Village of Bethalto

Comprehensive Plan

Richard Shearer & Associates

Horner & Shifrin, Inc.

January 2000

ORDINANCE NO. 2000-01

AN ORDINANCE APPROVING AND ADOPTING A COMPREHENSIVE PLAN FOR THE VILLAGE OF BETHALTO MADISON COUNTY, ILLINOIS

WHEREAS, the Village of Bethalto ("VILLAGE") did enact a revised Code of Ordinances ("Code"); and Chapter 4 of said Code provides for the creation of a Plan Commission under the authority of 65 ILCS 5/11-12-4; and

WHEREAS, a seven person Plan Commission was appointed by the President and confirmed by the corporate authorities; and

WHEREAS, the Plan Commission members did organize themselves with the election of officers and scheduling of regular meeting dates on or about June 18, 1999; and

WHEREAS, the Plan Commission did undertake the task of initiating plans and maps in preparation for completion of an official Comprehensive Plan for the Village of Bethalto; and

WHEREAS, the Plan Commission did pursue its process in conjunction with consultant, Richard Shearer & Associates; and

WHEREAS, the Plan Commission did, after proper notification in accordance with statutory requirements, hold a public hearing on November 18, 1999 to hear public comments on the proposed Comprehensive Plan for the Village of Bethalto; and

WHEREAS, all persons desiring to be heard in support or opposition to the Comprehensive Plan were afforded an opportunity to submit statements orally, in writing, or both; and

WHEREAS, the Plan Commission has submitted its reports and recommendations to the corporate authorities for approval and adoption of a Comprehensive Plan in the format of a Pre-final Comprehensive Plan dated November 1999 and as amended by a two page Memorandum dated December 28, 1999; and

WHEREAS, the corporate authorities are entertaining the approval and adoption of the Comprehensive Plan as recommended by the Plan Commission within ninety (90) days after conclusion of the public hearing held on November 18, 1999.

NOW THEREFORE, BE IT ORDAINED BY THE PRESIDENT AND THE BOARD OF TRUSTEES OF THE VILLAGE OF BETHALTO, MADISON COUNTY, ILLINOIS:

Section 1: That the Comprehensive Plan as recommended by the Plan Commission of the Village of Bethalto and contained within that Pre-final Comprehensive Plan dated November 1999 and amended by Memorandum of Revisions To Pre-final Comprehensive Plan dated December 28, 1999 be accepted in whole and adopted as the official Comprehensive Plan for the Village of Bethalto.

Section 2: That Figure 9 entitled "Village of Bethalto Comprehensive Plan Official Map" be adopted as the official land use map of the Village of Bethalto.

Section 3: That the Comprehensive Plan, as described above, shall become effective upon the expiration of ten (10) days after the date of filing notice of the adoption of such Comprehensive Plan with the Recorder of Deeds of Madison County, Illinois.

Section 4: That in accordance with 65 ILCS 5/11-12-6, after the effective date above described, the official Comprehensive Plan and all maps adopted therein shall be effective within the corporate boundaries of the Village of Bethalto and all parts of contiguous unincorporated area within one and one half (1 1/2) miles from corporate limits of the Village of Bethalto as exhibited on the official map and as may be extended and amended.

Section 5: That said official Comprehensive Plan and this adoption ordinance shall be placed on file with the Village Clerk and shall be available at all times during business hours for public inspection.

On Motion of Trustee Bourland, seconded by Trustee Wallace.

Trustee Bourland voted	Aye	Trustee Withers voted	Aye
Trustee Smith voted	Aye	Trustee Wallace voted	Aye
Trustee Oldendorph voted	Aye	Trustee Dreith voted	Aye

for the adoption of said Ordinance.

PASSED AND APPROVED THIS 3rd DAY OF January, 2000.

Steve A. Bryant
President
Board of Trustees

ATTEST:

Mary Meyer, Village Clerk

STATE OF ILLINOIS)
COUNTY OF MADISON) ss. VILLAGE CLERK'S OFFICE
VILLAGE OF BETHALTO)

I, MARY A. MEYER, Village Clerk of the **Village of Bethalto, Illinois,** do hereby certify that the foregoing is a true, correct and complete copy of **"An Ordinance Approving and Adopting a Comprehensive Plan For the Village of Bethalto, Madison County, Illinois"**, published by authority of the Village Board of Trustees and duly passed by the Village Board of Trustees of the Village of Bethalto, Illinois, approved by the Mayor and published in pamphlet form according to the law on the 4th day of January, 2000 which Ordinance is now in full force and effect and available for public inspection upon request in the office of the Village Clerk.

In witness whereof, I have set my hand and affixed the corporate seal of the **Village of Bethalto, Illinois,** this 7th day of January, 2000.

Mary A. Meyer

Mary A. Meyer, CMC/AAE
Village Clerk
Village of Bethalto, Illinois

(SEAL)

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Background and Purpose

Purpose of the Plan

This Comprehensive Plan is intended to be a general plan to guide the future development and redevelopment of the Village. It is to be used as a policy plan by the Plan Commission and Board of Trustees in reviewing development applications. It outlines the Village's goals and objectives for long-range development of the Village. This plan provides background information on Bethalto's geography, history, physical environment, a review of existing conditions of the Village's population, land use, transportation facilities, community facilities, and park lands, and outlines a plan for the future.

Location

Bethalto is located in Wood River and Fort Russell Townships in the northwest quadrant of Madison County. Madison County is in southwest Illinois. Bethalto is approximately twenty miles north-northeast of downtown St. Louis, Missouri, and is approximately four miles northeast of the Mississippi River which is the dividing line between Missouri and Illinois. The Village is part of the St. Louis Metropolitan Statistical Area, the eighteenth largest metropolitan area in the United States. Bethalto is essentially the northeastern-most municipality in the St. Louis metropolitan area. A location map is included in Figure 1.

Surrounding Cities

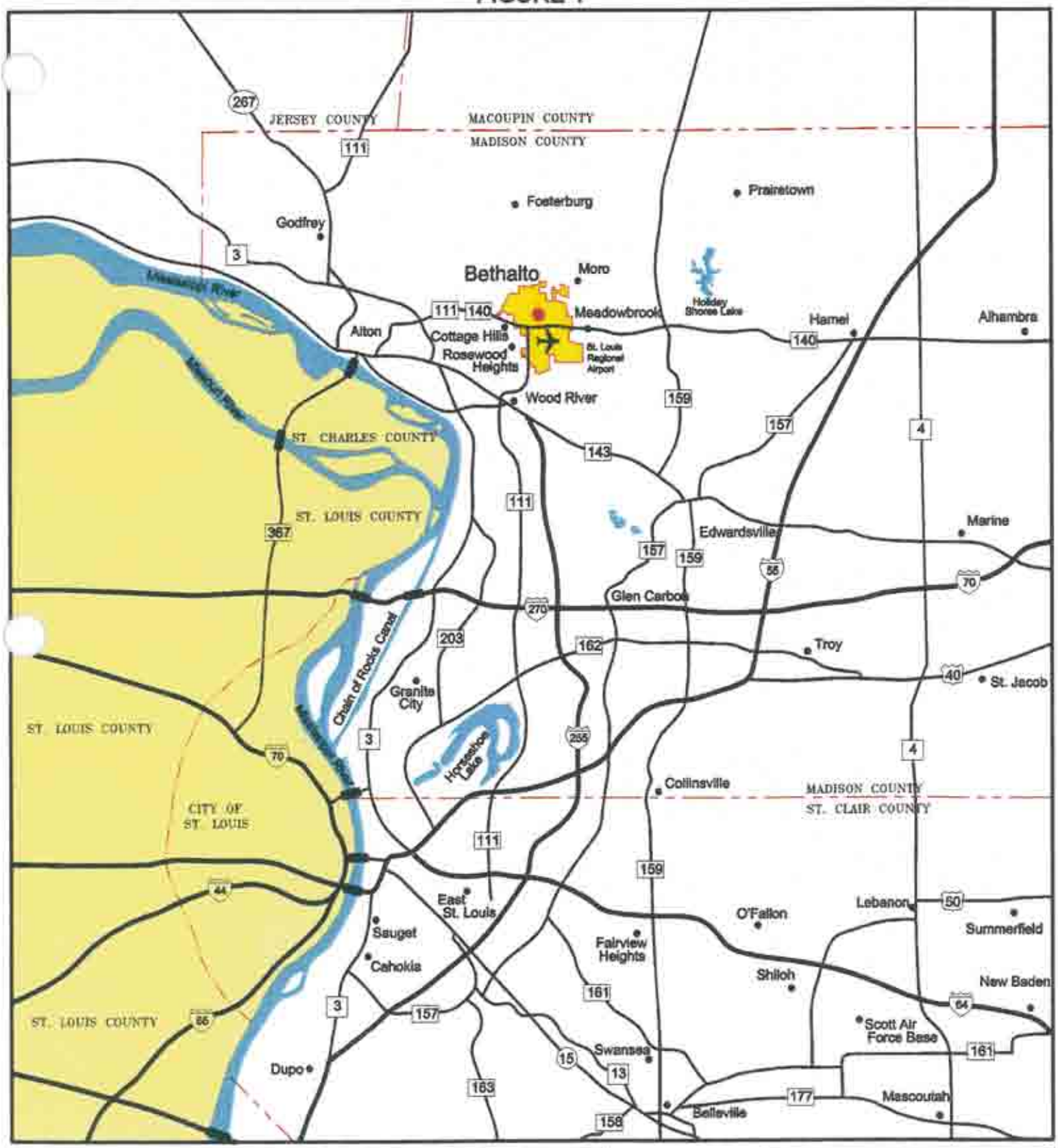
Most of the land south and west of Bethalto is located within other municipalities. The cities of Alton and East Alton lie west of Bethalto and the cities of Wood River, Roxana, South Roxana and Hartford lie to the south. Further to the southwest is the City of Granite City, while the City of Edwardsville and Village of Glen Carbon lie further to the southeast.

Environment

Physiography

Bethalto is located in the Interior Plains physiographic province that covers most of the mid-west and north-central portions of the United States. The Interior Plains province is characterized by flat to gently rolling topography. Much of Bethalto, and the area around it, consists of rolling upland and relatively flat prairie. Bethalto has an elevation of 544 feet above mean sea level.

VILLAGE OF BETHALTO
LOCATION MAP
FIGURE 1



LEGEND

- City Limits
- County Line
- Interstate
- Bethalto

N

(not to scale)

Richard Shearer & Associates

Saint Louis

November 1999

Geology

The lithology and physical structure of the underlying surface of Bethalto consists of slightly to moderately tilted, older sedimentary rocks. These sedimentary rocks include dolomite, shale, sandstone and limestone. Bedrock formations exposed in the area represent three separate geologic systems, the Ordovician, Mississippian and Pennsylvanian, each of which were formed at different periods during earth's history. Ordovician rocks include sandstone, dolomite and moderate solution limestone. Overlying these formations are Mississippian rocks including cherty limestone, shale and extensive solution limestone. Pennsylvanian rocks (more than 300 million years old) overlay these older Mississippian formations and consist of cyclic strata of shales, sandstone and limestone with some seams of coal. These cyclic deposits are most common in the Bethalto area except for the floodplains that contains alluvial sediments and soil material left by floods.

Soils

Soils in and around Bethalto include Muscatine-Atterberry-Downs association, Fayett-Rozetta association, and Wakeland-Birds-Orion association. These soils, their general locations and characteristics are described below.

Muscatine-Atterberry-Downs association. These soils are the predominant soil group found throughout the Village. They are characterized as gently sloping and moderately sloping, somewhat poorly drained and moderately well drained soils that have a moderately permeable subsoil. They were formed in loess (wind-blown soil deposits) on uplands.

Fayett-Rozetta association. These soils are found west and south of Bethalto along the bluff that separates the Village from the lower ground in Wood River and East Alton. These soils are gently sloping to steep, well drained and moderately well drained with moderately permeable subsoil. This soil group was formed in loess on uplands.

Wakeland-Birds-Orion association. This soil group is found immediately adjacent to the Wood River, Indian Creek, and Cahokia Creek in areas west, north, and east of the Village. These soils are nearly level, somewhat poorly drained and are moderately permeable or moderately slowly permeable. They were formed in silty alluvial (water deposited) sediment on floodplains.

Climate

Bethalto has a humid continental climate characterized by warm summers. Most of the Village's annual precipitation occurs in the warmer months. The Village is, however, subject to wide variations in temperature and precipitation from season to

season. The total average annual precipitation is approximately 36.32 inches, with an average annual snowfall of approximately 18 inches. The highest monthly precipitation (approximately 3.7 inches) is in June and the lowest amount of precipitation occurs in January. Precipitation in the winter months is primarily as snow that may occur from November through early April. The highest average snowfall (approximately 5.4 inches) is in January. While snow is generally the heaviest in January, ten inches of snow equals only one inch of precipitation.

Average temperatures vary considerably throughout the year. January has an average temperature of 31.3° F. and July has an average temperature of 78.2° F. Below zero temperatures occur at least one day during 80 percent of the winters and temperatures of 100° F. occur at least one day during 80 percent of the summers. It is unusual, however, for temperature extremes to last for more than two or three days.

The growing season (the period from the last killing frost in the Spring to the first killing frost in the Fall) is 210 days per year. The area around the Village experiences relatively high humidity and experiences heavy fog approximately 11 days per year. The average annual relative humidity varies from 83 percent at 6:00 a.m. to 59 percent at noon to 61 percent at 6:00 p.m. The prevailing wind direction is from the northwest.

Vegetation

The Bethalto area is covered primarily by broad-leaf deciduous and needleleaf deciduous trees. Historically, the naturally occurring trees have been oak and hickory varieties. Other native vegetation includes tall grasses associated with prairies.

History

Prehistory

During the late Archaic Period (7000 - 1000 B.C.E.) and early Woodland Period (1000 B.C.E. - 900 C.E.), the earliest inhabitants of the Bethalto area hunted and began to use special purpose tools of stone. In the Woodland Period, population increased, improved agricultural practices, sedentary settlements, complex social and religious practices, and trade relations developed. This culture evolved and its high point occurred between 1200 and 1500 C.E. when Cahokia Mounds, the largest North American prehistoric site, functioned as an urban center in the region.

Early History

In 1541, Spanish explorers were the first Europeans to set foot in the Bethalto

area. This area was subsequently claimed for Spain by de Soto and claimed for France by LaSalle. After King Louis XIV of France directed that a large area of the United States be explored in 1658, French explorers from Quebec began searching for potential locations of trading posts in the Mississippi River Valley. Louis Joliet and Father Jacques Marquette, a Jesuit priest, explored the area in 1673. Settlers of European descent (initially French) joined the established Native American settlements of Cahokia and Kaskaskia around 1700.

By 1760, French traders, trappers, and missionaries had penetrated the Mississippi Valley and established settlements as far south as the Missouri River in St. Charles County, Missouri. The French had a profitable trade with the Indians. A coalition of Indian tribes fought with early settlers in Illinois from 1783 until 1795. Most of the settlers banded close together south of Cahokia.

Settlement of Bethalto

In 1804, Thomas Rattan left Ohio in a prairie schooner. He crossed the Ohio River at Shawneetown and traveled northwestward. When he arrived at the area that would become Bethalto he found good timber and prairie for corn and wheat. Water was also available from Wood River (which was named because of the timber around it). In addition, game was plentiful consisting of deer, prairie hens, rabbits, squirrels, and wild turkeys. By 1809, more settlers had arrived and chose to stay in the area known as Rattan's Prairie.

A territorial government for Illinois was formed in 1812 and the first legislature convened at Kaskaskia. Madison County, named for James Madison the fourth President of the United States, was organized in 1812 and encompassed a major portion of what would become the State of Illinois. Its borders were the current southern boundary of the County, the Mississippi River on the west, the Wabash River on the east and its northern border reached to Canada. Illinois became a state in 1818. The 1820 census reported 13,550 citizens in Madison County. Between 1820 and 1830, five townships were created including Wood River, Edwardsville, Silver Creek, Big Prairie, and Six-Mile Prairie. Madison County was reduced in size through the creation of other counties including Edwards County in 1814. In 1847 the County's boundary was fixed with the transfer of a small portion of the northeast corner of the County to Bond County.

Joel Starkey laid out a town of four blocks facing the railroad where West Main and Sherman are today. This plat was recorded on June 23, 1854, and the area was enlarged in 1870 by adding several more blocks.

By 1855, several businesses had opened. Businesses included a grocery store, dry goods store, blacksmith shop, and in 1856 a flour mill and the first post office. The area had been known as Bethel, but since there was already a Bethel post office in

Illinois the name was changed to Bethalto. Bethalto's early growth was due, in part, to the railroad running through the center of town. The St. Louis and Terre Haute railroad was constructed between 1854 and 1856 and provided access to the Mississippi River. A prime reason for constructing the railroad was to serve the Yankee Diggins coal mine one mile north of town. The mine employed over 100 men, was one of the first coal mines in the state, and was the largest coal operation in the area.

Incorporation as a Village

Bethalto incorporated as a Village in 1869. The 1870 census indicated that 800 people resided in the Village. Things were stable in the Village until the second Kauffman mill fire in 1895. After the mill burned in 1882, it was rebuilt using brick and a sprinkler system (innovative for the time) was installed. The mill was considered fire-proof. However a dust explosion on March 4, 1895 destroyed the sprinkler system and the mill burned to the ground. A substantial number of jobs were lost and many people left the Village in search of work. By 1900, the census indicated that the Village's population had declined to 470 people.

