

Chapter 2

BASE AND PLANNING YEAR SOCIOECONOMIC DATA

Reliable data for the base year (2015) and estimates of the planning year (2040) socioeconomic data are essential to the transportation planning effort. The travel demand models were initially tested and calibrated utilizing 1979 data. The model was subsequently re-evaluated for accuracy utilizing 1980, 1985, 1995, 2000 and 2010 socioeconomic conditions. As part of the development of the 2040 Transportation Plan, the model was evaluated using the 2015 base year data. Reasonable results were obtained from modeling the 2015 data.

The planning year estimates were used to forecast future transportation needs and to identify transportation improvements necessary to meet those needs. The socioeconomic data developed for this study included estimates of population, households, auto ownership, and employment. Existing and projected land uses are an important input to the transportation plan due to the close relationship between land use and travel demands. The growth and location of future employment was determined utilizing existing employment as a template. The location of employment is one of the critical pieces of demographic information used for transportation planning purposes. The location of 2010 employment from Indiana Business Research Center - Kelley School of Business, is shown in Figure 3. The location of 2015 employment from InfoUSA data obtain from INDOT, is shown in Figure 4.

The aggregate socioeconomic estimates were made for small areas within the Metropolitan Planning Area for planning purposes. These areas are referred to as traffic analysis zones (TAZs). Traffic analysis zones are designed to represent similar land uses and are utilized for travel demand forecasting. The traffic analysis zones are displayed in Figure 5. There are a total of 471 traffic zones in the Metropolitan Planning Area (MPA). In addition, there are 31 external stations that represent points of entry and exit around the perimeter of the MPA.

The structure of the traffic analysis zones was based upon the following criteria:

1. The location and concentration of population and employment.
2. The availability of demographic, economic, land use and natural resource data.
3. The ability of the traffic zone boundary alignment to conform to major street alignments.
4. The direct allocation of complete census block data without a need for splitting census data.

The accuracy and level of detailed socioeconomic estimates ensure that reliable and efficient transportation service plans can be provided to meet future needs of the metropolitan area.

