

**KOSCIUSKO COUNTY  
COMPREHENSIVE PLAN**

## Acknowledgments

The staff of the Kosciusko County Area Plan Commission would like to thank the fourth year studio of the College of Architecture and Planning at Ball State University for their fine work on the Lake County, Indiana Comprehensive Plan. The format of this plan was used for our Comprehensive Plan. It was the honor of the Area Plan Office to have Tanya Ford complete the Kosciusko County Comprehensive Plan (as she was one of the original authors of the Lake County plan.)

Because Lake County is also in the northern region of Indiana, and because they experience many problems/issues that Kosciusko County does, many of the goals and objectives in the Lake County Plan were found to be similar to those that were determined for the Kosciusko County Comprehensive Plan.

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# **Kosciusko County Comprehensive Planning Handbook**

Prepared for:  
The Citizens and Businesses of Kosciusko County, Indiana  
The Kosciusko County Plan Commission

With Support of the Kosciusko County Commissioners

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## **INTRODUCTION**

**T**he Kosciusko County Planning and Design Studies were undertaken to explore the issues facing Kosciusko County (and its communities) and to provide a guide for local growth management. Currently Kosciusko County, facing growth pressures, is attempting to take advantage of its opportunities, while managing change in a manner sensitive to the needs of its residents and businesses. Kosciusko County is blessed with strong economic driving forces and rich natural resources-aspects that are often in conflict with unmanaged development. Since Kosciusko County is a strong player in the Northern Indiana area, it has traditionally been an appealing site for investment and residential development. As growth progresses out into the County from Warsaw, this investment challenges that character and quality of life that many long-term residents associate with their communities. In fact, some of this new development reduces the character and value in itself.

Changes in Kosciusko County find the greatest influence in several external forces that affect (to one degree or another) development patterns and government policies:

### **Natural Environment**

The need and desire to protect nature, particularly scenic quality, farmland, wetlands, and it's relationship to character of the entire County is critical in the minds of local residents. Agriculture has traditionally shared a key role with industry in the economic vitality in Kosciusko County. Issues such as wildlife habitats, the preservation of open space, and outdoor recreation resources (specifically the abundant lakes), and the scenic quality will grow in importance as development continues to increase.

### **Economic Development**

The stability and expansion of the local economy is a priority for all Kosciusko County residents, businesses, and officials. Continued economic development for Kosciusko County has typically translated into continued physical development. Concerns focus on the sensitivity of that development to local conditions, and the suitability of change with regard to local needs and limitations.

### **Growth Pressures**

Kosciusko County is growing physically at a rapid pace, particularly with regard to residential development. Due to its geographical location, favorable tax policies, and proximity to South Bend, Fort

Wayne, and Michigan, the region is under significant pressure from sprawling subdivisions (bedroom communities). This rapid, often unmanaged growth has brought with it congestion, a stressed road system (physical structure) and overburdened infrastructure (particularly storm water drainage systems). This rapid development has also consumed valuable open space and farmland, and threatens community character. Growth management, the proper tools, and development guidelines (that can be employed in implementing a county wide growth management program) are fast becoming critical issues. Development is to be encouraged, but in a manner that is sensitive to the capacity, needs, and character of local systems.

### **Circulation and Access**

Continued growth, without corresponding infrastructure capacity enhancement has resulted in congestion, and a significant reduction in access and circulation efficiency. This directly, and adversely effects quality of life and business vitality. As with economic development and growth management, it is important that a match is made between the county's capacity, circulation/access needs and development. Parallel to growth management and other development planning activity would be a comprehensive infrastructure/capital facilities planning effort.

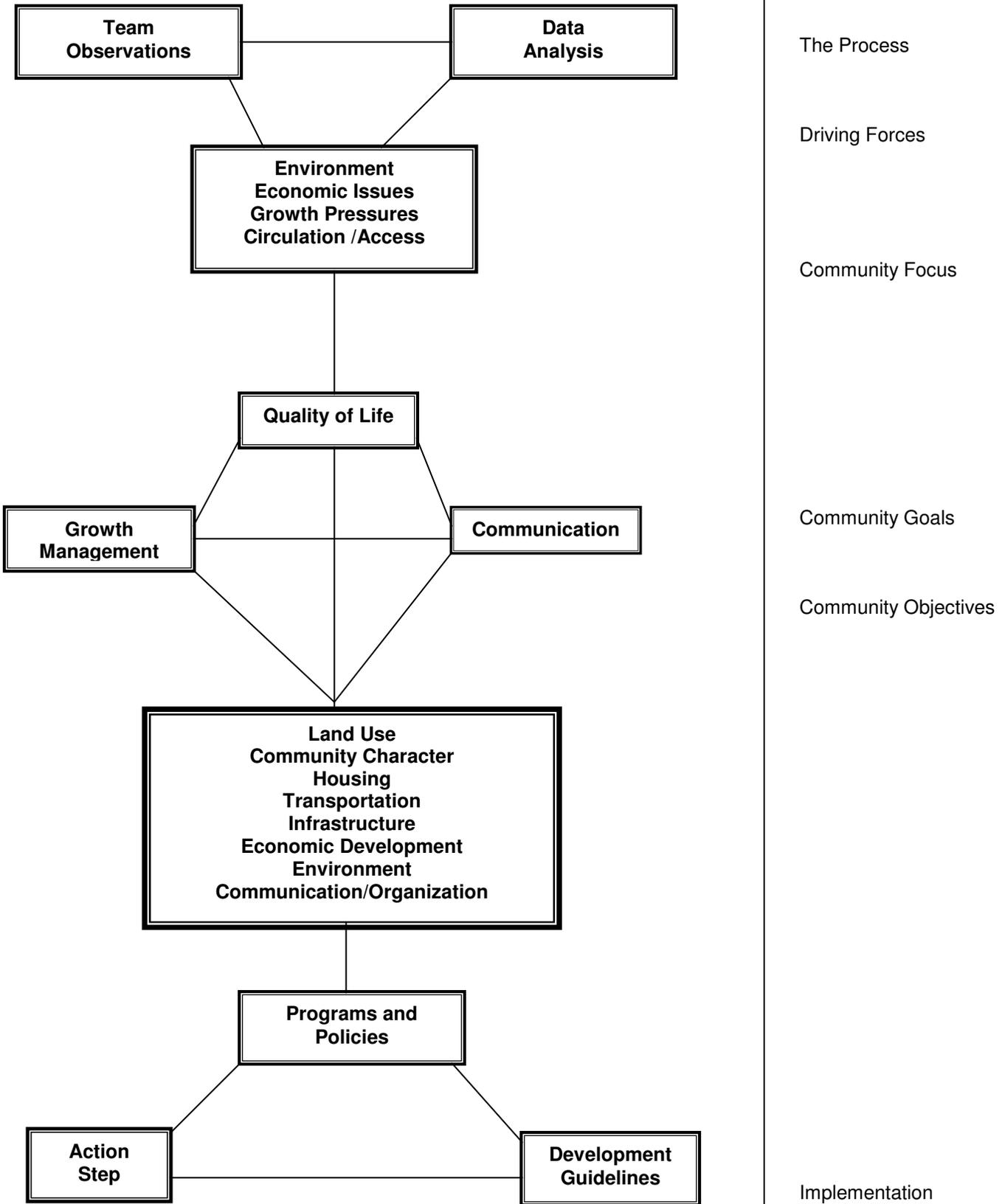
### **Community Quality of Life**

The examination of county patterns, trends, and local driving forces (that influence those trends) can be summarized in one primary focus: Community Quality of Life. In particular, this relates to the maintaining and enhancement of community character level of services, local consumer and business opportunities, the main essence of pleasant living, and activity spaces in the face of mounting environmental challenges, growth pressures, and circulation problems. The community goals therefore, can be summarized as: growth management, preserved community character, enhanced community identity, and improved communication, cooperation, and organization of local governments.

These goals serve to guide the planning objectives that will guide local leaders and decision makers in the areas of local quality of life, land use, community character, housing, transportation/circulation/access, infrastructure, environmental protection, economic development, and community organization. In turn these objectives transport into program, policies, development guidelines and action steps that serve as the future of Kosciusko County, its communities, citizens and businesses.

This plan is designed to serve as a tool to aid in decision-making, and to guide policy in a manner that is both receptive to growth and development and conscious of unique, local, quality of life concerns. Several key points and observations emerged as being the key to the vitality of the county and its communities:

- Kosciusko County contains approximately 100 lakes. Lake Wawasee is the largest natural lake in Indiana, and Lake Tippecanoe is one of the deepest lakes in the state;
- Many of the communities in Kosciusko tend to serve as bedroom communities for those working in South Bend and Fort Wayne, or as summer homes. This trend is continuing.
- Kosciusko County offers investors competitive land and site development costs, as well as a favorable tax structure;
- Land use controls in Kosciusko County are based on a 1975 Zoning Ordinance and a 1973 Comprehensive Plan (with on-going revisions to the plan);
- Housing development in the county is typically single family, detached, low density in character (an exception is around the lakes) and usually does not have the diversity of affordability and other special needs of the communities;
- Spreading residential subdivisions are increasingly consuming prime agricultural land, challenging environmentally sensitive areas, and placing strains on infrastructure, circulation and support systems, and adversely impacting community character;
- Development pressures have, to date, dictated infrastructure improvements.
- A more proactive infrastructure/capital improvements program would better serve the future needs of the community, its residents, businesses, and future development;
- Many of Kosciusko County's outdoor recreation areas and natural open space systems are not protected by land use management programs; and therefore, are highly sensitive to continuing growth pressures;
- The amenities of the County are threatened to be overshadowed by development.



## **HOW TO USE THIS DOCUMENT**

This plan serves as a general framework for guiding future development of Kosciusko County; coordinating with the individual municipalities, but focusing its primary attention on the unincorporated areas. Provided in this plan are recommended programs and policies for different aspects of planning and development. Although these programs and policies have been designed based on past and current growth trends (with the interests and concerns of Kosciusko County residents and businesses in mind) they are not law unless adopted by the appropriate legislative body (i.e., Kosciusko County Plan Commission).

Based on the profiles of the county, (as developed from demographic trends, past planning efforts, and citizen input) action steps have been developed as policy guides. These steps provide an outline for future development in Kosciusko County, a basis for judging individual projects and policies, and evaluating their contribution to the county as a whole. The polices suggested in the plan are based on the goals of growth management, improved communication and organization, and maintained community character. Objectives toward achieving these goals are divided into land use, community character, transportation, infrastructure, housing, economic development, environment, and communication sections.

Icons are used to identify the different sections of the plan. To identify the strategic elements a series of three symbols are used throughout. The key objectives for each section are indicated by the key icon. A series of action steps linked to the objective are marked by the arrow icon. Each policy section contains a series of benchmarks which serve as indicators or progress made toward the objectives as a whole. Program benchmarks are indicated by the check mark icon.

The Kosciusko County Comprehensive Plan is intended to serve as a “living” document. To that end, it is provided in a three-ring binder so that the users may add resources, information, or change pages more easily.

### Key to Document Icons



The key icon indicates the objective for each policy section



The arrow icon indicates an action step relating to the policy objectives



The check mark icon indicates policy section benchmarks-measures of progress on program objectives.

### Potential Users

This document is intended to both stand on its own, and compliment existing local planning materials, specifically zoning ordinances and transportation policies. The plan can serve as a decision making tool for...

**Long-Term Planning:** Should an individual, group, or developing firm propose a project to the Kosciusko County Plan Commission, this document may be referred to, to determine whether it and it's long term effects coincide with what Kosciusko County and its residents have planned for the future.

**Setting Recommended Guidelines:** As with any proposed development, this document is not intended to determine whether or not it should occur, but may serve as a set of guidelines for ensuring that while in the development process and once completed, it will benefit Kosciusko County to its greatest potential.

**Serving as a Source of Information:** When questions arise about how and why things are (or are not) happening in and around local communities, this document may help develop a better understanding about what the County has planned, and how those areas of concern fit into the whole picture.

**Improving Communication:** As a source of information for residents and businesses, the Kosciusko County Plan may also serve as a step toward better communication between local communities and the County. This document may then serve as a starting point for cooperative discussion between public and private individuals or organizations.

## **Previous Planning Efforts**

Adopted in 1973, the Kosciusko County Comprehensive Plan provided a broad framework for the future of this largely agricultural area. This plan also addressed a number of issues which remain primary concerns of Kosciusko County today.

Within the plan, a number of suggestions and predictions evolved as anticipated. For example, the anticipated commercial development on US 30 and increased development on or near to the many lakes in the county.

Transportation was one of the central focuses of the implementation strategy of the 1967 plan to control the impacts of commercial, industrial, and residential development. The 1973 plan recognized the safety and aesthetic reasons to discourage strip highway development: which including congestion and increased capacity and safety. With this, it predicted that those most likely to succeed would feature "close proximity to complimentary uses, improved merchandising techniques, ease of access, adequate parking, and a pleasing appearance." Today, more population development does not necessarily have these features. The extensive use of curb cuts causes congestion, making access to many developments difficult. The idea of one-stop shopping is not a reality, with shoppers having to drive to another development to do comparative shopping. Current parking facilities use extensive amounts of open space. While some developments are individually attractive, the lack of uniform space design throughout the corridors creates an overall unattractive appearance.

The 1973 Kosciusko County Comprehensive Plan established policies in the areas of land use, parks and open space, transportation, commerce and industry, and legislation. Reflected in many of these objectives are the early signs of problems currently facing the area. Objectives such as "encourage development...in areas...served with adequate community facilities" and "preserve agricultural lands" stated in the 1967 plan are very much applicable to current Kosciusko County conditions.

Other local planning efforts include:

***Kosciusko County Flood Control Ordinance***

***Kosciusko County Subdivision Control Ordinance***

***Kosciusko County Transportation Plan***

***Kosciusko County General Land Use Plan***

***Kosciusko County Erosion Control Plan***

Following is the list of objectives/recommendations outlined in the Kosciusko County Comprehensive Plan from 1973:

General Objectives/Recommendations

Create a Master Sewer and Water Plan

Better Fire Fighting Facilities

Better Police Facilities

More and better library facilities

Land Use Objectives/Recommendations

More land use dedicated as conservations

Protect agricultural land

Manage development to best serve the County

Require completed land use studies (i.e. soils study, sewer, existing uses, etc.) on all new development

Transportation Objectives/Recommendations

Protect the existing road system, and improve it as time and funds will permit

Require dedications of Rights-of-Way from the developer to the county

Require a determined setback from the Right of Way line of all buildings

Require Design features of streets within subdivision developments that will prevent their use by through traffic

## **STUDY AREA PROFILE**

### **General Profile**

People, organizations, and institutions generally accept planning as a necessary activity. People plan their activities for the day, families plan their budgets for the week, schools plan for the education of it's students, and corporations plan for financing and production. Action taken without careful thought or planning (in these examples) would be a waste of time and resources or, could even cause chaos and collapse of a community. Government must plan for public service provision, and must anticipate regulatory directions from which prospective individual activity will accurately portray the need for government intervention. Comprehensive planning tries to ensure that a continuing planning process is maintained.

The primary purpose of government regulation is to allocate public goods. Society demands these goods and services; however, the market cannot adequately provide them, because public goods/services are non-appropriable. Public goods and services are inexhaustible in that one person's completed use of a good or service does not influence /affect another person's use. Public goods and services are also unique in that the provider cannot separate paying users from nonpaying users. Local government's land use regulations are particularly concerned with public goods and services, and how individual land use decisions affect these goods and services. Private development impacts public commodities such as lakes and watercourses, roads, police and fire protection, public health, air and water quality, drainage systems, open space, etc.. Local governments apply land use regulations to help provide public goods and services as efficiently as possible.

The primary purpose of comprehensive planning is to efficiently distribute the benefits, and to minimize the costs of private development on the community. The Comprehensive Plan should encourage development to locate in areas that maximizes the benefits to the public, which minimizes the costs (which local government will realize in providing services), that is compatible with surrounding development, and which minimizes externalities from that development. Private developments require roads (for accessibility), fire and police protection, utilities, and water management facilities. Usually local governments must finance these services from taxation and other revenue, which substantially depletes public resources. Usually the public benefits from private development in terms of expanded economic activity, increased commercial and residential alternatives, and an expanded tax base. Developments that require only a small portion of public services are more beneficial for the public. The level of compatibility

is also a major issue. Generally, industrial development is not compatible with residential uses. Commercial and residential development can be compatible with agricultural; however, people often complain about the dust, noise, and smell.

Some opponents of land use planning feel that individual behavior and self-regulation will achieve development goals, without intrusive government regulation. They feel that developers and individuals, motivated by self interest, will construct and maintain their structures in a manner which will preserve neighboring property values and thus, preserve their own. Opponents also feel that nonconforming property owners may decrease property values, but private compacts or agreements between property owners/property owner associations will effectively control nonconformist behavior.

Most localities have adopted a land use regulatory and planning approach. Many localities discovered, as well as Kosciusko County, that individual interests often conflict with those of the public. The public depends on government intervention to preserve the quality of life. Property owner associations have discovered that local government planning and regulation serve as an extension, rather than hindrance, to their own efforts. Local Government's expenditures provide infrastructure, water management, public health measures, and other services that the typical individual or developer could not by themselves provide. Individual decisions which encourage scattered development and incompatible uses drastically increases the amount of money the public must invest in infrastructure. The local government's objective in comprehensive planning is to insure that the public investment is controlled by the managing growth.

Although government land use regulation and planning is necessary, the government's power is limited. The task of establishing the boundaries of appropriate government regulation is controversial and communities differ in terms of what they feel is acceptable. One of the government's primary roles is to allocate public goods. Society may perceive government activity that exceeds this function as inappropriate. For example, structure setback requirements from a road's right-of-way are appropriate, because the regulation attempts to allow room for future expansion projects to the road.

Planners must realize that private decisions essentially drive development. Therefore, effective comprehensive planning does not have to be a highly detailed blueprint (specifying how and where the locality must grow) but rather the plan should only define the parameters within which private development can proceed. This comprehensive plan attempts that approach.

The 1957 Indiana State Planning Act granted local governments the power to regulate land use, and to establish administrative structure and citizens' advisory committees, in order to plan for development and devise land use regulations. During the 1960's, County officials and various community organizations recognized that uncontrolled and incompatible residential and commercial development was increasing the cost of government services and negatively affecting the general quality of life for County Residents. In the early stages, the Area Plan Commission worked primarily to establish a County Comprehensive Plan and supporting Zoning Ordinance. From 1967 to 1973, the commission collected data, and conducted public meetings to devise a Comprehensive Plan for land use, transportation, and community facilities. The Commission also consulted the various towns about the creation of a County Zoning and Subdivision Control Ordinance.

In June 1973, the Kosciusko County Commissioners adopted the Comprehensive Plan. The Plan established policies and objectives for land use, devised a plan for transportation improvements and described available community facilities. During 1974, the Area Plan Commission and citizens' advisory groups drafted land use regulations, which would complement the Comprehensive Plan's policies. In January 1975, the County Commissioners adopted the County Ordinance. Although the County has assumed planning and administrative responsibilities, the individual Town Boards still retained legislative authority within their cooperate limits.

Originally, Claypool, Mentone, Milford, Pierceton, and Silver Lake, as well as all unincorporated county areas, participated in planning and land use regulation. Turkey Creek Township and Syracuse maintained a separate plan commission until August 1977, when the township joined the Area Plan Commission. Syracuse still retains a separate Board of Zoning Appeals (within corporate limits), but follows the county's policies. Since 1975, Webster has joined the Plan Commission, while Mentone and Silver Lake have withdrawn.

Comprehensive planning is both product oriented and process oriented. As a project, the Comprehensive Plan is a document which presents data and analysis on development grants, and issues (which guide public decision inducing development). The plan is also a policy statement which defines the public interests, and explains how local government will protect that interest. Plan Commissions cannot protect the public

interest if they have not adequately defined it. Public participation varies in the type and degree of participation, ranging from Plan Commission meetings to direct citizen involvement in planning.

The planning process consists of six stages: recognition, specification, proposal, evaluation, decision, and implement. Figure 1.1 illustrates the process. The first stage, recognition, requires the community to analyze existing conditions, and identify trends and problems a comprehensive plan should address. Planners collect demographic, land use, transportation, and other relevant data to help make projections about future community development. The second stage, specification, requires that the community set long and short range objectives to accomplish these objectives in the proposal stage and for planners to develop statements for policy implementation and review. The community simulates policy outcomes and evaluates their impacts, in the evaluation stage. The community then chooses the most effective policy alternative, from the decision stage and synthesizes these policies into the Comprehensive Plan in the implementation stage.

The Area Plan Commission has utilized this planning process design when formulating the County's Comprehensive Plan. Although public discussion and decision making were critically important in each of the design stages, public participation was an especially significant role in the specification, proposal, evaluation and decision making stages.

Citizens using the Comprehensive Plan must understand the setting in which Kosciusko County plans for the future. This plan provides a description of geographic, demographic, and economic characteristics, which the planners and community must study before initiating the planning process. This procedure must be an ongoing one, in order to achieve the communities' goals.

Kosciusko County contains varied geographical characteristics. Glacial landforms have influenced the topography; and the county population uses the available natural and geological resources. Glaciation deposited rich soils in till plains and outwash plains in northwestern Kosciusko County. These deposits created some of the most productive agricultural soil in the world. Other areas, such as the Morainal Belts and steep slopes, contain sand, gravel and cobble. Although these areas do not contain highly productive farmland, the glaciation did create hills, depressions and lakes, particularly in northeastern Kosciusko County. These glacial fluvial deposits provide for attractive residential development sites and are suitable

for other building purposes. In addition to the construction potential, these deposits house huge ground water supplies.

Ground elevations and topography vary depending on your location in the county. The elevations in the County range from 750 feet to 950 feet above sea level. Generally, western Kosciusko County contains flat, prime, agricultural land whereas eastern Kosciusko County contains hills, lakes, and a diversified topography.

Variety characterizes the county's soils. Oshtemo-Kosciusko, Wawasee-Miami-Crosier, and Morley Blount Soils (which are coarse, contain slopes, and drain well) are located predominately in the south and northeast sections of the county. Houghton-Adrian, Crosier- Brookston and Sebawa-Gilford-Rensselaer soil (which are fine, level, and drain poorly) predominate in the northwest. A general soils map is found at the end of the land use section. Glaciation has also contributed to a dendritic drainage pattern in the County. Although many areas contain coarse, pervious soils, many areas still require external drainage. Surface water drains primarily into the Tippecanoe River and it's Tributaries. Water from the farm northern surface drains into the Kankakee and St. Joseph tributaries, and water from the far southeastern surface waste drains into the Eel River and it's tributaries.

The Comprehensive Plan shall examine several Kosciusko County population data elements. These elements are based on historical, projected, and regional population data, population age distribution, per capita income, and educational levels of county residents.

Kosciusko County has experienced significant population growth since 1960. From 1960-1980 there was an increase of 47.5% in population. This increase exceeded the state's 17.8% for the same period. From 1980 to 1990 there was a 9.6% increase in the population (the County grew by 5,739 people from 59,555 to 65,294). Kosciusko ranked 23rd largest in the state in the 1980 census, and grew to 11<sup>th</sup> by the 1990 census. Table 1.1 (in the appendix, all tables are in the appendix) provides the census figures from 1960, and the projections for 2020.

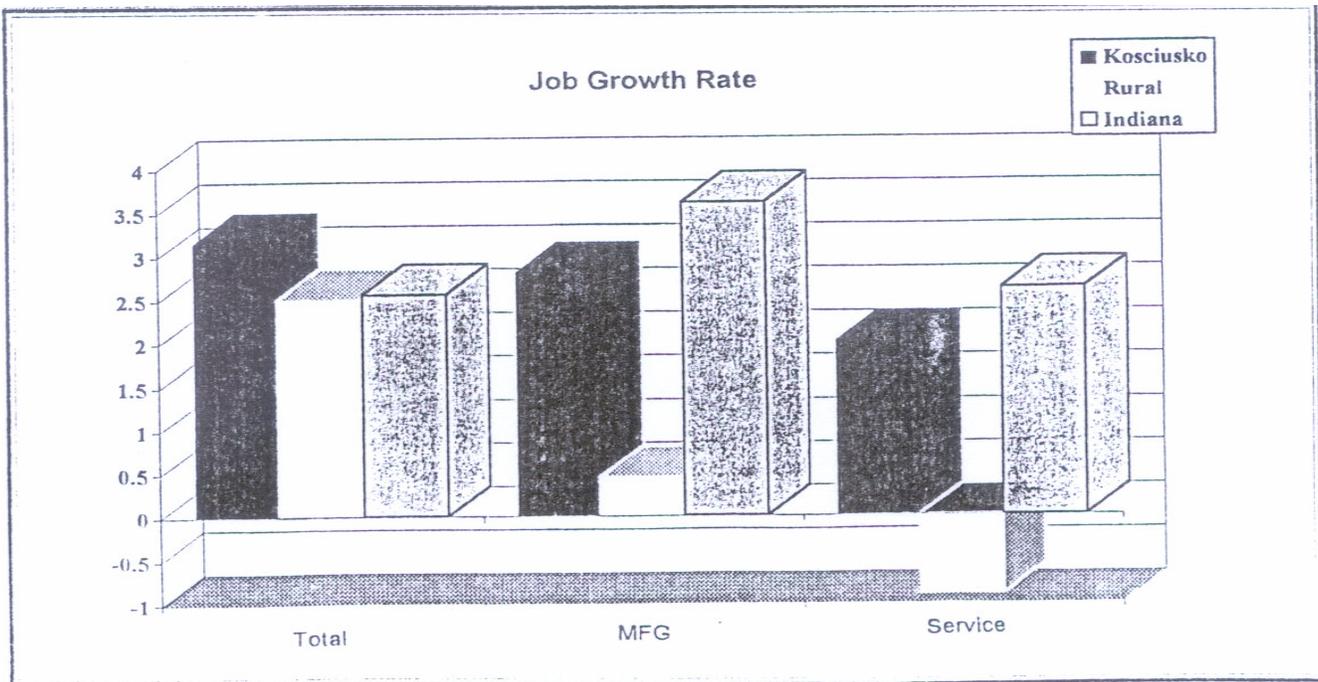
The Indiana Business Research Center, which is a part of the Indiana University School of Business, compares the individual counties, in the state, to each other. They suggest that Kosciusko County will be one of the top ten Counties in growth from 1990-2030. During these 40 years, the IBRC projects

Kosciusko County to have a growth rate of 23.9%. Plain Township is projected to increase at the highest rate, out of the 11 townships, at 85.9%. Tippecanoe, Turkey Creek, Wayne, and Harrison Townships will also increase considerably. Jefferson, Clay, Jackson, Franklin, Etna, and Lake Townships are projected to increase much lower rates. Table 1.2 shows the township population changes from 1980 to 1990.

