbacks, parking, and a lengthy list of other developmental criteria that must be addressed and approved for each building.

During the past decade, assessed valuation in Mishawaka has risen from \$129 million in 1980 to \$243 million in 1990. Assessed valuation represents only a small portion of actual market value for buildings and land. But, nonetheless, the dramatic increase in assessed valuation and other indicators demonstrate that Mishawaka has experienced growth during this time period.

At one time Mishawaka was considered a rather quiet community. It was lacking in private construction activity and public infrastructure improvements. This is no longer the case, for Mishawaka has become a major regional economic player. And relative to its size, the most dynamic community in the South Bend-Elkhart urban area.

Part of Mishawaka's growth is due to a responsive city government and a strong city identity exhibited by its citizens. There are also several macroscopic reasons for its growth; including a strategic central location between the cities of South Bend and Elkhart; the high quality of life in St. Joseph County; a diversified regional economy; transportation links with significant east/west traffic volumes; and extensive land resources to the north and south that are serviced by the Indiana East-West Toll Road (I-80-90) and the St. Joseph Valley Parkway (U.S. 20-31).

Because of its central location Mishawaka must not be analyzed only from the perspective of itself as a municipal corporation, but must also be looked at from the perspective of its regional urban context.

The development and continued updating of the comprehensive plan is one of the most important functions of the Plan Commission and the Department of City Planning. It is important to have a comprehensive plan.

Economics and financial investment power private

development. Private development is the initiative that creates a need for advanced planning. Planning provides a guide or blueprint for locating those projects; therefore, advanced planning through the tool of the comprehensive plan is a critical need due to continuing growth trends.

COMMITTEE ON COMPREHENSIVE PLANNING

In 1988 the President of the Plan Commission appointed the three member Committee on Comprehensive Planning (Com Com). The Charge of the committee was to decide if a new comprehensive plan should be written, obtain funding, and to provide guidance to the staff of the Department of City Planning. The Com Com met numerous times to provide suggestions and advice to the staff and to set a philosophical tone to the project. Establishing the Com Com was an excellent route to channel voluminous amounts of data and ideas between the full Plan Commission and the staff of the Department of City Planning. The three most important elements lacking in Mishawaka's previous comprehensive plan were; Land Use Plan, Transportation Plan, and Annexation Plan. These three elements have been studied and are the central core of this project.

In order for the plan to become official it must be approved by not only the Plan Commission, but also by the Common Council. The Com Com decided that in order to increase chances for approval the Common Council needed to be involved in making suggestions, help guide the philosophical tones, and once again to channel large amounts of data and ideas between the Common Council, Plan Commission and staff of the Department of City Planning.

The Common Council Land Use Planning Committee (LUPC) was therefore asked to be involved in the effort in order to provide additional guidance. The LUPC is composed of three members of the Common Council and makes recommendations to the Common Council pertinent to all land use and planning related issues. Their input has been very valuable as they have acted as a sounding board.

PUBLIC PARTICIPATION

Perhaps the most myopic plan is one formulated by only the professional planning staff or even just the members of a plan commission. Mishawakans have a tremendous sense of civic pride and personal interest in their city. It has been the practice and policy to get the people involved in this project from the very start. Therefore, the plan

represents a collaborative effort to create a collective view of Mishawaka planning values and the reflective goals, objectives, and policies.

Community Attitude Survey

A significant amount of the comprehensive plan budget was set aside for a citizens attitude survey. The survey and surveying process was designed to conveniently solicit the opinions of as many Mishawaka citizens as possible. The survey pertained to many land use, transportation and annexation issues. In many ways the survey was a voyage of discovery because it was the first time the city had attempted to undertake such a massive public input project.

Results of the survey were analyzed to find a consensus of public opinion in regard to certain issues. Survey results were also broken down by the five geographic areas of the city, to measure the differences in reactions and opinions.

Several draft surveys were written and revised in order to meet the needs of the committee. Once the survey was finalized, Dr. Frank Steggert and Dr. Richard Metzcus of the School of Public and Environmental Affairs at Indiana University at South Bend were asked to provide input from their expertise in public attitude surveying.

The survey was a two-page, front-back, mail out/mail back, pre-postage paid form that was sent to 1,728 households within the municipal corporation limits. (See Exhibit A)

The return rate of 40% accounted for 687 of the survey forms being returned. This is an extraordinary participation and return rate, which once again indicates the public's desire to participate and the commitment that Mishawakans have toward their community.

Results of the survey are the basic philosophical foundation of the plan. Additionally, several other projects were catalyzed based upon the survey results. Projects including establishment of the Historic Review Board, systematic enforcement of the On-Premise Sign Control Ordinance, updating the Capital Improvement Program, and beginning the Downtown Mishawaka River Project.

Citizen Advisory Committee

After completion of the land use analysis and much of the other data collection, a Citizen Advisory Committee (CAC) was established. A CAC is an intensive form of citizen participation. The Committee on Comprehensive Planning decided upon a citizen group of fourteen people. Together with the Com Com members and Land Use Planning Committee members, a group of twenty individuals was formed.

The Mayor, City Council, and Plan Commission were

asked to recommend individuals to serve in the fourteen slots. Members of the CAC came from many different segments of the Mishawaka community including; small business owners, medical profession, labor, education, real estate, safety services, manufacturing, citizen volunteers, design organizations, youth organizations, non profit groups, marketing specialists, and associations of retired persons.

Three CAC meetings were held over a five week period, lasting no more than about two hours in length.

Meeting Number One was designed to explain what the project was for, how it was being processed, and data collected thus far. Randomly, the circle gathering of twenty people was divided into five discussion groups, with at least one member of the Com Com or LUPC in each discussion group. The groups gathered to meet each other, discuss the issues at hand, and schedule their own group meetings during the three week period. Their charge was to make recommendations pertinent to land use, transportation and annexation.

Meeting Number Two was designed to solicit the recommendations of each discussion group, compile a master listing at the meeting, and group each idea into the element of land use, transportation, or annexation. Subsequent to this meeting the staff incorporated each recommendation onto a priority matrix sheet. It was then distributed to each member of the CAC to individually rate and return to the staff office. Upon collection, all rankings were summed by statistical weight and the arithmetic priority ranking was determined for each recommendation.

Meeting Number Three was designed to give the full CAC the opportunity to observe the final group rankings, suggest any other recommendations that may have been missed, to discuss the results of the summed rankings, and discuss the value of the nominal group process.

Summary The CAC nominal group process was extremely valuable toward the preparation of this plan because the majority of the policies included in the action plan were actually formulated by the members of the CAC. Since the action plan sets the work program for Mishawaka for the next five to ten year period it can be seen just how important was the work of the CAC. The energy, initiative and enthusiasm that each member exhibited was inspirational.

LIFE OF THE PLAN

City planning must be considered a continuous process. Once a plan is adopted it becomes a time-dated blueprint to be used. A plan is most accurate at the very time in which it is adopted, because it is based upon a past set of experiences of a community; both short-term and long-term past. These past experiences include among others; economic opportunities, development philosophy, availability of natural resources, and attitudes of the public. Because shared societal experiences are dynamic and everchanging, it can only be assumed that the future will be different from the past.

Therefore, as time progresses after adoption of the plan, and the needs and experiences of society change over time, it is elementary that the longer time span the plan encompasses the less valid the premise upon which the plan was formulated.

It becomes very important to periodically update the comprehensive plan as well as the other plans of the city on a systematic basis. Planning practice suggests that a comprehensive plan should be updated every five years. A five year time period allows accurate plan projections and the time to carry out many of the proposed objectives.

Updating the plans every five years also means that a significant part of the study and data collection may not need to be completely reproduced. It is very likely that the data base will merely need to be updated as opposed to regenerated, resulting in a substantial savings in public funds and staff time.

Completion of all the recommendations of the plan may or may not occur depending on availability of resources, unexpected needs, and changes in citizen priorities. Some of the uncompleted priorities may, in the future, still be important. In which case, those priorities can be programmed into those future plans. Other priorities may become irrelevant, in which case they are eliminated.

The comprehensive plan and other plans of the city are important tools for the future development of Mishawaka. Such systematic updating every five years is important to provide needed development guidance, to keep abreast of citizen attitudes and priorities and eliminate irrelevant priorities.

GOAL

To become the most liveable, progressive, environmentally appealing and beautiful city within the Great Lakes area by taking advantage of our favorable geographic location, regional transportation system, high quality of life, low cost of living, increasing job opportunities, diverse neighborhoods, central business district, strong historic

awareness, efficient government services and rich natural environment; by boldly communicating those advantages to the regional, national and global populations.

I. Land Use Policy

Land is a fixed asset and therefore, the most valuable natural resource of a city, and the city shall act as a guardian to encourage high-quality development on underdeveloped land in the historic city center and within established neighborhoods, and to encourage sustainable high-quality development along the suburban perimeter.

A.	<u>Objectives</u>	<u>C.A.C. Ranking</u>
	1. Development of an industrial corridor/park.	3.68
	2. Development of the St. Joseph River.	3.47
	3. Should the site become available, the Uniroyal property should be used for land use other than industrial.	3.44
	4. Adjacent lands to the north leg of the Capital Avenue Expressway should be part of the city and used for high-quality industrial development at specific sites.	3.42
	5. Cooperation between sister governments to avoid conflicting zoning along perimeter of the city.	3.39
	6. Cooperate with sister communities to coordinate St. Joseph River land use policies.	3.37
	7. a. New central residential area should be unique to the area by utilizing access to river and the downtown.	3.21
	b. More attention to St. Joseph River.	3.21
	c. Uniroyal property should be used for residential and small scale commercial uses.	3.21
<u>HIGH</u>	8. a. Better enforcement of code and zoning laws.	3.16
<u>MEDIUM</u>	b. Establish strict guidelines to control the condition of rental homes.	3.16
	9. Private streets should not be allowed in order to assure high-quality street construction and to provide other city services to residents.	3.05
	10. Consider impact on taxing units when reviewing land use issues.	
	11. Retail uses encouraged along Grape Road corridor	2.89
	12. a. Identify land for light industrial uses along Blackberry Road, south of the Conrail Railroad tracks.	2.83
	b. Access easements along St. Joseph River.	2.83
	13. Strict policy to discourage vacant buildings.	2.79

<u>MEDIUM</u>	14. More attention to individual neighborhoods.	2.78
<u>LOW</u>	15. South leg of Capital Avenue Expressway should be used for residential development.	2.72
	16. For incompatible land uses additional developmental regulations should be imposed to offset negative impacts.	2.56
	17. a. Landscape plan that includes art to improve public areas and image at major gateways.	2.42
	b. Access easements along St. Joseph River.	2.83
	18. Downtown parking garage should be constructed.	1.74
	19. Provide city campground near St. Joseph River.	1.37

II. Transportation Policy

Transportation facilities provide the means by which people, goods and services are able to move from one location to another, and the city shall continue to coordinate transportation projects with other state and metropolitan agencies, practice Transportation System Management in order to efficiently utilize the capacity of the existing street system, to plan for major transportation improvement projects, and to encourage the use of the Transpo transit system.

A. Objectives

	<u>C.A.C.</u> <u>Ranking</u>
1. a. Completion of Capital Avenue between Jefferson Boulevard and McKinley Avenue.	3.74
b. Completion of Capital Avenue from the Bypass to the Toll Road.	3.74
2. Coordinate Transportation system with surrounding regional communities.	3.47
3. a. Extend Main Street over Toll Road to connect with State Road 23.	3.32
b. Joint planning between South Bend, Mishawaka, Elkhart and Goshen pertaining to the Bypass.	3.32
4. Fir Road should be upgraded and better marked to Mishawaka from the Toll Road.	3.26
5. Eliminate blind corners at intersections.	3.22
6. a. Coordinate traffic lights within the city.	3.16
b. Need for both north/south and east/west thoroughfares that traverse completely across town.	3.16
c. Widen Main Street to four lanes for the entire length.	3.16

HIGH

<u>MEDIUM</u>	7. Improve all on-street land markings.	3.11
	8. Improve Jefferson Boulevard west of Capital Avenue.	3.10
	9. Review four-way stop sign intersections.	3.00
	10. a. Improve transportation around University Park Mall for better emergency vehicle access.	2.95
	b. Realign the intersections of Main Street/Dragoon Trail and Ireland Trail/Dragoon Trail.	2.95
	11. Capital Avenue should become a state highway.	2.94
	12. Improve the intersection at Twelfth Street and Capital Avenue.	2.90
	13. Construct a passing blister at Dragoon Trail and Byrkit Avenue.	2.89
	14. Construct an underpass at Main Street and the Grand Trunk Railroad.	2.79
	15. Mishawaka should get a larger share of Transpo Mass Transit funding.	2.70

MEDIUM LOW

16. Grape Road corridor congestion should be alleviated.	2.68
17. a. Install a traffic signal at Lincolnway East and Mariellen Avenue.	2.63
b. Identify bike lanes with rights of way.	2.63
18. Plan for extension of public transportation system.	2.39
19. Widen Lincolnway East to four lanes through entire city.	2.32
20. Improve all north/south streets between Jefferson Boulevard and McKinley Avenue.	2.21
21. Link University Park Drive to Cass Road.	2.17
22. Construct a pedestrian walkway connecting major Grape Road facilities.	2.05
23. Extend South Shore Railroad to Mishawaka and then Elkhart.	1.89

III. Annexation Policy

Population growth and availability of public service systems are the primary forces which drive the physical expansion of the municipal corporation, and the city shall pursue a logical, systematic annexation program to determine key areas which are exhibiting a propensity to grow, secure land areas along major highways, secure land areas at interchanges along the Bypass and the Toll Road, incorporate areas of the county which are wholly or practically surrounded by the municipal corporation, and annex areas

already provided with public utility systems.

A. <u>Objectives</u>		C.A.C <u>Ranking</u>
1.	a. Areas already annexed should be a priority for new infrastructure and city services.	3.58
	b. Key undeveloped land on the perimeter of the city should be encouraged to annex through the use of Mishawaka utility availability.	3.58
2.	Annex areas that exhibit a propensity toward new development and future expansion.	3.50
3.	a. Property along the Capital Avenue corridor should be annexed both to the north and south.	3.47
	b. Oversize infrastructure for future expansion.	3.47
	c. Annex areas adjacent to the city which use Mishawaka services and utilities.	3.47
<u>HIGH</u>		
MEDIUM	4. a. Annex land into the city which is within the School City of Mishawaka District.	3.42
	b. Determine availability of infrastructure and feasibility of expanding infrastructure.	3.42
	5. Phased annexation plan of large tracts utilizing major thoroughfares as boundaries.	3.32
	6. Cooperative arrangement with county government to encourage transfer development rights to encourage compact, orderly development.	3.29
	7. Peninsulas and islands of land surrounded by the city should be annexed.	3.16
<u>MEDIUM</u>		
LOW	8. Annex large areas closest to the city first.	3.00
	9. Annex parcel of land north of St. Joseph River, west of Capital Avenue for residential and public use.	2.89
	10. Development should occur generally to the south of the city.	2.26
	11. Only voluntary annexations by property owners.	.94

NATURAL ENVIRONMENTAL STUDIES

Physiographic and natural resource inventories have been analyzed in order to determine how the land can be best put to use. It is necessary to have good information on what lies beneath the top soil before major construction is undertaken. Otherwise, sinking buildings, cracked foundations, flooded basements and other undesirable results may occur. In the analysis of the natural physical characteristics of the planning area, a study of the geology,

topography, soils, mineral and water resources and climate is necessary in order to achieve optimum land use patterns with minimum cost and difficulty.

As the analysis shows, there are no areas within the Mishawaka planning area that are not suited for all types of construction. There are, however, some areas where some construction projects would be more difficult and costly. These regions will be discussed later in the report. In general, the entire Mishawaka planning area is very well suited to all types of urban development.

Geology

A study of the bedrock underlying the planning area is necessary in order to determine whether or not it is sufficiently stable to support large buildings and other heavy developments. Such a study is also needed to determine the quantity and quality of ground water supplies in the planning area and whether these can be tapped for domestic use.

The bedrock underlying the planning area is considered stable enough to support the heaviest types of development. The underlying geology of the planning area (shown in Figure 1 as a cross section of St. Joseph County taken along Fir Road) is best described by the Indiana Department of Conservation in its 1960 bulletin:

"The oldest known consolidated rocks underlying St. Joseph County are of Ordovician age. These rocks consist of dolomite, dolomitic limestone and shale, and dolomite of Silurian age. The rocks of Ordovician and Silurian age are not used as a source of water supply in the county because of their depth and the highly mineralized water which they contain."

*"The rocks of Silurian age are overlain by dolomite and dolomitic limestone of Middle Devonian age. These rocks underlie blue-black bituminous shale of Devonian age... The rocks of Devonian and Mississippian age grade upward into shale of Mississippian age which is overlain locally by thin limestone."**

*Indiana Department of Conservation, Groundwater Resources of Northern Indiana, 1960.

Although the bedrock is not currently being used as a source of ground water, it is believed that these formations will yield large quantities of water if it becomes necessary to tap them. At the moment, though, shallower ground water supplies are more than adequate to fulfill the present and immediately foreseeable demand.

The bedrock throughout the planning area is covered by unconsolidated material laid down by the Wisconsin

glacier of the Pleistocene age. This material ranges from 50 feet to 300 feet in thickness and consists mainly of sand, clayey till, and some gravel is the chief source of groundwater for domestic use. The unconsolidated rocks of Pleistocene age are overlain by thin alluvium, eolian sand, organically rich sand, silt and clay of recent age.

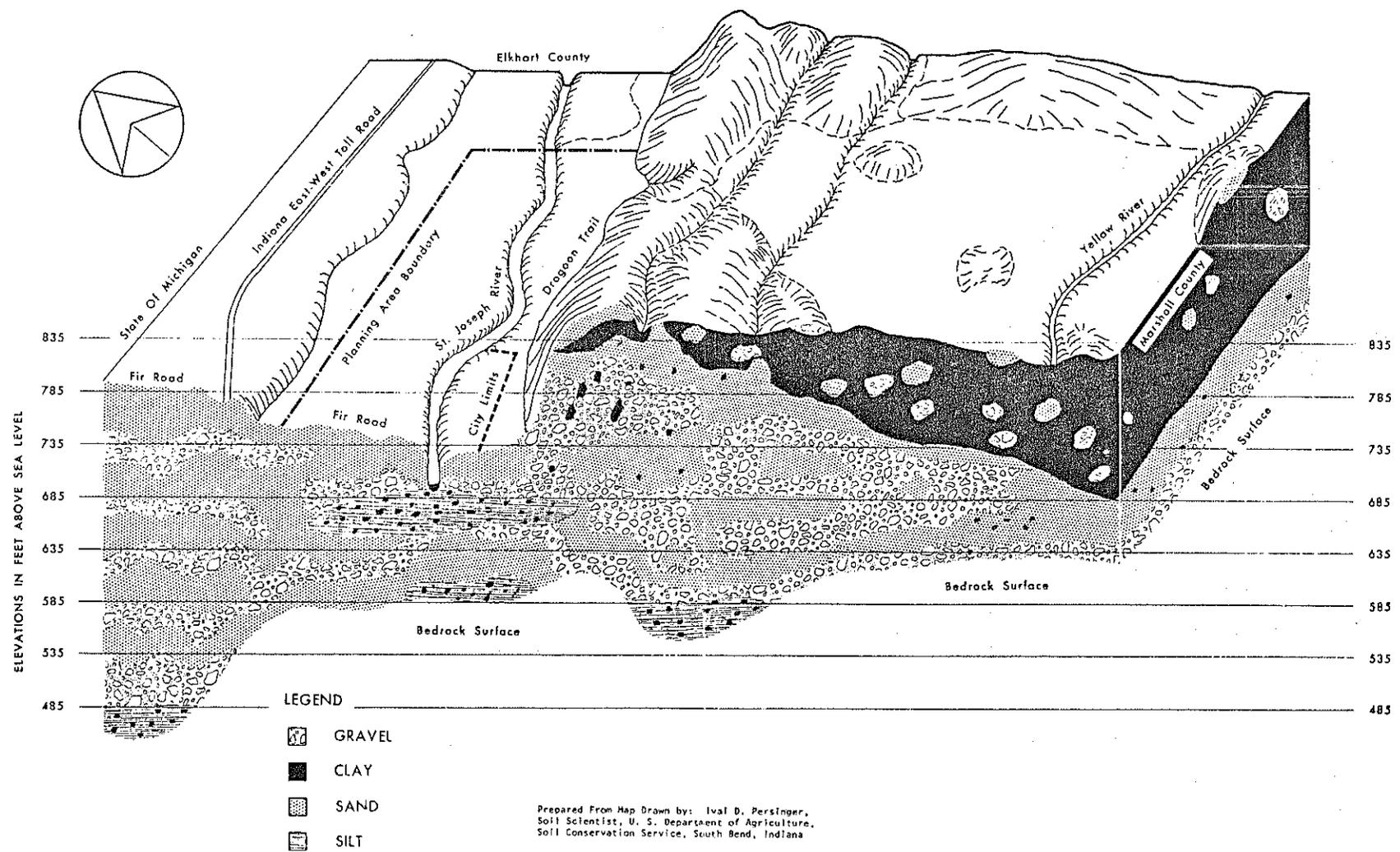
Topography

In general, the topography of the Mishawaka planning area is representative of terrain which was altered by the last continental glacier which moved through the area about 15,000 years ago. This glacial advance, called the Wisconsin

Glacier, streamlined the terrain by rounding off hills and filling in valleys. As it advanced, the glacier scraped off and carried forward soil and parts of the bedrock layers. This material was carried away by water as the glacier melted. It was sorted and deposited by the meltwaters into stratified layers which accounts for the numerous sand and gravel beds in the Mishawaka area. As the glaciers melted, the massive river waters which commenced formed the topography of the modern day Saint Joseph River Valley by creating a series of very steep hills to the south of Mishawaka and a more gentle increase in topography to the north from the glacial moraines. The river course of more modern times has

FIGURE 1

GLACIAL GEOLOGY OF ST. JOSEPH COUNTY, INDIANA



created a series of very distinct palisades and flood plains. These deposits range from 50 feet to 300 feet in thickness in St. Joseph County and are quite complex due to the manner in which they were laid down. They can vary a great deal within a short distance. Nevertheless, these materials are quite capable of supporting all types of buildings and urban development.

The subsurface material in the modern St. Joseph River Valley is composed of sand and gravel with some clay interbedded. This clay can greatly hinder the return flow of water to the ground supplies from the surface even though it may be a very thin layer. This condition has brought about some problems in the hilly areas south of Dagoon Trail where septic tanks are in use. In some cases, effluent wastes from septic tanks encounter impermeable clay and moves laterally, discharging at some point on the hillside, rather than filtering down through the soil. The possibility of this increases as residential development is planned where septic systems are the contemplated method of sewage disposal.

In addition to the above mentioned problem, the formation of large areas of muck lands within the planning area may have resulted from the deposition of water laden with organic material underlying clay formations where surface water is prevented from percolating through to the deeper ground water sources (See Figure 2).

The extensive width of the St. Joseph River Valley resulted from the high volume of water the river carried as the Wisconsin Glacier melted. At one time, the river was four to six miles wide which is wider than the Mississippi River is today. As the glacier receded and the meltwaters subsided, the river carried less water which resulted in a gradual reduction in the size of the river. This explains why the valley is so broad today even though the river itself is very narrow when compared to its former size.

Soils

Based on information provided by the South Bend office of the Department of Agriculture's Soil Conservation Service, the soils of the Mishawaka Planning Area have been divided into four categories by the Department of City Planning. These categories have been formed on the basis of the limitations imposed on construction projects in each of the four soil classifications. They are: none-to-slight, slight-to-moderate, moderate-to-severe, and severe restrictions. (See Figure 2)

The first category includes soils which are nearly level, well to excessively drained and very well suited for all types of construction. The most common type of soil found in this category is Tracy loamy sand.

The second category includes soils which are nearly level, well to excessively drained and very well suited for all types of development with the exception of septic tank sewage systems. These areas must first be drained before the septic tanks can be installed. The most common soil found in the second category is Willvale fine sandy loam.

The third group of soils imposes moderate-to-severe restrictions on construction. This type of soil is nearly level but very poorly drained. It is suitable for urban development but problems will arise because the water table is very near the surface (one to four feet). The most widespread soil type found in this category is Maumee fine sandy loam, mucky phase. Limited use of basements and the provision for public sewer systems is recommended.

The fourth category includes soils which impose severe restrictions on all types of construction. A large part of the areas in this category consists of very poorly drained Carlisle muck ranging from 12 inches to 42 inches in thickness. The water table is commonly found at or very near the surface in these areas. Use of liveable basements is not recommended, unless the water table is lowered through permanent drainage facilities. In order to construct buildings, the muck must be removed and proper fill material installed. Septic systems should not be used.

Figure 2 also shows the areas designated as flood plains by the Soil Conservation Service. Griffin loam is the type of soil most often found in these areas which are generally situated along the St. Joseph River. Griffin loam is also found along small creeks which flow through the hills south of the city.

It should be remembered that these categories were designed to show the extent of limitations on development expected as a result of the various soil types found in the Mishawaka Planning Area. As Figure 2 shows, the majority of this Area is composed of soils which impose only slight restrictions on construction. The second largest soil type, in terms of area covered, is the soil in category three which imposes moderate to severe limitations on development. In general, fewer problems are expected north of the River because there are fewer and smaller areas with poor soil conditions located there. However, no portions of the planning area are unsuitable for development utilizing present engineering capabilities and construction methods to overcome problems caused by highwater tables or unstable soils.

Mineral Resources

At one time, bog iron ore was present in quantities large enough to allow development of iron industry in

Mishawaka. Beginning in 1833 the St. Joseph Iron Works used the ore in making plows, cultivators, and other farm implements. The company went out of business when the supply of ore was depleted in the 1850's.

The only mineral resources in the Mishawaka area are sand and gravel. Several sand and gravel pits are located in the area which extract these subsurface materials for local and regional distribution and use. In virtually all instances these are operated in conjunction with local construction, cement, and asphalt batching operations. Very few, if any, are operated as separate businesses engaged in the sale of the sand and gravel.

Water Resources

While much of the western and southern areas of the United States suffer from inadequate, low quality and high cost water supplies, the Great Lakes area is blessed with abundant, high quality and low cost water supplies.

Mishawaka and the surrounding metropolitan area share in this highly abundant, naturally occurring treasure. Availability of tremendous water supplies is one of principle reasons for the existence, growth and prosperity of this city and the region for the past 160 years. The European settlers found a resource that native Americans had lived with for several thousand years.

The most obvious surface water resource is the St. Joseph River and its various tributaries. Subsurface groundwater is the unseen, yet more abundant water resource.

St. Joseph River Resource

During prehistoric times after the last glacial ice age, the St. Joseph River and Kankakee River were one immense river called the Great Kankakee River. But over time, a portion of the Great Kankakee rerouted itself into the present day St. Joseph River. This change in river direction was due to soils, topography and glacial ice lobes.

European settlement commenced in this area because of availability of surface water for power and cooling. Use of the river water as an industrial production material has continued; although during the last twenty year period the presence of industry along the river shore has decreased precipitously. The river is once again realized as the most important natural environmental feature of the area.

The St. Joseph River Basin Commission is the regional planning organization responsible for advocating the continuous improvement in water quality and encouraging well-managed recreation. The river flow through the metropolitan area in Indiana is tested and analyzed for a

variety of biological and chemical pollutants.

In 1992 the St. Joseph River Project was completed. This project will allow migratory anadromous salmon and steelhead to return from Lake Michigan upriver to Twin Branch through a series of manmade fish ladders. Because of the presence of these and other fishery resources, water and river bottom sediment clean-up will be continued.