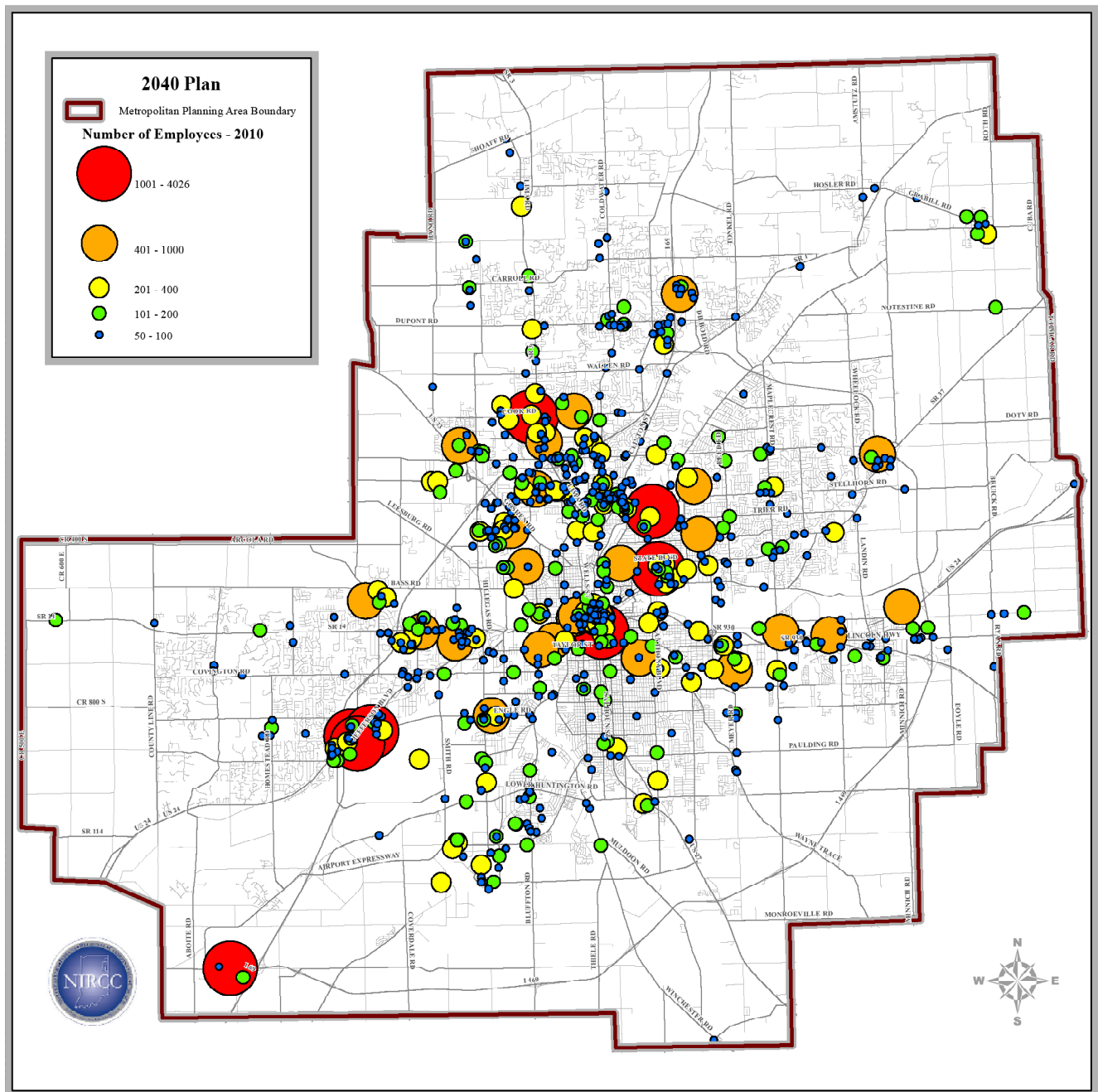


Figure 3

Employment Locations for 2010

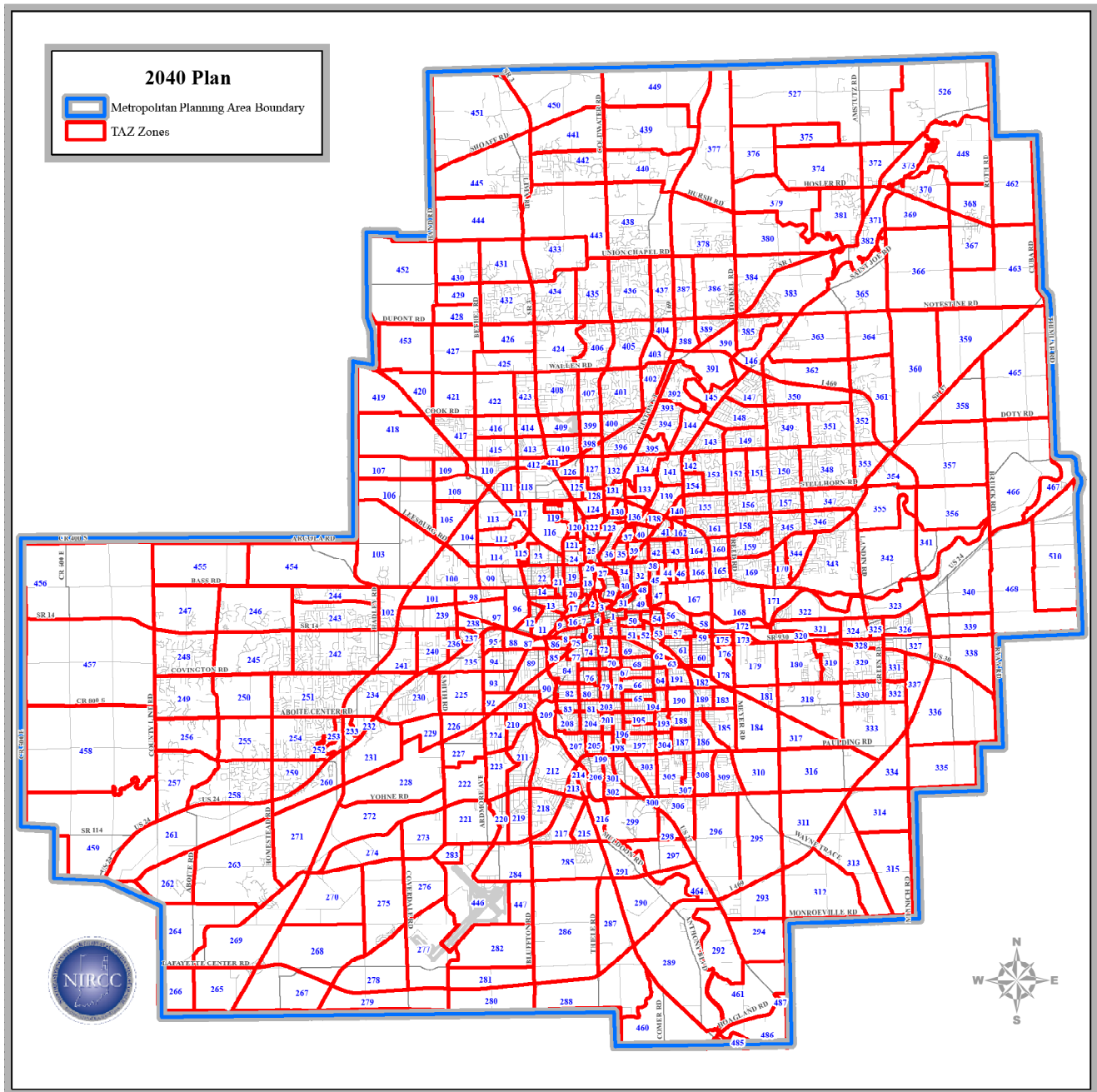


Figure 5
Traffic Analysis Zones

Base Year 2015 Estimates

The year 2015 was established as the base year for this transportation plan update. Comprehensive socioeconomic data including population, households, automobile ownership, and employment data was established for 2015. The socioeconomic data has been collected and monitored since the early 1970's based upon Census information and other data sources. This information is useful in monitoring recent trends and projecting future socioeconomic conditions.

The 2010 Census information provides the most comprehensive and accurate population and housing data available. Based on Census Tract and Census Block statistics, data for both Allen County and the Metropolitan Planning Area can be obtained. The MPA is primarily within the geographical area of Allen County and is mainly influenced by the development activity in Fort Wayne and Allen County. The portion of the Metropolitan Planning Area in Allen County includes approximately 94% of the total population and households residing within Allen County.

The 2000 Census information indicated that the Fort Wayne Urbanized Area in Allen County had expanded west to the boundary with Whitley County. In addition, Census criteria designated a small portion of Huntington County in the Fort Wayne Urbanized Area. This area is actually very rural in nature but due to the population density and proximity to the adjacent urban area, it was defined as urban. Therefore portions of Whitley and Huntington County have been included in the MPA for analysis purposes.

