Posey County, Indiana
Long Range Transportation Plan

Prepared by the Evansville Metropolitan Planning Organization

Adopted by the Posey County Commission: August 3, 2010

POSEY COUNTY, INDIANA
2035 TRANSPORTATION PLAN

Approved August 3, 2010

Evansville Metropolitan Planning Organization
1 NW Martin Luther King Boulevard
Room 316 - Civic Center Complex
Evansville, IN 47708

This report was financed in part through the Federal Highway Administration
and the Indiana Department of Transportation.

RESOLUTION NO. 2010-080302

RESOLUTION APPROVING POSEY COUNTY, INDIANA LONG RANGE TRANSPORTATION PLAN

WHEREAS, on August 3, 2010, Posey County, Indiana, by and through and its Posey County Board of Commissioners ("Commissioners"), was presented the Posey County, Indiana Long Range Transportation Plan by the Evansville Metropolitan Planning Organization, Evansville, Indiana;

WHEREAS, after consideration of said plan, the Commissioners determined that it is in the best interests of Posey County, Indiana to adopt said plan;

BE IT RESOLVED by Posey County, Indiana, by and through its Posey County Board of Commissioners;

The County hereby accepts and approves the Posey County, Indiana long range transportation plan, dated August 3, 2010, as submitted.

Passed and adopted by the Posey County Board of Commissioners on August 3, 2010.

President

Member

Member

ATTEST:

Auditor, Posey County, Indiana

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Introduction – Chapter 1

Long Range Transportation Plan

Chapter One: Introduction

A. Study Background

Posey County, at the southwestern tip of Indiana, is one of six counties in the Evansville Metropolitan Statistical Area (MSA). It borders the Wabash River and Illinois on the west; the Ohio River and Kentucky on the south; Vanderburgh County on the east; and Gibson County on the north. Posey County had an estimated 2007 population of 27, 061 persons, according to U.S. Census Bureau. Posey County includes five incorporated communities: Mount Vernon, Poseyville, New Harmony, Cynthiana, and Griffin. Figure 1 shows the location of Posey County.

B. Posey County Transportation Planning Area

The Posey County Transportation Plan applies to surface transportation facilities within the boundaries of the county, including the incorporated communities, with regard to federal-aid transportation projects and programs. Other elements of the Transportation Plan may or may not apply to the various local public agencies within the county.

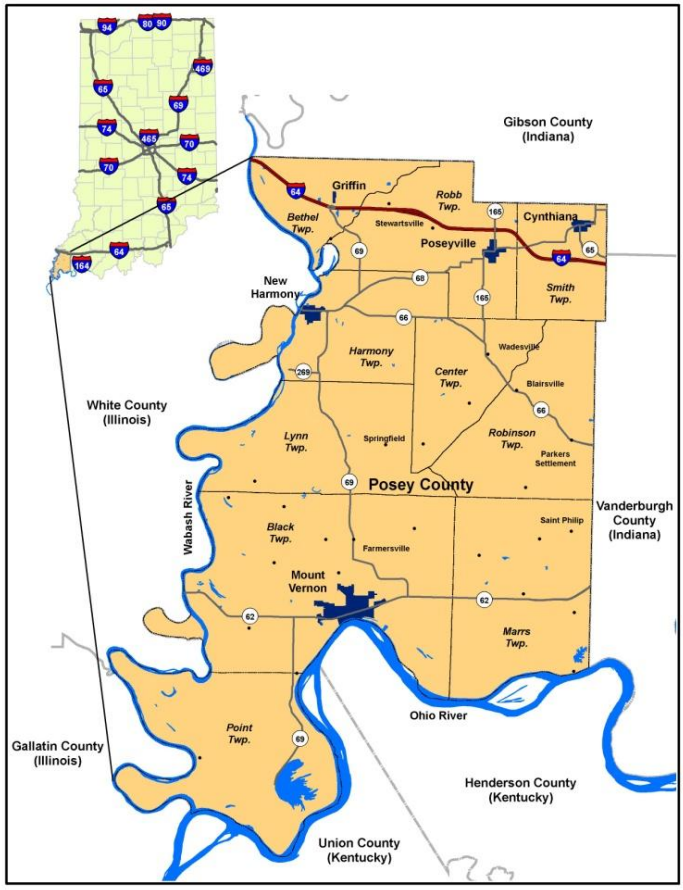


Figure 1: Posey County Location Map (source: Posey County Comprehensive Plan, image courtesy of BLA Inc.)

C. Plan Purpose

Posey County operates and maintains a roadway system, which in conjunction with local, regional, and state roadway, water, and air transportation systems, helps to serve the transportation needs of its residents and businesses. As a result, the County contributes to or makes decisions, which affect all other transportation modes and systems. Within this context, the Posey County Transportation Plan provides the framework for development of the Posey County surface transportation system through the year 2035. The Plan describes system principles and standards, evaluates the existing County surface transportation system, identifies future system needs, develops a transportation system plan, and outlines strategies to implement the Plan.

D. Existing Transportation System Overview

The surface transportation system links the community to the land use activities within and beyond the communities of Posey County. Ground transportation in Posey County includes Interstate 64 and seven state highways, and 712 miles of county-maintained roadways. The County also maintains 150 bridges, and all culverts and drainage ditches on non-state roads. There is currently no public transit serving Posey County, and the nearest intercity bus service is found in Evansville, which is served by Greyhound and Trailways buses. Amtrak rail passenger service boards in Carbondale and Centralia Illinois.

The Evansville Western Railroad presently runs through Mount Vernon from Evansville (IN) to Carmi (IL) and continuing to Okawville, IL, providing a bridge between the north-south CSX Railroad mainline in Evansville and the north-south BNSF mainline in Mount Vernon, Illinois. The Southwind Railroad (formerly CSX Railroad) operates spurs that serve the industrial Mount Vernon riverfront and tie into the EVWR railroad. These railroads provide access to the A.B. Brown Electric Power Generating Plant, the Southwind Maritime Center, and industries along SR 69 southward of Mount Vernon. The Indiana Southwestern Railroad runs from Evansville to Poseyville with a spur to Cynthiana. The railroad once passed through Griffin and over the Wabash River to Grayville, but that segment has been abandoned. The abandoned railbed is part of the proposed Poseyville to Browns (IL) rail-trail. The railbed from Cynthiana to Owensville in Gibson County was also recently abandoned.

The Ohio River has historically been the main impetus to growth in the Evansville MPO Study Area. Today, several industries located along the Ohio River utilize barge transportation for freight movement and there are three riverports that have a major impact on the flow of commodities throughout the entire tri-state region: The Port of Evansville, the Henderson County Riverport, and the Southwind Maritime Centre located in Posey County.

The Port of Indiana–Mount Vernon, a state-owned port facility located on milepost 828 on the Ohio River in Posey County, handles transfers between barge, rail, and truck, and offers on-site storage space. The facility encompasses approximately 1000 acres, and has approximately two miles of riverfront access to the Ohio River. The Port provides year-round barge access to the Inland Waterway System and international destinations via the Port of New Orleans. The Ports of Indiana website touts amenities including a 760-foot, 60-ton bridge overhead crane; container handling equipment; and a fine-ton, 50-inch electromagnet. The port's storage capabilities include a 4.75 million bushel capacity grain elevator, three 1 million gallon liquid storage tanks, as well as general purpose warehouse and open-air storage yards. The Port of Indiana–Mount Vernon is a designated foreign trade zone (FTZ), which offers additional economic benefits for those companies with products vying for distribution in the global market arena.

E. Transportation Planning Guiding Legislation

Transportation planning for states is directed by two types of federal legislation. One type of legislation is federal surface transportation law. The *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users* (SAFETEA-LU), signed into law in 2004, is the current federal legislation for surface transportation. However, SAFETEA-LU was set to expire in 2009, and has been funded by extensions as a new bill is being prepared for congressional approval. The Indiana Department of Transportation abides by regulations promulgated under SAFETEA-LU and the United States Department of Transportation.

The second piece of significant federal legislation for state planning activities is the *Clean Air Act Amendments of 1990* (*CAAA*). While *SAFETEA-LU* provides the funding and flexibility to make transportation improvements, the *CAAA* ties transportation improvements to air quality. The U.S. Environmental Protection Agency (US EPA) has established National Ambient Air Quality Standards (NAAQS) for six criteria of air pollutants: carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O_3), sulfur dioxide (SO_2), particulate matter (PM), and lead (Pb). Areas that exceed any of the NAAQS are designated as "non-attainment" areas, classified according to the severity of air quality problems. The CAAA require that all federally funded transportation plans, programs or projects conform to the State Implementation Plan (SIP), which is the state's adopted strategy for monitoring, controlling, maintaining, and enforcing compliance with the NAAQS. The SIP sets goals for the reduction of each type of emission and attaches enforceable measures for attainment. To ensure that the transportation system contributes to planned system-wide emissions reductions, federal transportation funds can be withheld until conformance to the SIP is achieved.

F. Public Involvement

Public involvement for the Transportation Plan began with the distribution of public opinion surveys, which asked participants to rate 10 strategies to improve upon the current transportation system, and to list their top priority for improving the transportation system. The short-form survey was distributed at public locations in Mt. Vernon and Poseyville, at an arts festival in New Harmony, and to various business and civic organizations/committees. Sixty usable surveys were returned. Tables displaying the survey results, as well as an example of the transportation opinion survey form, are included in Appendix A.

Although these surveys were informal, and had a relatively low sample size, it does offer some insights into what the general public thinks about transportation issues. These survey results should serve as a baseline with which to compare future survey results, using the same survey format.

The Draft Transportation Plan was presented to the Posey County Board of Commissioners on July 6th, 2010, with at least 30 citizens in attendance. The Plan was approved at the Posey County Board of Commissioners regular meeting on August 3rd, 2010.

Public Comments

The official public comment period for the Draft Transportation Plan was opened on July 6th, 2010, and closed after 21 days on July 27th, 2010. Copies of the Draft Transportation Plan, and comment forms, were distributed to the Posey County Commissioners office, and the public library in Mt. Vernon; city hall in Poseyville; and the city hall in New Harmony. The Evansville MPO was also available for receiving public comments. However, no comments were received during the public comment period.

System Principles and Standards – Chapter 2

Long Range Transportation Plan

Chapter Two: System Principles and Standards

The transportation system principles and standards included in this Plan create the foundation for developing the transportation system, evaluating its effectiveness, determining future system needs, and implementing strategies to fulfill the goals and objectives identified.

A. Functional Classification

Recognizing that individual roads and streets do not serve independently in any major way, most travel involves movement through a network of roadways. Functional classification defines the nature of this channelization process by defining the part that any particular road or street should play in serving the flow of motorized trips through a roadway network. Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide. Functional classification involves determining what functions each roadway should perform prior to determining its design features, such as street widths, design speed, and intersection control. However, functional classification does not take non-motorized travel (walking and biking) into account, but those travel modes should be considered as appropriate.

There are two sets of functional classification definitions for the Posey County Transportation Plan, Urban and Rural. The urban roadway system includes Principal Arterials, Minor Arterials, Collectors, and Local Roadways. The rural roadway system includes Principal Arterials, Minor Arterials, Major and Minor Collectors, and Local Roadways. Both classifications have fundamentally different characteristics relative to density and types of land use and travel patterns. However, Posey County does not maintain any Urban Principal Arterials or Rural Principal Arterials among its 712 miles of county-maintained roads. Table 2.1 shows the length and percentage of roads maintained by Posey County, by functional class. The lengths of roadways, by functional classifications, in incorporated areas of Posey County are illustrated in Table 2.2. (below).

Functional Class	Route Length (miles)	Portion Maintained
Rural Minor Arterial	1.74	0.24%
Rural Major Collector	42.43	5.96%
Rural Minor Collector	124.14	17.44%
Rural Local Roads	535.59	75.23%
Urban Minor Arterial	4.18	0.59%
Urban Collector	2.78	0.39%
Urban Local Roads	1.07	0.15%
Total	711.93	100.00%

Table 2.1: Posey Co. Road Responsibility by Functional Class

Posey County's current roadway functional classifications are illustrated on the following page in Figure 2.1. The functional classes of Mt. Vernon's roads are shown is Figure 2.2, on page 2-3.

Incorporated Area	Mt. Vernon	Poseyville	New Harmony	Cynthiana	Griffin
Functional Class					
Rural Minor Arterial	0	0	1.16 mi./13.41%	0	0
Rural Major Collector	0	0	0.62 mi./7.17%	0	0
Rural Minor Collector	0	0.13 mi./1.46%	0	0.17 mi./3.01%	0.52 mi./34.21 %
Rural Local Roads	0	8.78 mi./98.54%	6.87 mi./79.42%	5.47 mi./96.99%	1.00 mi./65.79%
Urban Minor Arterial	5.30 mi./12.47%	0	0	0	0
Urban Collector	5.15 Mi./12.12%	0	0	0	0
Urban Local Roads	32.04 mi./75.41%	0	0	0	0

Table 2.2: Posey County Incorporated-areas Road Network Miles and Percent of Total by Functional Class

Figure 2.1: Posey County Roads - Current Functional Classification

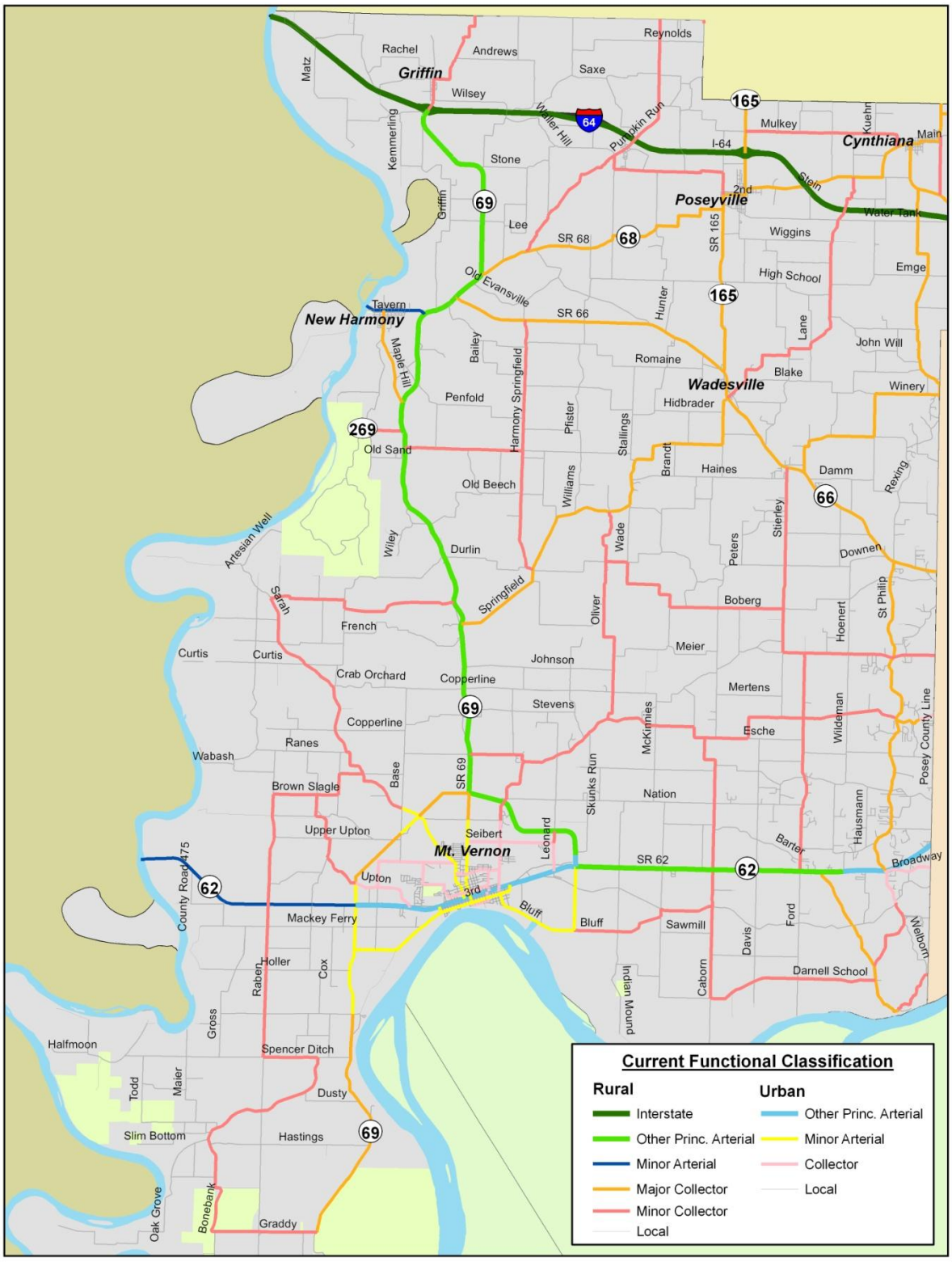
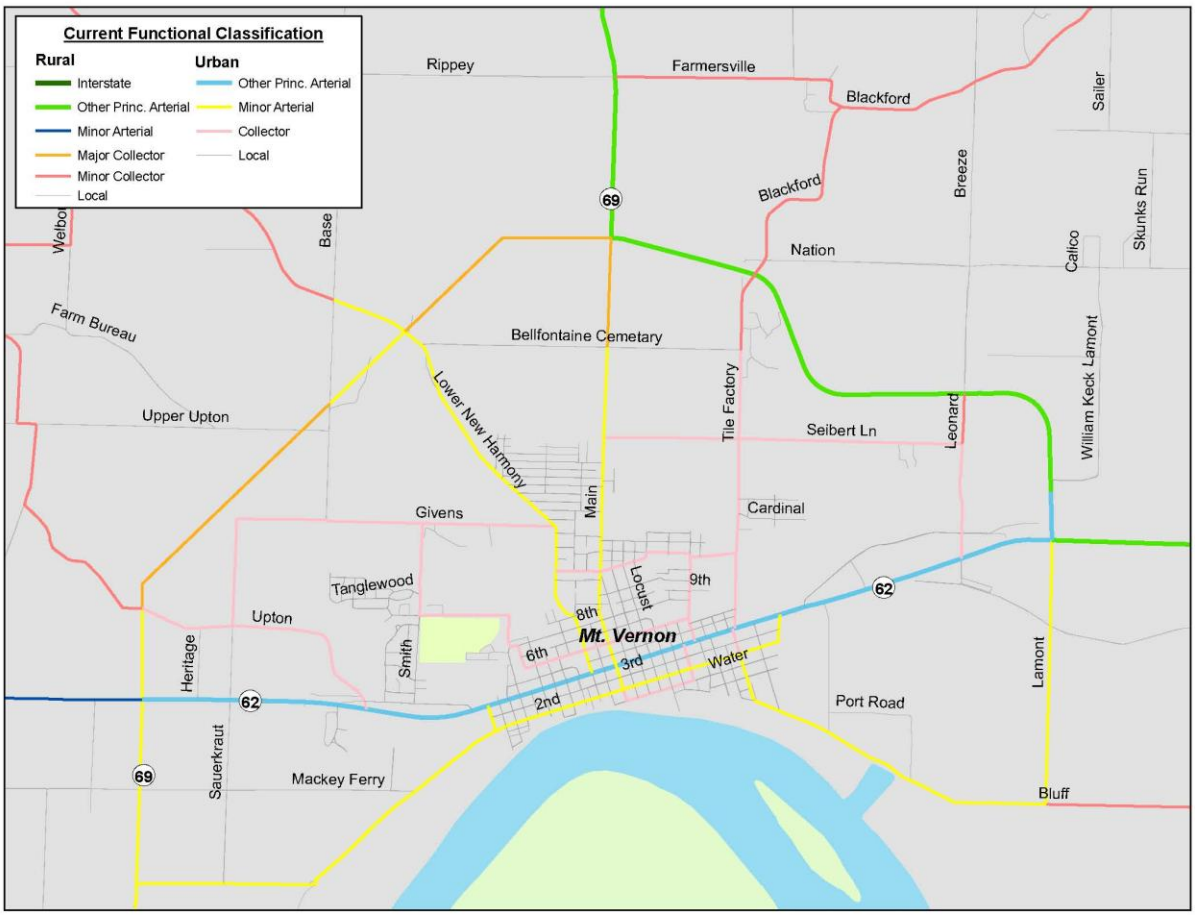