At the present time only one functioning industrial facility remains on the bank of the St. Joseph River in Mishawaka--the Uniroyal Corporation. At the present time the continued viability of the plant is at best clouded.

Groundwater Aquifer Resource

Virtually all the domestic water supply comes from subsurface water aquifers. Mishawaka has a pumping capacity of 21 million gallons per day and a storage capacity of 9 million gallons. Water pumped from the ground is filtered to remove iron and manganese; it is then chlorinated and fluoridated. Then it is pumped into the municipal distribution system. Water rates are very low. Potable water is also present in the deeper bedrock aquifers but this is at the present time not needed and is, therefore, untapped.

Because of the climatic conditions and generally porous sandy soils, the subsurface groundwater aquifers are constantly recharged. Constant recharging is the reason for such abundance, unlike other parts of the nation where non-recharging water aquifers are mined.

The regional Well-Head Protection Program and Sole-Source Aquifer designation place regulations on the activities of industrial and commercial uses and major government projects that help protect the integrity and quality of the regional groundwater aquifers.

Climate

The South Bend-Mishawaka-Elkhart urban area lies within a temperate, mid-latitude climate zone with local micro climates greatly affected by the presence of Lake Michigan which is located approximately 25 miles to the west-northwest. The lake increases the winter temperatures in the area, increases the amount of snowfall and cloudiness when winds are from the northwest and decreases summer temperatures. In other words, temperatures are more moderate on the leeward side of the lake, as opposed to the windward side of the lake which experience greater variation in temperature.

Although the Mishawaka planning area sometimes experiences severe extremes of hot and cold, on the whole the mean temperatures are relatively mild. Temperatures average 71 degrees in the summer and only a few degrees

below freezing in the winter. Precipitation falls regularly throughout the year. However, the rainy season is during the summer and the dry season is during the winter. The usual snow season lasts from mid-November until mid-March. The frost free period in the area generally lasts from May through October. The annual mean temperature is 49.5 degrees, mean precipitation 35.3 inches and the mean snowfall is 65.5 inches. Prevailing winds are from the south-southwest at 10.6 miles per hour. All of the above information was issued by the National Oceanic and Atmospheric Administration through the United States Department of Commerce.

Forest Resources

Because of deep, rich soils and generally level topography most climax forests have long since disappeared to urban growth and agricultural uses. However, a significant scattering of forests still exist and have been able to commingle successfully with human activity. Figure Number 3 indicates the primary location of forested areas.

It is also important to note that the tree canopy in even the most built-up neighborhoods in Mishawaka is very extensive. These forests have been planted as an attempt to partially restore the grand primeval forests that once covered much of the metropolitan area. Their importance should not be overlooked! Trees in parks, yards, the winter, add to the aesthetic amenity package of the city, and increase property values.

Summary

In conclusion, it is easily seen that Mishawaka and the surrounding area is well suited for urban development with the very few exceptions noted above. The soils, geology and the topography of the area are adequate for nearly all types of construction. In addition, the area has large supplies of sand and gravel, abundant supplies of water, forests and fine soil resources. All of these are important in maintaining the local prosperity and quality of life. Each of these resources should be properly managed and spared from environmental degradation.

1. Most areas of the Mishawaka Planning Area were found to be totally suitable for development, however, construction projects in some areas could be more difficult and costly.
2. Bedrock in the planning area is considered stable enough to support the heaviest types of development.
3. While the shallower ground water aquifers are currently being used for public water, it is

believed that deeper bedrock aquifers would also yield large quantities of water.

4. Subsurface materials include sand and gravel interlayered with clay. The clay in some areas greatly hinders the efficient operation of septic systems, particularly in the Mishawaka Hills area.
5. Soil areas which present severe limitations to development are small and located generally north of McKinley Highway and south of Dragoon Trail (see Figure 2). Larger areas presenting moderate to severe limitations to development are poorly drained.
6. The St. Joseph River is the central natural resource that should be used as a setting for very high quality development and open space areas.
7. Significant natural and urban forest resources should be managed and nurtured to add to the quality of the local environment and increased property values.

POPULATION RESOURCES

Population growth is one of the most important parameters of measuring change within a given area. Growth in population in many respects is a function of economic growth.

After the severe economic recession of 1980-1983 the economy of Mishawaka, and the surrounding urban and metropolitan area experienced economic restructuring, diversification, and subsequent economic growth. As the economy grew between 1984 and 1990 the local population also grew. Therefore, as economic opportunity increases, so too local population expands to fill the expanding economic niches. (Tables 3 & 4) Table 1 provides a comparison of actual population trends for the past fifty years in Mishawaka. It is also compares the percentage of growth for the past sixty-year period for metropolitan St. Joseph County, the State of Indiana and the United States of America.

POPULATION TRENDS

Mishawaka & Selected Areas						
<u>Growth Trends</u>	<u>1940</u>	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1990</u>
Mishawaka	28,298	32,913	33,360	35,517	40,201	42,635
<u>Percentage Change</u>						
Mishawaka	(1.2)	14.0	1.4	6.5	11.5	5.6
St. Joseph County	----	26.7	16.4	2.7	(1.3)	2.2
Indiana	5.8	14.8	18.5	11.4	5.7	1.0
United States	7.2	14.5	18.9	13.3	11.4	7.6

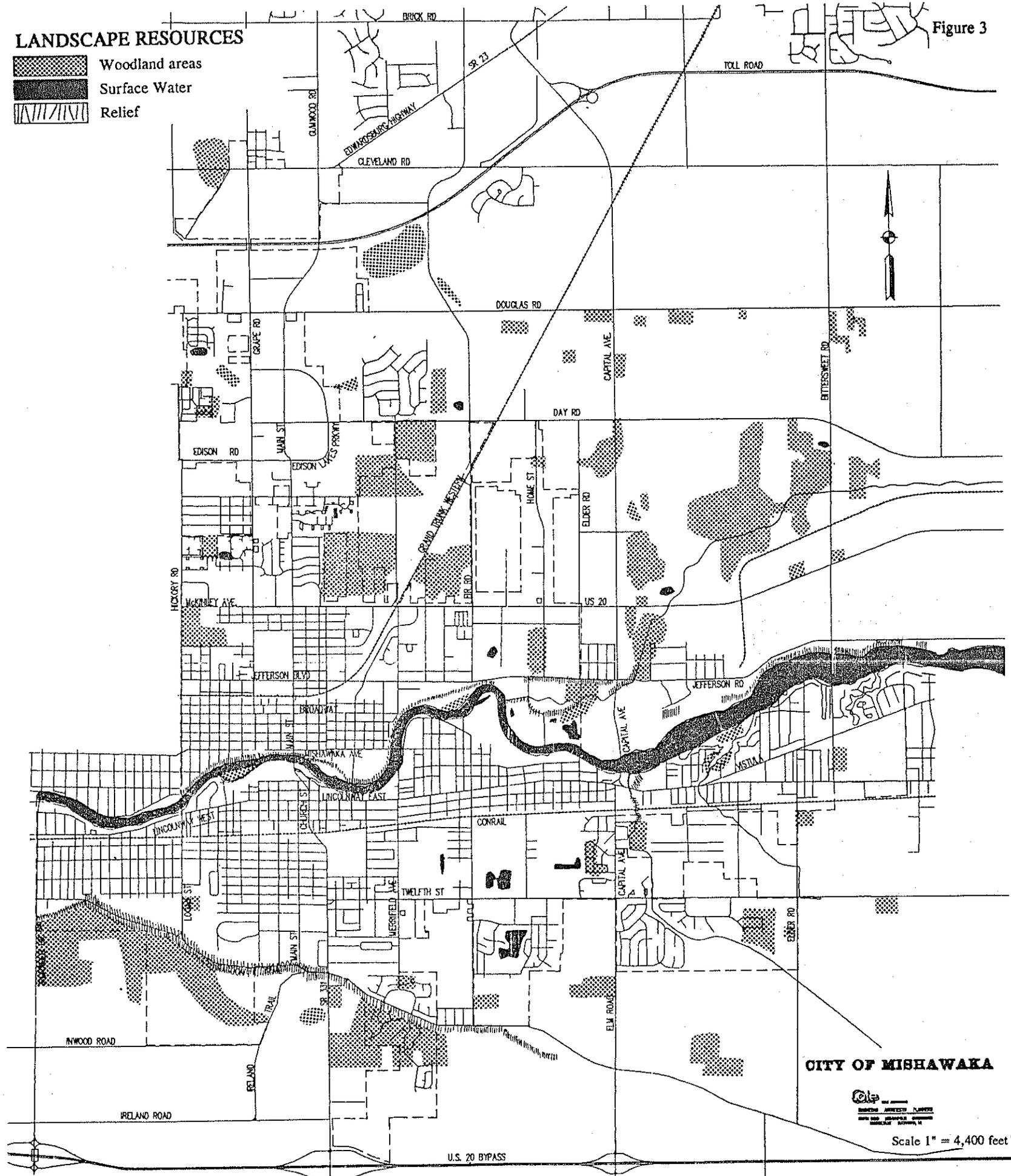
TABLE 1

Source: U.S. Bureau of the Census

LANDSCAPE RESOURCES

-  Woodland areas
-  Surface Water
-  Relief

Figure 3



MARKET AREA

Market analysis suggests that the South Bend-Mishawaka-Elkhart Area of Dominant Influence (ADI) generally includes the Indiana counties of St. Joseph, Elkhart, Marshall, Kosciusko, Fulton, Starke, La Grange, eastern LaPorte and the Michigan counties of Berrien, Cass, western St. Joseph, and southern VanBuren. Together this includes a population of about 950,000 people. Essentially, this means that the metropolitan areas of South Bend-Mishawaka-Elkhart acts as the primary service center for an area roughly fifty miles in radius.

URBAN/METROPOLITAN AREA

The local urban area includes some 425,000 people in St. Joseph, Elkhart and southeastern Berrien Counties. Mishawaka is located at the epicenter of the urban area within a short driving time of each of the local cities, towns and suburbs. The South Bend-Mishawaka-Elkhart area is the third largest population concentration in the State of Indiana only after the metropolitan areas of Indianapolis and Gary-Hammond.

CITY OF MISHAWAKA

Overall, population projections and forecasts are based upon past growth and economic trends, and at a specific time may appear to be misleading, or over time, turn out to differ significantly from actual population totals. Resolved to the fact that population projections are at best a chance; the following discussion about population characteristics and economic potential will attempt to track population trends.

COMPARATIVE GROWTH TRENDS

Table 1, Population Trends, compares population growth in the City of Mishawaka with that of St. Joseph County, the State of Indiana, and the United States. The table indicates that population growth during the decade of the Depression was at an all time low in all the geographic areas and generally continued to increase until 1960 when national growth hit an all time high of 18.9 percent. Since 1960, population growth percentages have generally decreased as a result of the overall decline in birth rates. Within the smaller geographic areas, Mishawaka and St. Joseph County, population has been much more erratic with Mishawaka showing an absolute decline during the decade of the 1930's; a substantial growth during the 1940's; population stability during the 1950's; and a slightly increased population during the decades since 1960. The 1980 Census recorded average growth of 11.5% for Mishawaka, and a national average of 11.4%. St. Joseph County, on the other hand, hit an all time

peak of 26.7% during the decade of the 1940's and has continued to decline in percentage population growth since that time to a low growth rate of 2.7% during the decade of the 1960's. The 1990 Census of Population shows a population increase of 2.2% in St. Joseph County. Mishawaka population increased by 5.6% during the same decade.

Comparative population trends between the City of Mishawaka and the surrounding area should be reviewed more carefully to determine possible future needs. While growth trends in recent censuses appear to show significant increases in percentages, the actual population growth in numbers may be relatively small. For example, while Mishawaka has had approximately a 31% change in population growth from 1950 to 1990, in actual numbers the population increased by about 10,000 over the forty-year duration. Thus, the rate of growth and actual population numbers will likely be modest over the next few years.

POPULATION PROJECTIONS

Figure 4 shows census boundaries and city limits. The population projections shown on Table 3 are based on actual and estimated population growth figures compiled by the Department of City Planning and reflect recent trends, as well as estimated growth potential.

A further analysis of Tables 5, 6 and 7 shows that, while some of the established and more highly developed areas of the city leveled off in terms of population increases, other areas are experiencing tremendous growth. Significant growth areas within the city are particularly concentrated in the newer, less densely populated, more suburban areas inside but near the periphery of the municipal corporation.

Table 7 indicates actual trends in population. Trends, however, indicate a slight reduction in total population for much of the central census tracts, with increases in Tract 104, 105 and 107. A further review of the Census of Population and Housing indicated a ratio of 2.90 persons per household in 1980; compared to the 1990 Census of Population and Housing, which indicates a ratio of 2.24 persons per household. This reduction of .66 persons per household is the primary reasons attributable to the trend of reduced population densities in built-up neighborhoods. Lack of available land for new construction of housing is important because a stable housing unit count coupled with fewer people per housing unit means that population will drop slightly.

1990 CENSUS TRACTS

Figure 4

— Census Tract Boundry's

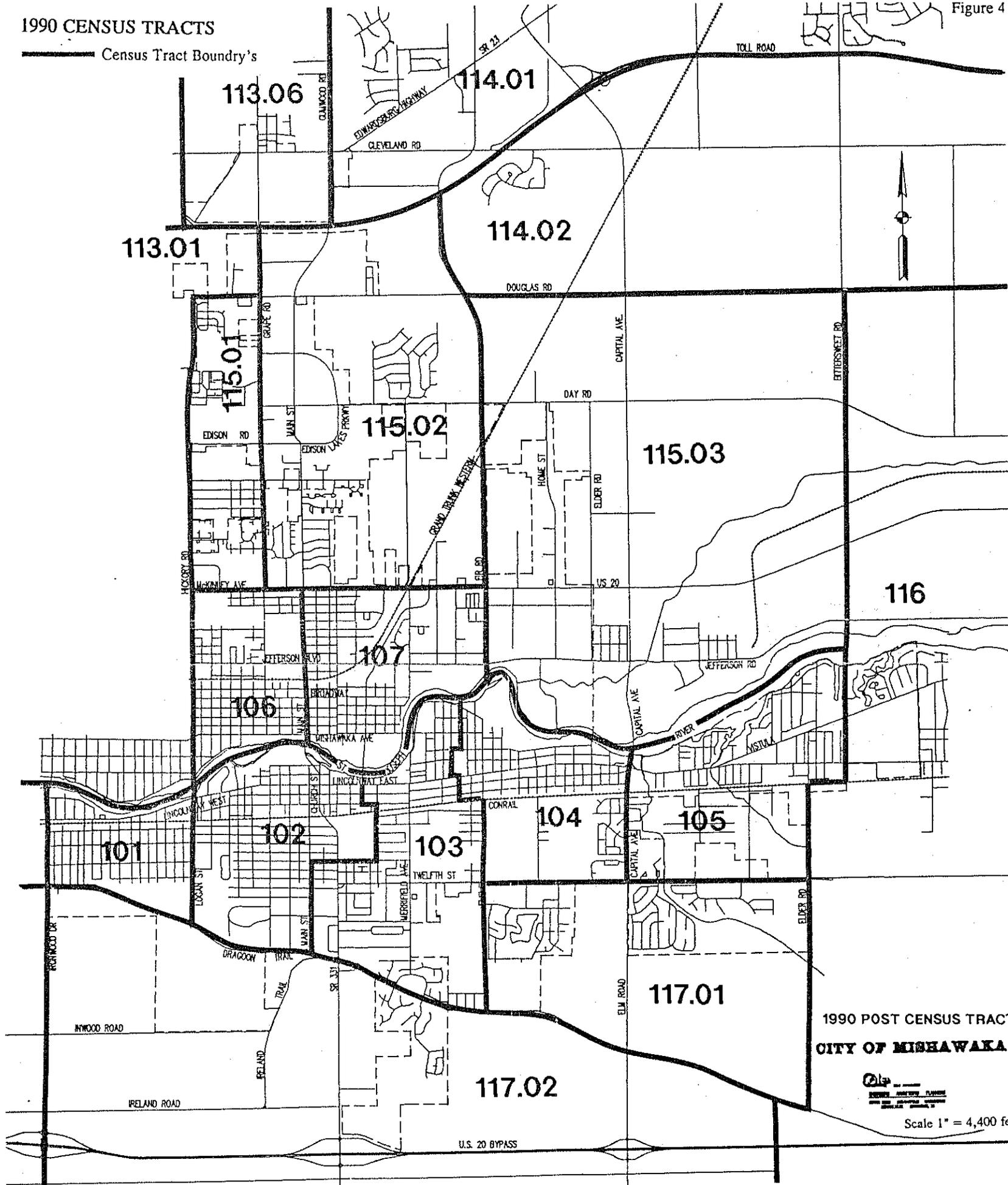


Table 2 indicates two population projections for the year 2000.

TABLE 2

<u>Methodology</u>	<u>Year 2000 Estimate</u>
Statewide Growth Rate	43,285
Trend Extrapolation	45,910

Projection #1 indicates city-wide population at 43,285 for the year 2000. That figure was determined by using the State of Indiana estimate of statewide growth between the years 1990 and 2000 of 1.59%. Using a projected statewide average is a risky form of analysis. However, it can be used as a tool to indicate that if Mishawaka's economic development programs perform only to the statewide average, this city will still grow by 677 people.

Projection #2 projects city-wide population at 45,910 for the year 2000. That figure was determined by using the Trend Extrapolation method of population projection. Using known historical growth rates from 1940 to 1990 the average growth rate for the city is projected into the next ten year time line. Applying this technique, the growth rate will be 7.75% during the next ten years. Although this technique is basic, when used for slower growth areas, this form of projection for a ten year time increment generally produces results which are about equal to other more complex and expensive methods.

Mishawaka's 1990 employment base increased to 25,092 persons from 18,242 in 1980. This represents more than 6,850 newly created jobs during the past ten year period, while the population increased by 2,608 persons during the

TABLE 3

St. Joseph County Resident Labor Force

	<u>1984</u>	<u>1989</u>	<u>% Change</u>
Total Labor Force	118,700	133,640	12.6
Persons Employed	110,100	127,600	15.9
Persons Unemployed	5,600	6,040	(29.8)
Unemployment Rate	7.3%	4.5%	(38.4)

Source: Indiana Business Research Center

TABLE 4

St. Joseph County Employment by Industry

<u>Annual Average</u>	<u>1983</u>	<u>1988</u>	<u>% Change</u>
Total Employment	114,140	135,866	19.0
Manufacturing	32,251	24,253	-24.8
Retail Trade	21,603	25,755	19.2
Services	32,423	41,446	27.8
Farm	1,599	1,308	(18.2)
Government	11,841	12,892	8.9

Source: Workforce Development Services of Northern Indiana.

same period. Increase in the employment base is significant in both numbers and diversification. These two figures also indicate that increasing job opportunities will tend to lure, not only residents of Mishawaka, but residents of the surrounding urban and metropolitan area to fill those new jobs.

As job opportunities act as an economic magnet which attracts new residents to Mishawaka, so too those job opportunities will tend to attract commuters which reside in city and suburban areas more distant from Mishawaka. An increase in job commuters results in an increase in automobile traffic.

Steady population growth in Mishawaka is a function of economic growth and increasing job opportunities in Mishawaka and the surrounding urban, metropolitan and market area. Economic growth and new job opportunities in the surrounding cities, towns and suburbs positively impact Mishawaka's population growth. This is because the local economy is regional in nature and economic linkage and commuting patterns tend to gravitate the metropolitan area into one economic area. Most people no longer work in the same neighborhood in which they live.

Although economic and transportation linkages cause people to commute longer distances, this phenomenon also tends to diversify the employment of Mishawaka citizens. This is one reason that Mishawaka and the surrounding area are not as susceptible to the economic "boom or bust" business cycle as many other communities in other parts of the nation.

As economic "boom or bust" generally does not occur in this metropolitan area, population growth is not subject to extreme swings of growth and decline. Population is stable at worst and modestly increasing at best.

TABLE 5

1970 Census of Population

Census		<u>101</u>		<u>102</u>		<u>103</u>		<u>104</u>		<u>105</u>		<u>106</u>		<u>107</u>		<u>115</u>		<u>117</u>		<u>Total</u>		
<u>Tract</u>	<u>Sex</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	
	Age																					
	0-4	191	171	281	261	234	251	131	113	111	124	210	217	250	217	173	163	45	46	1,626	1,563	
	5-9	197	193	278	270	238	225	140	98	134	141	223	215	235	211	89	100	61	66	1,595	1,519	
	10-14	197	200	301	272	246	218	139	146	149	149	242	217	230	227	97	90	62	35	1,663	1,554	
	15-19	162	204	299	344	209	250	173	142	132	119	270	293	219	256	74	100	27	38	1,565	1,746	
	20-34	417	445	629	666	481	578	241	281	230	263	564	576	533	561	355	396	77	84	3,527	3,850	
	35-64	571	670	1,058	1,218	668	721	600	682	402	449	785	899	867	973	231	283	97	95	5,279	5,990	
	65+	<u>190</u>	<u>251</u>	<u>400</u>	<u>627</u>	<u>229</u>	<u>415</u>	<u>192</u>	<u>260</u>	<u>72</u>	<u>81</u>	<u>216</u>	<u>330</u>	<u>233</u>	<u>332</u>	<u>73</u>	<u>132</u>	<u>0</u>	<u>2</u>	<u>1,605</u>	<u>2,430</u>	
	TOTALS	1,925	2,134	3,246	3,658	2,305	2,658	1,616	1,722	1,230	1,326	2,510	2,747	2,567	2,777	1,092	1,264	369	366	16,860	18,652	

Source: U.S. Census Bureau

TABLE 6

1980 Census of Population

Census		<u>101</u>		<u>102</u>		<u>103</u>		<u>104</u>		<u>105</u>		<u>106</u>		<u>107</u>		<u>115</u>		<u>117</u>		<u>Total</u>		
<u>Tract</u>	<u>Sex</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>																	
	Age																					
	0-4	116	128	197	189	248	222	103	91	98	123	138	122	156	134	272	224	236	219	1,564	1,452	
	5-9	129	113	182	198	236	244	107	100	116	118	110	127	160	147	211	179	215	181	1,466	1,407	
	10-14	127	105	221	225	245	237	97	91	133	134	124	139	163	120	206	193	166	171	1,482	1,415	
	15-19	152	154	203	244	194	227	99	105	121	117	208	254	181	161	215	235	146	160	1,519	1,657	
	20-34	434	404	778	820	609	721	229	470	331	362	639	668	559	534	1,079	1,258	581	611	5,239	5,848	
	35-64	512	586	846	949	671	775	475	535	448	463	586	676	615	698	637	945	443	459	5,233	6,086	
	65+	<u>173</u>	<u>253</u>	<u>376</u>	<u>734</u>	<u>241</u>	<u>417</u>	<u>211</u>	<u>351</u>	<u>97</u>	<u>164</u>	<u>210</u>	<u>350</u>	<u>221</u>	<u>314</u>	<u>291</u>	<u>792</u>	<u>33</u>	<u>164</u>	<u>1,853</u>	<u>3,539</u>	
	TOTALS	1,643	1,743	2,803	3,359	2,444	2,843	1,321	1,743	1,344	1,481	2,015	2,336	2,055	2,108	2,911	3,826	1,820	1,965	18,356	21,404	

Source: U.S. Census Bureau

TABLE 7

1990 Census of Population

Census		<u>101</u>	<u>102</u>	<u>103</u>	<u>104</u>	<u>105</u>	<u>106</u>	<u>107</u>	<u>113.01</u>	<u>113.06</u>	<u>114.01</u>	<u>115.01</u>	<u>115.02</u>	<u>115.03</u>	<u>116</u>	<u>117.01</u>	<u>117.02</u>	<u>Total</u>
	Population	3,339	5,925	5,338	3,484	2,687	4,336	4,378	356	12	56	3,272	3,928	494	801	3,451	747	42,635

Source: U.S. Census Bureau

LAND USE STUDY

INTRODUCTION

One of the most important of the many studies carried out in conjunction with the comprehensive planning process is the Land Use Study. This study contains information on the existing land use patterns found in the city and nearby unincorporated areas. In addition, the study includes historical comparisons of land use which is helpful in determining changes that have taken place over time. Such information is vital to the planning process because it is the past and present land use trends which most significantly affect the future land use and development pattern in a city.

The information contained in the land use study was collected between October, 1989 and October, 1990. A complete Land Use and Structural Conditions Field Survey was taken for each parcel of land and principal building in the city and in selected areas just outside of the corporation limits. Data gathered in the field during the survey was done in conjunction with 1987 aerial photographs with a property line, subdivision, and tax key number overlay. Aerial photographs and the corresponding overlays were graciously provided by the Office of the Auditor of St. Joseph County.

In order to provide more detailed data for sub area analysis, the land uses were studied for each of the twenty-eight (28) neighborhoods. (See Figure 5) The boundaries of these neighborhoods were determined by natural and man-made barriers such as rivers, railroads, thoroughfares, and the corporation limits. Neighborhood limits were established by the Department of City Planning as part of a 1976 Section 701-Planning Grant from the Department of Housing and Urban Development. Some adjustments have been made which reflect areas that have been annexed into the city during the fifteen year period. Utilizing established neighborhoods provides a consistent basis of comparison over time.

METHODOLOGY

The Land Use and Structural Conditions Field Survey covered all 14.96 square miles within the Mishawaka Corporate Limits. It also covered an additional 3.31 square miles of unincorporated land adjacent to the city. Field survey sheets were prepared and printed. Sixteen (16) separate pieces of information were gathered on each parcel of land and principal structure. Figure 6 is a duplicate of one survey sheet that was used. Much of the data which was gathered came from outside sources including;

1. U.S. Department of Commerce Bureau of the Census,
2. Zoning Ordinance of the City of Mishawaka,
3. Standard Land Use Coding Manual,

4. Office of the Assessor of St. Joseph County, and
5. Department of City Planning field analysis.

In spite of the lengthy data collection process, the entire Survey is by design cross-referenced and tied into several other significant and dynamic data bases. The data base includes a tie-in to 1990 census tract and census block statistics, the tax key number property description statistics, zoning map information and the standardized land use coding system. Of particular utility; as time progresses and the data base is updated it will be relatively simple to track changes in the various land use data over time.

In terms of magnitude of the survey, approximately 230,000 separate pieces of information were collected and incorporated into the data base. The data base was then loaded onto computer floppy discs in a Lotus 1-2-3 format for retrieval. It needs to be mentioned that the data base must be periodically updated to provide an accurate summary of current land use and structural conditions. The data base is important not only to the Department of City Planning, the Plan Commission and the on-going city planning function, but also to other city departments and to the private sector.

Two examples of outside applications would be the Housing Rehabilitation Program of the Department of Community Development where current information on structural conditions is needed to determine where rehabilitation resources should be channeled. The data base also includes privately owned vacant residential lots in the city. Private housing developers are continuously searching for listings of vacant lots in developed neighborhoods in order to build affordable housing.