Evolution as a Growing Village

The Village rebounded from its mill fire setback and growth continued. In 1930, Bethalto paved three streets, Prairie, Third and Mill. Growth continued slowly until 1960. By that time, accessibility to other parts of the St. Louis metropolitan area allowed longer commuting distances and more housing was constructed in the Village. This growth has established Bethalto as one of the faster growing communities in Madison County and one with considerable potential for future growth.

Plan Contents

This plan contains several elements that were prepared after a thorough examination of existing conditions, the development of goals and objectives, the review of a conceptual land use plan, and extensive input from the Plan Commission. The various elements include a Background and Purpose, review of Socioeconomic Conditions, Land Use, Transportation, Parks and Recreation, Economic Development, Housing, Community Facilities, and Infrastructure. Except for the Background and Purpose and Socioeconomic Conditions sections, each plan element begins with a review of existing conditions concerning the element, includes one or more goals, specific objectives, followed by a plan.

Socioeconomic Conditions

Population

Population Growth

Bethalto has grown substantially since 1960 when its population was 3,235 individuals. By 1970 the Village's population grew dramatically to 7,074, representing a gain of 118 % over 1960. This significant growth in total population between 1960 and 1970 is consistent with many other cities in the U.S. and with many other cities in the St. Louis region. In 1980, the Village's population again grew, to 8,630, which was an increase of almost 22% from the previous decade. While the growth rate in Bethalto slowed after 1970, total population growth continued at a very healthy rate which is rare in St. Louis region municipalities. In fact, most cities in north and central St. Louis County have experienced significant drops in total population since 1970. The 1990 population was officially 9,507 - up 10%. However, this figure may represent an under-counting of the actual population, due to possible census canvassing errors noted by the Village. In 1996, the Village's population was estimated to be 9,750 (according to the East West Gateway Coordinating Council). Total growth in the period of 1960 to 1996 was over 200 percent!

Growth since 1990 reflects two important factors--annexation as well as the elimination of 132 housing units around St. Louis Regional Airport. These houses were removed as part of the airport's noise abatement buy-out program. While some were relocated to other lots within the Village, some have been moved out of the Village.

A comparison of Bethalto with three nearby communities of East Alton, Godfrey, and Wood River provides a better understanding of population change in an area context. Among these communities, Bethalto recorded the highest and most sustained population growth for the entire period. Bethalto's overall growth is slightly more than 200%, and well above the next highest overall growth rate of 61%, recorded by Godfrey. The Village's growth rate was actually counter-cyclical to the declines registered by East Alton and Wood River. Table 1 summarizes population growth for the four communities and this information is graphically depicted in Figure 2.

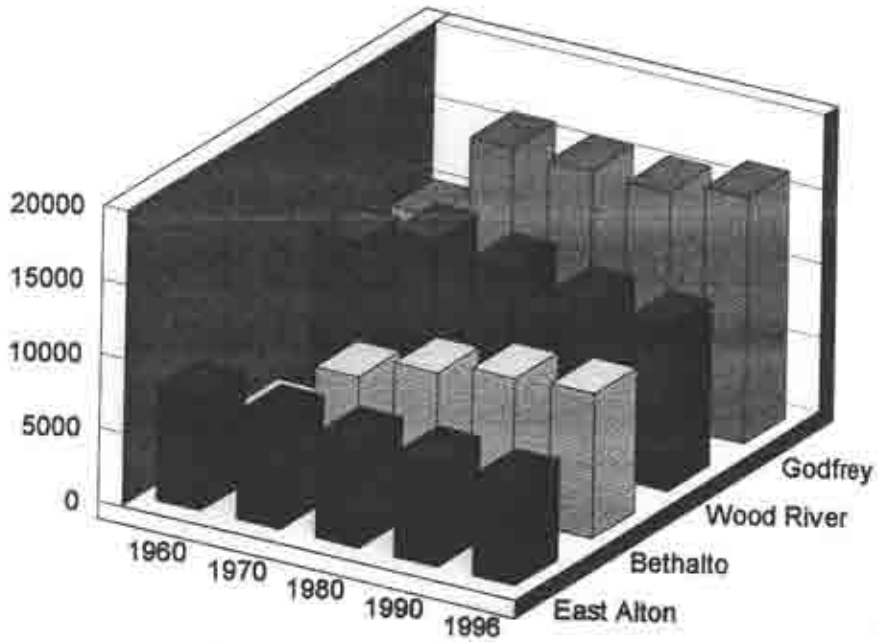
Table 1
Rates of Population Change in Bethalto and Nearby Cities, 1960-1996

City/Village	1960	1970	1980	1990	1996
Bethalto	**3,235**	**7,074 (+119%)**	**8,630 (+22%)**	**9,507 (+10%)**	**9,750 (+2.6%)**
East Alton	7,630	7,309 (-4.2%)	7,123 (-2.6%)	7,063 (-.8%)	6,779 (-4%)
Godfrey	10,313	16,166 (+57%)	15,860 (-2%)	15,671 (-1.1%)	16,610 (+5.9%)
Wood River	11,694	13,186 (+12.8%)	12,449 (-5.6%)	11,490 (-7.7%)	11,097 (-3.4%)

Source: U.S. Census and East West Gateway Coordinating Council

Figure 2

Population Change in Bethalto and Nearby Cities



Population Characteristics

A critical component of Village planning is not just a Village's total population, but also the characteristics of that population. The 1990 Census provides the most recent source of information on the population characteristics of Bethalto. The 1990 population was broken down between 4,533 males and 4,974 females. Ethnically, the Village was predominantly white, with a minority population of 61. Of this figure, there were 53 black residents and 8 residents who were categorized as minority other than Black, American Indian, Eskimo or Aleutian Islander.

Current income, household, and labor information is not available. According to the 1990 census, however, median family income in Bethalto in 1989 was $37,624. Median household income was $32,017 for the same period. Household income is defined as the average income of all households in the village, including families and nonfamily groups. Family income is only computed for individuals who are related by blood, marriage, or adoption. Household income is almost always lower than family income. A distribution of the percentages of households in Bethalto in different income ranges is graphically depicted in Figure 3.

Census data in 1990 indicated that 2,459 students (26% of the Village's population) were enrolled in schools. The enrollment breakout is summarized in Table 2 below.

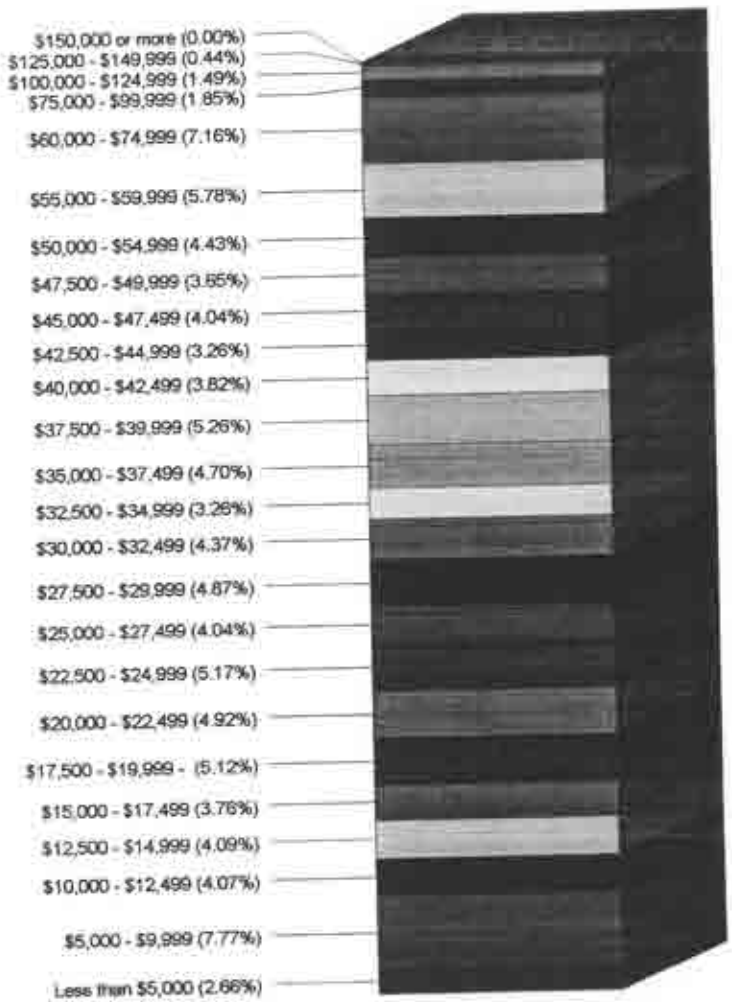
Table 2
School Enrollment

Level	Public	Private	Total
Pre-Primary	138	125	263
Elementary and Secondary	1542	131	1673
College	492	31	523
Total	2172	287	2459

Source: U.S. Census, 1990

Figure 3

Household Income in 1989



Education

An analysis was also undertaken of annual school enrollment data from 1985 to 1999, provided by the Bethalto Community Unit School District #8. Total school enrollment (including preschool, grades 1-6, and junior and senior high school) declined slightly over the entire period, although it rose and dropped very slightly from year to year. The total number of students fluctuated by 50 or less for each year between 1985 and 1999, for a relatively stable overall enrollment for the entire period. In 1997, the high school graduation rate of 80.8% was slightly higher than the state average.

Bethalto residents tend to be well educated with approximately 81 percent of adults over the age of 25 having completed high school and more than 35 percent of adults having attended college. The highest educational attainment for Bethalto adults over 25 in 1990 is summarized in Table 3 and graphically depicted in Figure 4.

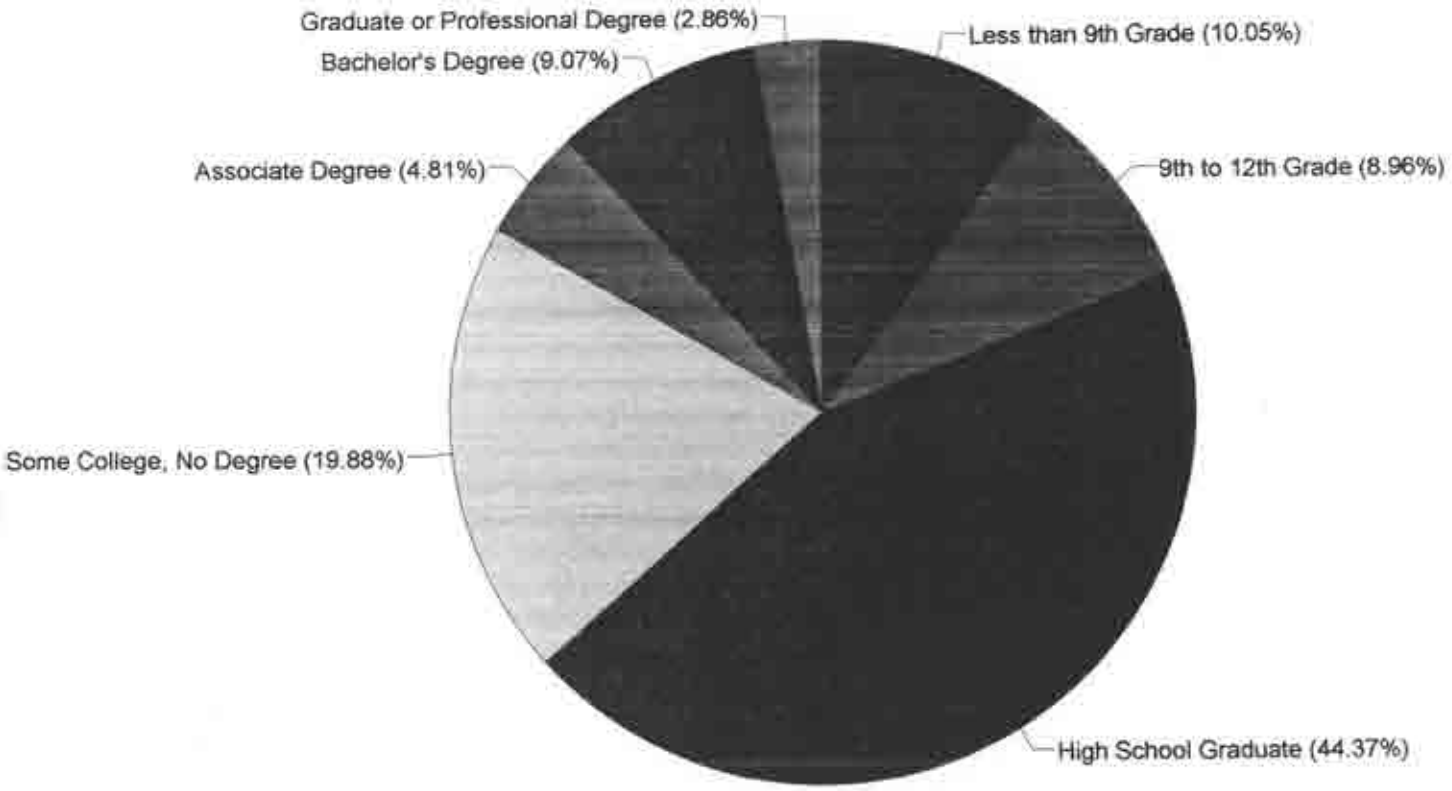
Table 3
Educational Attainment in 1990

Characteristic	Percentage
Enrolled in School	26 % (of total population)
Less Than 9th Grade Education	10.05 % (of individuals over 25)
9th Grade but less than 12th Grade	8.96% (of individuals over 25)
High School Graduates	44.37% (of individuals over 25)
Some College, No Degree	19.88% (of individuals over 25)
Associate Degree	4.81% (of individuals over 25)
Bachelor's Degree	9.07% (of individuals over 25)
Graduate or Professional Degree	2.86% (of individuals over 25)

Source: 1990 Census Data From STF1A

Figure 4

Educational Attainment



Land Use Element

Existing Land Use

The land use in and around Bethalto was influenced by a number of natural and human-made factors. While the rolling hills and bluff along the west side of the Village provide natural beauty and interest, other natural factors such as floodplains, creeks and steep slopes hinder urban development. Human-made conditions such as St. Louis Regional Airport, cemeteries, and state highways have also influenced development.

Bethalto encompasses an area of approximately 8.2 square miles. Existing land uses consist of single-family detached residences, duplexes, mobile homes, multi-family residences, commercial buildings, industrial development and public uses including a regional airport. Existing land uses are depicted in Figure 5.

Residential Areas

A large percentage of the Village is devoted to residential uses. There is a broad mix of residential uses in the Village although the majority of the housing consists of single-family detached dwellings. Single-family uses predominate in the northernmost part of the Village. A mixture of single-family, duplex and multiple-family dwellings exist around the core of the Village with multiple-family apartment complexes, senior citizen housing, and mobile homes located in the south and southeast portions of the Village.

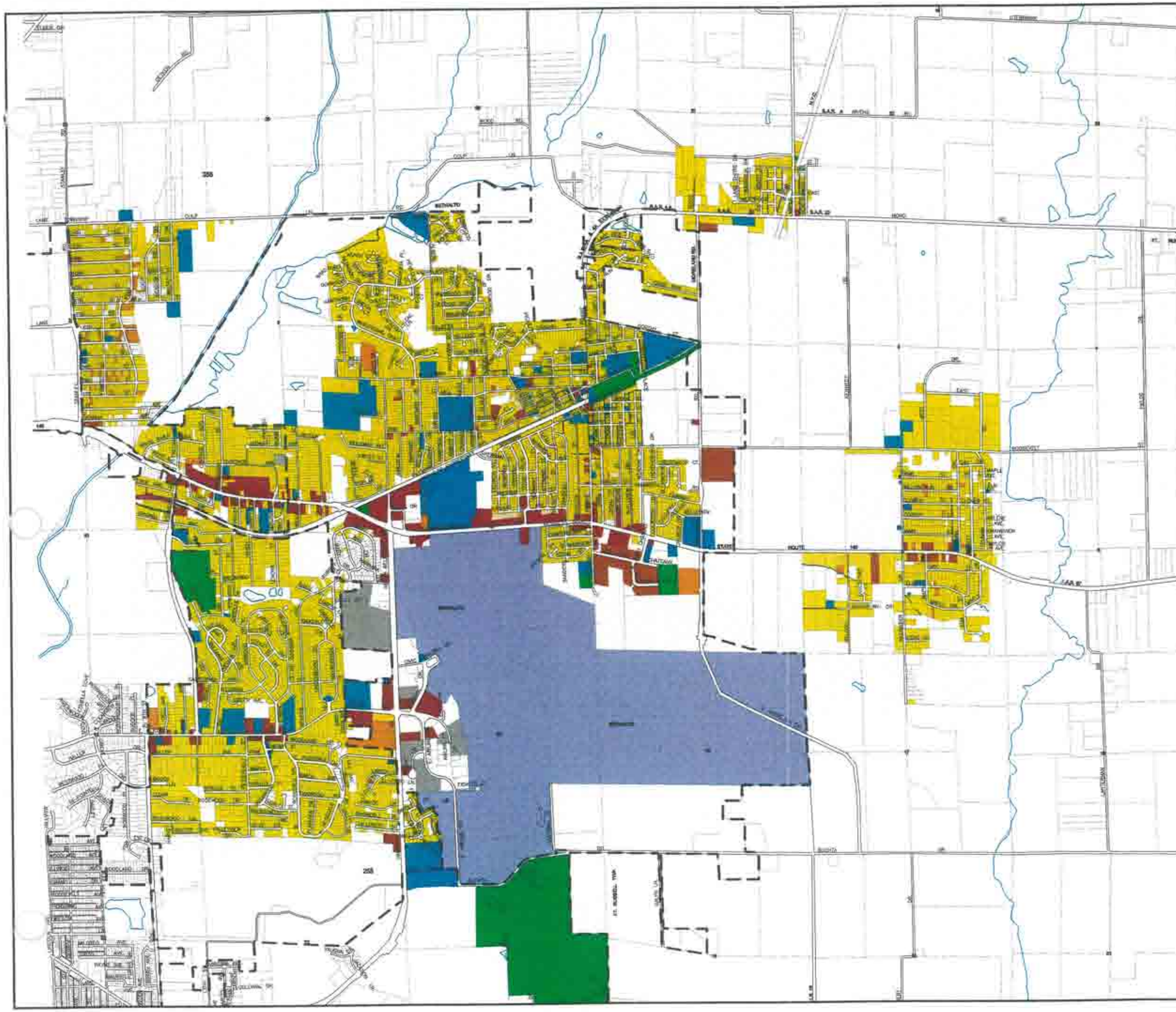
Commercial and Industrial Areas

Commercial uses in the Village are concentrated along the Illinois Route 111 and 140 corridors and in the downtown area, primarily along Prairie Street. Commercial uses include offices and retail uses that primarily cater to Village residents. In addition, there are commercial uses along Illinois Route 111/140 and along Airline Drive west of the Village. Industrial uses are concentrated along Illinois Route 111 including properties on the St. Louis Regional Airport property.