Figure 2.2: Mount Vernon Roads - Current Functional Classification



The Major Arterials in Posey County include I-64, SR 69, and SR 62. Interstate 64 is located in the northern part of the county, connecting Posey County with the St. Louis and Louisville metropolitan areas. SR 69 runs north-south on the western edge of Posey County. It starts at Hovey Lake in the southern part of the county and ends at I-64. From Hovey Lake to SR 62, west of Mount Vernon, SR 69 is a rural collector. From SR 62, east of Mount Vernon, to I-64, SR 69 s a rural principal arterial. SR 62 runs east-west in the southern part of Posey County. From the Illinois border to Sauerkraut Lane and from Leonard Road to SR 69 (William Keck Bypass), SR 62 is a Rural Minor Arterial. SR62 is an Urban Principal Arterial through Mount Vernon. From SR 69 to Vanderburgh County, SR 62 is a Rural Principal Arterial.

There area several Collector roads in Posey County. Rural Major Collectors include SR66, SR 65, SR 68, SR 165, and the southern portion of SR 69. Rural Major Collectors not located on State Roads include Carson School Road, Industrial Road, Lexan Road, St. Philip Road, St. Wendel Cynthiana Road, Seibert Lane, Springfield Road, Wilsey Road, and Winery Road. There are also several Rural Minor Collectors located throughout the county.

It is recognized that the roadway network in Posey County is part of a greater regional roadway system. In particular, the function of Principal and Minor Arterial roadways extend beyond the Posey County borders. The following are descriptions of the rural and urban roadway system, by functional classification. The urban functional classification definitions apply to all incorporated areas of Posey County, although the incorporated areas are not included in the areas maintained by Posey County. Federal aid eligibility is generally limited to roads categorized as rural major collectors and urban collectors or higher (not local roads or rural minor collectors).

Rural Principal Arterials (also termed "Other Principal Arterials" under the federal functional classification system)

- Primary Purpose: Connect Posey County with larger urban areas and major cities
- *Character of Service*:
    - *Accommodate the longest trips on the network, typically greater than 8 miles*
    - *Emphasis is focused on mobility rather than access.*
    - *Travel speeds of 55 mph or more.*
    - *Freeway/Expressway Design.*
- *System Role: 0 miles maintained*

Rural Minor Arterials

- Primary Purpose: Link urban areas and rural principal arterials to larger towns and regional business concentrations. Facilitate inter-county travel and connectivity.
- *Character of Service*:
    - *Accommodating trips greater than 5 miles.*
    - *Emphasis is more on mobility than access.*
    - *Travel speeds of 55 mph.*
    - *2-lane and multi-lane rural highways.*
- *System Role: 0.24% (1.74 mi.)*

Rural Major Collectors

- Primary Purpose: Provide secondary connectivity between cities and towns, county seat, regional parks, business concentrations, and regional educational facilities.
- *Character of Service*:
    - *Accommodating trips less than 5 miles.*
    - *Emphasis is balanced between mobility and access.*
    - *Travel speeds of 30-55 mph.*
    - *2-lane streets, parkways, multi-lane urban roadways.*
- *System Role: 5.96% (42.43 mi.)*

Rural Minor Collectors

- Primary Purpose: Facilitate the collection of traffic and convey it to Major Collectors and Minor Arterials. Provide connectivity between rural residential areas.
- *Character of Service*:
    - *Accommodates trips less than 5 miles.*

  - *Emphasis is on access rather than mobility.*
  - *Travel speeds of 30-55 mph.*
  - *2-lane rural roadways, local streets.*
- *System Role: 17.44% (124.14 mi.)*

Rural Local Roadways

- Primary Purpose: Land Access.
- *Character of Service*:
  - *Accommodates trips less than 2 miles.*
  - *Emphasis is on access.*
  - *Travel speeds of 30 mph or less.*
  - *2-lane local roadways.*
- *System Role: 75.23% (535.59 mi.)*

Urban Principal Arterials (also termed "Other Principal Arterials" under the federal functional classification system)

- Primary Purpose: Connect Posey County with larger urban areas
- *Character of Service*:
  - *Accommodate the longest trips on the network, typically greater than 8 miles.*
  - *Emphasis is focused on mobility rather than access.*
  - *Travel speeds of 55 mph or greater.*
  - *Freeway/Expressway Design.*
- *System Role: 0 miles maintained*

Urban Minor Arterials

- Primary Purpose: Link larger urban areas, principal arterials, and regional business concentrations
- *Character of Service*:
  - *Accommodating trips greater than 2 miles.*
  - *Emphasis is more on mobility than access.*
  - *Travel speeds of 30-55 mph.*
  - *Urban highways.*
- *System Role: 0.59% (4.18 mi.)*

Urban Collectors

- Primary Purpose: Establish local connectivity within cities by interconnecting neighborhoods, business concentrations, and arterial roadways. Provide secondary connectivity between smaller towns.
- *Character of Service*:
  - *Accommodating trips less than 5 miles.*
  - *Emphasis is balanced between mobility and access.*
  - *Travel speeds of 30-45 mph.*
  - *2-lane streets, parkways, multi-lane urban roadways.*
- *System Role: 0.39% (2.78 mi.)*

Urban Local Streets

- Primary Purpose: Facilitate the collection of local traffic and convey it to Collectors and Minor Arterials.
- *Character of Service*:
  - *Accommodating trips less than 2 miles.*
  - *Emphasis is on access rather than mobility.*
  - *Travel speeds of 30 mph or less.*
  - *2-lane local streets.*
- *System Role: 0.15% (1.07 mi.)*

B. Roadway Capacity and Level of Service

Capacities of roadways vary greatly and are directly related to many roadway characteristics including access spacing, traffic control, adjacent land uses as well as traffic flow characteristics such as percentage of trucks and number of turning vehicles. Roadway capacity per lane for divided arterials is 700 to 1000 motor vehicles per hour and 600 to 900 vehicles per hour for undivided arterials. These values tend to be 10% of the daily physical roadway capacity. Based on these figures, a two-lane arterial roadway may achieve a daily capacity of up to 12,000 to 18,000 motor vehicles per day, a four-lane arterial roadway may achieve a daily capacity of up to 28,000 to 40,000 vehicles per day, and a four-lane freeway may achieve a daily capacity of up to 70,000 motor vehicles per day. Table 2.3 shows roadway design capacities.

Designation	Daily Capacity (vpd)
Gravel	500
Rural 2-lane 55 mph	12,000
Rural 2-lane Limited	7,500
Urban 2-lane Arterial	9,000
Urban 3-lane Arterial	17,500
Urban 2-lane Local	7,500
Urban 4-lane, Undivided	20,000
Urban 4-lane, Divided	40,000
4-lane Freeway	70,000

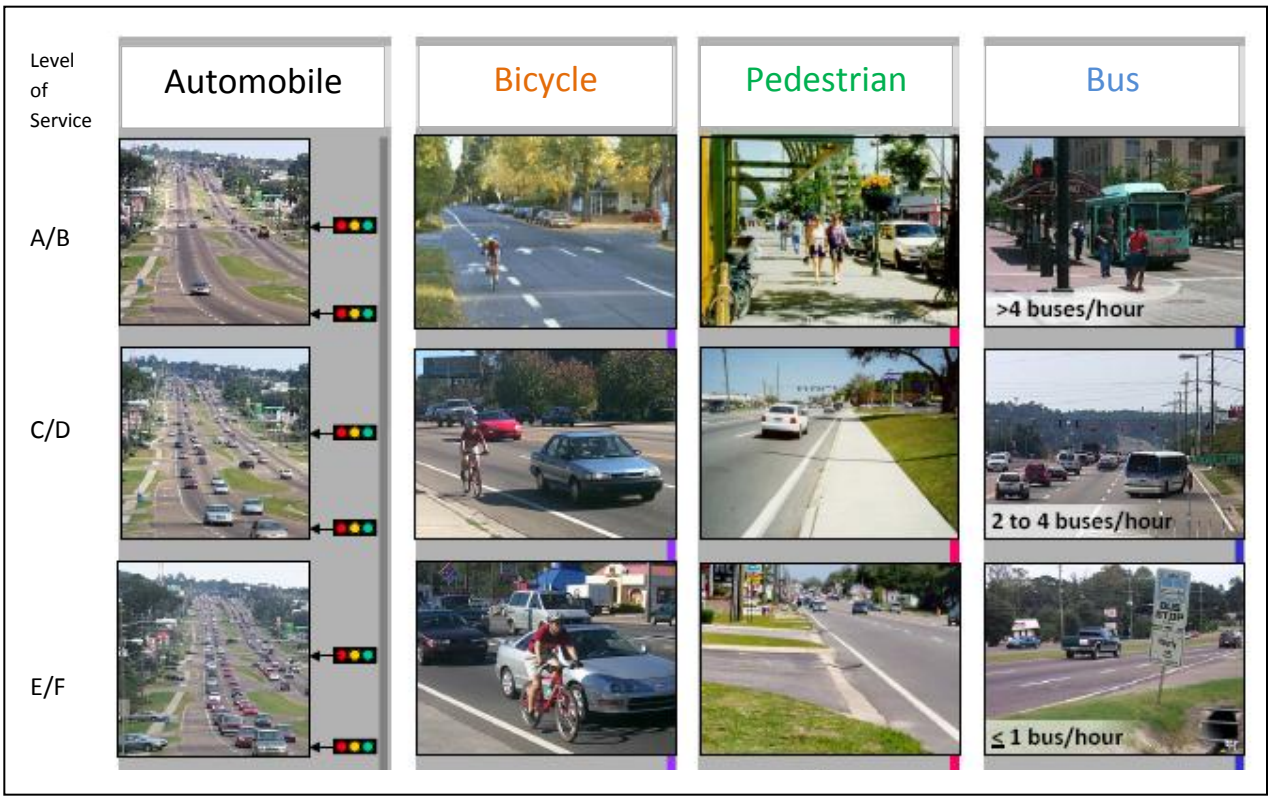
Table 2.3: Roadway Design Capacity (source: Based on Highway Capacity Manual

Some roadways have physical capacities that are much greater than the acceptable level of traffic on a particular street. The acceptable level of traffic volumes on collectors and local streets varies based on housing densities and setbacks, locations of parks and schools, and overall resident perceptions. Typically, acceptable traffic levels on local streets in residential areas are approximately 1000 to 1500 motor vehicles per day.

A capacity deficiency exists when traffic volumes exceed the capacity of the roadway. Roadway Level of Service (LOS) is used to assign a value to the level of traffic congestion and efficiency of the roadway. The LOS is determined by the ratio of the actual traffic volume to the established roadway capacity. In general, the higher the traffic volume, the lower the LOS. There are six LOS categories, A through F, with A being the best (free flow) and F being the worst (gridlock).

In addition to car and truck transport, LOS concepts have been applied to walking, biking, and transit modes as well. Generalized LOS levels for each mode, from the user perspective, are illustrated in figure 2.3 (page 2-7). Capacity improvements should be prioritized based on an existing or anticipated LOS D or worse.

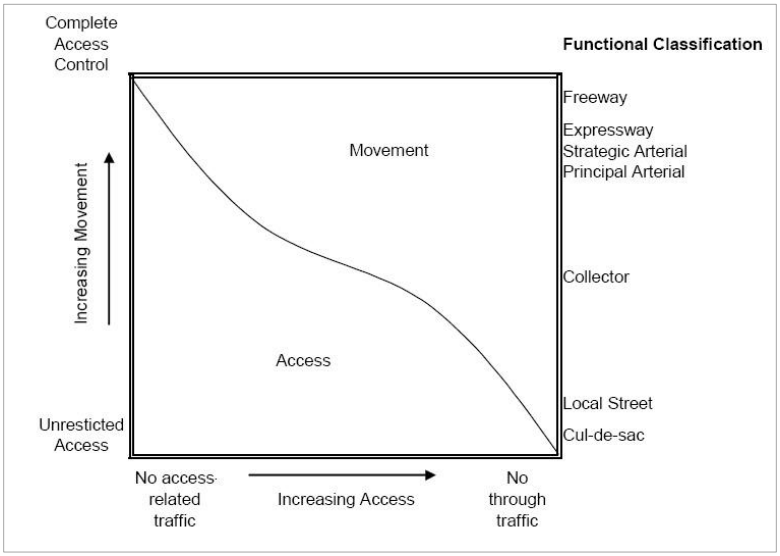
Figure 2.3: Example of LOS by Mode for Urban Roadways (Source: 2009 FDOT Quality/Level of Service Handbook)



C. Access Management Access management is a process that provides or manages access to land while simultaneously preserving the flow of traffic on the surrounding road system. The harmonization of access and mobility is the key to effective access management. Mobility is the ability of people to move via a transportation system component, from one place to another. The degree of mobility depends on a number of factors, including the ability of the roadway system to perform its functional role, the capacity of the roadway, and the operational level of service on the roadway system.

Access is the relationship between adjacent land use and the transportation system. There is an inverse relationship between the amount of access provided and the ability to move through-traffic on a roadway such that as higher levels of access are provided, the ability to move traffic is reduced. The graphic on the following page illustrates the access/mobility relationship.

The goal of access management is to achieve a safe and efficient flow of traffic along a roadway while preserving reasonable access to abutting properties. Achieving this goal requires a careful balancing act in the application of access design standards and regulations. Each access location (i.e. driveways, intersections) creates a potential point of conflict between through vehicles entering and exiting the roadway; either through the slowing effects of merging and weaving that takes place as vehicles accelerate from a stop turning onto the roadway, or decelerate to make a turn to leave the roadway.