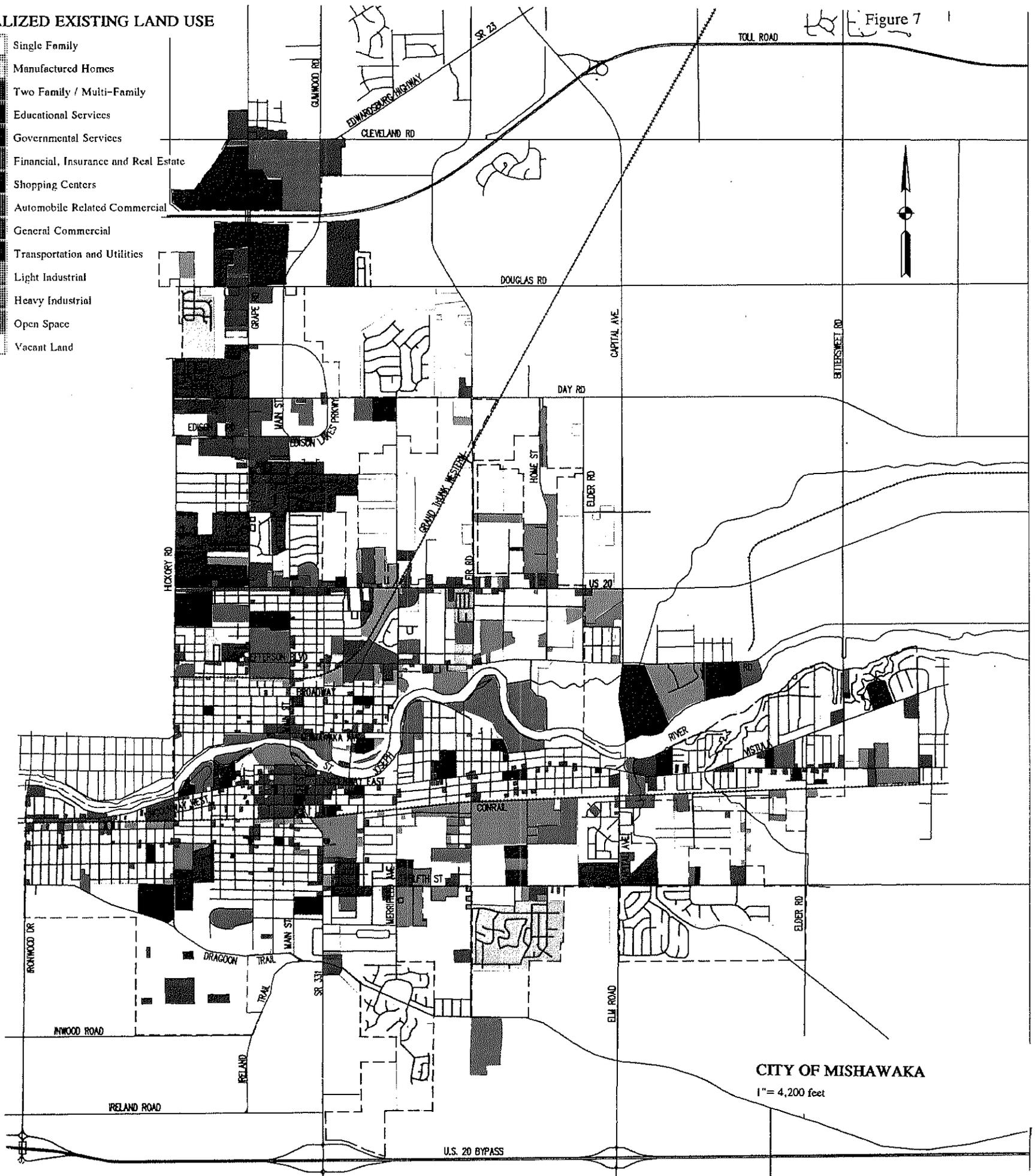
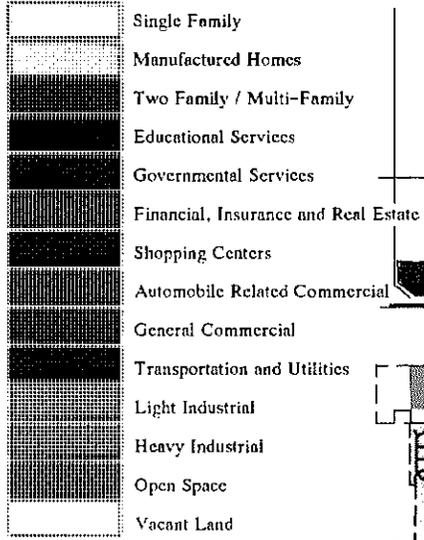
LAND USE PATTERNS

Historically, the City of Mishawaka followed an east-west linear axis of development. This axis was established early in the history of the city; not by design, however. The historic land use development pattern occurred for several reasons, including;

1. major east-west highways,
2. east-west railroads,
3. east-west St. Joseph River,
4. street car system which generally traversed east-west
5. interurban system between South Bend and Elkhart,
6. lack of bridges across the St. Joseph River,
7. steep terrain to the south which created an impediment to development on the south side, and
8. wet soil conditions along Twelfth Street and north of McKinley Avenue which impeded easy north-south development.

Each of the above conditions contributed to the axis of

GENERALIZED EXISTING LAND USE



city. Within the built-up areas of the city, due to the lack of undeveloped land, new development will take the form of restoration of the existing building stock, infill development on individual lots and small vacant land tracts, and new reuse development on land that is cleared of incompatible industrial facilities. Infill is a term which describes the process of constructing new buildings on land which is vacant and is located within the older and more dense areas of a city. Land along the St. Joseph River will continue to be particularly desirable and valuable because of limited availability.

ACTION PLAN

CITY CENTER-HISTORIC NEIGHBORHOODS

Existing land use within the built-up areas of the city will likely change very little over time because the existing patterns have already been formed during the past 150 years. The building stock reflects those patterns, with many thousands of houses, commercial buildings and industrial facilities already in existence. However, in some specific situations land use will eventually change dramatically, such as the Uniroyal site along the St. Joseph River adjacent to the city center, or the underdeveloped industrial areas along the north bluff of the river across from Merrifield Park, or the Kuert property north of the river west of the Capital Avenue Expressway.

Change in land use can be expected away from industrial uses and toward low and medium density residential, open space, mid-rise office buildings and small up-scale retail and service commercial. Large retail shopping centers and industrial re-use should be discouraged from the downtown and riverfront areas.

UNIVERSITY PARK-EDISON LAKES AREA

Breathtaking commercial development on the far north side of the city is not an anomaly. Many years ago Mishawaka boldly planned for large scale commercial development to take place in the University Park/Edison Lakes/Grape Road area. Large scale retail commercial and service commercial uses tend to congregate in relatively close proximity in this nation and this area reflects this trend. As streets, sewers and water lines were constructed through level and easily developable fields, and as land was annexed into the city with various commercial zonings, commercial development was realized.

Clear patterns have emerged:

1. retail commercial along Grape Road and Edison Road,
2. service commercial along Edison Lakes Parkway and

3. medium density residential west of the Grape Road frontage, on Main Street south of Catalpa Street, and east of the Main Street frontage north of Douglas Road, and
4. low-density, single-family residential further east of Edison Lakes Parkway and east of the multi-family residential on Douglas Road.

A typical hierarchy of land use is crystallizing with the most intensive retail commercial along the major thoroughfares, with service commercial stepped back and the low and medium density residential uses stepped back yet farther.

As demand for land has accelerated over time, prices have increased commensurately. As raw land price increases, economic limitations tend to slow development. It is slowed because of affordability.

BLAIR HILLS - MISHAWAKA HILLS

In 1991 the St. Joseph Valley Parkway opened along the southern extremity of the city. Just as the Toll Road has acted as a magnet to development on the north side, so too, the new Parkway is acting as a magnet to development along the south side, particularly at the interchanges. Additionally, land prices are substantially lower on the south side as compared to the north side, thus an economic attraction will also act as a magnet. Although some land price equilibrium will occur, there are several important constraints to new development near the Parkway, including;

1. steep, hilly terrain,
2. predominance of clay soils,
3. high water table, and
4. lower population densities.

There is approximately 180 feet of vertical rise between the St. Joseph River and Ireland Road, 120 feet of which occurs between Dragoon Trail and Ireland Road. This steep slope is not conducive to commercial development. Commercial development should not be allowed north of the interchange--area of Bremen Highway (S.R. 331) and the Parkway.

South of Dragoon Trail, natural soil conditions include a high percentage of slowly percolating clay soils. Without public sewer and water systems, large scale residential development is not feasible. New residential developments should only be allowed with public sewer and water systems.

A combination of clay soils and high water tables implies that development methods must be used to drain subsurface water in many areas if basements are to be used.

Even though land prices are substantially lower on the

south side when compared to the north side, population density and population growth also differs significantly. Commercial development follows population growth. The south Penn/Madison Townships area has grown at a very slow rate in comparison with the north Penn/Harris Townships area. Slower growth is attributable to the natural physical constraints as well as large lot zoning regulations. The Zoning Ordinance of St. Joseph County requires a minimum of 20 acres of land for each new house built south of Jackson Road. Large lot zoning will prevent any possibility of housing subdivision development to the south. With slow population growth, commercial growth will be very restrained.

CAPITAL AVENUE EXPRESSWAY CORRIDOR

Construction of the Capital Avenue Expressway will be a very slow process given current road construction funding levels. There is little disagreement that the expressway is needed however, and once completed will become a priority link in the highway system of the regional metropolitan area. Because of soil types and little public infrastructure development, it would appear that large scale development along the Capital Avenue Expressway Corridor will not occur in the immediate future. Limited access to the expressway should tend to control premature development as sections of the highway are opened to traffic.

Based on current land use, adjacent property to the Parkway south of Reverewood to the interchange area of the Bypass should be reserved for low-density residential. If some larger residential developments are built, the corridor right of way must be preserved for the expressway. New homes should be built using reverse frontage methods. Similar development methods have already been used at Reverewood. Any future retail or service commercial development should only be allowed in the Bypass interchange area, and then with great care in order to control traffic ingress and egress to the expressway. Direct access to the arterial street should be discouraged. Access should be allowed to a service or collector street which intersects with the arterial which interchanges with the expressway.

Land use along the corridor north of Jefferson Boulevard currently includes significant industrial development and industrial zoned land. Mishawaka is in need of a new planned industrial park. With improved transportation access, existing industrial zoned land and buildings, and a strong demand for high-quality industrial sites, an industrial park should be built along the north leg of the expressway corridor.

Because of improved access there can be no doubt that

the expressway will encourage industrial development on other nearby tracts of land. Property east of Blackberry Road, south of the Conrail Railroad tracks, should be developed as a high-quality industrial park. In order to catalyze this project however, Bittersweet Road must be extended to link with Blackberry Road, and public water and sewer systems must be extended to the site. An industrial park at this site has been planned for many years.

STRUCTURAL CONDITIONS

An important component of the Land Use survey included the analysis of structural conditions for each building in the city. There are four basic reasons for surveying structural conditions;

1. analyzing whether land use patterns contribute to blight,
2. whether age of neighborhoods contribute to blight,
3. determine areas where building improvement loans should be targeted, and
4. extent of code enforcement activities.

Analysis of structural conditions was obtained by way of a windshield survey. This type of survey technique limits the inspection to only major exterior structural elements of a building, such as roofs, gutters, eaves, windows, siding, porches and foundations. Interior conditions, conditions of detached outbuildings, environmental condition of the yard and condition of driveways and sidewalks were not analyzed. The principal building was the subject of the survey because this is where the health and safety of people is most in need of protection.

A four level rating system was used based upon the following structural classification system;

1. Rating Number One. Structure in sound condition and requiring only normal maintenance.
2. Rating Number Two. Structure with minor defects correctable with moderate repairs. Examples would be broken gutters and downspouts, reroofings, rotten fascia boards, pieces of broken siding, and brickwork in need of tuckpointing.
3. Rating Number Three. Structures in a deteriorating condition because of a defect which is correctable only with major repairs. Examples would be sagging roof structure, foundation that has settled, porches that have shifted away from the building, roofing that has allowed water to enter the building, siding which is missing, broken windows, and buildings in which substantial rehabilitation had begun but was not finished. These buildings are typically restorable but unless restoration begins relatively soon the building may advance to such a deteriorated condition that restoration becomes

physically impossible or economically impractical.

4. Rating Number Four. Structures classified as totally deficient, constitutes a severe risk to public health and safety, and where repairs are so extensive that restoration is not possible.

EXISTING CONDITIONS OF RESIDENTIAL AREAS

Table 8 indicates there are 13,836 principal structures in the city, of which 11,625 are housing structures and 2,211 are commercial or industrial structures. As can be seen in Table 8, 94.4% of all single unit homes (1110 Series) are rated condition Number One, with 5.1% rated condition Number Two. A very small .5% are rated Number Three, with 0% rated Number Four. This is important because neighborhoods in Mishawaka are considered to be in very good condition. The 5.1% rated condition Number Two are houses which exhibit typical minor defects. Most of those defects are the result of weathering damage that has not been corrected such as roof and eave problems. Housing rehabilitation loans through the Department of Community Development are available on a city-wide basis for qualifying property owners. Most loans which are made are for correcting condition Number Two problems. Public and private housing improvement loans will help to keep structural condition ratings of single unit homes very high.

Apartment buildings and apartment complexes (1130 Series) mirror the structural conditions of the single unit residential (1110 Series) homes. Duplex and two unit residential buildings (1120 Series) deviate substantially from the results of the 1110 single family residential and 1130 apartment residential series.

Table 8 indicates that 76.8% of duplex houses are rated Number One, 22.2% are rated condition Number Two, and 1.0% are rated condition Number Three. Most series 1120 residential buildings are previous conversions from single family houses to duplex houses. These buildings are located primarily in those neighborhoods built during the first two decades of this century and within a one mile radius of the central business district. Until about 1987 these neighborhoods were handicapped with overly permissive zoning which permitted conversion to duplex residential.

With the completion of the Neighborhood Rezoning Program in 1988 these same neighborhoods have been stabilized and conversion is no longer legal. However, the existing conversions are for the most part considered legal nonconforming duplexes. Over time the number of conversions should begin to slowly decrease as legal nonconformances are converted back to single unit houses. Strong code enforcement will boost the overall condition

rating of the 1120 duplex series over time.

CONCENTRATION OF STRUCTURAL CONDITION PROBLEMS

Although there are vitually no condition rating Number Four buildings in the city and no large areas of the city which exhibit very high concentrations of condition rating Number Three, there are nonetheless areas of the city which do exhibit concentrations of condition ratings Number Two and Number Three which are higher than the Mishawaka norm. See Table 8.

Some of the areas which include higher concentrations of Number Two and Number Three buildings also include some new houses, rehabilitated homes, or even homes which are in condition Number One that have never experienced deterioration. It appears that because of the stability of Mishawaka neighborhoods that as a house deteriorates and is subsequently sold, a purchaser is willing to expend time and talent into building up "sweat equity". Therefore, there is constant renovation of houses in the city, especially in those areas which have a higher concentration of condition rating Number Two and Number Three.

SUMMARY OF AREAS WITH STRUCTURAL DEFICIENCIES

The following geographic areas exhibit higher concentrations of condition ratings Number Two and Number Three.

1. South side of Mishawaka Avenue between Battell Park and the commercial buildings at Main Street because of land use incompatibility.
2. Historic area between Uniroyal and the One Hundred Center north of Lincolnway West because of land use incompatibility.
3. Some linear areas parallelling the Conrail Railroad between Logan Street and Byrkit Avenue because of trains.
4. Small neighborhood northwest of Byrkit Avenue and Twelfth Street because of surrounding industrial properties.
5. Mobile home parks along East Jefferson Boulevard near Byrkit Avenue because of very poor layout and maintenance.
6. McKinley Avenue east of Byrkit Avenue because of incompatible residential/commercial/industrial land use mix.
7. Unincorporated area along Fir Road between McKinley Avenue and the Grand Trunk Railroad because of poor code enforcement.

MISHAWAKA PLAN COMMISSION
LAND USE SUMMARIES

LAND USE CODE	STRUCTURAL CONDITION								TOTAL PARCELS	PRINCIPAL STRUCTURES	TOTAL HOUSING UNITS	AVERAGE CONDITION	AREA (acres)	HOUSING DENSITY
	1	(%)	2	(%)	3	(%)	4	(%)						
1110	9,757	94.0	567	5.5	60	0.6	0	0.0	10,923	10,384	10,384	1.1	2,371.0	4.4
1120	325	74.7	106	24.4	4	0.9	0	0.0	509	435	870	1.3	67.4	12.9
1130	774	93.5	49	5.9	5	0.6	0	0.0	265	828	5,905	1.1	3,461.7	1.7
1200	12	100.0	0	0.0	0	0.0	0	0.0	12	12	606	1.0	64.9	9.3
1400	801	67.2	336	28.2	55	4.6	0	0.0	78	1,192	1,191	1.4	209.8	5.7
1500	3	75.0	1	25.0	0	0.0	0	0.0	8	4	0	1.3	3.0	0.0
2100	1	100.0	0	0.0	0	0.0	0	0.0	3	1	0	1.0	0.4	0.0
2200	1	100.0	0	0.0	0	0.0	0	0.0	5	1	0	1.0	1.0	0.0
2300	1	100.0	0	0.0	0	0.0	0	0.0	1	1	0	1.0	3.3	0.0
2400	2	100.0	0	0.0	0	0.0	0	0.0	2	2	0	1.0	7.4	0.0
2500	1	50.0	1	50.0	0	0.0	0	0.0	3	2	0	1.5	0.3	0.0
2600	1	100.0	0	0.0	0	0.0	0	0.0	2	1	0	1.0	0.0	0.0
2700	3	100.0	0	0.0	0	0.0	0	0.0	4	3	2	1.0	0.3	5.9
2800	16	100.0	0	0.0	0	0.0	0	0.0	20	16	1	1.0	44.4	0.0
2900	4	100.0	0	0.0	0	0.0	0	0.0	4	4	1	1.0	13.9	0.1
3100	2	66.7	0	0.0	1	33.3	0	0.0	55	3	1	1.7	22.5	0.0
3200	3	60.0	2	40.0	0	0.0	0	0.0	14	5	0	1.4	34.7	0.0
3300	14	93.3	0	0.0	1	6.7	0	0.0	19	15	10	1.1	40.9	0.2
3400	34	97.1	1	2.9	0	0.0	0	0.0	49	35	1	1.0	23.2	0.0
3900	73	94.8	3	3.9	1	1.3	0	0.0	99	77	1	1.1	151.4	0.0
4200	8	100.0	0	0.0	0	0.0	0	0.0	7	8	0	1.0	15.1	0.0
4400	0	0.0	0	0.0	0	0.0	0	0.0	2	0	0	0.0	0.5	0.0
4500	0	0.0	0	0.0	0	0.0	0	0.0	5	0	0	0.0	2.8	0.0
4600	2	100.0	0	0.0	0	0.0	0	0.0	76	2	1	1.0	35.1	0.0
4700	2	100.0	0	0.0	0	0.0	0	0.0	2	2	0	1.0	3.8	0.0
4800	11	52.4	0	0.0	10	47.6	0	0.0	24	21	3	2.0	30.4	0.1
4900	4	100.0	0	0.0	0	0.0	0	0.0	7	4	0	1.0	6.5	0.0
5100	15	93.8	0	0.0	1	6.3	0	0.0	37	16	0	1.1	18.9	0.0
5200	14	87.5	2	12.5	0	0.0	0	0.0	24	16	6	1.1	20.3	0.3
5300	7	100.0	0	0.0	0	0.0	0	0.0	7	7	1	1.0	4.5	0.2
5400	9	90.0	1	10.0	0	0.0	0	0.0	21	10	0	1.1	6.2	0.0
5500	67	75.3	18	20.2	4	4.5	0	0.0	153	89	9	1.3	151.8	0.1
5600	4	100.0	0	0.0	0	0.0	0	0.0	7	4	1	1.0	13.9	0.1
5700	11	78.6	3	21.4	0	0.0	0	0.0	22	14	4	1.2	16.7	0.2
5800	73	89.0	6	7.3	2	2.4	0	0.0	115	82	11	1.1	69.2	0.2
5900	143	88.8	16	9.9	2	1.2	0	0.0	223	161	38	1.1	259.1	0.1
6100	40	97.6	1	2.4	0	0.0	0	0.0	78	41	7	1.0	42.8	0.2
6200	35	94.6	2	5.4	0	0.0	0	0.0	58	37	13	1.1	412.0	0.0
6300	68	87.2	9	11.5	1	1.3	0	0.0	80	78	8	1.1	96.9	0.1
6400	37	78.7	9	19.1	1	2.1	0	0.0	66	47	3	1.2	40.7	0.1
6500	57	100.0	0	0.0	0	0.0	0	0.0	81	57	13	1.0	95.9	0.1
6600	16	88.9	1	5.6	1	5.6	0	0.0	27	18	3	1.2	47.9	0.1
6700	6	75.0	0	0.0	2	25.0	0	0.0	8	8	1	1.5	15.1	0.1
6800	69	100.0	0	0.0	0	0.0	0	0.0	75	69	113	1.0	224.7	0.5
6900	96	99.0	1	1.0	0	0.0	0	0.0	87	97	5	1.0	46.1	0.1
7100	1	100.0	0	0.0	0	0.0	0	0.0	2	1	0	1.0	0.8	0.0
7200	2	66.7	0	0.0	1	33.3	0	0.0	5	3	0	1.7	5.1	0.0
7300	2	100.0	0	0.0	0	0.0	0	0.0	5	2	0	1.0	2.2	0.0
7400	12	85.7	1	7.1	0	0.0	0	0.0	27	14	2	1.0	101.9	0.0
7500	1	100.0	0	0.0	0	0.0	0	0.0	4	1	0	1.0	6.8	0.0
7600	7	87.5	0	0.0	0	0.0	0	0.0	52	8	0	0.9	224.4	0.0
7900	0	0.0	1	100.0	0	0.0	0	0.0	1	1	0	2.0	0.4	0.0
8100	3	100.0	0	0.0	0	0.0	0	0.0	16	3	3	1.0	388.8	0.0
8200	1	100.0	0	0.0	0	0.0	0	0.0	1	1	0	1.0	0.6	0.0
8500	0	0.0	0	0.0	0	0.0	0	0.0	5	0	0	0.0	49.3	0.0
8800	1	100.0	0	0.0	0	0.0	0	0.0	1	1	1	1.0	20.0	0.1
9100	11	73.3	1	6.7	2	13.3	0	0.0	1,081	15	11	1.3	2,487.3	0.0
9300	0	0.0	0	0.0	0	0.0	0	0.0	1	0	0	0.0	0.6	0.0
9400	4	66.7	2	33.3	0	0.0	0	0.0	7	6	1	1.3	4.3	0.2
9900	0	0.0	0	0.0	0	0.0	0	0.0	2	0	0	0.0	6.4	0.0
TOTALS	12,620		1,068		144		0		14,256	13,836	19,621	1.1	11,699	2.9

8. Unincorporated area along York Road, Seventh and Eighth Streets south of the Conrail Railroad because of poor code enforcement.
9. Unincorporated area along Catalpa Street, Brown and Berry Streets west of Grape Road Because of poor code enforcement.
10. Random scattering of buildings within a one-mile radius of the center city because of aging buildings.

TRANSPORTATION SYSTEM

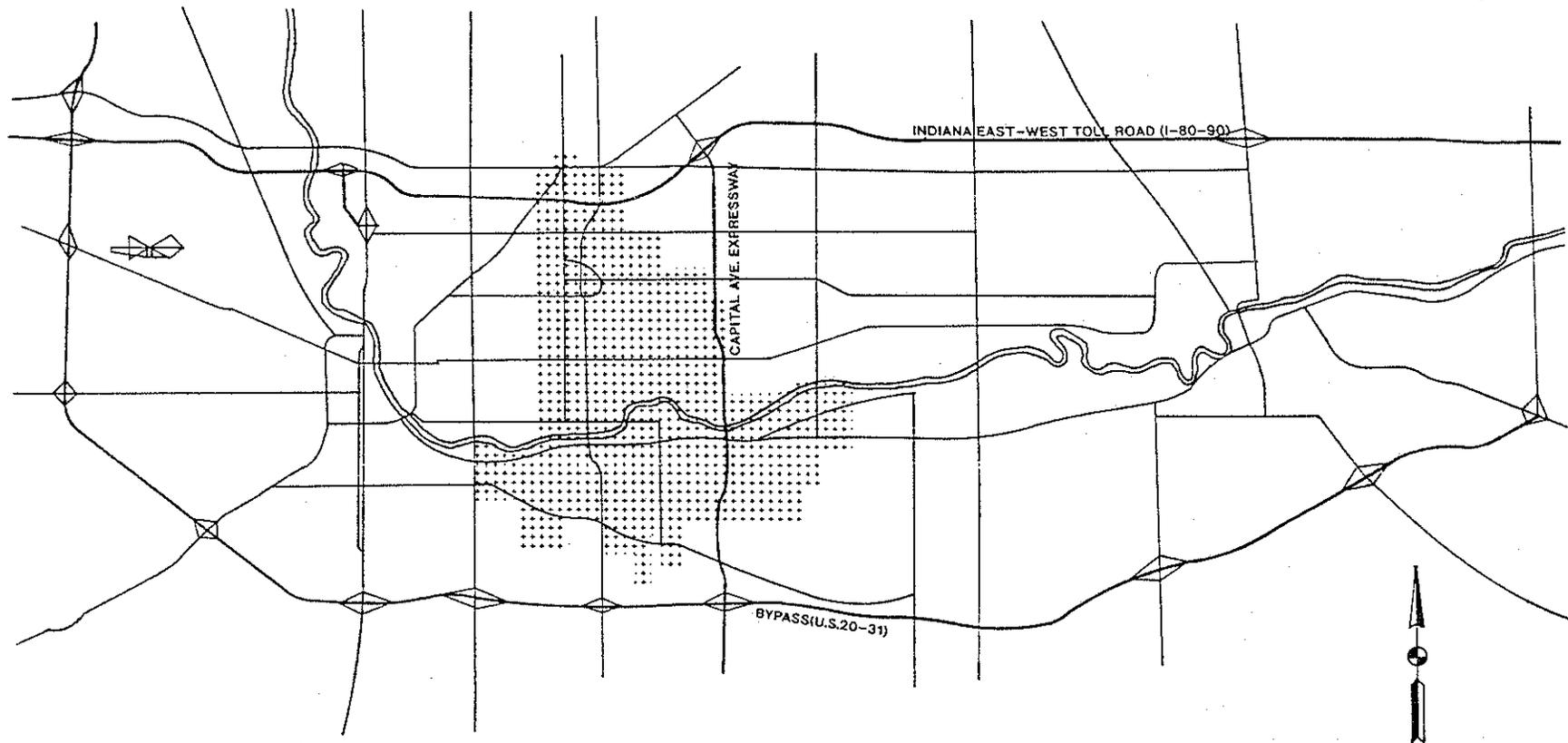
INTRODUCTION

If the land within a city or metropolitan area is considered as a living entity then the transportation system would be considered as the veins and arteries of the body. A biological body is a group of cells which is in need of a continuous

supply of water, oxygen and nutrients in order to live and function. The physiologic sciences have spent generations analyzing the vein and artery system which supplies living cells with those vital supplies. Just as the body needs increasing supplies of water, oxygen and nutrients when it is growing or exercising, so too a growing or active city needs a transportation system that will be capable of supplying those goods and services to an increasing number of residents and businesses. When a community grows in area and in economic activity without increasing the capacity and efficiency of the transportation system, then congestion occurs. This is just as a living body suffers illness or stress if the vein and artery system efficiency is not maintained by eating healthy foods and getting correct amounts of exercise.

Figure 8 shows the Mishawaka planning area in the regional context. The extensive regional transportation system of local, state and federal streets, highways, tollways

Figure 8



SOUTH BEND-MISHAWAKA-ELKHART URBANIZED AREA

..... LAND USE STUDY AREA

Prepared by: Department of City Planning

and parkways is one of the primary reasons for Mishawaka's growth. Observing the major highway oval loop created by the Toll Road and the Parkway, a consolidated urban area is formed which is roughly 25 miles east to west and 10 miles north to south. Those two highways were built to complete a circumferential highway system to serve the entire South Bend-Mishawaka-Elkhart area. Mishawaka is located at the virtual geographic center of the oval loop. Primary economic activity, greatest population concentration, and highest traffic counts occur within the oval loop. The immediate commuting zone is generally within about 5 miles of the oval highway system.