Public and Semi-Public Areas

Public and semi-public uses in Bethalto are scattered throughout the Village, although a large amount of land area in the northern part of the Village contains public and semi-public uses. These uses include community facilities, schools and churches. Existing community facilities consist of Village Hall which includes the police and fire departments, the public works department offices adjacent to the Village Hall, and other public works buildings in the Village. Five Bethalto Unit School District 8 schools are also located in the Village. Several religious denominations are represented in the Village by 10 churches.

VILLAGE OF BETHALTO
EXISTING LAND USE
FIGURE 5



NORTH

Graphic Scale: 1"=2500'

0' 2500' 5000'

LEGEND

- Vacant Land
- Single-Family Residential
- Duplex
- Mobile Homes
- Multiple-Family
- Parks
- Public/Semi-Public
- Commercial
- Airport
- Light Industrial

Richard Shearer & Associates
Saint Louis
December 1999

Parks

Existing Village parks are shown on the existing land use map. More information on the Village's parks may be found in the Parks and Recreation section of this report.

Vacant/Undeveloped Lands

Much of the vacant and undeveloped land in the Village is owned by St. Louis Regional Airport. Some of this land is available for lease for airport-compatible land uses and some of has been acquired as part of the airport's noise abatement program. There is some land available in the Village for additional development. However, this land tends to be relatively small and in many cases is not easily developable due to the configuration of the land, steep slopes or lack of access. Major new development in the Village will require annexation of undeveloped lands adjacent to the Village.

Factors Affecting Development

The consideration of factors affecting development is essential prior to the preparation of a land use plan. An inventory of these factors provides a framework to develop the most efficient and prudent assignment of future land uses to support future development. Two types of factors affect the use of land: natural features and human-made features. Terrain is an example of a natural feature that may influence development. The presence of roads, public water and wastewater facilities are human-made factors that affect the use of land.

Physical aspects of the Village's natural and human-made environment significantly affect small portions of Bethalto. This is partly due to the fact that most of the land in the Village is already devoted to urban land uses. Physical factors including natural features and human-made features are discussed in this analysis. Each factor in its own way constrains urban development.

Natural Features

The natural resources of an area can have significant impacts on future development. For example, natural features often cause significant limitations in the construction of buildings, roadways, utility systems, and other structures. The primary natural features that constrain development in the Bethalto area are steep slopes and floodplains.

Steep Slopes. Steep slopes in the Village predominate along floodplains. The Village should be concerned with areas where the slope exceeds ten percent. It is

difficult for large trucks to traverse streets that exceed an eight percent slope and minor streets should not have a slope exceeding ten percent.

Floodplains. Historically, with the exception of areas within the Wood River floodplain and the floodplains of its tributaries, the major portion of the area within the Village's corporate limits has been outside of any floodplain.

The significance of floodplains includes the fact that much of the land west of Bethalto is within the floodplain of the Mississippi River. Finding effective measures to address floodplain management was underscored following the Midwest Flood of 1993 when the Mississippi River and many of its tributaries flooded. Within the St. Louis region, more than 1,200 homes and 500 businesses were either temporarily or permanently displaced as the Mississippi and Missouri Rivers overflowed their banks.

Floodways Within floodplains, there are areas designated as floodways. These areas include the channel of a river or watercourse and the adjacent land areas that must be reserved in order to discharge the 100-year flood without cumulatively increasing the water surface elevation more than one foot at any point. Construction within floodways is prohibited. Therefore, they represent a significant constraint to development. Fortunately, no areas in or near Bethalto have been designated as floodway. However, due to the age of the Flood Insurance Rate Maps for Bethalto and the surrounding area, it is likely that when these maps are updated floodways will be designated.

Human-Made Features

Human-made features also influence future development. In the Bethalto area, the primary human-made features that are applicable are infrastructure and airport related. Major features that have affected the Village's development have been the state highway system, school district boundaries, the location of cemeteries, and airport-related noise. Highways have facilitated development because of ease of access to the transportation system. Cemeteries, abandoned mines, and airport-related noise are constraints to development. Cemeteries need to be preserved. There are strict state laws to protect cemeteries and no redevelopment of cemeteries should be proposed by this plan. School district boundaries also affect land use decisions. Due to the desirability of locating residences in the Bethalto School District, land use decisions may be affected by builders avoiding areas outside of the school district.

Abandoned Mines. Coal has been mined in 73 counties in Illinois. There are a number of old coal mines in and around Bethalto. In Madison County there were a number of veins of coal under the land surface. Some of these veins covered several square miles while others were considerably smaller. While some of the veins were only five to eight feet in thickness, their location varied from less than 90 to over 400 feet beneath the land surface.

Entranceways to these abandoned mines are a constraint to development, and care must be exercised in developing over the mines. Mine subsidence has occurred in other parts of the country. Because coal and some material covering the coal was removed, this left voids or empty areas under the surface. Over time, material over these voids can cave in leaving holes in the surface over the voids. Structures constructed over these areas can fall into the holes or sustain structural damage from shifting earth.

Airport-Related Noise. The high level of noise associated with airport operations is a development constraint in Bethalto. Although all community residents experience noise in their everyday life, those residents living, working or playing near the airport have an additional source of significant noise in their life. The effect of airport-related noise can be minimized by managing the built environment. To this end, the Federal Aviation Administration (FAA) has established regulations regarding development within designated airport areas. The purpose of these regulations is twofold: 1) to ensure the safety of aircraft during take-off and landing procedures; and 2) to reduce the occurrence of incompatible land uses in nearby areas.

Federal Aviation Regulations. Airport operational and safety requirements limit the use of land around airports. Federal Aviation Regulations (FAR) regarding the use of such land include FAR Part 77, which identifies height and hazard restriction areas, and FAR Part 150, which establishes noise compatibility guidance for land use around airports.

FAR Part 77. FAR Part 77 provides guidance to limit obstructions within navigational airspace. As such, this regulation contains recommendations for limiting building heights and other hazardous interference near airports. The height and hazard restriction areas regulate "any object of natural growth, terrain, or permanent or temporary construction or alteration." Although height and hazard restrictions vary depending on the type of runway, the restrictions generally require the height of new facilities to follow a slope ratio, with shorter buildings closer to the runway centerline and taller buildings farther from the runway centerline. The restrictions also prohibit uses and obstructions within a defined area that might interfere with communications to aircraft during take-off and landing procedures. All proposed construction within designated restriction areas must be evaluated for the effect of the construction on operational procedures, and possible hazardous effect on air navigation. Typical height and hazard restrictions based on FAR Part 77 are shown in Figure 6.

FAR Part 150. FAR Part 150 evaluates compatible land uses within various noise contours. Aircraft noise is comprised of a series of separate events when aircraft overflights are followed by relative quiet periods between flights. The FAA requires aircraft noise impacts to be calculated over a 24-hour period, from midnight to midnight. The unit of measurement is the average day-night sound level (Ldn) which represents the 24-hour average sound level in decibels. The Ldn measure takes into account quiet

periods as well as aircraft overflights, and adds a penalty to flights occurring at night. The Ldn noise levels are mapped as airport noise contours on a noise exposure map, thus identifying those areas where the average daily noise is most significant.

Compatible land use refers to any use that is normally compatible with the outdoor noise environment, or has an adequate noise-level reduction for indoor activities. Table 4 shows the compatibility of certain land uses with different levels of aircraft noise. The table serves as a guideline in determining which uses are acceptable in which areas.

Table 4 shows that all land use types are normally compatible with aircraft noise below 65 Ldn. Most uses are compatible with noise levels between 65 and 75 Ldn, with the notable exception of residential uses. Yet even residential uses can be built within these areas if the community demonstrates a need for such uses at these locations. As shown in the table, those uses that lack areas of constant human occupation, or which limit such areas, are most compatible with noise levels between 75 and 80 Ldn. Agricultural uses and mining are the only accepted land uses that remain compatible with very high noise levels (over 80 Ldn). Examples of various noise decibel levels are provided in Figure 7.

It is indicated in Table 4 that some land uses are compatible with noise-affected areas only when noise-level reduction measures are incorporated into the design and construction of structures. Noise sensitive land uses, such as residential uses, must achieve a noise-level reduction in order to prevent the exposure of residents to significant airport-related noise.

Airport Overlay District. The creation of an airport overlay zoning district is perhaps the best technique to encourage compatible land uses around the airport. This special type of zoning district places additional standards and requirements on properties located within an existing, or underlying, zoning district. The size and location of an airport overlay district is typically determined by the airport noise contours. The FAA guidelines for land use compatibility are used to determine the permitted land uses and related development standards within the overlay district. Land uses that are sensitive to certain noise levels are not permitted within the overlay district, or portions thereof, in order to protect the public health, safety and welfare. In addition to limiting the types of permitted land uses, the overlay district may require retrofitting of exiting structures and new development standards for proposed structures.

Significant Factors Affecting Development

The significant factors affecting development in the Bethalto area are steep slopes, floodplains, airport noise levels above 65 Ldn, abandoned mines, the Illinois Route 255 corridor, the Bethalto Community Unit School District No. 8 boundaries, and cemeteries. The locations of these factors are depicted in Figure 8.

Figure 6

Typical Height and Hazard Restrictions based on FAR Part 77

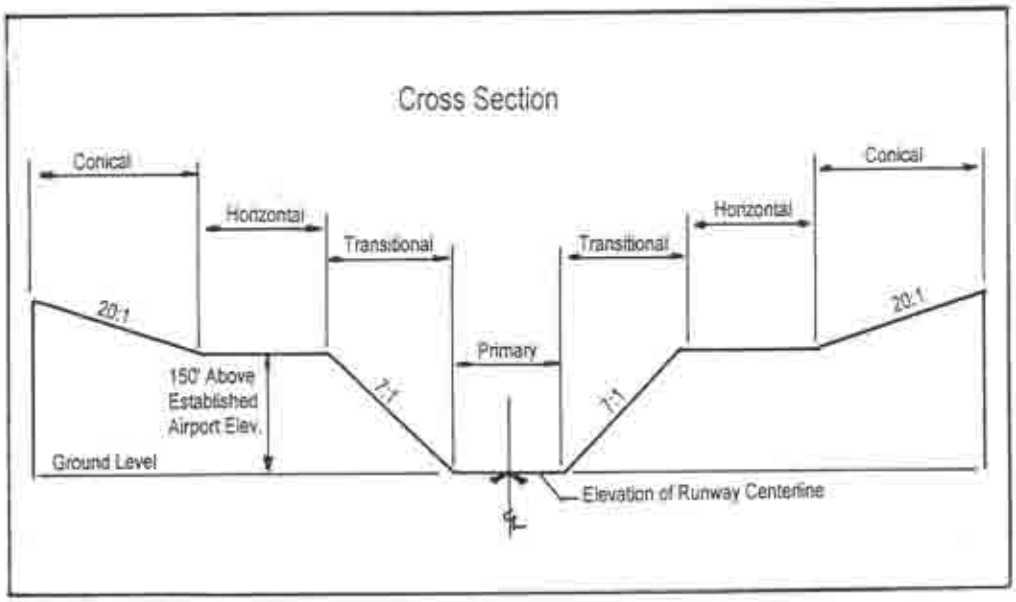


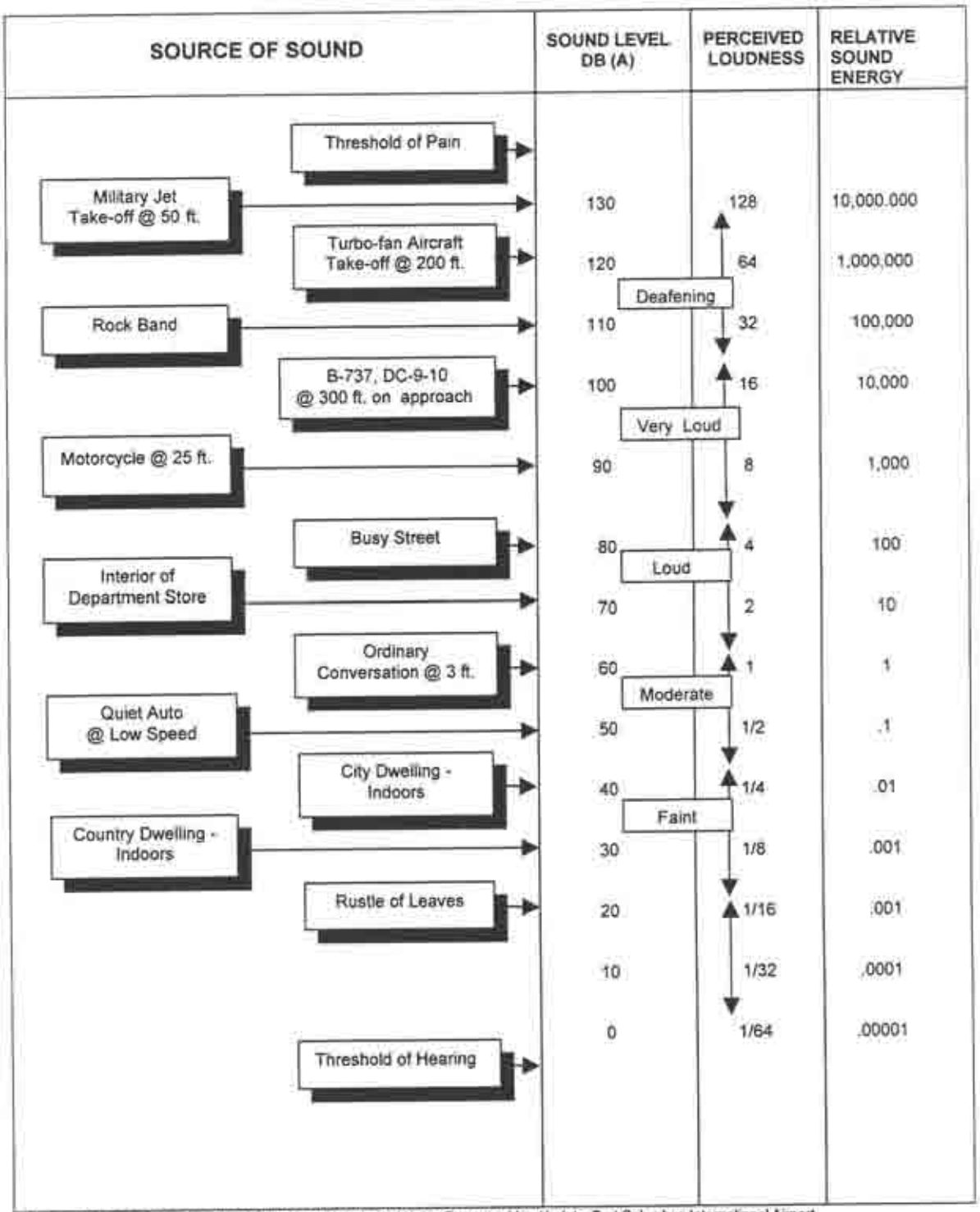
Table 4
Land Use Compatibility

Land Use	Below 65 Ldn	65-70 Ldn	70-75 Ldn	75-80 Ldn	Over 80 Ldn
Agricultural (not including residential uses)	Y	Y	Y	Y	Y
Residential Dwellings (single-family, two-family and multi-family)	Y	N[1]	N[1]	N	N
Mobile Home Parks	Y	N	N	N	N
Hotels/Motels	Y	N[1]	N[1]	N	N
Nursing Homes	Y	N[1]	N[1]	N	N
Public and Semi-Private Facilities					
Schools	Y	Y[2]	Y[2]	N	N
Hospitals	Y	Y[2]	Y[2]	N	N
Government Services	Y	Y	Y[2]	Y[2]	N
Public Assembly	Y	Y	N	N	N
Outdoor Sports Arenas	Y	Y[2]	Y[2]	N	N
Recreational Activities	Y	Y[2]	Y[2]	Y[2]	N
Parks	Y	Y[2]	Y[2]	N	N
Cemeteries	Y	Y	Y[2]	N	N
Commercial					
Professional and Business Services	Y	Y	Y[2]	Y[2]	N
Wholesale and Retail Trade	Y	Y	Y[2]	Y[2]	N
Manufacturing	Y	Y	Y[2]	Y[2]	Y[2]
Mining	Y	Y	Y	Y	Y
Transportation, Communication and Utilities	Y	Y	Y[2]	Y[2]	Y[2]

Y (Yes) Land use and related structures are compatible without restrictions.
Y[2] Land use and related structures are generally compatible; however, noise-level reduction measures should be incorporated into the design and construction of structures.
N (No) Land use and related structures are not compatible and should be prohibited.
N[1] Residential uses are strongly discouraged, but may be allowed if the community conducts an analysis to determine that a greater community need is being met by permitting residential uses at these locations. Where it is determined that residential uses may be allowed, noise-level reduction measures should be a condition of approval.