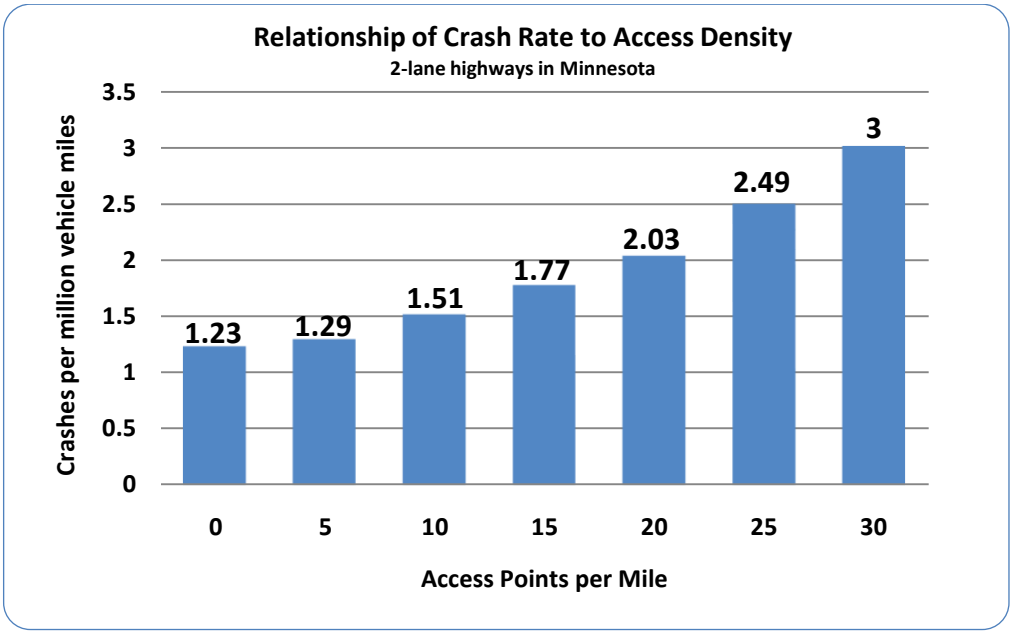


Relationship between Access and Mobility (movement)

At signalized intersections, the potential for conflicts between vehicles is increased, as through-vehicles are required to stop at the signals. If the amount of through traffic on the roadway is high and/or the speed of traffic on the roadway is high, the number and nature of vehicle conflicts are also increased.

Accordingly, the safe speed of a road, the ability to move traffic on that road, and safe access to cross street and adjacent to the road all diminish as the number of access points increase along a specific segment of road.

Because of these effects, there must be a balance between the level of access provided and the desired function of the roadway. Various studies have demonstrated a direct relationship between the number of full access points and crash rates, including FHWA's Access Research Report No. FHWA-RD-91-044. The graphic below illustrates the relationship of access points to crashes (per million vehicle miles) on two-lane highways. The safety benefits of access management are clear in consideration of this relationship.



Benefits of Access Management

Increasing traffic congestion, traffic safety issues, and the high costs of road improvements are three major reasons for access management. Good access management benefits motorists, pedestrians and cyclists, transit patrons, developers, business owners, freight shippers, government, communities, and can:

1. Reduce crashes and crash potential,

2. Preserve roadway capacity and the useful life of roads,

3. Decrease travel time and congestion,

4. Improve access to properties,

5. Coordinate land use and transportation decisions,

6. Improve air quality, and

7. Maintain travel efficiency and related economic prosperity.

The need for better access management is most obvious in strip commercial areas where driveways are often found in close proximity to one another. Unfortunately, once an access problem becomes obvious, it may be too late to correct. By managing access to the roadway system during project planning stages, safe access can be provided while preserving traffic flow and future roadway capacity. The key to effective access management is linking appropriate access design features to roadway function. Successful access management practices protect and enhance property values while preserving the public investment in our roads.

The principal design techniques used in access management focus on the control and regulation of the spacing and design of driveways and streets, medians and median openings, traffic signals, and freeway interchanges.

The Basic Principles of Access Management

Six basic principles are used to achieve the benefits of access management:

1. Limit the number of conflict points.

2. Separate conflict points.

3. Separate turning volumes from through movements.

4. Locate traffic signals to facilitate traffic movement.

5. Maintain a hierarchy of roadways by function.

6. Limit direct access on higher function roads.

Access Management Resources

The Indiana Department of Transportation (INDOT) *Access Management Guide* is a good resource for these and all access management considerations, including specific design criteria and access management techniques. This document is available online, and can be found at: http://www.in.gov/indot/files/guide_total.pdf

Good access management is frequently achieved when state and local units of government cooperate in land use and transportation management decisions. Local Public Agencies (LPAs) may wish to develop their own access management policies, or adopt the policies of relevant state or regional transportation agencies. The Evansville MPO has developed the *Access Management Manual* for the consideration of LPAs in the EMPO planning area. The EMPO *Access Management Manual* is also available online, at www.evansvillempo.com.

INDOT also operates the Driveway Permit Program, which requires property owners to apply for and obtain a permit from INDOT prior to beginning any construction of an access driveway onto a State highway. A permit is also required for any proposed relocation or alteration of an existing access driveway or cross-over and is governed by the same regulations and standards. Details can be found in the INDOT *Driveway Permit Manual*.

The appropriate INDOT application form is used for all such requests and can be obtained from the appropriate INDOT district office, or online via the INDOT website (http://www.in.gov/dot/div/permits/forms/1945.pdf).

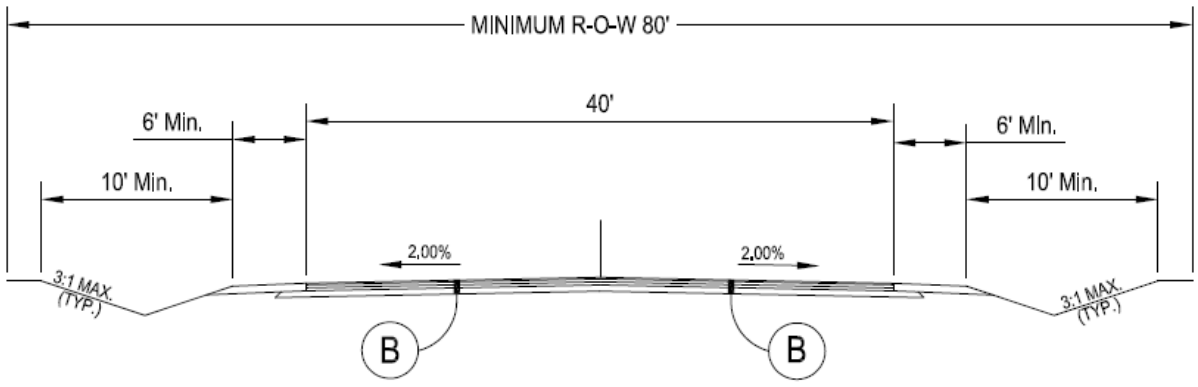
D. Right-of-Way and Geometric Design Standards

All new streets created in unincorporated Posey County must conform in alignment and minimum width to the Posey County Subdivision Control Ordinance (Section 4.3 Streets). The Subdivision Ordinance specifies vertical and horizontal design requirements, and pavement design standards, for all county maintained roadways. Streets should also conform to the Posey County Comprehensive Plan and Official Thoroughfare Plan (the Transportation Element of the Comprehensive Plan). According to the Posey County Comprehensive Plan "the Subdivision Control Ordinance requirements apply to county roads as well as arterial and collector streets, and must be consistent with the Thoroughfare Plan." INDOT-maintained roadways may require more or less right-of-way based on their adopted policies, procedures, and practices. Right-of-way constraints for new alignments versus widening may vary widely.

Geometric design standards for roads (i.e. right-of-way, lane configurations and widths, medians, curb and gutter) are directly related to the amount of traffic that the roadway is designed to carry, design speed, anticipated vehicular maneuvers, the modes of traffic the road is being designed to accommodate. The appropriate cross-section for initial design of thoroughfare improvements should also consider the continuity of urban design, particularly as it relates to the need for bicycle and pedestrian facilities and the appropriateness of an urban (curb and gutter) versus rural (swales) design. The accommodation of utilities is also a key consideration.

Roadway cross-sections from the Posey County Subdivision Ordinance (June 2010 amendments) are presented below. Figure 2.4 shows rural cross-section design standards, and Figure 2.5 shows urban cross-section design standards.

Figure 2.4: Posey County Rural Roadway Design Standards (source: Posey County Subdivision Ordinance)



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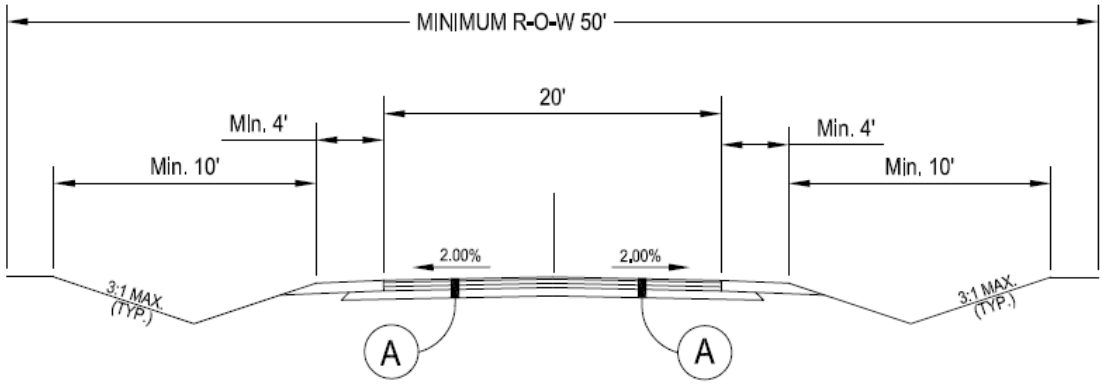

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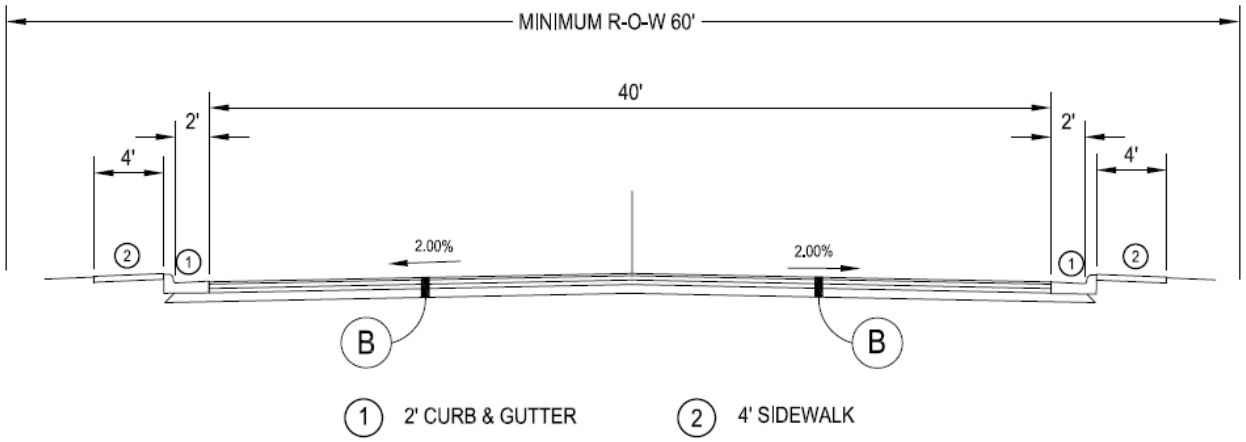
Figure 2.5: Posey County Urban Roadway Design Standards (source: Posey County Subdivision Ordinance)



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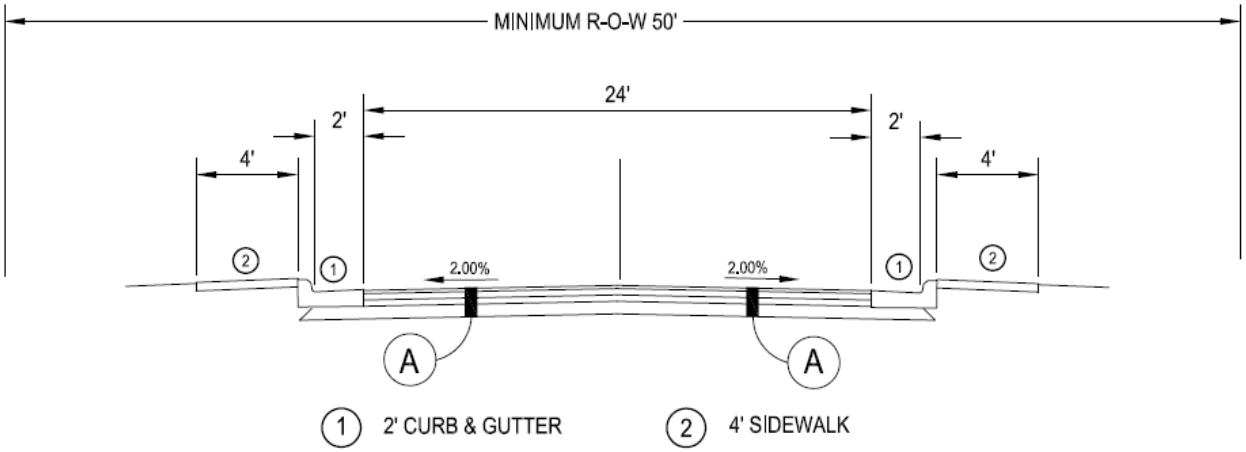
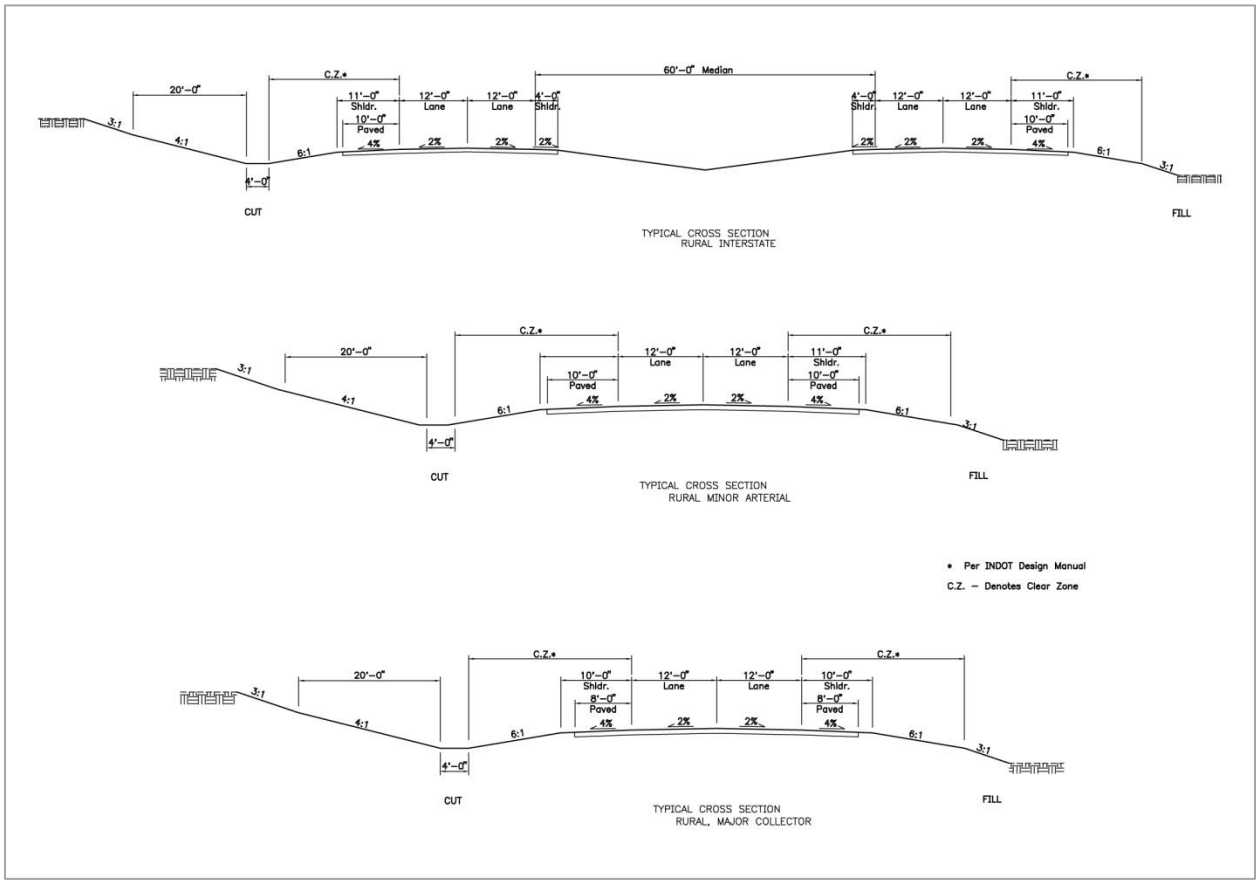


TYPICAL URBAN RESIDENTIAL CUL-DE-SAC/LOCAL STREET SECTION
NOT TO SCALE

Figure 2.6 (on p.2-13) shows the INDOT design standard typical cross sections for rural interstates, arterials, and collectors. The middle of Figure 2.6 shows the typical cross section of a rural arterial, like the proposed western extension of the William Keck Bypass from Industrial Road to SR 62 at SR 69 west of Mount Vernon. This is the typical cross section for the existing SR 69 bypass. Turn lanes will have to be added to the typical cross section at major roadways. The 10-foot paved shoulders are of sufficient width to permit the designation of a bicycle route in the shoulder. Designating a bikeway on a State Road would require the permission of INDOT, and would require regular shoulder sweeping to keep debris in the shoulder to a minimum.