For planning purposes, knowledge of relative population changes within areas of the County is useful. Several townships are grouped together based on geographic proximity and similarities, economic interdependencies, transportation, school districts, and other such criteria. Table 1.3 provides estimated population changes and distribution data for each derived from historical data and then projected into the future. The regional population changes and distributions indicate that each region experienced significant population growth during the years 1960-1980, and can be expected to continue (but at a slower growth rate, to the year 2020). Most of the County's growth in population has occurred in the northeastern lakes corridor, which extends north from Warsaw to Syracuse, and consists of the Central and Northeast Regions. This corridor accounted for 82.2% of the County's total projected population increase from the year 2020. Researchers project that this corridor will increase its share of the total County population as well. In 1980, 68.3% of the total County population lived in this corridor; and researchers expect this rate to increase to 71.2% by the year 2020. In comparison to its population share, the corridor accounts for only 33.8% of the county's land area. From this data, one may conclude that the northeastern lakes corridor is the future Kosciusko County "growth area".

Population density measures the level at which population is concentrated in a particular area. Density indicates whether an area is urbanized, and to what the degree it is of urbanized. Typically, areas with a population density of 1000 persons or more per square mile are considered to be urbanized, but planners may customize the standards to their own community. Wayne Township is the most densely populated township in Kosciusko County with over 500 persons per square mile. The county's density was 117.8, in 1985, and grew to 121.5 by 1990. Researchers project this density will increase to 162.0 by 2020.

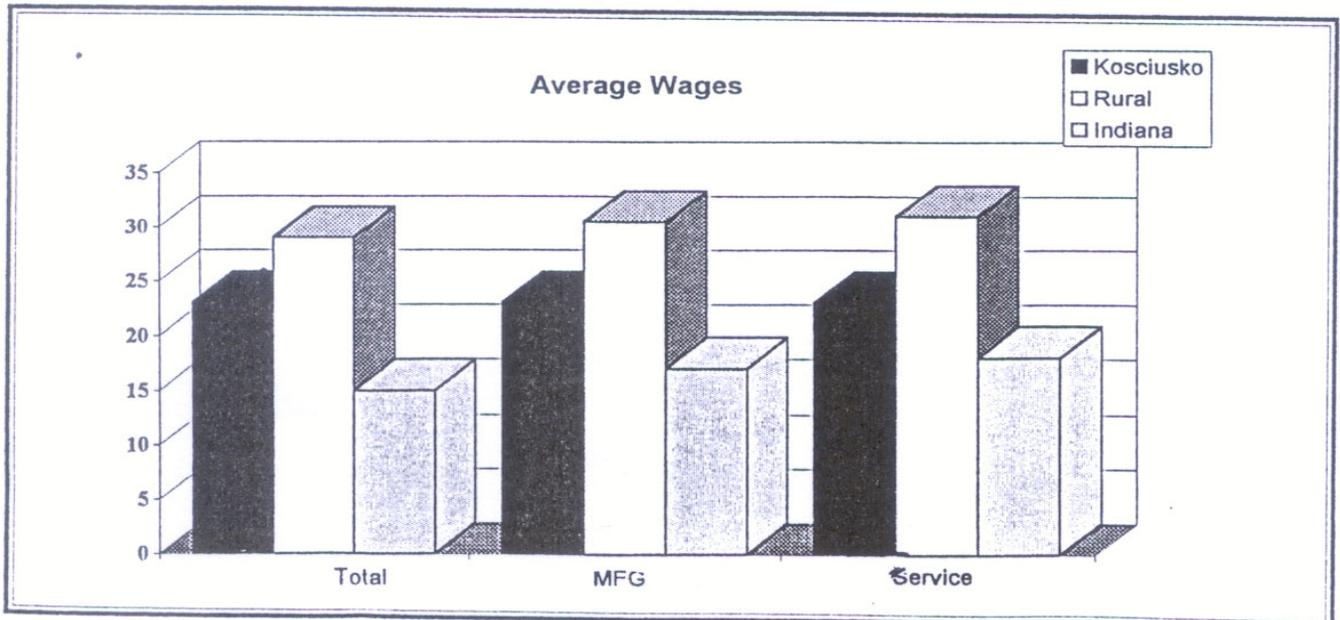
Planners must identify the variables which influence population change in order to understand population growth. These variables are the number of births, deaths, in-migration, and out-migration. Researchers express these variables in terms of the demographic model of population change. This model is: Population Change = (Births -Deaths) + (In-migration –Out Migration)



Kosciusko County has recently experienced an increase in the number of new housing starts. Businesses usually follow new residences (people). This trend has been evident in Kosciusko County. The relatively stable labor force in Kosciusko County is expected to remain so, for some time.

The Comprehensive Plan shall examine the Kosciusko County economic sectors, and then compare them with rate charts for the state. The strong agricultural base, including a large poultry industry, is something county residents are very proud of. The orthopedic industry is leading a force in economic activity in the County. Another major player in the local economy is the woodworking industry. Kosciusko Development Incorporated (KDI) is a for-profit economic development board in the County. The Board has representatives from the surrounding communities, and local businesses in the county. The purpose of KDI is to assist communities in attracting firms, helping to provide financial assistance, and to work as a mediator between local government and the private sector.

In 1980, Kosciusko County ranked 23rd out of 92 counties for per capita income. The per capita income for the County in 1989 was \$13,323. The townships with the highest per capita income were Turkey Creek (\$15,929) and Plain (\$15,345). The townships with the lowest were Scott (\$9,566) and Etna (\$8, 9870).



Kosciusko County is a predominately rural area, and maintains a highly productive agricultural economy. Still, almost half of the labor force in the County worked in the manufacturing sector. Table 1.4, provides the employment figures for the County and the state. As of March 1991, the ten largest employers in Kosciusko County were:

R. R. Donnelly and Sons

Zimmer Inc.

United Telephone

Depuy, Inc.

Biomet

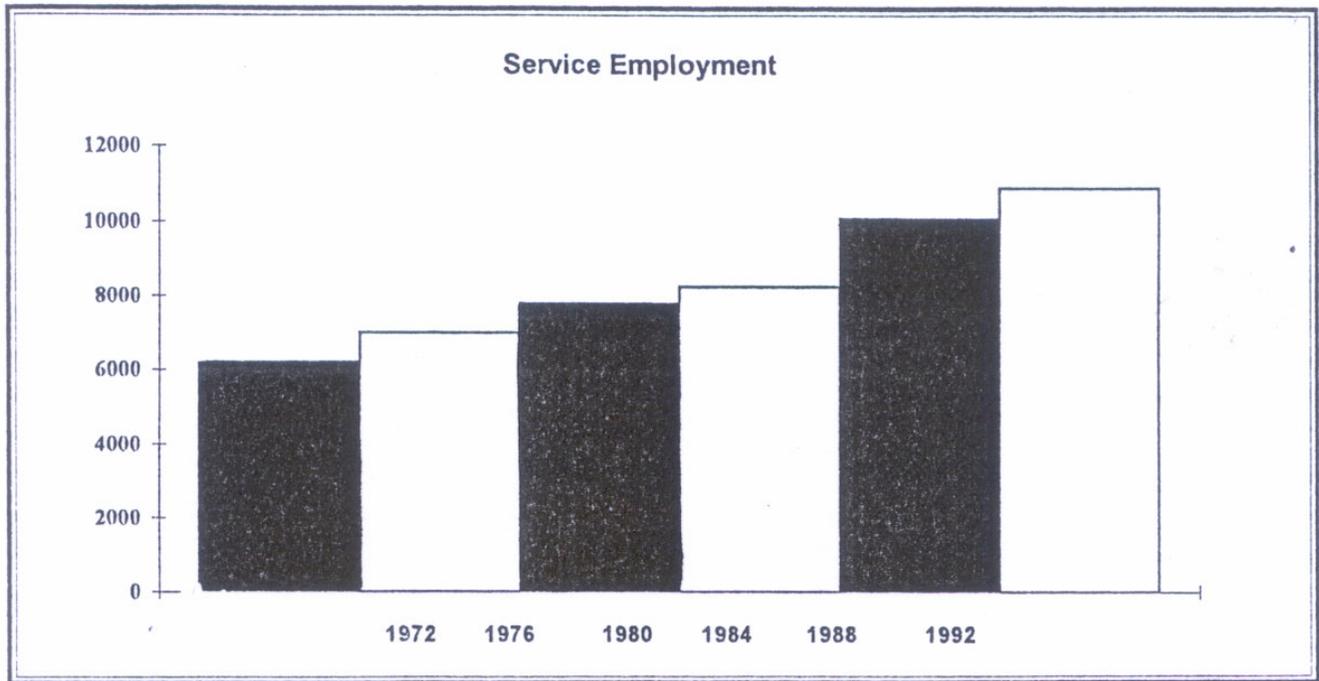
Maple Leaf Farms

CTB, Inc.

Warsaw Orthopedic

Dalton Foundry

Owens-Illinois

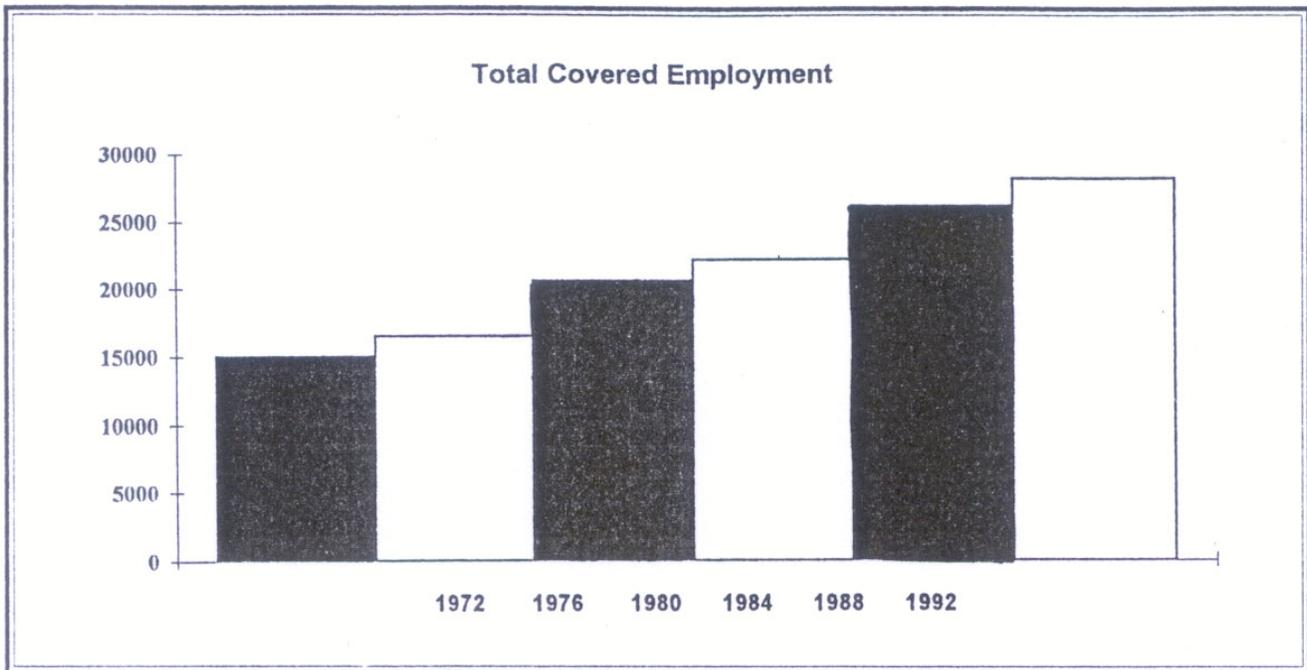


In 1989, there were more persons employed in manufacturing in Kosciusko County than all of the other industries put together. From 1985-1989, the County saw an increase of over forty-percent in its manufacturing earnings (U.S. Bureau of Economic Analysis); and from 1972-1992 the County had an increase of 2.47% in manufacturing employment.

The following Industrial parks or sites are located in Kosciusko County:

- |                          |                               |
|--------------------------|-------------------------------|
| The Industrial Corridor  | Airport Industrial Park       |
| Arnolt Industrial Park   | Boggs Industrial Park         |
| Marathon Industrial Park | Rosburgh Industrial Park      |
| Machett Park             | Kessler Industrial Park       |
| Syracuse Industrial Park | North Webster Industrial Park |

In accordance with the national trend, the County has experienced rapid growth in the service sector. In 1972 the county had only 159 service establishments. From 1977 to 1982 they increased by 53.9% (165 to 254), and from 1972 to 1992 Kosciusko County experienced an increase of 2.71% in the service sector. Indiana was slightly ahead with 2.74%. During the same 20 year period, a 3.17% increase occurred in Kosciusko County's total covered employment. The state increased by 2.02% in total employment.



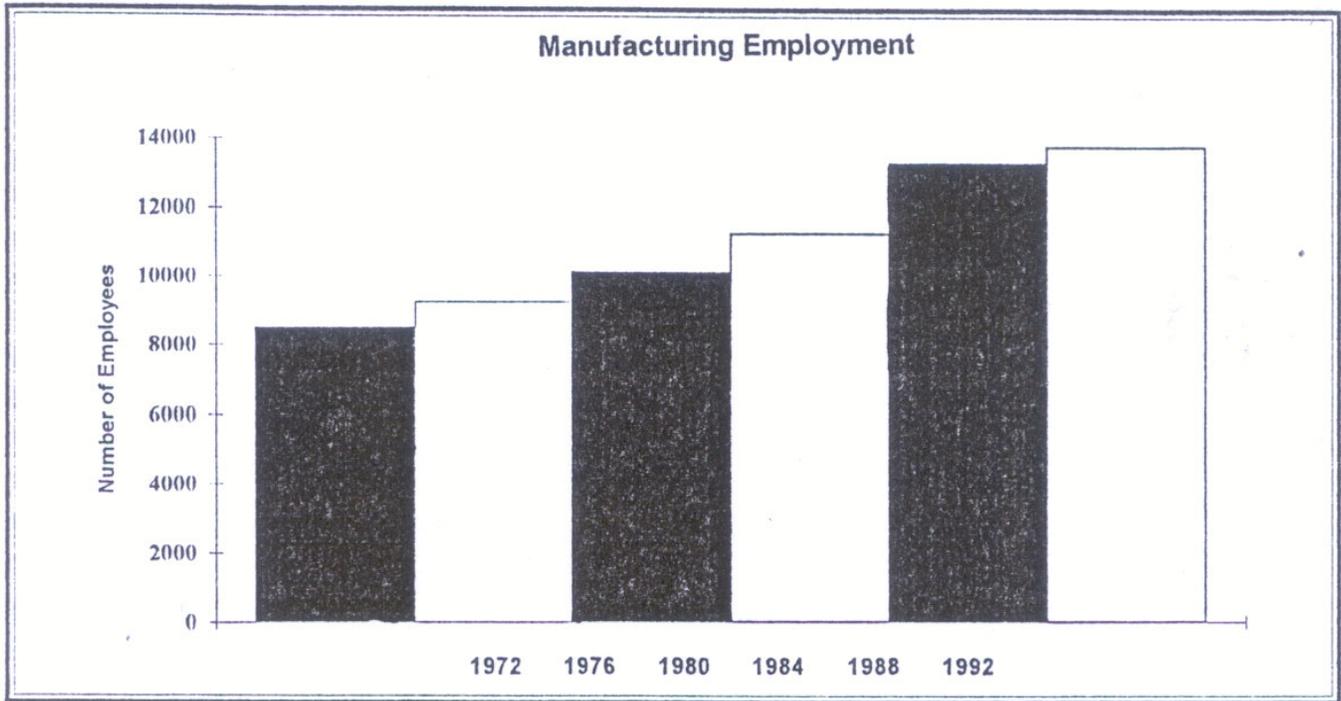
## Housing

Housing starts are a good indirect indicator of population growth and local economic health. Residential housing can be permanent or seasonal and either single or multifamily in nature. Permanent single-family housing impacts population growth more significantly because residents of this housing type are more likely to have made investment in their unit (because they own them), therefore improving the housing quality in the area. Seasonal multifamily and permanent multifamily housing impacts population growth less, because its residents usually maintain a permanent residence elsewhere.

Table 1.5 provides housing unit starts for each township in Kosciusko County from 1980 to 1986. Van Buren Township experienced a high rate increase. In 1991, 270 single family residences were built in the County. The Area Plan Commission issued 23 Improvement Location Permits for new Commercial buildings in 1992, at an approximate total cost of \$30,938,496. In 1992, 346 new single family residences were constructed in the Area Plan Commission's jurisdictional area.

Several records were broken in 1993. More Improvement Location Permits were issued in 1993, than ever before. During the first year the Area Plan Commission was in existence (1975), only 545 permits were issued. By 1993, that number increased by almost three times, with 1,441 permits. The greatest number of

permits issued, for Single Family Residence Additions and Residence Accessory Buildings, was also in 1993.



## Growth Objectives

Local land use planning, as well as any community activity, must be goal directed. The process of goal setting involves two stages: first, the community must define its mission for planning and regulation land use (the mission statement is a broad declaration of why a community desires to plan and regulate); second, the community must set specific objectives which describe the community's desired product of planning and land use regulation (the community sets objectives for the purpose of evaluation its performance in fulfilling its planning and land use regulation). The objective must describe measurable outcomes, and establish a time frame for accomplishing the goals.

The primary mission of the Comprehensive Plan is as follows:

- Encourage and promote compatible, efficient, and aesthetically pleasing environment which is not only socially but also economically acceptable to the residents of Kosciusko County.
  - Managing the development/growth in the area
  - Protect the prime agricultural land in the county
  - Encourage commercial and industrial development in the target zones

- Minimize environmental degradation, and preserve nonrenewable natural “resources”, while accommodating the need for competing land uses.
- Develop and maintain a safe and efficient thoroughfare system which accommodates commerce and industry, while providing suitable access for County residents.
- Provide community facilities and recreational opportunities that meet the needs of county residents.
- Promote a residential environment which maintains an equilibrium between dwelling space and recreation, commercial, or industrial activity.

### **Land Development Framework**

Communities must devise a concept of compatible development which guides land use and planning regulation. Planners should develop a physical environment model which applies this compatible development concept, to actual land use subsystems that are compatible (within Kosciusko County).

Kosciusko County consists of six land use subsystems: the Central Business District, Inner City, Suburban, Rural Small Town, Rural, and Lakeland. This section shall explain land use trends, the ideal role, and policy implications of achieving the ideal role.

#### **Central Business District**

##### *Trends:*

1. Declining commerce due to increased competition from suburban centers and instant metropolitan areas;
2. Very few new or rehabilitated office spaces for professional firms;
3. Increased service industry and employment.

##### *Ideal Role: Urban Community Center*

1. Should generate a positive community identity.

2. Should serve as a major growth center for government, finance, offices development, and pedestrian commerce.

*Policy Implications:*

1. Removed or rehabilitate aging commercial buildings through a development corporation or merchant associations;
2. Encourage office space development;
3. Visually, or aesthetically improve the CBD;
4. Increase accessibility to the CBD through street improvement;
5. One or several regional commercial anchor establishments;
6. Facilitate pedestrian traffic and concentrated companion shopping.

**Inner City**

*Trends:*

1. Older housing stock is deteriorating;
2. Very few multi-family development;
3. Older industrial areas are blighted;
4. Older commercial centers are deteriorating.

*Ideal Role; Urban High Density Residential and Community Convenience Commerce:*

1. The Inner city should provide compact and innovative housing;
2. Light industry should be “non-nuisance” and retain employment from within the city;
3. Community services such as health care, recreation and police and fire protection should locate in the Inner city.

*Policy Implications:*

1. Zone for multifamily and innovative housing development;
2. Rehabilitate or remove substandard housing (Redevelopment);
3. Zone for convenience shopping development;
4. Adopt performance standards for "non-nuisance" light industries.

**Suburban**

*Trends:*

1. Dispersed single family residential development;
2. Some convenience commerce and regional commerce;
3. Some multifamily housing

*Ideal role -Suburban "Bedroom" Communities (and all of their support services):*

1. Suburban areas should offer a variety of housing types;
2. Should not impede agricultural operations;
3. Should be accessible to the CBD;
4. Should provide convenience shopping

*Policy Implications:*

1. Encourage residential growth in existing platted subdivisions;
2. Zone for convenience shopping;
3. Encourage regional commerce to locate in existing regional centers;
4. Encourage industrial firms to locate in industrial parks.

**Rural Small Town**

*Trends:*

1. Communities successful in retaining industry have gained population;
2. Communities heavily dependent on the agricultural economy have stagnated (or are losing population);
3. Communities serve as bedroom communities, with limited commerce or industry opportunity

*Ideal Role: Preserve Small Town Atmosphere:*

1. Rural Small Town should provide housing for persons employed in the rural and small town economy;
2. Should serve as a distribution center for agricultural goods;
3. Should work with each community to determine their goals and growth patterns.

*Policy Implications:*

1. Provide transportation networks which connect rural towns and urban centers and which facilitate commercial and industrial travel;
2. Limit urban and residential dispersion which inhibits agricultural operations;
3. Provide moderate income housing for agricultural laborers and others employed in the rural and small town economy;
4. Zoning for commercial convenience shopping;
5. Provide amenities which preserve, and improve the quality of life.

## **Rural**

### *Trends:*

1. Scattered residential development has hindered some agricultural operation;
2. Persistence of a depressed agricultural economy and farm land prices has made marginally productive lands on the urban fringe attractive for alternative uses.

### *Ideal Role -Agriculture Atmosphere:*

1. Prime agricultural land should remain in production;
2. Marginal agricultural lands adjacent to urban areas should serve as a land reservoir for growing urban development

### *Policy Implications:*

1. Preserve prime agricultural land;
2. Prevent dispersed residential and urban development which disrupts agricultural operation
3. Separate agricultural land from other uses.

## **Lakeland**

### *Trends*

- 1 Residential development has consumed large amounts of lakefront open space;
- 2 Lakeland development has become overcrowded;
- 3 Developers are building on marginal lakefront areas, increasing the possibility environmental pollution and flooding

### *Ideal Role - Bedroom and Recreation*

1. The Lakeland should provide attractive and diversified seasonal and permanent housing;
2. Should provide open space for aesthetics;
3. Lakes should be equally accessible to all segments/populations of the County and general public.

*Policy Implications*

1. Protect sensitive and marginal lakefront areas from development;
2. Discourage high density lakefront development
3. Procure and develop lakefront areas for public recreational use.

## **COMMUNITY GOALS**

**I**ssues concerning economic development, the environment, circulation, and growth pressures are the most pressing issues influencing past and current development trends in Kosciusko County. These four driving forces, were identified based on the county profile and it's demographic trends, past planning efforts, and participant responses at citizen forums. Because of their compelling influence on development patterns, these four issues form the foundation of the new plan. Indicators of the driving forces, such as the reduction in farmland and increased traffic congestion on major routes, not only help to demonstrate the existing conditions of the region, but also deliver some insight as to what the future may hold for Kosciusko County. As a whole, the comprehensive programs for Kosciusko County need to provide a proactive guide for change. With the driving forces in mind, three goals were derived as a foundation for the development of this plan...

### **Growth Management**

The current conditions in Kosciusko County, in particularly the growth occurring in the rural areas, establishes growth management as a key issue. Growth management involves the guidance of change to allow for a better quality of life for Kosciusko County businesses and residents, as opposed to reacting to the existing driving forces by preventing or restricting new development. Recent growth in the unincorporated areas of Lake County has resulted in stressed public services and infrastructure and a threatened natural environments.

Growth management is most obviously an element of land use, but is also a part of all policy areas, especially the environment, economic development, infrastructure, and transportation. For the maintenance of Kosciusko County's quality of life, programs in each of these areas needs to include realistic techniques for growth management. In the case of land use, this would include the establishment of development target areas for guiding development to where it is most appropriate. Environmental policy in these target areas would be used to protect sensitive natural features, and public service programs and infrastructure would be developed to anticipate growth.

Establishing growth management as a primary goal sets a basis for directing future economic development and land use while preparing public and social services and infrastructure to accommodate change. Growth

management in Kosciusko County needs to be strategic as well as comprehensive in its application of policies and programs to be best prepared for what is ahead.

### **Improving Communication**

Although addressed in the 1967 plan, cooperation and/or coordination between local communities and public agencies is still a concern of many residents. Many issues discussed at the public forums were location-specific, however, concerns about inadequate political representation and control of decision-making were common throughout the six townships involved. Improving communication and organization between community leaders, residents, and public agencies is a priority because of the potential it has for improving the quality of life in Kosciusko County. The key is the development of efficient agencies and programs encouraging involvement, leadership, and cooperation between all those affected by local or county decision-making.

### **Preservation and Enhancement of Community Character**

Community character can be seen most prominently in the architectural features of the residential neighborhoods and commercial centers, as well as with the pride and care individuals take in the communities they live in. For example, many Kosciusko County residents are proud of and very comfortable with their "small town" environments. Growth pressures, economic development, environmental issues, and circulation problems, however, have begun to threaten the character of Kosciusko County's communities. Preservation and enhancement of this "small town" community identity can be achieved by encouraging new growth to visually conform to the historical and/or rural context. Utilizing tools such as design standards and design review, new development and modern architectural styles can be successfully integrated into the community while ensuring the preservation of existing character.

## LAND USE

Land Use theory, growth objectives, and a land development framework guide land use policy. Land use theory hypothesizes the relationship between the individual, property, and the community, and explains the functions of land use planning and regulation. The land development framework specifies the interrelationship between different land uses within a land category. The Kosciusko County land use policy bases its components on land use theory, attempts to accomplish community growth objectives, and follows the land development framework (all of which their document explained in the introduction).