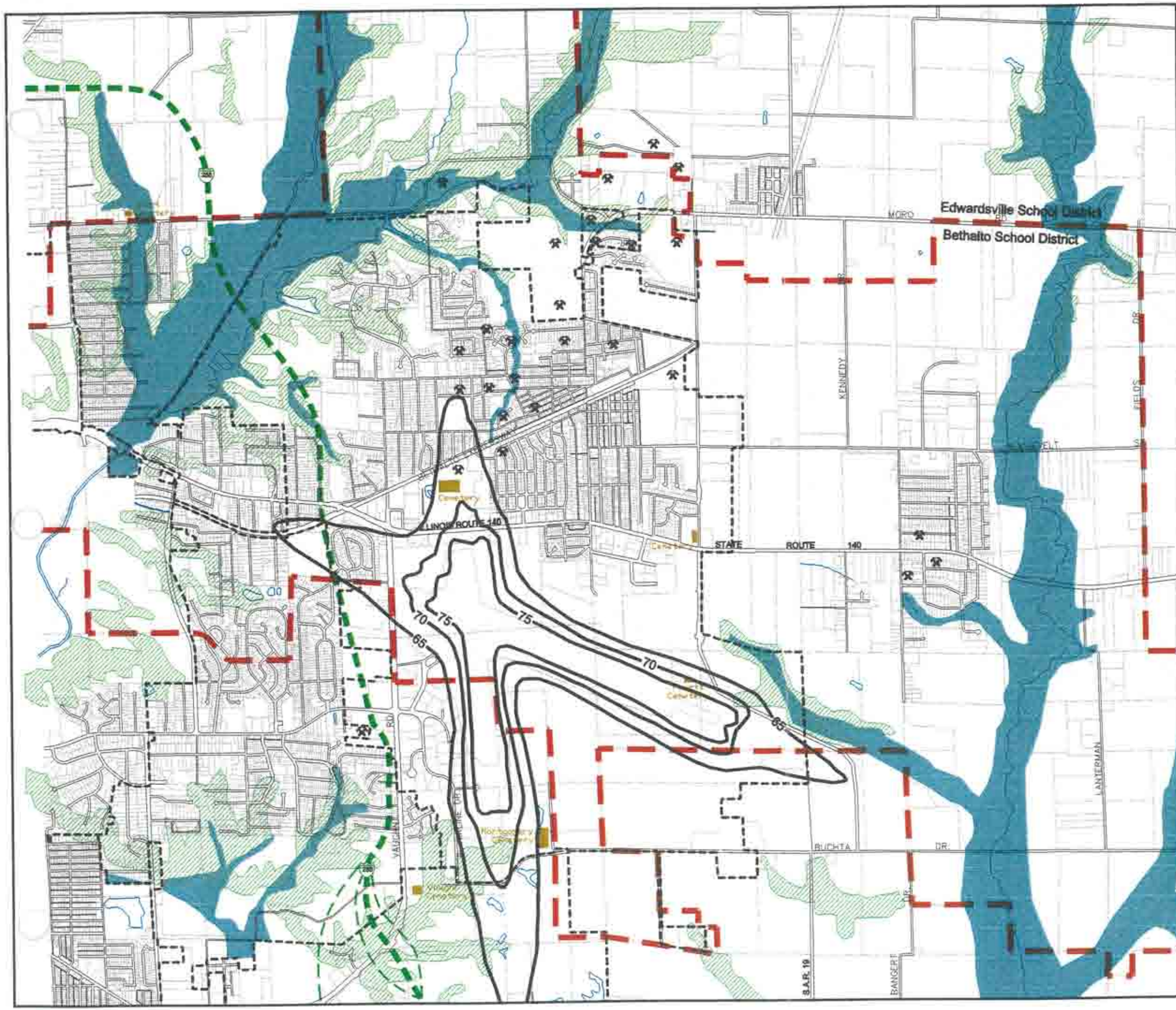
Source: FAR Part 150; American Planning Association, Planning Advisory Service Report Number 437, *Airport Noise Regulations*

Figure 7
Typical Sound Levels



Source: Coffman Associates, Inc., *Master Plan Update and Noise Exposure Map Update*, Port Columbus International Airport

VILLAGE OF BETHALTO
FACTORS AFFECTING DEVELOPMENT
FIGURE 8



Richard Shearer & Associates
Saint Louis
November 1999

Issues, Goals and Objectives

Issue: **Residential Development**

Goal: Residential land to house existing and future residents of the Village will be provided in appropriate areas of the Village and surrounding area.

Objective: The Village shall maintain the current mix and percentages of housing types (i.e., single-family detached, duplex, multiple-family, etc.) within the Village.

Objective: Residential developments shall maintain a good ratio between building size and lot size with large lots provided for large buildings.

Objective: Efforts to properly maintain the older areas of the Village shall be implemented.

Objective: Sidewalks shall be provided on at least one side of each street in new residential developments except that the sidewalks may not be required along cul-de-sacs based on the length and characteristics of the cul-de-sac.

Objective: Old sidewalks should be replaced after streets are improved and new sidewalks should be added to one side of the improved street in areas without sidewalks.

Objective: New multi-family developments shall locate dumpsters at the rear of the development rather than in front of buildings, and existing multi-family developments shall move dumpsters to the rear or provide screening for such dumpsters.

Issue: **Annexation**

Goal: Appropriate areas adjacent to the Village will be annexed to ensure appropriate future growth areas for the community.

Objective: Areas west of the Village, particularly areas adjacent to the extension of Illinois Route 255, should be considered for immediate annexation.

Objective: Areas east, north and south of the Village should be carefully considered for future annexation.

Issue: **Downtown**

Goal: Downtown should be promoted and protected as an important commercial center of the Village.

Objective: The Village shall encourage the location of public buildings downtown.

Objective: Additional parking should be located downtown in a joint effort between the Village and downtown merchants.

Objective: The "walkability" of downtown Bethalto should be preserved and promoted.

Issue: **Trees**

Goal: Trees will be maintained as an important Village feature.

Objective: Mature trees in the Village shall be preserved and new trees shall be planted to enhance the existing wooded areas and to replace mature trees that are removed.

Objective: Tree-lined streets shall be provided throughout the Village.

Objective: Appropriate trees will be planted along streets to ensure that a sufficient clear trunk height is maintained.

Objective: A list of appropriate trees will be maintained by the Village for planting along streets, including decorative trees in areas with overhead utility lines and hard wood trees in new areas.

Objective: The methods for tree planting shall be accomplished to inhibit interference with water and sewer mains, and overhead utility lines.

Land Use Plan

A land use plan was prepared for the Village to serve as the basis for a new land use plan. The plan is based on the following:

(1) The existing land use pattern;
(2) The factors affecting development map;
(3) The preliminary goals and objectives as revised by the Plan Commission; and
(4) The concept land use plan as revised by the Plan Commission.

Land Use Plan Designations

Land use plan designations for all lands within the Village and areas adjacent to the Village are described in this section. The land use plan is graphically depicted in Figure 9.

Open Space

Existing park lands are included in this classification. Open space lands shall be limited to park and recreation use, green space, trails, natural areas, and customary accessory activities. Additional lands in and around the Village are designated for open space. These lands shall not be developed for any other uses for one year after this plan is adopted. After that period, the Village shall be allowed to purchase these lands for parks or other open space. If the Village declines to purchase any of the land, the land may be developed for a different use based on the planned land use of adjacent land.

Very Low-Density Residential

This land use classification is intended to allow single-family detached dwellings with a density not exceeding two dwelling units per acre. Besides residential developments, this land use classification will include schools, places of worship, parks and similar institutional and recreational uses that are commonly found in residential areas. This land use classification is intended for areas north of the current Village limits which contain floodplains and steep slopes.

Low-Density Residential

Low-Density Residential areas will consist of single-family dwellings. The maximum residential density in these areas will not exceed four dwelling units per acre. This land use classification covers lands with few development constraints. Some areas may contain minor floodplains. Besides residential developments, this land use classification will include schools, places of worship, parks and similar institutional and recreational uses that are commonly found in residential areas. This classification is intended for areas located within the Village limits that have developed for single-family uses in a density consistent with these guidelines and for selected areas east of the Village, particularly areas south of Moro Road and within or north of the State Route 140 corridor.

Medium-Density Residential

This land use classification is designed for areas that are within the Village limits and have developed at higher residential densities. These areas also are served by roads and utilities or are anticipated to have sufficient infrastructure in the future to

support urban residential densities. Moreover, these areas are free from significant development constraints such as floodplains, and steep slopes. The maximum residential density in these areas may exceed five dwelling units per acre but will generally not exceed eight dwelling units per acre. In certain cases, the Village may allow densities up to 10 dwelling units per acre. Much of the land proposed for this land use designation has existing residential densities consistent with the maximum allowed. Besides traditional single-family detached dwellings, this area may include single-family cluster developments, single-family attached dwellings, duplexes, and multi-family dwellings and existing mobile home developments. In addition to residential developments, this land use classification will include schools, churches, parks and similar institutional and recreational uses that are commonly found in residential areas.

Public and Semi-Public Lands

Major concentrations of public and semi-public lands are identified on the existing land use map. These uses include schools and several other similar uses identified in the existing land use survey. Some existing public and semi-public lands will not be depicted on the land use plan map because of their relatively small size.

Professional Office

Professional office development is planned along portions of Moreland Road and Prairie Street. Permitted uses will include legal services, accounting services, architectural, engineering and related services, specialized design services, computer systems design and related services, management, scientific and technical consulting services, advertising and related services, bank holding companies, employment services, business support services, travel arrangement and reservation services, educational services, health care and social assistance.

Commercial

The commercial land use category is intended primarily for retail and office uses. This category will allow a broad range of retail uses and will include many uses allowed in the Village's commercial zoning districts. Office uses will primarily consist of business and professional offices. Specific commercial land uses will be regulated by the Village's zoning regulations.

Downtown

In addition to the commercial land use classification, a special classification for downtown Bethalto is indicated on the land use plan map. This designation recognizes the historic development pattern in downtown Bethalto and extends southward along Prairie Street to just north of Roosevelt. The designation is intended to allow traditional

business and commercial uses found in downtown areas (including small retail uses, restaurants and offices). In addition, residential uses are allowed and encouraged, including allowing residential uses on the second floor of commercial buildings and allowing free-standing single-family dwellings to continue in use, particularly those which are historically significant.

Light Industrial

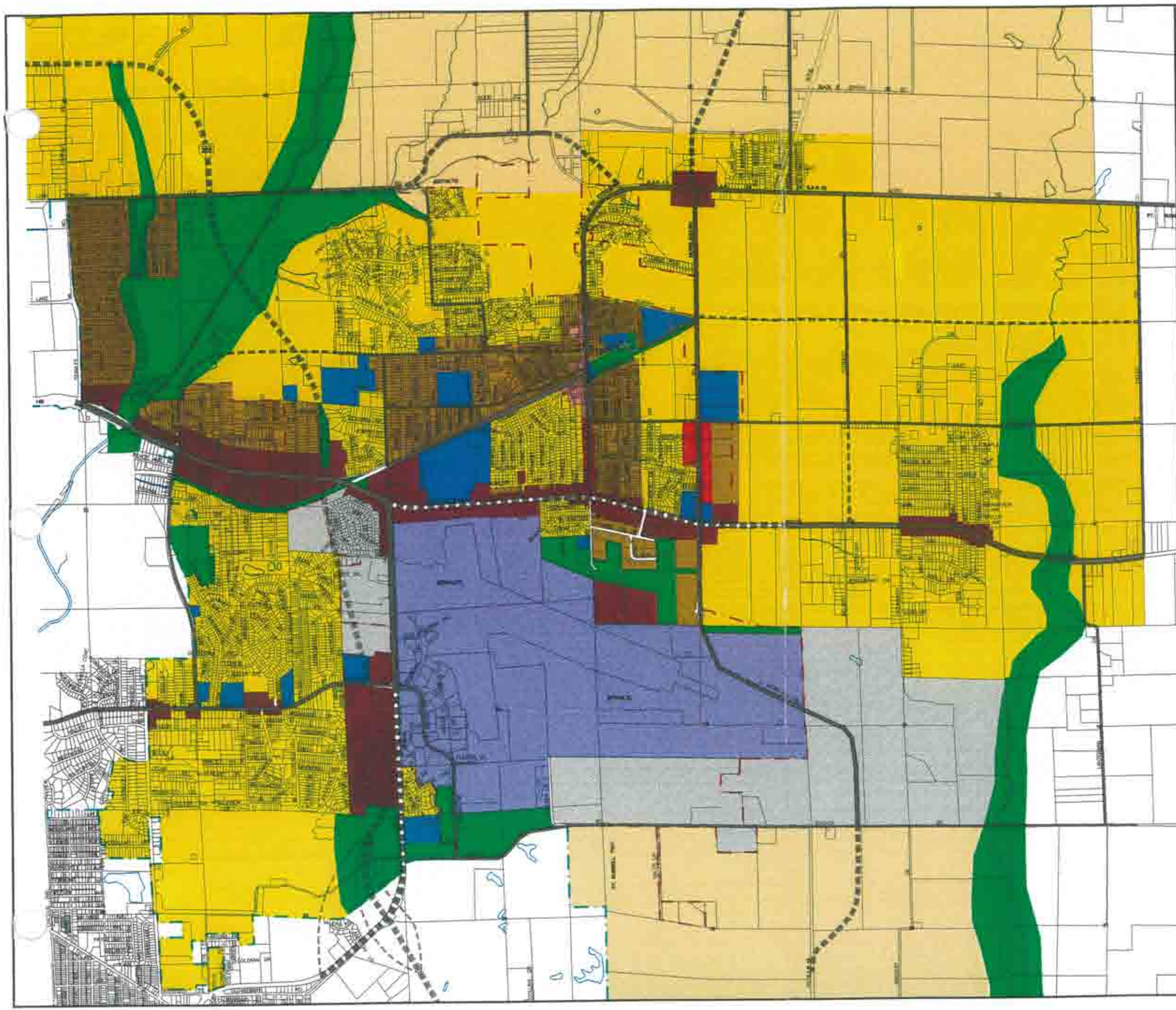
The light industrial classification is designed to allow selected intensive retail, light industrial and light manufacturing uses. This classification includes some lands located in the Highway 111 corridor developed for light industrial uses, some vacant lands surrounded by retail and industrial uses, and some lands adjacent to the airport that have high levels of noise due to airport operations that are not suitable for residential development.

Airport

The Airport land use classification is designed for the land owned by St. Louis Regional Airport. This classification is intended to allow airport-related uses and uses that are compatible with the airport. Selected land uses include airport terminal, hangars and accessory uses; airport-related industrial uses; and retail uses that are compatible with the airport.

The land use plan map is depicted in Figure 9. If there are any conflicts between the map and the text of this element, the text shall prevail.

VILLAGE OF BETHALTO
COMPREHENSIVE PLAN
OFFICIAL MAP
FIGURE 9



NORTH

Graphic Scale: 1"=2500'

0' 2500' 5000'

LAND USE PLAN LEGEND

- Open Space
- Very Low-Density Residential
- Low-Density Residential
- Medium-Density Residential
- Public/Semi-Public
- Downtown
- Professional Office
- Commercial
- Light Industrial
- Airport
- Village Limits
- Other Cities Limits

Existing	Proposed Improvement	
		Freeway
		Principal Arterial
		Minor Arterial
		Collector

Richard Shearer & Associates
Saint Louis
January 2000

Fulfillment of Land Use Goals and Objectives

The following policies and recommendations are intended to assist in implementing the goals and objectives of this element.

Residential Development

Substantial land is planned in and around the Village for residential development. This land is planned to provide adequate areas for low and medium-density residential developments. These planned areas should provide ample opportunities to add residential dwellings without limiting new housing to large-lot single-family dwellings nor allowing an over abundance of multi-family or mobile home dwellings.

Building to Lot Ratio. A public concern raised during the planning process was the desire to maintain a good ratio between building size and lot size. This was not intended to promote only large homes on large lots, but was articulated as a desire to provide adequate yards for buildings and to not allow overly large buildings on small lots. This desire was expressed for all buildings, not just residential dwellings. Implementation of this policy should be handled through appropriate regulations in the Village's zoning ordinance.

Maintenance of Older Areas. Many residents of the Village have expressed the desire to maintain older areas of the Village. Concerns about zoning and building code violations and lack of maintenance by absentee landlords were enumerated as concerns. In order to ensure this maintenance, the Village needs to ensure that adequate codes are in place, and then ensure that adequate resources are allocated to enforce the codes.