The bottom of Figure 2.6 shows the typical cross section of a rural collector. Depending on daily traffic volumes the lane widths may vary from 11 feet (under 2000 ADT) to 12 feet (over 2000 ADT) and the shoulder widths vary from 4 feet (two feet paved) to 10 feet (8 feet paved).

Figure 2.6: INDOT Design Standards for Rural Typical Cross Sections (source: Posey County Comprehensive Plan, image courtesy of BLA Inc.)



Intersection Design Standards

In addition to the typical cross sections illustrated in the previous figures, additional design requirements are necessary to achieve and maintain safe and efficient operations at roadway intersections. Roadway intersections result in critical locations for roadway performance. The overall safety and efficiency of a roadway network can often be determined by the quality of intersection design and operation. Design details for intersections on County-maintained roadways shall be consistent with the Posey County Subdivision Ordinance (section 4.3.e), and with Chapter 46 of the INDOT Design Manual.

Driveway Design Standards

Similar to roadway intersections, driveways create conflict points along county roadways. Improperly designed driveways may result in operational and safety deficiencies for both the roadway and driveway users. Driveways on State roadways shall be consistent with the standards put forth in the INDOT Driveway Permit Manual.

Additional Right-of-Way for Sidewalks and Bikeways

Sidewalks and bikeways are encouraged along Collector and Minor Arterial roadways in Urban/Urbanizing areas. These roadways are expected to carry a significant amount of vehicular traffic and the addition of walking and biking space can be highly beneficial in maintaining the livability of areas that they serve. Sidewalks and multi-use paths accommodate pedestrian, bicycle, and other non-motorized travel in a safe and comfortable manner through separation of travel modes. Sidewalks along Collector and Minor Arterial roadways shall meet the Americans with Disability Act (ADA) requirements. Separated paths are also encouraged along rural Major Collector and Minor Arterial roadways to link communities and rural recreational areas.

Concrete sidewalks should be 4'–8' wide (depending on context) and may require an additional 10-15 feet of right-of-way width. Bituminous walks/paths should be 8'–12' wide and may require an additional 15-20 feet of right-of-way. The American Association of State Highway and Transportation Officials (AASHTO) has produced guides for the development of pedestrian and bicycle facilities (two separate guides), and these are considered by INDOT to be standard guidance for the planning, design, and operation of pedestrian and bicycle facilities in Indiana.

Existing System Evaluation – Chapter 3

Long Range Transportation Plan

Chapter Three: Existing System Evaluation

An evaluation of the existing transportation system in Posey County was completed and included evaluating roadways for congestion, crash records for accident trends, roadway continuity deficiencies, and existing multimodal transportation uses.

A. Volume and Level of Service Analysis

Average Annual Daily Traffic (AADT) volume data for state trunk highways, county state aid highways, and county roads was collected by the Evansville MPO as part of INDOT's Rural Transportation Planning Program. Traffic volume data on these roadways are collected using traffic counting devices placed in each travel lane, and *level of service* (LOS) analysis is conducted, once every three years. The latest AADT available for individual segments are illustrated in Figure 3.1 below.

A level of service analysis for the roadways in Posey County was conducted using the 2009 *Quality/Level of Service Handbook* published by the Florida Department of Transportation (FDOT). The handbook provides three different analysis tables: 1) for roadways in urbanized areas; 2) roadways in rural areas transitioning into urbanized areas; and 3) roads in rural undeveloped areas. These tables provide level of service for roadways based on the AADT volumes and roadway classifications. The FDOT Handbook categorizes the roadway segments by different classes based on the physical characteristics of the location and the number of signalized intersections per mile. The *level of service* analysis tables from the handbook can be found in Appendix D.

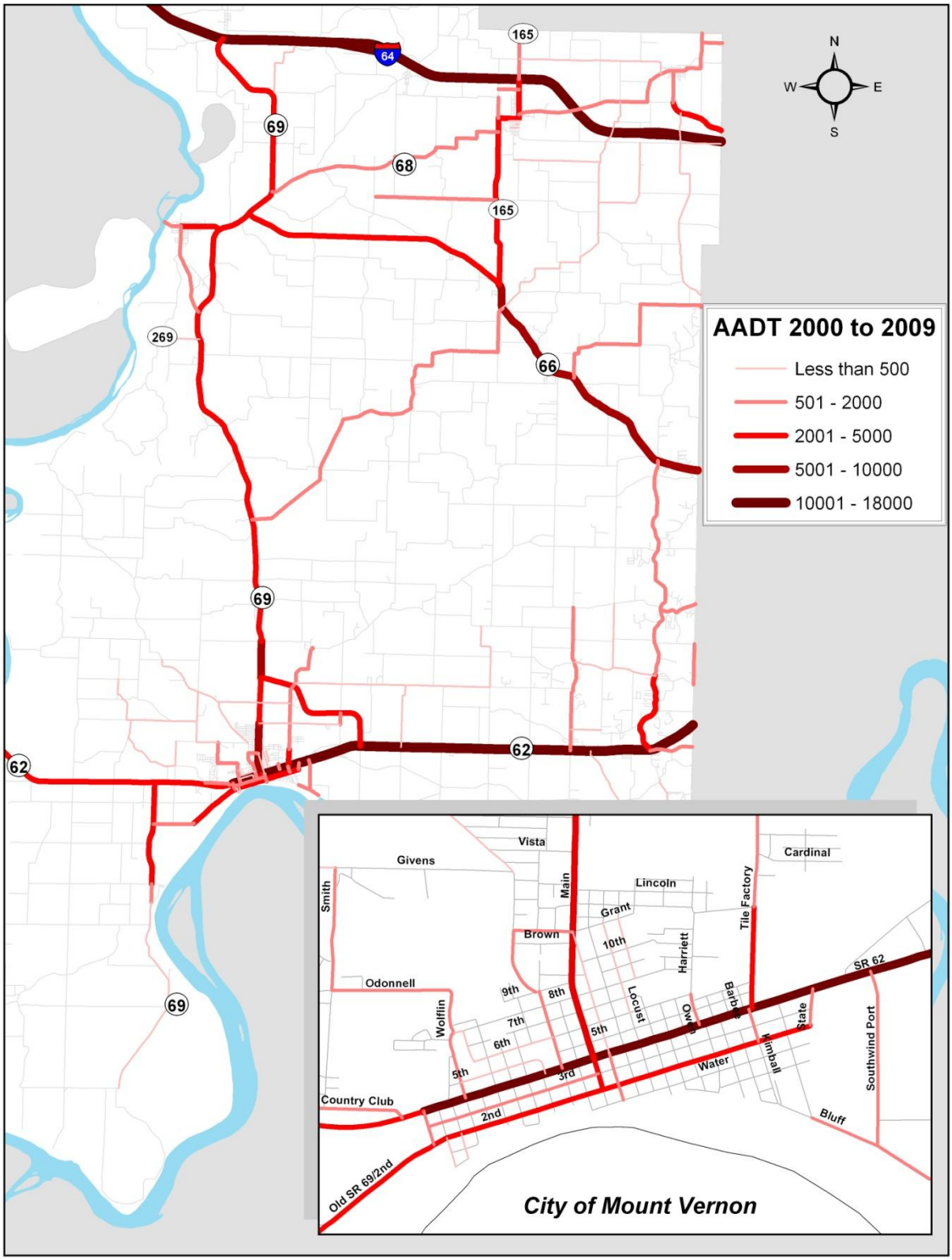
After carefully reviewing the physical characteristics of all the traffic volume locations each street was categorized in to an FDOT class. Wherever an FDOT class was not applicable the location was considered to be on a Class I street. Latest AADT volumes at each location were compared to the assigned volumes in the tables to arrive at the LOS for each street. Existing AADT volumes and level of service at each location is shown in Table 3.1 on page 3-2; and in Figure 3.1 on page 3-3. Roadway segments operating at level of service D are considered nearing congestion and segments operating at level of service E and F are considered congested (as illustrated in Figure 2.3 on page 2-7).

Table 3.1 shows that all the street locations analyzed are currently operating at desirable levels or in some cases acceptable levels below the desired state. It should be noted that the procedure followed to evaluate the LOS is a planning level analysis only. Although table 3.1 does not show any street networks nearing congestion, congestion probably occurs on some streets around the County during morning and evening peak hours. These occurrences require more detailed peak hour analysis to determine if signal timing adjustments or capacity improvements are required.

Table 3.1: Existing Traffic Volumes and Level of Service

#	Street	Location	Locale	Functional Class	FDOT Class	AADT	AADT Year	Current LOS
1	Church St.	Main - SR 69	New Harmony	Rural Minor Arterial	I	2,274	2008	B
2	Fourth St.	East of RXR	Mount Vernon	Urban Principal Arterial	I	13,241	2007	C
3	Grant St.	Main - Dereham	Mount Vernon	Local Road	NA	1,528	2007	A
4	Industrial Rd.	SR 69 Bypass - Belle Fontaine Cemetery	Mount Vernon	Rural Major Collector	NA	4,200	2007	B
5	Lockwood	RXR	Poseyville	Rural Major Collector	NA	3,578	2007	B
6	Main St.	North of RXR	Mount Vernon	Urban Minor Arterial	I	9,755	2007	B
7	Main St.	SR 62 - Fifth St.	Mount Vernon	Urban Minor Arterial	I	7,718	2007	B
8	Main St.	SR 62 - Third St.	Mount Vernon	Urban Minor Arterial	I	3,071	2007	A
9	Main St.	City Limit - SR 66	New Harmony	Rural Major Collector	NA	1,325	2008	A
10	Maple Hill Rd. (Old SR 69)	SR - 69 - Main	New Harmony	Rural Major Collector	NA	772	2008	A
11	Old SR 69	RXR @ Marathon Oil/59	Mount Vernon	Urban Minor Arterial	I	2,656	2008	A
12	Second St.	East of RXR	Mount Vernon	Urban Minor Arterial	I	3,386	2007	A
13	Second St.	Main - College	Mount Vernon	Urban Minor Arterial	I	3,411	2007	A
14	Second St.	Main - Walnut	Mount Vernon	Urban Minor Arterial	I	2,974	2007	A
15	Second St.	RXR	Mount Vernon	Urban Minor Arterial	I	3,813	2007	A
16	Second St.	West of RXR	Mount Vernon	Urban Minor Arterial	I	4,385	2007	C
17	Seibert Ln.	SR 69 - Tile Factory	County	Urban Collector	I	359	2008	A
18	Sixth St.	Nettleton - Mill	Mount Vernon	Major Collector	I	461	2008	A
19	SR 69 (Bypass)	RXR	County	Rural Principal Arterial	I	2,024	2007	A
20	St. Philip	North of SR 62	County	Rural Major Collector	NA	1,967	2008	A
21	State St.	North of Third St.	Mount Vernon	Urban Minor Arterial	I	1,538	2007	A
22	Tile Factory Rd.	South of RXR	Mount Vernon	Urban Collector	I	3,470	2007	A
23	Tile Factory Rd.	Seibert - Mocking Bird	Mount Vernon	Urban Collector	I	1,855	2009	A
24	Tile Factory Rd.	Seibert Ln. – Belle. Cemetery Rd.	Mount Vernon	Urban Collector	I	1,630	2009	A
25	Tile Factory Rd.	South of SR 69 Bypass	Mount Vernon	Rural Minor Collector	NA	1,280	2009	A
26	Upper Mt. Vernon Rd.	CR 1110 E - Posey & Vanderburgh Line	County	Rural Major Collector	NA	1,387	2008	A
27	W. Franklin Rd.	Main - CR 900 S	County	Rural Major Collector	NA	94	2008	A

Figure 3.1: Annualized Average Daily Traffic Volumes for Posey County and Mount Vernon



B. Safety and Crash Analysis

Public safety is a high priority for agencies responsible for the planning, design, construction, operation, and maintaining of public transportation facilities. To identify potential safety deficiencies on the county highway system, a crash analysis was performed using 2007-2009 crash data obtained from the Indiana Automated Reporting Information Exchange System (ARIES). A summary of the total of reported crashes occurring on all public roads in the county was created to compare to state-wide averages and identify trends or abnormalities in Posey County.

- During the 2007-2009 period, there were 1,326 crashes reported to ARIES
- 251 crashes (18.9 %) involved injuries and/or fatalities
- 350 people were injured in crashes; 8 people were killed in crashes
- 47.7 percent of crashes were on locally-maintained roads (24.2% county; 23.5% local/city)
- 41.2 percent of crashes occurred on State-maintained roads
- 9.8 percent of crashes occurred on Federally-maintained roads
- 843 crashes (63.6%) were in rural areas; 482 crashes (36.4%) were in urban areas
- 1006 crashes (76.15%) occurred in a road corridor away from an intersection/junction
- 315 crashes (23.85%) occurred at intersections or other junctions (including ramps)
- 734 crashes (55.4%) involved only one vehicle; 592 crashes (44.6 %) involved two or more vehicles

Figure 3.2 (below) shows the number of crashes occurring in Posey County by primary collision factor for the study period (2007-2009), for those collision categories with more than ten reported crashes. There were thirty-seven distinct categories of "primary collision factor" for this period, but 95.1percent (1261) of the crashes occurred in the primary collision factors" categories shown in Figure 3.2.

Figure 3.2: 2007-2009 Posey County Accidents by Primary Collision Factor (>10 crashes per category)

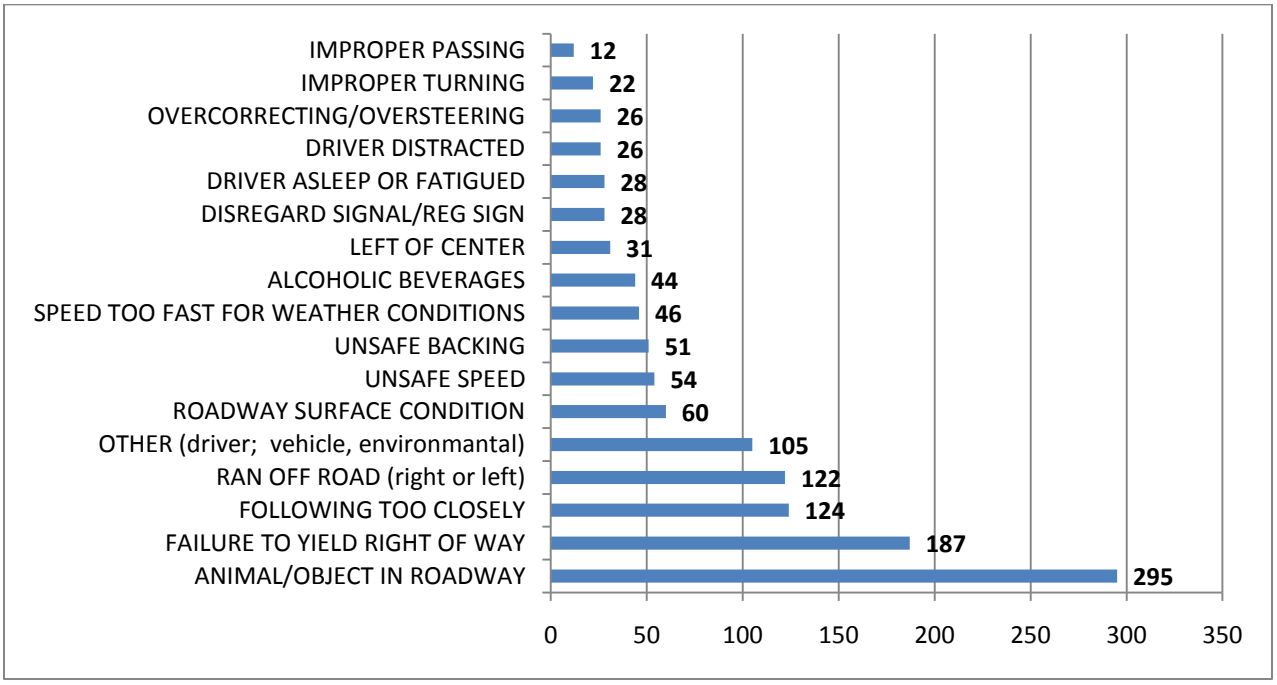
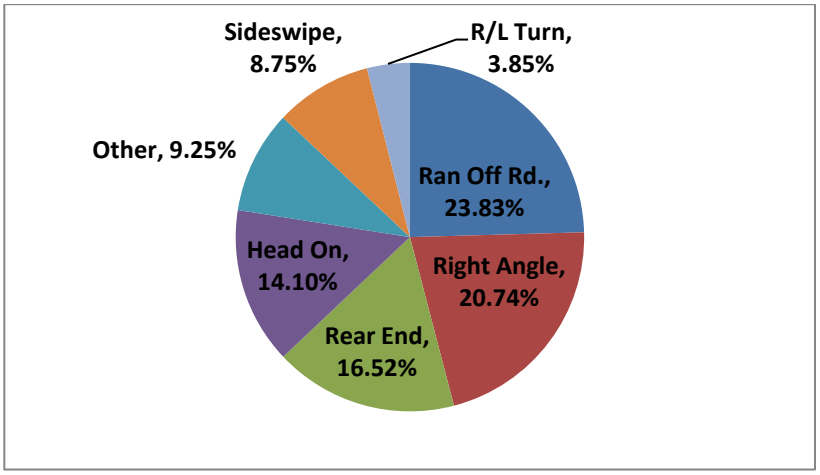


Figure 3.3 (below) illustrates the percentage of crashes by crash type. The crash types indicate the nature of the incident and can be an indicator of potential deficiencies.