As this document previously mentioned, private decisions essentially drive development. Land use market demands encourage individuals and groups to use land which best meets the community's demand. For example, if County residents demand more commercial establishments, suppliers will construct or initiate more retail centers (given reasonable profitability assurances). When the market fails to meet needs which the community identifies, planning efforts should encourage public or private action. The Comprehensive Plan does not attempt to be an exact blueprint which designates specific spots for a particular business. Instead it should identify target zones for the needs the market is not meeting, and encourage development in these areas.

Past land use patterns indicate that developers are gradually converting agricultural land to other uses. Table 2.1 provides the acreage distributed by land use for the county and each township for 1980 and 1987. As the table indicates, the County rezoned over 3,000 acres from agricultural to other districts between 1980 and 1987. Most of the conversion went into industrial area which gained over 1,770 acres. Residential area gained over 960 acres, commercial area increased over 100 acres and environmental area increased almost 200 acres. Most of the conversion to industrial areas has occurred in Plain and Prairie Townships. In December 1986, the Kosciusko County Commissioners rezoned 660 acres in Plain Township and 835 acres in Prairie Township from agricultural to Industrial (3 1/3 mile industrial Corridor encompassing U.S. 30 West of Warsaw). The commission decision constituted the largest rezoning in county history. Other townships have gained significant residential area. Wayne Township gained 325 acres, Plain Township gained 192 acres and Van Buren Township gained 137.5 acres.

Requests to rezone to residential have continued to be a common occurrence.

With exceptions, the County's land use zoning has generally followed positive geographical patterns. Residential uses have clustered around urban areas and lakes. The concentration of development enables the county to provide service to residential areas efficiently. However, some residential areas are dispersed within agricultural regions and these are encroaching on agricultural operation and pose service delivery problems for the county. Commercial development has generally located along regional primary highway systems, particularly next to intersections. These locations are accessible, and attempt to confine traffic to streets which can manage the volume. However, some commercial areas have evolved into strips which, through numerous access points, have created traffic hazards and obstructed traffic. Industrial development has occurred near regional and primary highway systems, airports, and railroad networks. These locations provide firms, ready access to various transportation modes, and prevent truck traffic from traversing into isolated or inaccessible areas. In the future, most commercial, industrial and residential development should be required to occur near existing urban areas. This standard helps prevent spot zoning, and allows essential (Urban Services) to be fairly and economically distributed. An Urban Service map is provided to identify suggested areas of growth. This map shows the recommended areas, to help advise the Plan Commission during rezoning and development proposals.

This section of the plan section will discuss the land use issues, general planning objectives and use policies which Kosciusko County expounds for agricultural, residential, commercial, industrial, and environmental uses.

### **Agriculture**

During the 1970's communities and local governments expressed great concern about agricultural land conversion to other uses. Outward migration from central cities created high demand for outlying farmland and many communities experienced large farmland loss. Weak agricultural land prices increased productivity, and the generally depressed agricultural economy during the 1980's have tempered concern for agricultural land loss. Nevertheless, since historical experience demonstrates that agricultural land conversion is almost always irreversible, local governments continue to pursue farmland protection policies.

Given depressed land prices and the demand for development, the plan commission has shifted efforts from protecting all agricultural land, including marginally productive land, to protecting prime agricultural land. Many areas particularly northwestern Kosciusko County, contain Crosier and other Loams which are

among the most productive soils in the world. However, residential subdivisions, isolated mobile home parks, small rural residential tracts, residential strips, and other scattered development have encroached on prime agricultural land areas.

Development encroachment creates other problems in agricultural areas. Rural-residential conflicts emerge when agricultural operations generate externalities such as noise, dust, and odor. Occasionally, when a significant residential development encroaches on a predominately agricultural area, residents will attempt to pressure farmers to contain, or cease noxious agricultural operations despite the fact that those operation existed long before the residential development.

Given emerging trends, Kosciusko County should protect productive agricultural land from development, and regulate development on marginally productive land. In 1987 there were 104 farms with less than 50 acres, and 140 with 500 acres or more. (U.S. Bureau of the Census).

#### *General Planning Objectives*

1. Maintain an environment which facilitates agricultural production;
2. Protect prime agriculture land from non-agricultural development;
3. Encourage residential development which is rural in character;
4. Attempt to keep negative impacts to a minimum on adjacent properties

#### *Land Use Policies*

1. The Health Department should issue septic permits for private sewage disposal only on acceptable soils;
2. Each County department (affected) should conduct an impact evaluation for each proposed subdivision. The evaluation should study how the subdivision would effect soil conditions, property values, the transportation system, public service provision, and the environmental quality of the surrounding area;
3. The Area Plan Commission should continue the Land Evaluations and Site Assessment System, which the County can use as a tool to examine proposals to rezone agricultural land;
4. The County should coordinate efforts with the Kosciusko County Soil and Water Conservation District and the Kosciusko County Purdue University Extension Service to encourage County farmers to implement soil conservation and watershed programs

## **Residential**

Since 1980, residential development in Kosciusko County has followed national patterns. Deteriorating urban housing, increased disposable income, and demand for open space prompted residential migration from congested urban areas to larger lots in rural areas. Depressed agricultural land prices, and the declining profitability of farming have provided incentives for land owners to subdivide large land parcels or “sell off” smaller parcels for residential development. These trends have resulted in dispersed residential development in rural and suburban areas.

Scattered residential development poses numerous public problems. Public service provisions become more costly since school systems must invest more public funds to facilities required by the expansion of the service area. Scattered residential development also generates higher traffic volumes on the county roads, many of which were not designed to handle such volumes. Therefore, the County must spend more money on road maintenance; and residents may pay higher taxes to help support service expansions. The public does not evenly benefit from this expansion. Many people, particularly farmers, perceive the tax liability as a cost which does not justify of service expansion.

Scattered residential units can create public health hazards. Small agricultural "sell offs" for housing units result in strip residential development along County roads. These units usually establish individual access points onto the County road which when combined pose serious safety hazards. Dispersed residential development also makes public or centralized septic systems difficult to monitor, and creates potential health risks (such as ground water or surface water contamination, insect breeding, and other such nuisances).

Kosciusko County contains numerous lakes which support various recreational activities, and attract significant lakefront residential development. Residential property abutting a shoreline provides aesthetic qualities and easy access to the lake for the private individual. Although state law generally recognizes lakes as public property, current development patterns benefit very few of the County residents. This pattern significantly reduces public accessibility to the lake, and increases lake front property values at the expense of property values in the vicinity of the lake. Single row development also increase utility service provision costs, and makes public or centralized septic systems cost prohibitive in areas where such a system is most critical for public health. Additionally, overcrowding on lakefront area increases demand for more development, and increases the possibility of developing marginal land. Draining, filling, and

channeling increases sanitation, pollution, and erosion hazards. The trend to overbuild on existing lots also threatens the quality of lakefront development. Many lakefront lots, particularly small nonconforming lots, are already saturated with structures. These conditions decrease property values by creating overcrowding, increasing stormwater runoff and drainage to adjacent properties, and increases lakefront shoreline erosion.

The relatively young age of the County's largest population age group has created demand for low to moderate income housing. Mobile home parks and apartment developments frequently report high occupancy rates. However, developers have discovered that they encounter the least resistance when proposing to locate mobile home parks in isolated areas. However, effective planning dictates that the County locates high density residential development, such as mobile home parks, near urban areas where the development can readily access public services.

Some negative trends in residential development have emerged in Kosciusko County. Examples of these are: congested small lots, and allowing residential uses too close to agricultural operations. Community involvement must play a big part in promoting and proposing guidelines for development with good standards. Many lots have become congested due in part to the granting of variances for expansions. A large number of additions in an area can cause it to become much more crowded than originally intended for. Good planning and zoning should not be under minded. Unlike residential developments which occur on agricultural "sell off" lots, subdivisions and planned unit developments must provide the county with more control over the location, density, and configuration of residential developments. If these developments are well designed and managed, they will help promote a safe and comfortable living environment.

#### *General Planning Objectives*

1. Encourage residential development near compatibly zoned areas;
2. Encourage residential development in areas where public services already exist, or are in planned service areas;
3. Encourage residential development in areas adjacent to existing residential and urban areas;
4. Encourage residential development which utilizes available land in the most efficient way;
5. For proposed subdivisions, the Soil Conservation Services (SCS) should review soil and erosion factors.

6. Carefully review proposals for Home Occupations and Home Based Businesses, to ensure compatibility in the area.

### *Land Use Policies*

1. The Area Plan Commission should continue the Land Evaluation and Site Assessment (LESA) program which the Plan Commission can use to examine proposals that would rezone agricultural land;
2. The County should restrict residential development which depend on private drives;
3. The Area Plan Commission should encourage flexibility and innovation in Planned Unit Development;
4. The County should buffer residential development from commercial and industrial development;
5. The County should encourage residential development in undeveloped gaps located in suburban areas as well as adjacent to existing development;
6. The county should encourage residential development patterns which facilitate a neighborhood environment;
7. The Area Plan Commission should require that residential development preserve the integrity of natural site characteristics such as woodland, soils, topography, and drainage patterns;
8. The County should preserve sensitive land areas in a natural state;
9. The County should discourage residential development on soils which can not manage sanitary facilities;
10. The County should establish high density and low density residential districts;
11. The county should establish maximum structure ground floor area limits in relation to lot size;
12. The site design should provide for the human element (pedestrian traffic, recreation space, bikeways );
13. The site design should provide for adequate open space;
14. Major streets within the development should align with existing proposed streets that are adjacent to the development;
15. The development should provide for adequate drainage systems which prevent pooling or erosion on abutting properties;
16. Subdivision lots should be sufficiently large to permit construction that complies with the areas zoning;

17. Necessary public services and facilities such as fire protection, police protection, schools, and utilities should be capable of serving the development;
18. The developer should construct streets and drainage systems in a manner which minimizes County maintenance responsibilities;
19. The development should preserve the integrity of natural site characteristics such as woodlands, soils, topography, and drainage patterns;
20. The County Highway Department, County Health Department, County Surveyor, and affected police and fire departments should review development proposals, and then submit written comments on how these departments would service the development;
21. The Soil and Water Conservation Service should review development proposals and submit written comments on how the development will effect soil erosion and impact site soils and adjacent soils;
22. Developers should submit a plan on transportation, utilities, drainage, environmental impact, recreational, and support services. The report should attempt to integrate the development site within the surrounding areas;
23. Developers should submit a plan on maintenance and improvements.
24. Construction in flood hazard areas must comply with local and state flood control requirements

## **Commercial**

During the 1980's, commercial development has played an increasingly progressive role in the economic health of Kosciusko County. Upper income seasonal lake residents and the County's population have provided an attractive consumer market for national commercial firms, as well as local proprietary firms. This plan analyzes county development by applying commercial use standards which the Urban Land Institute has promulgated for local communities. Table 2.2 provides optimum standards for commercial centers. Since the Urban Land Institute devised these standards for urban areas, this plan revises some of the standards to enable a more appropriate application for predominately rural communities such as Kosciusko County. The neighborhood center, community center, and regional center designations are appropriate, but this plan expands the service area radius to account for the dispersed character of rural population neighborhood center service area radius is three miles, and the community center radius is six miles.

Commercial development serving Kosciusko County is concentrated in the major urban centers (in and surrounding the County). Most of the recent commercial development, including a relatively new regional center, has located in or near Warsaw. Other commercial centers, which offer more than convenience goods and personal services, exist in Syracuse, Nappanee and North Manchester. Many areas in Kosciusko County do not have ready access to even convenience sales or personal services.

Historically, county residents have commuted to the Fort Wayne, Elkhart, and South Bend metropolitan areas for complete comparison shopping. However, commercial development in the County is beginning to reverse this trend. The new regional commercial center on the far east side of Warsaw, offers retail establishments which have retained some of the local consumer market that has traditionally gone to other metropolitan areas. Nevertheless, many County residents will continue to shop for furniture, appliances, clothing, and other durable goods outside of Kosciusko County.

Without question, an expanding County consumer market has prompted developers to build new commercial centers. However, the community should not discount the distribution effect new commercial development has on existing commercial centers. In addition to meeting expanding consumer demand, the new Warsaw Regional Center is likely to attract a portion of sales volume which other commercial centers such as the Warsaw Central Business District previously accumulated. New commercial developments, which are locating on more spacious tract in the outskirts of cities and towns, enjoy significant advantages over locally owned firms that operate in the central business district. Second, the new developments usually are located on major highways, which are readily accessible for large traffic volumes. Also, these new developments locate on large land tracts, which provide parking advantages. Cities and towns have a direct interest in preserving the health of the central business district. City and County efforts should focus on transportation to and from the central business district, available parking space, physical appearance, and the quality of infrastructure servicing the district.

From a planning perspective, Kosciusko County has experienced some negative trends in commercial development. Generally, commercial development should be intensive rather than expensive. Firms should concentrate in an area where utilities can be extended, and which are accessible to major highway and other transportation modes. Good ingress and egress, as well as providing adequate parking, are other important factors. Buffering commercial activity from other uses preserves residential and commercial property values, and efficiently utilizes available land. However, the County (like many others) has

experienced commercial development which deviates for these principles. Commercial development is scattering into areas outside of commercial zones. In some cases, the Board of Zoning Appeals has granted home occupation exceptions, which have emerged into full-fledged commercial establishments. As this occurs, it is imperative that the business move to a commercial or industrial district.

Some highway corridors supporting substantial traffic, are developing into commercial strips which create more traffic congestion and hazards. Strip development mixes high speed traffic with slow moving traffic, eventually traffic safety problems will evolve if the County and State do not tightly control ingress and egress onto the main highways. Since main strip commercial development is usually dispersed, and consumes large amounts of land, the development usually will adversely affect the property value of adjacent uses (particularly residential). In many cases where the business fails, the property deteriorates, and becomes unsightly. Numerous commercial establishments have haphazardly located along State Road 13 between Syracuse and North Webster; and recent developments indicate that State Road 15 between Leesburg and Warsaw may develop in the same position.

Kosciusko County must control scattered and haphazard commercial development. These developments pose public safety problems, inefficiently utilize land, and threaten property values by conflicting with adjacent land uses.

#### *General Planning Objectives*

1. Concentrate commercial development in the central business district (CBD) of incorporated areas, and in the focal points for commercial activity in out lying areas rather than randomly located in scattered areas;
2. Recognize various types of commercial districts; i.e. the CBD best supports commercial establishments which produce heavy, truck, traffic (deliveries), such as grocery stores and equipment sales;
3. Promote pedestrian movement throughout commercial strips;
4. Confine new commercial development to areas with adequate transportation, utilities, and drainage facilities;
5. Encourage commercial developments which are compatible with surrounding development;
6. Upgrade and utilize existing commercial sites before rezoning, for new commercial development

### *Land Use Policies*

1. The CBD should promote pedestrian movement and convenience shopping by facilitating vehicular and pedestrian traffic separation, off-street parking, beautification and landscaping projects, and open space, for future commercial development;
2. The Area Plan Commission should reserve major highway intersections for commercial use, and discourage residential development;
3. The Area Plan Commission should restrict ingress and egress for commercial development to collector streets, and prohibit ingress and egress on thoroughfares;
4. The County should restrict commercial development to soils which can manage sanitary facilities;
5. The County should require commercial development to centralize sanitary facilities, or to connect to public facilities.
6. The County Health Department and Area Plan Commission should establish standards for waste disposal and materials storage, which will reduce air and water pollution, noise, and visual blight;
7. When rezoning for new commercial development, the Area Plan Commission should rezone a sufficient quantity of land to permit future expansion

### **Industrial**

Beginning in the 1950's, the industrial plant started going through different stages of change. Before World War II, the typical industrial facility was a multi-floor structure located in the heavy, industrial, sector of a large city. Firms arranged productive processes on separate floors; and mammoth elevators transported raw materials and processed goods from one production stage (floor) to the next. The plant stored finished goods in warehouses located either across the street or at a distant location. These firms relied on railroads to transport large quantities of raw materials and processed goods to and from the plant. Since World War II and demobilization, the new industrial facility has located in open space suburban areas on large land tracts. Firms have rearranged productive processes on large, horizontal, single, floor structures, and have transported raw materials and finished goods primarily by truck.

The current industrial facility is attributable to government action and technology. The interstate highway system and four-lane thoroughfares make large, open, land tracts in the areas surrounding cities accessible to truck transportation and the labor force. Also, urban and suburban governments granted developers permits to build industrial parks, and provided water and sewer services. Technological improvements in production and waste management have sharply reduced industrial effluents and smoke emissions, and

minimized the noxious externalities which people associate with the typical urban smokestack. As a result, the new industrial facility could interact with other uses, particularly those in suburban areas.

The United States began its decline as a manufacturing power in the 1970's. Plant shutdowns and relocations have devastated many communities and have forced others to engage in heated competition to attract new industry. Many communities have established a (public or private) economic development group, whose primary mission is to attract and retain industry in the community. Economic development experts have discovered that firms want quality land rather than settling for whatever the community deems to be unproductive for other uses. The land must be relatively flat and drain well. The soil must be solid and have an eight bearing capability. The site should be accessible to major transportation modes, including interstate highways and major thoroughfares, railroads, and airports. Of equal importance, the land must be physically attractive because firms have become increasingly conscious of the advertising value of their site. Communities, successful in economic development, have provided firms, with site alternatives and flexibility, within the sites, by reserving ample land for industrial use and providing flexible industrial park design. Often, firms are attracted to sites where preparation costs are minimal and local government has already provided the necessary utilities. Sites which need minor landscaping, facilitates drainage through previous excavation and grading, and have connections to water and sewer lines are especially attractive. However, communities should exercise caution before embarking on major economic development investments. Local government and developers should evaluate other factors which strengthen or weaken the ability of the community to attract industry. Local officials must be able to estimate whether large public and private investment in site preparation will significantly improve the likelihood that firms will locate in the community.

Generally, industrial development in Kosciusko County has followed positive geographical patterns. Large industrial developers have migrated toward favorable site locations and other new development has reflected the industrial park concept. Significant industrial development has occurred along major highways and railroad lines, particularly along U.S. 30 in Warsaw. The Warsaw Municipal Airport has attracted clusters of industrial parks and sites. Developers are constructing new industrial parks on U.S. 30 north and east of Warsaw and northwest of Pierceton. Currently, Kosciusko County has approximately 1900 acres of land zoned light industrial available for development. Most of his land exists in the 1500 acre U.S. 30 industrial corridor northwest of Warsaw, which the county commissioners rezoned from agricultural to light industrial in December, 1986. The City of Warsaw has contemplated annexing the

eastern half of the corridor; and a recent study concluded their municipal sewer and water provision (to at least a portion of the corridor) is technically feasible.

Industrial development has scattered into some county rural areas and several isolated non-conforming developments continue to operate. In other cases, the Board of Zoning Appeals has granted special exceptions for activities which have essentially evolved into industrial operations. However, scattered industrial development increase land use conflicts, and invites the possibility of environmental hazards. Unless firms are conscientious of landscaping and physical appearance, industrial sites in rural areas are an eyesore. Furthermore spot location of plants complicate the county's task of monitoring groundwater and surface water sources for industrial effluents and other pollution. Industrial sites require extensive septic systems because firms generate large volumes of waste and sewage. Dispersed industrial sites increase construction and maintenance costs for water disposal, and create economic incentives to illegally dispose effluents into streams and lakes.

The principle planning objectives of industrial development are to concentrate sites into areas which public infrastructure can efficiently and effectively serve the development and to require firms to minimize externalities such as air, water, and noise pollution (which affect surrounding land use). Special attention should be given to proposed industrial developments, intending to locate near a school or hospital. Locating a firm that uses hazardous material near dense populations is not advisable.

#### *General Planning Objectives*

1. Concentrate industrial sites in favorable locations and in such a way to minimize environmental hazards, street maintenance costs, utility costs, and police and fire protection;
2. Reserve a sufficient amount of industrial zoned land to provide a variety of flexible sites, and to avoid industrial land shortages which inflate land prices;
3. Protect environmentally sensitive areas from industrial development;
4. Encourage and plan utilities and public services for an adequate quantity of industrial areas;
5. Promote the industrial park concept, particularly parks which provide site alternatives to smaller firms; these parks should provide amenities (i.e. roads, utilities) which smaller firms are usually unable to provide on their own.
6. Provide access to areas adjacent to industrial development to prevent "land locking" areas from future development.

### *Land Use Policies*

1. The County should zone for industrial land near rail lines, airports and major highways;
2. The County should segregate industrial use from residential, commercial, and public use;
3. The County should rezone land which has a small number of property owners and which has few existing structures;
4. The County should zone land where prevailing winds will carry noxious odors away from residential areas;
5. The county should segregate smoke, odor, and noise producing industries from industries which do not produce these externalities;
6. Public or centralized septic systems should serve heavy industries and industries which produce waste.
7. Encourage attractive industrial land uses that have sufficient space for expansions.

### *Industrial/ Subdivision Criteria*

1. Industrial subdivisions should locate in an area which allows for future expansion;
2. Industrial subdivisions should locate in public utility service areas or planned service areas;
3. Two or more arterial streets should provide access to the park;
4. Arterial streets should have four lanes for industrial parks that are 100 acres or more in size;
5. Street lanes, within the industrial park, should be wide enough to accommodate large trucks; and intersections should provide sufficient room for trucks to negotiate turns;
6. The industrial plat should follow a grid design, which facilitates subdivisions into rectangular sites of various sizes;
7. Industrial subdivisions should provide sufficient employee parking and should keep some land reserved for landscaping.

### *Environmental Use and Conservation*

The quality of the environment has attracted industry, jobs, and residents to Kosciusko County. Without question, growth and opportunity in Kosciusko is attributable to the vitality of its people. Natural characteristics and the physical environment have created attractive opportunities to develop and reside in the County. Governing relationship between natural characteristics and economic opportunity in Kosciusko County, and has become a critically important issue in land use regulation.

Private land ownership and public land use regulations have opposing objectives. Private ownership maximizes benefits for the individual property owner; and land use regulation (public) protects the general public from any externalities a private land owner might impose. Inevitably, public restrictions on private land use generates tension from many private landowners. Land use restrictions which attempt to meet environmental objectives can create conflict, because environmental regulations typically require property owners to preserve their land in its natural state, and not do full scale development. Many actions which property owners confine within their own boundaries negatively affects surrounding properties. In some cases, action affects public goods, which are a benefit to many people, such as lakes, rivers, and air. For example lot filling and construction may produce an attractive house and higher market value, but it may also create flooding and drainage problems on adjacent properties. Residential construction on a river bank provides scenic and attractive housing alternatives but may also accelerate erosion, and contribute to depositing organic and inorganic materials into the river. This, in turn, creates water quality problems downstream. Since some individual property owner's activity affects the environmental quality from which other derive benefits, land use restrictions are necessary instruments, which local government and organizations use, to preserve the general public's accessibility to public goods.

Wetlands in Kosciusko County provide many benefits to the regional population, as well as County residents. In the Tippecanoe River Valley, wetlands serve as a reservoir which impounds water overflow, and transports water to underground aquifers, thereby controlling floods. Wetlands benefit wildlife by providing breeding and migrating grounds for waterfowl, winter cover for small game, and sanctuary for rare plants. Wetlands also facilitate agricultural production and other development by preventing soil erosion. However, residential development is jeopardizing many of the wetlands in Kosciusko County, particularly on the lakefront areas. Dredging and filling wetland sites accelerates drainage by transferring flooding problems from one area to another. Additionally, groundwater pollution and other environmental hazards are likely to occur when residential developments install septic systems in wetland type soils. Given the numerous environmental problems in wetland development, the Area Plan Commission should carefully examine the benefits and costs of allowing development near a wetland area. The State of Indiana has designated many areas as off-limit for development by rezoning as an environmental district.

Rather than presenting clear solutions, many issues in Kosciusko County are multidimensional. Effective environmental policy formulation requires that planners analyze all identifiable dimensions of an issue.

With every policy passed, there will be someone who benefits and someone who pays, and the degree to which one benefits or pays differs. For example, the County Surveyor's office has confronted the issue of ditch dredging. Farmers and owners of properties which drain into County ditches depend on the ditch dredging to facilitate drainage and minimize flooding. Owners, of property on or near the lake into which all the ditches drain, perceive that ditch dredging accelerates lakefront flooding problems, and discover that the lake has become a receptacle for pesticides, chemicals and other foreign materials.

Kosciusko County should facilitate economic and residential development in the context of preserving environmental quality. This task requires that the County carefully compare the costs and benefits of development, in relation to protecting the environment.

#### *General Planning Objectives*

1. Protect natural resources such as lakes and streams from pollution and encourage programs which preserve water quality;
2. Maintain the integrity of designated wetlands;
3. Encourage land use programs that reduce pollution and erosion into County ditches;
4. Protect areas having historical or natural significance to the County;
5. Discourage residential, commercial, industrial, and other intensive development in sensitive land areas

#### *Land Use Policies*

1. The County should restrict development in sensitive areas to non-structural recreation, agriculture, and essential service uses only;
2. The Area Plan Commission should review all development projects for effects on drainage, flooding, water table levels, wildlife, or rare plant life;
3. The County should devise and adopt a drainage ordinance which regulates drainage from one site, to adjacent and other neighborhood sites.
4. Continue to keep pollution from our streams and lakes.



Any changes in local policies need to respect infrastructure capacities and the natural environment while providing for appropriate growth and development. In light of existing land use patterns and control methods for future changes, the key objectives of the programs for local land use control are...

- establishing land use patterns compatible with local natural features and infrastructure conditions;
- utilizing flexible, performance-based land use control methods;
- encouraging increased public/private cooperation in the development process

**Objective One: Establish Sensitive Land Use Patterns**

A variety of factors used to identify the four development environments which serve as target areas for development. The target areas are the result of a comparison of the needs of individual development types (industrial, residential, commercial, open space) with local features such as soils, slopes, and road congestion. The result of the process is a geographic definition of areas most suitable for future development.

*Overlay Factors:*

Factors included in the land suitability overlay process include both existing natural features (such as floodplains or woodlots), as well as built features (such as roads and utilities). Also significant factors in the process were existing developments and the future open space needs described in this plan.

*Soils:*

Local soil conditions have implications for development based on their general "buildability" and permeability. As most of Kosciusko County is reliant on septic systems, the ability of soils to support those systems is a key to development.