Sidewalks. Residents have expressed a strong desire for sidewalks. The consensus was that sidewalks should be located on at least one side of every street in new residential developments, and that old sidewalks should be replaced when streets are improved. This should be adopted as a policy by the Village Board of Trustees, and the Village's subdivision regulations should be amended to ensure implementation of this policy.

Annexation

Opportunities exist for the Village to annex additional areas. There are developed areas west of the Village and significant undeveloped areas to the north, east, and south. There are advantages and disadvantages to annexing land. In addition, the Village should not try to annex in all directions simultaneously. The following annexations and priorities are recommended.

Northwest. The area along State Route 140, immediately west of the Village and north of the old railroad right-of-way should be considered for immediate annexation. This area includes much of the unincorporated area of Cottage Hills. The area includes a broad mixture of residential, institutional, commercial and industrial uses. Disadvantages to annexing this area include the fact that there are many substandard buildings in the area, additional code enforcement efforts would be required, and this area is in a separate fire protection district which has consistently opposed annexations by the Village. This opposition is due to the fact that the fire protection district loses tax revenue when the Village annexes property within their district.

An advantage to annexing this area is that when Illinois Route 255 is constructed through this area there will be opportunities for redevelopment. The land use plan map proposes redevelopment of this area for a significant commercial area along State Route 140 with medium-density residential uses to the north.

Southwest. Another area that should be considered for annexation soon is the Rosewood Heights area, west of State Route 111. The mix of land uses in this area includes single-family residential, institutional, parks, commercial, and utility uses. The area's development pattern is consistent with that of the Village. Disadvantages to annexing this area include the fact that the area is in a separate fire protection district whose board could oppose annexation. Advantages to annexing this area is that it is consistent with development in the Village and would provide additional tax base to offset much of the cost involved in providing services to it.

The land use plan map proposes maintaining the status quo for most of the land in this area, although some land in the Illinois Route 255 corridor is recommended for commercial use.

East. There are substantial undeveloped lands east of the Village. Some of these areas should logically be within the Village over the life of this plan. Areas contiguous to the Village should be considered for annexation if petitioned by the property owner and if adequate water and sewer capacity is available to serve them. Absent a petition by the property owner, the Village should not consider annexation of these areas until the annexations to the west are completed.

The land use plan map proposes that much of the land in this area be developed for low-density residential use, and it is anticipated that a large percentage of the new single-family dwellings constructed in the Village over the next 20 years will be in this area.

North. Significant undeveloped land exists north of the Village. This land is attractive due to the woods and rolling hills. This area is planned for very low density residential development based on the hilly terrain and distance from the higher-density

areas of the Village. While some of this land should be included in the Village over the life of this plan, this area should be a low priority for annexation, unless property owners petition the Village.

Downtown

Downtown Bethalto has been recognized on the Land Use Plan map. This area will be promoted as a commercial center of the Village. Based on the historic development pattern, many residences are located near downtown which promotes walking. Additional parking needs to be established to ensure the continued success of the downtown businesses.

An objective of this plan is to improve the walkability of downtown. The downtown area and many neighborhoods already have a sidewalk system that promotes recreational and, in some locations, utilitarian pedestrian activity. Studies have shown that walking is enhanced--and therefore encouraged--with environmental and design related improvements. Improvements can include landscaping, pedestrian friendly street crossings, adequate lighting, street furniture, and attractive surroundings. Traffic calming--managing traffic conditions to make the walking experience more pleasant--is also important. Examples of traffic calming include lower speed limits, buffering sidewalks from fast-moving traffic with lawn easements, trees, and curbside parking lanes. Bethalto's sidewalk system should be seen as an element of the Village's recreation infrastructure. Long-term improvements should therefore include the enhancement of this system with traffic calming techniques to further encourage walking as a recreational experience.

Transportation Element

Transportation Facilities

An inventory of existing transportation facilities in the Bethalto area was prepared as a basis for identifying existing roadway deficiencies and projecting needed roadway improvements. The inventory includes a list of major roads in the Village, inter-city bus service, mass transit, airports, railroads and ports.

Roadway System

The St. Louis region has a well-defined roadway system including a number of interstate highways which are supplemented by other federal, state and county arterial roads. Interstate highways include I-44, I-55, I-64, I-70, I-170, I-255 and I-270. State highways in and near Bethalto include state highways 22, 111, 140, 143, 159, and 255.

Inter-City Bus Service

Inter-City bus service in the area is provided by Greyhound Bus Lines, Mid-American Coaches, Inc. and Vandalia Bus Lines, Inc.

Mass Transit

Madison County Transit. Madison County Transit operates fixed-route bus service throughout the county. Two routes serve Bethalto, the Bethalto Shuttle (Route 12) and Bethalto Express (Route 12X). The Bethalto Shuttle runs on an hourly basis from approximately 6:00 a.m. to 6:00 p.m., Monday through Saturday. The Shuttle begins at Wal-Mart Plaza in Wood River travels to Airline Road and Highway 111, through Bethalto and Cottage Hills, and ends at Alton Square. The Bethalto Express operates in the morning peak hour and evening peak hour between Bethalto and downtown St. Louis.

Light Rail Transit. Bi-State Development Agency introduced service on MetroLink, a light rail system in July 1993. MetroLink connects Lambert-St. Louis International Airport through downtown St. Louis to East St. Louis over one 18-mile long line that has 18 stations. MetroLink was projected to carry an estimated 12,000 passengers per day during its first year of operations and 30,000 riders by the year 2000. The system greatly exceeds those projections and in 1999 averaged more than 44,000 riders per day.

There are plans to expand MetroLink in St. Louis County and St. Clair County, Illinois. An extension of MetroLink from East St. Louis to Belleville Area College in East Belleville is currently under construction and will be completed by 2001. A further

extension of this line to MidAmerica Airport is anticipated to be completed between 2003 and 2005.

Airports

St. Louis Regional Airport. St. Louis Regional Airport, formerly Civic Memorial Airport, is located in Bethalto and serves as a general aviation/reliever airport for the St. Louis region. At an elevation of 544 feet above mean sea level, regional covers 2,300 acres of land. The airport has an annual operating budget of $1,000,000, and is governed by a seven-member board. Three members of the Board are appointed by Madison County and each of the other four members are appointed by one of the four area cities with populations over 5,000 (Bethalto, Alton, East Alton, and Wood River). The airport's main runway (designated 11/29) is 8,100 feet long and 150 feet wide. A second cross-wind runway (designated 17/35) is 6,500 feet long and 100 feet wide.

Lambert-St. Louis International Airport. Lambert-St. Louis International Airport is located approximately 18 miles southwest of Bethalto. The airport is operated by the St. Louis Airport Authority, and covers 1,930 acres of land. The airport authority owns a total of 2,600 acres including land that has been purchased through a noise abatement buy-out program.

Lambert has five runways. Three parallel runways are oriented northwest/southeast and have lengths as follows: runway 12R/30L is 11,019 feet long, runway 12L/30R is 9,003 feet long and runway 13/31 is 6,286 feet long. There are two cross-wind runways. Runway 6/24 is oriented northeast/southwest and is 7,602 feet long. Runway 17/35 is oriented north/south and is 3,008 feet long. The shorter runways (13/31 and 17/35) are primarily used for general aviation traffic (small planes). Aircraft are designed to operate into the wind and at Lambert the predominant wind direction is from the northwest. Approximately 60 percent of aircraft take-offs and landings are to the northwest using runways 30L, 30R and 24. Approximately 40 percent of aircraft take-offs and landings are to the southeast using runways 12R, 12L, and 6. In peak weather conditions, the airport can handle 120 flights per hour.

Lambert averages approximately 1,100 scheduled daily departures and in 1994 served approximately 11.5 million enplaned passengers. Lambert serves as a hub for Trans World Airlines and other airline service is provided by American Airlines, American West Airlines, Continental Airlines, Delta Airlines, Northwest Airlines, Southwest Airlines, United Airlines and USAir. The airport also is served by three commuter airlines: Comair, Exec Express II, and Trans World Express. In 1994, Lambert had 478,248 total aircraft operations and had 63,150 tons of enplaned cargo.

St. Louis Downtown-Parks Airport. St. Louis Downtown-Parks Airport is located in Cahokia, approximately 24 miles south of the Village. It was designed as a reliever airport for the St. Louis region to principally serve general aviation traffic. The

airport has two asphalt runways, a primary runway 5,500 feet long and a cross-wind runway 2,800 feet long. The primary runway is fully instrumented.

MidAmerica Airport. MidAmerica Airport, a joint-use (military/civilian) airport is located at Scott Air Force Base (AFB), approximately 25 miles south-southeast of Bethalto. A 10,000 foot long runway (designated 14L/32R) was constructed to serve civilian traffic. This runway is parallel to the main runway for Scott AFB and the two primary runways are connected by a crossover runway. In addition to a passenger terminal with potential for up to 85 gates, the airport also has a large cargo terminal.

St. Charles County-Smartt Airport. St. Charles County-Smartt Airport is a general utility reliever airport under the St Louis Regional Systems Plan and is owned by St. Charles County, Missouri. It contains 320 acres and is located in northern St. Charles County approximately 20 miles west of Bethalto. The airport has two illuminated asphalt runways, including a 2,000 foot long runway (runway 9/27) and a 3,800 foot long runway (runway 18/36). Both runways are designated for visual flight rule operations. In 1998, the airport had 37,429 take offs and landings making it the 5th busiest airfield in the St. Louis region. There are more than 100 small aircraft based at Smartt. There are long-range plans to extend both runways to 4,000 feet.

Railroads

The St. Louis area has traditionally been a major rail center. Currently, St. Louis is the second largest rail center in the United States. Railroads near Bethalto include the Burlington Northern Santa Fe, Conrail, Gateway Western, Illinois Central, Norfolk Southern, SPCSL Corporation, and Union Pacific. Other freight-hauling railroads serving the metropolitan area include the CSX Corporation and St. Louis Southwestern Railway (Cotton Belt). Passenger service in the metropolitan area is provided by Amtrak which operates at the Alton rail station (approximately five miles west of the Village), and in Kirkwood and St. Louis, Missouri. Direct passenger service is available to and from Chicago, Little Rock, New Orleans, Dallas and San Antonio.

Ports

Port of Metropolitan St. Louis. St. Louis is located at the center of the Mississippi River inland waterway system. The Port of Metropolitan St. Louis stretches for 70 miles along the Mississippi River, encompasses several port districts and authorities in Illinois and Missouri and is the second busiest port on the inland waterway (second only to Pittsburgh). It is also the northernmost year-round ice-free port on the waterway and the southernmost port with lock-free navigation to New Orleans and the Gulf of Mexico.

Alton Barge Terminal. The Alton Barge Terminal in Alton on the Mississippi River provides facilities for shipping and receiving products. The primary goods

shipped and received are coal, grains, and petroleum products. It has a minimum operating depth of nine feet to facilitate commercial traffic.

Tri-City Regional Port. Tri-City Regional Port is located on the Chain of Rocks Canal in Granite City approximately 15 miles south of the Village. It has a minimum operating depth of nine feet to facilitate commercial traffic and is open year-round.

Traffic Conditions

Traffic Counts

Traffic counts for a few locations in Bethalto were available from the Illinois Department of Transportation. These traffic counts are enumerated in Table 5.

Table 5
1996 Traffic Counts

Road	Location	Count
Route 140	Franklin to Neunaber	21,900
	Neunaber to Cottage Avenue	22,400
	Cottage Avenue to Route 111	23,500
	Route 111 to Texas Blvd.	20,100
	Texas Blvd. to Prairie	22,300
	Prairie Street to Moreland	15,100
	East of Moreland	9,600
Route 111	Route 140 to Bender Avenue	20,500
	Bender Avenue to Airline Drive	20,000
	Airline Drive to Hillcrest Drive	17,800
	Hillcrest Drive to Wesley Drive	18,200
Bethalto Expressway	Old Bethalto Road to Abbott	10,500
	Abbott to Ashbrook	8,900
	Ashbrook to Prairie	7,400
Old Bethalto	Route 140 to Bethalto Expressway	16,100
	Bethalto Expressway to Second Street	5,400

Source: Illinois Department of Transportation, 1996 Traffic Map, Wood River Township

Level-of-Service Analysis

Level-of-service is a qualitative measure that describes the operational conditions of a road and the perception of the operational conditions by motorists. Level-of-service generally describes these conditions in terms of speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. Six levels-of-service are defined with letter designations of A through F. Level-of-service A represents the best operating conditions and F represents the worst. The six levels-of-service are described as follows:

Level-of-Service A represents free flow conditions. Individual motorists are virtually unaffected by the presence of other vehicles in the traffic stream. Operators have a high degree of freedom to select desired speed and to change lanes. The level of comfort and convenience to the motorist or passenger is excellent.

Level-of-Service B is clearly in the range of stable flow although other vehicles in the traffic stream are noticeable. Ability to select desired speed is relatively unaffected although there is a slight decline in the ability to change lanes over the conditions present in level-of-service A. The level of comfort and convenience to the motorist or passenger is very good although it is less than that of level-of-service A because the presence of other vehicles in the traffic stream begins to affect individual behavior.

Level-of-Service C is still in the range of stable flow, but the operation of individual users is significantly affected by interactions with other vehicles in the traffic stream. Ability to select and maintain a desired speed is affected by the presence of other vehicles and changing lanes becomes more difficult. The general level of comfort and convenience is good although it has declined considerably from level-of-service A.

Level-of-Service D consists of high-density yet stable flow. The ability to select a desired speed and to change lanes is severely restricted, and the driver or passenger experiences a fair level of comfort and convenience. Small increases in traffic flow can cause operational problems at this level-of-service.

Level-of-Service E represents unstable flow and indicates that the road is at or near capacity. Speeds are generally reduced to a low, but relatively uniform volume during peak periods. The ability to change lanes is extremely difficult and is generally accomplished by forcing another vehicle to slow down to accommodate such maneuvers. Comfort and convenience is poor and driver frustration is high. Small increases in traffic volume or other minor problems such as a stalled vehicle can cause traffic to come to a complete stop for relatively long periods.

Level-of-Service F describes forced or breakdown flow. This condition exists when the amount of traffic approaching a point exceeds the amount that can be accommodated on the roadway. Lines of vehicles form behind such locations. Operating conditions within the line include stop and go cycles that are extremely unstable. Vehicles may move at reasonable speeds for several hundred feet, then be required to

stop for half a minute or more. The level of comfort and convenience to the driver or passenger is extremely poor.

A level-of-service analysis was conducted for major roads by segment based on the traffic counts listed in Table 5. The level-of-service of these major roads is listed in Table 6.

Table 6
1996 Level-of-Service

Road	Location	Level-of-Service
Route 140	Franklin to Neunaber	B
	Neunaber to Cottage Avenue	B
	Cottage Avenue to Route 111	C
	Route 111 to Texas Blvd.	F
	Texas Blvd. to Prairie	F
	Prairie Street to Moreland	D
	East of Moreland	B
Route 111	Route 140 to Bender Avenue	B
	Bender Avenue to Airline Drive	B
	Airline Drive to Hillcrest Drive	E
	Hillcrest Drive to Wesley Drive	E
Bethalto Expressway	Old Bethalto Road to Abbott	B
	Abbott to Ashbrook	B
	Ashbrook to Prairie	B
Old Bethalto	Route 140 to Bethalto Expressway	B
	Bethalto Expressway to Second Street	A

Source: Richard Shearer & Associates

Based on the level-of-service analysis, Route 111 is at capacity between Airline Drive and Wesley Drive, and Route 140 is over capacity from Route 111 to Prairie Street. These road segments need to be widened immediately.

Programmed Transportation Improvements

A number of transportation improvements are currently programmed for the Bethalto area. Transportation improvements programmed by the Illinois Department of Transportation (IDOT), Madison County, and the St. Louis Metropolitan Area Transportation Improvement Program are outlined below.

Illinois Route 255

The extension of Illinois Route 255 from its present terminus at Illinois Route 143 through Bethalto to Godfrey is the most important programmed transportation improvement. This road extension will significantly shorten the time required to travel to destinations south of Bethalto including downtown St. Louis and other employment and shopping destinations to the south. In addition, this new road will increase the desirability of land in Bethalto for residential and business development. This multi-lane expressway will pass through the west side of town with an interchange located south of the Village at Illinois Route 111 and a second interchange at Illinois Route 140 on the west side of town. Specifics about this road extension are listed below.

IL Route 143 to IL Route 140. This extension of Route 255 from its current terminus to Route 140 will extend the road through the southwest part of Bethalto. This four-mile section requires additional land acquisition which is underway.

IL Route 140 to Fosterburg Road. This section of Route 255 is approximately 3.2 miles long and will extend the expressway northwestward from Route 140 to Fosterburg Road.

Fosterburg Road to U.S. 67. The final section of Route 255 will be 6.7 miles long and will extend the highway from Fosterburg Road to its final terminus in Godfrey at the intersection of U.S. 67.

Corbin Street

Corbin Street is being improved from Old Bethalto Road to Prairie Street. Phase 1, the west portion of the project, is complete. Phase 2 will begin after January, 2000. Funding includes federal and local monies with Madison County contributing 25% of the money for this project.

Friedel Bridge

This bridge on Albers Street south of Culp Lane will be replaced by a 36-foot wide precast prestressed concrete deck beam bridge. The new road section will be 34 feet wide from back of curb to back of curb, and will match the existing section of Albers Street to the south. Cost of the project is $300,000 with the County paying 75% and the Village and Wood River Township each paying 12 1/2 %. Construction is scheduled for Fiscal Years 2000 and 2001.