Mishawaka's historic east-west axis development caused construction of several major east-west arterials during previous generations. Combined traffic counts on the east-west arterials is 147,913 vehicles per day, which is 3.5 times the 1990 population of Mishawaka. (See Table 9 and Figure 9, Traffic Count Table and Map of Traffic Counts)

Until about 1965 Mishawaka had a very pronounced east-west axis. But because of new north-south growth, additional traffic pressure has caused traffic counts on the north-south arterials to increase dramatically. Historically the north-south arterials were not as important as the east-west arterials and most north-south arterials only ran partially through the city. Therefore, those completed sections of the planned north-south arterials have become very important transportation links. Combined traffic counts on the north-south arterials is 107,378 vehicles per day, which is 2.5 times the population of Mishawaka.

Aggregated traffic counts for all arterials in Mishawaka is 255,291 vehicles per day. This is an astounding count in relation to the city population of 42,608. This indicates the interrelatedness of the economy of the South Bend-Mishawaka-Elkhart area, points out just how prevalent automobile use and commuting has become to this area, and also confirms that Mishawaka is the center of the local commerce area.

SOCIO-ECONOMIC TRENDS IN AUTOMOBILE USE

Several important changes have occurred both locally and nationally which will help give perspective to the increase in traffic.

1. The Worker Boom. From 1950 to 1980 the American workforce has grown by 65%* while population has grown by 50%. From 1980 to 1990 the growth in jobs in Mishawaka has outstripped growth in population by a ratio of 3:1. More people work in

*Lincoln Institute of Massachusetts Institute of Technology

the South Bend-Mishawaka-Elkhart area than ever before and more people work in Mishawaka than ever before.

The baby boom generation is now in its most productive years and this has resulted in a bubble in the number of workers. Even as this generation ages through the life cycle it is anticipated to dominate the working population's character well into the next century. As the number of jobs and workers increase, the number of automobiles increase, and the number of commuters increase.

2. The Suburban Boom. The American phenomenon of expanding residential areas continued with rapid momentum during the 1980's. As can be seen, metropolitan St. Joseph County has 100,000 people living in the suburbs surrounding South Bend and

Mishawaka, representing 40% of the county population. Expanding suburban development has concentrated between South Bend and Elkhart, much of it in Clay, Harris and Penn Townships. Harris Township experienced a phenomenal 115% increase in population, while the cities have generally remained constant in population.

As population increases in the suburban areas, so too, the number of automobiles increases. With a conspicuous lack of mass transportation outside the cities there is a greater need for the automobile. Therefore, traffic loads on inadequate county roads become more congested and city streets and highways become more congested.

Traffic congestion cannot be solved but it can be managed with proper planning and with improvements to the transportation system. The Lincoln Institute of Land Policy of the MIT sponsored a seminar on transportation issues in Chicago in 1990. An important concept discussed at that gathering was that the public's expectation does not include congestion in suburban areas. In other words, the public is surprised when residential and commercial growth in previously rural areas causes a disproportional increase in traffic.

3. The Automobile Commuting Boom. Table 10 shows the number of registered vehicles in metropolitan St. Joseph County and Elkhart County. In St. Joseph County with a 2.2% increase in total population, the number of registered automobiles increased by 13.19%. Coupled with the growth of the suburbs and the increasing number of workers it is easy to see why automobile traffic has increased.

Figure 9 (Map of Traffic Counts) indicates most recent average daily traffic counts (ADT) through the summer of 1990 for thoroughfares in Mishawaka.

Since the suburbs do not have mass transportation alternatives, those workers commuting into the cities, such as

TRAFFIC COUNTS

TABLE 9

<u>STREET AND LOCATION</u>	<u>AVERAGE DAILY TRAFFIC COUNTS</u>	
1. Bittersweet Road		
@ Douglas Road	7,587	
@ Day Road	8,279	
2. Byrkit Avenue		
@ Mishawaka Avenue	14,023	
@ Third Street	6,989	
@ Fifth Street	6,006	
@ Eadus Avenue	2,972	
3. Capital Avenue		
@ Lincolnway East	9,813	
@ Twelfth Street	10,936	
4. Cleveland Road		
@ Grape Road	24,478	
@ Gumwood Road	13,312	
5. Day Road		
@ Grape Road	10,227	
@ Filbert Road	8,394	
@ Fir Road	6,851	
@ Elder Road	6,184	
@ Capital Avenue	5,270	
6. Douglas Road		
@ Grape Road	9,078	
@ Fir Road	2,513	
@ Bittersweet Road	1,367	
7. Dragoon Trail		
@ Ironwood Drive	11,907	
@ Logan Street	9,012	
@ Union Street (Route 331)	11,958	
@ Fir Road	8,460	
8. Edwardsburg Highway (Route 23)		
@ Capital Avenue	13,780	
@ Brick Road	12,010	
9. Eighth Street		
@ Logan Street	10,023	
@ West Street	5,157	
10. Elm Road		
@ Dragoon Trail	6,016	
11. Fir Road		
@ Cleveland Road	5,686	
@ Douglas Road	11,152	
@ Day Road	8,635	
@ McKinley Avenue	7,545	
12. Grape Road		
@ Cleveland Road	20,816	
@ East-West Toll Road (I-80-90)	24,138	
@ Day Road	29,682	
@ Edison Road	17,819	
@ McKinley Avenue	16,827	
13. Ironwood Drive		
@ Conrail Tracks	10,892	
@ Delaware Street	12,047	
14. Jefferson Boulevard		
@ Liberty Drive	12,364	
@ Cedar Street	15,890	
@ Byrkit Avenue	13,141	
@ Bittersweet Road	5,751	
15. Liberty Drive		
@ Lowell Avenue	10,993	
16. Lincolnway East (Route 33)		
@ Pine Street	17,006	
@ Beiger Street	16,438	
@ Roosevelt Avenue	19,590	
@ Manor Drive	22,405	
@ Wayne Street	17,107	
17. Lincolnway West (Route 33)		
@ Ironwood Drive	22,923	
@ Logan Street	23,985	
@ Center Street	20,011	
18. Logan Street		
@ Delaware Street	6,634	
19. Main Street		
@ Catalpa Avenue	10,209	
@ McKinley Avenue	15,078	
@ Jefferson Boulevard	13,398	
@ Lawrence Street	15,540	
@ Mishawaka Avenue	15,195	
@ First Street	10,016	
@ Ninth Street	17,212	
20. McKinley Avenue (Route 20)		
@ Hickory Road	18,758	
@ Main Street	23,878	
@ Division Street	20,802	
@ Fir Road	21,593	
@ Clover Road	17,078	
21. Mishawaka Avenue		
@ Logan Street	13,324	
@ Liberty Drive	15,111	
22. State Road 23		
@ Cleveland Road West	16,455	
23. Twelfth Street		
@ Union Street	8,802	
@ Byrkit Avenue	10,158	
@ Lexington Boulevard	7,187	
@ Eldy Road	3,947	
24. Church Street (Route 331)		
@ First Street	10,016	
@ Ninth Street	17,212	

Mishawaka, will be forced to contend with an increase in transportation congestion.

On the converse, as jobs increase in the suburban fringe, so too some city residents will be forced to reverse commute by automobile to those outlying employment centers. And finally as workers commute from city to city, in the absence of an integrated and coordinated regional mass transportation system, this category of commuter traffic will also increase.

TABLE 10

		<u>Total Registered Vehicles</u>			
St. Joseph County	1980	152,244	1990	175,311	% Change 13.19%
Elkhart County	1980	95,617	1990	115,304	% Change 17.07%

Source: Bureau of Motor Vehicles

REGIONAL THOROUGHFARE SYSTEM

Within the South Bend-Mishawaka-Elkhart region the major lines of traffic movement are in an east-west direction. Two factors have caused traffic movement to develop in this manner: the first being that inter-city traffic between Mishawaka, South Bend and Elkhart naturally moves in an east-west direction; secondly, the St. Joseph River creates a natural barrier to the north-south movement of traffic. Adding to the St. Joseph River barrier is the fact that there are only several north-south arterials with bridges crossing the river that extend through the region. Michigan Street in South Bend is the most heavily used arterial in the region.

The East-West Toll Road (I-80, I-90) which was completed in 1956 carries much of the automobile and heavy truck traffic which passes through the region in an east-west direction. Completion of the tollway eliminated much of the through traffic from U.S. 20 (McKinley Avenue) and U.S. 33 (Lincolnway) and other arterials north of the river. The opening of the Toll Road decreased the importance of both U.S. 20 and U.S. 33 and relegated each highway to inter-city arterials connecting Mishawaka to South Bend and Elkhart. The Indiana Department of Transportation has shifted the U.S. 20 designation onto the St. Joseph Valley parkway. McKinley Avenue and Lincolnway are being transferred to the city for ownership, operation and maintenance.

Since the opening of the Toll Road many local and regional traffic generators have developed which have greatly increased the local traffic volume on U.S. 20 and U.S. 33. Existing county roads such as Cleveland Road, Day Road and Douglas Road located north of U.S. 20 have developed as alternates to the heavily traveled McKinley Ave. and Lincolnway.

The arterial system for the Mishawaka planning area must be capable of handling not only local traffic, including that

generated by the industrial and commercial areas within the city, but also commuter traffic which originates outside the city and is destined for an area also outside the city. Planning for future transportation improvements therefore must take into account the movement patterns and needs of the regional area as well as the movement patterns and needs of the local system.

HIERARCHY OF STREET SYSTEM

Parkway, Tollway, Expressway: Limited access highways with multiple lane capacity capable of carrying high volumes of traffic. Typically, this system of highways create the skeletal framework of a regional transportation system. While the miles of limited access highways only constitute about 3% of the total mileage of a regional roadway system, upwards of 25% of all region-wide traffic movement may occur on a limited access highway network.

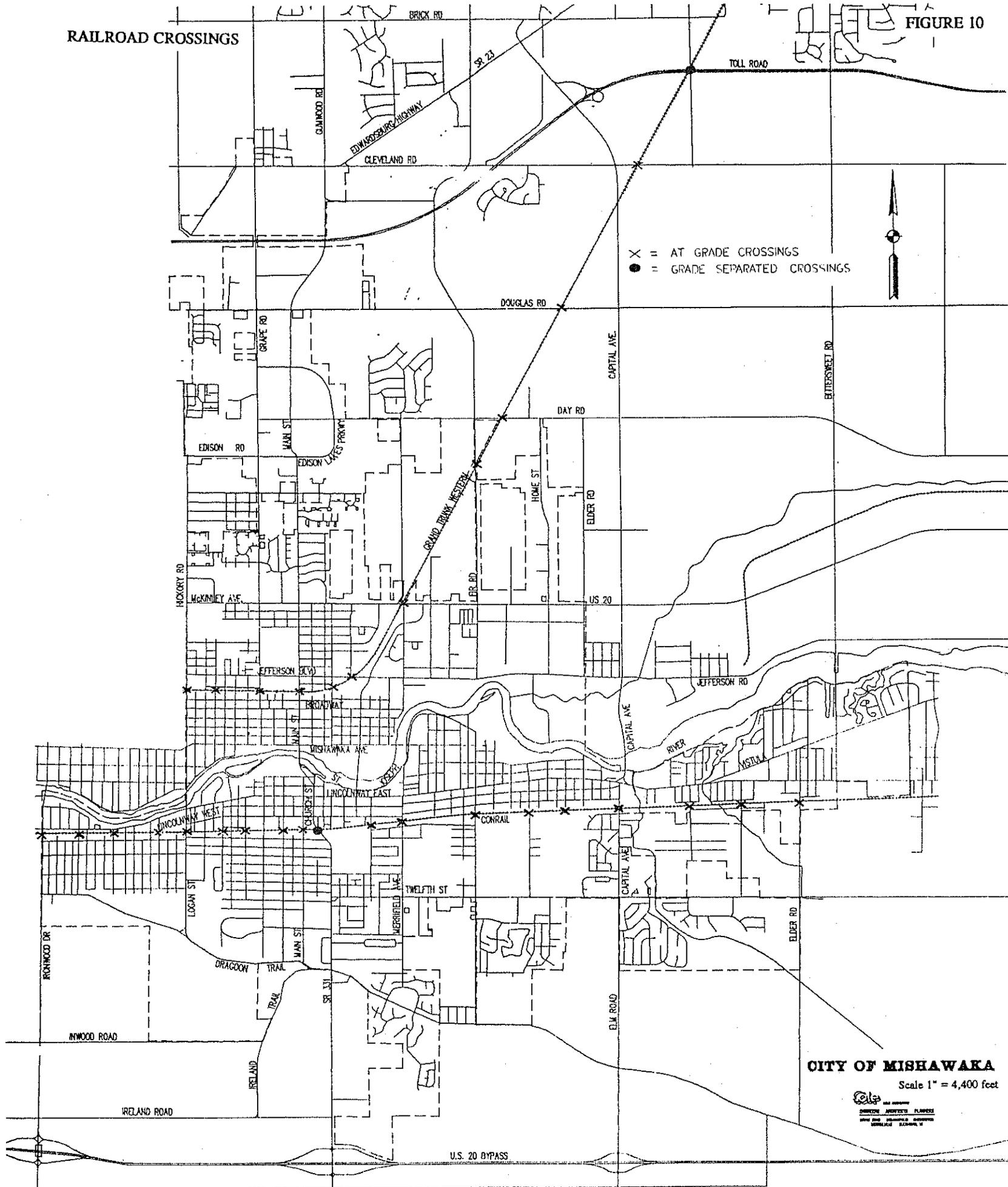
Arterial Streets: Complete control of access on streets is not always economically feasible. Thus, some major streets and highways are developed to serve a majority of traffic demands. Although arterial streets may have little access control, they are distinguished by several significant characteristics. For example, arterial streets generally are those streets which are wide with straight alignment, efficient signalization, long blocks, and restricted parking. Arterial streets in suburban areas are located at approximately one-mile intervals and serve to connect several areas of traffic generation. In addition to serving through traffic needs, most arterial streets provide access to properties which are adjacent to the street. Access controls usually consist of curb cut restrictions and channelization efforts.

Collector Streets: The primary purpose of collector streets is to gather traffic from abutting properties and intersecting streets and direct it to nearby arterials for safe and expeditious movement to its destination. In residential areas, collector streets can be indirect in alignment; and pavement width should be relatively narrow to discourage through or speeding traffic. Collector streets in other areas, such as at shopping centers, may be wider streets for short distances. Rural collector streets often are upgraded to arterial streets as urbanization extends into rural areas.

Local Streets: The majority of the street mileage within a community consists of local streets that have a primary function to provide access to abutting properties. Right of way and pavement widths on local streets should be limited to only that which is necessary, and which will avoid needless expense and waste of land. As a general rule, the layout of local streets should be such that intersections with collector streets are minimized and traffic is directed to

RAILROAD CROSSINGS

FIGURE 10



collector streets and then to the major street network.

INVENTORY OF THOROUGHFARE SYSTEM

As can be seen in Figure 9 the thoroughfare system presently includes Lincolnway, McKinley Avenue, and Main Street-Church Street-Union Street (S.R. 331).

Other arterials in the City of Mishawaka include: Twelfth Street-Harrison Road, Dragoon Trail, Day Road, Douglas Road, Edison Road, Cleveland Road, Milburn Boulevard-Eighth Street, Mishawaka Avenue and Jefferson Boulevard. The primary north-south arterials include Ironwood Drive, Logan Street-Hickory Road, Liberty Drive-Grape Road, Main Street, Union Street, Cedar Street, Byrkit Avenue-Fir Road, Capital Avenue-Elm Road, and Bittersweet Road. Streets classified as arterial streets are identified on Figure 8.

Also shown on Figure 10 is a number of at-grade railroad crossings which are intersections arterial streets and railroads. The Church Street-Union Street underpass is the only grade separation in the city. Land acquisition is progressing and plans are complete for the Ironwood Drive Underpass. Completion is expected by 1995.

INTERSECTIONS WITH HIGH ACCIDENT COUNTS

Figure 11 shows nine intersections¹ within the city which have the highest automobile accident counts.

Six of the intersections are located in the University Park Edison Lakes area. This area of the city experiences the highest overall traffic counts within the city, yet also includes the newest and most advanced traffic control system hardware in the metropolitan area. Each intersection is fully signalized and channelized with in-pavement monitoring sensors interconnected with a central computer. Most accidents are not attributable to poor design or traffic control equipment.

The balance of the high accident intersections are south of the river; two in Twin Branch, and one in the Mishawaka Hills. Traffic congestion and backups at Lincolnway East-Capital Avenue and Twelfth Street-Capital Avenue underscore the necessity of commencing with the Capital Avenue Expressway project. Both intersections are signalized and include channelization, but limited right of way and budgetary restrictions preclude the major reconstruction that has been designed for the Capital Avenue Expressway. The Dragoon Trail-Union Street intersection is signalized and includes limited channelization, but pavement surface

conditions and the naturally occurring steep, hilly terrain add a danger to the intersection not found at the other accident study locations.

ACTION PLAN

FUNDING

Because of high capital expenditures associated with improving the transportation system and with decreasing federal, state and local funds available to pay for improvements, there is a structural imbalance between transportation needs and diminishing transportation revenue. The result has been budgetary stress, and transportation improvements that are scaled-back or postponed. Only with prudently funded revenue levels can the transportation system be improved to cope with current and future societal demands. A solution to the fiscal funding shortfall is the only way to ensure that transportation projects, some of which having been discussed for generations, will expeditiously occur.

An intense regional program must begin in order to determine a rational nexus;

- A) what costs are the public willing to pay for,
- B) what projects provide the greatest public benefit, and
- C) within what time frame does the public expect completion of transportation projects?

The city currently utilizes the following funding sources;

- 1) Motor Vehicle Highway (MVH),
- 2) Federal Aid Urban (FAU),
- 3) Local Road and Street (LRS),
- 4) Tax Increment Finance (TIF), and
- 5) Development Exactions (DE).

Other funding sources include;

- 1) Bonding and
- 2) Barret Law

Sources available but not adopted in the metropolitan area² include;

- 1) Highway User Tax (HUT),
- 2) Economic Development Income Tax (EDIT),
- 3) Economic Development Income Tax (EDIT),
- 4) County Adjusted Gross Income Tax (CAGIT), and
- 5) Development Impact Fees (DIF).

TRANSPORTATION SYSTEM MANAGEMENT (TSM)

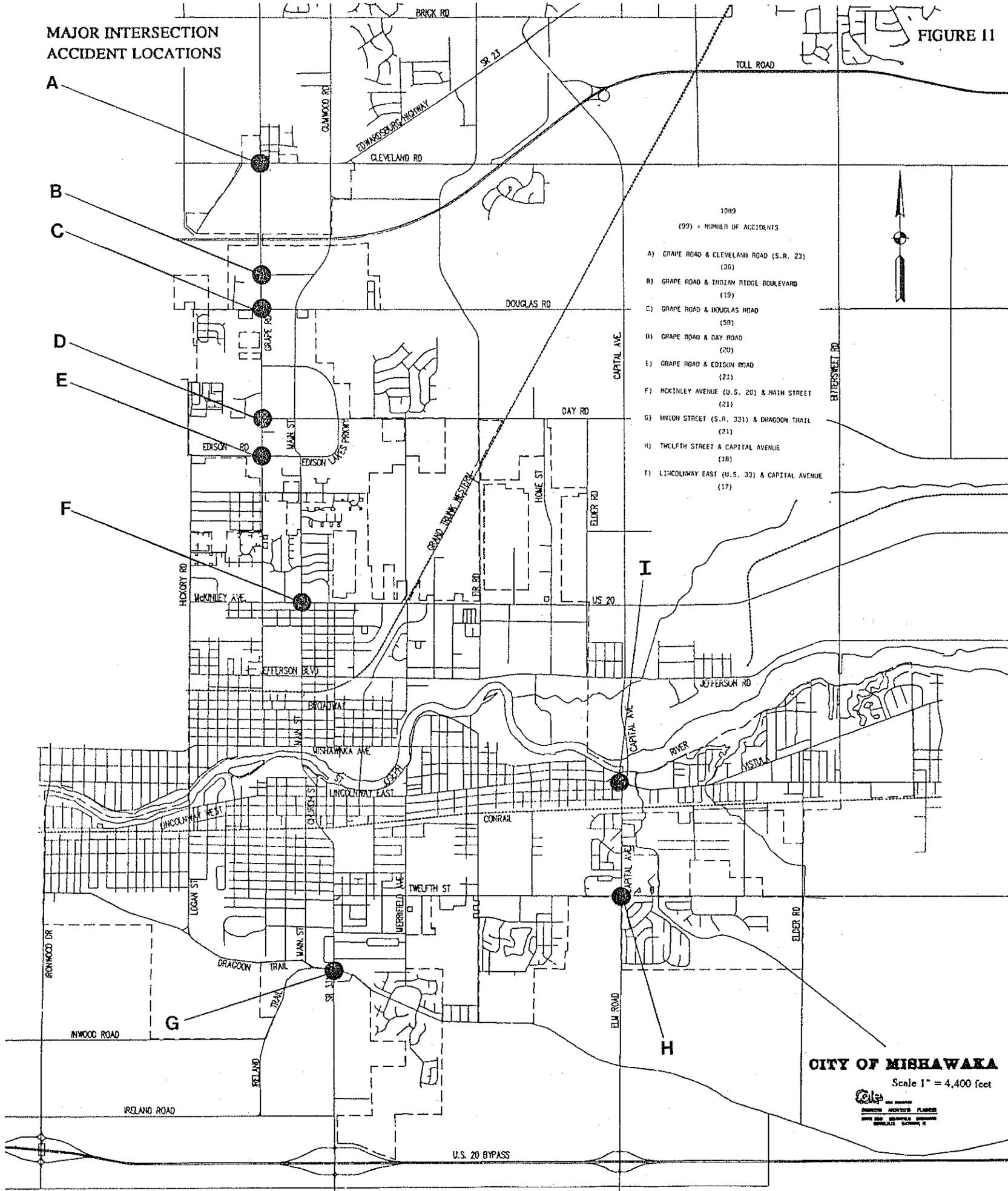
TSM is an efficiency program to allow an existing transportation system to function more efficiently, and

¹MACOG Metropolitan Planning Organization. "Traffic Accident Data - 1989, "FY 1991".

²These funding sources must be adopted by the County of St. Joseph and/or the Cities of South Bend and/or Mishawaka.

MAJOR INTERSECTION
ACCIDENT LOCATIONS

FIGURE 11



involves a variety of techniques. Techniques include such things as;

- 1) the Traffic Commission should be charged with the development of a short-term and long-term traffic plan,
- 2) eliminating unwarranted stop signs on thoroughfares to permit traffic to freeflow,
- 3) installation of traffic signal coordination systems,
- 4) eliminating or restricting on-street parking to permit multiple travel lanes and increase movement,
- 5) proper street and intersection signage and striping to help motorists to visualize the traffic lanes, stop bars, intersection turn channels, etc.,
- 6) painting traffic lines on multiple lane streets which do just fade or squeeze away,
- 7) managing "no left turns" and "right turn on red" movements,
- 8) strictly controlling curb cuts to private commercial and residential driveways and parking lots, and
- 9) realigning curbs at intersections.

These techniques can have a dramatic impact on traffic flow efficiency and in many cases are relatively inexpensive. Mishawaka currently practices some of these techniques and must continue to practice more TSM methods to cope with an increase in traffic and a decrease in revenue.

TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

TIP is a listing of major transportation construction projects which increase the overall capacity to carry traffic or will correct severe deficiencies in Mishawaka's transportation system. TIP projects are typically very expensive and require extraordinary levels of revenue funding. However, these projects also add to the asset base of the city.

The following are the TIP projects for Mishawaka;

- 1) construct Main Street bridge over the East-West Toll Road,
- 2) construct Main Street north of Indian Ridge Boulevard to Cleveland Road (SR 23),
- 3) construct University Park Drive east from current terminus to Main Street,
- 4) widen Douglas Road from east to west corporation limits,
- 5) construct Catalpa Street east from the current terminus to Filbert Road and ultimately to Fir Road,
- 6) widen Day Road from Grape Road to the east corporation limit,
- 7) construct an underpass at the present Main Street-Grand Truck Railroad crossing,

- 8) widen Jefferson Boulevard from Byrkit Avenue to the east corporate limits,
- 9) encourage the INDOT to widen Bremen Highway (SR 331) from Twelfth/Thirteen Streets south to the Bypass interchange, and reconstruct the intersection of Bremen Highway and Dragoon Trail,
- 10) widen Twelfth Street from Merrifield Avenue to Capital Avenue,
- 11) construct Capital Avenue Expressway south from the St. Joseph River bridge to the corporation limits,
- 12) construct an underpass at the present Capital Avenue-Conrail Railroad crossing,
- 13) construct Park Place between Filbert and Day Roads,
- 14) construct Hickory Road from Hepler Street to Edwardsburg Highway (S.R. 23),
- 15) reconstruct the intersection of Main Street-Dragoon Trail and Ireland Trail-Dragoon Trail to align the intersection,
- 16) widen Main Street between Grove Street and McKinley Avenue, and
- 17) install traffic signal at Lincolnway East and Mariellen Avenue.

ENVIRONMENTAL PROTECTION

As new streets are constructed or existing ones widened, all due care should be used to protect sensitive environmental features such as floodplains, forested areas, hills and wetlands. During the design phase of a transportation project, interim environmental protection measures should be incorporated to reduce erosion of soil into creeks and the St. Joseph River.

Upon completion of a project, a tree planting program should be implemented to reforest and reestablish the tree canopy in parkways and treelawns. The urban forest acts as a natural air cleaner, cools the city, adds to the real estate value of the community, and provides an aesthetically pleasant amenity.

REGIONAL COOPERATION

Because of its geographic location in the urban/metropolitan area, Mishawaka is affected by and affects its sister communities. This points to a very important need to actively participate in the regional transportation planning and coordination forums.

Cooperation and coordination with the Cities of South Bend, Elkhart, Goshen, Niles, the County of St. Joseph, the Michiana Area Council of Governments (MACOG) metropolitan planning organization and the State of Indiana Department of Transportation (INDOT) is imperative in the

economically linked South Bend-Mishawaka-Elkhart area. Mishawaka can maintain its individual identity and control its own municipal decisions while participating in the metropolitan decision making processes. Discussing and sharing ideas with the neighboring communities is always worthwhile and contributes to a healthier local area.

ANNEXATION STUDY

Introduction

The City of Mishawaka, population 42,635, is located in St. Joseph County, Indiana. The City's population increased by 5.6 percent from 1980 to 1990 while its assessed valuation increased by 84 percent to \$237,000,000 during the same period. The City has recently initiated an update of several elements of the Comprehensive Plan including land use, transportation and annexation.

The rapid expansion of commercial and office park development along the Grape Road/Main Street Corridor, recent improvements along Capital Avenue and the opening of the Bypass south of the City has created the need for the study of potential areas for annexation to provide for the orderly expansion of the City and to control expected development on the perimeter of the City. Because of expansion in and around Mishawaka these areas should be considered as planned urbanizing.

The Plan Commission in updating the Comprehensive Plan has decided to study the practicality of annexing five areas on the perimeter of the City. This report examines existing conditions and trends in both Mishawaka and the annexation study areas. Among the factors considered are the existing characteristics, current and expected future trends in population growth, land use, community services and facilities, development trends and tax base. The City, by means of this report, can examine many factors relating to such potential annexations and can arrive at well reasoned decisions.