*Slope:*

The flat to gently rolling topography of Kosciusko County provides few hindrances to development. However, when combined with soil information, the areas most prone to drainage problems can be identified.

*Floodplains:*

The current Kosciusko County Flood Control ordinance establishes flood zones for the county. Flooding results in significant property damage in the zone. The most significant local floodway exist in the Tippecanoe River Basin and along the streams which are its tributaries.

*Wetlands:*

Construction on wetlands is prohibited by law due to the potential, for the destruction of important habitats, and the disruption of natural storm water runoff patterns and groundwater recharge.

*Prime Farmland:*

A vast majority of unincorporated Kosciusko has been designated as farmland due to the same soil and slope conditions that make it inappropriate for development. The value of setting aside this land is based on the value of the agricultural base to the local economy, environmental conditions, and the visual quality that is the foundation for local small town/rural community character.

**L. U. T.A. -Land-Use-Target-Areas**

The suitability overlay process identifies geographic areas with attributes most appropriate for development. These Land-Use Target Areas, serve to focus the future development of the county. The target areas represent the most appropriate location sensitive to existing natural systems, road, infrastructure capacities, and existing development patterns. All areas designated as target areas should be reserved for agriculture. Agriculture is a viable land use. Farmland should not be considered "undeveloped" land.

*Conservancy Areas:*

Conservancy target areas are based on the current flood plain zones as described in the county ordinance, and portrayed on the county map.

*Parks and Open Space:*

These areas are similar to conservancy areas.

*Residential*

The locating of residential areas is based on the presence of secondary access routes, comparatively minimal limitations on infrastructure and waste management systems, and the presence of nearby communities, sources of employment, and consumer opportunity.

*Commercial*

Commercial areas were designated with regard to local environmental conditions such as soils, slope, and floodplains. However, more significant factors include the presence of complimentary residential areas or transit routes providing high visibility and accessibility.

*Industrial:*

Industry moving into the area would most likely be light in nature, therefore, access to transit routes and compatible commercial areas are significant factors

*Action Step 1:*

Update the current zoning map to represent the geographic guidelines established by the target areas.



*Action Step 2*

Publish brochures detailing zoning map changes to landowners and developers discussing the merits of proactive, performance-based zoning and an explanation of local changes



*Objective Two: Alternative Land Use Controls*

### *Action Step 1*

The following action step options represent increasingly intense and progressive land use and development management strategies. They provide options for proactive measures which, in many cases, are not applied simultaneously. Each is appropriate for conditions in Kosciusko County but differs from the others in the scope of control placed on new development.

#### Option 1

Expand the scope of residential, commercial, and industrial planned unit developments and cluster developments as provided for in the current Kosciusko County Zoning Ordinance. These zones could provide a basis for the establishment of design standards on sites in the target areas, while minimizing curb cuts and limiting unnecessary land consumption.

#### Option 2

Establish land preservation districts (LPD) as overlays to existing zoning. The land preservation is a performance-based alternative to standard residential zoning which can also be applied to industrial or commercial clusters. The primary purpose of the land preservation district is to encourage development while protecting a rural, small town character. Characteristics include...

- require that 75 percent of each site be used as open space
- eliminates reliance on borrowed open space (farmland, woodlots) adjacent to development;
- includes smaller lots (typically 10,000 to 6,000 sq. ft.) grouped in "neighborhoods" of 5 to 25 dwelling units around a common open space;
- allow for the linkage of open spaces into a county open space system
- setbacks/buffers are required between neighborhoods, roads, and crop land;
- typically requires on-site sewage treatment;

-implementation required in the zoning text establishing the setbacks and open space requirements, and changes in the map designating the areas to be overlaid by the LPD

### Option 3

Establish an adequate public facilities ordinance (APFO) to limit or restrict growth in areas with incompatible infrastructure, or infrastructure systems at capacity. The APFO is applied as an overlay zone to areas which are prone to congestion or inadequate stormwater management. The APFO does not ban development, but rather requires greater private sector input into the updating of infrastructure. For Kosciusko County, the establishment of these overlay districts would minimize the congestion and storm water damage that is characterized the increased development.

-implementation requires the addition of appropriate text detailing the district to the zoning ordinance, and alterations of the zoning map to include the designated overlay areas; and

-the process of insuring that developers satisfy the increased infrastructure needs of the new development becomes a part of the Plan Commission's review process.

### Option 4

Build upon the current point system (LESA), which is currently used only for rezoning cases. The use of a point system allows the county to create a set of development and design standards that govern the approval process. Each proposed rezoning is evaluated based on criteria, such as compatibility with existing development/land, infrastructure, impact on natural systems, or past use of land. In a point system the governing entity establishes a minimum number of points that must be compiled for approval of the development. It is encouraged that the County use a LESA type point system for all proposed, major developments.

### **Sample of Point System Criteria**

- adjacent use
- open space ratio
- density of buildings
- setbacks
- road quality
- transit access
- recreational opportunity
- historic preservation
- gross density
- buffering
- building heights
- on-site circulation
- pedestrian linkages/systems
- intensity of surrounding uses
- consumer opportunity
- fire station proximity, etc
- distance to contiguous urban development

# HOUSING

A majority of the development that has occurred in Kosciusko County over the last ten to fifteen years has been residential. These developments typically compromise the rural/small town character that originally made the area appealing. The sprawl and congestion, excess curb cuts, increasing demands on services, and rising costs of living, associated with increased population, are a great concern to many county residents.

The housing program for Kosciusko County is based on the objectives of...

- Limiting sprawl and avoiding unnecessary land consumption
- Providing diverse, affordable housing options
- Reducing visual conflict between new and existing homes and subdivisions

## **Objective One: Limit Sprawl**

### *Action Step 1*

Promote cluster developments through tax and infrastructure incentives, encouraging builders to develop smaller lots and retaining the overall density and character of the area.

### *Action Step 2*

Assess new housing projects based upon infrastructure, service and school capacity, visual character, and potential for adding to road congestion. The developer should be responsible for providing infrastructure and service capacity for what they utilize.

## **Objective Two: Provide Diverse Housing Options**

### *Action Step 1*

Perform a regular housing analysis which will address the condition, and quality of the housing stock.

### *Action Step 2*

Offer density bonuses to developers to encourage the construction of affordable housing. The bonuses will increase the allowable density for developers, which include affordable housing in their developments.

### *Action Step 3*

Encourage the maintenance of the existing housing stock by offering programs and grants to low-to-moderate income home owners for repairs and routine maintenance,



**Objective Three: Reduce Visual Conflict**

*Action Step 1*

Include provisions in the development point system allowing the builder to gain points for construction that follows the themes/basic architectural characteristics of adjacent developments.



Housing  
Benchmarks

General Benchmarks

Complete the first of the regular housing surveys.

## **COMMUNITY FACILITIES - INFRASTRUCTURE**

Local and County governments regulate, coordinate, and provide many types of community services and facilities. Services and facilities such as utilities, fire protection, parks and recreation, and solid waste management directly impact land use development and planning. These services and facilities consume land for public purposes, but they also influence adjacent land as well. Additionally, population growth and migration, economic development, and residential development maintain an interactive relationship with community services and facilities. Communities provide services and facilities to guide growth and development, or to react to current growth and development patterns. Regardless of who provides these services or facilities, either local or County governments must assess the impact (of the facilities) on the public and develop strategies for their location and construction.

The Community Facilities Plan will identify: existing water and wastewater treatment utilities, emergency services, park and recreation facilities and solid waste disposal facilities. This plan will also discuss demographic, economic and environmental impacts. Collapsing bridges, inadequate sewer extensions, and water main breaks are just some examples of how inadequate infrastructure can create economic burdens for a community. The investment infrastructure (capital) today, will help provide better communities for years to come.

### ***Historic Preservation***

Careful thought should go into rezoning and development proposals that may have adverse affects on historical sites or buildings. Typically, communities want well designed, nicely landscaped developments that also provide good traffic circulation. Development is viewed from many angles. Often small town residents and rural dwellers wish to obtain that type of environment, while others want growth. Kosciusko County offers many styles of living. These different styles can cause conflicts as life-styles encroach on each other. Environmentalists and developers are often at odds with one another. Historic preservationists are also often at odds with developers. Kosciusko County has several structures/areas with great historical significance. Many properties in the county have been listed on the National Register of Historic Places.

### ***Water and Wastewater Treatment Utilities***

Communities vary in their stance on the relationship between water/sewage utilities in relationship to new development. Some localities construct water and sewer lines on undeveloped land with the anticipation that developers will buy the land and build. Other localities construct water and sewer lines on developed

land as a response to growth, or existing/potential environmental problems. Often, the Local approach depends on the types of development.

Due to intense interlocal competition, many communities will invest in utilities on undeveloped land to attract commercial and industrial development. Industries perceive areas with existing utilities as especially attractive for development. Municipalities perceive commercial and industrial land as attractive for annexation purposes because of potentially high property tax revenue. Communities usually do not apply the same utility strategy to residential development as they do to commercial developments. Rather, localities will construct water and sewer lines in residential areas only after population density or environmental conditions necessitate the facilities, or when a municipality annexes the land. Furthermore, residential land is not as attractive for annexation, (provision of utilities) because it generates no sales or income tax revenue.

Most generally property tax revenues typically do not pay for the full range of municipal services, which localities must provide with annexation. Adequate utilities are vital to a good quality of life for Kosciusko County's residents. Cooperation between the County and Municipalities is important when planning for utility expansions.

Communities in Kosciusko County usually have invested in utilities as a response to development, rather than in anticipation of development. Towns and sanitary districts have constructed water and sewer facilities when development patterns and environmental requirements have necessitated action. Communities can use water and sewer line placement as a powerful planning tool. The types of utilities provisions in undeveloped area can influence development types and growth. For instance, economic growth can be commercially or industrially hampered if there are limits on water and sewer expansions. Uses need to be placed in areas that offer adequate utilities for that use.

### ***Water***

Communities generate water supplies from two sources; rainwater (surface water) and groundwater. Central water systems collect rainwater either directly, from rivers and streams, or from the ground after infiltration. Some communities use draft systems remove water from rivers, streams, ponds and lakes. When communities do not have access to draft systems, they may draw water from protected impoundments such reservoirs. When considering development proposals, the Plan commission must be

aware of the available water source that will serve that area (well or municipal). The Plan Commission must also work with state and local health officials concerning the water supply. Developments should be targeted to areas where municipal water exists, or is expected to be extended.

### ***Wastewater Treatment***

Communities construct wastewater treatment facilities primarily to eliminate pollutants into our streams and rivers. The Federal Clean Water Act of 1972 established quality standards for urban wastewater. The subsequent 1977 Act provided federal funds to assist local communities in designing and constructing wastewater treatment plants. Lot sizes in residential areas are one determinant if a centralized treatment plant is needed. Public health requirements generally discourage on-site sewage disposal for lots less than one acre in size. Additionally, state and local health authorities will mandate centralized facilities in cases where soil and groundwater conditions will not support on-site disposal (septic). Most of the problems with sewage disposal in Kosciusko County occur near the numerous lakes in the area. One of the goals of Kosciusko County is to try to expand sewer in the lake areas.

In July of 1993, the firm of Jones and Henry Engineers, Inc. began a sewer feasibility study to determine the needs of sewer extensions for Kosciusko County. They determined the best type of system for each section of the County, and attempted to guide the public and officials toward the implementation stage. Of the 25,023 residential units in the County, about 18,000 are not attached to a sewer system. The study suggested adopting a County Economic Development Income Tax (CEDIT) to help fund sewer and other capital improvement projects. Several types of grants were also mentioned.

In March of 1994, the County Council decided not to adopt the tax for the time. According to Jones and Henry, fourteen industries in the County have treatment facilities that discharge into receiving streams. The remainder of the County's waste goes into dry wells, septic tanks, cesspools and the lakes.

### ***Potential Water and Sewer Service Expansion Areas***

The Area Plan Commission has established principal criteria for evaluating potential service expansion areas. The criteria are amount/types development that a community anticipates and soil type. Communities should expand service areas for prospective commercial, industrial, and residential development. If annexation is a consideration, sufficient service provisions will be a large factor to consider.

Soil type and composition are very critical issues. Communities provide water and sewage to areas with soils characterized by wetness, seepage, or slow percolation and flooding. Ordinarily, soils with poor filters may still manage on-site septic systems depending on the type of system the lot owner uses. With respect to undeveloped areas, soil bearing capacity is also very important. Communities should not encourage development in areas where soils are considered poor for building. Generally, communities should provide utility services to areas with soils unsuitable for on-site systems but (in all other aspects) suitable for building development. The existence of flood plains should not necessarily disqualify potential service areas. Unlike unsuitable soils, which simply do not allow septic, utility service lines can be placed to avoid flood plains within a service area.

Towns must decide how far to extend sewer service. There are several reasons for sewer expansion: protection of lakes, the environment, and improved quality of life (via better service to residential areas and industrial parks). The creation of non-municipal sewer authorities (Conservancy or Regional Sewer Districts) is possible in the future of Kosciusko County

### ***EPA Construction Grant Program***

The Federal Clean Water Act of the early 1970's established pollution discharge standards for wastewater and other water sources, and mandated that local communities meet these standards. The Clean Water Act of 1982 established the National Pollutant Discharge Elimination System (NPDES). Under this program, the EPA requires local communities to meet pollutant discharge standards with an EPA approved method or technology. Although the program did not mandate a specific design, it did provide construction grants for communities choosing to reduce pollutants through centralized water and wastewater treatment facilities. Each grant involves a planning or alternative assessment stage, design stage and construction stage. Although the EPA makes money available for the construction stage, communities may also receive advances for planning and design. The Claypool, Pierceton, Syracuse, and Turkey Creek Sanitation Districts have participated in the EPA construction grant program.

### ***Utilities Plan***

The following pages will look at Claypool, Milford, North Webster, Pierceton, Syracuse, and the Lake Wawasee area. The following section will describe the existing and planned facilities, identify service areas (which the county and towns propose) and evaluate the examined service areas in terms of the

expansion criteria. (For further sewer expansion information, refer to the County Sewer System Master Plan by Jones and Henry).

### *Claypool*

Existing Facilities and Plans: Claypool currently provides public water to most of the residents and businesses within the town limits. The town has two ponds (lagoons) one of which is 2.94 acres and the other which is 1.71 acres. The ponds have operational depths of 2,873,000 gallons, and 1,671,000 gallons, respectively. The EPA has mandated that Claypool reduce its wastewater pollutant discharge. In July of 1993, Claypool was granted \$454,000 for water system improvements, from the Indiana Department of Commerce. Figure 3.1 shows the sewer service areas for the town.

Proposed service area: Schenelker and Associates out of Fort Wayne have prepared the Claypool wastewater treatment plant. They have proposed a new public service sewer area.

### *Milford*

Existing Facilities and Plants: Milford currently provides public water and sewer service to residents, businesses and industry within the town limits. Milford has expanded water and sewer utilities north in anticipation of development. Currently, the town provides sewage collection to 95%, and water liens to 80% of all annexed areas of the community. The existing waste water system collects both stormwater and wastewater, utilizing aerated lagoons, and has a capacity of .185 million gallons daily (an average daily flow of .150 mgd). Milford separates 70% of its stormwater from sewage at this time. All stormwater separation is expected to be completed by 1996. The town is currently working with Jones and Henry Engineers to upgrade the lagoons' capacity and quality. This should be completed by 1995 giving Milford a designed capacity of .220 mgd. Figure 3.2 shows the sewer map for Milford. The water department owns and operates a ground water system consisting of two wells with the capacity of .576 mgd. The average daily use of the water department is .150 mgd. as of 1993 statistics. The water storage tank. The tank is a 200,000 gallon elevated water tower which was constructed in 1983. Milford is also expected to add an iron removing filtration plant by 1996.

Proposed Service Area North (N): The water and sewage expansion is proposed for the area north along State Road 15, because of its suitability to commercial and industrial development. The area soils consist

primarily of Ormas Sandy Loam and Kosciusko Sandy Loam which are both suitable for construction and on-site septic systems.

Proposed Service Area Northeast (NE): The Commission proposed utilities expansion north to County Road 1300 North primarily because the town is interested in promoting an industrial park in the area. Kosciusko Silt Loam, Kosciusko Sandy Loam and Ormas Sandy Loam predominate, all of which are suitable *for* construction and on-site septic systems.

Proposed Service Area East (E): The commission proposed an eastward utilities expansion because of prospective residential development. The area experienced 8 single family housing starts, 16 mobile home starts, and 28 multifamily housing units from 1980 to 1986. Kosciusko Sandy Loam and Ormas Sandy Loam soils predominate. They present no major construction or on-site septic problems. A floodway and floodplain district exists along the southern border over Turkey Creek (the area is undeveloped). The town should not construct water and sewer lines in a manner which encourages development within 200 feet of Turkey Creek.

Proposed Service Area South (S): The Commission proposes water and sewer expansion south beyond Turkey Creek. If the area were relatively undeveloped, the commission would not propose utility expansions that would encourage development. However, since residential development has consumed significant amounts of land, the town should extend water and sewer lines in order to preserve public health. The area fails to meet the criteria for safe on-site septic disposal. The soils, which consist of Gilford Mucky Sandy Loam, Gravelton Loamy Sand and Bronson Sandy Loam, cannot safely accommodate on-site septic systems. A floodway and flood plain district consume 500 feet north and south of Turkey Creek.

### *North Webster*

Existing Facilities and Plants: North Webster currently provides public sewer service to residents, business, and industry within the town limits. Figure 3.3 illustrates the existing service areas. The town also accepts wastewater from the Epworth Forest District. It is shown east of 800E and along the north side of Webster Lake. The North Shores Public Utility Company pumps the sewage to the North Webster Plant; and they are billed for the treatment.

Proposed Service Area: The Town's Sewage Plant capacity is 280,000 gallons per day (.280 mgd), with a projected capacity of 500,000 gallons per day after the May, 1994 proposed expansion. The beginning phase of the expansion is underway. It extends on the southeast side of town, north of 500 N and east along the backwaters.

#### *Pierceton*

Existing Facilities and Plants: Pierceton currently provides public sewer and water service to residents, businesses, and industry within the town limits. Figure 3.4 gives details of the Pierceton Sewer system. The EPA mandated that Pierceton reduce its wastewater pollutant discharge and has suggested stormwater collections and sewage collection separation. The town is participating in the planning stage of the EPA construction grant program. The treatment facility can process 400,000 gallons per day. Given development patterns, particularly in the Arnolt Industrial Park Area, sewer service demands could strain the excess capacity within the 20-year plan period.

#### *Syracuse*

Existing Facilities and Plants: Syracuse currently provides public sewer and water to residents, businesses, and industries within the town limits. Figure 3.5 illustrates the existing sewer service area. The existing treatment facility can process a maximum of 1.04 mgd, which also includes sewage received from the northern and northwestern shores of Lake Wawasee. Current water capacity of 2,340,000 gallons per day generously compensates for the 400,000 gallon daily consumption average. Tenney Pavoni Associates (TPA) did a water study for the town. Their projection of water demand was 780 gallons per minute for the year 2015.

Proposed Service Area: Medium to high density residential development characterizes the area. Most lot sizes are less than one-half acre and many are less than 1/4 acre. A flood plain is located in the western drainage basin and a flood plain extends 50 feet from the Syracuse lake shoreline. Riddles Fine Sandy Loam, which demonstrate slow percolation, is the predominate soil for the area.

#### *Turkey Creek Regional Sewer District*

Existing Facilities and Plants: The Regional District currently provides public sewer services to portions of the Enchanted Hills subdivision. Figure 3.6 illustrates some expected sewer service areas. The district is participating in the design stage of the EPA construction grant program. The expansion project will extend

sewer service to Ogden Island, Kanata Manauyunk, Willow Grove, Kale Island, Highland View-Leeland Addition, Marineland Gardens, Bayshore, Cottingham Beach, Morrison Island and Natti Crow Beach. The Turkey Creek Treatment facility will process wastewater from the southern service expansion areas. Although the district will maintain the sewer line, Ogden Island, Kannata Manayunk, Willow Gove and Kale Island will pump their waste water to the Syracuse Treatment Facility. Papakeeche Lake does not currently have sewer service.

Proposed Service Area: The Area Plan Commission proposes sewer service expansion to remaining areas of Enchanted Hills, which Turkey Creek currently does not service and to areas west of Honson Bay. The assessment criteria emphatically suggests that, on-site septic disposal systems pose a serious health risk in this area. Most soils, such as Aquents-Urban Land Complex, Ormas Loamy Sand and Riddles Fine Sandy Loam are usable. Lake and flood plain districts exist along developed shorelines and channels, which create seepage and other problems for on-site septic systems.

### ***Fire Protection and Emergency Services***

Local governments must examine numerous factors when assessing fire protection, emergency medical, and police protection needs. Communities must locate fire stations in proximity to areas posing the greatest potential for fire damage and loss. Local governments make capital investments to provide facilities with reliable and effective equipment, and must staff facilities with people who can respond with competence to life threatening emergencies. Local utilities provide sufficient water supplies and pressure in areas where development and populations are dense. Several townships have old trucks, and need larger hoses to help distribute water at a faster rate.

The townships each have volunteer departments have about 20 members each. As populations and development has increased, the number and the amount of volunteer and equipment should increase as well. When a public safety entity needs to expand the County should receive information from affected citizens and service providers. If a fire station intends to relocate closer to areas of intense population, the Plan Commission can provide assistance in finding the best location. Many small lots along lakes can make access to properties difficult. There should be an attempt to construct more dry hydrants around the lakes to help with the water supply. Communities, Townships and the County should coordinate plans to ensure that the best emergency protection service is provided. A fire station location map is shown

in Figure 3.7. The radiuses are drawn around the stations, and the encompassing areas where most of the high density development exists.

### ***Parks and Recreation***

Public demand should help determine the quantity and quality of parks and recreational facilities. Unlike transportation and utilities, local governments usually do not provide parks and recreational facilities because of deferral, state mandates, or imminent public safety hazards. Rather, localities provide these amenities because the public requests them and will use them. The County should work with the DNR to understand their feelings on public use, and the protection of the environment. According to DNR there are 71 lakes in the county, totaling 11,318 surface acres. Public owned access is available at 34 lakes or 48% of them. Certain general principles influence planning for public parks and recreation. The following are objectives and guidelines to help steer future recreational planning:

1. The entire public should have access to recreational activities and facilities regardless of interest, age, sex, income, cultural background, housing environment, or handicap.
2. Planners should coordinate public recreation with other community recreation opportunities to avoid duplication and encourage innovation.
3. Facilities should be able to adapt to future needs.
4. Facilities and programs should be financially feasible at all development stages; operation and maintenance generates a greater financial burden than initial cost (more facilities require more staff).
5. Planners should involve citizens in the recreational planning process.
6. Planners should continually collect data, review, and evaluate information.
7. Planners should integrate local plans with state and regional plans.
8. Governments should acquire land prior to development, and dedicate it to park and recreational uses.
9. Facilities should make the most efficient use of land; planners should design; and Park Boards should manage facilities to provide users with convenience, health, safety, and pleasure; the facility should represent positive examples of design, energy use, and concern for people and the environment.
10. The County should attempt to protect historical sites and resources.

The parks and recreational planning process should culminate in the plan document a comprehensive, long range and policy oriented description of the population's needs and preferences, facility needs, and the implementation process. The plan should identify past and present recreation patterns of the public, and project future use patterns. The plan should recognize the numerous existing and potential public and private suppliers of recreational facilities and opportunities. The plan should also outline the best provider for each type of facility. Rather than propose drastic change, the plan should advocate incremental progress toward facilities provision, and should recognize that parks and recreation systems must adapt to changing social values, life-style patterns, technology, legislation, and resource availability. Park improvements can include: routine maintenance, change in hours of operation, increased number of activities, and better enforcement of rules. Good access, adequate parking, sufficient restrooms, and safe equipment are important factors when dealing with proposed recreational areas. Playgrounds and picnic areas play a large role in preserving the quality of life residents enjoy.

Kosciusko County should approach parks and recreation planning from a market perspective. Rather than provide what is quick and easy, the County should survey the recreational and leisure preferences of County residents and provide facilities which serves these preferences.

#### *Parks' and Recreation Facility Inventory*

An inventory taken in the late 1980's showed that many townships are lacking an adequate number of tennis courts, and baseball diamonds. The data also indicates that available public facilities alone would not meet the national service level standards (which could suggest that County residents heavily depend on private facilities to meet their recreation needs). With growth we have seen in the County, and if the expected growth is accurate, more public facilities will be needed. On a regional basis, public and private facilities do not meet the needs of Etna and Jefferson Townships. However, it should be noted, facilities outside of Kosciusko County do serve Etna and Jefferson regions. Bourbon and Triton Schools in Marshall County serve Etna Township and Nappanee. North Wood Schools in Elkhart County Serve Jefferson Township.

This inventory has also examined available facilities on lakes and large watercourse in the County. The Commission has discovered that several of the County's lakes have public access for boating activities. However, the inventory also indicated that the County has inadequate public beach facilities, with only about 42 public access areas. The national standard for recreation area is 2.5 acres per 1,000 persons. The

National Park, Recreation, and Open Space Standards. This indicates that Kosciusko County contains public beach front area capable of serving a population of 17,000 or approximately 26% of Kosciusko County's Residents. Perhaps 1/3 to 1/2 of the 42 public acres is reserved for non-recreational purposes, such as certain types of dedicated right-of-way, utility buildings, and parking areas. The formation of a County Park Board may be needed in future to coordinate leisure activities.

The Area Plan Commission does not intend to formulate parks and recreation policy based only on the findings from the inventory analysis and national standards application. A park and recreation survey will provide a more accurate needs assessment of Kosciusko County than just a listing of the national standards. However, the national standards do provide a useful analytical tool in the absence of another method. The Commission also recognizes that the term recreation, encompasses a wide range of activities. Any future parks and recreation surveys should attempt to complement the broad and diverse recreation and leisure interests among County residents.

During recent years, many railroad companies have been abandoning segments of their tracks. If this occurs in Kosciusko County, there is the opportunity to implement a Rails to Trails Program. Several other communities have built bikeways, horse riding trails, or hiking paths from former railways.