American Community Survey (ACS) - census data served as the foundation for developing reliable population, housing and automobile ownership estimates for the 2015 base year. Recent trends in population growth estimated by the U.S. Census Bureau shows Allen County with a 2015 population of 370,226, and increase of 14,897 from the 355,329 population in 2010. This represents a 4.2% increase over the five-year period and correlates to an average annual growth rate of approximately 0.82%.

The 2015 ACS data reported 144,383 households in Allen County. This represents an increase of 6,532 new households over the five-year period from 2010. This represents a 4.7% increase that correlates to an average annual growth rate of 0.93 percent. The overwhelming majority of housing growth was in new suburban subdivisions and apartment complexes within the MPA. The estimates of the 2015 socioeconomic variables for each traffic zone are presented in Appendix B. The methodology used for preparing these estimates is discussed in the following narrative.

Population

The population figures for base year 2015 were derived from 2015 census block statistics estimates for the Metropolitan Planning Area. The 2015 census block statistics estimates were aggregated to represent the population of individual traffic zones within the Metropolitan Planning Area.

Households

The primary source for base year household data for the Metropolitan Planning Area was the 2010 census block information. This data was compiled exactly like the population figures to determine the extent of housing activity within each traffic zone. The total number of new Improvement Location Permits (ILP's) were added and the total demolitions were subtracted to establish the 2015 base values. This data was obtained from the Allen County Department of Planning Services.