Figure 3.3: 2007-2009 Posey County Crash Type Ratios



The ratio of crashes occurring on locally-maintained roads in Posey County – 47.7 percent – was substantially below the four year (2003-2006) statewide average of 59 percent (as reported in the 2009 *Needs Assessment for Local Roads and Streets* by the Indiana Local Technical Assistance Program (LTAP) at Purdue University. Also, the ratio of injury crashes (injuries and/or fatalities) on locally-maintained roads in Posey County – 49.8 percent – was significantly below the statewide average of 63 percent for 2003-2006. However, the statewide average of fatalities occurring on local roads in Kentucky was reported by LTAP as 14 percent, so there is much variation in this outcome. The ratio of injury accidents on state-maintained roads (including Interstate Highways) in Posey County – 48.9 percent – was well above the statewide average of 31 percent. It should be considered that data for Posey County contributed to the statewide averages tabulated by the Federal Highway Administration (FHWA; Indiana office) and reported by LTAP. Posey County injury and fatality crash data (2007 through 2009) is presented below in Table 3.2.

Table 3.2: 2007-2009 Posey County Crash Injuries and Fatalities by Roadway Class

Posey County Injury/Fatality Accidents by Roadway Class (2207-2009)				
Roadway Class	**Injury/Fatal Accidents**	**Percent**	**Injuries**	**Deaths**
Local/CO Road	125	49.8%	156	0
State Road	106	41.9%	166	6
Interstate	20	8.0%	30	2
All Roads	***251***	***99.7%***	***352***	***8***

As Table 3.2 shows, there were no fatalities on locally-maintained roads during the 2007-2009 study period. This may be an anomaly, as nearly half (46%) of fatal crashes in Indiana between 2003 and 2006 occurred on locally-maintained roads (versus state and federally maintained roads). A longer study period would be needed to determine any trends. However, this data may point out that the Posey County fatality crashes were at least partially due to higher speeds that prevail on state roads.

Table 3.3 displays the key factors for the six fatal crash accidents that occurred in Posey County during the 2007-2009 timeframe. The locations of the six fatality accidents are shown in Figure 3.4 on page 3-8.

Table 3.3: 2007-2009 Posey County Fatality Crash Factors

Crash Year	2007	2007	2008	2008	2008	2009
Road Class	STATE ROAD	STATE ROAD	STATE ROAD	STATE ROAD	STATE ROAD	INTERSTATE
Locality	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL
Primary Factor	FAILURE TO YIELD R.O.W.	FAILURE TO YIELD R.O.W.	FAILURE TO YIELD R.O.W.	RAN OFF ROAD - RIGHT	UNSAFE SPEED	IMPROPER LANE USAGE
Type of Collision	RIGHT ANGLE	RIGHT ANGLE	RIGHT ANGLE	HEAD ON	RAN OFF ROAD	NON-COLLISION
Type of Road Junction	4-WAY INTERSECT.	4-WAY INTERSECT.	T-INTERSECT.	NO JUNCT. INVOLVED	NO JUNCT. INVOLVED	NO JUNCT. INVOLVED
Traffic Control	NO PASSING ZONE	STOP SIGN	STOP SIGN	NO PASSING ZONE	NONE	LANE CONTROL
Light Condition	DAYLIGHT	DAYLIGHT	DAYLIGHT	DARK	DARK	DAYLIGHT
Road Character	STRAIGHT LEVEL	STRAIGHT LEVEL	STRAIGHT LEVEL	CURVE/GRADE	STRAIGHT LEVEL	STRAIGHT GRADE
Road Surface	ASPHALT	CONCRETE	CONCRETE	ASPHALT	ASPHALT	ASPHALT
Surface Condition	DRY	DRY	DRY	DRY	DRY	DRY

A breakdown of injury and/or fatal crashes, percentage of crashes resulting in injury and/or death, by primary collision factors is shown in Table 3-5 on page 3-7. The location of injury and property-damage-only accidents for year 2009 is shown in Figure 3.5 on page 3-9.

Table 3.4: 2009 Top Intersection Crash Locations

Intersection	Crashes
Main St - Lincoln Ave. (split intersection)	6
SR 66 - St. Philip Rd. - Rexing Rd.	6
SR 62 - Ford Road	5
SR 62 - Main Street	5
SR 62 - Kimbell St. - Tile Factory Rd.	5
SR 62 - Walnut Street	4
SR 62 - State Street	3
SR 62 - Southwind Plaza Road	3
SR 62 - Munchoff Street	3
SR 62 - Barbee Street	3
2nd - College Street	3
2nd - Main Street	3
SR 66 - Coachlite Drive	3
SR 66 - Main Street	3

For 2009, the identification of intersections that experienced three or more crashes is displayed in Table 3.4, at left.

Because many intersection-related crashes do not occur directly at the intersection, crashes occurring within 250' of urban and rural intersections were included in the analysis.

Table 3.5: 2007-2009 Posey County Fatality Crash Factors

Primary Collision Factor	Injury and Fatality Crashes			Percent of Crashes Resulting in Injury and/or Death		
	Injured	Dead	Total	Total Crashes	Injury/Fatality Crashes	Percentage
FAILURE TO YIELD RIGHT OF WAY	70	4	74	187	41	21.93%
RAN OFF ROAD (right, left)	41	1	42	122	35	28.69%
OTHER (driver; vehicle, environmental)	27	0	27	105	24	22.86%
DISREGARD SIGNAL/REG SIGN	25	0	25	28	12	42.86%
FOLLOWING TOO CLOSELY	25	0	25	124	16	12.90%
UNSAFE SPEED	22	1	23	54	17	31.48%
ALCOHOLIC BEVERAGES	22	0	22	44	21	47.73%
DRIVER ASLEEP OR FATIGUED	17	0	17	28	12	42.86%
LEFT OF CENTER	15	0	15	31	6	19.35%
ANIMAL/OBJECT IN ROADWAY	13	0	13	295	9	3.05%
ROADWAY SURFACE CONDITION	11	0	11	60	8	13.33%
ACCELATOR FAILURE OR DEFECTIVE	7	0	7	1	1	100.00%
DRIVER DISTRACTED	7	0	7	26	6	23.08%
OVERCORRECTING/OVERSTEERING	7	0	7	26	6	23.08%
IMPROPER TURNING	7	0	7	22	5	22.73%
IMPROPER LANE USAGE	5	2	7	9	2	22.22%
WRONG WAY ON ONE WAY	5	0	5	1	1	100.00%
DRIVER ILLNESS	4	0	4	4	4	100.00%
VIEW OBSTRUCTED	3	0	3	6	3	50.00%
BRAKE FAILURE OR DEFECTIVE	3	0	3	7	3	42.86%
SPEED TOO FAST FOR WEATHER CONDITIONS	3	0	3	46	3	6.52%
GLARE	2	0	2	1	1	100.00%
STEERING FAILURE	2	0	2	4	2	50.00%
UNSAFE BACKING	2	0	2	51	2	3.92%
PEDESTRIAN ACTION	1	0	1	1	1	100.00%
TRAFFIC CONTROL INOPERATIVE/MISSING	1	0	1	1	1	100.00%
CELL PHONE USAGE	1	0	1	3	1	33.33%
TIRE FAILURE OR DEFECTIVE	1	0	1	8	1	12.50%
IMPROPER PASSING	1	0	1	12	1	8.33%

Figure 3.4: 2007-2009 Posey County Fatality Crash Locations

Figure 3.5: 2009 Posey County Injury and Property-Damage-Only Crash Locations

C. Freight Transportation

Freight activity is a significant element of the regional and state economies, and has a major impact on the transportation system. The following is a review of the freight-related transportation networks for Posey County and the Evansville metropolitan area and surrounding region.

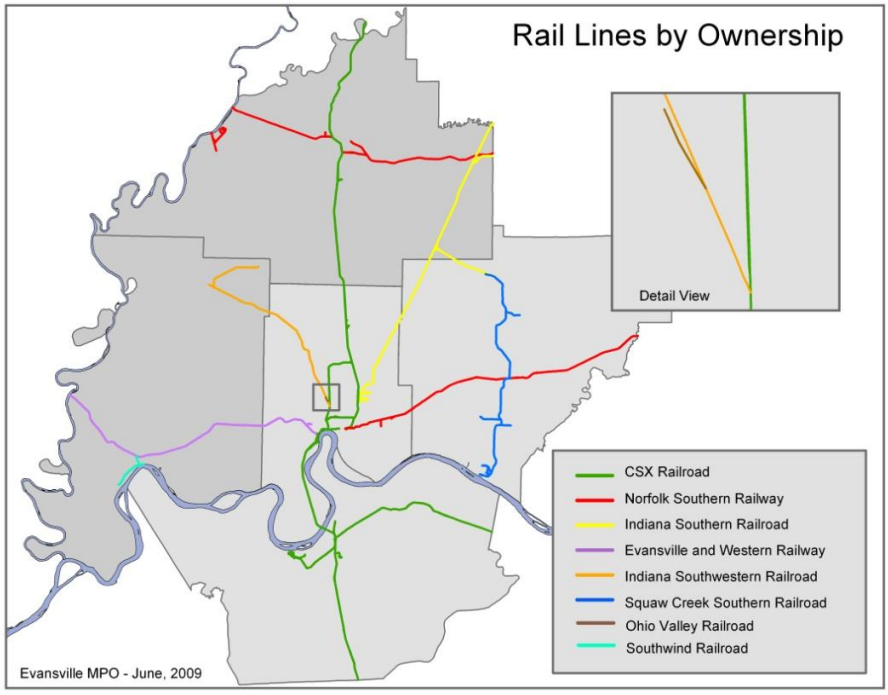
Freight Transportation Modes

The region centered on Evansville includes major lines, yards and facilities for numerous freight transport modes. As freight movements across all modes are expected to increase significantly over time, congestion, reliability, safety, and system preservation will continue to be of major concern for the foreseeable future, despite improvements in operational efficiencies currently planned.

Rail Freight

Railroads are an integral part of the transportation system for the region, and compete with water and truck-based services for the movement of bulk materials. Rail lines radiate from the City of Evansville in all directions providing needed connections to the regional and national networks. All rail lines serving this region carry freight only, as passenger service was discontinued in 1971. As illustrated in figure 3.6, there are eight companies operating railroads in the region surrounding Evansville, including three with tracks in Posey County.

Figure 3.6: Regional Rail System Ownership



The Evansville Western Railroad presently runs through Mount Vernon from Evansville (IN) to Carmi (IL) and continuing to Okawville, IL, providing a bridge between the north-south CSX Railroad mainline in Evansville and the north-south BNSF mainline in Mount Vernon, Illinois. The Southwind Railroad (formerly CSX Railroad) operates spurs that serve the industrial Mount Vernon riverfront and tie into the EVWR railroad. These railroads provide access to the A.B. Brown Electric Power Generating Plant, the Port of Indiana-Mount Vernon, and industries along SR 69 southward of Mount Vernon. The Indiana Southwestern Railroad runs from Evansville to Poseyville with a spur to Cynthiana. The railroad once passed through Griffin and over the Wabash River to Grayville, but that segment has been abandoned. The abandoned railbed is part of the proposed Poseyville to Browns (IL) rail-trail. The railbed from Cynthiana to Owensville in Gibson County was also recently abandoned.

Water Freight

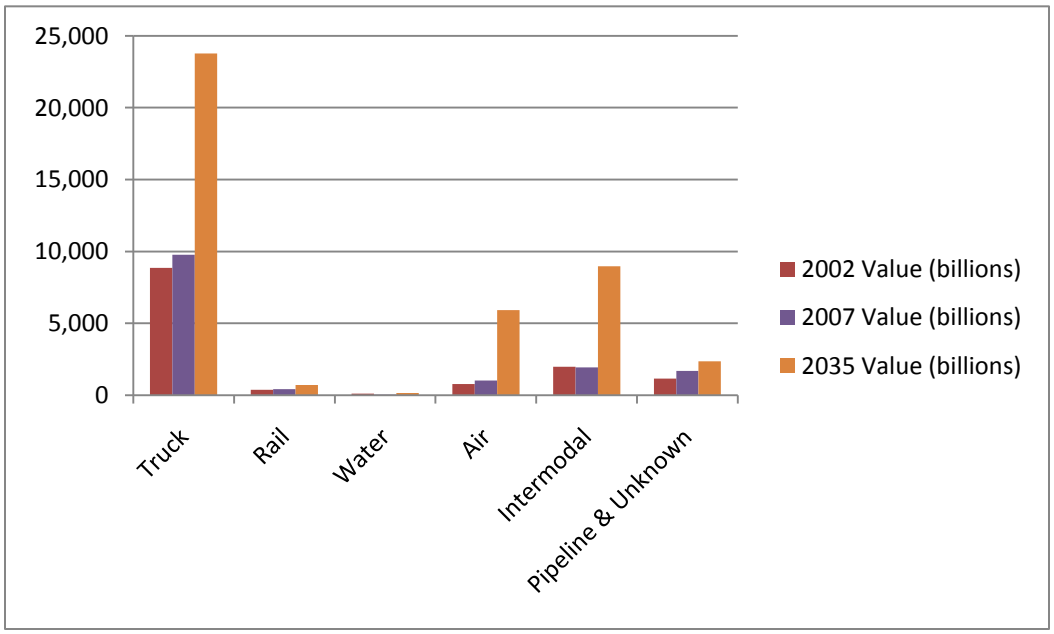
The Ohio River has historically been the main impetus to growth in the Evansville MPO Study Area. Today, several industries located along the Ohio River utilize barge transportation for freight movement and there are three river ports that have a major impact on the flow of commodities throughout the entire tri-state region: The Port of Evansville, the Henderson County Riverport, and the Port of Indiana–Mount Vernon located in Posey County.

Port of Indiana–Mount Vernon, a state-owned port facility located on milepost 828 on the Ohio River in Posey County, handles transfers between barge, rail, and truck, and offers on-site storage space. The facility encompasses about 1000 acres, and has approximately two miles of riverfront access to the Ohio River. The Port provides year-round barge access to the Inland Waterway System and international destinations via the Port of New Orleans.
The Ports of Indiana website touts amenities including a 760-foot, 60-ton bridge overhead crane; container handling equipment; and a fine-ton, 50-inch electromagnet. The port's storage capabilities include a 4.75 million bushel capacity grain elevator, three 1 million gallon liquid storage tanks, as well as general purpose warehouse and open-air storage yards. The Port of Indiana–Mount Vernon is a designated foreign trade zone (FTZ), which offers additional economic benefits for those companies with products vying for distribution in the global market arena.

Highway Freight

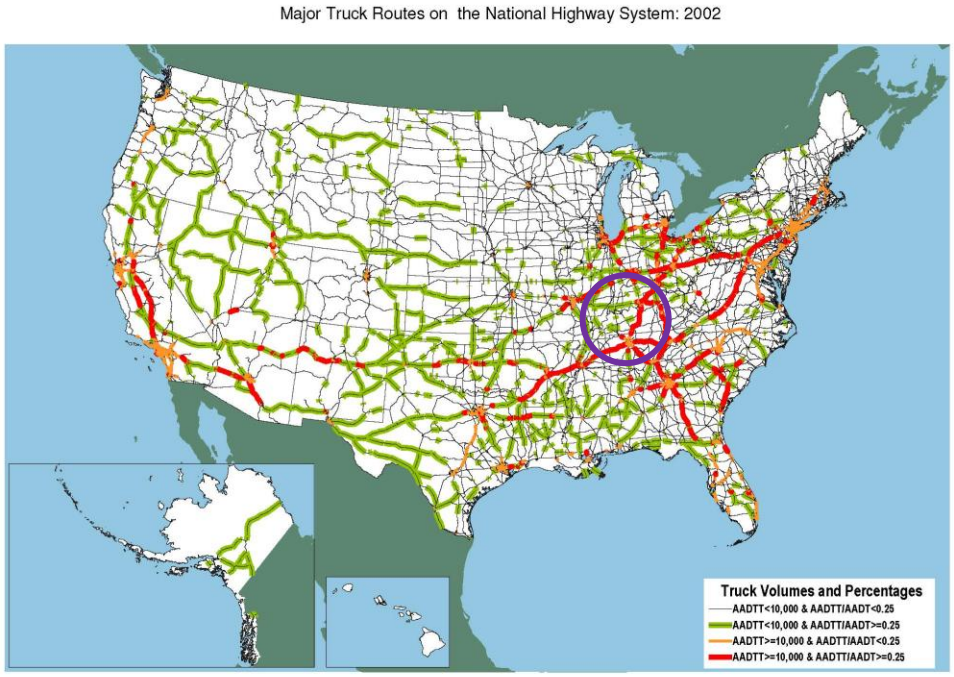
Trucks are the most visible of all the freight modes in the region because they are required to share the same highway network as transit and passenger vehicles. According to the FHWA's Freight Analysis Framework (FAF), the value of trucked goods is expected to rise 168% from the year 2002 to 2035 (Figure 3-7), and truck volumes are expected to follow accordingly (Figure 3.8 and 3-9). Based on national statistics, trucks carry more freight in value and by weight than any other mode.