The following are suggestions from the 1986 National Park, Recreation and Open Space Standards, and the 1986 National Recreation and Park Association:

Tennis Courts	1 for every 2,000 people
Swimming Pools	1 for every 20,000 people
Golf Courses	1 (9 holes per 25,000); 1 (18 holes for every 50,000)
Basketball Courts	1 for every 5,000 people
Softball/Baseball	1 for every 5,000 people
Soccer Field	1 for every 10,000 people

### ***Libraries and Schools***

There are six libraries in Kosciusko County. They are located in Warsaw, North Webster, Pierceton, Mentone, Milford, and Syracuse. As previously mentioned, only the towns of Syracuse, North Webster,

Pierceton, and Milford are under the jurisdiction of the Area Plan Commission. Indiana State Library figures show that in 1989, 21,588 people in Kosciusko County were not in a library district. This number represents almost one-third of the County's population. According to that information, Kosciusko County is underserved by libraries compared to most of the other counties in Indiana.

As of 1990, Warsaw Community Schools was the 35th largest school corporation in Indiana out of 296. The Warsaw School District is the largest of in the County (see the district map at the end of this section). The Plan Commission will consider input from school boards, district officials, and affected residents when presented with new plans for schools. Both libraries and schools play a big role in preserving the quality of life in Kosciusko County.

### ***Solid Waste Management***

Solid waste disposal presents numerous technological, economic, political, environmental, social and legal issues for communities and local government. Different perspectives and interest within communities (and the larger society) define the issues raised by solid waste management within these dimensions.

Technology has improved our lives, but increased technology has also generated more solid waste and its disposal problems. Solid waste production is directly linked to the expansion of our economic system; and industry is hard pressed to discover how to promote and maintain economic expansion while reducing the volume of solid waste production.

Who should pay and who should benefit? For many communities, solid waste management has become an overriding political issue. Constituent groups, who control the largest percentage of political resources, have usually determined who pays, and who benefits from solid waste disposal. Communities often solve one environment problem by building a disposal facility, but create other environmental problems in the process. Waste burial threatens water supplies, and incinerates generate air pollution. Solid waste generation and disposal affects the quality of life for society as a whole and for individual communities and neighborhoods.

### ***Solid Waste Disposal in Kosciusko County***

County residents, municipalities, and private haulers transport solid waste to three principal destinations. County residents and the City of Warsaw transport solid waste to a landfill in Wabash County. Private haulers and County residents also haul to landfills in Kosciusko and Elkhart Counties. Currently, the

Ransbottom landfill is the only operating landfill in the County. The Elko Facility near Gravelton was shut down. (IDEM reported that the site was unacceptable for landfill due to geohydrological and soil conditions). In the early 1980's, consultants were hired by the Wabash Valley Solid Waste District to conduct a regional study for solid waste processing alternatives. That study examined Kosciusko, Wabash, Fulton, Huntington, and Miami counties. The Plan Commission will encourage advice from the Kosciusko County Solid Waste District when the issue of future land fills is discussed.

#### *Community Facilities Objectives*

1. To assist departments, firms, municipalities and any other party in trying to determine their future facility needs.
2. Continually examine/study the need for capital improvement projects.
3. Carefully review all plans to improve obsolete or structurally deficient infrastructure.
4. Examine the alternatives for new construction or extensions of capital improvement.
5. Encourage public participation throughout the capital improvement planning and investment process.
6. Encourage composting, recycling, and other waster reduction methods.

Priorities must be set when plans are made that will guide/affect our future. With limited public funds, Kosciusko County must decide how to cut costs, and still provide quality services. Adequately maintaining existing infrastructure, and preparing for future needs are not easy tasks. Two main components involved in infrastructure improvements are efficiency and equity. Efficiency deals with getting the most from the resources available. Equity deals with the financial aspects of improvement. Over time, infrastructure such as roads, bridges, and schools begin to deteriorate. The improvements to these capital facilities plays a very important part in helping to provide a better tomorrow for Kosciusko County.

The programs for guiding Kosciusko County's infrastructure are based on the objectives of...

- Increasing the efficiency of the sewage treatment systems; and
- Improving stormwater management.

**Objective One: Increase Sewage Treatment Efficiency**

*Action Step 1*

Direct growth to soils capable of sustaining sewage treatment. Roads, water, and electricity supply should also be directed in this manner.

*Action Step 2*

Encourage the use of "nontraditional" methods as alternatives for sewage treatment in areas of non compatible soil types. Potential alternatives include...

- free-flow constructed wetlands;
- small package sewage treatment plants;
- clustered subsurface disposal;
- septic tank with effluent pumped into a constructed wetland, for further treatment

*Action Step 3*

Include the provision of sewage treatment as an element of the point system for development, as described in land use. The appropriateness of soil types and designs for sewage treatment would count against/ for the development of particular projects.

**Objective Two: Improve Stormwater Management**

*Action Step 1*

Conduct an inventory and assessment of Kosciusko County's drainage systems, establishing a framework for evaluating new developments for impact, and adjusting existing developments to minimize impact while maintain maximum efficiency and level of service.

*Action Step 2*

Encourage modifications in existing developments that are currently poorly drained, through tax incentives to operators and land owners.

*Action Step 3*

Establish a set of regulations and enforcement procedures regarding storm water accommodation systems in new developments in the ordinances of the county.

- require all drainage from developments to be of equal force as existed prior to development;
- build in consideration of existing topography and drainage patterns on the site;
- avoid the creation of large impervious surfaces without the provision of holding and catch basins for the increased runoff.





#### *Action Step 4*

Establish an erosion control ordinance listing alternatives for stormwater management, and encourage proactive measures following state and federal guidelines.

- encourage the use of vegetation as a means of slowing down run-off, and absorbing precipitation;
- require on-site storage of runoff in either wet or dry ponds;
- install a leak-off area adjacent to roads to temporarily store the first ½ hour of runoff from a storm (which contains the most toxins).



Infrastructure  
Benchmarks

#### **General Benchmarks**

- Conventional treatment plants are operating at less than or equal to 85% of capacity.
- On site treatment facilities (i.e. constructed wetlands, etc.) are operating at less than or equal to 90% of capacity.
- Guidelines have been established for completion of stormwater and erosion control and drainage impact statements for new developments.
- Kosciusko County has adopted an ordinance for erosion and stormwater control.

## **TRANSPORTATION**

**E**ffective transportation planning and policy requires that local government understand the relationship between its transportation system and land use. Land use patterns are directly influenced by population growth and migration. Thoroughfare networks have influenced population patterns, particularly migration. Demographers and planners have recognized that the interstate highway system, and to some extent commuter rail lines, have encouraged out-migration from large cities since the 1950's. As a result, outlying areas surrounding the large urban areas have grown in population, which has led to an increased number of suburban governments. Rural areas have been transformed. Roadway improvements have made small towns more accessible therefore, more attractive to the urban dweller. In some cases, major transportation construction projects and then subsequent developments have dislocated existing rural lifestyles. Transportation systems and land use patterns are inseparably linked.

In the land use policy section, it is stated that commercial and industrial developments tend to locate near major thoroughfares. Commercial establishments desire exposure to large traffic volumes; and industries prefer to locate near thoroughfares that link the firm to regional markets and distribution centers. The interstate highway system and commuter rail line have encouraged population migration and the formation of suburban governments. Many of these new municipalities provide police and fire protection, utilities, school systems, and other local services. As a result, these government bodies have had drastic expenditures on public services which surpassed the income gained (taxes) from the population growth. Transportation system improvements influence the delivery of public services in rural areas as well. Although highway expansion does not directly encourage new government entities, or encourage public expenditures (such as police and fire departments, school systems, utilities and emergency medical systems) all of these require government management. Towns and townships will sometimes expand service districts to accommodate scattered residential development.

The relationship between the transportation network and population, and land use and public services is not strictly one dimensional. Thoroughfares are not the only determinant of development. Often, thoroughfare development is a reaction to population growth, migration, land use, or public service expansion just as these factors are sometimes reactions to thoroughfare development. All new development or proposed improvements should be revised using transportation system guidelines and policies.

Geographic, demographic, social, environmental, and economic factors have interacted with the transportation system to facilitate the current networks and development patterns in Kosciusko County. The existence of US 30 provides Kosciusko County residents and businesses accessibility to major regional markets in the upper Midwest. Highways have followed rail lines, which can provide attractive industrial sites. US 30 and S.R. 15 parallel alongside rail lines, and provide land parcels which industry can utilize more than one transportation mode.

The central location of Warsaw, the principle urban center in the county, has influenced the County's road network. Rather than following a strict grid pattern, State Highways 15 and 25, as well as numerous County roads, follow route patterns which meander through the county. The numerous lakes in the County, have also disrupted the grid pattern as well. Many roads encircle the lakes, and link the lakefront areas with commercial centers and public services. Over the past few decades, traffic flow has become a very critical issue in and around Warsaw. Development patterns around the lakes have created a high density, unincorporated residential environment. As a result, developers have constructed an intense network of private roads, some of which are substandard. Kosciusko County is experiencing increases in the number of registered motor vehicles. This includes farm vehicles and passenger cars. This trend is expected to continue along with the continued increases in the population of the County. The increased number of vehicles on the roadways can strain the transportation system. Weather also leaves an impression. Annual freezes and thaws contribute to potholes and cracks in the road surfaces. It is impossible to keep all of the roads in the County in excellent condition. Poor conditions on the roads slow down the traffic, therefore contributing to the congestion problem.

If you were to draw a 300 mile radius around Kosciusko County, you would find that within this area is about 20 percent of the population of the United States this is very important from a business standpoint. Cooperation with state and federal transportation agencies is becoming more important as years go by. Transportation within the County's borders should have the highest priority, with intra-county transportation next in line.

### **Transportation Goals and Policies**

County and local governments must establish goals that reflect what they are hoping to accomplish through transportation planning program. Rather than reacting to the transportation demands of development, local

government should design a transportation system which effectively and efficiently integrates land use patterns. The Comprehensive Plan establishes general planning objectives and transportation policies to guide transportation development in the County.

### **Transportation Planning Objectives**

1. To develop and maintain an integrated transportation system which meets the various needs of county residents.
2. To develop and maintain a transportation system which is compatible with, and reinforces land uses that this Comprehensive Plan proposes.
3. To construct and maintain a transportation system which maximizes public safety.
4. To identify future highway corridors, and then devise and administer zoning regulations to protect these corridors from incompatible development.
5. Limit the number of points going onto County roads that might excessively impair the efficiency or safety of the road system (County Roads)
6. Limit access on subdivision streets (via grass buffers, concrete obstacles, etc.) to prevent through traffic.
7. All preliminary subdivision plats should provide for hard surface roads, and obtain Commission approval, concerning the quality.
8. Continue the partnership with the KABS system.
9. Create a network of trails and paths for pedestrian traffic and recreation.
10. Coordinate efforts with local, state, and federal governments to facilitate the operation and expansion of Warsaw Municipal Airport.
11. Create limited accesses along primary county roads, to restrict "strip development" and traffic hazards.
12. Attempt to reduce the chances for accidents, while efficiently reducing travel time.
13. Preserve the integrity of the County roads, by not allowing unnecessary encroachment on the rights-of-way.
14. Encourage active community support for transportation projects.

### **Transportation Planning Policies**

1. Take transportation consideration into account when reviewing proposed developments.  
-including a simple trip generation model of development (ITE Trip Generation Handbook)

2. Encourage better communication between the County Highway Department, State Highway Department, and the Area Plan Office concerning transportation related issues.
3. Encourage the Area Plan to help coordinate transportation goals and developments.

### **Functional Classification System**

The federal government devised a highway classification system to aid local governments in establishing responsibility and priorities for highway construction, expansion, and maintenance (federal, state and local governments applied these standards when developing the rural highway and interstate systems).

Transportation planners classify thoroughfares in terms of capacity. The administrative classification designates federal state, and rural highways. Generally the state and local governments retain the responsibility of maintenance. The functional classification pertains to the roadway capacity such as predominant traffic patterns, traffic generator locations, Level of Service, and access demands of abutting property.

The functional classification system is hierarchical. Arterial roads serve traffic for moderate to long distance trips and, provide a high service level, with limited land use access (driveway). Collector roads serve traffic for short to moderate distance trips and provide a lower level of service (somewhat restricted traffic flow). Collector streets connect local streets with the arterial road system. The urban collector allows more direct property access (driveway) than a regular collector. The rural collector serves low traffic volumes which travel between rural areas and rural farm towns. Below is a definition of the functional class system as it applies to Kosciusko County.

Expressways provide maximum service to urban areas and to other regions; complete access control enables high speed traffic and a higher Level of Service. Through traffic is regional in character.

Urban and Rural Major Arterials - Provide connections to expressways; Limited access control to maintain moderate to high traffic mobility and Level of Service. Serves regional and intra-county (between counties) traffic.

Urban and Rural Minor Arterials - Provide connections to expressways and major arterials. Trips are of moderate length, somewhat lower mobility, and service level lower than major arterials. Connects larger urban areas with smaller areas.

Urban Collectors - Distribute traffic from arterials to neighborhoods (local streets) and vice versus, lower mobility, and lower service level. Trips are of short length.

Urban Locals - Provide for direct access to adjacent land uses; Provide lowest mobility and service level, but highest land access. Attempts to prevent through traffic.

Rural Collectors - Provide access for farms and rural homesteads to arterials or urban areas. Moderately low mobility and service level, with moderately high land access. Trip lengths are generally short.

Rural Locals - Provide for direct access to adjacent land uses, low mobility, and low service level. Have the potential to expand to higher classifications (ex. higher service and mobility, sufficient right of way) to accommodate population growth and development.

### ***Design Standards***

Transportation consultants and local governments have developed various design standards for roadways. These standards have evolved from urban and rural experience with transportation systems and the various types of developments adjacent to them. These standards pertain to lane width (moving), total street width, and travel speed (refer to the subdivision control ordinance or the county highway department for changes or amendments). The Plan Commission or Board of Zoning Appeals is responsible for reviewing all plans for off street parking, and access for new developments.

### ***Thoroughfare Use Analysis***

Effective transportation planning requires local governments to evaluate the use and capacity of the current network, and to estimate the efficiency capability of the systems to accommodate future population growth and development. Transportation planners must conceptually define the existing system, and identify predominant traffic patterns which may strain the system's capacity. Trends in land use development and the transportation system capacity must also be identified. The functional classification system serves as a tool for defining the current network. This provides an analytical tool to assist planners in customizing standards to their own community. The Kosciusko County Area Plan Commission has approached transportation system analysis in two steps. First, the Commission studied existing traffic conditions, and

identified growth areas. Then the County examined historical and current traffic counts, and have traced projected traffic volumes based on historical data and projected development patterns.

### ***Thoroughfare Traffic Projections***

After transportation planners have identified and examined historical and current traffic conditions, the next step of transportation system analysis requires planners to project future traffic conditions (based on current and past, predominant traffic, and development patterns). During spring of 1993, a Transportation Committee was formed to examine what the future needs of the transportation system might be. Representatives from the County, Warsaw, and the nearby communities. Population figures, input from citizens, and traffic accident data are some of the tools used to estimate traffic volumes and projections. In 1994, chip and seal work was done on several roads in the central and northeastern parts of the County the central and northeast regions of the county have experienced dramatic increases in development in recent years. Also, during that year, improvements were made to several areas in the south and west sides of the County.

### ***Transportation Plan***

The Area Plan Commission has developed the County Transportation Plan based on conclusions which the commission determined after a careful analysis of the transportation system, and an assessment of where residential, commercial and industrial development is or will be occurring. The Commission examined the current transportation system network, and assessed the necessary need to accommodate population and economic growth for a 20 year time period (future). The plan follows a progressive approach. This plan attempts to minimize the need for land acquisition, and has emphasized the need to utilize the existing road network to handle projected traffic volumes. The goal of this approach is to achieve service efficiency for commerce, industry, and County residents while controlling social and geographical disruptions that often accompany major road improvements. However, the County will not be able to achieve these goals without significant money and time investments.

During the fall of 1994, the County Commissioners hired Congdon Engineering & Associates to do a thorough analysis of the county road system. The study is a useful guide in directing projects that will improve the county road system. It was completed in 1995.

### **Conceptual Thoroughfare Plan Issues**

The Area Plan Commission encountered numerous conceptual issues pertaining to transportation system needs. Foremost among planners is land use integration. As a prominent general planning objective, the Commission has stated that the future transportation system should reinforce the relationships between existing land uses; and the relationships between land uses which the Comprehensive Plan proposes. Most of the towns in the county, including Warsaw, have narrow streets. Increased growth will place higher demands on these and other roads. New and expanding businesses and agricultural operations, located around the county, will have a major impact on traffic conditions. Charts in the appendix show the growth of the population and of the job sectors. Some of the existing County roads are already congested, because of rapid residential and commercial growth

The major goal of this transportation plan is to relieve traffic congestion. Transportation routes should change to accommodate immediate need. Improving or expanding existing roads may be the best way to reduce traffic in problem areas. Few County roads have daily traffic volumes that justify the need for four lanes.

### ***Transportation Plan Element***

The Area Plan Commission and County Highway Department are constantly working to develop the best road system. In the future, more cooperation must take place with the State Department of Transportation, County Highway Department, and Warsaw City Officials. The Transportation Committee should strive toward obtaining that goal.

The following is an identification and analysis of the transportation plan elements:

State Road 15 Explanation - the transportation plan proposes a cooperative federal, state, regional, and local project to expand State Road 15 between Warsaw and Goshen, Indiana. Kosciusko and Elkhart counties are experiencing, and are expected to experience steady population growth. Kosciusko County grew by 9.6% from 1980 to 1990 and the state projects the County to grow to almost 82,000 in population by the year 2005. Elkhart County grew by 13.7% from 1980 to 1990.

Recent data indicates that the state projections of a 16.3% growth (159,740) in population by the year 2005, will probably understate the actual increase. A large proportion of this growth has and will continue to concentrate in the Goshen area. The State Road 15 expansion project should provide many benefits for the north central Indiana region as well as Kosciusko County. The improvement will more efficiently and

safely serve traffic, particularly heavy semi-tractor trailer traffic which frequently uses the route. The project should generate economic benefits on a regional scale. Numerous economic development studies have concluded that industry places high priority on efficient and accessible transportation facilities, when assessing site location alternatives. The expansion project would improve County linkages with the heavily industrialized Elkhart County, increase population mobility, and increase private accessibility to the US 30 Industrial Corridor.

The capital improvement project will require large investments. The expansion may also drastically change the character of the State Road 15 corridor by making large tracts of land attractive for commercial, industrial and residential development. However, these trends have already taken hold without a four lane highway. The corridor will probably accelerate existing trends rather than create them. Additionally, since the four lane highway will meet limited access standards, the State Road 15 corridor development will have a less disruptive effect on traffic patterns, and offer much more efficient service. The section of State Road 15 from downtown Warsaw to US 30, went under reconstruction and widening, during the spring of 1994. It has greatly improved mobility through Warsaw.

Syracuse-Webster Road - The plan proposes that the county widen and improve the Syracuse-Webster Road. Recent traffic volumes and pattern data indicates that the county should upgrade the Syracuse - Webster Road. The improvements should accommodate truck traffic which industries on the west side of Syracuse will generate and improve service efficiency on State Road 13 between Syracuse and North Webster.

County Farm Road and Country Club Road - The plan proposes that the County widen and improve County Farm Road from Warsaw to the Wabash County line, and Country Club Road from Warsaw to County Road 450 South. The County Farm Road improvement will be done in several segments. These projects will improve traffic safety and the efficiency of the service for the rapidly growing residential developments south of Warsaw (particularly in southern Wayne Township). The design improvements should not accommodate truck traffic since the service areas are primarily medium density residential. Furthermore, the County should actively discourage truck traffic on these thoroughfares.

Highway Department Officials and the transportation Committee will study the possibility of the following improvements:

- Upgrading existing County roads to form corridors that are sufficient for future volumes.
  
- Reconstructing 350 South and 400 South to form a corridor in the southern part of Wayne Township
  
- Extending 350 East from Pierceton Road to 325 East (at Wooster Road). This could provide a good arterial east of Winona Lake and Warsaw. This would lessen traffic at Old 30 and US 30. A strong north-south route is needed on the east side of Wayne Township.
  
- Widening the lanes of Old 30 from Warsaw to the Whitley County line.
  
- Improving 900 North, from SR 19 to 300 East (Dewart Lake Road)
  
- Upgrading Pierceton Road from Winona Lake to the town of Pierceton.
  
- From the Town of Atwood to 100 South, 650 West can become a stronger arterial. County Road 100 East from Leesburg to Warsaw. Suburban subdivisions and increased business development in the area has contributed to the increase in traffic on 100 East.
  
- Determining the best way to improve travel from Old SR 15 to the Lake Tippecanoe area. Armstrong Road from 700 North and 750 North should be studied to decide which improvement would be the most effective.
  
- Nappanee Road (800 West), can take some of the traffic off of SR 19, and be a good route to keep travelers in a straight direction, instead of all of the turns throughout SR 19.
  
- Improving 300 West, to enable it to handle large volumes of traffic, which will come from the development of the Industrial Corridor.
  
- Intersection improvements at Old 30 and 650 East. This route to the Barbee Lake Chain is heavily traveled (primarily during the summer months).

- Construction of a north-south industrial road in Syracuse extending from Brooklyn St. to the Elkhart County Line (West of the cemetery). Future industrial growth in that area will require adequate roads.

- Proposed Indiana Department of Transportation Projects in Kosciusko County

These are some of the major assessed needs for the network. Implementation of these improvements will also depend on available funds and growth changes in the years to come.

### **Plan implementation**

The Transportation Plan represents a careful analysis and needs assessment of the Kosciusko County thoroughfare network to the year 2015. The plan implementation involves the following steps:

1. Understand that planning is just the first step, and a lot of effort is needed to get these projects accomplished. (Preliminary engineering work, design approval, public hearings, and financing are just some of the factors).
2. The County should continually update a 20-year capital improvement plan which should include transportation projects
3. County and Municipal officials should initiate intergovernmental efforts with federal and state governments to develop technical plans and to procure other forms of intergovernmental assistance
4. The county should protect proposed corridors from further development.
5. By achieving one project at a time, the improvements should eventually create a better road system

The overall mission of the transportation program is to improve accessibility and circulation patterns through Kosciusko County, while minimizing the community, environmental, and social impacts that may result. Programs for improving the Kosciusko County's transportation system are based on the objectives of:



- reducing the impact on the natural environment;
- improving circulation and accessibility;
- improving character and sense of community along corridors; and
- reducing congestion

**Objective One: Reduce the impact on the Natural Environment**

*Action Step 1*

Increase incentives to those persons who utilize rideshare programs.

*Action Step 2*

Develop new limited access corridors between targeted residential, industrial, and commercial growth areas.

*Action Step 3*

Increased roadside vegetation and sign ordinances to improve the aesthetic environment of the county and improve sense of community and character between municipalities.

*Action Step 4*

Preserve and develop abandoned or natural corridors into separate bikeways to encourage bicycles use, discourage automobile travel, and reduce the impact on the environment.

**Objective Two: Improve Circulation and Accessibility**

*Action step 1*

Reduce traffic congestion





*Action Step 2*

Coordinate abandoned rail corridors as part of a Bikeway Network, and link with other Kosciusko County recreational opportunities



*Action Step 3*

Encourage all new subdivisions to include plans for sidewalks and/or bicycle lanes on streets.



*Action Step 4*

Provide readily available information for those who need demand responsive transit Cab services, bus services, etc.

**Objective Three: Reduce Congestion**



*Action Step 1*

Improve at-grade railroad crossings, or convert to over and underpasses where feasible to reduce congestion.



*Action Step 2*

Utilize synchronized lights, eliminate access points (curb cuts), expand use of frontage roads, shared drives, limit left turns, and designate truck routes.



*Action Step 3*

Upgrade county roads based on designated Land-Use Target Areas to accommodate future growth before congestion occurs.



**Objective Four: Improve Character and Sense of Community along Corridors**

*Action Step 1*

Use design review ordinances to encourage consistent design.



*Action Step 2*

Use signage, landscaping, and icons to identify the entrance of the county, townships, communities, or districts.



Transportation  
And Corridors  
Benchmarks



*Action Step 3*

Increase roadside vegetation and sign ordinances to improve the aesthetic environment of the county and improve sense of character in municipalities.

**Transportation and Corridor Benchmarks**

- Proposed Bikeways
- Form greenway organizations of interested citizens, bicycle clubs, business leaders, and elected officials
- Acquisition of abandoned rail corridors by county or nonprofit bikeway development agency/committees

**Automobile Traffic**

- Annually measure and incrementally reduce automobile emissions.
- Maintain or reduce current levels of Average Annual Daily Traffic.
- Increase the capacity of roads while reducing county expenditures through public/private partnerships.

# ENVIRONMENT

In Kosciusko County, several issues are at the heart of environmental programs and policies. Information and resources about the environment are not easily accessible resulting in a lack of awareness and poor education about local environmental issues. Important and valued physical features are threatened by rapid growth and development as activities such as mass construction, transportation, and manufacturing are having dramatic effects on local environmental conditions. The programs for Kosciusko County's environment are based on the objectives of...



- increasing awareness of environmental issues;
- increasing energy efficiency and demand-sided alternatives,
- providing incentives for participation in conservation programs
- guiding land use in an environmentally sensitive manner
- increasing awareness of recycling and alternative methods of waste disposal
- minimizing the impact of new development
- coordinating governmental approaches to environmental quality;

## **Objective One: Increase Awareness of Environmental Issues**

### Action Step 1

Create a Kosciusko County Environmental Center as a partnership between the Planning Department, Community Development Department, the County School Corporations, and the Cooperative Extension Office. Local utility companies and industries could be approached for financial support.

### Action Step 2

Create a county sponsored and supported Arbor Day program, possibly coordinated by the environmental center, during which residents would plant trees throughout their communities.

### Action Step 3

Create monthly Tox-Away Days during which citizens can bring household toxic materials to a processing center so that they can be disposed of properly.



*Action Step 4*

Provide free, or “at cost” compost bins to residents of Kosciusko County in order to increase awareness participation in composting programs.

**Objective Two: Energy and Environmental Efficiency and Sensitivity**

*Action Step 1*

Establish home weatherization workshops to educate residents on how to make their homes, both inside and outside, more energy efficient.