The Study considers the need for annexation and the cost/benefit of annexing five (5) areas identified on Figure 12. In addition to looking at the existing development and potential for future development within each area, the study also examines the City's ability to meet the statutory requirements for annexation as set forth in Burns Indiana Statutes 36-4-3-1 through 36-4-3-22. The pertinent requirements are as follows:

(1) That the territory sought to be annexed is contiguous to the municipality, and that at least (1/8) of

the aggregate external boundary of the area to be annexed must be contiguous with the boundary of the municipality.

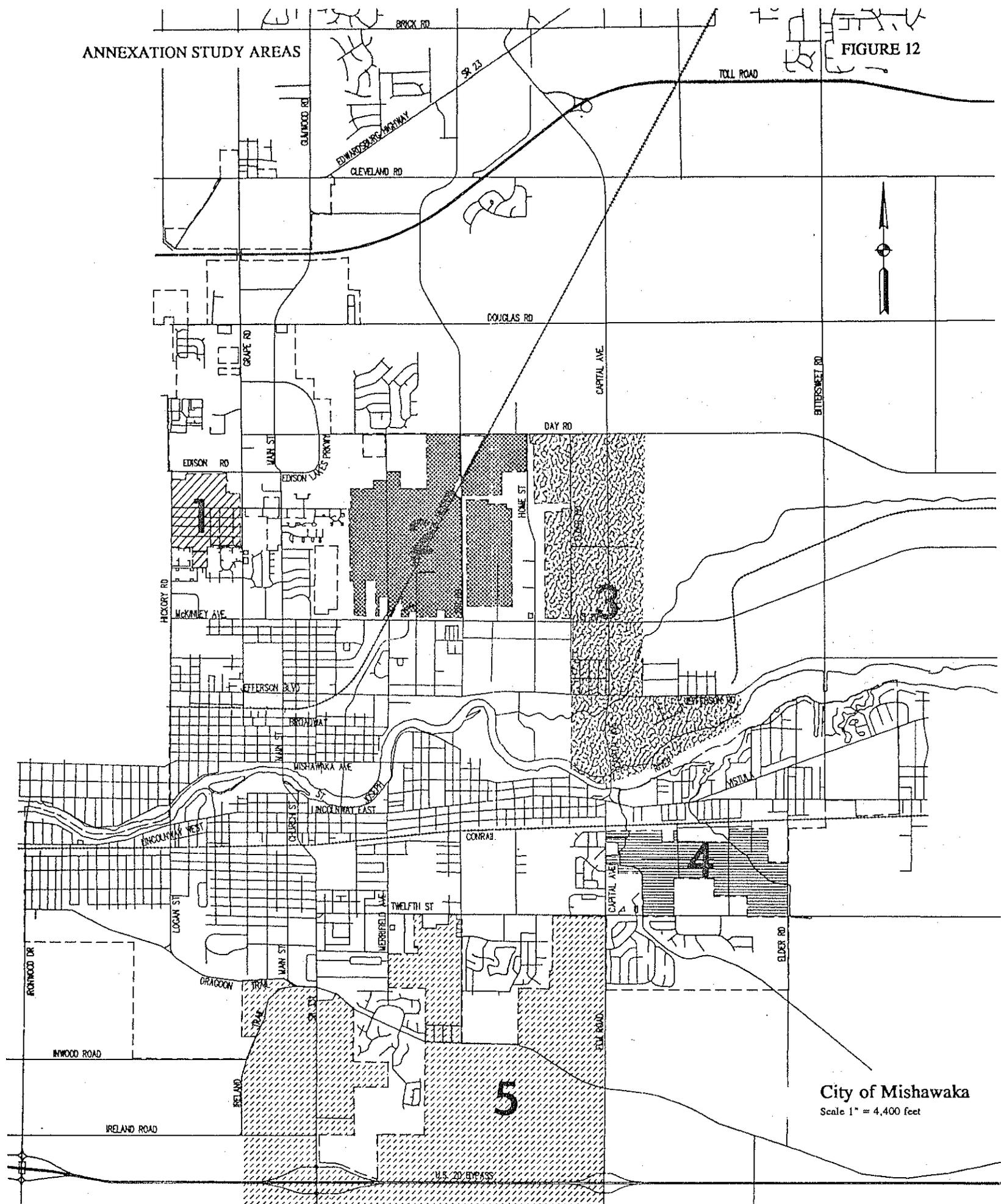
- (2) That either:
- (A) The resident population density of the territory sought to be annexed is at least three (3) persons per acre;
 - (B) Sixty percent (60%) of the territory is subdivided;
- or
- (C) The territory is zoned for commercial, business, or industrial uses.

- (3) Or:
- (A) That the territory sought to be annexed is contiguous to the municipality, except that at least one-fourth (1/4), instead of one-eighth (1/8), of the aggregate external boundaries of the municipality; and
 - (2) That the territory sought to be annexed is needed and can be used by the municipality for its development in the reasonably near future.
- (d) And: That the municipality has developed a written fiscal plan and has established a definite policy, by resolution of the legislative body, as of the date of passage of the annexation ordinance. The resolution must show:

- (1) The cost estimates of planned services to be furnished to the territory to be annexed;
- (2) The method or methods of financing the planned services;
- (3) The plan for the organization and extension of services;
- (4) That planned services of a noncapital nature, including police protection, fire protection, street and road maintenance, and other noncapital services normally provided within the corporate boundaries, will be provided to the annexed territory within one (1) year after the effective date of annexation, and that they will be provided in a manner equivalent in standard and scope to those noncapital services provided to areas within the corporate boundaries that have similar topography, patterns of land use, and population density;
- (5) That services of a capital improvement nature, including street construction, street lighting, sewer facilities, water facilities, and stormwater drainage facilities, will be provided to the annexed territory

ANNEXATION STUDY AREAS

FIGURE 12



City of Mishawaka

Scale 1" = 4,400 feet

within three (3) years after the effective date of the annexation, in the same manner as those services are provided to areas within the corporate boundaries that have similar topography, patterns of land use, and population density, and in a manner consistent with federal, state and local laws, procedures, and planning criteria; and

(6) The plan for hiring the employees of other governmental entities whose jobs will be eliminated by the proposed annexation, although the municipality is not required to hire any employees.

AREA OF THE CITY OF MISHAWAKA

1960 Corporate Limits = 8.9 square miles (5696 acres)
 1970 Corporate Limits = 9.58 square miles (6131.2 acres)
 1980 Corporate Limits = 13.94 square miles (8921.6 acres)
 1991 Corporate Limits = 14.97 square miles (9599.1 acres)

EXISTING DEVELOPMENT AND CURRENT TRENDS

Present and projected population characteristics and growth trends are useful in determining existing conditions and forecasting future change. To some extent these characteristics also provide the basis for establishing future public facility and service needs in the five study areas. Mishawaka's ability to provide these services is a crucial consideration in any decision regarding annexation.

Table 2 - Population Resources analyzes past population gains and projects city wide population for the year 2000.

Current population and housing unit data for the five study areas is as follows:

	<u>Housing Units</u>	<u>Population</u>
Area 1	117	262
Area 2	104	233
Area 3	158	354
Area 4	92	206
Area 5	<u>540</u>	<u>1,210</u>
TOTALS	1,011	2,265

AREA 1

Area 1 is located in northwest Mishawaka adjacent to the South Bend city limits along Hickory Road and surrounded on the remaining three sides by the Mishawaka city limits along Edison Road, Grape Road and Eisenhower Avenue.

Land use in Area 1 is generally single family residential with scattered retail and service commercial uses along Edison Road and Grape Road north of Catalpa Street. Area 1 is compact, containing only 147.7 acres, and completely surrounded by the South Bend or Mishawaka city limits. The population of Area 1 is estimated to be 262 persons in 117 housing units. Perimeter streets, Hickory Road, Edison Road and Grape Road are considered major thoroughfares, while Catalpa Street is a collector. The area is zoned residential with some business zoning along Edison Road and Grape Road north of Catalpa Street.

The residential development of Area 1 has changed little in the last 25 years while the commercial development is a result of the more recent development of the Grape Road/Main Street area. The improvements of interior residential streets and the installation of sanitary sewers should encourage the infilling of existing residential lots in this area while the continued commercial development along Edison Road and north Grape Road are expected to continue. The large vacant tract south of Eisenhower Avenue is proposed for multi family residential development.

AREA 2

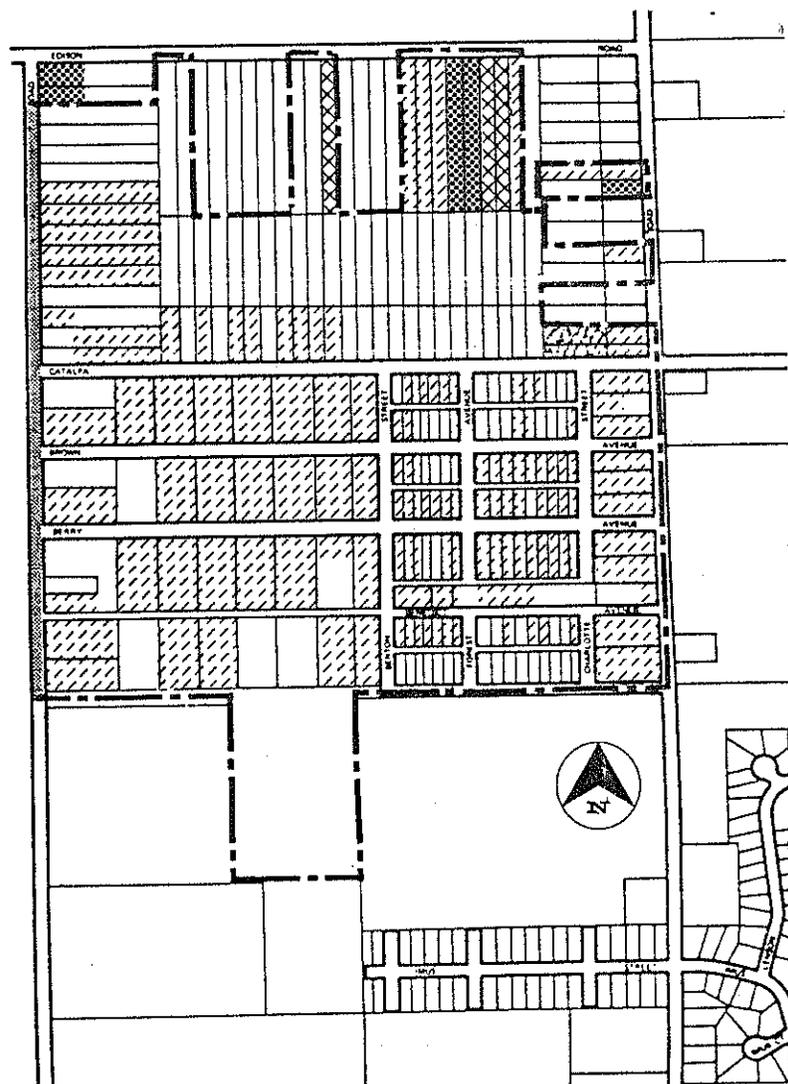
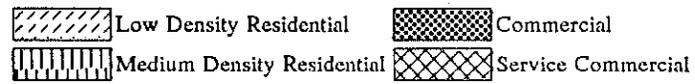
Area 2 is located on the north side of Mishawaka between McKinley Avenue and Day Road and between the Mishawaka Futures Industrial Park and Filbert Road. Ninety-six percent of Area 2's 9.3 mile perimeter is bounded by the existing city limits of Mishawaka.

Area 2 is largely undeveloped with scattered single family residential development along the thoroughfares Filbert, Fir and Day Roads. Uses fronting on McKinley Avenue are generally commercial or light industrial. Area 2 contains 702.7 acres and 104 housing units. Assuming 2.24 persons per housing unit, Area 2 contains 233 persons. The zoning of Area 2 is shown on Figure 4 with most of the area zoned residential, some commercial zoning along McKinley Avenue and smaller manufacturing districts along north Fir Road.

The residential development of Area 2 has been hindered somewhat by the lack of utilities and by the Grand Trunk Railroad which bisects the area from Day Road to McKinley

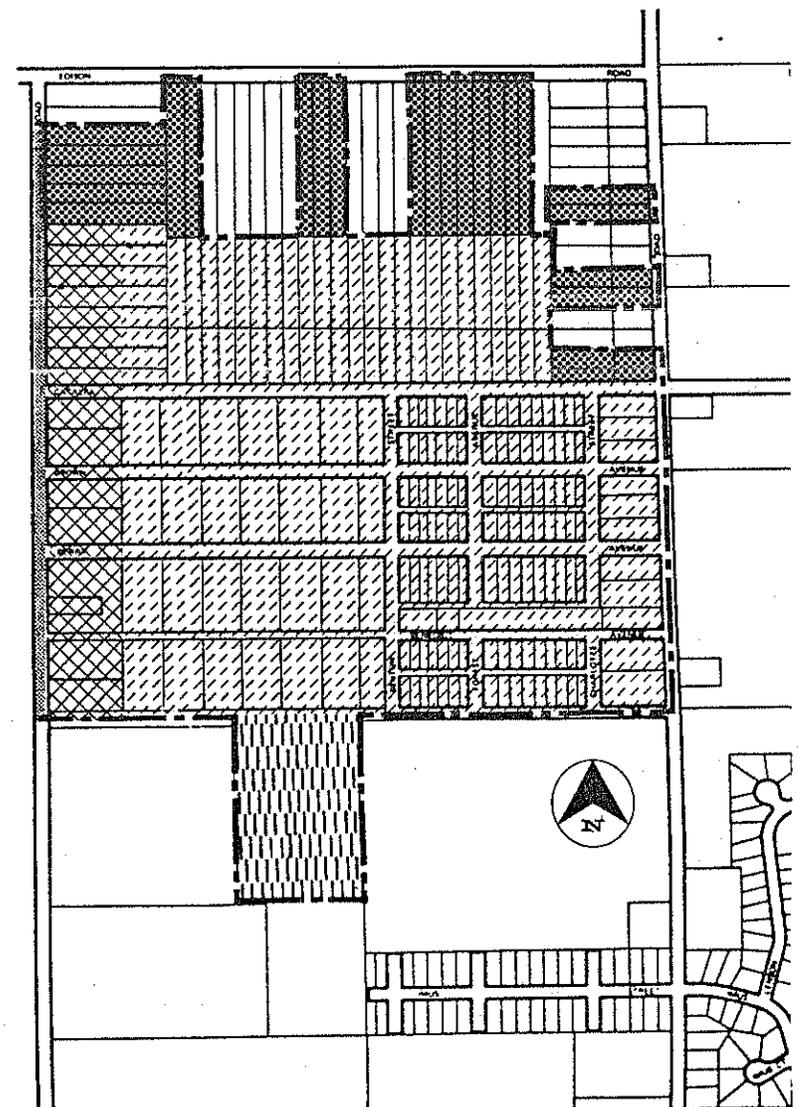
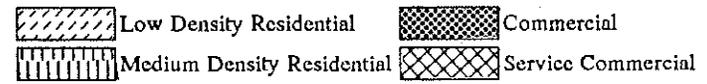
**AREA 1
EXISTING LAND USE**

Figure 13



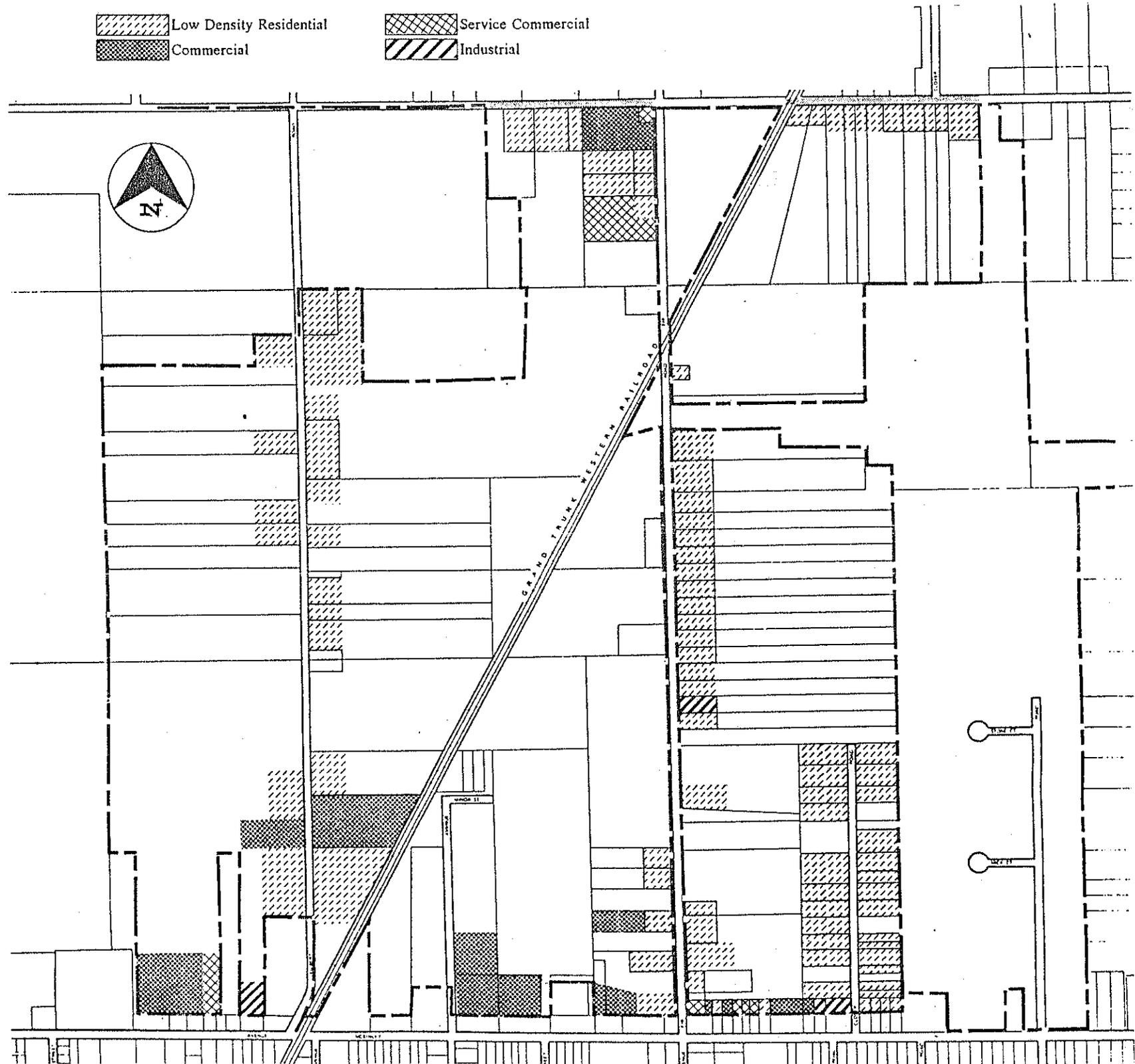
**AREA 1
LAND USE PLAN**

Figure 14



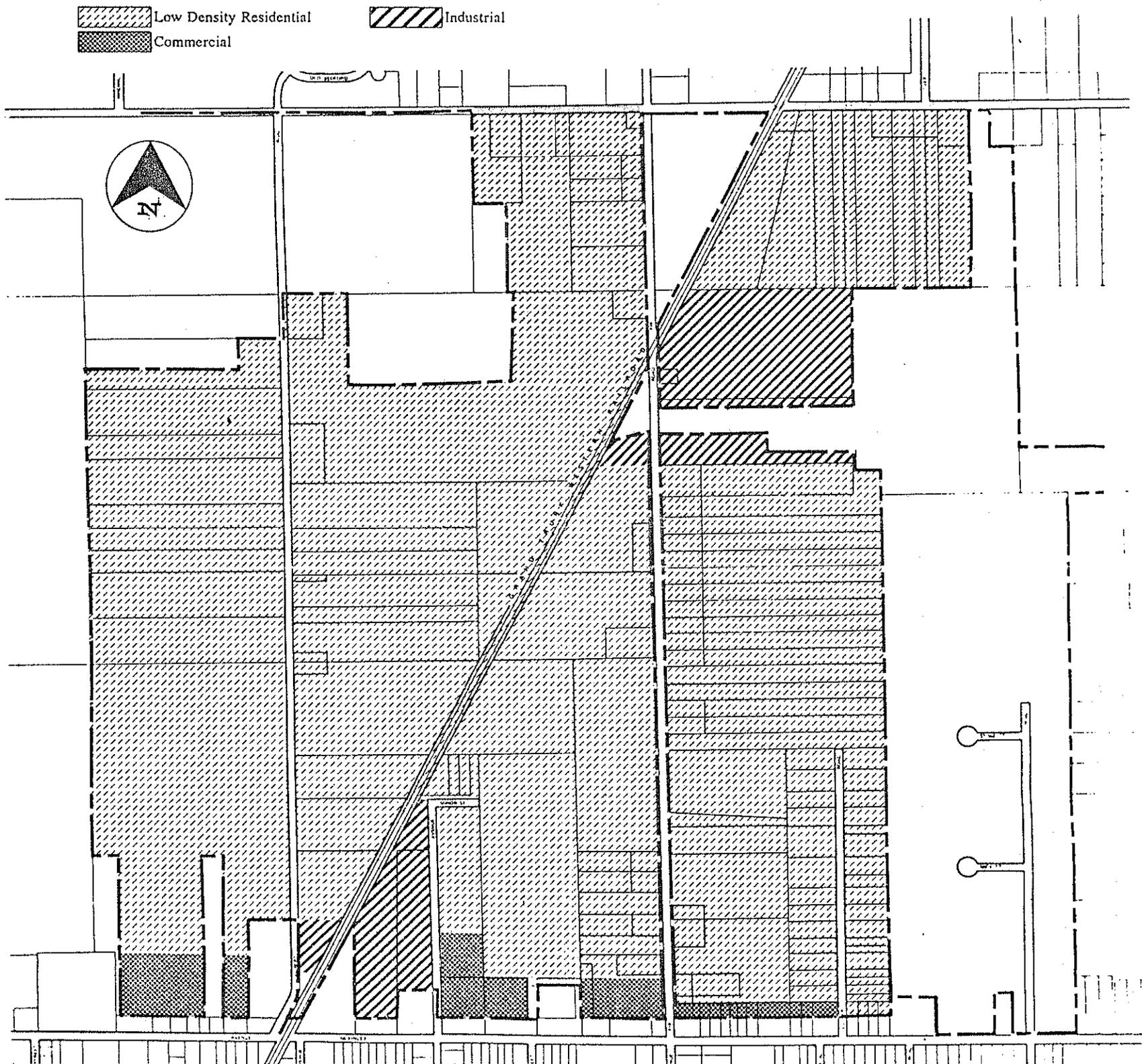
AREA 2
EXISTING LAND USE

Figure 15



AREA 2
LAND USE PLAN

Figure 16



Avenue. Development of the Area is enhanced by the expanding development at Edison Lakes in the northwest portion of the area. The future residential development of the interior of the area is conditioned on the improvement of the north/south thoroughfares, Filbert and Fir Roads, and the installation of water/sewers and fire protection. The land use plan proposes the continuation of commercial uses along McKinley Avenue, some industrial development near the intersection of the Grand Trunk Railroad at McKinley Avenue and at Fir Road. The balance of the area is expected to develop residentially, with large lot single family development.

AREA 3

Area 3 is located adjacent to the northeastern limits of the City of Mishawaka and includes the Twin Branch Energy Industrial Park along the north side of the St. Joseph River and the Capital Avenue Expressway corridor from Lincolnway East to Day Road. Fifty-three percent of the perimeter of Area 3 is contiguous to the Mishawaka city limits. Area 3 is a large area of 962.5 acres with a small population of 354 persons in 158 housing units.

Residential land uses in Area 3 are located along Elder Road and Early Road between McKinley Avenue and Day Road and in the subdivision bounded by Jefferson Road, Elder Road, Esther Avenue and Elm Road. Commercial uses are located along McKinley Avenue east of Elder Road and are backed by light industrial uses along Esther Avenue. The Twin Branch Energy Industrial Park is well developed and at the eastern extremity of the area contains the Richard Bodine State Fish Hatchery and the Margaret Prickett Marina on the north side of the St. Joseph River. The only part of the area served by public water and sewer is the industrial park. Area 3 is generally zoned manufacturing south of Early Road and residential north of Early Road. The small subdivision between Esther Avenue and Jefferson Road is also zoned residential.

In recent years the majority of development within Area 3 has been in the Industrial Park. The park has, in a few short years, transitioned from the now demolished Twin Branch Electric Power Plant to a planned light industrial park and also to the adjacent state fish hatchery.

The proposed land use plan for Area 3 is shown on the following map. The vacant land between Capital Avenue and Elder Road north of the river is proposed for multi family residential development. Because of the adjacent highways, and the attractiveness of river access, this area has a high

potential for development. The development of vacant areas north of McKinley Avenue is dependent on the extension of the Capital Avenue expressway northward to the Indiana Toll Road and State Road 23. Because of the cost of this expressway development is expected to extend over the next 20 years.

AREA 4

Area 4 is located in the eastern portion of the planning area, containing 640.3 acres and 206 persons in 92 housing units. Like Areas 1 and 2, Area 4 is almost completely surrounded by the Mishawaka city limits with 87.9 percent of its 2.6 mile perimeter contiguous with the existing city limits. Area 4 is generally located between Capital Avenue and Elder Street and between the Conrail Railroad and Harrison Road.

Area 4 is sparsely developed with residential uses on large lots. The "Res", a nature preserve and camping facility, is located along Capital Avenue in the Western portion of the area. Poor access within and through Area 4 and the lack of public water and sewer facilities has hindered development of the area.