Figure 3.7: 2002, 2007 and 2035 National Value by Mode



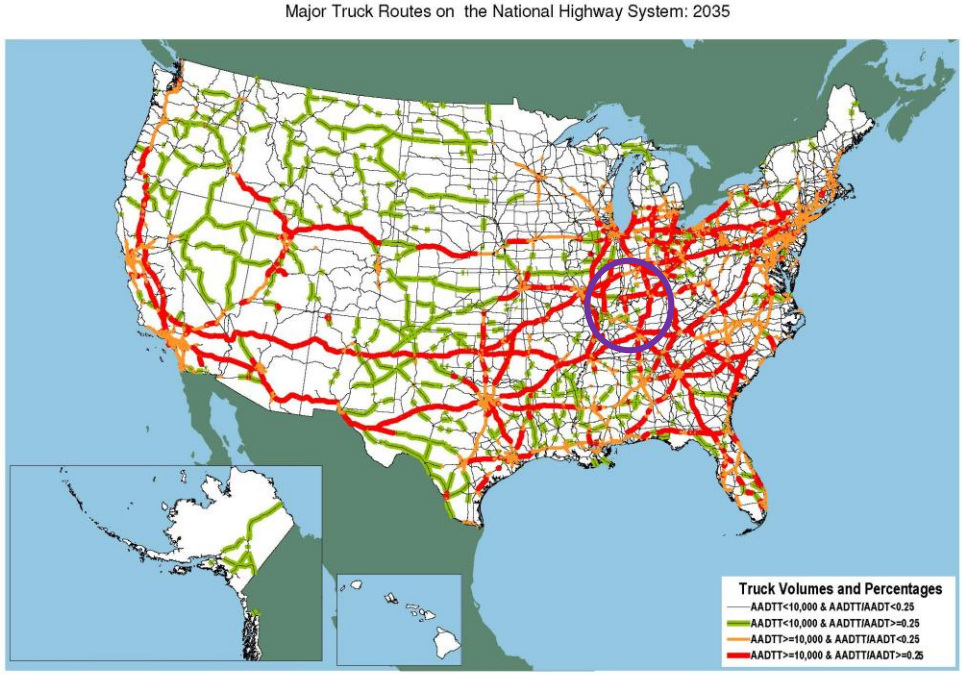
Source: USDOT, FHWA, Freight Analysis Framework (FAF)

Figure 3.8: Truck Volumes on National Highway System, 2002



Note: AADTT is average annual daily truck traffic and includes all freight-hauling and other trucks with six or more tires. AADT is average annual daily traffic and includes all motor vehicles.
Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, version 2.2, 2007.

Figure 3.9: Truck Volumes on National Highway System, 2035

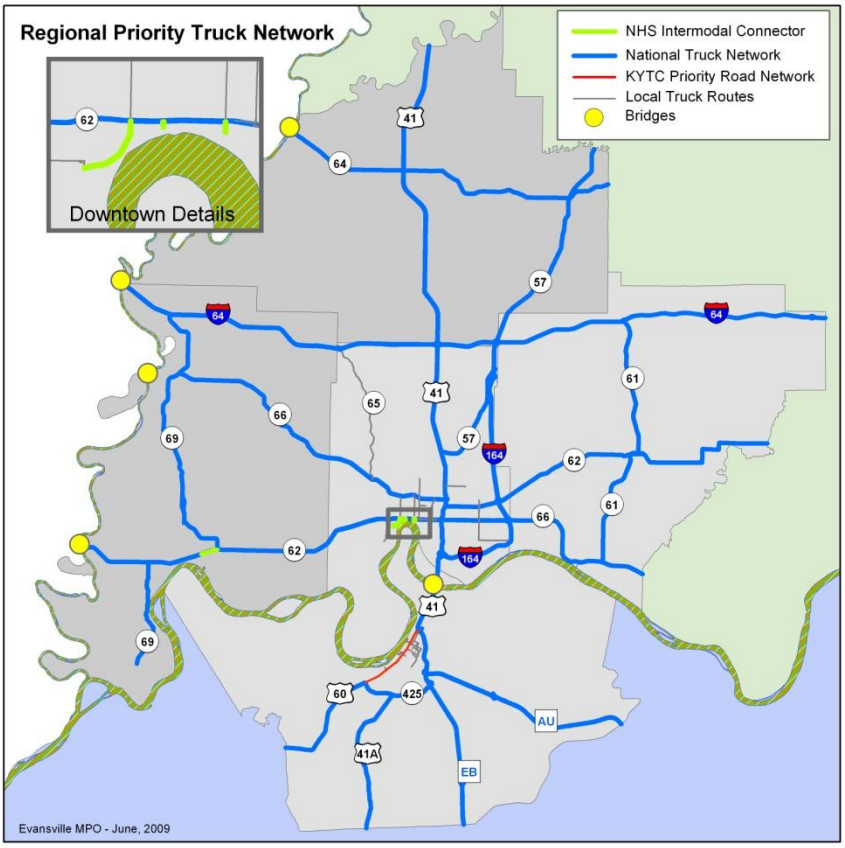


Note: AADTT is average annual daily truck traffic and includes all freight-hauling and other trucks with six or more tires. AADT is average annual daily traffic and includes all motor vehicles.
Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, version 2.2, 2007.

Figure

3.10 below, represents the Regional Priority Truck Network for the study area. This network includes freight-related National Highway System (NHS) Intermodal Connectors, National Truck Network routes, the Kentucky Transportation Cabinet's (KYTC) Priority Road Network (if not already included in the NHS routes), and locally designated truck routes. All of these routes together, though designated by different entities, have been established to improve freight movement. Once deficiencies have been identified as within the functional area of a priority truck route, proposed improvements are to be studied and designed with an eye to improvements that enhance freight movements and correct deficiencies.

Figure 3.10: Regional Priority Truck Network



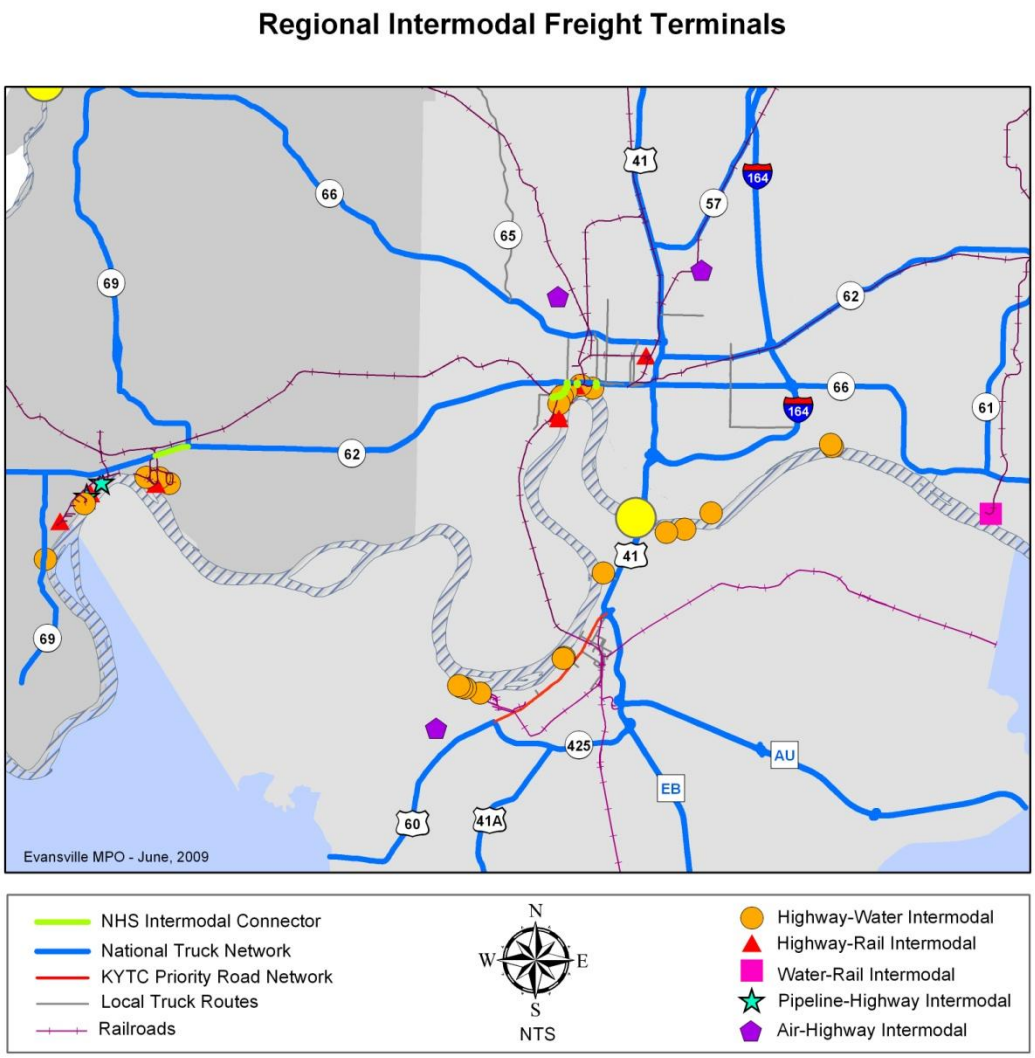
Pipeline and Freight

Pipelines are generally the lowest cost, highest volume and least flexible mode of goods transport. Natural gas and petroleum products are the primary commodities delivered by a local pipeline distribution network.

Intermodal Freight

Intermodal shipments move by a combination of two or more transportation modes. Unless a business is located along a dedicated rail siding, positioned within an airport, or has its own port, river dock, or pipeline connection, a transfer to another shipment mode will be necessary. Figure 3.11, shows the Regional Intermodal Freight Terminals identified by their largest mode connections (either known or assumed). Of those identified, the three largest would be CSXI-Howell Yard, Evansville; Port of Indiana–Mount Vernon (described on page 3-12); and Henderson County Riverport, Henderson. The NHS Intermodal Connectors represented in the figure below serve these largest terminals.

Figure 3.11: Regional Intermodal Facilities



D. Commuting

Posey County has an exceptionally large percentage of residents that commute to jobs outside of the county. As reported in the Posey County Comprehensive Plan, 51 percent (6,531 people) of the county's commuting workers 16 years old and older commute outside of the county. Over 85 percent of those commuters travel to Vanderburgh County for work. Figure 3.17, on page 3-18 displays the counties that Posey County residents commute to, and how many residents from surrounding counties commute into Posey County.

According to an analysis done by Bernardin, Lochmueller, and Associates (BLA, Inc.), the average commute travel time for workers living in Posey County is 23 minutes. This includes a range of an average travel time of 19 minutes for Mount Vernon residents to 33 minutes for Griffin residents. Figures 3.12 through 3.16 show the number of commuters by travel time and an approximate distance of travel speed on travel time for each of the incorporated communities of Posey County.

Figure 3.12: Commuting Time for Mount Vernon (image courtesy of BLA, Inc.)

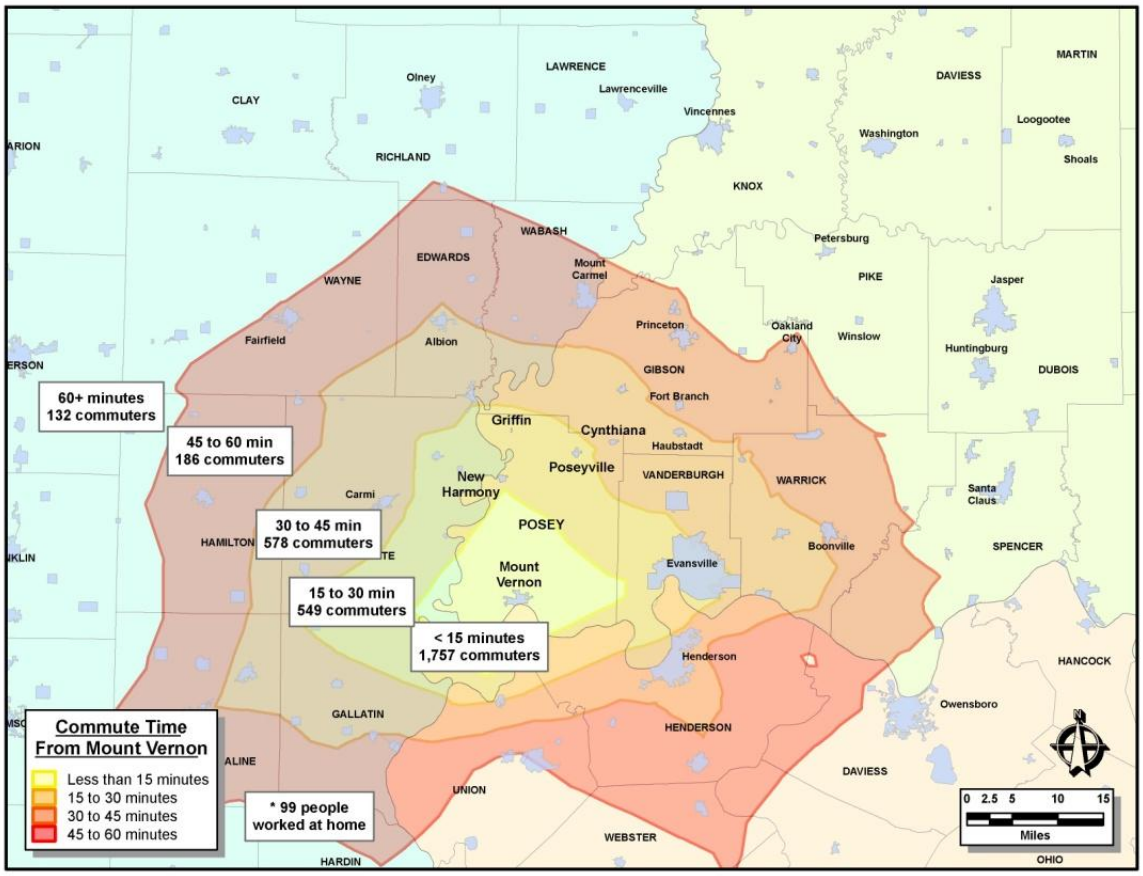


Figure 3.13: Commuting Time for New Harmony (image courtesy of BLA, Inc.)

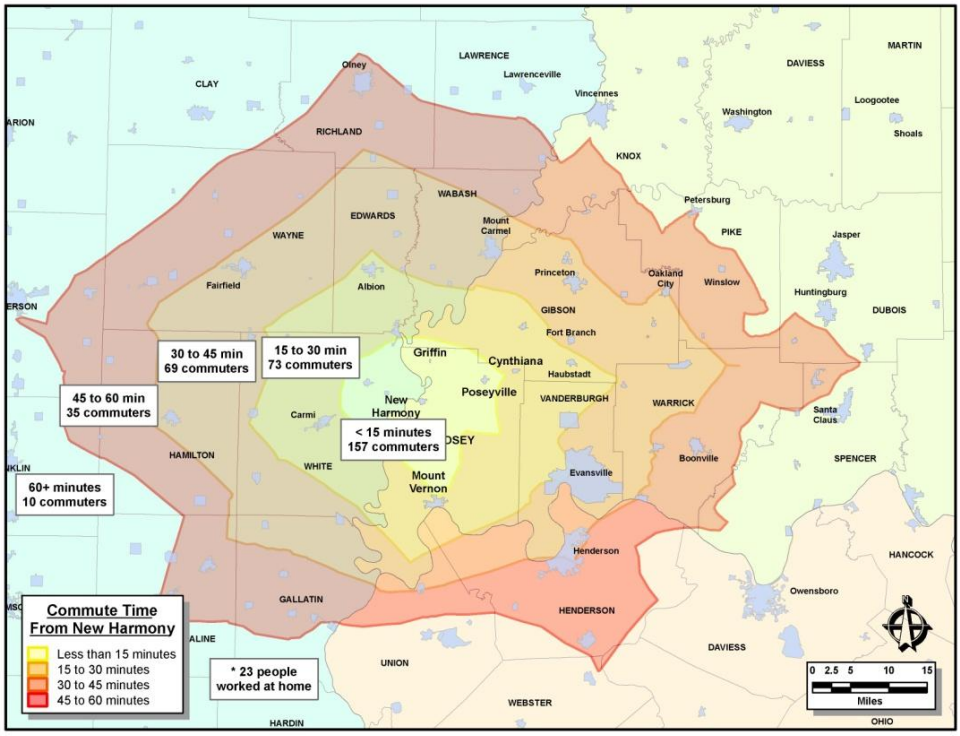


Figure 3.14: Commuting Time for Cynthiana (image courtesy of BLA, Inc.)