Central Street

Improvement of Central Street adjacent to the new elementary school is planned. The typical road section and funding sources are yet to be determined.

Moreland Road South

Extension of Moreland Road south of Buchta Road is planned for construction by the County. This extension should provide for a rural section two-lane roadway with wide shoulders.

MetroLink

The Bi-State Development Agency is constructing an extension of the MetroLink system from East St. Louis to Belleville Area College (BAC) in Belleville. An extension from BAC to MidAmerica Airport is planned.

Lambert-St. Louis International Airport

Expansion of Lambert-St. Louis International Airport is imminent. The FAA and the Airport Authority have updated the master plan for Lambert. This update included an evaluation of the feasible airfield alternatives including existing alternatives, new alternatives and a "do-nothing" alternative. The effects of potential runway changes on the surrounding area and transportation system were considered in developing the most effective redevelopment of the airport. The plan updated the Airport Layout Plan, Terminal Area Plan, Airport Access Plan and the Airport Land Use Plan.

ISSUE, GOAL AND OBJECTIVES

Issue: **Traffic Circulation, Roads and Rights-of-Way**

Goal: Traffic circulation within the Village will be enhanced through maintaining an adequate street system.

Objective: An overall road plan will be prepared by the Village to depict future roads and improvements to existing roads.

Objective: As developments are connected to the existing street system, care shall be exercised to ensure that existing streets are adequate to handle increased traffic.

Objective: Developers shall assist in road improvements by dedicating rights-of-way and constructing and/or improving roads leading to and abutting their developments.

Objective: Two or more access points shall be required for new developments when necessary to ensure that adequate access is provided in case of emergencies.

Objective: Interconnected streets shall be provided between adjacent subdivisions and other developments to promote the efficient circulation of traffic.

Objective: As developments are platted, stub streets shall be provided to connect the development with adjacent undeveloped properties.

Objective: Areas with considerable through traffic shall be reviewed to determine whether traffic calming should be implemented.

Objective: Minimum roadway, right-of-way, and shoulder standards shall be prepared by the Village for determining traffic circulation improvements to be constructed by developers.

Objective: Access control techniques along major streets and highways should be identified.

Objective: The use of interconnected parking areas between adjacent commercial developments shall be used to facilitate safe traffic movements.

Traffic Circulation Plan

Planned Improvements

Planned transportation improvements are identified below and depicted on the Thoroughfare Plan map in Figure 10.

State Route 140. State Route 140 needs to be widened to a four-lane divided facility from State Route 111 to approximately one-half mile east of Moreland Road. This improvement should include a center island except in areas where there is a large number of commercial driveways (west of Prairie) where the center island should be replaced by a continuous left turn lane. Due to the existing level-of-service F traffic conditions, the section from State Route 111 to Prairie needs to be constructed immediately. It is anticipated that the section from Prairie Street to Moreland Road will need to be widened between the years 2005 and 2010. Extension of this four-lane divided facility further to the east to a point immediately east of the intersection with State Route 159 may be necessary prior to the year 2020.

State Route 111. Due to the existing level-of-service E traffic conditions, State Route 111 needs to be widened to a four-lane divided roadway from Airline Road south to Wesley Road in Wood River. This improvement should be designed to have an intersection with the proposed extension of Buchta Road.

Bethalto Expressway. Extension of Bethalto Expressway from Bethalto Road to State Route 140 would improve circulation in this part of the Village. The Village currently owns land that could be utilized for right-of-way for this extension.

West Corbin. In order to serve the western portion of the Village, the extension of West Corbin to State Route 140 is planned. This improvement would entail a western extension of Corbin approximately parallel with State Route 140 with a gradual curve to the south to align with Franklin Street. This would provide another connection with State Route 140 in the western part of the Village.

East Corbin. The extension of Corbin east of Prairie Street is planned to provide a collector street on the east side of the Village. This project would require right-of-way acquisition and new road construction to extend Corbin to Moreland Road. The alignment would be north of the new elementary school. In addition, Corbin would be extended east of Moreland Road as a two-lane roadway. This extension should be constructed by developers as land is converted to urban use.

Moreland Road North. The northern extension of Moreland Road to connect with Old Moro Road is planned. This extension should be designed as a two-lane roadway with wide shoulders.

Culp Lane Realignment. This project entails realigning two sections of Culp Lane to eliminate significant curves. A complete straightening of Culp Lane is not recommended due to the significant floodplain located on the south side of the road. This realignment would provide for an improved T-intersection with Moro Road/Prairie Street and eliminate several curves including a 90-degree angle curve.

Buchta Road Extension. The extension of Buchta Road from its terminus at East Airline Drive westward to State Route 111 is planned. This two-lane extension will provide an alternative route to the business uses adjacent to the airport.

Albers Lane Realignment. This project consists of the realignment of a short section of Albers Lane to provide a T-intersection with realigned Culp Lane. This section of road will extend north from the existing bridge improvement that is already programmed.

Maple Street/Old Moro Road Realignment. This realignment would eliminate the 90-degree angle connection between the two roads and provide a T-intersection with the extension of Moreland Road to Old Moro Road.

Kennedy Drive/Melody Road Connector. This roadway will be a two-lane facility connecting the southern terminus of Kennedy Drive (at Roosevelt) with the northern terminus of Melody Road (at State Route 140). This roadway should be constructed by developers as land is converted to urban use.

Downtown Circulation. To improve circulation in the downtown area, the intersection of Prairie Street, Mill Street and Central should be closed. Prairie Street will continue to function but Mill Street and Central would be closed immediately east and west of the existing intersection with Prairie and developed as parking areas. Central and Mill Streets would be converted into a one-way loop street in the block west of Prairie. The major intersection in this area would be shifted north to the new four-way intersection of Prairie Street and Corbin (see description of East Corbin improvement above).

Additional Collector Streets. In addition to the collector streets described in this section and shown on the Thoroughfare Plan Map, two additional north-south collector streets may be needed. One such collector street may be needed in the area planned for the Village golf course to run from Culp Lane to Route 140. The second collector street may be needed in the area west of Prairie Street and east of Albers Lane to run south from Culp Lane. These two collector streets are referenced by asterisks on the Thoroughfare Plan Map.

Functional Classification

The Village's existing and future roadways are classified by functional characteristics to determine future right-of-way width requirements. Streets and highways are classified as follows:

Freeways. Facilities that are divided and have full control of access such that no traffic crossings or intersections occur at grade. Freeways are designed solely for the purpose of moving high speed traffic and are not designed to provide access or service

to abutting properties. Rights-of-way should be a minimum of 200 feet and will generally average 300 feet or more. Pavement widths shall be at least 48 feet. Pavement shall consist of two roughly parallel strips of pavement separated by a grassed median. Each strip of pavement will be a minimum of 24 feet wide (to accommodate two 12-foot wide lanes) plus paved shoulders.

Principal Arterials. Principal arterials have considerable continuity and are the major streets and highways moving traffic through the Bethalto area. These arterials primarily connect the village to other cities in the area. Minimum rights-of-way should be 100 feet and minimum pavement widths should be 48 feet or 64 feet when constructed with a 16-foot wide center median. Because principal arterials are designed to move traffic, they should provide no driveway access to adjacent residential land uses. Residential lots should back or side onto arterial streets. Commercial land uses may be provided access to arterial streets, but only when access to local or collector streets cannot be obtained.

Minor Arterials. Minor arterials have good continuity within Bethalto and serve a high percentage of the automobile trips originating in the village. Those roads also provide connections to most areas of the village to facilitate intracity trips. Minimum rights-of-way should range from 60-to-80 feet.

Collector Streets. Collector streets are facilities that collect traffic from local streets and channels it to the arterial street system. Collector streets serve a large portion of the trips beginning and ending in Bethalto. Collector streets have good continuity within the village. Minimum rights-of-way shall be 60 feet.

Subdivision Feeders. A facility designed to collect traffic from local streets and channel it to the collector street system. Direct access to subdivision feeder streets is allowed although the major portion of lots within a subdivision should have access to a local street. Subdivision feeder streets will be of relatively limited continuity, but have more continuity than local streets.

Local Streets. A facility providing direct access to single-family lots or to the parking facilities for multiple-family dwelling units. While some local streets have moderate continuity, most consist of cul-de-sacs and loop streets which will normally terminate at a T-intersection with another local street or collector street.

Thoroughfare Plan

The thoroughfare plan for the Bethalto area is depicted in Figure 10. Existing and proposed major roads are depicted according to their functional classification. Future subdivision feeders and local streets are not depicted on the plan. These streets will be added as development occurs. Subdivision feeders will be proposed by developers and approved by the Village as part of the subdivision plat approval process.

VILLAGE OF BETHALTO
COMPREHENSIVE PLAN
THOROUGHFARE PLAN
FIGURE 10

NORTH

Graphic Scale: 1"=2500'

0' 2500' 5000'

LEGEND

Existing	Proposed Improvement	
		Freeway
		Principal Arterial
		Minor Arterial
		Collector

* Areas needing collector streets—see Comprehensive Plan Text

Richard Shearer & Associates
Saint Louis
January 2006

Parks and Recreation Element

Bethalto Parks

Bethalto has five park and recreation facilities. These parks include Bethalto Arboretum, and parks with active play areas. In addition to Village Parks, Gordon F. Moore Community Park is located a short distance west of the Village.

Central Park

The largest park in the Village is Central Park which contains lighted tennis courts, ball diamonds, soccer fields, passive open space, picnic facilities, and the municipal swimming pool. This park is located adjacent to the Village Hall. The swimming pool was constructed in the early 1960's and needs rehabilitation or replacement.

Bethalto Arboretum

Bethalto Arboretum, adjacent to Central Park, is approximately 2.5 acres in size, and was developed on an old railroad right-of-way. Conceived of by Mayor Plegge in the 1960s, this arboretum was begun with a donation of six trees by a local nursery and a promise of five trees from the Governor of Alaska and four of its mayors. The arboretum was dedicated October 15, 1966. It contains more than 150 species of trees and other plant life that can be seen from the street as well as an internal path system. A fitness path is located on the grounds and the arboretum also contains a war memorial, a perennial garden, and several other distinctive features.

Southeast Park

Southeast Park, also referred to as "Field of Dreams" Park is located near the southeast edge of the Village's developed area and north of the airport. This park contains several ball diamonds and a modest parking area.

West End Park

West End Park is located at the intersection of the Bethalto Expressway and Illinois Route 140, near the westernmost portion of the old railroad right-of-way which was acquired by the Village.

Neighborhood Park

In addition, a small neighborhood park with a small playground is located at the intersection of Second Street and Grant. A summary of park lands is included in Table 7.

Table 7
Bethalto Park Land

Park	Location	Acreage	Owner
Central Park	adjacent to Village Hall	4.0	Village of Bethalto
Bethalto Arboretum	adjacent to Central Park	2.5	Village of Bethalto
Southeast Park	north of Airport	7.5	Village of Bethalto
West End Park	Bethalto Expressway and Route 140	2.0	Village of Bethalto
Neighborhood Park	Second and Grant	.25	Village of Bethalto
Total Acreage		16.25	

Other Area Parks

Bethalto is also close to Alton's Gordon F. Moore Community Park, a regional facility located on Illinois Route 140. It contains 8 tournament quality baseball and softball fields, 8 tennis courts, 17 soccer fields, a 1600-bush rose gardens, picnic shelters, a nature trail, a 13-acre lake for fishing, and an 18-hole golf course designed by Arnold Palmer.

Recreation Needs

Per Capita Open Space Needs

Bethalto has 16.25 acres of public open space for its 1996 estimated population of 9,750 people. This equates to 1.6 acres of Village-owned park land per 1,000 population. The Illinois statewide average for community based outdoor recreation lands is 9.81 acres per 1,000 population, according to the 1999 State Outdoor Recreation Partnership Plan (SCORPP) published by the Illinois Department of Natural Resources

(IDNR). The Village should plan for the acquisition and development of at least 80 acres of additional open space to be in conformity with the statewide average.

Recreation Demand

At the May 30, 1999 Bethalto Village Wide Workshop on Planning Issues, a parks and recreation questionnaire was reviewed with attendees. The outdoor recreation activity in which most respondents participated was asked of the group. The results are summarized in Table 8. In addition, there was consensus among the group that a community center should be established for the Village.

Table 8
Parks and Recreation Participation

Activity	Number of Respondents
Golf	26
Pleasure Walking	22
Swimming (in a pool)	18
Bicycling	17
Softball/Baseball	13
Fishing	9
Basketball	4
Running/Jogging	2
Picnicking	2
Swimming (in a lake)	1

The 1999 Illinois SCORPP includes a summary of the results of a survey of Illinois residents regarding perceptions about outdoor recreation, and participation in outdoor recreation activities. Among the findings, it revealed that most individuals most often recreate locally, frequently at a city park; and that most people would like to spend more time on outdoor recreation activities. It also lists popular outdoor recreation activities in Illinois and in the United States, in descending order of participation. This

data is compared with results of the questions asked of Bethalto residents attending the May 30, 1999 Village Workshop in Table 9.

Table 9
Top Ten Outdoor Recreation Participation Rates for Bethalto, Illinois and U.S.

Rank	Bethalto	Illinois	United States
1	Golf	Pleasure Walking	Exercise Walking
2	Pleasure Walking	Picnicking	Swimming
3	Swimming (in a pool)	Swimming (in a pool)	Camping
4	Bicycling	Bicycling	Bicycling
5	Softball/Baseball	Swimming--lake/river	Fishing
6	Fishing	Fishing	Basketball
7	Basketball	Softball/Baseball	Hiking
8	Running/Jogging	Running/Jogging	Motor Boating
9	Picnicking	Motor Boating	Roller Skating
10	Swimming--lake	Basketball	Golf

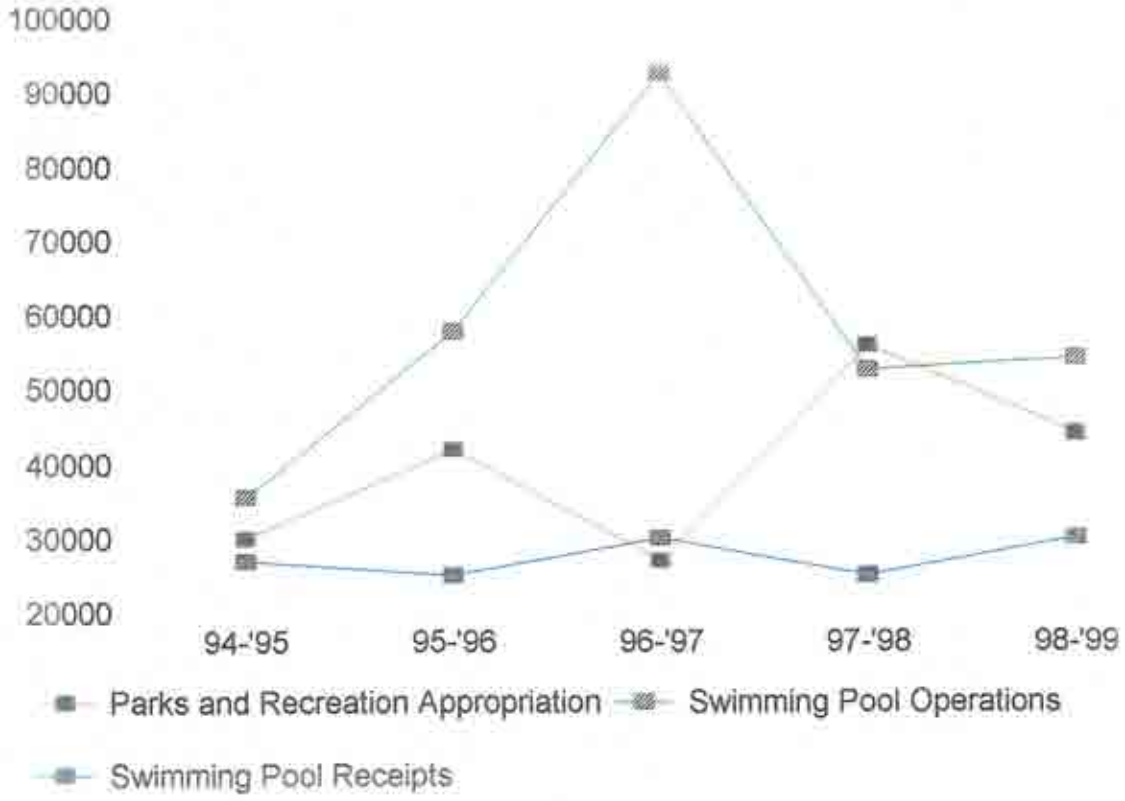
Appropriations and Revenue

Parks and recreation appropriations are compared to swimming pool operational costs and swimming pool revenues in Figure 11.

Figure 11

Parks and Recreation Related

Appropriations & Revenues, 1994-1998



GOAL AND OBJECTIVES

Goal: A comprehensive recreational program will be provided with adequate park and recreation facilities.

Objective: Establishment of a park district to serve the Village and surrounding area should be investigated.

Objective: Recreation activities should be available for all age groups.

Objective: Parks and recreation facilities shall be provided and expanded as the Village grows.

Objective: Development of a municipal golf course should be pursued.

Objective: Park and recreation areas should be separated from residences.

Objective: Common areas and green space should be required in new developments.

Objective: Thirty-foot wide strips of green space should be provided along State Route 255 in industrial areas.

Objective: Adequate facilities should be provided for the Village's park and recreation needs .

Objective: A system of bike routes should be established throughout the Village.