*Action Step 2*

Offer incentives for the replacement or improvement of high energy consuming appliances, such as refrigerators and water heaters. Possibilities include rebates for purchasing new appliances and improvement materials and free disposal of old, less efficient appliances.

*Action Step 3*

Develop a county-wide composting program. This program should encourage household composting.

**Objective Three: Encourage Participation in Environmental Programs**

*Action Step 1*

Develop and implement a Kosciusko County Environmental Awards program to those businesses and industries that make an effort to improve and/or protect the environment. Requirements may include. ..

- \*use of alternative energy sources
- \*effective carpool programs for employees
- \*alternative waste management/recycling programs

**Objective Four: Environmentally Sensitive Land-Use and Development**

*Action Step 1*

Develop and implement a program to increase the awareness of the possibilities of conservation easements. The conditions of the easement should be written into the deed of the property.

*Action Step 2*

Encourage local citizen groups to establish land trusts in an effort to protect productive farmland, open space, recreational resources, etc.



*Action Step 3*

Provide forestry assistance for woodland owners, in cooperation with the County Extension Service.



*Action Step 4*

Require environmental impact assessments for proposed development projects providing an overview of the potential environmental hazards.

**Objective Five: Alternative Methods of Waste Disposal**

Action Step 1



Combine existing recycling programs to generate a new county wide recycling program.



*Action Step 2*

Create one centrally located separation center where all community recyclables can be taken.



**Objective Seven: Reduce Impact of New Developments**

*Action Step 1*

Implement regular ditch maintenance programs that would free all drainage channels of obstructions, and construct additional drainage channels to help provide additional drainage to flood prone areas.



*Action Step 2*

Establish standards that would require developers/contractors to use appropriate erosion control practices and drainage management systems to minimize drainage and other environmental problems.



Environment  
Benchmarks

**General Benchmarks**

- Increased participation in energy conservation programs
- Reduce energy consumption as displayed by reduced energy bills for businesses and residents.
- Annual establishments of community or school based recycling programs
- Reduction of the waste stream to any county landfill
- Greater than 60 percent participation in county-wide recycling program

## **POLICY & PLAN IMPLEMENTATION**

### *Policy and Plan Implementation*

The Kosciusko County Comprehensive Plan has established policies and expressed goals for land use, housing, transportation, infrastructure/community facilities, and the environment. The plan has also identified past trends, analyzed existing conditions, conducted needs assessments, devised plans, and established steps for implementing goals. Researchers have formulated land use and public facilities planning theories from past experience of other communities. The Area Plan Commission has applied this theory to aid in studying existing conditions, and developing policy direction for the County.

The Comprehensive Plan sets forth policy directions for Kosciusko County. However, the plan does not define specific regulatory elements for plan implementation. The County should specifically define and implement policy through Zoning Ordinance Amendments. The plan expresses the general intent and goals. Zoning Ordinances provide specific criteria which the Area Plan Commission and the Board of Zoning Appeals apply when they issue numerous administrative and legal decisions. Other Comprehensive Plan Recommendations require different implementation strategies. The Comprehensive Plan is meant to be used as a tool to aid Kosciusko County, and can be modified (whenever needed) by Area Plan to best suit the needs of the County.

NOTES

*Figures 1.3 -1.7 compliments of Purdue University cooperative extension service.*

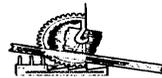
*Solid Waste Study mentioned in the Community Facilities Section was done by Howard Needles Tammen and Bergendoff.*

*Sewer maps were provided with permission from Jones and Henry Engineers, INC.*

*Cover picture by: Butler, Fairman and Seufert, INC Engineers.*

**The maps for this document have been recreated when possible and were digitized as well as possible.**

KOSCIUSKO COUNTY  
AREA PLAN COMMISSION



100 W. CENTER • COURTHOUSE • 3RD FLOOR  
WARSAW, INDIANA 46580  
PHONE 574-372-2304



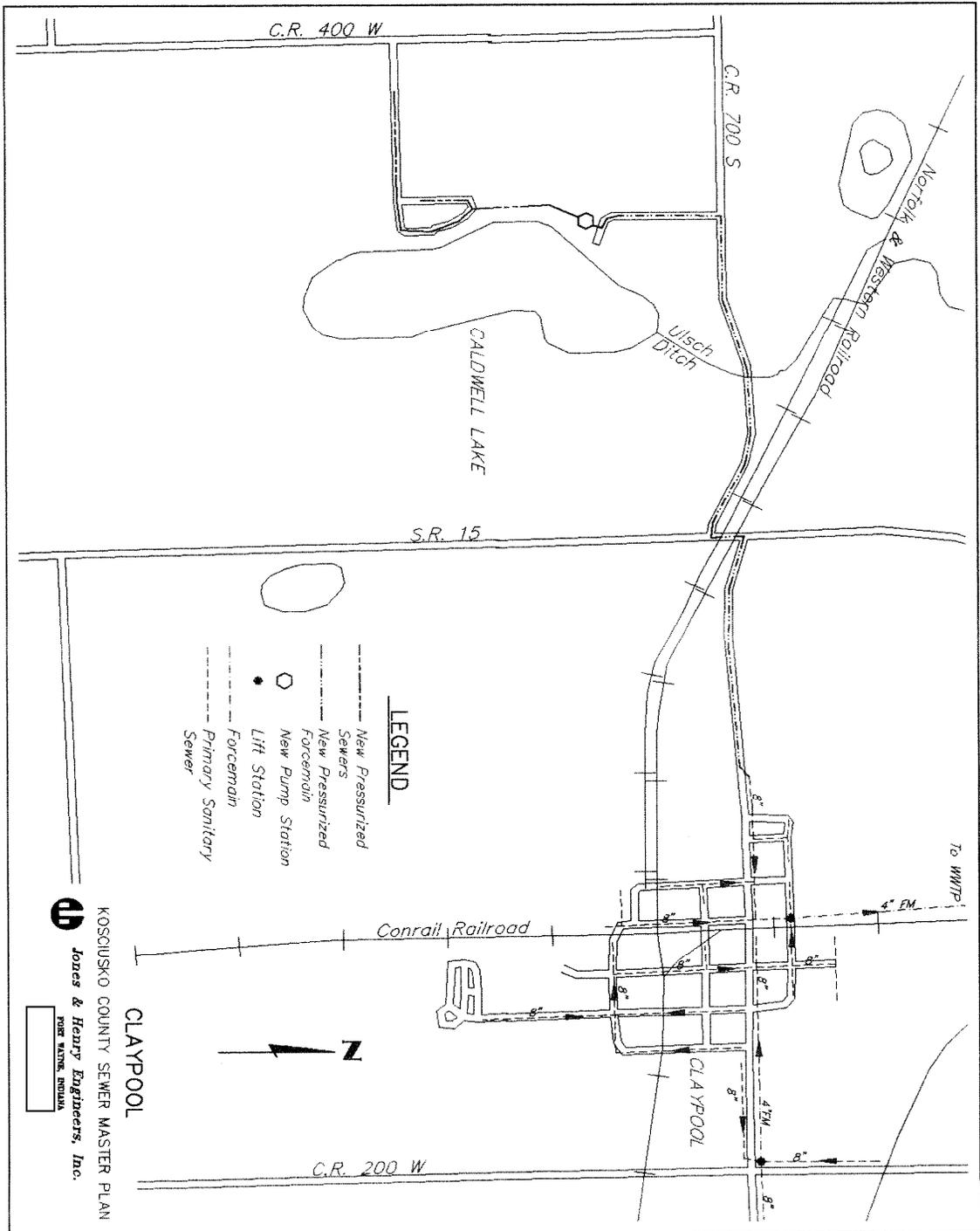


# Appendix

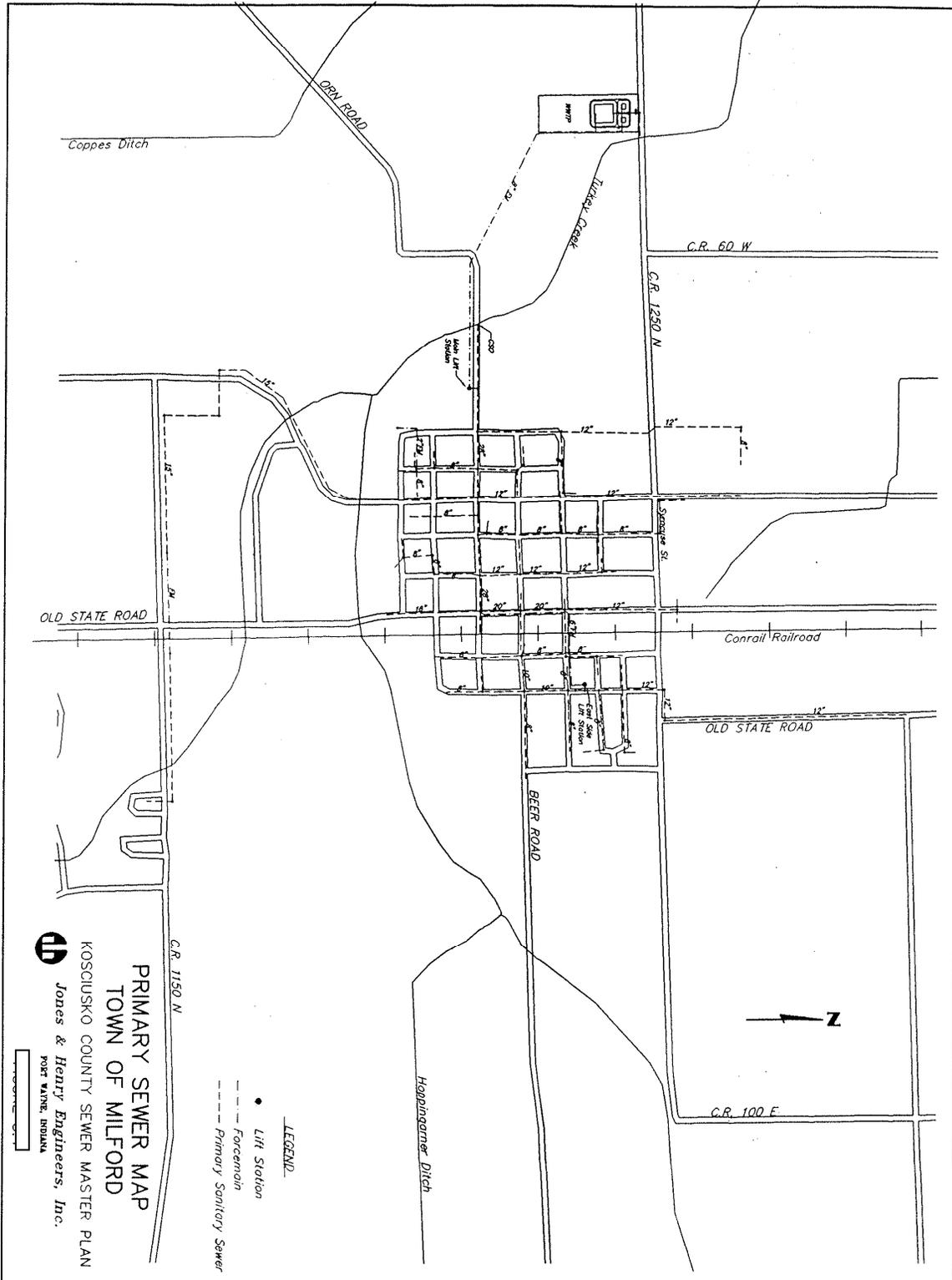
## Maps & Tables

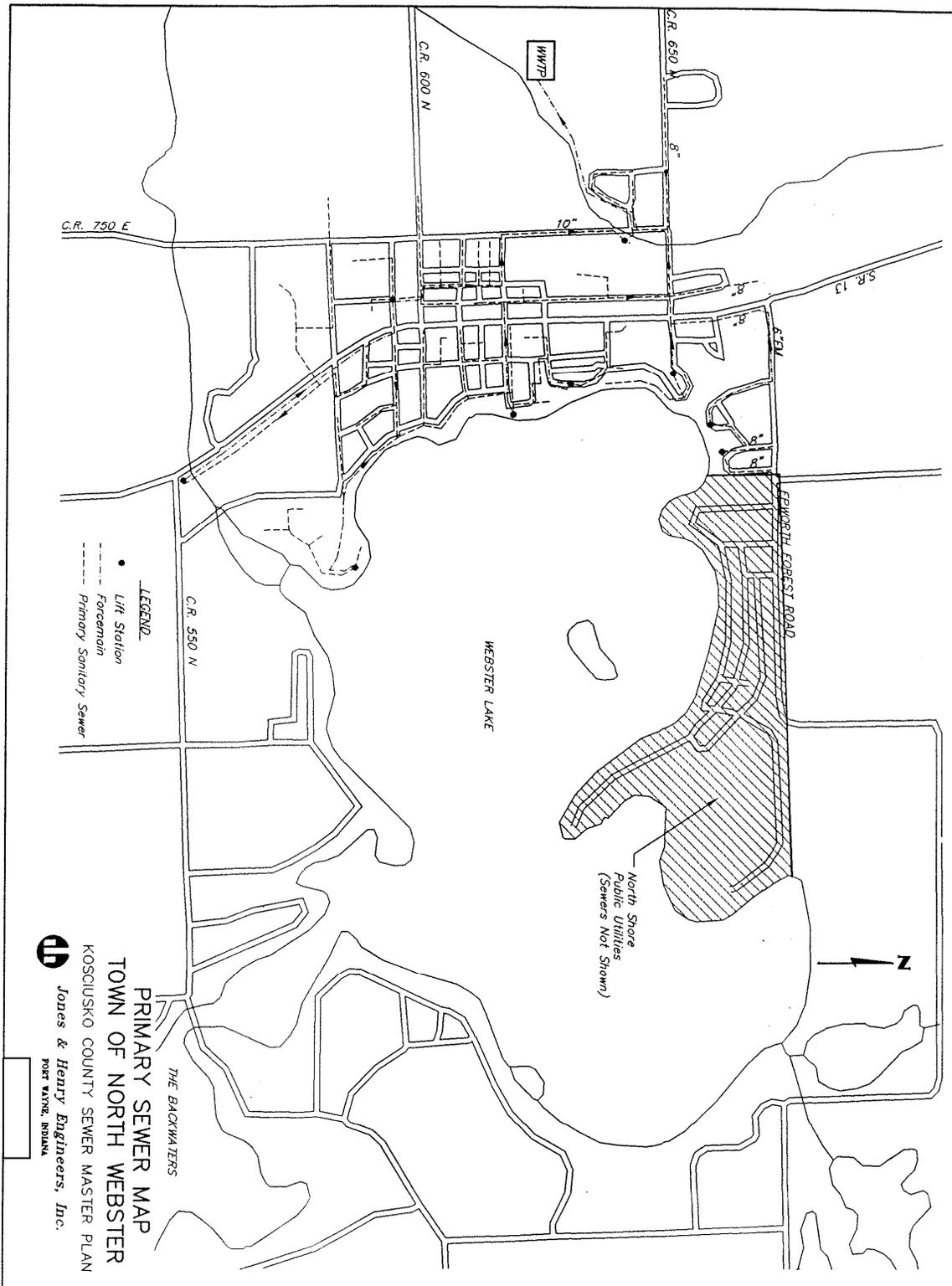
# Maps:

(The following maps have been recreated in order to digitize this document. In some cases the maps were able to be recreated, in others they were scanned as well as possible. The Original maps are available for review in the Kosciusko County Area Plan Commission Office.)



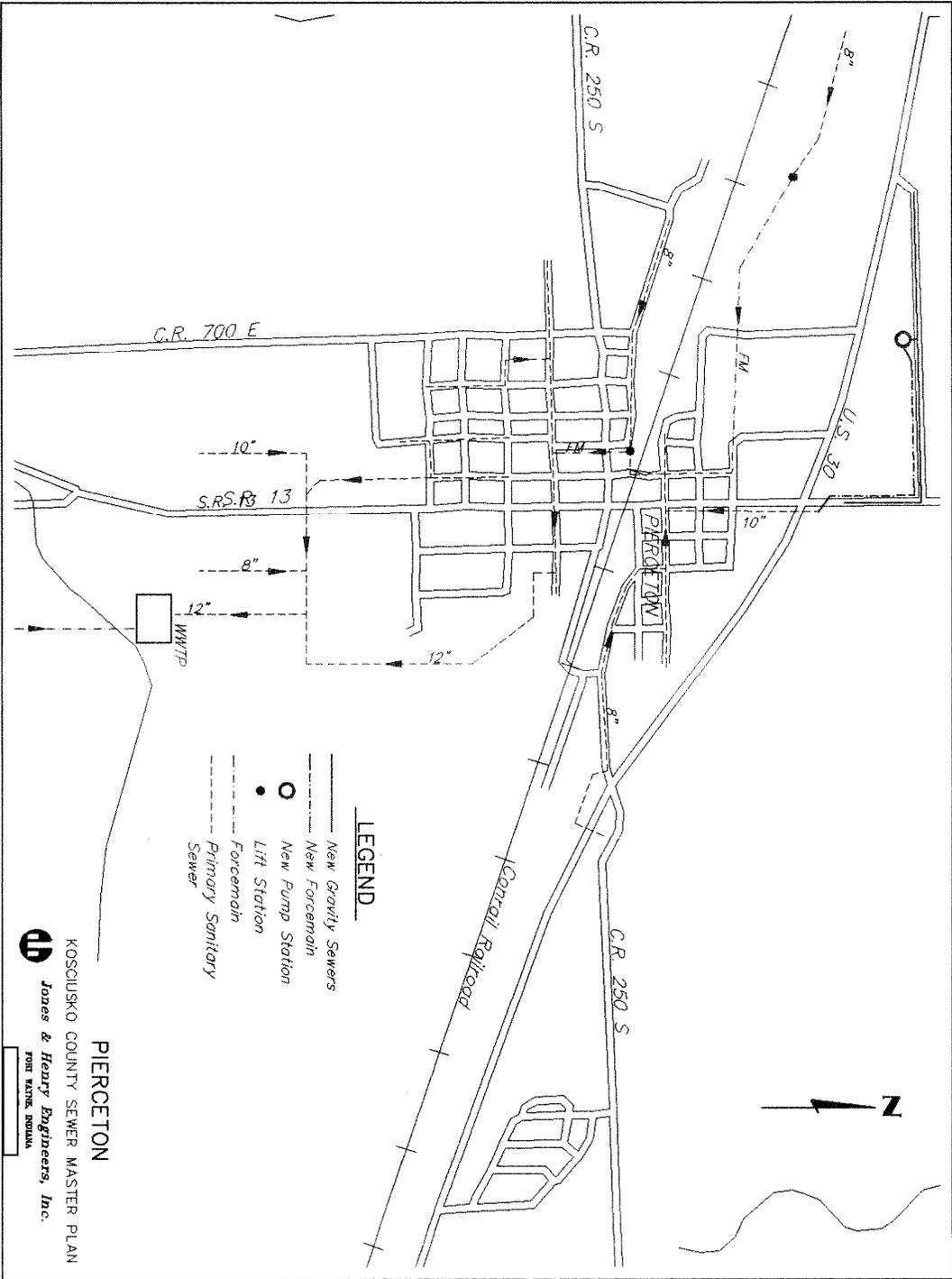

**Jones & Henry Engineers, Inc.**  
 PIPELINES, INDIANA  
 KOSCIUSKO COUNTY SEWER MASTER PLAN  
**CLAYPOOL**

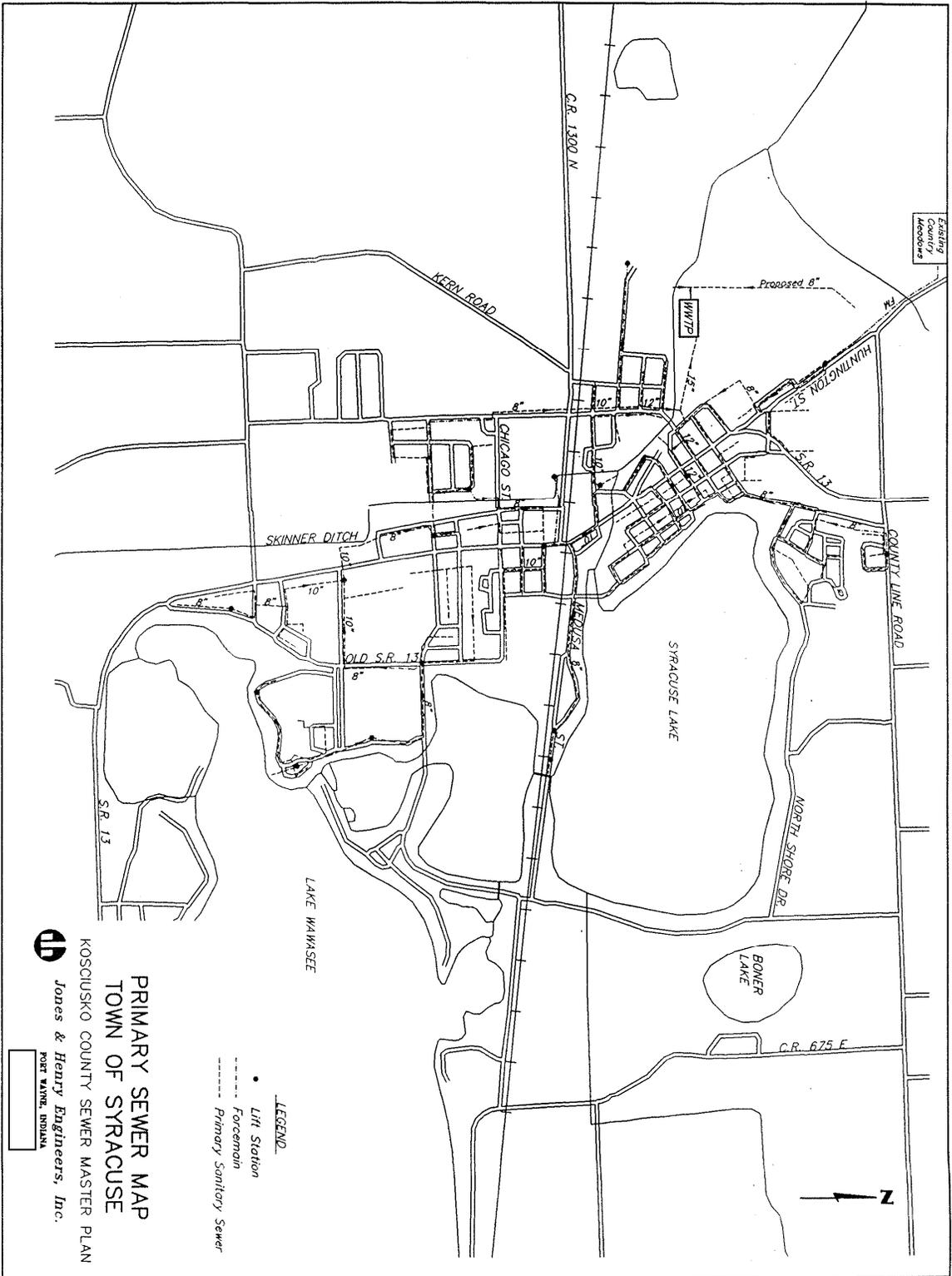




**PRIMARY SEWER MAP**  
**TOWN OF NORTH WEBSTER**  
**KOSCIUSKO COUNTY SEWER MASTER PLAN**  
**Jones & Henry Engineers, Inc.**  
**PORT WYOMING, INDIANA**

ETM:\3771M\3  
12/22/93 10

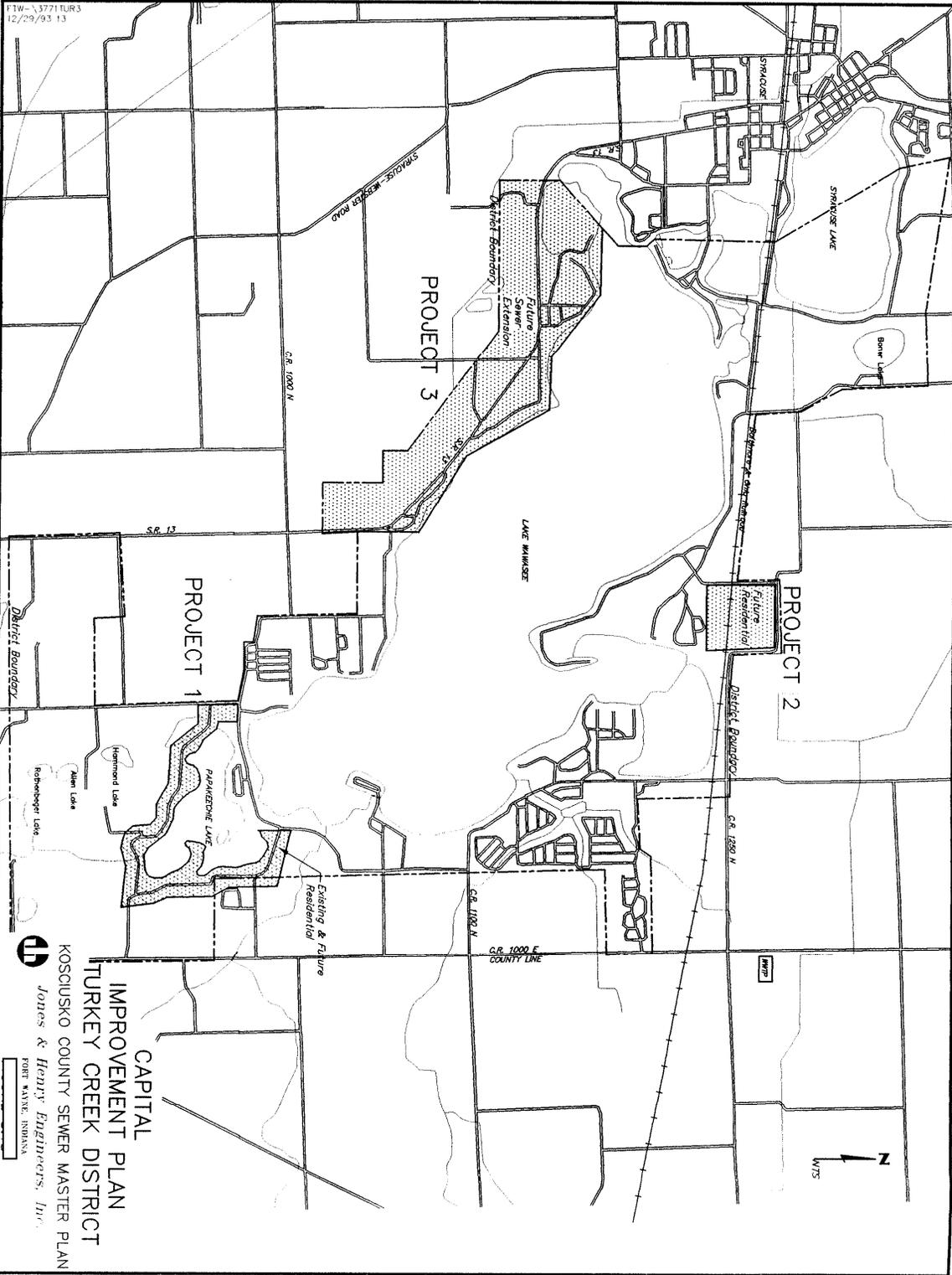




**PRIMARY SEWER MAP**  
**TOWN OF SYRACUSE**  
 KOSCIUSKO COUNTY SEWER MASTER PLAN  
 Jones & Henry Engineers, Inc.  
 FORT WAYNE, INDIANA