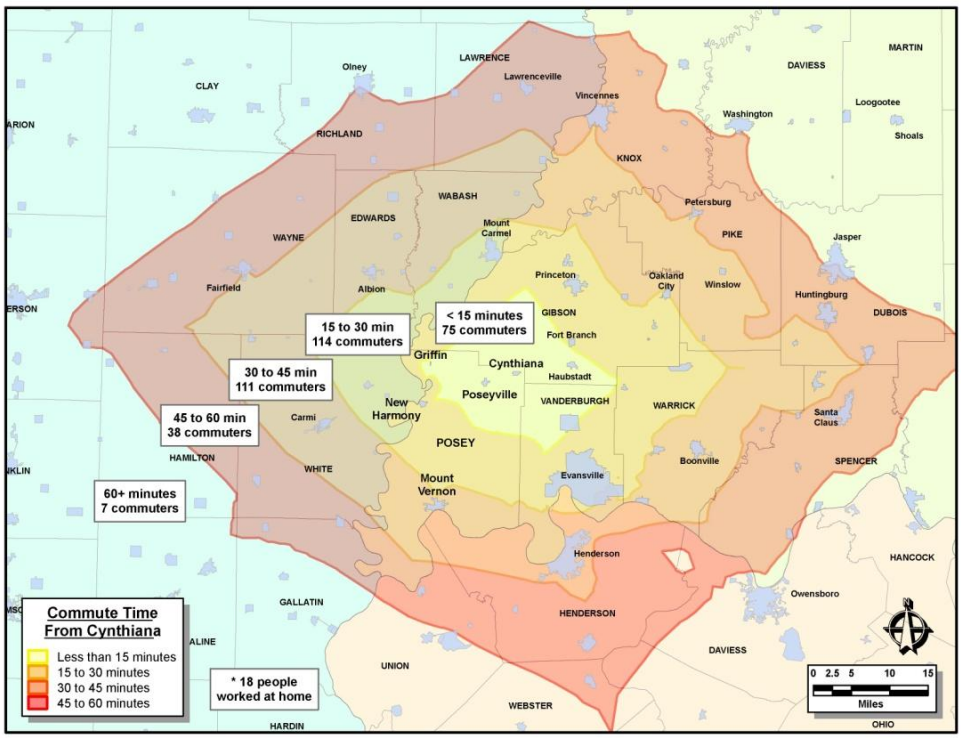


Figure 3.15: Commuting Time for Poseyville (image courtesy of BLA, Inc.)

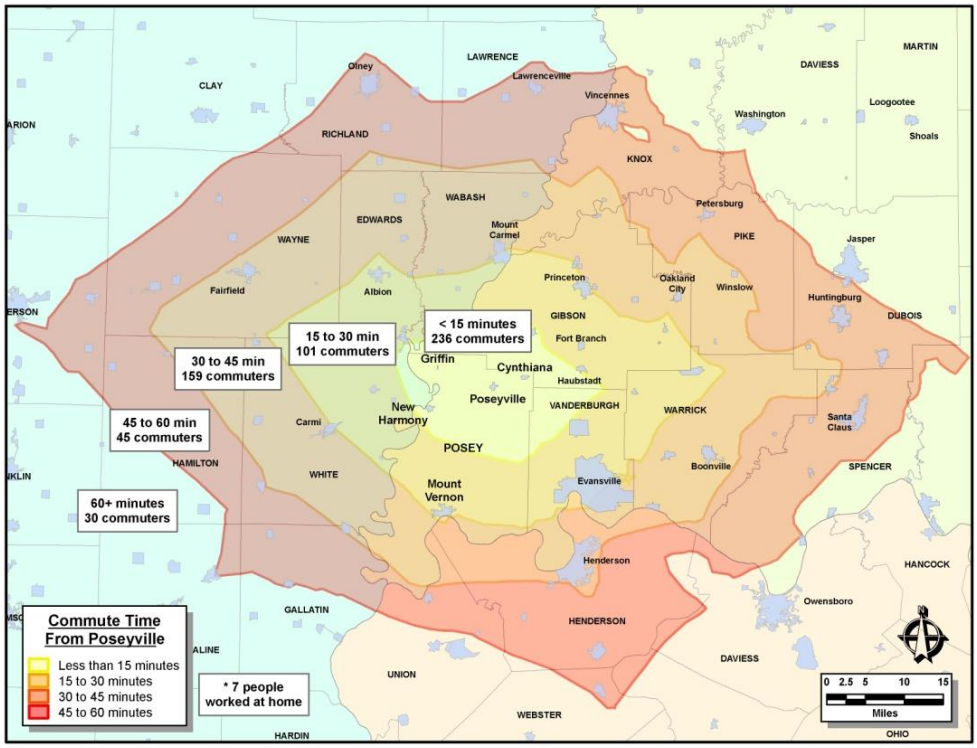


Figure 3.16: Commuting Time for Griffin (image courtesy of BLA, Inc.)

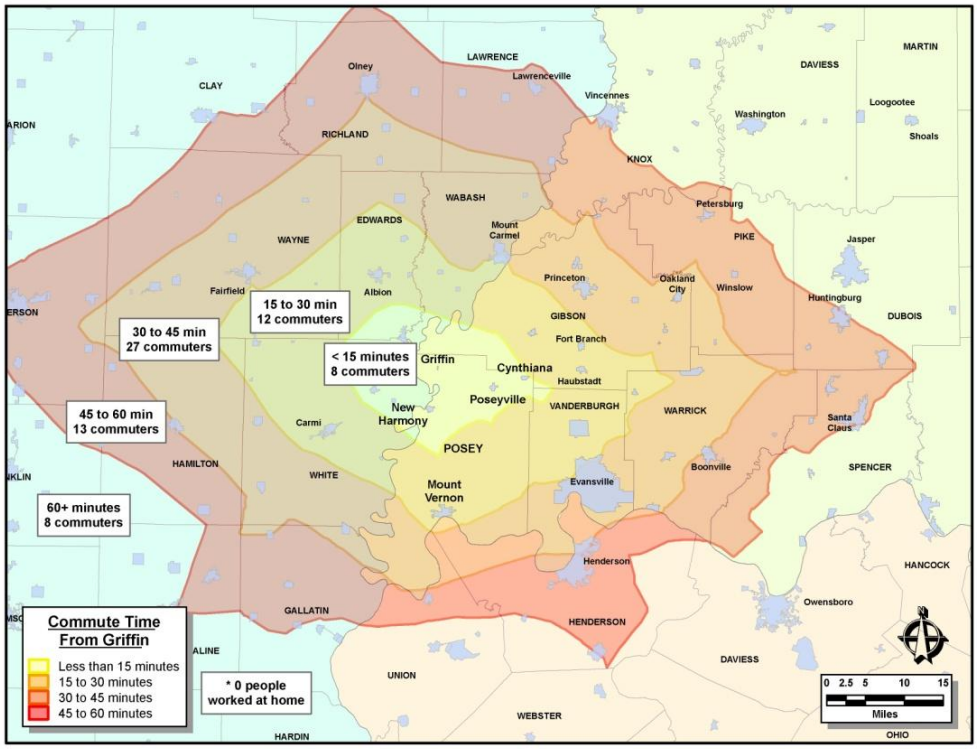
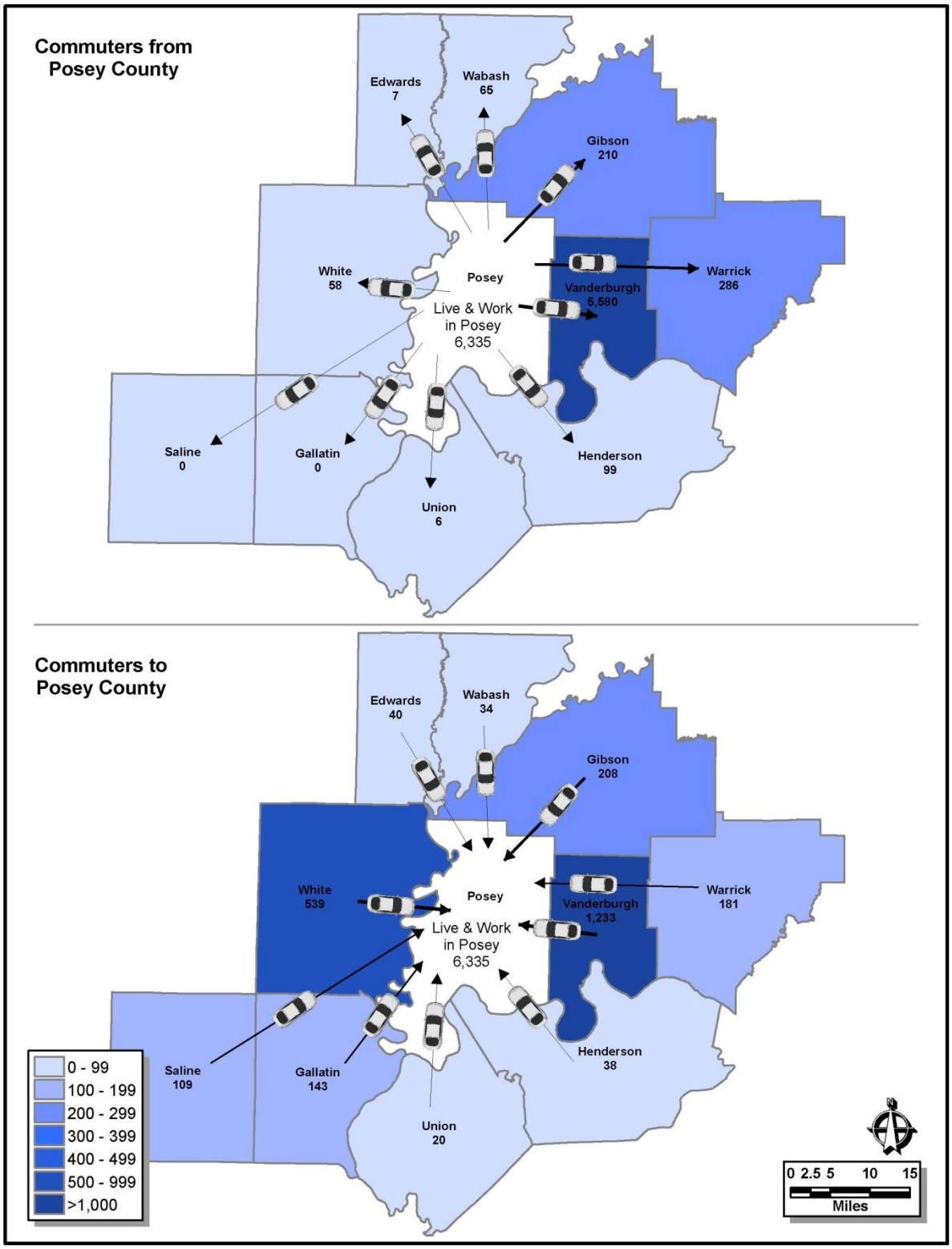


Figure 3.17: Commuters to and from Posey County (year 2000; image courtesy of BLA, Inc.)



E. Pedestrian and Bicycle Facilities

Sidewalks provide a significant measure of safety for those walking near roads by separating them from traffic, and are otherwise important in encouraging people to walk in their neighborhoods for transportation, health, or pleasure. Children especially benefit from sidewalks because walking is often their only option for neighborhood trips, and child pedestrians are also more prone to have traffic accidents than adults. By prioritizing pedestrian safety, a roadway is likely to attain safer attributes for all users as well.

Using a bicycle for transportation in most places requires that bicyclists use public roads. While many city streets and rural roads are technically adequate for bicycle travel, safety is major concern for busy collector and arterial streets, as well as rural roads where bicycles and cars have to share lanes that were designed to accommodate car and truck traffic. To safely use public roads, bicyclists must act as drivers of vehicles, exercising the same rights and responsibilities that motorists do. Bicyclists need continuous routes that have design features that accommodate bicycles, and which link to community activity centers such as central business districts, schools, libraries, and transit stations.

Sidewalks

Sidewalks exist in portions of Mount Vernon, Poseyville, New Harmony, and Cynthiana, particularly in older neighborhoods. Some of these walks can legally be used for biking, but due to fixed objects, grade changes, and pedestrian priority, sidewalk biking should be limited to use by small children in most cases.

Bicycle Accommodations

There are currently no designated on-road bicycle facilities in Posey County or the incorporated communities within the county. Bicycles may be safely accommodated on many low-volume local, collector, and arterial roads, as well as county and state roads with shoulders more than 4 feet wide. The traffic volumes and speeds in many urban neighborhoods and suburban residential developments are low enough to permit the coexistence of automobile and bicycle traffic. Some low-volume Posey County roads are used by recreational bicyclists fairly regularly during the warmer months, and there were a small number of “share the road” bicycle warning signs erected on St. Philip Road in 2007. There has been discussion of creating some bicycle routes in Mount Vernon, with the intent of providing designated routes between park units and one of the public schools.

Separated Paths

There are two short bicycle/pedestrian paths that are separated from traffic. A path serving Harmonie State Park, is paved along SR 69 from Maple Hill Road to SR 269. This path is about two-thirds of a mile in length. There is interest in extending this path into the Town of New Harmony, which also has a recreational loop path - The New Harmony Wabash River Greenway - that leads from the downtown area to the Wabash River. This path has a compacted, crushed stone and gravel surface. The New Harmony Comprehensive Plan includes an objective to expand this greenway to “create a true transportation alternative for residents to navigate the town.”

The New Harmony Wabash River Greenway

There are two trails currently being planned for in Posey County. The Posey Rail Trail (PRT), which is being built on the abandoned Indiana Southwestern Railroad bed, will connect Poseyville to Griffin and the Wabash River (see Figure 3.18 at right). If a bridge over the Wabash River can be completed, this trail will extend to Browns, Illinois. Nearly three miles of the PRT are already open in Grayville, Illinois and when completed, the trail will include 11 miles in Posey County and 11 miles in Illinois. The railbed from Cynthiana to Owensville in Gibson County was also recently abandoned and may present another trail extension opportunity. The Hoosier Rails to Trails Council, based in Indianapolis, is coordinating the Posey Rail Trail project.

Figure 3.18: The Posey Rail Trail Route

Another trail will be part of the Bend on the Ohio riverfront project. Greenways and walkways are part of this plan and would be located to the east of the existing Sherburne Park. A portion of the American Discovery Trail, a developing coast-to-coast trail that traverses the Midwest, travels through Mount Vernon on existing roads, and enters Illinois on SR 62. This "trail" system may eventually gain federal support to have traffic-separated segments constructed and linked together.

F. Transit

There is currently no public transit serving Posey County, although there is some interest in establishing at least a commuter shuttle that would link Mt. Vernon and Evansville, the major regional employment center. Evansville has intercity bus service and is also served by Greyhound and Trailways buses, with convenient service to Nashville, St. Louis, Chicago, Indianapolis, Louisville, and many smaller regional towns. Amtrak rail passenger service to New Orleans, Memphis, Chicago, and points in between aboard the *"City of New Orleans"* train may be accessed at the Carbondale and Centralia, Illinois train stations.

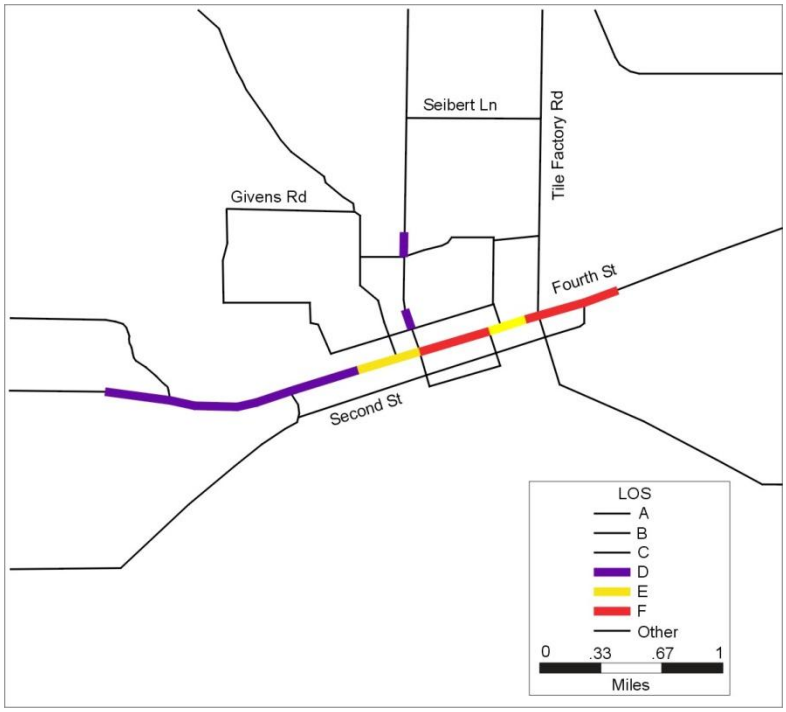
Future System Needs and Recommendations - Ch. 4

Long Range Transportation Plan

A. 2035 Level of Service Forecast and Capacity Needs

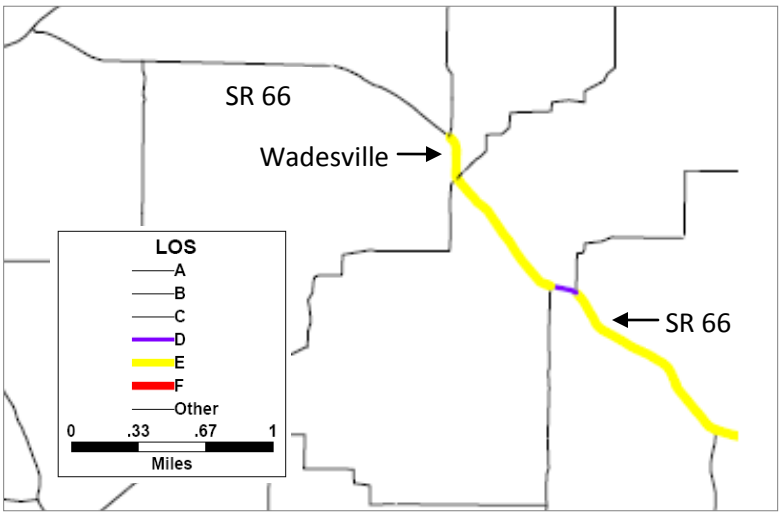
Levels of service forecasts to the year 2035 were developed to identify future travel demands, capacity constraints, and system deficiencies. Level of service was forecasted to 2035 on existing minor Collector, Major Collector, Minor Arterial, and Principal Arterial roadways. These forecasts are illustrated in Figures 4.1 – 4.6, starting below. Forecasts for 2035 level of service were modeled (computer modeling) based on household, population, and employment growth projected by the Evansville MPO, using data from the Evansville MPO. The 2035 level of service forecasts were compared to existing roadway capacities to identify potential roadway capacity needs.