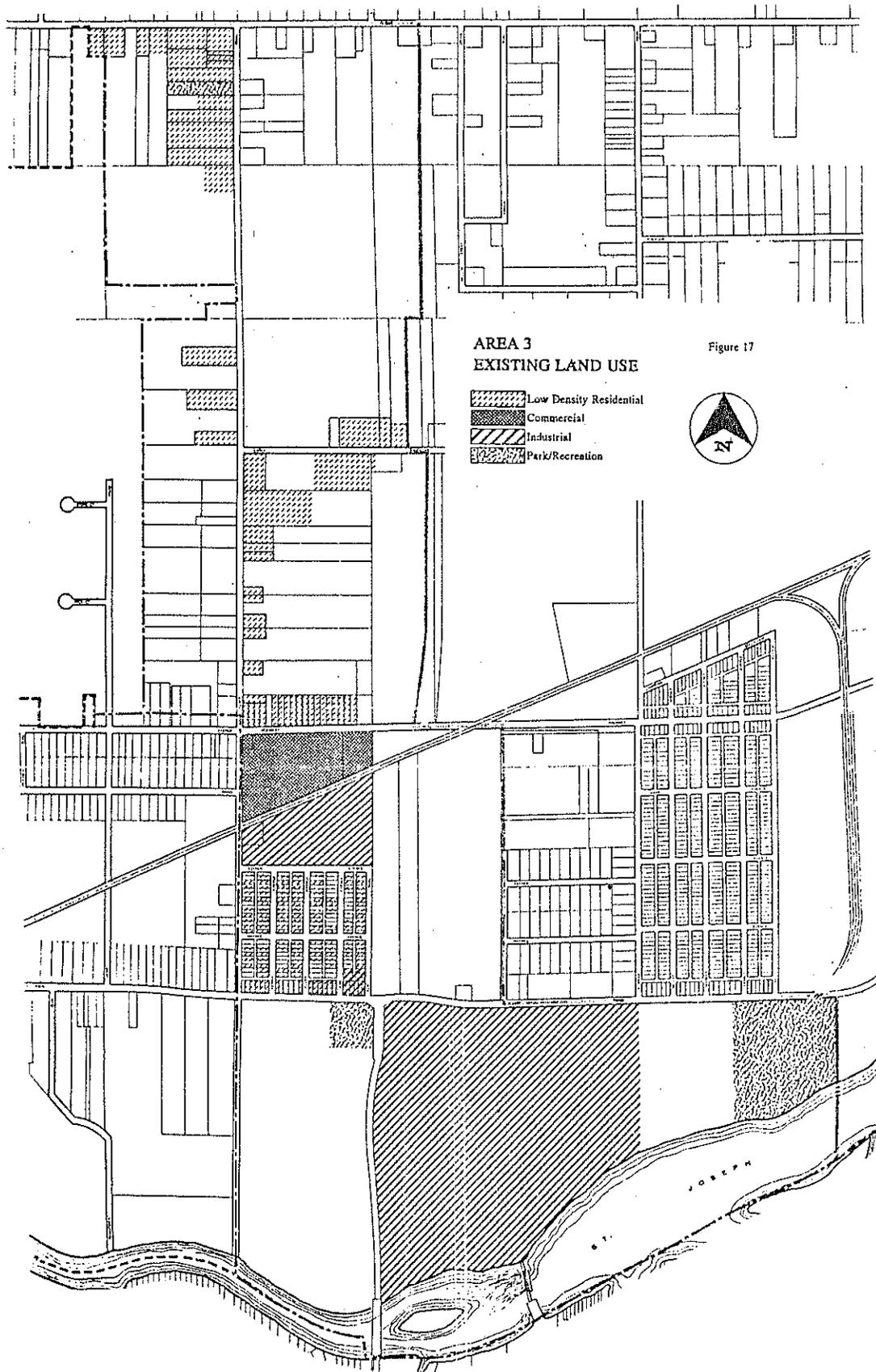
The land use plan for Area 4 is presented on Figure 20. The plan proposes the continued development of the interior with single family development while multiple family developments are proposed along the major thoroughfares on the perimeter.

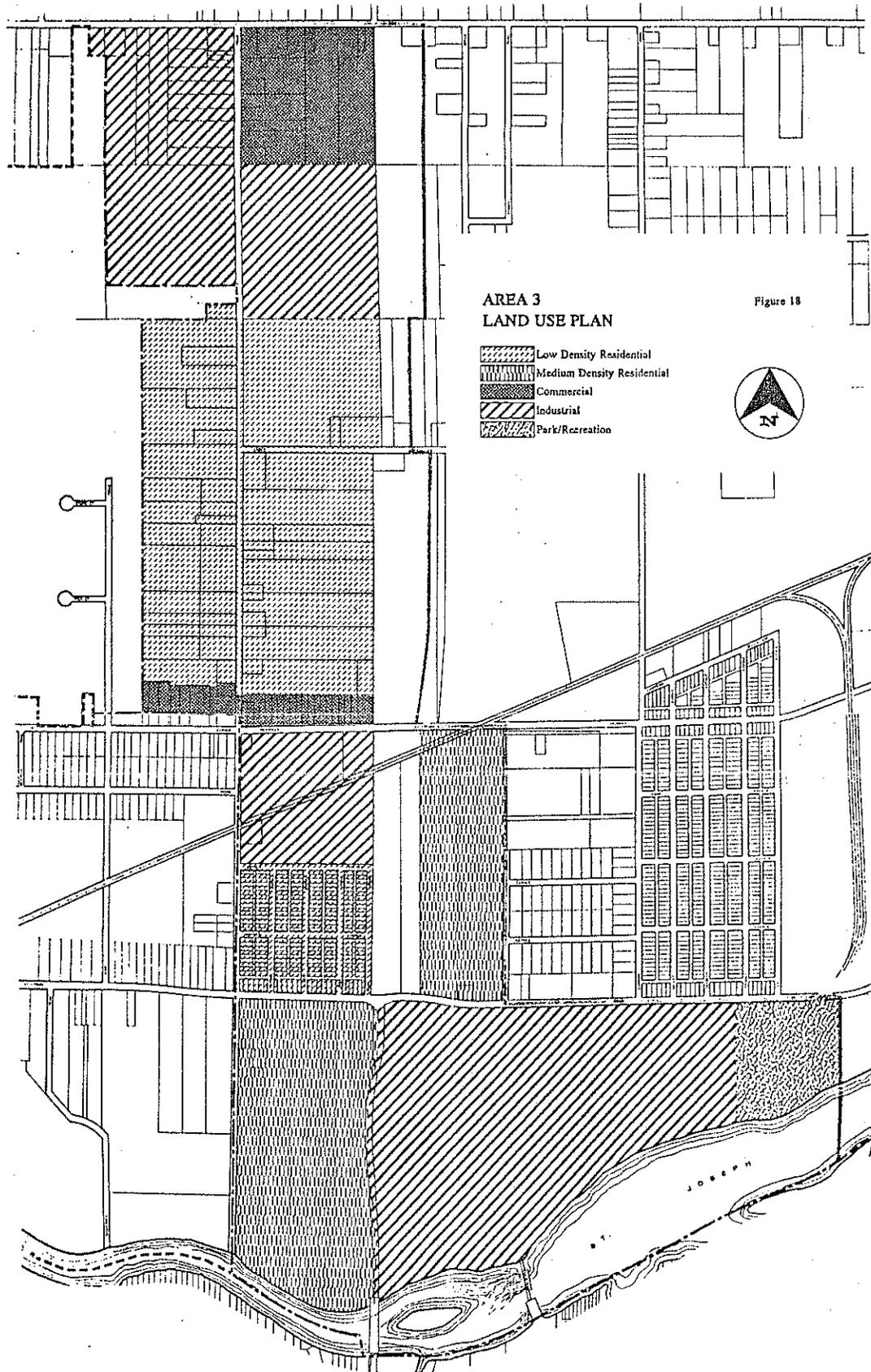
The development potential of Area 4 is dependent on the completion of the Capital Avenue expressway north of Jefferson Road and improvement of access to and utilities within the area.

AREA 5

Area 5 is the largest of the five annexation study areas containing all of the unincorporated area south of the existing city limits to Jackson Road between Ireland Trail and Elm Road. Area 5 contains 1,806 acres, 540 housing units and 1,210 persons. Sixty-six percent of the perimeter of Area 5 is contiguous with the city limits.

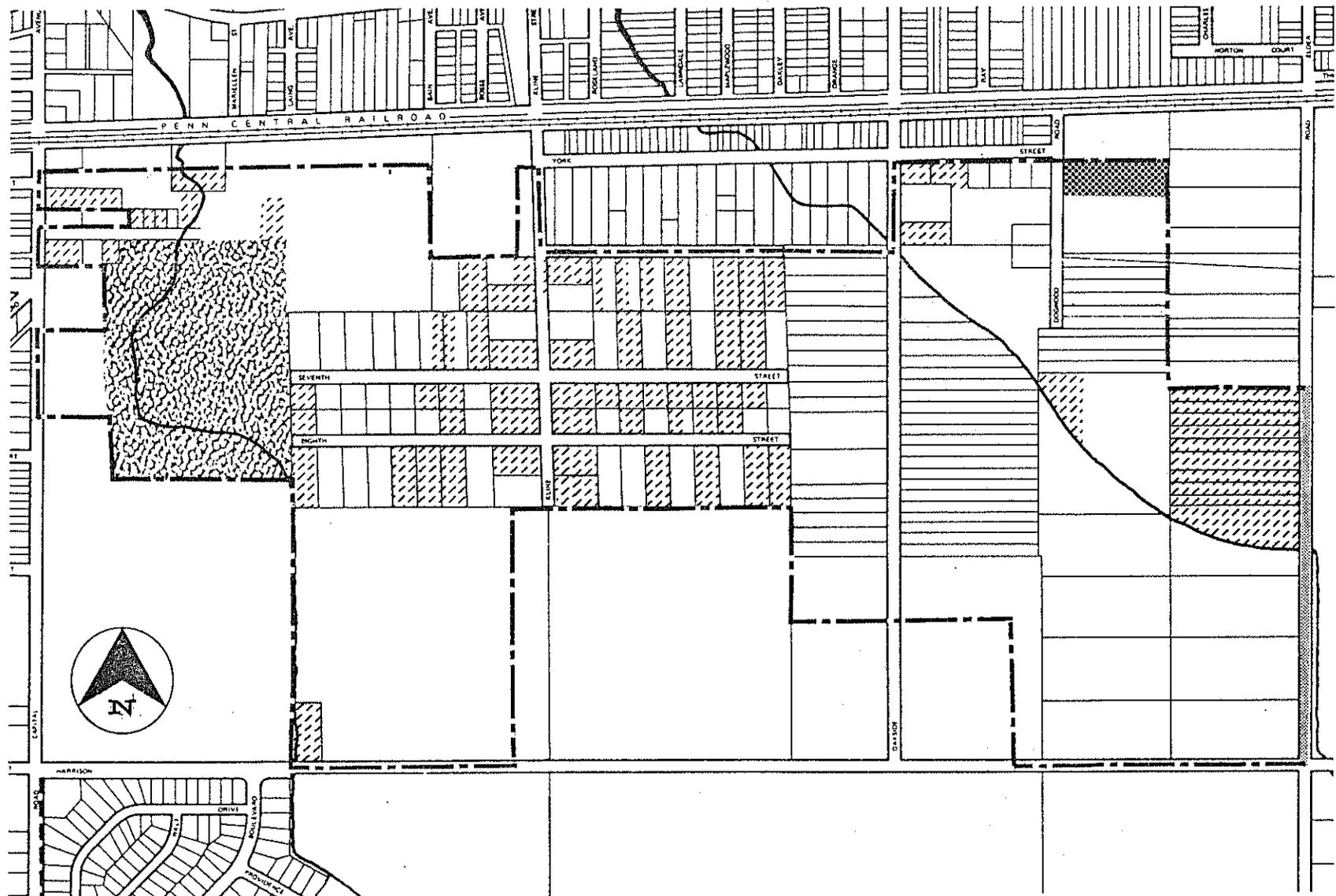
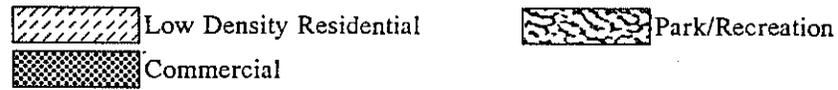
Area 5 contains a variety of development but that development is dominated by single family developments located between Ireland Trail and State Road 331 and between Clover Road and Elm Road. Some commercial and industrial uses are located along Fir Road, Harrison Road,





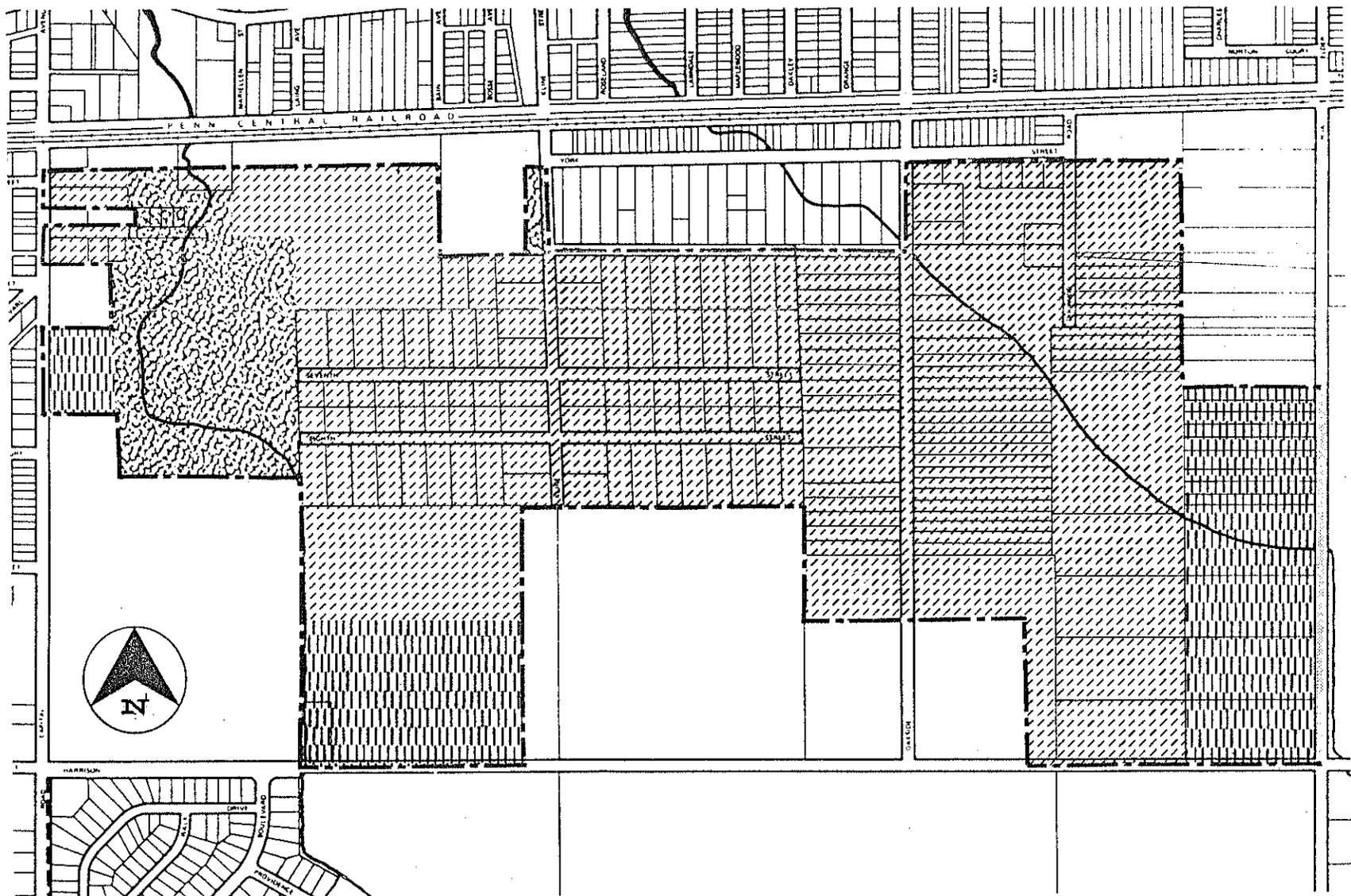
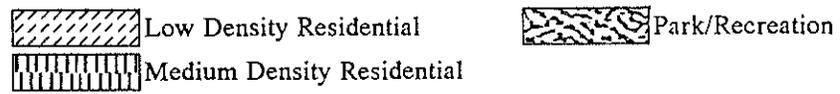
AREA 4
EXISTING LAND USE

Figure 19



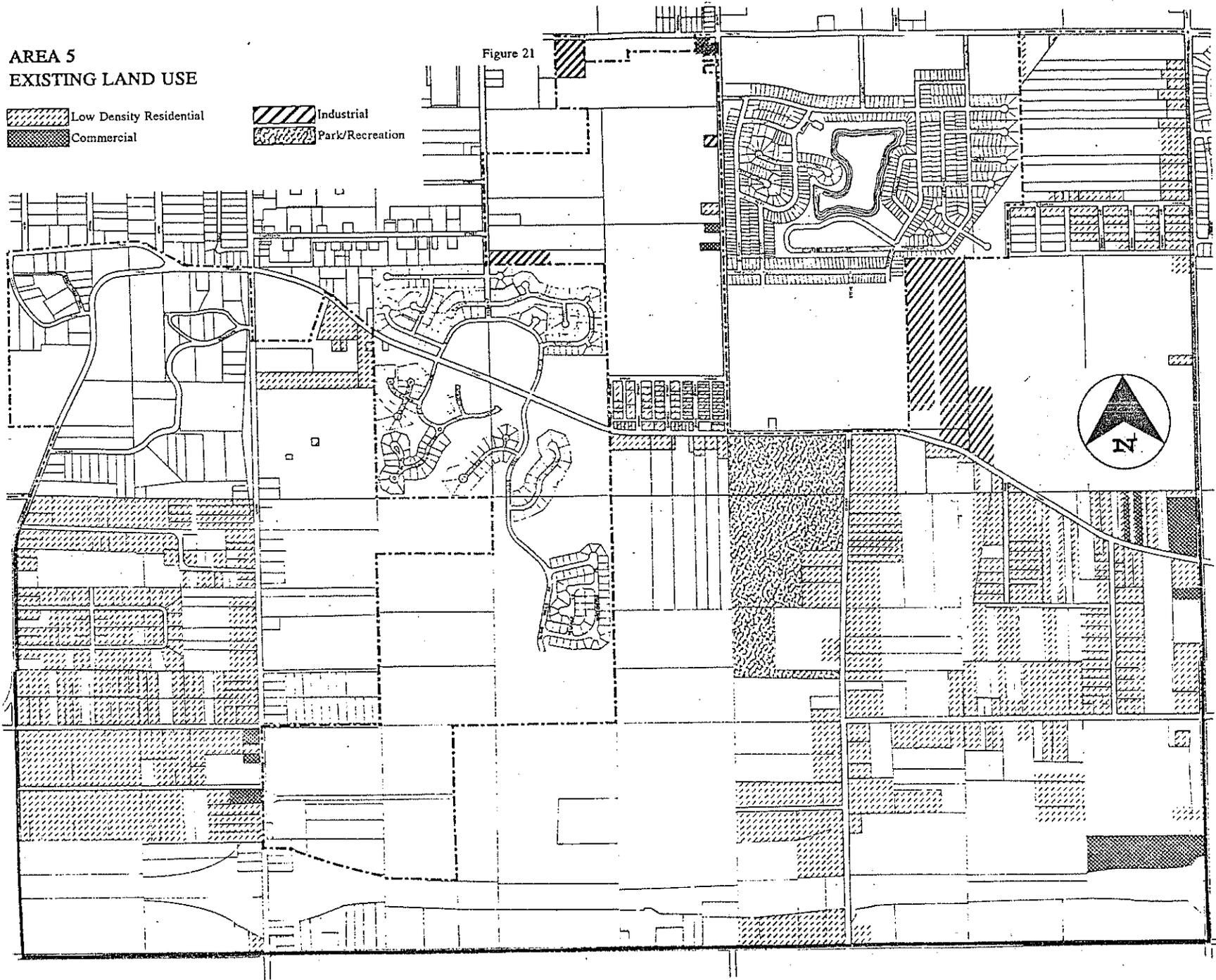
**AREA 4
LAND USE PLAN**

Figure 20



AREA 5
EXISTING LAND USE

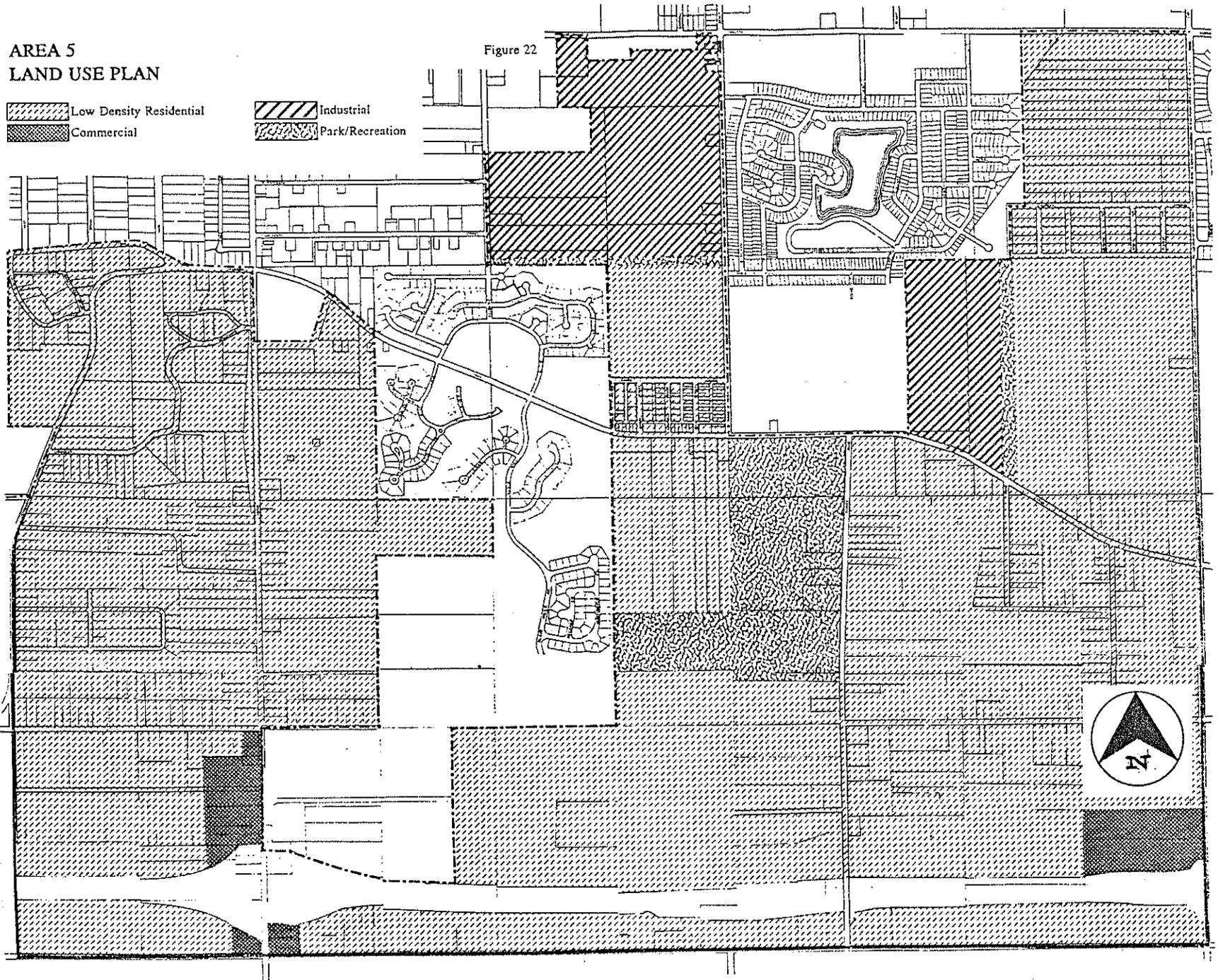
 Low Density Residential	 Industrial
 Commercial	 Park/Recreation



AREA 5
LAND USE PLAN

	Low Density Residential		Industrial
	Commercial		Park/Recreation

Figure 22



Executive Drive and Dragoon Trail. Most of this area is zoned residential, however, the unincorporated area north of Dragoon Trail between Merrifield Avenue and Fir Road and the Executive Drive Industrial Park are zoned manufacturing.

The land use plan for Area 5 proposes the continuation of the existing pattern of development. Industrial development is proposed between Merrifield Avenue and Fir Road south of Harrison Road and in the area of Executive Drive. Commercial developments are proposed in the vicinity of the interchanges of the Bypass and S.R. 331 and the Bypass and Elm Road. Multi-family development is proposed south of the Blair Hills subdivision.

The development potential of Area 5 is largely linked to the Bypass. A large commercial development is proposed at the S.R. 331 interchange. This development will attract additional commercial development and residential developments. Because of the easy access to the west side of South Bend and the Elkhart-Goshen area afforded by the bypass, the interchanges at Elm Road and S.R. 331 are expected to attract additional residential development. Commercial developments, apartments and residential subdivisions will require expensive public water and sewer improvements.

SERVICE INVENTORY

The level and quality of services and facilities which a community provides is closely related to the community's desirability as a location for growth of residential, commercial and industrial development.

If annexation occurs, Mishawaka, by law, must provide non-capital services to the annexed area within one year from the effective date of the annexation. The services must be provided to the area at the same level and to the same extent that they are provided to areas of similar topography, land use and population density within the City. These services include police and fire protection, street and road maintenance, refuse collection, recreation, water and sewer service and ambulance service.

Police Protection

The Police Department currently employs 77 officers and 10 civilians providing clerical work. Officers work three shifts providing 24 hour protection. The department's 1990 operating budget was \$2,558,700. The department also operates 14 uniform vehicles, and 8 detective vehicles.

Upon annexation, police protection and related services must be provided to the annexed area within one year after

the effective date on annexation in a manner equivalent to the service provided to similar areas within Mishawaka's existing corporate boundaries. The need for police protection is a function of population density, land use and street mileage. Based on these factors the following police department staff and equipment:

Area 1 - Service to this area will require 1.3 officers, .2 detectives, .3 desk officers, .1 secretary and .4 beat car.

Area 2 - Service to Area 2 will require 1.2 officers, .1 secretary, .2 detectives, .3 desk officers and .4 beat car.

Area 3 - Services to this area will require 2.2 uniform officers, .2 secretary, .4 detectives, .6 desk officers and .75 beat cars.

Area 4 - Service to this area will require 1.1 uniform officers, .2 detectives, .1 records secretary, .3 desk officer, and .4 beat car.

Area 5 - Service to this area will require an additional 6.2 uniformed officers, 1 detective, 1.5 desk officers, .5 records secretary and 2.1 beat cars.

Fire Protection

The Fire Department is staffed by 91 fire fighters housed in 3 stations including the Union Street Station at Eighth Street, the Main Street Station at McKinley Avenue and the Lincolnway East Station near Capital Avenue. The Douglas Road Station is presently under construction on Douglas Road near Main Street. With the completion of the Douglas Road Station the city will have 4 stations, 97 fire fighters, six pumper engines, one combination pumper/ladder truck, two rescue units and one automobile.

The optimum response time for all calls is 3 minutes. With 3 operating stations the average response time is 3.5 minutes with calls to the University Park area requiring 7 minutes. With the opening of the Douglas Road Station all areas of the City will be within the optimum 3 minute response time.

Upon annexation, fire protection and related services must be provided to the newly annexed area within one year after the effective date of annexation in a manner equivalent to the service provided to similar areas within the City. The following describes the manner and the extent in which the annexation study areas can be provided fire protection.

Area 1 - This area is presently contained within the optimum response time of Station 2 and service to this area by the City would be superior to that presently provided by the township.

Area 2 - This area can be served within the 3 minute response time by stations 2 and 3 with the exception of a

portion of the area east of Fir Road. Adequate service to the Fir Road area will also require the installation a water main and fire hydrants.

Area 3 - Area 3 south of the north side of McKinley Highway can be serviced by Station 4 within the 3 minute response time. Area 3 north of McKinley can be serviced by Stations 2, 3, or 4 but with a 30 second delay in response time, because of distance to the stations. With the future extension of the Capital Avenue expressway north of Jefferson Road, the response time north of McKinley Avenue will be within the optimum response time. The Twin Branch Energy Industrial Park is served by water mains and fire hydrants while the area north of Jefferson Road will need these improvements for adequate protection.

Area 4 - With the exception of the eastern extremity of Area 4 along Elder Road, this area can be adequately served by the Lincolnway East Station in terms of response time. Complete fire protection will require the installation of public water and fire hydrants. Fifty percent of the present calls to Area 4 are already handled by the Mishawaka Fire Department.

Area 5 - Most of Area 5 is more remote from the existing fire stations and cannot be served within the optimum response time. The exceptions are the small area immediately south of Twelfth Street to the southern extremity of Reverewood which can be served by the Lincolnway East Station. The area along both sides of State Road 331 to the Bypass can be served by the Union Street Station. Extensive development of Area 5 will require a future station on the south side along Elm Road or State Road 331 near the Bypass. All of Area 5 will need water mains and fire hydrants for adequate protection, and much of Area 5 will require a new Water Tower because of the topographic elevation.