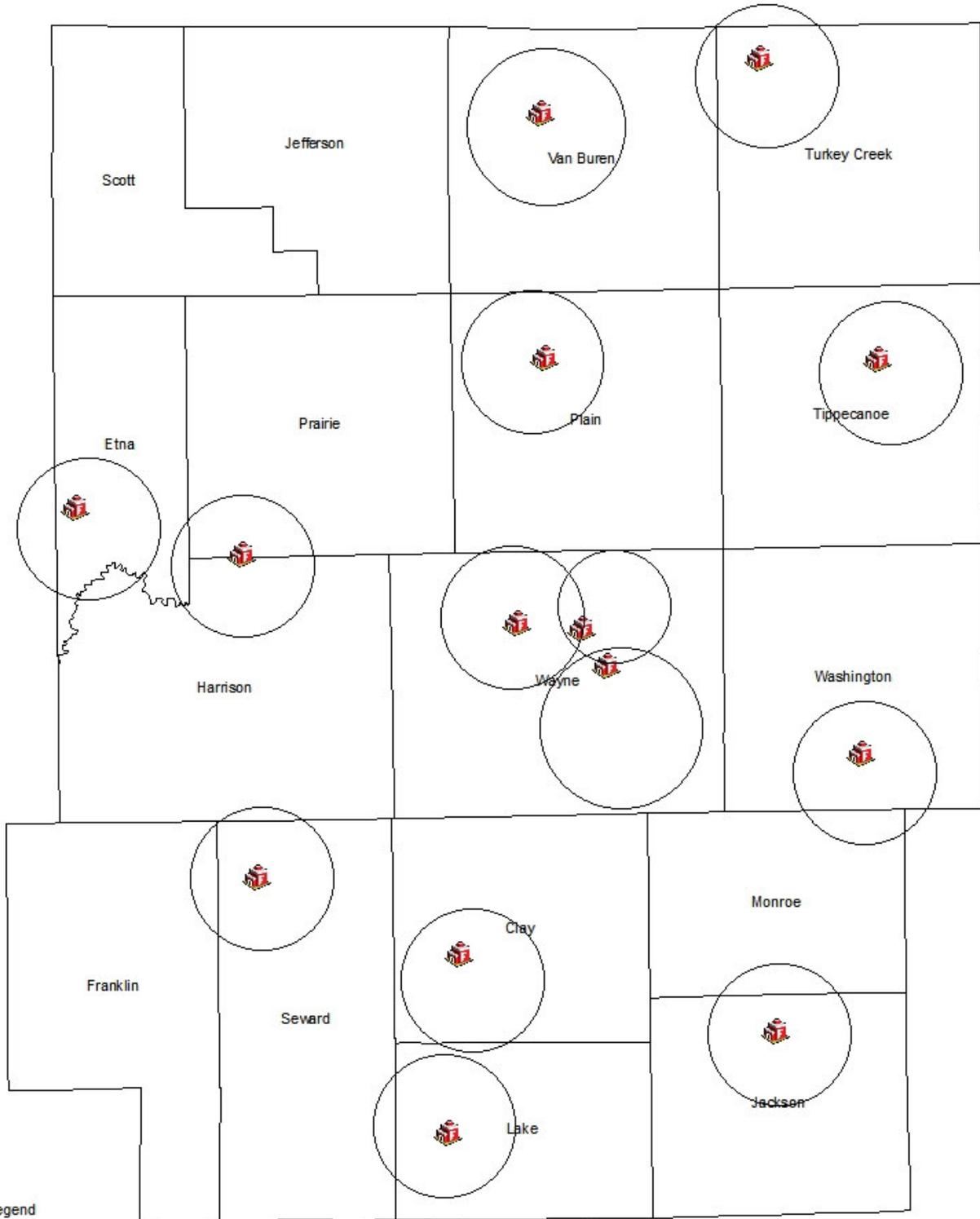
**LEGEND**  
 • Lift Station  
 - - - - - Force Main  
 - - - - - Primary Sanitary Sewer

13W-1,3771TUR3  
12/29/93 13



**CAPITAL  
IMPROVEMENT PLAN  
TURKEY CREEK DISTRICT  
KOSCIUSKO COUNTY SEWER MASTER PLAN**  
Jones & Henry Engineers, Inc.  
FORT WAYNE, INDIANA

# Fire Protection Areas



**Legend**

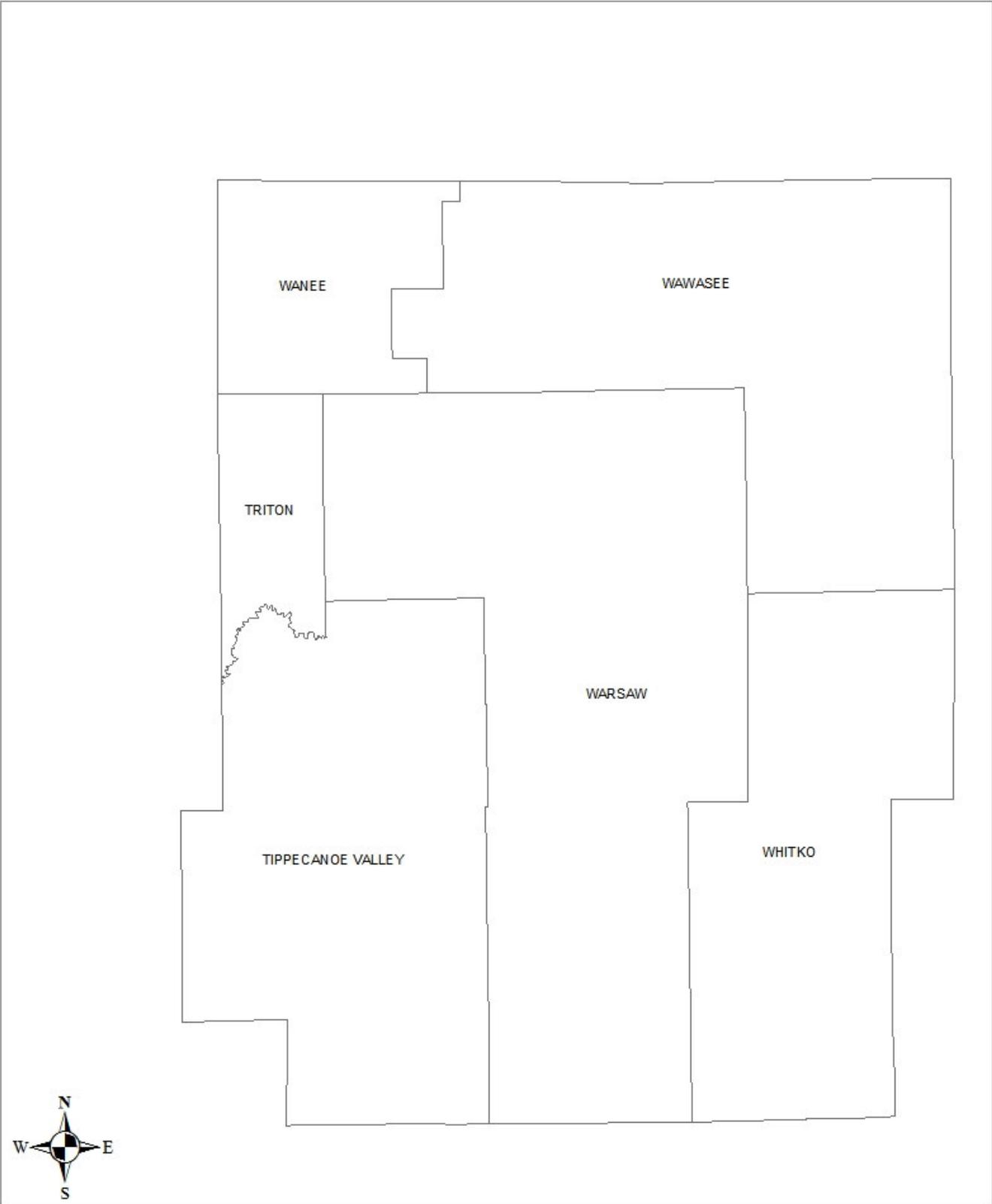
○ Industrial, Commercial, Medium to High Density Residential

🚒 Firestation

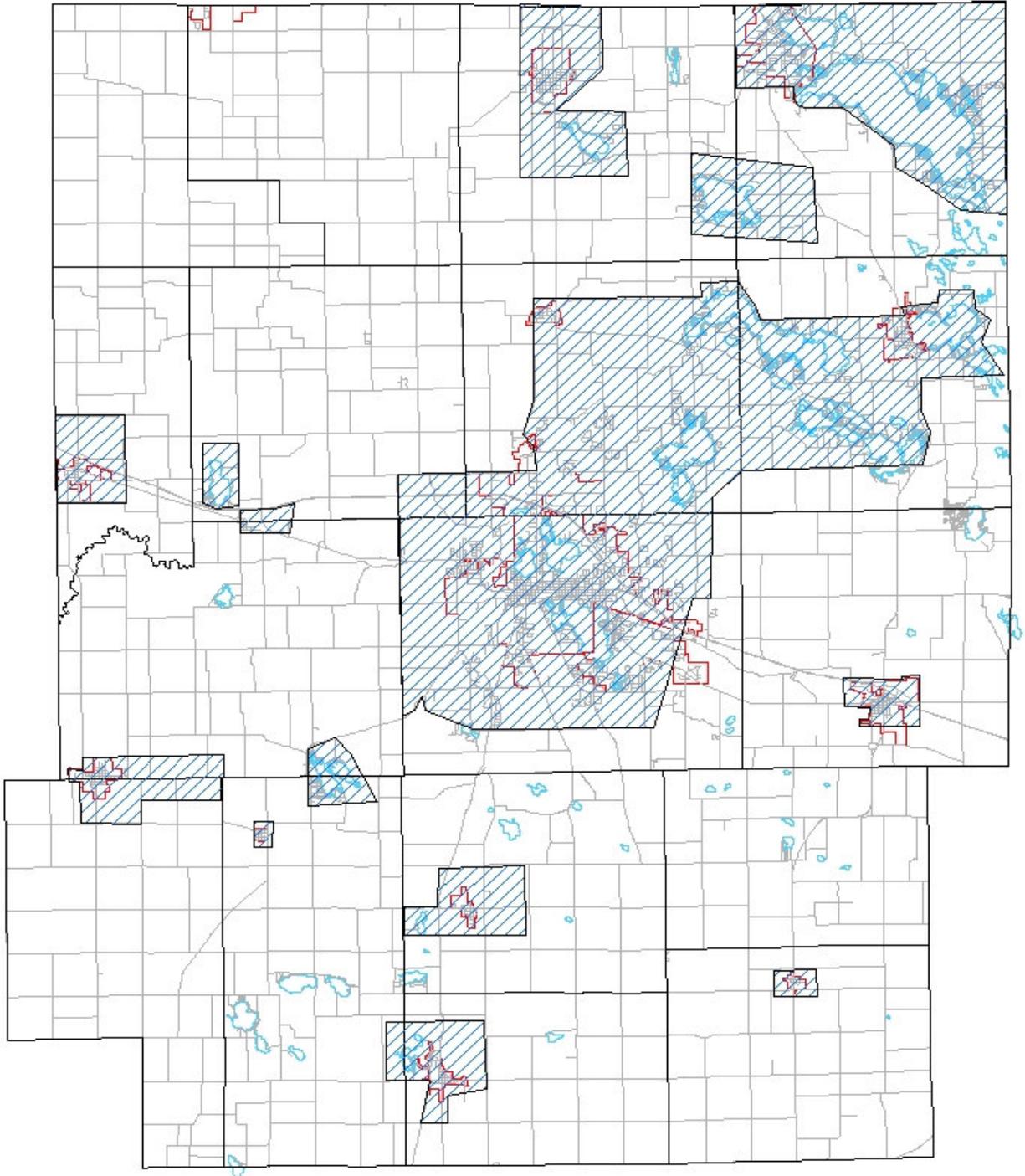
Intense developments should occur as close as possible to emergency services  
 Areas outside of the circles typically are rural or low residential uses.



# School Corporation Districts



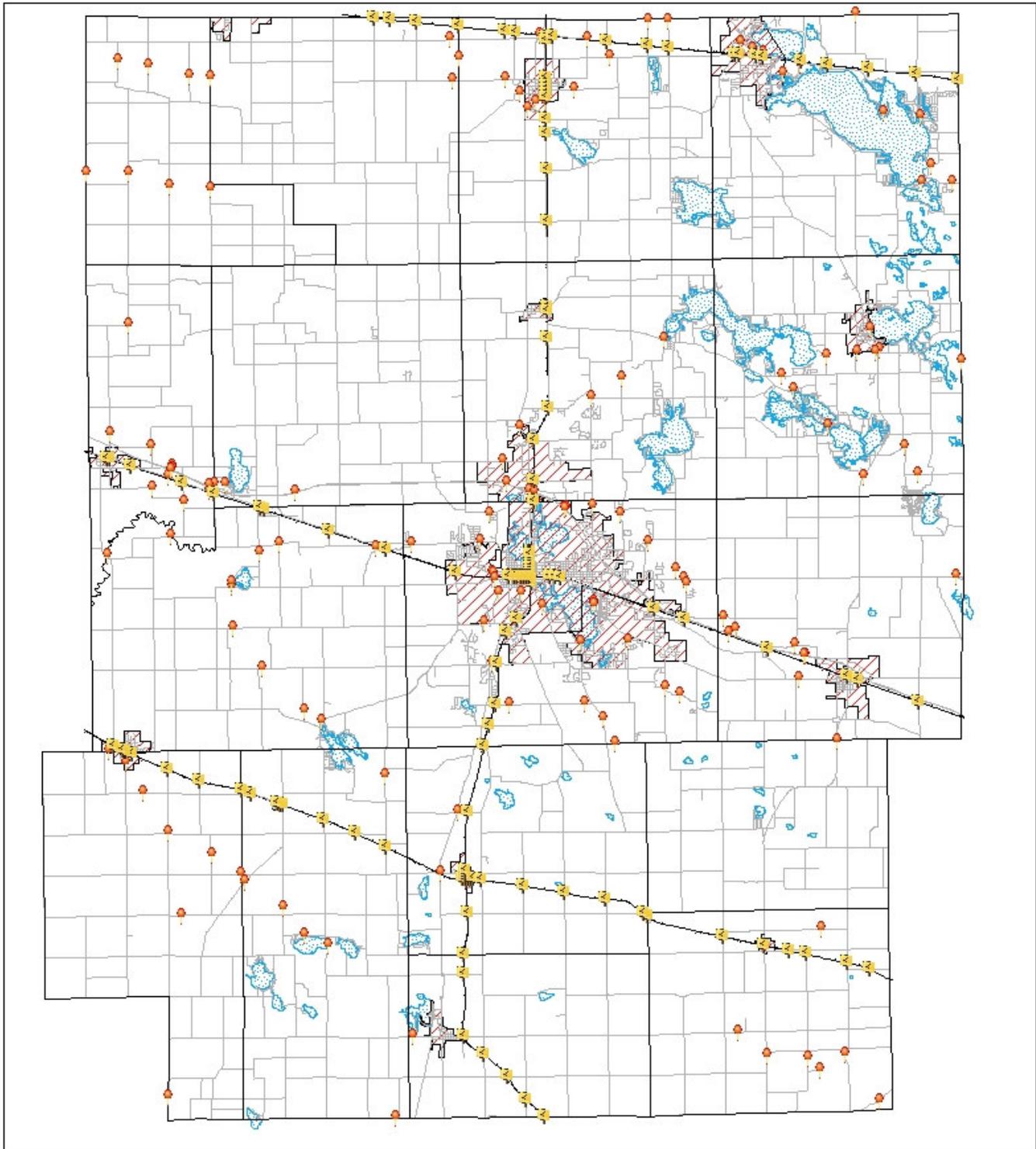
# Urban Service Areas



This map is a close reproduction of a map produced by CEA for the Kosciusko County Transportation Plan.



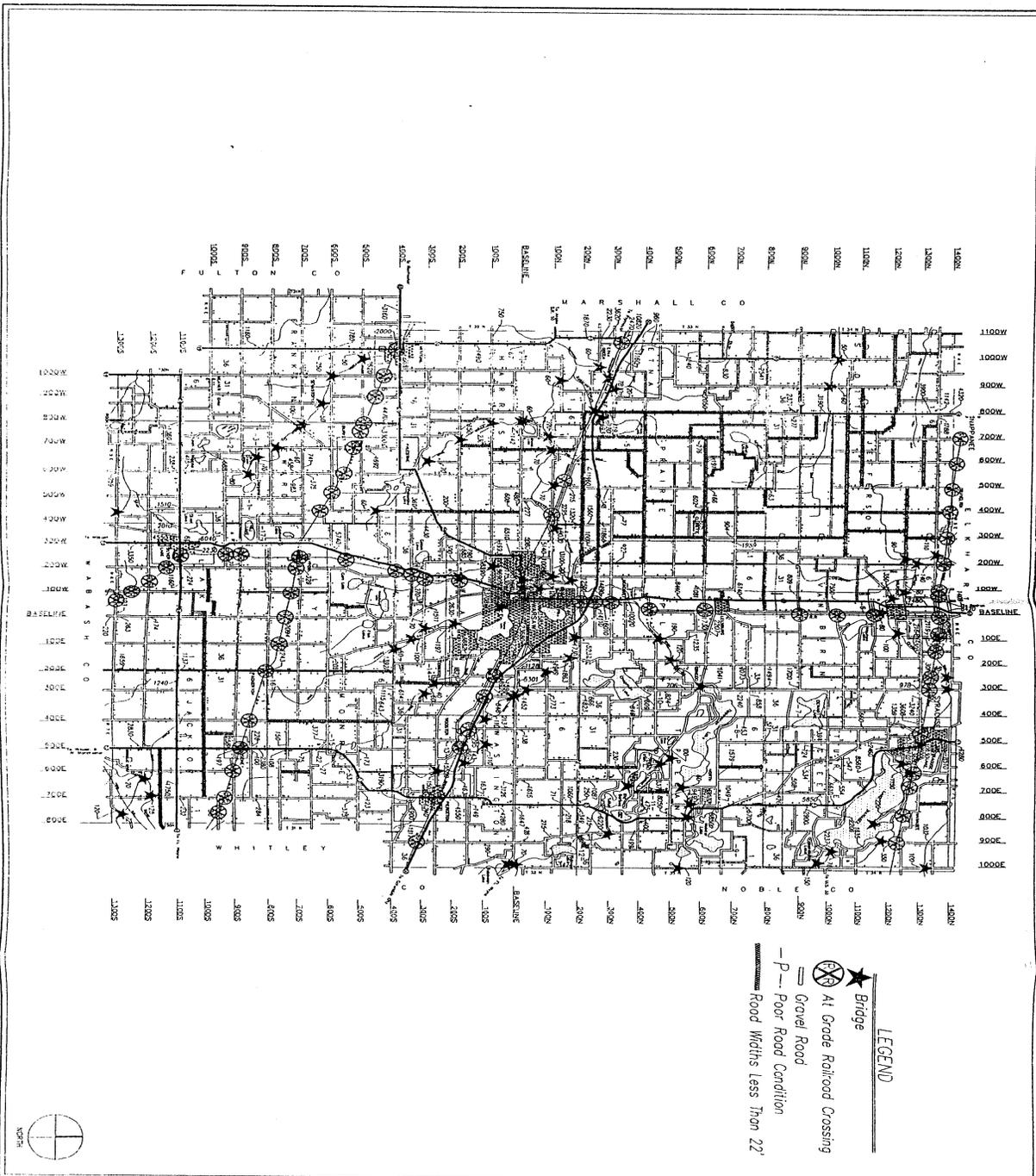
# Existing Road Features



- Legend**
- Yellow Diamond: All County RR Overlay
  - Orange Diamond: Bridge
  - Red Diagonal Lines: Urban
  - Blue Hatched: Water
  - Black Line: Major Road
  - Grey Line: Other Road

This map is a close reproduction of a map produced by CEA for the Kosciusko County Transportation Plan and supplements the following map.





**KOSCIUSKO  
COUNTY  
INDIANA**

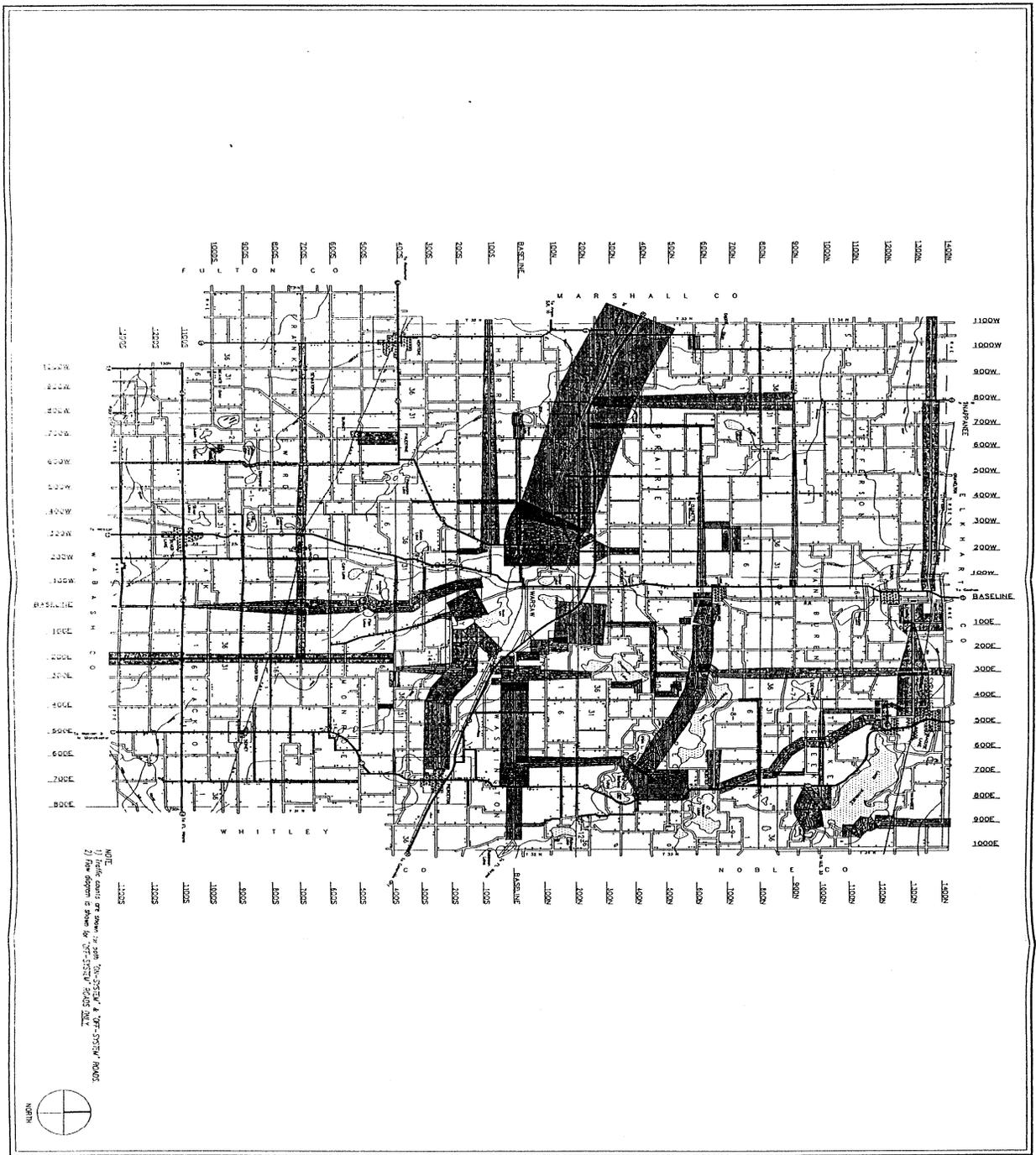
KOSCIUSKO COUNTY TRANSPORTATION PLAN 1995 - 2005

**EXISTING CONDITIONS**

**LEGEND**

- ★ At Grade Railroad Crossing
- ⊗ Bridge
- - - Gravel Road
- - - Poor Road Condition
- ▬ Road Widths Less Than 22'

Congdon Engineering Associates  
2000 DuFour Blvd. Suite 1023  
Indianapolis, Indiana 46268  
(317) 876-0054 FAX(317) 876-0114



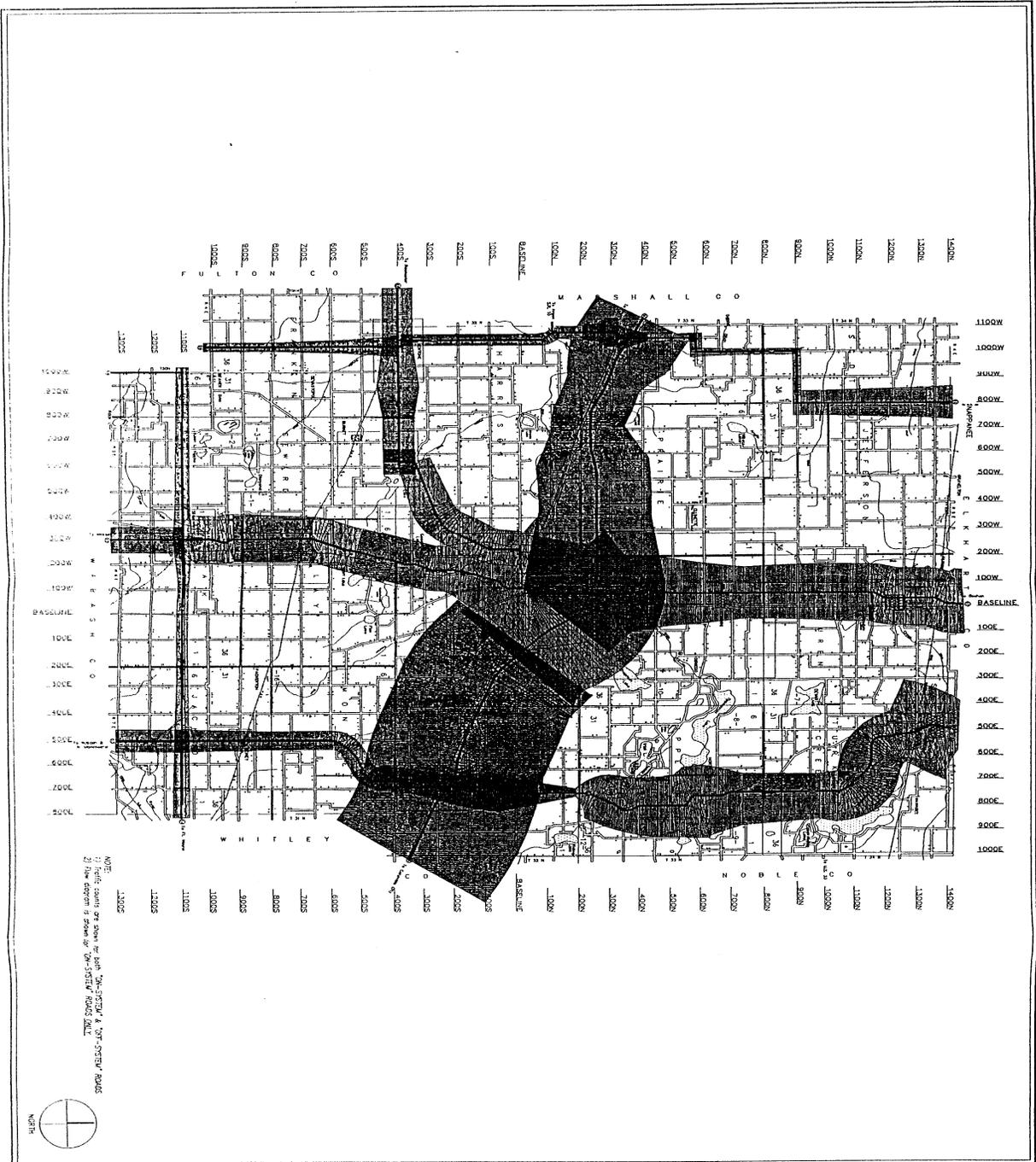
NOTE:  
 1) Traffic counts are shown on the map.  
 2) Flow diagram is shown for 1995-2005 period.