Parks and Recreation Plan

Municipal Golf Course

Bethalto needs a municipal golf course to address continuing and growing demand for this popular outdoor recreation activity. A municipal golf course was the most frequently expressed need at the Village Planning Workshop. Approximately 140 acres of undeveloped land exists at the Villages' northwest corner, including 27 acres at the former lagoon/landfill, and 113 acres of adjacent farmland. This site is located in the Illinois Route 255 corridor, north of State Route 140 and south of Culp Lane. This area would be a suitable site for a municipal golf course. The site is also well placed in terms of its proximity to Alton, East Alton, Godfrey, and the extension of Illinois Route 255 to U.S. 67.

This area is designated as Open Space on the Land Use Plan map. The golf course should be an 18-hole facility. To add interest to the course and ensure its visibility, part of the course may be laid out southwest of the highway with the larger portion being on the northeast side of the highway. While the Village should own the course, it would be wise to contract for management and operation of the course.

Multi Purpose Trails

The Village's existing linear park within the Bethalto Arboretum is heavily used and should be supplemented with the development of additional multi-purpose trails for walking, bicycling, jogging, and other non-motorized activities. Two potential trail corridors should be examined more closely: 1) the old railroad corridor from State Route 140 west to Franklin Avenue (approximately 1 mile long); and 2) the unnamed tributary extending between the terminus of Deanna Avenue on the west and Culp Lane to the northeast (approximately 3.2 miles). The trail would also connect to the proposed golf course site. A linked trail at these locations could provide recreational and local travel opportunities for approximately one-half of Bethalto's population which resides within one mile of this system.

Bicycle Route System

All states allow bicycle usage on public streets unless prohibited on specific roads for reasons of safety. Nationwide, more adults are riding bicycles on public streets for recreational and utilitarian purposes. In Bethalto, residents can frequently be seen riding bicycles on Village streets for recreational and utilitarian purposes. A system of on-street bicycle routes connecting residential neighborhoods to parks, trails and other activity generators would create safer riding opportunities for local cyclists. These bicycle routes should be interconnected with the proposed trails to form a Village wide bikeway system. The bike routes should be established along local streets with low traffic volumes.

Park District

The Village should consider the formation of a park district. This district would be responsible for creating and operating parks in the area. If considered, the Village needs to ensure that the district would have adequate territory and assessed valuation to ensure adequate funding. A park district that included only the area within the Village would not have adequate taxing authority.

A park district may levy a tax of not to exceed .12 percent of the value of all taxable property in the district for the purpose of planning, establishing and maintaining recreational programs, playgrounds, community and recreational centers. However, levying a tax in excess of .075 percent requires voter approval. An additional tax of .25

percent of the value as equalized or assessed by the Department of Revenue of all taxable property in the district for all corporate purposes may be levied if approved by voters. Moreover, an additional tax of .25 percent of the value of all taxable property in the district may be levied for the purpose of planning, establishing and maintaining recreational programs if such tax is approved by voters. Other taxes may be levied, with voter approval, to pay for the operation and maintenance of a conservatory, to provide joint recreational programs for the handicapped, and for other purposes.

Common Ground and Green Space

All new residential developments should provide common ground and green space within their borders. The green space should include passive open space and should include active playground space, particularly for larger developments.

Economic Development Element

Introduction

The primary land use in Bethalto is single-family residential development. However, the Village has a broad mix of land uses including residential, commercial, institutional, park, transportation, and industrial land uses. It must be realized that residential land use generates small amounts of tax revenue. In order to generate revenues to support Village government expenditures in the future, it is necessary to provide areas in the Village for commercial and industrial activities that will generate sales taxes.

Village Revenue

Bethalto derives a large percentage of its revenue from sales taxes. Residential land uses generate small amounts of property taxes and no sales tax. In addition, utility gross receipts taxes are subject to major variations based on weather conditions. For example, the Winter of 1997-98 was very mild and there was a subsequent decline in utility gross receipts. Another variable source of revenue is intergovernmental transfers. Recent trends have seen a decline in total intergovernmental transfers and it is not wise to count on these funds for a significant part of a Village's budget. One area where Villages can depend on revenue is from local sales taxes.

Economic Development

Economic development has different meanings to different people. To be true economic development, a proposed land use must provide jobs, generate tax revenue and promote the creation of other jobs through spin-off economic activity. A proposed warehouse employing three persons is not a solid economic development opportunity because it provides few jobs, does not generate much tax revenue, and does not promote creation of other jobs in the economy. However, a manufacturing plant that employs 200 persons provides jobs, generates tax revenue (including property taxes and utility gross receipts taxes) and promotes the creation of other jobs to provide the goods and services demanded by the 200 employees of the manufacturing plant.

Goal and Objectives

Goal: Sufficient commercial and light industrial development in the Village will be provided to ensure stable municipal finances and to provide business and employment opportunities for residents of the area.

Objective: Attraction of up-scale restaurants and more retail development in the Village shall be a priority.

Objective: Opportunities for commercial and light industrial development other than the airport property shall be identified.

Objective: The Village should consider incentives such as tax increment financing or enterprise zone techniques for appropriate economic development opportunities.

Objective: Heavy industrial land uses are inconsistent with the Village's character and shall be tightly regulated.

Economic Development Plan

Desirable Land Uses

There are two sets of desirable land uses recommended for the Village. One set is retail uses which either do not exist in the Village or are under-represented in the Village. The other types of desirable land uses are those land uses which will promote economic development by creating jobs, increasing the tax base, and creating positive spin-off effects.

Health Care Services. Desirable health care services to attract to the Village include the business listed below. These businesses are listed according to their titles in the North American Industry Classification System (NAICS), United States, 1997, published by the U.S. Office of Management and Budget in 1998. The NAICS classification system has replaced the SIC classification system.

Offices of Physicians
Offices of Dentists
Offices of Chiropractors
Offices of Optometrists
Freestanding Ambulatory Surgical and Emergency Centers
Medical and Diagnostic laboratories
Hospitals

Retail Uses. Desirable retail uses to attract to the village include the businesses listed below. As with the Health Services uses, these uses are listed according to their titles in the NAICS manual.

Book Stores
Camera and Photographic Supplies Stores
Clothing and Clothing Accessory Stores
Department Stores
Food and Beverage Stores
Hobby, Toy and Game Stores
Jewelry, Luggage and Leather Goods Stores
Optical Goods Stores
Restaurants, Full Service
Sewing, Needlework, and Piece Goods Stores
Sporting Goods, Hobby, and Musical Instrument Stores

Light Industrial Uses. There are a number of land uses that would be desirable in the village to promote economic development. Such uses include pharmaceutical manufacturing and electronic component manufacturing. To truly promote economic development, retail and storage businesses are not generally considered prime economic development activities. Desirable land uses that the Village should have an interest in include the businesses listed below. These businesses are listed according to their titles in the North American Industry Classification System (NAICS), United States, 1997, published by the U.S. Office of Management and Budget in 1998.

Audio and Video Equipment Manufacturing;
Communication and Energy Wire and Cable Manufacturing;
Communications Equipment Manufacturing;
Compact disc players manufacturing;
Computer and Peripheral Equipment Manufacturing;
Computer and related hardware research and development laboratories or services;
Computer software tapes and disks manufacturing;
Computerized axial tomography (CT/CAT) scanners manufacturing;
Conduits and fittings, electrical, manufacturing;
Connectors, electronic (e.g., coaxial, cylindrical, printed circuit, rack and panel), manufacturing;
Connectors, power, manufacturing;
Data processing computer services;
Defibrilators manufacturing;
Density and specific gravity instruments, industrial process-type, manufacturing;
Diagnostic equipment, MRI (magnetic resonance imaging), manufacturing;

Fiber optic cable manufacturing;
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing;
Manufacturing and Reproducing Magnetic and Optical Media;
Medical Equipment and Supplies Manufacturing;
Optical Instrument and Lens Manufacturing;
Pharmaceutical and Medicine Manufacturing; and
Semiconductor and Other Electronic Component Manufacturing.

Incentives

Availability of financing incentives is an important consideration for new, expanding, and relocating businesses. Expansion capital is available from a number of sources including the U.S. Small Business Administration. In addition, there are several incentives provided by the State of Illinois.

SBA 504 Loan Program. The U.S. Small Business Administration (SBA) 504 Load Program is designed to stimulate business and industrial expansions. The program offers businesses long-term, fixed rated financing for fixed asset acquisition. Most types of businesses are eligible including retailers, distributors and manufacturers. Existing businesses are eligible for SBA 504 financing, and in some instances start-up businesses are also eligible. In order to be eligible, businesses must:

1) Be for-profit;
2) Have total assets valued at less than $9 million;
3) Have net worth less than $6 million;
4) Have net profit after taxes averaging less than $2 million.

Loans are structured such that the SBA 50% of the loan comes from a participating bank, 40% is an SBA guaranteed debenture, and 10% is owner equity. The interest rate is fixed, approximately 2-to-4 percent below market rate with a term of 10 to 20 years. There are no limits to the size of the bank loan or total loan size. However, the minimum project size is $120,000 and the maximum debenture which can be guaranteed by the SBA is $750,000. One full-time job should be created within a two-year period after loan closing for every $35,000 in debenture proceeds.

Illinois Investment Tax Credits for Purchase of Property. Firms in Illinois can receive an investment tax credit against Illinois Personal Property Replacement Income Tax for the purchase of qualified property (including buildings) used in manufacturing, mining or retail businesses. The credit is equal to one-half percent of the adjusted basis of tangible new or used property with a useful life of four years or more. An additional one-half percent tax credit is available for any year in which the firm's base employment increase by one percent or more over the preceding year.

River Bend Enterprise Zone. The concept behind the Illinois Enterprise Zone program is to encourage businesses to locate in a specific enterprise zone in the state. The River Bend Enterprise Zone which includes Bethalto offers investment opportunities for companies seeking a full range of location or expansion incentives. Start-up costs and long-term operating costs can be significantly reduced through state and local tax incentives, low-cost financing, and employee training programs. River Bend Enterprise Zone Incentives area as follows:

1) Property tax abatement on increased assessed valuation due to new construction or renovation for four years;
2) 6.5% sales tax exemption on building materials purchased locally;
3) 1% investment tax credits on machinery, equipment and buildings;
4) 0.5% investment tax credit for firms that increase their employment in Illinois by 1%;
5) $500 jobs tax credit for each eligible new employee (minimum five eligible new hires in one year);
6) Deductions from state income tax n dividends paid by corporations doing substantial business within the zone;
7) Low interest business financing program; and
8) Employment training assistance programs.

Madison County CDBG Economic Development Loan Program. This program provides below-market gap financing to expanding or new firms whose projects create permanent jobs for qualified low and moderate income individuals within Madison County. Loans are typically for 10-to-25 percent of the business' total project costs, up to $100,000. Most of the jobs created because of the business project must be filled by low and moderate income individuals. Loan funds may be used for the purchase of land, buildings, equipment and the construction or renovation of facilities. The loan funds are normally at a rate of 3 percent interest for five years.

Village of Bethalto Incentives. Based on the Village's list of desirable land uses, it would be beneficial for the Village to offer some incentives to appropriate businesses that would like to locate or expand their business in the Village. These business should meet all of the following criteria:

1) Be on the Village's list of desired land uses, or be similar to one of those uses;
2) Make a capital investment of at least $10 million in the Village;
3) Provide employment opportunities for Village residents where the average salary is at least 90% of the average household income of Village residents.

Incentives could include one or more of the following:

1) Village staff assistance in fast-tracking development approvals (rezoning, site plan approval, etc.);
2) Village property tax abatement;
3) Traffic signalization funded by the Village;
4) Village-funded road improvements;
5) Tax-Increment Financing;
6) Business license abatement, or portions thereof; and
7) Village-initiated zoning changes.

Village Property Tax Abatement. Under the state Property Tax Abatement Program, local taxing authorities may abate property taxes on any new or expanded industrial or commercial facility. Any industrial or commercial firm meeting the following conditions may receive an abatement of up to $8 million per project:

1) The firm located to the taxing district during the preceding calendar year from out of state or from another country;
2) The firm was newly created in Illinois during the past year and either proposed to, or has located, an industrial or commercial operation in the area; or
3) The firm expands a previously existing facility in the area.

Tax-Increment Financing. Using tax increment incentives, a Village can write-down the cost of real estate acquisitions and improvements in a Village-designated area. Future additional property taxes generated by the improved property are used to finance the write-downs. These write-downs may be applied to various costs including, but not limited to, land acquisition, public site improvements, infrastructure, site preparation costs, etc. The Village then obtains loan money for the company which then pays back the debt from its property taxes, or directly pays for improvements from the proceeds of bonds sold in anticipation of future tax increment revenues.

Housing Element

Housing Characteristics

In 1990, there were 3,773 housing units in Bethalto. Of these units, 3,542 were occupied and 231 were vacant (a vacancy rate of 6%). Approximately 50% of the Village's housing was constructed after 1968 (according to the 1990 Census, STF3A). The average selling price of housing in Bethalto rose steadily between 1991 and 1996, the last year for which data was available for this study. In 1991, the average selling price of an existing (rather than new) home was slightly more than $63,000. By 1996 the average selling price of an existing home rose to more than $87,600, a gain of more than 38%. In 1995, the Village issued more than $876,000 in building permits (18 total permits). In 1996, fewer permits were issued (13); however total value exceeded $1,300,000 (according to the Bethalto Community Profile, 1997).

One problem with housing in Bethalto is the heavy reliance on mobile homes. Many of these mobile homes are quite old and were not constructed based on federal guidelines for mobile home construction which was promulgated in 1974. Older mobile homes with aluminum wiring tend to catch on fire. This is dangerous for those living in the mobile homes and dangerous to surrounding mobile homes. Due to this increased danger, broad separation distances need to be maintained between these older mobile homes.

Another problem is the use of recreational vehicles (including trailers) for permanent housing. These vehicles were not designed for permanent location on the ground or for permanent housing. Use of these recreational vehicles creates health and safety problems. Prohibitions on this use needs to be included in the Village's land development regulations and strictly enforced.

Housing Concerns

At the May 30, 1999, Public Workshop on the Village's Comprehensive Plan, residents expressed concern about several housing issues including the following:

1) Housing units where the windows had been broken and had been covered with wood rather than repaired;

2) Mobile homes located on the same block as conventional housing;

3) Housing that was not properly maintained including houses that were in substandard condition;

4) Mobile homes in mobile home parks that were not properly maintained.

These concerns need to be addressed by the Village's plan.

Goal and Objectives

Goal: A diverse range of housing types will be available to existing and future residents of the Village.

Objective: Single-family homes, multi-family homes, and approved manufactured homes shall be allowed in appropriate areas of the Village.

Objective: Nonconforming houses on nonconforming lots should be protected from mandatory amortization.

Objective: A property maintenance code should be adopted to ensure that residential property provides a healthy and safe environment for dwellers.

Objective: Periodic inspections of rental property should be implemented to ensure that residential units meet all appropriate building and life safety codes.

Objective: Occupancy permits should be required for all dwellings.

Objective: Additional Village resources need to be committed to inspection and enforcement of Village building and zoning codes in residential neighborhoods.

Housing Plan

Diversity of Housing

A diversity of housing including single-family detached, two-family, multi-family and manufactured housing needs to be encouraged including the possibility of nontraditional housing types such as single-family attached dwellings and group housing. Many opportunities exist for large-scale new residential developments adjacent to the Village. These areas should be developed primarily for single-family developments. Two-family and multi-family developments should be concentrated near major infrastructure and should be considered as redevelopment alternatives for property near the center of the Village. New areas for manufactured housing should have

adequate infrastructure, should not be in areas with high levels of airport noise, and should be on relatively flat land.

In-Fill Development

The Village should encourage the development of vacant lots in existing residential areas for housing. Vacant lots can be an eyesore, present maintenance problems, drain limited Village resources, and present a bad image of established residential areas. Encouraging development of these properties enhances neighborhood appearance, cuts Village efforts to ensure that such lots are maintained and boosts the tax base. Many of these lots are suitable for single-family dwellings and some are suitable for two-family structures.

Program for Maintaining Residential Property

As the housing stock of a community ages, more and more dwellings belong to absentee owners. This partly due to the fact that some people who move from a home retain ownership and then rent it for income. It is also due to individuals buying housing units for rental income. The problem is that some owners of rental property (particularly absentee owners who do not live in the community) do not maintain the property as well as many owner-occupied dwellings are maintained. Often times, health and/or safety problems occur in dwellings that are not properly maintained. In order to protect current and future housing renters in the Village as the Village's housing stock continues to age, it would be beneficial for the Village to enact a program which would require interior inspections of rental housing when there is a change in occupancy to ensure that there are no health or safety problems. Any problems identified by Village inspectors could then be reported to the owner of the property who would be responsible for correcting the problem.

Mobile Home Regulations

To ensure safe and healthy accommodations for residents, the Village needs to update its regulations for mobile homes. These regulations need to ensure adequate separation distances between the mobile homes and ensure that any mobile homes brought into the Village comply with the Federal *National Manufactured Housing Construction and Safety Standards Act of 1974*, and the National Fire Protection Association's *Code of Specifications for Mobile Homes and Travel Trailers*.

Community Facilities Element

The Village of Bethalto controls several parcels of land and public buildings necessary to provide services to residents. Some of this land and all of the public buildings are used for police protection, fire protection, public works, and parks and recreation. Community facilities to house municipal activities include the Village hall, public works offices, and public works garage.