Street Improvements

The Street Department has a staff of 34 persons including the superintendent, 2 assistants and 2 secretaries. Current equipment includes 9 trucks - 8 single axle and 1 tandem axle. Responsibilities include street repairing and maintenance, snow plowing, salting, and sweeping.

Area 1 - Area 1 contains 2.2 miles of streets. Catalpa Street running east/west through the center of the area is considered a collector street and would therefore be considered a snow route and thus should be improved to a higher standard. Collector streets are typically 38 feet in width with curb and gutter. Local street standards are considered to be 28 feet with curb and gutter. Catalpa Street, approximately one half mile in length, is proposed to be widened to 38 feet with curb, gutter and sidewalk. All

other streets in Area 1 require only resurfacing to be comparable to local streets in similar neighborhoods.

Area 2 - Area 2 will require only the resurfacing of Fir Road to comply with the standards of comparable facilities. This improvement is a distance of approximately 1.2 miles.

Area 3 - Street improvements in the Area 3 include Jefferson Road and Day Road, approximately 2.5 miles, to be improved to collector street standards. All other streets in the Area will be resurfaced.

Area 4 - Area 4 includes 3,168 feet of collector streets (snow routes) and 7,392 feet of local streets. If annexation occurs the snow routes will be widened to 38 feet with curb, gutter and sidewalks. All other streets will be resurfaced.

Area 5 - This area contains 3.5 miles of collector streets and 7.2 miles of local streets. If annexation occurs snow routes would be improved to collector street standards. Other local streets would be resurfaced.

Emergency Medical Service

The Mishawaka Emergency Medical Service (MEMS) presently operates two ambulances with a total staff of 13 persons operating 24 hours daily. Each ambulance is staffed by 2 persons. The fire department usually provides backup to assist in moving and transporting patients. In 1991, the service made 2,581 calls on 2,670 requests. When the city's ambulance calls exceed 3,600 calls yearly a third ambulance will be needed at an annual cost of \$150,000.

In 1991, the MEMS budget was \$434,122 of which \$112,537 was recaptured through billings for service provided outside the city limits. Very little of the billing revenue is received from the five annexation study areas.

The EMS Chief has indicated that service can be provided to the fire annexation study areas without any additions to the staff or equipment. A more detailed description follows:

Area 1 - MEMS already responds to 50 percent of the calls to this area. One Hundred percent coverage would have little affect on the workload of the EMS.

Area 2 - MEMS already responds to 50 percent of the calls to this area and 100 percent coverage would have little affect on the EMS workload.

Area 3 - Few calls are received from this area and 100 percent coverage can be accommodated with current equipment and staff.

Area 4 - MEMS presently covers 50 percent of the calls to Area 4 and 100 percent coverage can be accommodated with current staff and equipment.

Area 5 - Few calls are received to Area 5, however, 100 percent coverage can be accommodated with current staff and equipment.

Street Lighting

Street lights are provided by Mishawaka Utilities and are generally installed at each intersection at the request of the City. Although there is no charge for the installation, the City pays to Mishawaka Utilities \$3.00 per month for each 175 watt light and \$6.00 per month for each 400 watt light. Lights to be installed in the study areas are expected to be 175 watt. The following will be required:

- Area 1 - 30 fixtures
- Area 2 - 6 fixtures
- Area 3 - 24 fixtures
- Area 4 - 37 fixtures
- Area 5 - 30 fixtures

Some portions of the study areas are served by Mishawaka Utilities while others are served by Indiana-Michigan Electric Company. The cost of street lights is the same through either service company.

Street Maintenance

Street maintenance is provided by the Street Department. Street maintenance includes snow plowing, salting, street sweeping, street repair, drainage, leaf pickup and maintenance of traffic and street signs. The Street Department estimates that the cost, including labor, materials and equipment, is \$23,500 per mile. The street mileage by area is as follows:

- Area 1 - 2.2 miles
- Area 2 - 2.05 miles
- Area 3 - 4.75 miles
- Area 4 - 2.0 miles
- Area 5 - 10.65 miles

Storm and Sanitary Sewers

Storm sewers are maintained by the Street Department while sanitary sewers are maintained by the Mishawaka Utilities. The maintenance of storm sewers and drainage is included in the street maintenance costs while the maintenance of sanitary sewers is a function of the monthly sewer charges. The following capital expenditures summary lists the costs of installing storm and sanitary sewers. The City Engineer has estimated the cost of sanitary sewers at \$55.00 per foot and the cost of storm sewers at \$40.00 per foot.

Water and Fire Hydrants

Water service and fire hydrants are provided by Mishawaka Utilities. The water division of Mishawaka Utilities has estimated the needs for water mains and fire hydrants in the five annexation study areas.

Area 1 - Area 1 is presently served by water mains. Minimal improvements are needed including water mains, fire hydrants and tie-ins estimated to cost \$38,000.

Area 2 - Area 2 is presently served by water mains on Filbert Road but is in need of water and fire hydrants on Fir Road and other streets. The cost of these improvements is estimated to be \$613,500.

Area 3 - Mishawaka Utilities presently provides water and fire hydrants into the Twin Branch Energy Industrial Park south of Jefferson Road. The balance of the area north of Jefferson Road will need water mains, fire hydrants and tie-ins at an estimated cost of \$1,556,200.

Area 4 - Providing water service and fire protection to Area 4 will require 17,952 feet of water mains and 34 fire hydrants at a cost of \$879,560.

Area 5 - Water service to Area 5 will require a new elevated tank of 500,000 gallons, booster pumps, water mains and fire hydrants. Mishawaka Utilities has determined that the actual cost of providing water service to Area 5 will require extensive engineering work but may cost approximately \$2,500,000.

Trash Removal/Curbside Recycling

Trash removal, curbside recycling and large item pickup is provided to all noncommercial and non-apartment residential units with the corporation limits. Each unit is charged a user fee of about \$7.50 per month for these services. The City contracts with a privately owned company and pays the company on a monthly basis. User fees collected by the City are used to pay the private company for the service.

Recreation

The Park and Recreation Department provides a full range of recreation facilities and programs to the citizens of Mishawaka. These facilities are well located throughout the City and the planning area. One of the City's largest parks, George Wilson Park, provides recreation facilities and is located in Area 5. A second park the Margaret Prickett Marina on the St. Joseph River is located in annexation study Area 3. The Park Superintendent has determined that each of the five study areas can be served by the existing park department staff and facilities and that no additional staff or facilities will be needed.

FISCAL IMPACT

To determine the fiscal impact of the proposed annexation of the five study areas, the total assessed

valuation of all property in the study areas was calculated. Tax key numbers of all properties in the study areas were determined and provided to the Penn Township Assessor who in turn provided a computer printout of the assessed valuation of each study area.

There are a total of 1,735 parcels in the unincorporated study areas considered in this annexation study. The total net assessed valuation of the real property in these study areas is \$18,701,390 excluding the value of the non-taxable property.

The 1990 assessed valuation of real property within the Civil City of Mishawaka is \$237,152,713. If all the proposed properties in the study areas were annexed the City assessed valuation would be increased by 7.9 percent to \$255,854,103.

The State of Indiana, Board of Tax Commissioners will permit an increase of up to fifteen percent in the City tax levy if the area annexed increases the total assessed valuation by a least fifteen percent. Mishawaka's current tax levy of \$11,139,974 could increase by \$913,732 to \$12,053,706 through the annexation of all five study areas.

Individually, the potential tax revenue from each of the five study areas is as follows:

AREA	LAND VALUE	IMPROVEMENTS VALUE	TOTAL VALUE	TAX RATE	TAX REVENUE
1	360,670	777,870	1,138,540	4.8859	55,628
2	348,000	859,110	1,207,110	4.8859	58,978
3	2,694,530	4,572,740	7,267,270	4.8859	355,072
4	191,360	579,960	771,320	4.8859	37,686
5	1,664,290	6,652,860	8,317,150	4.8859	406,368

The City's current general bonding capacity is 2 percent of the assessed valuation or \$4,743,054. If all study areas were annexed the bonding capacity could be increased by \$374,000.

ADDITIONAL REVENUE SOURCES

MVH ACCOUNT

The motor vehicle highway account is generated by fees collected statewide for motor vehicle registration, license plates, drivers licenses, gasoline tax, title fees and transfer fees. Fifteen percent of the net amount generated is

allocated to cities and towns. The allocation to each community is based on the ratio of the city or town population to the population of all cities and towns in the state. The calculations are made on the basis of 1990 census figures.

These funds may be used for street and alley construction, re-construction, and maintenance. The funds may also be used for traffic safety devices and signalization. Up to ten percent may be used for salaries of police personnel engaged in traffic safety.

LRS ACCOUNT

The local road and street fund is generated from the 7th and 8th cents of the motor fuel and fuel use tax. Forty-five percent is returned locally. In counties with populations greater than 50,000, the sub-allocation to cities is based on a formula weighted 60% on city population in the 1990 census and 40% on the ratio of city street miles to county street miles. Funds must be requested for specific projects.

Funds can be used for engineering, land acquisition and construction of projects on the state's primary and secondary federal-aid highways, with priority on highways with primary designation. Funds may also be used for work on any bridge. Of the total project costs, ten percent must come from local revenue sources. In addition, funds may be used to retire bonds issued to finance eligible projects.

GASOLINE TAX AND SPECIAL FUEL TAX

This fund is generated from taxes on fuel and gasoline sales. Thirty percent of the first 25 million dollars generated annually in each fund is allocated to cities and towns that are eligible to request LRS funds. Funds are distributed based on the LRS formula.

These funds are available for use in the same manner as MVH funds. The figures for Mishawaka's receipt of MVH and LRS funds already include the distribution from this revenue source.

CIGARETTE TAX

These funds are generated by the tax imposed on cigarette sales. Of the local distribution, the allocation is 7/9 to cities and towns on the same formula as MVH, i.e. the ratio of the city's population to the total population of the state's cities and towns.

Of each community's allocation, 3/14 is placed in the general fund and 11/14 in the cumulative capital improvement fund (CCIF).

The amount distributed to the general fund may be used for any general fund activity. The amount distributed to the

CAPITAL EXPENDITURES REQUIRED
THREE YEAR ESTIMATE
AREA 1

	Annual Cost	Capital Cost	Source of Capital Funds
Police Department - Requirements			
Records Secretary \$15,000 x .1085 =	\$ 1,627		
Uniform Officer \$25,000 x 1.3 =	\$33,550	\$ 5,208	
Uniform Equipment \$ 4,000 x 1.3 =			
Detectives \$25,000 x .217 =	\$ 5,425		
Desk Officers \$22,000 x .3255 =	\$ 7,161		
Beat Cars		<u>\$ 8,680</u>	
	\$46,763	\$ 13,888	
+ 1/3 of capital cost	<u>\$ 4,629</u>		
Annual Police Dept. Cost	\$51,392		
Fire Department Requirements - None			
Streets		\$118,800	
Snow Routes - 2,640 LF @ \$45		\$179,520	
Local Streets -8,976 LF @ \$20		\$298,320	
Street Lighting			
Fixtures - 5 poles 30 fixtures	\$1,080		
Street Maintenance			
Snow plowing 2.2 miles @ \$23,500	\$51,700		
Street sweeping			
Street maintenance & drainage			
Leaf pickup			
Traffic & street signs			
Sanitary Sewers 11,616 LF @ \$55		\$638,880	
Storm Sewer 11,616 LF \$40		\$464,640	
Water & Fire Hydrants		\$ 38,000	
Recreation		None	
<u>Summary Area 1</u>			
Police Dept.	\$ 51,392		
Fire Dept.	None		
Street Improvements		\$298,320	TIF
Street Lighting	\$ 1,080		
Street Maintenance	\$51,700		
Sanitary Sewers		\$638,880	TIF
Storm Sewers		\$464,640	TIF
Water & Fire Hydrants		\$ 38,000	
TOTALS	\$104,172	\$1,439,840	
Anticipated Revenue	\$ 83,592		

CAPITAL EXPENDITURES REQUIRED
THREE YEAR ESTIMATE
AREA 2

	Annual Cost	Capital Cost	Source of Capital Funds
Police Department - Requirements			
Records Secretary \$15,000 x .099 =	\$ 1,485		
Uniform Officer \$25,000 x 1.19 =	\$29,750		
Uniform Equipment \$ 4,000 x 1.19 =		\$ 4,760	
Detectives \$25,000 x .20 =	\$ 5,000		
Desk Officers \$22,000 x .3 =	\$ 6,600		
Beat Cars \$20,000 x .4 =		<u>\$ 8,000</u>	
	\$42,835	\$12,760	
+ 1/3 of capital cost	\$ 4,253		
Annual Police Dept. Cost	\$47,088		
Fire Department Requirements - None, except availability of water will affect quality of protection.			
Streets			
Snow Routes 10,824 LF @ \$20		\$216,480	
Local Routes None			
Street Lighting			
6 fixtures @ \$36	\$ 216		
Street Maintenance			
Snow plowing 2.05 @ \$23,500	\$48,175		
Street sweeping			
Street maintenance & drainage			
Leaf pickup			
Traffic & street signs			
Sanitary Sewers 10,824 LF @ \$55		\$595,320	
Storm Sewer 10,824 LF \$40		\$432,960	
Water & Fire Hydrants		\$613,500	
Recreation		None	
<u>Summary Area 2</u>			
Police Dept.	\$ 47,088		
Fire Dept.	None		
Street Improvements		\$216,480	TIF
Street Lighting	\$ 216		
Street Maintenance	\$ 48,175		
Sanitary Sewers		\$595,320	TIF
Storm Sewers		\$432,960	TIF
TOTALS	\$ 95,749	\$1,858,260	
Anticipated Revenue	\$ 83,846		

CAPITAL EXPENDITURES REQUIRED
THREE YEAR ESTIMATE
AREA 3

	Annual Cost	Capital Cost	Source of Capital Funds
Police Department - Requirements			
Records Secretary \$15,000 x .188 =	\$ 2,820		
Uniform Officer \$25,000 x 2.26 =	\$56,500		
Uniform Equipment \$ 4,000 x .38 =		\$ 9,040	
Detectives \$25,000 x 2.26 =	\$ 9,500		
Desk Officers \$22,000 x .56 =	\$12,320		
Beat Cars \$20,000 x .75 =		\$15,000	
	\$81,140	\$24,040	
+ 1/3 of capital cost	\$ 8,013		
Annual Police Dept. Cost	\$89,153		
Fire Department Requirements - None, except response time north of McKinley Hwy will be above optimum.			
Streets			
Snow Routes 12,936 LF @ \$45		\$582,120	
Local Routes 12,144 LF @ \$20		\$242,880	
TOTAL		\$825,000	
Street Lighting			
24 fixtures @ \$36	\$ 864		
Street Maintenance			
Snow plowing 4.75 @ \$23,500	\$111,265		
Street sweeping			
Street maintenance & drainage			
Leaf pickup			
Traffic & street signs			
Sanitary Sewers 25,080 LF @ \$55			
		\$1,379,400	
Storm Sewer 25,080 LF \$40			
		\$1,003,200	
Water & Fire Hydrants			
		\$1,556,200	
Recreation			
		None	
<u>Summary Area 3</u>			
Police Dept.	\$ 89,153		
Fire Dept.	None		
Street Improvements		\$ 825,000	G.O.Bonds
Street Lighting	\$ 864	\$1,379,400	G.O.Bonds
Street Maintenance	\$111,625		
Sanitary Sewers		\$1,003,200	G.O.Bonds
Storm Sewers		\$1,556,200	Rev.Bonds
TOTALS	\$201,642	\$4,763,800	
Anticipated Revenue	\$392,854		

CAPITAL EXPENDITURES REQUIRED
THREE YEAR ESTIMATE
AREA 4

	Annual Cost	Capital Cost	Source of Capital Funds
Police Department - Requirements			
Records Secretary \$15,000 x .0915 =	\$ 1,372		
Uniform Officer \$25,000 x 1.1 =	\$27,450		
Uniform Equipment \$ 4,000 x 1.1 =		\$ 4,400	
Detectives \$25,000 x .183 =	\$ 4,575		
Desk Officers \$22,000 x .275 =	\$ 6,039		
Beat Cars \$20,000 x .366 =		\$ 7,320	
	\$39,436	\$11,720	
+ 1/3 of capital cost	\$ 3,907		
Annual Police Dept. Cost	\$43,343		
Fire Department Requirements - Response time is adequate, water is needed to provide adequate protection.			
Streets			
Snow Routes 3,168 LF @ \$45		\$142,560	
Local Routes 7,392 LF @ \$20		\$147,840	
TOTAL		\$290,400	
Street Lighting			
37 fixtures @ \$36	\$ 1,332		
Street Maintenance			
Snow plowing 2.0 @ \$23,500	\$47,000		
Street sweeping			
Street maintenance & drainage			
Leaf pickup			
Traffic & street signs			
Sanitary Sewers 10,560 LF @ \$55			
		\$580,800	
Storm Sewer 10,560 LF \$40			
		\$422,400	
Water & Fire Hydrants			
		\$879,560	
Recreation			
		None	
<u>Summary Area 4</u>			
Police Dept.	\$43,343		
Fire Dept.	None		
Street Improvements		\$290,400	G.O.Bonds
Street Lighting	\$ 1,332		
Street Maintenance	\$47,000		
Sanitary Sewers		\$580,800	G.O.Bonds
Storm Sewers		\$422,400	G.O.Bonds
Water & Fire Hydrants		\$879,560	Rev.Bonds
TOTALS	\$91,675	\$3,052,720	
Anticipated Revenue	\$59,673		

CAPITAL EXPENDITURES REQUIRED
THREE YEAR ESTIMATE
AREA 5

	Annual Cost	Capital Cost	Source of Capital Funds
Police Department - Requirements			
Records Secretary \$15,000 x .513 =	\$ 7,695		
Uniform Officer \$25,000 x 6.16 =	\$153,900		
Uniform Equipment \$ 4,000 x 6.16 =		\$ 24,640	
Detectives \$25,000 x 1.026 =	\$25,650		
Desk Officers \$22,000 x 1.539 =	\$33,858		
Beat Cars \$20,000 x 2.052 =		<u>\$ 41,040</u>	
	\$221,103	\$ 65,680	
+ 1/3 of capital cost	<u>\$ 21,893</u>		
Annual Police Dept. Cost	\$242,996		
Fire Department Requirements - None.			
Streets			
Snow Routes 18,216 LF @ \$45		\$819,720	
Local Routes 38,016 LF @ \$20		<u>\$760,320</u>	
TOTAL		\$1,580,040	
Street Lighting			
30 fixtures @ \$36	\$ 1,080		
Street Maintenance			
Snow plowing 10.65 @ \$23,500	\$250,275		
Street sweeping			
Street maintenance & drainage			
Leaf pickup			
Traffic & street signs			
Sanitary Sewers 56,232 LF @ \$55		\$3,092,760	
Storm Sewer 56,232 LF \$40		\$2,249,280	
Water & Fire Hydrants		\$2,500,000	
Recreation		None	
<u>Summary Area 5</u>			
Police Dept.	\$242,996		
Fire Dept.	None		
Street Improvements		\$1,580,040	G.O.Bonds
Street Lighting	\$ 1,080		
Street Maintenance	\$250,275		
Sanitary Sewers		\$3,092,760	G.O.Bonds
Storm Sewers		\$2,249,280	G.O.Bonds
		<u>\$2,500,000</u>	Rev.Bonds
TOTALS	\$494,351	\$9,422,080	
Anticipated Revenue	\$535,511		

CCIF, however, can be used only for CCIF activities. These uses include the purchase of land, easements, right-of-way or buildings, the construction or improvement of city owned property or the retiring of general obligation bonds issued for the above purposes.

MOTOR VEHICLE EXCISE TAX

The motor vehicle excise tax is collected as an annual license tax in lieu of an ad valorem property tax levy on motor vehicles. The county auditor determines the total amount collected by each taxing unit. These funds are then distributed to municipalities in the same manner as property taxes.

ALCOHOLIC BEVERAGE COMMISSION TAXES

Local municipalities in Indiana receive revenue from both the Alcoholic Beverage Commission (ABC) "Gallonage" tax and "Excise" tax.

Mishawaka also receives "Excise" tax revenues. This revenue represents a return to the local community of approximately two-thirds of the annual license fees paid by local alcoholic beverage sellers.

MISCELLANEOUS REVENUES

Other revenues expected to increase due to the addition of the proposed annexation area include, but are not necessarily limited to:

- Automobile Excise Tax
- Court Docket Fees
- Building and other permit fees

The tables on the following pages present the estimated revenue by source which are expected as a result of the annexation of each of the five study areas. The revenue, other than property tax revenue, is calculated on a per capita basis comparing 1990 revenue with 1990 population. The per capita figure is then increased by the estimated population of each study area.

RECOMMENDATIONS

The following provides a description of the annexation recommendations for each of the five study areas:

Area 1

Area 1 is contiguous with the City of Mishawaka on the north, east and south and contiguous with the South Bend

city limits on the west. This area is recommended for annexation. Both the City and the proposed annexation area have much to gain from the inclusion of this area in the Mishawaka corporate boundaries. The City would benefit from the increased tax base, increased bonding capacity and the ability to control development in this area which is part of the Grape Road corridor. Because of the location of this area many of Mishawaka's services and service providers pass through or adjacent to this area in servicing existing areas of the City.

The residents and property owners in Area 1 would benefit from improved fire and police protection, improved facilities and utilities including streets, and storm and sanitary sewers and street lighting. The capital improvements estimated at \$1.4 million can be provided by the tax increment financing provided by the Grape Road/University Park development.

Day to day services are estimated to cost \$104,172 annually compared to annual revenues of \$83,592. As the area continues to develop the annual revenues are expected to match annual costs.

Area 2

Ninety six percent of Area 2's perimeter is contiguous with the existing city limits of Mishawaka. Area 2 is recommended for annexation because of its location and contiguity with the City's present boundaries. The annexation of this area would not only increase the City's tax base and bonding capacity but would provide more efficient service to both the existing corporate area as well as the proposed annexation area.

The study proposes \$1.8 million in capital improvements in Area 2 including street improvements, storm and sanitary sewers, water mains and fire hydrants. These improvements can be financed through tax increment financing by expanding the project area for the University Park/Grape Road Tax Increment Finance Area. On an annual basis expected expenses will slightly exceed revenues \$95,479 to \$83,846.

Area 3

Area 3 which includes the Twin Branch Energy Industrial Park and the Capital Avenue corridor north of the St. Joseph River is also proposed for annexation. In addition to the benefits of increased tax base and improved service the annexation of this area is important to control and guide future development adjacent to the future Capital Avenue.

Capital improvements in this area are estimated to be \$4.7 million and could be provided through bond financing.

Annually, the projected revenue will exceed expenditures by approximately \$190,000. This amount used for debt service on bond financing could generate approximately \$2.2 million.

Area 4

Financially, the annexation of Area 4 is not feasible. Also, the bulk of Area 4 is not critically needed for future development. The study has divided the Area into subareas, three of which are located along the perimeter of the study area. These areas will be important to the future development of the City as the Capital Avenue Corridor continues to develop.

The following table presents the expected revenue by source for the subareas of Area 4.

Revenue by Source by Area Area 4	Mishawaka Annexation Study		
	Area 4A	Area 4B	Area 4C
Revenue			
Property Tax	\$5,839	\$415	\$3,549
Licenses & Permits	58	7	80
Intergovernmental	830	104	1,141
Charges for Service	186	23	256
Fines & Forfeitures	18	2	24
Interest	195	24	268
Miscellaneous	421	53	579
TOTALS	\$7,547	\$628	\$5,897

Sub-priority Area 4A

Contiguity	78%
Land Area	53.34 acres
Population	16
Housing Units	7

Generally the subarea is residential in nature, but also includes "The Res". One private street exists--Scout Lane. By annexing this subarea the city will be able to add 450 feet of street mileage (Capital Avenue) to its total mileage for State LRS funding. The city currently maintains this section without any LRS reimbursement. The following table summarizes the costs and benefits of annexing this area:

Sub priority Area 4B

Contiguity	76%
Land Area	33.01 acres
Population	2
Housing Units	1

CAPITAL EXPENDITURES REQUIRED
THREE YEAR ESTIMATE
AREA 4A

	Annual Cost	Capital Cost	Source of Capital Funds
Police Department - Requirements			
Records Secretary \$15,000 x .0071 =	\$ 107		
Uniform Officer \$25,000 x .0854 =	\$ 2,135		
Uniform Equipment \$4,000 x .0854 =		\$ 342	
Detectives \$25,000 x .0142 =	\$ 355		
Desk Officers \$22,000 x .0214 =	\$ 471		
Beat Cars \$20,000 x .0284 =		\$ 568	
	3,068	910	
+ 1/3 of capital cost	+ 303		
Annual Police Dept. Cost	\$ 3,371		
Fire Department Requirements - Response time is adequate, Water is needed to provide adequate protection.			
Streets			
Snow Routes - 0 LF @ \$45		\$ 0	
Local Streets - 0 LF @ \$20		\$ 0	
Street Lighting			
Fixtures - 5 poles 30 fixtures	\$1,080		
Street Maintenance 0 miles @ \$23,500			
Snow plowing	\$ 0		
Street sweeping			
Street maintenance & drainage			
Leaf pickup			
Traffic & street signs			
Sanitary Sewers 0 LF @ \$55		\$ 0	
Storm Sewer 0 LF \$40		\$ 0	
Water & Fire Hydrants		\$ 5,374	
Recreation		None	
<u>Summary Area 4A</u>			
Police Dept.	\$ 3,371		
Fire Dept.	None		
Street Improvements			
Street Lighting	\$ 0		
Street Maintenance	\$ 0		
Sanitary Sewers			
Storm Sewers			
Water & Fire Hydrants		\$ 5,374	Current
TOTALS	\$ 3,371	\$ 5,374	
Anticipated Revenue	\$ 7,547		

CAPITAL EXPENDITURES REQUIRED
THREE YEAR ESTIMATE
AREA 4B

	Annual Cost	Capital Cost	Source of Capital Funds
Police Department - Requirements			
Records Secretary \$15,000 x .0009 =	\$ 13		
Uniform Officer \$25,000 x .0107 =	\$ 267		
Uniform Equipment \$4,000 x .0107 =		\$ 43	
Detectives \$25,000 x .0018 =	\$ 45		
Desk Officers \$22,000 x .0027 =	\$ 59		
Beat Cars \$20,000 x .0035 =		\$ 70	
		\$ 103	
+ 1/3 of capital cost	38		
Annual Police Dept. Cost	\$ 422		
Fire Department Requirements - Response time is adequate, water is needed to provide adequate protection.			
Streets			
Snow Routes 0 LF @ \$45			
Local Routes None			
Street Lighting			
0 fixtures @ \$36			
Street Maintenance 0 @ \$23,500			
Snow plowing			
Street sweeping			
Street maintenance & drainage			
Leaf pickup			
Traffic & street signs			
Sanitary Sewers 1,100 LF @ \$55		\$ 60,500	
Storm Sewer 1,100 LF \$40		\$ 40,000	
Water & Fire Hydrants			
Recreation		None	
<u>Summary Area 4B</u>			
Police Dept.	\$ 422		
Fire Dept.	None		
Street Improvements			
Street Lighting			
Street Maintenance			
Sanitary Sewers		60,500	Sewer
Storm Sewers		40,000	Cumula- tive Improve- ment fund
TOTALS	\$ 422	\$ 100,603	
Anticipated Revenue	\$ 628		

This subarea is vacant and undeveloped, consisting generally of agricultural land. Annexing this subarea will allow the city to add 1200 feet of street mileage (Harrison Road) to its total mileage for State LRS funding. The city currently maintains this section without any LRS reimbursement. The following summarizes the costs and benefits of annexing subarea 4B.