Automobile Ownership

Vehicle ownership information for metropolitan area was obtained from the Indiana Bureau of Motor Vehicles for the 2010 base year. The number of automobiles per traffic zone was calculated using vehicle per household ratios based on historical data and census information. The ratios were reviewed and refined based on the relationship of household incomes specific to individual traffic zones and automobile ownership. Each zone was evaluated and compared to an aggregate control total to ensure a fair distribution of vehicles.

Employment

The primary source of 2015 employment data was information obtained from the InfoUSA data that was obtained by the Indiana Department of Transportation (INDOT). The employment locations were allocated to the proper traffic zone. A list of employment by category and by traffic zone was derived from this inventory for the Metropolitan Planning Area.

The employment data was further stratified by North American Industry Classification System (NAICS) Codes. Based on these codes, employment was grouped into four major categories: industrial, service, retail and office. Industrial employment includes construction, manufacturing, warehousing, and wholesale trades. The service category employment includes: education, administration, accommodations, eating and drinking establishments; and arts and entertainment. The retail category includes: food, bakery, and dairy stores; general merchandise retailing; motor vehicle retailing; service stations and repair services; and other retail trades. The office category employment includes: finance, real estate, health care, and public administration.

Schools and Universities

Enrollment information was collected for all K-12 schools and major universities within the county. The data was allocated by TAZ and used as special generators for trip generation and distribution.

Planning Year 2040 Projections

General planning assumptions based upon current and historical trends are developed to guide the projected socioeconomic conditions for the horizon year, 2040. Planning assumptions were utilized in estimating

the socioeconomic conditions for all previously developed Transportation Plans. Similar assumptions have been developed to predict how the metropolitan area will grow and change through the year 2040.

The Northeastern Indiana Regional Coordinating Council transportation planning staff met with various planning groups and reviewed demographic data to assist in drafting the planning assumptions. Areas of discussion and review included: downtown Fort Wayne re-development efforts; area housing plans and neighborhood revitalization efforts; economic development activities, issues and target areas; socioeconomic forecasts; utility infrastructure plans; housing and business development trends; floodplain, wetland, and ground water concerns; and land use development strategies. The comprehensive development plans, re-development plans, and economic development plans were reviewed as part of this process and provided direction in the distribution of socioeconomic data. This process helps to reinforce and/or re-write the planning guidelines and assumptions for the transportation plan. The following narrative describes the basic assumptions governing the anticipated growth and change in the metropolitan area during the next 22 years.

1. Information released from the U.S. Bureau of the Census indicates that nationally, the average number of persons per household has steadily decreased over the last thirty years. As the nation slows in population growth, it is assumed that the ratio will level off and remain fairly constant. The 1990 census revealed a ratio with the City of Fort Wayne reporting in at 2.43, the City of New Haven at 2.73, and the remainder of Allen County at 2.92. The 2000 census shows the ratio for Fort Wayne at 2.41, New Haven at 2.51, and the remainder of Allen County at 2.80. The 2015 ACS data shows the ratio for Fort Wayne at 2.39, New Haven at 2.45, and the remainder of Allen County at 2.71. It is anticipated that the persons per household ratio is beginning to stabilize. The average ratio for Allen County is estimated to be 2.44 in 2040. The ratio for the Metropolitan Planning Area will be slightly lower. The persons per household ratio for the year 2040 will be approximately 2.42 for the Metropolitan Planning Area.
2. Planning efforts within Allen County including the Cities of Fort Wayne and New Haven will be able to influence the direction and magnitude of development. The communities of Grabill, Hometown, and Leo-Cedarville will also impact development in the Metropolitan Planning Area. The majority of all development will occur in, or immediately adjacent to the urban area. This pattern of urban development will serve to limit sprawl and help preserve prime agricultural land. Development will take place in areas with suitable soil types.
3. Population growth within the current corporate limits of Fort Wayne will occur primarily in areas currently undeveloped and zoned for residential use. Moderate population growth is also anticipated in neighborhoods where revitalization actions are implemented. It is assumed that all usable residentially zoned property currently within Fort Wayne will be developed by the year 2040.
4. Downtown Fort Wayne revitalization efforts will continue throughout the central business district and surrounding area. The Fort Wayne Downtown Development Plan provides the blueprint for how new and revitalized development will occur. Residential development and re-development

will be encouraged in specific areas of the central business district and central city. The New Haven downtown business district will continue to provide business and limited retail opportunities.