**KOSCIUSKO  
 COUNTY  
 INDIANA**

KOSCIUSKO COUNTY TRANSPORTATION PLAN 1995 - 2005

**EXISTING TRAFFIC FLOW DIAGRAM  
 FOR  
 COUNTY ROADS**

**CEA**  
 Corbett Engineering Associates  
 3000 Indiana Blvd., Suite 1000  
 Indianapolis, Indiana 46228  
 (317) 876-0084 FAX(317) 878-0114



NOTE:  
 1) Traffic counts are shown on both "ONE-WAY" & "TWO-WAY" ROUTES.  
 2) Flow direction is shown by "ONE-WAY" ROUTES ONLY.

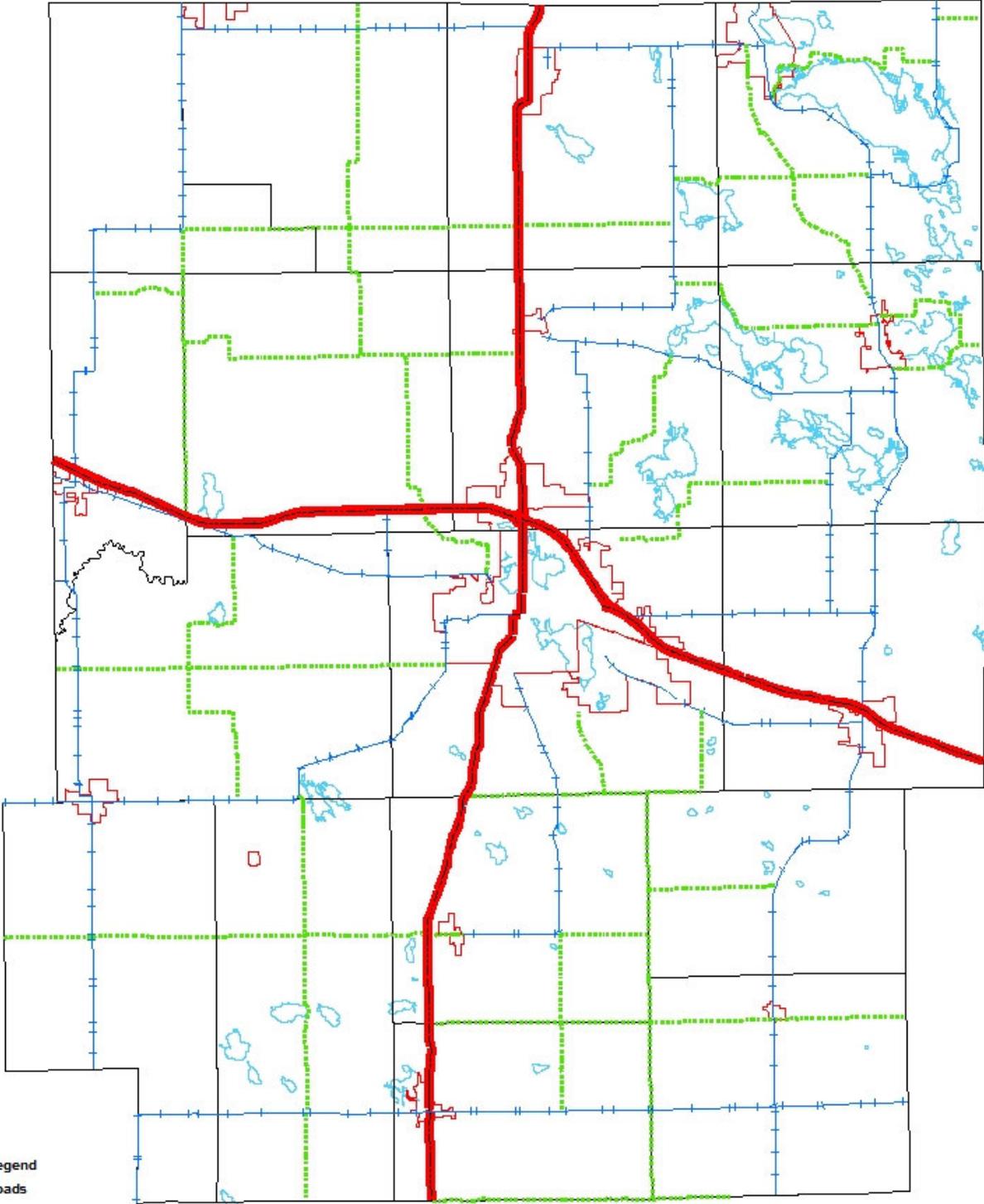
**KOSCIUSKO COUNTY INDIANA**

**KOSCIUSKO COUNTY TRANSPORTATION PLAN 1995 - 2005**  
**EXISTING TRAFFIC FLOW DIAGRAM FOR STATE & U.S. ROUTES**

Compton Engineering Associates  
 3500 DePue Blvd. Suite 1055  
 Indianapolis, Indiana 46268  
 (317) 876-0064 FAX(317) 876-0114



# Road Funtion Classification



Legend

Roads

ROAD\_CLASS

— MAJOR COLLECTOR

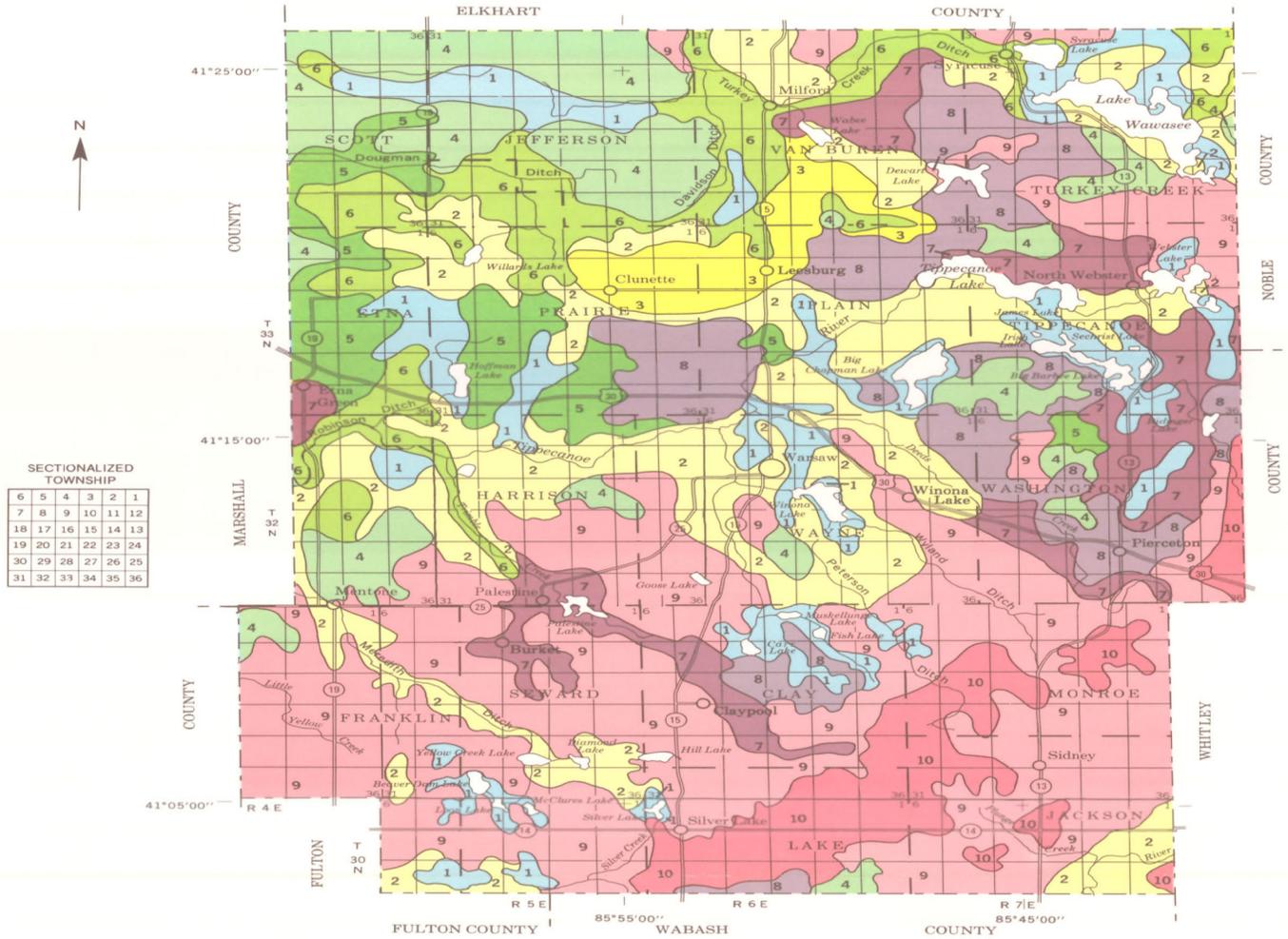
... MINOR ARTERIAL

... MINOR COLLECTOR

— Other Principal Arterial



Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.



SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

**SOIL LEGEND\***

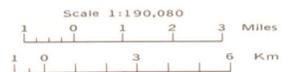
- 1** DOMINANTLY NEARLY LEVEL AND DEPRESSIONAL SOILS THAT ARE VERY POORLY DRAINED; ON UPLANDS  
Houghton-Palms association: Mucky soils that are very poorly drained and formed in organic material; on uplands
- 2** DOMINANTLY NEARLY LEVEL TO MODERATELY SLOPING SOILS THAT ARE WELL DRAINED; ON UPLANDS  
Ormas-Kosciusko association: Sandy and loamy soils that are well drained and formed in outwash deposits; on uplands
- 3** Shipshe-Carmi association: Loamy soils that are well drained and formed in outwash deposits; on uplands
- 4** DOMINANTLY NEARLY LEVEL, GENTLY SLOPING, AND DEPRESSIONAL SOILS THAT ARE SOMEWHAT POORLY DRAINED TO VERY POORLY DRAINED; ON UPLANDS  
Crosier-Barry association: Loamy soils that are somewhat poorly drained and formed in glacial till; on uplands
- 5** Rensselaer-Whitaker association: Loamy soils that are very poorly drained and somewhat poorly drained and formed in lacustrine sediments; on uplands
- 6** Sebewa-Gilford association: Loamy soils that are poorly drained and very poorly drained and formed in outwash deposits; on uplands
- 7** DOMINANTLY NEARLY LEVEL TO STEEP SOILS THAT ARE WELL DRAINED; ON UPLANDS  
Riddles-Ormas-Kosciusko association: Loamy and sandy soils that are well drained and formed in glacial till and outwash deposits; on uplands
- 8** Riddles-Wawasee association: Loamy soils that are well drained and formed in glacial till; on uplands
- 9** DOMINANTLY NEARLY LEVEL TO MODERATELY STEEP SOILS THAT ARE WELL DRAINED AND SOMEWHAT POORLY DRAINED; ON UPLANDS  
Wawasee-Crosier-Miami association: Loamy soils that are well drained and somewhat poorly drained and formed in glacial till; on uplands
- 10** Morley-Blount association: Loamy and silty soils that are well drained and somewhat poorly drained and formed in glacial till; on uplands

\*Texture terms in the descriptive headings refer to the surface layer of the major soils in the associations.

COMPILED 1987

UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
PURDUE UNIVERSITY AGRICULTURAL EXPERIMENT STATION

**GENERAL SOIL MAP**  
KOSCIUSKO COUNTY, INDIANA



**Summary of Soil Association -- Kosciusko County (344,300 Acres)**

Yield estimates in bushels or  
tons (Hay)

Assn. no.	Pct. In county	Index Potential for:										Land Use (pct. Of assn.)																
		All Soils					Soy-					Pct. Pot.					Pct. Suited											
		SPD	PD	Pct	Muck	land	Corn	Corn	land	Wheat	Hay	Hay	Wheat	eros.	(1-4)	Water	Wind	eros.	(1-3)	Irrigation	(1-4)	OM	septic	Land	Pasture	Forest	Idle	Urban
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
18	1.08	32	25	0	97	105	105	37	46	3.5	38	56	2.1	1.0	1.7	2.3	39	63	13	12	3	9						
22	3.34	81	0	16	98	109	109	38	51	3.6	31	56	1.3	1.2	2.0	2.7	17	90	3	2	3	2						
35	18.95	27	4	8	96	92	91	32	41	3.0	31	43	2.0	1.3	2.1	1.6	61	70	8	9	6	7						
49	1.71	38	4	0	99	128	128	45	54	4.2	40	75	1.6	1.0	1.1	2.9	16	89	4	2	3	2						
51	3.64	7	1	0	100	96	96	34	46	3.2	36	49	2.1	1.1	2.7	2.9	93	84	0	4	5	7						
58	6.52	73	1	1	99	118	118	41	53	3.9	34	65	1.8	1.1	1.5	2.6	13	83	4	6	4	3						
63	47.15	60	3	1	97	109	108	38	48	3.6	34	56	2.2	1.0	1.3	2.2	25	71	9	10	3	7						
86	14.45	45	4	3	97	68	97	34	43	3.2	37	43	2.6	1.0	1.0	2.2	6	71	10	11	3	5						
108	3.23	90	0	64	99	121	120	42	49	4.0	25	68	1.1	1.9	1.3		9	69	10	6	6	10						
Weighted Avg.:		52	3	5			104	37	46	3.4	34	53	2.1	1.1	1.5	2.1	30	73	8	9	4	6						

General: Calculations were made to represent average values for each association across its entire area in Indiana. In a particular county, values may be somewhat different. Except for cols. 6 and 7, calculations consider use of all soils in the association. Individual soils may have values well above or below the averages reported here. Weighted averages (\*) are calculated taking into account the area of each association within the county.

Notes by columns:

- Natural soil drainage: PD (poorly drained), SPD (somewhat poorly drained). Others considered were moderately well and well drained.
- Subject to periodic flooding unless protected by dikes or levees.
- Organic areas in low landscape positions with or without surface outlets.
- Percent tillable, Classes I-IV by SCS Land Capability Classification.
- Present average yield on Classes I-IV (better row-crop soils) without irrigation.
- 8-11. Present average yields on Classes I-VII (all soils) without irrigation. For yields on Class I-IV only, multiply values in col. 7 by .35 for soybeans, by .40 for wheat and divide by 30 for hay (tons).
- Percent potential increase over yields in cols. 8-11 with excellent management in best growing season.
- Productivity index = average gross return minus production and conservation costs (highest index = 100).
- Col. 14, 1 (slight) to 4 (severe); col. 15, 1 (slight) to 3 (severe); col. 16, 1 (low) to 4 (high) response for grains.
- Much soils (usually over 30% organic matter) not included in calculation. No percent OM given for Assn. 108.
- 19-23. Land use calculated from Indiana Soil and Water Conservation needs inventory data for 1958.

Percent of Land Slope Groups  
(Gradient by groups: A 0-2%, B2-6%, C 6-12%, D 12-18%  
E 18-25%, F 25-35%, G >35%)

Ass.

18 A = 70 B = 18 C = 9 D = 2 E = 1

22 A = 86 B = 9 C = 3 D = 2

35 A = 58 B = 27 C = 11 D = 3 E = 1

49 A = 89 B = 8 C = 2 >C = 1

51 A = 74 B = 19 C = 5 D = 1 >D = 1

63 A = 59 B = 27 C = 10 D = 3 >D = 1

86 A = 43 B = 36 C = 16 D = 3 >D = 2

108 A = 94 B = 5 >B = 1

# Charts:

**Table 1.1: Growth Trends and Projections for Kosciusko County**

1960	40,373
1970	48,127
1980	59,555
1990	62,294
Projected 2000	66,800
Projected 2010	68,540
Projected 2020	69,030

(Source: State Board of Health/Indiana Business Research Center)

**Table 1.2 Population by Townships**

1980	Township	1990	Changes in Population
1,621	Clay	1625	4
1,150	Etna	1290	140
1,019	Franklin	985	-34
3,226	Harrison	3337	151
1,251	Jackson	1225	-26
1,089	Jefferson	1201	112
1,661	Lake	1566	-95
932	Monroe	1088	156
4,968	Plain	5211	243
1,180	Prairie	1279	-91
1,190	Scott	1272	82
1,921	Seward	2039	118
5,340	Tippecanoe	6197	857
6,587	Turkey Creek	7695	1108
3,118	Van Buren	3128	542
2,847	Washington	3128	281
20,447	Wayne	22456	2009

(Source: U.S. Bureau of the Census)

**Table 1.3: Regional Population Growth and Distribution**

Region	Pop. Growth Rate 1960-1980	Pop. Growth Rate 1980-2000*	Pop. Distribution 1980	Pop. Distribution 2000*
Northeast	81.8%	61.6%	33.9%	36.6%
Northwest	25.7%	38.6%	13.2%	12.2%
Central	48.4%	51.0%	34.3%	34.6%
Southeast	19.8%	33.8%	8.4%	7.5%
Southwest	21.0%	30.7%	10.4%	9.1%

\*Population projections (These are estimated percentages)

**Table 1.4: Employment by Occupation (percentage change by industry from 1979 to 1989)**

Occupation	Kosciusko County	Indiana
Total Non-Farm	31.6%	15.0%
Agricultural Services, Fisheries	81.6%	77.8%
Forestry		
Construction	12.4%	14.6%
Manufacturing	31.4%	-11.3%
Wholesale Trade	-13.2%	10.1%
Government	23.8%	9.3%

(Source: U.S. Bureau of Economic Analysis)

**Population Age Distribution**

Age Group	1970	1980	1990
Under 5	4,823	5,223	5,324
5-14	9,765	9,617	10,639
15-24	7,937	10,608	9,065
25-34	6,432	9,962	10,670
35-44	5,191	6,834	9,583
45-54	5,619	5,619	6,747
55-64	4,400	5,420	5,505
65 and Older	4,400	6,272	7,743
Total	48,127	59,555	65,294

**Kosciusko County Birth and Death Rate**

1990	Total Births	Total Deaths	Birth Rate	Death Rate
	1139	475	17.4*	8.4*

\* per 1000 people

**Table 1.5: Housing Stats - 1990 to 1995**

<b>Prairie</b>				
Single Family	9	13	8	23
Multi-Family	0	0	0	0
<b>Scott</b>				
Single Family	10	6	12	31
Multi-Family	0	0	0	0
<b>Seward</b>				
Single Family	31	23	16	9
Multi-Family	0	0	0	0
<b>Tippecanoe</b>				
Single Family	72	69	64	51
Multi-Family	0	1	0	0
<b>Turkey Creek</b>				
Single Family	82	67	93	84
Multi-Family	0	0	1	6
<b>Van Buren</b>				
Single Family	32	17	32	33
Multi-Family	0	0	0	0
<b>Washington</b>				
Single Family	23	24	23	24
Multi-Family	0	0	0	0
<b>Wayne</b>				
Single Family	67	70	60	65
Multi-Family	0	0	1	0
* Does not include the Towns of Etna Green, Mentone, Silver Lake, Leesburg, or Cities of Warsaw or Winona Lake				
Single Family	15	27	19	10
Multi-Family	0	0	0	0
<b>Plain</b>				
Single Family	56	62	47	75
Multi-Family	0	0	0	0

**Table 2.1: Land Zone Distribution (approximate number of acres per zoning district)**

Public Use	17	17	17
Environmental	72.5	72.5	72.5
<b>Jefferson</b>			
Agricultural	19892	19830	19799
Residential	26	88	118
Industrial	0	0	0
Commercial	0	0	0
Public Use	16	16	16
Environmental	30	30	30
<b>Lake</b>			
Agricultural	14119	14107	14092
Residential	184	184	197
Industrial	131	143	144
Commercial	8.6	8.6	9
Public Use	138	138	138
Environmental	49	49	49
<b>Monroe</b>			
Agricultural	14912	14912	14912
Residential	53	53	53
Industrial	0	0	0
Commercial	0	0	0
Public Use	114	114	114
Environmental	161	161	161
<b>Plain</b>			
Agricultural	18848	17927	17523
Residential	1103	1295	1403
Industrial	545	1206	1255
Commercial	221	287	301
Public Use	1061	1061	0
Environmental	114	114	114
<b>Prairie</b>			
Agricultural	21501	20665	20423
Residential	229	229	252

Industrial	55	890	890
Commercial	37	39	43
Public Use	212	212	212
Environmental	213	213	213
<b>Scott</b>			
Agricultural	14889	14889	14889
Residential	7.6	7.6	7.6
Industrial	0	0	0
Commercial	1.8	1.8	1.8
Public Use	21.4	21.4	21.4
Environmental	15.7	15.7	15.7
<b>Seward</b>			
Agricultural	21808	21736	21731
Residential	355	422	427
Industrial	11.2	11.2	11.2
Commercial	0	0	0
Public Use	550	550	550
Environmental	259	259	259
<b>Tippecanoe</b>			
Agricultural	15473	15125	14983
Residential	2269	2314	2413
Industrial	48	117	126
Commercial	44	51	53
Public Use	2596	2628	2628
Environmental	1316	1510	1510
<b>Turkey Creek</b>			
Agricultural	12618	12537	13500
Residential	3226	3290	3320
Industrial	285	302	302
Commercial	278	278	283
Public Use	4191	4191	4191
Environmental	2951	2951	2951
<b>Van Buren</b>			
Agricultural	21145	21004	20986

Residential	794	932	940
Industrial	446	454	454
Commercial	22	30	31
Public Use	437	425	425
Environmental	109	109	109
<b>Washington</b>			
Agricultural	20965	20877	20877
Residential	509	514	514
Industrial	39	112	112
Commercial	71	81	81
Public Use	290	290	290
Environmental	191	191	191
<b>Wayne</b>			
Agricultural	18683	18265	18110
Residential	1806	2131	2261
Industrial	644	738	755
Commercial	191	200	208
Public Use	114	114	114
Environmental	29	29	29
<b>Kosciusko County</b>			
Agricultural	310266	307202	307079
Residential	11539	12502	12984.5
Industrial	2530	4306	4390
Commercial	1033	1148	1143.7
Public Use	10384	10404	9131
Environmental	5902	6100	6075.9

**Table 2.2 Optimum Standards for Commercial Centers**

	<b>Neighborhood Center</b>	<b>Community Center</b>	<b>Regional Center</b>
<b>Major Function</b>	Sale of Convenience Goods and Services	Function of Neighborhood Plus Greater Store Variety	Complete Comparison Shopping
<b>Leading Tenants</b>	Grocery Store	Variety or Junior Dept. Store	Major Department Store
<b>Radius of Service Area</b>	1 to 3 miles	2 to 6 miles	3 plus miles
<b>Population needed for Support</b>	5,000 to 10,000	10,000 to 20,000	Unlimited
<b>Optimum Site Area</b>	4 to 10 acres	11 to 30 acres	31 plus acres
<b>Maximum Building Area Coverage</b>	108,900 sq. ft.	326,700 sq. ft.	Unlimited
<b>Range of Stores</b>	5 to 20	20 to 40	Unlimited
<b>Location</b>	Intersection of Collector Streets or Arterial Streets	Intersection of Local or Major Arterial	Intersection of Major Arterials
	(Source: Urban Land Institute; American Society of Planning Officials)		