Sub-priority Area 4C

Contiguity	41%
Land Area	62.43 acres
Population	22
Housing Units	10

This subarea is vacant and undeveloped, consisting generally of agricultural land. Annexing this subarea will allow the city to add 1500 feet of street mileage (Harrison Road) to its total mileage for State LRS funding. The city currently maintains this section without any LRS reimbursement. The following summarizes the costs and benefits of annexing this area:

AREA 5 SUB-PRIORITY AREAS

Because of financial limitations and the need for large capital expenditures in Area 5, the study area has been reexamined.

Three subpriority areas have been identified for annexation. Each of the three subpriority areas are delineated on the map. The expected revenue from annexing these subareas are detailed on the following table:

Revenue by Source by Area Mishawaka Annexation
Study
Area 5

<u>Revenue</u>	<u>Area 5A</u>	<u>Area 5B</u>	<u>Area 5C</u>
Property Tax	\$45,328	\$149	\$37,626
Licenses & Permits	380	0	362
Intergovernmental	5,447	0	5,188
Charges for Service	1,222	0	1,164
Fines & Forfeitures	116	0	110
Interest	1,278	0	1,217
Miscellaneous	2,767	0	2,632
TOTALS	\$56,538	\$149	\$48,299

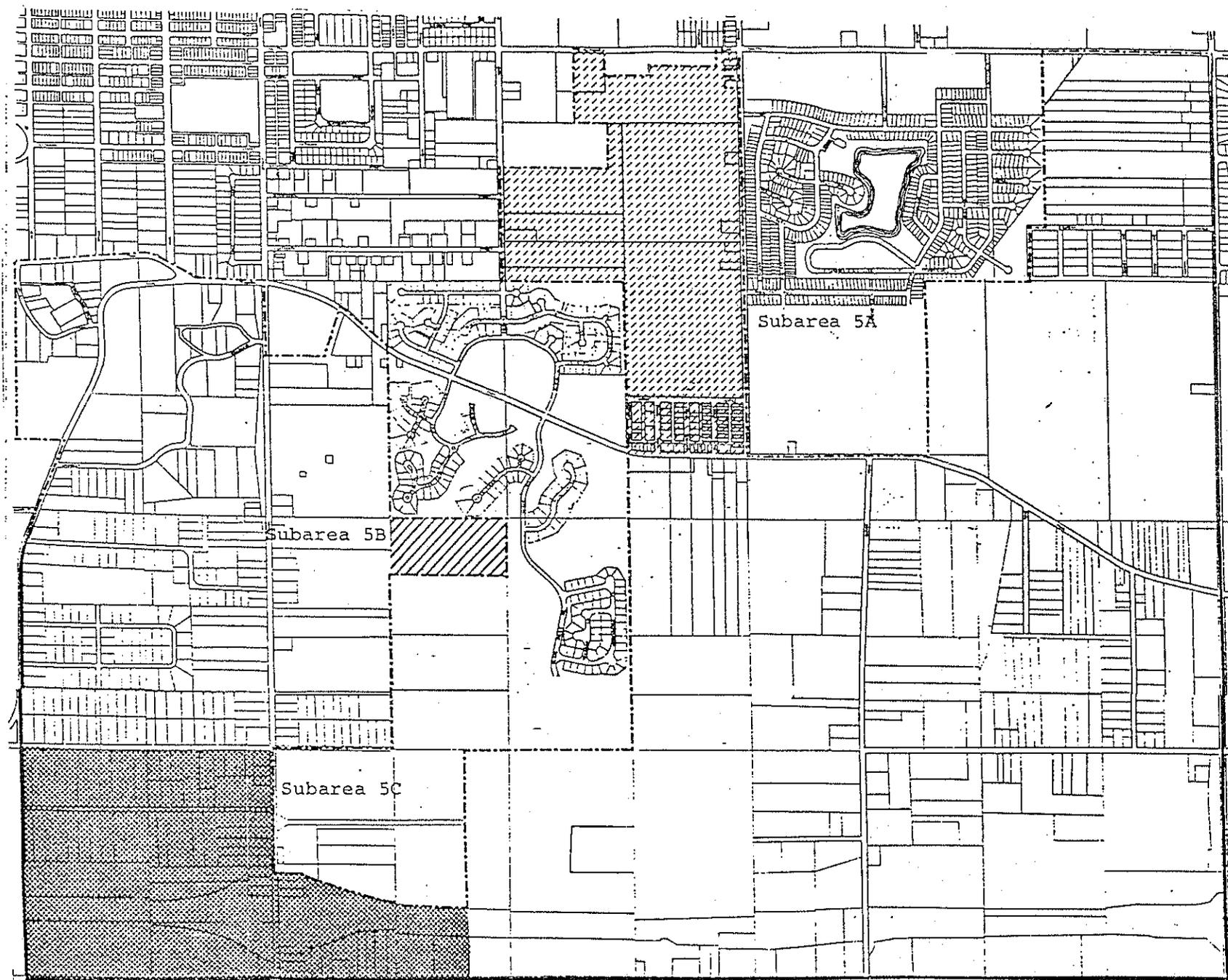
CAPITAL EXPENDITURES REQUIRED
THREE YEAR ESTIMATE
AREA 4C

	<u>Annual Cost</u>	<u>Capital Cost</u>	<u>Source of Capital Funds</u>
Police Department - Requirements			
Records Secretary \$15,000 x .0098 =	\$ 147		
Uniform Officer \$25,000 x .1175 =	\$ 2,938		
Uniform Equipment \$ 4,000 x .1175 =		\$ 470	
Detectives \$25,000 x .0195 =	\$ 488		
Desk Officers \$22,000 x .0294 =	\$ 647		
Beat Cars \$20,000 x .0391 =		\$ 782	
	4,220	\$ 1,252	
+ 1/3 of capital cost	417		
Annual Police Dept. Cost	\$ 4,637		
Fire Department Requirements - Response time is adequate, water is needed to provide adequate protection.			
Streets			
Snow Routes 1,800 LF @ \$45		\$ 81,000	
Local Routes None			
Street Lighting			
0 fixtures @ \$36			
Street Maintenance .85 mile @ \$23,500	\$ 2,003		
Snow plowing			
Street sweeping			
Street maintenance & drainage			
Leaf pickup			
Traffic & street signs			
Sanitary Sewers 4,600 LF @ \$55		\$268,000*	
Storm Sewer 3,000 LF \$40		\$120,000	
Water & Fire Hydrants		\$274,862	
Recreation		None	
<u>Summary Area 4C</u>			
Police Dept.	\$ 4,637		
Fire Dept.	None		
Street Improvements		\$ 81,000	G O Bonds
Street Lighting			
Street Maintenance	\$ 2,003		
Sanitary Sewers		268,000	G O Bonds
Storm Sewers		120,000	G O Bonds
		274,862	G O Bonds
TOTALS	\$ 6,640	\$ 743,862	
Anticipated Revenue	\$ 5,897		

* Includes \$15,000 railroad track crossing

AREA 5 SUBAREAS

FIGURE 24



CAPITAL EXPENDITURES REQUIRED
THREE YEAR ESTIMATE
AREA 5A

	Annual Cost	Capital Cost	Source of Capital Funds
Police Department - Requirements			
Records Secretary \$15,000 x .0445 =	\$ 668		
Uniform Officer \$25,000 x .5347 =	\$13,368		
Uniform Equipment \$4,000 x .5347 =		\$ 2,139	
Detectives \$25,000 x .0891 =	\$ 2,228		
Desk Officers \$22,000 x .1336 =	\$ 2,939		
Beat Cars \$20,000 x .1781 =		<u>\$ 3,562</u>	
	\$19,203	\$ 5,701	
+ 1/3 of capital cost	1,900		
Annual Police Dept. Cost	\$21,103		
Fire Department Requirements - Response time is adequate, water is needed to provide adequate protection.			
Streets			
Snow Routes 2,400 LF @ \$45		\$108,000	
Local Routes 2,150 LF @ \$20		\$ 43,000	
Street Lighting			
8 fixtures @ \$36	\$ 288		
Street Maintenance .125 miles @ \$23,500			
Snow plowing			
Street sweeping			
Street maintenance & drainage			
Leaf pickup			
Traffic & street signs			
Sanitary Sewers 10,575 LF @ \$55		\$581,163	
Storm Sewer 10,575 LF \$40		\$423,000	
Water & Fire Hydrants		\$145,000	
Recreation		None	
Summary Area 5A			
Police Dept.	\$ 21,103		
Fire Dept.	None		
Street Improvements		\$151,000	G O Bonds
Street Lighting	\$ 288		
Street Maintenance	\$ 2,938		
Sanitary Sewers		581,163	G O Bonds
Storm Sewers		423,000	G O Bonds
		145,000	REV Bond
TOTALS	\$ 24,329	\$1,300,163	
Anticipated Revenue	\$ 56,538		

Sub-priority Area 5A

Contiguity	91%
Land Area	171 acres
Population	105
Housing Units	47

This subarea is generally vacant agricultural land with some industrial presence and a small residential subdivision to the extreme south at Dragoon Trail. By annexing this area 10,575 feet of street mileage will be added to the total city mileage, thus increasing the city's share of State LRS funds. Currently, the city already maintains these streets (except the residential subdivision) without any LRS reimbursement. Merrifield Avenue, Byrkit Avenue, and a piece of Twelfth Street are the streets which will be assumed by the city. Annexation will secure this large tract by eliminating the possibility of any conflicting land use policies between the City of Mishawaka and the County of St. Joseph; therefore, compatibility of this area and surrounding city neighborhoods will be insured. The following table presents the costs and benefits of annexing Area 5A.

Sub-priority Area 5B

Contiguity	83%
Land Area	19.40 acres
Population	0
Housing Units	0

This area is undeveloped agricultural land. Annexation will help to straighten the corporation limits by eliminating this indentation. Since there are no streets and no development in this subarea the only financial consideration in annexing this area will be a small gain in tax base and tax levy.

Sub-priority Area 5C

Contiguity	25%
Land Area	215 acres
Population	100
Housing Units	45

Because of the strategic location of the Bremen Highway (SR 311) interchange with the Bypass, it is desirable to seek annexation of the three remaining quadrants surrounding the interchange ramps. Several compelling reasons can be identified including;

- 1) This interchange is one of only two which directly serve the city, and therefore, the type of

CAPITAL EXPENDITURES REQUIRED
THREE YEAR ESTIMATE
AREA 5B

	Annual Cost	Capital Cost	Source of Capital Funds
Police Department - Requirements			
Records Secretary \$15,000 x 0 =	\$		
Uniform Officer \$25,000 x 0 =	\$		
Uniform Equipment \$ 4,000 x 0 =		\$	
Detectives \$25,000 x 0 =	\$		
Desk Officers \$22,000 x 0 =	\$		
Beat Cars \$20,000 x 0 =		\$	
		\$ 0	
+ 1/3 of capital cost	0		
Annual Police Dept. Cost	\$ 0		
Fire Department Requirements - None.			
Streets			
Snow Routes 0 LF @ \$45			
Local Routes None			
Street Lighting			
0 fixtures @ \$36			
Street Maintenance			
Snow plowing 0 @ \$23,500			
Street sweeping			
Street maintenance & drainage			
Leaf pickup			
Traffic & street signs			
Sanitary Sewers 0 LF @ \$55			
Storm Sewer 0 LF \$40			
Water & Fire Hydrants			
Recreation			
<u>Summary Area 5B</u>			
Police Dept.	\$		
Fire Dept.			
Street Improvements			
Street Lighting			
Street Maintenance			
Sanitary Sewers			
Storm Sewers			
TOTALS	\$ 0	\$ 0	
Anticipated Revenue	\$ 149		

CAPITAL EXPENDITURES REQUIRED
THREE YEAR ESTIMATE
AREA 5C

	Annual Cost	Capital Cost	Source of Capital Funds
Police Department - Requirements			
Records Secretary \$15,000 x .0424 =	\$ 636		
Uniform Officer \$25,000 x .5088 =	\$12,720		
Uniform Equipment \$ 4,000 x .5088 =		\$ 2,035	
Detectives \$25,000 x .0847 =	\$ 2,118		
Desk Officers \$22,000 x .1271 =	\$ 2,796		
Beat Cars \$20,000 x .1695 =		\$ 3,390	
	18,270	\$ 5,425	
+ 1/3 of capital cost	5,425		
Annual Police Dept. Cost	\$23,695		
Fire Department Requirements - Response time is adequate, water is needed to provide adequate protection.			
Streets			
Snow Routes 0 LF @ \$45			
Local Routes 1,600 LF @ \$20		\$ 32,000	
Street Lighting			
2 fixtures @ \$36	\$ 72		
Street Maintenance .9 miles @ \$23,500	\$ 21,150		
Snow plowing			
Street sweeping			
Street maintenance & drainage			
Leaf pickup			
Traffic & street signs			
Sanitary Sewers 4,752 LF @ \$55		\$261,360	
Union St. Trunk Line 8,488 LF @ \$75		\$633,600	
Storm Sewer 4,752 LF \$40		\$190,080	
Water & Fire Hydrants		\$211,268	Rev Bond
Tower reconstruction/Height increase		2,500,000	G O Bond
Recreation		None	
<u>Summary Area 5C</u>			
Police Dept.	\$ 23,695		
Fire Dept.	None		
Street Improvements		\$ 32,000	Mvh Fund
Street Lighting	\$ 72		
Street Maintenance	\$ 21,150		
Sanitary Sewers		261,360	G O Bond
Storm Sewers		190,080	G O Bond
Water and Fire Hydrants		2,711,268	Rev & G O
TOTALS	\$ 44,917	\$3,194,788	
Anticipated Revenue	\$ 48,299		

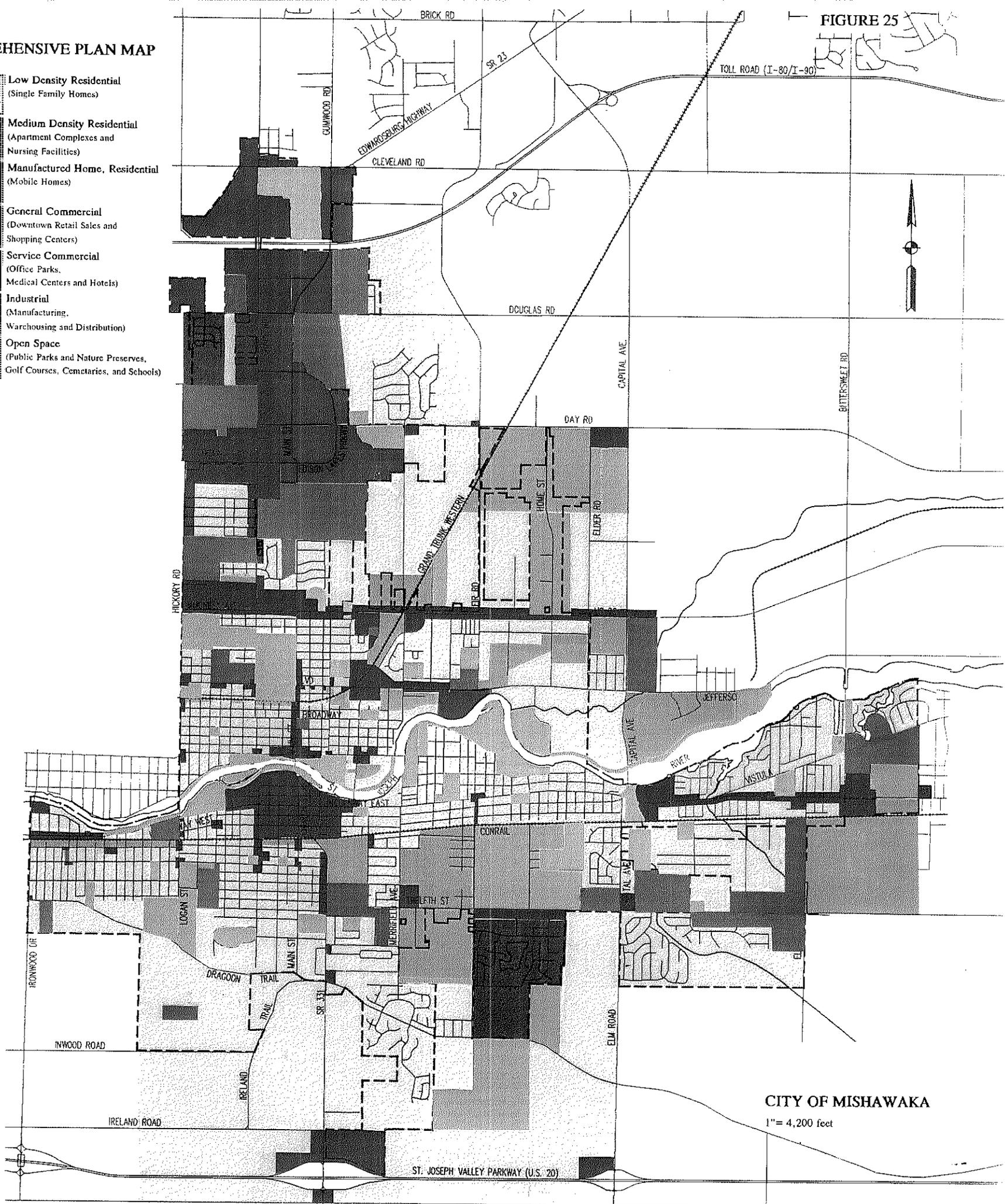
development and quality of development should be controlled by Mishawaka,

- 2) Due to the clay-type soil structure, city water and sewer systems will need to be utilized in order to provide healthful development,
- 3) Currently, the corporation limits include the very choice northeast quadrant, and therefore, the imminent development of the northeast will certainly initiate other development within the balance of the interchange area, and
- 4) Mishawaka development controls are superior to county controls, and therefore, the city is in a better position to maintain high-quality development.

Annexation will add 4752 feet to the city street mileage with the addition of Elmwood Avenue and a portion of Ireland Road. The following summarizes the cost/revenue related to this study area.

COMPREHENSIVE PLAN MAP

-  **Low Density Residential**
(Single Family Homes)
-  **Medium Density Residential**
(Apartment Complexes and Nursing Facilities)
-  **Manufactured Home, Residential**
(Mobile Homes)
-  **General Commercial**
(Downtown Retail Sales and Shopping Centers)
-  **Service Commercial**
(Office Parks, Medical Centers and Hotels)
-  **Industrial**
(Manufacturing, Warehousing and Distribution)
-  **Open Space**
(Public Parks and Nature Preserves, Golf Courses, Cemeteries, and Schools)



CITY OF MISHAWAKA

1" = 4,200 feet

MISHAWAKA PLAN COMMISSION COMMUNITY ATTITUDE SURVEY

February, 1990

I. Please circle your response to the following statements.

Final Percentage

	Agree	Disagree
A. Areas of the county which are completely surrounded by our city limits should be annexed.	77	23
B. The builders of new housing subdivisions should pay for street improvements and utility lines, even if this means a new home in that subdivision will cost more.	79	21
C. Commercial developers should pay some of the cost to upgrade existing roads, traffic signals and utility lines, even if their products cost more.	80	20
D. New development should be allowed only in areas where streets, sewers and water lines can handle the additional demand.	83	17
E. Generally speaking, zoning laws protect our neighborhood property values.	83	17
F. Our city should annex nearby residential areas even if the cost of providing city services exceeds new tax income from the area.	25	75
G. Our streets can handle the current traffic load.	30	70
H. Stronger restrictions should be placed on the size and number of commercial signs and billboards.	80	20
I. Our zoning laws are well enforced.	56	44
J. Mishawaka should select new development which will not harm the St. Joseph River nor other environmentally important areas.	99	1
K. Zoning laws should allow more commercial buildings in the residential area along Lincolnway East between Cedar Street and Capital Avenue.	18	82
L. Lincolnway East should be widened through the residential areas to better handle traffic even if home values drop.	50	50
M. For the most part, existing houses should be zoned to reflect the original use of the house.	81	19
N. Portable, commercial signs with flashing lights are a traffic hazard.	67	33
O. Mishawaka should establish an Historic Building Commission to protect historic houses and buildings.	82	18
P. Our city should continuously update street, sewer and water systems so they don't deteriorate, even if funds are directed from other needed projects.	91	9

II. Please circle your response to the following questions.

- A. What type of development should be allowed along the new bypass freeway under construction near the south side?
- 17 15 16 17 19 16
- 1) Houses 2) Stores 3) Offices 4) Apartments 5) Industry 6) None
- B. What type of development should be allowed along the proposed new Capital Avenue Expressway near the east side?
- 20 15 17 17 15 16
- 1) Houses 2) Stores 3) Offices 4) Apartments 5) Industry 6) None
- C. Our worst traffic problem is which one of the following?
- 17 15 6 14 48
- 1) Lincolnway 2) McKinley Avenue 3) Main Street 4) Edison Road 5) Grape Road
- D. Of the following, which is the one thing you like most about living in Mishawaka?
- 60 1 2
- 1) Neighborhood Conditions 3) Zoning Laws 5) Traffic Flow
- 15 12 9
- 2) Public Services 4) City Growth 6) Tax Rate

Please continue on the reverse side

E. Of the following, what is the one thing you dislike most about living in Mishawaka?

- 12 8 43
- 1) Neighborhood Conditions 3) Zoning Laws 5) Traffic Flow
- 8 13 17
- 2) Public Services 4) City Growth 6) Tax Rate

F. What type of development should be allowed along the St. Joseph River?

- 34 5 11 23 2 24
- 1) Houses 2) Stores 3) Offices 4) Apartments 5) Industry 6) None

G. When the city constructs Main Street, north of Day Road, the following development should be allowed:

- 20 18 25 21 9 8
- 1) Houses 2) Stores 3) Offices 4) Apartments 5) Industry 6) None

III. The next few questions are for analytical purposes only. Please circle your response to the following questions.

A. How long have you lived in Mishawaka?

- 19 10 10 9 51
- 1) 0-5 years 2) 5-10 years 3) 10-15 years 4) 15-20 years 5) 20 or more years

B. What is your age?

- 4 27 20 24 24
- 1) 18-24 years 2) 25-36 years 3) 37-45 years 4) 46-64 years 5) 65 years or older

C. Do you own or rent your home?

77 23

1) Own 2) Rent

D. In what kind of home do you live?

- 71 3 6 18 3
- 1) Single Family House 2) Duplex 3) Mobile Home 4) Apartment Complex 5) Condominium

E. What is your occupation?

- 33 12 3
- 1) Managerial/Professional 3) Clerical/Sales 5) Unemployed
- 14 10 29
- 2) Technical/Services 4) Equipment Operator/Factory Worker 5) Retired

F. How do you feel about living in your neighborhood?

- 22 58 17 1 1
- 1) Delighted 2) Mostly Satisfied 3) Mixed Feelings 4) Mostly Dissatisfied 5) Unhappy

G. Are you:

57 43

1) Male or 2) Female

H. What is the approximate annual income of your household?

- 11 25 20
- 1) up to \$10,000 3) \$20,000 to \$30,000 5) \$40,000 or more
- 24 20
- 2) \$10,000 to \$20,000 4) \$30,000 to \$40,000

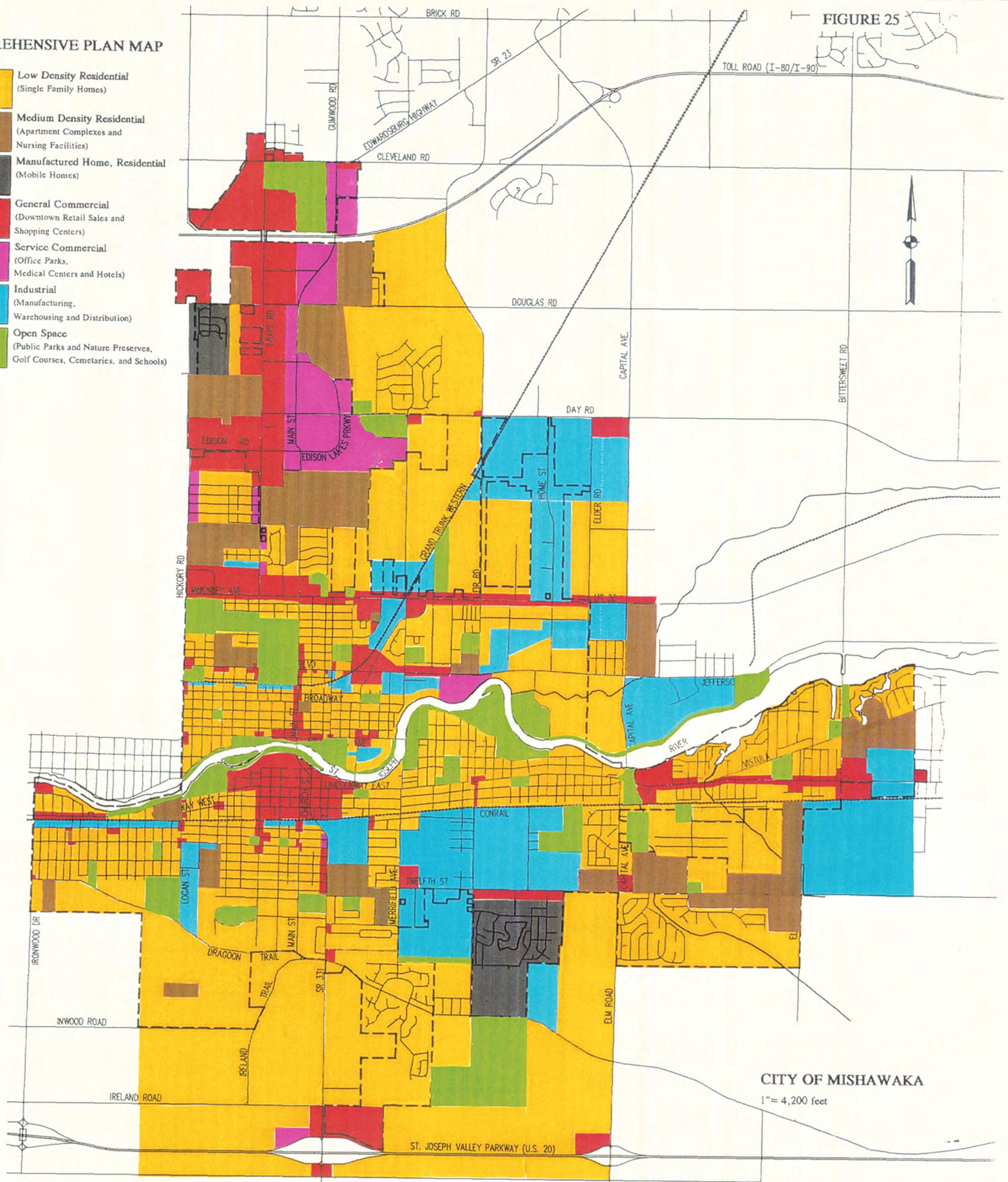
IV. In the following blank area, please feel free to comment on any other city issue you feel is important.

Thank you very much for helping your City of Mishawaka. Please return this survey to the library or mail to:
City of Mishawaka
Department of City Planning
City Hall
600 East Third Street
Mishawaka, IN 46544

Exhibit A

COMPREHENSIVE PLAN MAP

- Low Density Residential
(Single Family Homes)
- Medium Density Residential
(Apartment Complexes and
Nursing Facilities)
- Manufactured Home, Residential
(Mobile Homes)
- General Commercial
(Downtown Retail Sales and
Shopping Centers)
- Service Commercial
(Office Parks,
Medical Centers and Hotels)
- Industrial
(Manufacturing,
Warehousing and Distribution)
- Open Space
(Public Parks and Nature Preserves,
Golf Courses, Cemeteries, and Schools)



CITY OF MISHAWAKA

1" = 4,200 feet