5. A decline in population and housing due to federal restrictions on construction and reconstruction in floodplains will affect areas adjoining the rivers. Local floodplain management activities will conform to the federal specifications. Limited development will occur in floodplain areas. A floodplain map is displayed on Figure 6.
6. The limited amount of available land in St. Joseph Township will be developed for residential and commercial purposes. Aboite Township will continue to grow with new residential and limited commercial development in the western portion of Allen County. Cedar Creek and Perry Townships in the northern and northwestern sections of the urban area are expected to experience intense development through the year 2035. Residential development will also occur in the southern portion of Lake Township and the northern section of St Joseph Township.
7. The majority of new industrial development will occur in designated Industrial Parks, identified Industrial Sites, and Economic Development Areas. This includes significant industrial development on available land adjacent to and surrounding the Fort Wayne International Airport. Other areas where significant industrial development is anticipated to occur include: southeast of the east-end industries along Adams Center Road; northwest of Interstate 69 in the Huguenard Road/Cook Road area; and east of New Haven and Interstate 469 along the Dawkins Road Corridor. The Metropolitan area will continue to attract new industry; however growth will also occur from the expansion of existing facilities. Industrial Parks and Industrial Sites are displayed on Figure 7.
8. People will be more energy and environmentally conscious and purchase vehicles that yield higher mile per gallon fuel efficiency ratios and lower emissions. The national average ratio of automobiles per household increased significantly throughout the 1980's and 1990's. It is expected that this ratio will soon stabilize and remain fairly constant. The current ratio for the Metropolitan Planning Area as a whole is approximately 1.91 vehicles per household. The anticipated ratio for the year 2040 will remain the same.
9. The urbanized area will continue to be the focal point for residential, commercial and industrial growth. It is anticipated that the urban area population will continue to grow at a higher rate than the surrounding rural portions of Allen County. Population statistics show that 92 percent in 1990, 93 percent in 2000, and 94 percent in 2010 lived within the MPA. The urban area share of total population will continue to increase slightly through the year 2040.
10. Development will occur along Interstate 469, with concentrations of intense development near the major interchanges. The accessibility afforded by Interstate 469 is attractive for business development. The projected development along this corridor is associated with interstate type facilities. Development will also occur along the Airport Expressway corridor and near the Fort Wayne International Airport. Development will be attracted to this area to take advantage of the Airport and Interstate accessibility.

The 2040 socioeconomic conditions for the Metropolitan Planning Area were developed following these basic assumptions. The preliminary projections of future conditions were developed for the planning period

with a horizon year of 2040. Control totals were established as reasonable ceilings for socioeconomic variables such as population, households, vehicle ownership, and employment. The projections were adjusted to reflect the characteristics of individual areas within the Metropolitan Planning Area. The methodology for preparing these projections is contained in the following discussion. A table displaying the year 2040 socioeconomic data is provided in Appendix C.

Population

The history of establishing population control totals for the transportation plans provides some insight into the methods and modifications that have transcended from plan to plan. The development of a population control total for the Year 2000 Plan was conducted using the Cohort Survival method. This process was jointly completed in the late 1970's by the Allen County Plan Commission, Fort Wayne Community Development and Planning Department, and Northeastern Indiana Regional Coordinating Council. Through these efforts, a year 2000 population control total of 388,953 was established for the metropolitan area. Upon completion of the 1980 census, the population projection was revised due to less than anticipated growth. The control total was scaled down to 338,313.

A population control total of 340,492 was developed in 1986 for preparation of the Year 2005 Transportation Plan. This figure was considered somewhat conservative at this time estimating an average yearly population growth of approximately 1.3 percent. The 1990 census information indicated population growth in the metropolitan area had diminished further than anticipated. In 1992, the need to further scale down future population projections led to the development of a year 2010 population control total of 315,289 for the Metropolitan Planning Area. The population control total of 347,916, set for 2015, followed the assumption of moderate growth. This assumption provided for a relatively stable conservative growth rate of less than one percent per year.