Village Hall

Village hall provides space for the Village administrative offices. This administrative space includes offices for the Mayor, Village Clerk, police department, fire department The Village board of trustees chambers and a community room are also located in the building and serve as the meeting space for several boards and commissions and the municipal court.

Police Department

Bethalto's Police Department is housed in the Village Hall. There are 11 police officers. In 1998, the department worked 483 crimes, down from 498 crimes in 1997. The most common crime reported during 1998 was miscellaneous thefts (thefts other than burglary, thefts from buildings or vehicles).

Fire Department

Bethalto's Fire Department is housed in a five-bay facility attached to the Village Hall. The department has 35 professional volunteer firefighters who respond with six fire/rescue vehicles. The fire chief and an assistant chief receive some compensation on a monthly basis. A summary of the department's equipment is contained in Table 10.

Commercial Risk Services, Inc., a property insurance rating organization assigns fire insurance class ratings to fire departments based on a scale of 1 to 10 with 1 being the highest rating and 10 being the lowest rating. The rating is based on water supply, fire equipment, and fire personnel. Bethalto's Fire Department has an Insurance Service

Organization (ISO) rating of 7 for areas within the Village Limits. This is a good rating for a volunteer fire department. Very few fire departments have a rating better than 4.

Table 10
Fire Equipment

Apparatus	Year and Manufacturer	Special Equipment
Primary Pumper	1996 Towers/Ford 9000	
Heavy Rescue	1992 Marion/Ford 9000	
Relay Pumper	1976 Master/Ford 900	
Equipment Van	1977 Chevrolet	
Snorkel	1972 Young/Ford 900	50' Snorkel
Ambulance	1999 Wheeled Coach	

Schools

Bethalto is served by Bethalto Unit School District 8 which operates a preschool center, four elementary schools, a sixth grade center, Wilbur Trimpe Junior High School and Civic Memorial High School. Elementary schools include Bethalto East, Bethalto West, Parkside and Meadowbrook. The district has a total enrollment of approximately 2,900 students from Bethalto and the surrounding area.

Two parochial schools also operate in Bethalto. Our Lady Queen of Peace is a Catholic school with approximately 178 students enrolled while Zion Lutheran School has approximately 214 students in grades 1 through 8, and 215 children in pre-school.

Library

Bethalto Public Library owns more than 30,000 books. Video cassettes, audio cassettes, newspapers, magazines and other items are also available at the library. The library was recently expanded and is part of a larger library system including the Alton and Wood River libraries. Within the system, material is shared which enables

individuals to have access to material in other libraries without the need for each library to maintain copies of seldom used material.

Hospitals

While there are no hospitals in Bethalto, four are located in the immediate vicinity and 12 additional major hospitals are located in the City of St. Louis and St. Louis County. The vicinity hospitals include Alton Memorial Hospital, Wood River Township Hospital, Saint Anthony's Hospital, and Saint Clare's Hospital.

Alton Memorial Hospital

Alton Memorial is a 222-bed, full-service acute care hospital located a short distance west of Bethalto in Alton. It has a medical staff that includes more than 200 physicians and surgeons. Its facilities include a 24-hour emergency room, an outpatient care center, a sleep disorders center, and a new birth center with a Level II nursery. Services include cancer treatment, family practice, plastic surgery, gastroenterology, cardiac services, internal medicine, neurology, podiatry, and immunology and infectious diseases.

Saint Anthony's Hospital

Saint Anthony's is located in Alton, a short distance west of Bethalto, and offers a 24-hour emergency room, obstetrics, surgery, cardiology, diabetes treatment, and general medical services. Specific services include occupational health services, cancer treatment, adult day care, behavioral health services, chemical dependency treatment, therapy and rehabilitation services, and sub acute care.

Saint Clare's Hospital

Saint Clare's is located in Alton and operates jointly with Saint Anthony's Hospital. Together the two facilities have 292-beds and operate as acute care facilities. The two hospitals have more than 100 physicians on staff representing 32 medical specialties and subspecialties including family practice, cardiology, allergies, ophthalmology, obstetrics/gynecology, pediatrics, oncology, surgery, and oral surgery.

Wood River Township Hospital

Wood River Township Hospital is the only publicly-owned health care center in the area. It is located in Wood River at 101 East Edwardsville Road. The hospital has 130 beds and the medical staff includes 98 physicians representing 17 medical specialties. Its facilites include a 24-hour emergency department and Level II Trauma

Center, intensive care, substance abuse outpatient treatment, laser surgery, obstetrics/gynecology, outpatient surgery, pediatrics, primary care, geriatrics, psychiatry, rehabilitation therapy, and sports medicine. Specialized diagnostic services and equipment at the hospital include CT scans, magnetic resonance imaging, mammography, nuclear medicine, and ultrasound.

Goal and Objectives

Goal: Community facilities necessary to serve the residents of the Village will be provided in appropriate locations.

Objective: Development of a community center should be investigated.

Objective: The feeling of a safe community should be maintained by continued support for the Village police department.

Objective: The current level of service provided by the police and fire departments shall be maintained.

Community Facilities Plan

Community Center

Interest has been expressed in the development of a community center for the Village. This is a major investment for the Village in not only capital costs, but also in the costs involved in operating the center. Depending on the types of activities and facilities in a community center, the operational costs can greatly exceed user fees.

It is recommended that a survey of Village residents be conducted in the future to determine 1) the level of interest in a community center, 2) the types of facilities that residents would be interested in, and 3) what types of tax increases residents would support to pay for the center. It is also recommended that the survey and planning of the community center be delayed until after the municipal golf course is complete.

Fire Department

As the Village grows, additional fire stations will be needed. All buildings in the Village should be within one and one-half miles of a fire station. While this standard is extremely difficult for most communities to meet, the Village should provide for additional fire stations in the future to attempt to have between 90 and 95 percent of the buildings within the Village limits within this distance standard. The exact location of

new stations will be dependent on the areas annexed by the Village and the future of the fire protection districts surrounding the Village on the east, north and west. In addition, the Village needs to plan for replacement of older vehicles. Typically, fire departments replace front-line equipment on a regular cycle with pumpers replaced every 15 years and ladder companies replaced every 20 years.

Medical Facilities

Residents have indicated a desire for more medical facilities in the Village including the possibility of a full-service hospital. Health care services are encouraged to locate in the Village in the future.

Infrastructure Element

Infrastructure in Bethalto can basically be divided into three categories: utilities, streets and sidewalks, and telecommunications facilities. Electricity, natural gas, and telecommunication services are not provided by the Village. Most streets and sidewalks are maintained by the Village.

Utilities

Utility services in the Village are provided by the Village and private and public utility companies.

Electricity and Natural Gas

Electricity and natural gas are supplied primarily by Illinois Power Company. Some residents are served by Southwestern Electric Cooperative. Illinois Power is an investor-owned, Fortune 500 full-service utility company which serves one-quarter of the state. Illinois Power provides industrial customers with the option of purchasing spot gas or system supply to ensure the customer receives the lowest possible gas prices.

Water Service

Bethalto provides water service to Village residents. The Village's wells and water treatment plant have a maximum pumping capacity and treatment capacity of 3.0 million gallons of water per day (mgd). The average daily demand for water is 1.6 mgd and the peak daily demand is 2.2 mgd.

Bethalto's water source is a well field located in Wood River north of Illinois Route 143. This area lies over the old Mississippi River bed, commonly called the American Bottoms. The American Bottoms is a relatively flat plain that runs from the Mississippi River to the base of the high ground where the Village of Bethalto lies. The Village pumps more than 500 million gallons of groundwater a year from seven shallow wells that reach down to unconfined sand and gravel which make up the underground water aquifer. Approximately ten inches (or 26 percent) of the annual rainfall in Bethalto percolates through the soil and recharges this aquifer. As the water passes through the soil to the aquifer the potential for contamination is great.

Bethalto has developed a comprehensive groundwater protection management plan. Then the Village worked with the cities of Wood River and East Alton to develop a groundwater protection ordinance to protect the Village's aquifer recharge area (the area in the American Bottoms from which the Village's wells extract water). In 1992, the Village established a 1000-foot setback zone around the community water supply

(CWS) wells. This setback allows Bethalto to regulate certain types of new land uses within this zone. Landfills, sewage lift stations, electrical substations, dry cleaners, petroleum pipelines, retention basins and roads are all land uses that could contaminate groundwater supplies. The location of existing land uses that fit these categories have been identified by Village staff.

The Village is currently preparing a master water plan to provide service to areas that may be annexed to the Village in the future.

Wastewater Service

Wastewater in Bethalto is collected by Village sewer mains and transferred to a regional wastewater treatment plant in Alton. The Village is currently preparing a master plan to provide wastewater service to areas that may be annexed in the future.

Telecommunications

Telecommunications technology is divided among four categories: broadcasting (radio and television), cable television, computer networks and telephone services. However, this breakdown is becoming more artificial because phone companies can deliver video programming and cable companies can provide phone service. Telecommunications technology has exploded over the past several years and is destined to continue expanding rapidly. This expansion must be considered by cities in planning for the future. The basic types of telecommunications technology and issues to be considered in the near future are outlined below.

Broadcasting

Broadcasting provides video and audio programming over the airwaves to radios and televisions within range of a signal of a specific station. The technology is point to multi-point or a signal from a station to a large number of receivers. The physical capacity of the usable electromagnetic spectrum limits the number of frequencies available to broadcasters.

Cable Television

Cable television sends video programming as analog signals over coaxial cable. Analog signals are measurable impulses of voltage and differ from digital signals that are gaining favor among telecommunications providers. As with broadcasting, cable allows for primarily one-way transmission. Unlike broadcasting where viewers only receive what the broadcaster sends in a single signal, the subscribers select from a basic package of programming that may be supplemented with premium channels.

Computer Networks

Computer networks and electronic information services have expanded rapidly over the past two decades. Accessing a network requires a computer, modem and phone line. Users dial the "host" computer of the network or service, and, once connected, can communicate over the network through the modem. The modem translates digital data from the sending computer into analog signals appropriate for phone lines. The best known computer network is the Internet, a noncommercial information highway that connects universities, laboratories, government bodies, and more than ten million individual users in 102 countries. These networks and electronic information services provide a multitude of functions. Some operate as electronic mail boxes and allow users to communicate via electronic mail (E-mail). Networks also provide access to electronic bulletin boards that allow users to post and read messages on specific topics.

Telephone Technology

Telephone technology has traditionally sent voice conversations by analog signals over networks of copper wires that link individual phones. Telephone companies use their switching technology to route millions of phone calls to the individual numbers dialed. Unlike cable or broadcasting, telephones are designed for point-to-point, interactive communication. Telephone networks are divided into local and long-distance carriers. Regional telephone companies operate local telephone networks within cities. These networks consist largely of copper wires, but many companies have upgraded their networks to use fiber-optic cables. Fiber-optic cables carry streams of digital information (bits of ones and zeroes) at the speed of light. This speed is hundreds of thousands of times faster than the speed information can be transmitted over copper wire. Long distance phone companies operate cross-country fiber-optic cables that run between cities.

With the expansion of telecommunication services, it is important to define the various types of telephone, cellular phone and digital personal communications systems (PCS) available and the technological implications of cellular and digital phones. This plan must consider the increasing demand for cellular and digital PCS phones and the need to plan for expanded fiber-optic services.

Recent technological developments have allowed telephone companies to expand beyond their traditional sphere to send video programming over their copper or fiber-optic wires. Video programming differs from that provided by cable or broadcasting. A video signal sent over a phone line goes to a single user and not to every television in the area. This is similar to a voice conversation that goes only to the number dialed and not to every telephone. The technology that allows telephone companies to switch millions of calls to the correct telephone also allows them to switch video programming to whomever requests it. Telephone companies can send out as

many video signals as it has lines so a switched video network has as many channels as it has users.

Regional Telephone Service

Regional phone service is provided by Ameritech. Ameritech uses copper and fiber-optic wires for transmission. The switching system is a combination analog/digital/electronic system to ensure connections between land-based hard-wired phones, cellular phones, and digital phones.

Telecommunications Act of 1996

Congress enacted the federal *Telecommunications Act of 1996* P.L. No. 104-104 on February 8, 1996. One purpose of this Act is the deregulation of the telecommunications industry to provide a more competitive environment for wired and wireless telecommunication services in the U.S.

The 1996 Act preserves the authority of cities to regulate the placement, construction, and modification of Towers and Antenna Support Structures and to protect the health, safety and welfare of the public. In addition, the Village has been granted the authority to enact legislation to regulate the construction, placement, and operation of telecommunications towers and antennae pursuant to its zoning powers delegated to the Village by the State of Illinois.

The Federal Communications Commission (FCC) has exclusive jurisdiction over the regulation of the environmental effects of radio frequency emissions from telecommunications facilities, and the regulation of radio signal interference among users of the radio frequency (RF) spectrum.

Demand for Wireless Communication Facilities

In May of 1997, there were more than 43 million portable wireless telephones operating within the United States, including 350,000 personal communications services (PCS). To serve this demand, there were more than 22,000 cellular transmission sites (cellular transmission sites include various types of communication towers and antennae). The number of portable cellular telephones is expected to increase substantially in the future and the number of PCS units are projected to increase to 47 million units by the year 2001. To keep up with this increase in portable cellular and PCS units, there will be an increasing need for more cellular and PCS transmission sites.

Cellular/PCS History

In 1974, the Federal Communications Commission (FCC) expanded the radio spectrum available to the public. The purpose of this expansion was to provide space for expanding cellular telecommunications technology. In 1978, a mobile radiotelephone system was tested in Chicago. That system, which was a miniature version of a large radio network, was named for the unit cells into which it divides an area. Each cell has a radius of about one to two and one-half miles. Over the next five years, the industry developed higher-quality transmission devices and cellular technology was marketed to consumers as car phones. Cellular technology made it possible for a caller to travel while talking with someone at a conventional telephone or with another mobile user. Over the past few years, personal communication services (PCS) have been developed and expanded to include hand-held portable phones and paging systems. Cellular technology is an analog based system while PCS is a digital system.

Based on the increasing demand for mobile communication options, the FCC opened another portion of the airwaves for industry use in March 1995. Airwave rights were divided geographically into 99 licenses that went to commercial mobile radio service (CMRS) carriers nationwide. Through an FCC auction, licenses were awarded to the highest bidders among a combination of older and newly formed companies. These newly licensed carriers then began acquiring sites for towers and their accompanying equipment buildings that has spurred the demand for such sites.

Cellular Technology

Cellular technology differs from land-based communications (telephone lines), microwave or satellite communications systems because it is based on a network of short-range cell sites with a fixed capacity. The cells must be linked by cellular towers, microwave dishes, or ground-wired towers or the transmission will fail. In addition, if a cell is crowded by too many users, it must be split into two cells, each having its own radius. A single cellular phone service provider must have a number of dispersed antennae to successfully provide service.

PCS Technology

PCS technology is also wireless and is similar to cellular technology although it operates on a network of small cells and uses a lower frequency in the spectrum to transmit data in a digital format. PCS operates in the form of "follow me calling" such that communication is routed to an individual rather than a telephone number via a more sophisticated version of a pager. The receiving end of the system is generally a phone, fax, video screen or a database. PCS systems are networked via cell sites that operate at higher frequencies on the electromagnetic spectrum than cellular phones. PCS

frequencies are between 1,850 and 2,200 MHz and have smaller radii than cell technology. It has been estimated that by the year 2003 there will be 167 million PCS users that will require 100,000 cell sites.

Fiber Optics

During the 1990's, a new buzz word in communications was coined, the information superhighway. This information superhighway will consist of a fiber-optic network that will carry virtually limitless television channels, home shopping and banking, interactive entertainment and video games, computer data bases, and commercial transactions. Technically a broadband communications network, the information superhighway will link households, business, and schools to virtually all available information resources. Rather than using traditional technology of analog signals and electromagnetic waves, the superhighway will carry all information (from voice to video) in the form of digital bits.

Goal and Objectives

Goal: Adequate utility services will be provided to developed areas of the Village.

Objective: New developments shall be provided with public water, sewer, and natural gas services.

Objective: Utilities (except electric facilities exempted by the zoning ordinance) shall be placed underground.

Objective: As water and sewer mains are installed, they shall be sized to accommodate anticipated development, and not to just meet current requirements.

Objective: As development occurs, developers shall be required to extend water and sewer mains through their property to ensure that adjacent properties can tie into these services in the future.

Infrastructure Plan

Water and Wastewater Plan

The Village has a separate water and sewer master plan that was prepared in concurrently with this plan. The two plans are consistent in their recommendations and the water and sewer master plan was designed to support the objectives of this plan.

Fiber-Optics

Completion of the information superhighway will require a substantial upgrade of existing networks including expanded use of fiber-optic technology, interconnection of existing networks, linking individual users to the network, and deployment of complex hardware and software to manage and direct the flow of information. It is apparent that the private sector will have the primary responsibility for construction the network. Cable companies have had a competitive edge over telephone companies in beginning construction. However, telephone companies have steady streams of revenue and huge amounts of capital because of their local phone monopolies. Cooperation between cable and phone companies will be key in constructing the information superhighway. Governments at all levels need to ensure that their regulations do not unreasonably hinder construction of the information superhighway.

It is important for the Village to recognize the importance of communications and information transmittal and to cooperate with cable and telephone companies in the installation of fiber-optic lines. Road rights-of-way need to be available for this installation. In addition, the Village should consider making provisions for easements or other means of ensuring that fiber-optic cable can be installed in all new subdivisions as they develop.