The population projection for the 2040 Transportation Plan employed the same basic assumption that resulted in a fairly conservative estimate. After the release of 2015 ACS population numbers, a review of the MPA population indicated that it was approximate 349,542. For purposes of estimating the population growth to the 2040 horizon year, a 0.63% annual growth rate was derived from historical trend data and population estimates. This represents a relatively consistent and conservative rate. The established population control total for 2040 is 408,694.

Population projections for individual traffic zones within the MPA were developed by first comparing current demographic data based upon housing growth from 2010 to 2015. The recent housing growth was then compared to the current 2040 traffic zone population estimates. Through assistance from staff of the land-use division of the Allen County Department of Planning Services and Fort Wayne Community Development and Planning Department, zones were individually analyzed for their development potential.



Figure 6
Floodplains

Each zone was judged for its suitability for development based upon criteria such as utility availability (water, sewer, etc.), current rates of development, density thresholds, soil types, and topography.

This analysis yielded the expected number of new households to be constructed by the year 2040 for each zone. The persons per household's factors were applied to calculate the additional population per zone for the entire metropolitan area. The additional population figures were added to the base year 2015 figures to gain a 2040 projected population total for each traffic zone. Final adjustments were made to match the population projections with the control total. Special attention was placed on traffic zones which may reach their density thresholds, and individual zones with unusual characteristics such as floodplain zones, central business district zones, and zones in high growth townships.

Households

Household figures were determined through a similar process as described for the population estimates. Each zone was individually analyzed for its residential development potential based upon criteria such as available land, public and private water/sewer utilities, and current housing development. Once estimated households were established, a ratio of persons per households was used to help establish zonal population figures and then checks were made against control totals. Adjustments were made and figures were rechecked until a balance of households and population estimates was obtained. In general, the average ratio of 2.42 was used for city zones and 2.71 for the zones outside the City of Fort Wayne.

Automobile Ownership

Automobile ownership projections were derived by applying ratios of automobiles per household to the 2040 household figures. The assumption was made that these ratios would remain fairly constant through the year 2040 in the Metropolitan Planning Area. An average ratio of 1.91 automobiles per household was used as a guide, with certain zones receiving a higher or lower value depending on individual characteristics and historical information. The 2010 census data, including vehicles per household and average household income, guided the allocation of vehicles for each traffic analysis zone.

Employment

A land-use estimation process was used to derive the projections of employment for each zone in the metropolitan area. The staff's of the Allen County Department of Planning Services, Fort Wayne Economic Development, Fort Wayne Re-Development and Alliance evaluated the Metropolitan Planning Area for development potential. Based upon this information, each zone was analyzed for potential commercial development and employment growth. The employment projections were divided into four major categories: industrial, retail, service, and office.

The estimations were based upon past development trends and specific characteristics of each zone. Soil

type, topography, zoning restrictions, access to utilities, and surrounding land uses were the major criteria used to evaluate the potential for development. The control guide for estimating future land development was based upon the assumptions discussed earlier in this chapter. Control totals for employment estimates were based on employment projections provided by the Indiana Business Resource Center based upon U.S. Bureau of Labor Statistics utilizing Current Employment Statistics (CES), Quarterly Census of Employment and Wages (QCEW) and Moody's Analytics for Allen County.

The 2015 employment data served as the base for the zonal employment estimates. The 2015 data was obtained from InfoUSA data that was obtained by INDOT, and allocated to traffic zones. The additional employment figures were added to the base 2015 figures to derive zonal employment data for the year 2040.

Schools and Universities

Each zone was analyzed for potential enrollment growth based on housing growth in the area and school district projected enrollments. The employment projections were divided into four major categories: industrial, retail, service, and office.

Summary

The socioeconomic data for the base year coupled with historic trends provides for reliable estimates of the 2040 horizon planning year socioeconomic activity. The planning year estimates were used to forecast future transportation needs and to identify transportation improvements necessary to meet those needs. The socioeconomic data developed for this study included estimates of population, households, auto ownership, and employment. Existing and projected land uses are an important input to the transportation plan due to the close relationship between land use and travel demands.

Consideration of available housing, land use, redevelopment, recreation, and economic development plans and efforts supports the comprehensive approach encompassed throughout the development of this transportation plan. This atmosphere sets the stage for the formulation of planning assumptions guiding the transportation planning process and development of the plan. The forecast of future travel demands is built upon this foundation of solid socioeconomic guidelines.