Figure 4.1: 2035 "No Build Option" Forecast Traffic Capacity Hot Spots for Mount Vernon



In figure 4.1, the forecast level of service for Posey County in 2035, with no changes to the current transportation network aside from anticipated growth of population and employment, shows that significant congestion will occur periodically (peak hours) along Fourth Street (LOS F, E, D), and to a lesser degree at two intersections on Main Street (LOS D).

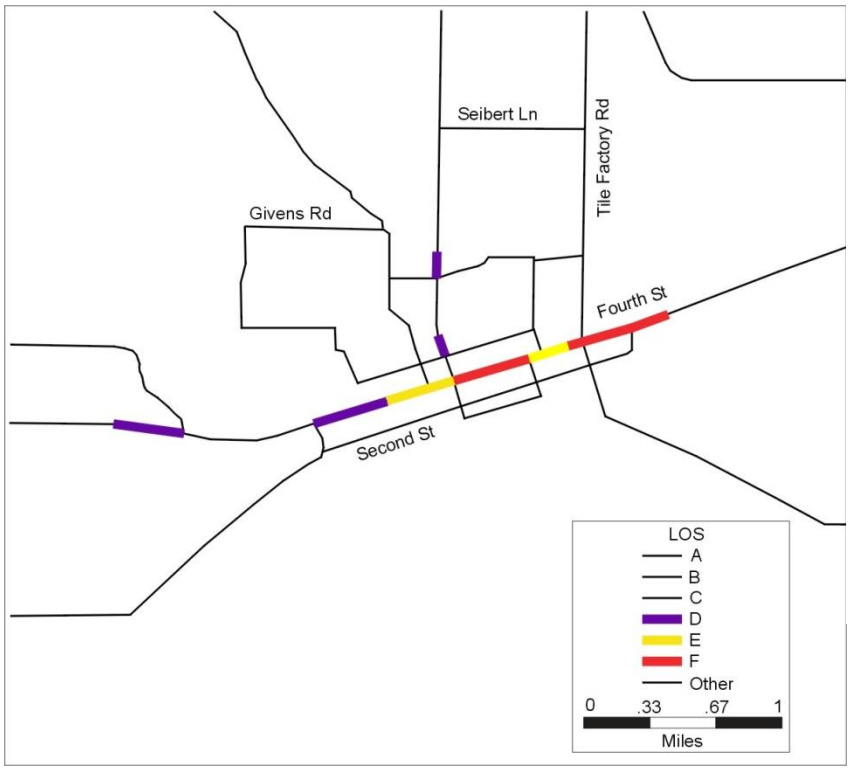
Figure 4.2: 2035 "No Build Option" Forecast Traffic Capacity Hot Spots for Posey County



In figure 4.2, the forecast level of service for Posey County in 2035, with no changes to the current transportation network aside from anticipated growth of population and employment, shows that limited congestion will occur periodically (peak hours) along SR 66 in the Wadesville area (LOS F, E, D), and to a lesser degree at two intersections on Main Street (LOS D).

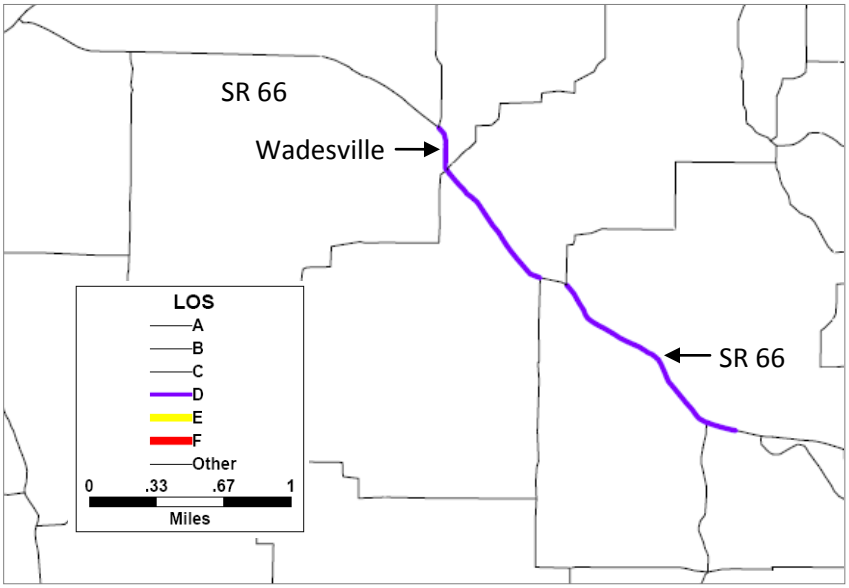
The two figures below show the forecast level of service for Posey County in 2018, with the implementation of all short-term transportation projects (as described in Chapter Two and in Table B.1) and anticipated growth of population and employment, shows that limited congestion will occur periodically (at peak hours).

Figure 4.3: 2018 "All Projects Added Option" Forecast Traffic Capacity Hot Spots for Mount Vernon



In figure 4.3, the forecast level of service for Posey County in 2018, with the implementation of all short-term transportation projects and relevant anticipated growth of population and employment, shows that congestion will occur periodically (peak hours) along Fourth Street (LOS F, E, D), and to a lesser degree at two intersections on Main Street (LOS D). This is nearly identical to Figure 4.1; there is only slightly better traffic flow on Fourth Street, west of Country Club Road.

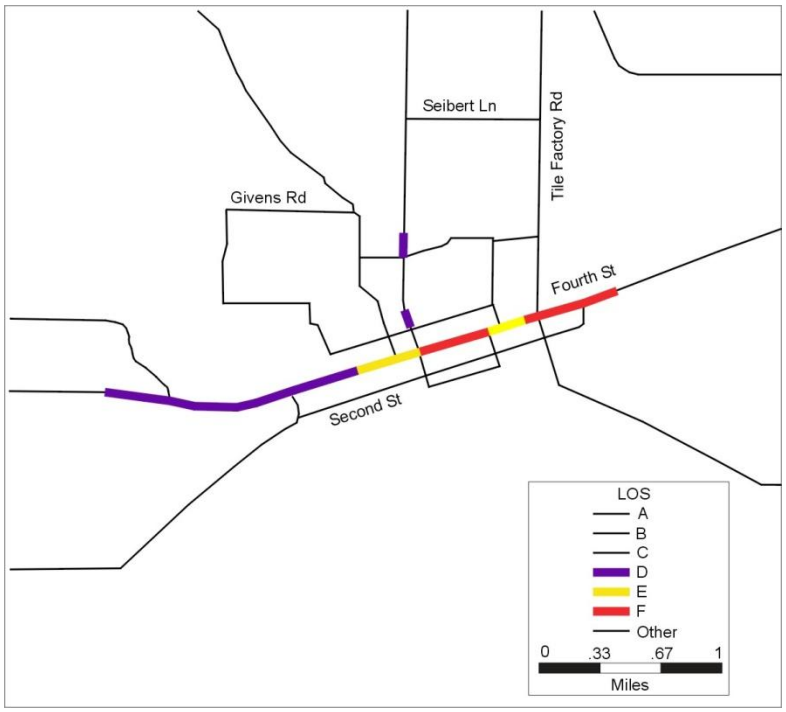
Figure 4.4: 2018 "All Projects Added Option" Forecast Traffic Capacity Hot Spots for Posey County



In figure 4.4, the forecast level of service for Posey County in 2018, with the implementation of all short-term transportation projects and relevant anticipated growth of population and employment, shows that periodic congestion will be quite minor along SR 66, similar to present conditions.

The two figures below show the forecast level of service for Posey County in 2027 and 2035, with the implementation of all medium-term and long-term transportation projects (as described in Chapter 2 and in Table B.1) and anticipated growth of population and employment, shows that limited congestion will occur periodically (at peak hours).

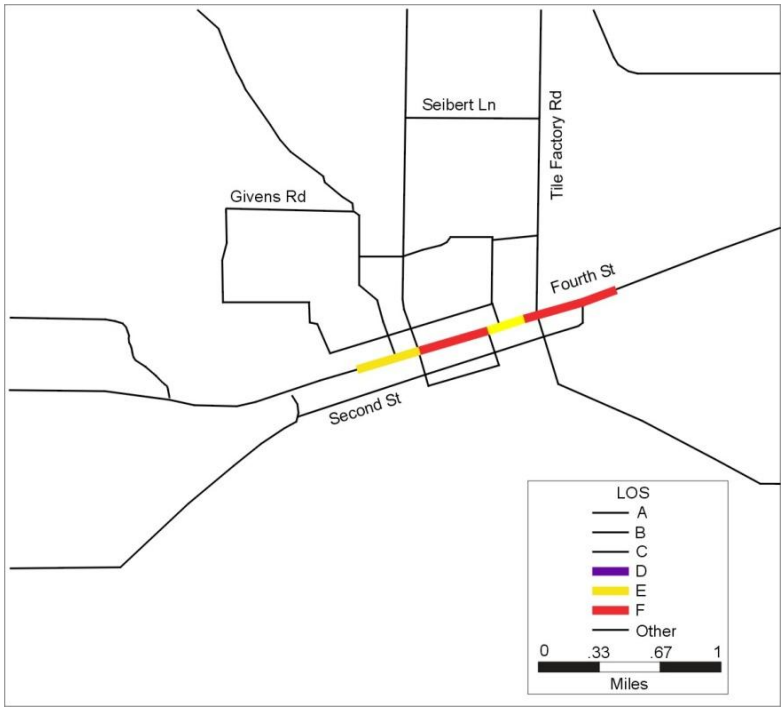
Figure 4.5: 2027 "All Projects Added Option" Forecast Traffic Capacity Hot Spots for Mount Vernon



In figure 4.5, the forecast level of service for Posey County in 2027, with the implementation of all medium-term transportation projects and relevant anticipated growth of population and employment, shows that congestion will occur periodically (peak hours) along Fourth Street (LOS F, E, D), and to a lesser degree at two intersections on Main Street (LOS D). This is identical to Figure 4.1.

There are no LOS D (or worse) road segments in the county, outside of this area.

Figure 4.6: 2035 "All Projects Added Option" Forecast Traffic Capacity Hot Spots for Mount Vernon



In figure 4.6, the forecast level of service for Posey County in 2035, with the implementation of all long-term transportation projects and relevant anticipated growth of population and employment, shows that congestion will occur periodically (peak hours) along Fourth Street (LOS F, E).

There are no LOS D (or worse) road segments in the county, outside of this area.

It is recognized that development may not reach the household, population, and employment projected in all areas, and as a result traffic forecasts may be relatively accurate in locations where development occurs, however in areas that do not develop, the level of service may be better than forecasted. For these reasons, specific traffic impact studies should be completed as property is proposed for development or redevelopment. In addition, Posey County should periodically review land use and development/growth trends and adjust the projections accordingly.

B. Roadway Network Recommendations

The proposed roadway network project list (below, and in Table B-1/Appendix B) was developed with input from local stakeholders and in consideration of the characteristics of the existing system and anticipated future system demands. Projects have been assigned to short, medium and long term implementation groups.

- Short term projects: Under development, or a priority for imminent development. A desired completion date of 2018 is attributed to these projects.
- Medium term projects: Targeted for 2027 completion and are not under current development at this time.
- Long term projects: These projects serve as a vision section for future development and are proposed for 2035 completion.

The recommended system supports a long term vision of safe and efficient movement of goods, people and services within and through the county. It is emphasized that the Transportation Plan is a dynamic document, one the will undergo future updates to reflect changing conditions and needs. Development groups and completion targets are illustrative and reflect project development status, available funds, agency priorities and other factors.

Short Term Projects

Posey County

A-1 Lamont Road: SR 62 to Lower Mt. Vernon Road

This project will upgrade Lamont Road to the same/similar to the SR 69 bypass, which currently terminates at 62. The intent is to relocate the main entrance to the Port of Indiana – Mt. Vernon to this facility, addressing traffic and safety concerns at the current location west of the proposed new facility.

A-2 High School Road: SR 165 to North Posey High/Middle School

This route connects SR 165 to SR 66 in conjunction with a project C-5 listed below. This segment is under review for safety concerns. An improved two lane facility to address connectivity and safety along the full corridor is desired.

A-3 Leonard Road: SR 69 Bypass to SR 62

This two-lane facility is of concern due to increasing commercial traffic which the current design is ill suited for. By upgrading Leonard Road, geometric and pavement design deficiencies will be addressed. The preliminary design for the corridor is and upgrade of the existing two lane cross section.

A-4 Tile Factory Road: SR 62 to Evansville Western rail road crossing

This two-lane facility serves Mt. Vernon Jr. and Sr. High Schools, as well as serving as an important collector for SR 62 traffic on the east side of Mt. Vernon. An upgraded Tile Factory Road will address these

traffic concerns. A second phase extending improvements to the SR 69 bypass to the north is listed below. The preliminary design for the corridor is an upgrade of the existing two lane cross section.

City of Mt. Vernon

A-5 Grant Street: Main Street to Lower New Harmony Road

This segment of Grant Street carries significant truck traffic accessing industrial sites to the west. The project concept proposes reconstruction of the roadway to address structural and geometric concerns.

Medium Term Projects

Posey County

B-1 SR 66: SR 165 to terminus of existing four lane section east of St. Philip Road

This INDOT project will extend the four lane cross section from its current terminus just west of the county line to SR 165 in Wadesville. The project is currently listed in the unfunded section of INDOT's Long Range Transportation Plan.

B-2 Seibert Road: Industrial Road to Leonard Road

Seibert Road and Leonard Road serve as collector routes on the northeast side of Mt. Vernon. In conjunction with a project A-3 listed above, together the improvements will serve development on the east side of Mt. Vernon. The preliminary design for the corridor is and upgrade of the existing two lane cross section.

B-3 Ford/Stierley Road Corridor: SR 62 to SR 66

This corridor project provides access and north-south mobility improvements in the central area of the county. The preliminary design for the corridor is an upgrade of the existing two lane cross section. A new alignment in the transition from Ford Road to Stierley Road will increase the mobility benefits.

B-4 Tile Factory Road: Evansville Western rail road crossing to SR 69 Bypass

This is the second phase of improvements to an important collector for SR 62 traffic on the east side of Mt. Vernon. The preliminary design for the corridor is an upgrade of the existing two lane cross section.

B-5 Multi-Use Path: Connect New Harmony to existing path at Maple Hill Road and SR 69

Substantial interest exists in connecting the Town of New Harmony to Harmonie State Park. A separated trail currently parallels SR 69 beginning at Maple Hill Road and terminating at SR 269. Construction of a separated path to from the town to the existing trail is recommended for consideration by the separated paths exploratory committee proposed in the Bicycle and Pedestrian recommendations section below.

Long Term Projects

Posey County

C-1 SR 69 Western Bypass: SR 69 to SR 62

This project will construct the west leg of the SR 69 William Keck Bypass around Mt Vernon. Access will be improved for industrial uses west of Mt. Vernon and commercial truck traffic through Mt. Vernon will be relieved by this project. The project is not currently listed in INDOT's Long Range Transportation Plan.

C-2 Givens Road: Lower New Harmony to proposed Western SR 69 Bypass

Givens Road improvements coordinated with the construction of project C-1 will enhance access for industrial developments adjacent to this route and reduce access through residential areas to the east. The preliminary design for the corridor is an upgrade of the existing two lane cross section.

C-3 SR 66: SR 165 to SR 69

This project will improve the two lane cross section with wider shoulders from SR 165 to SR 69. The project is not currently listed in INDOT's Long Range Transportation Plan.

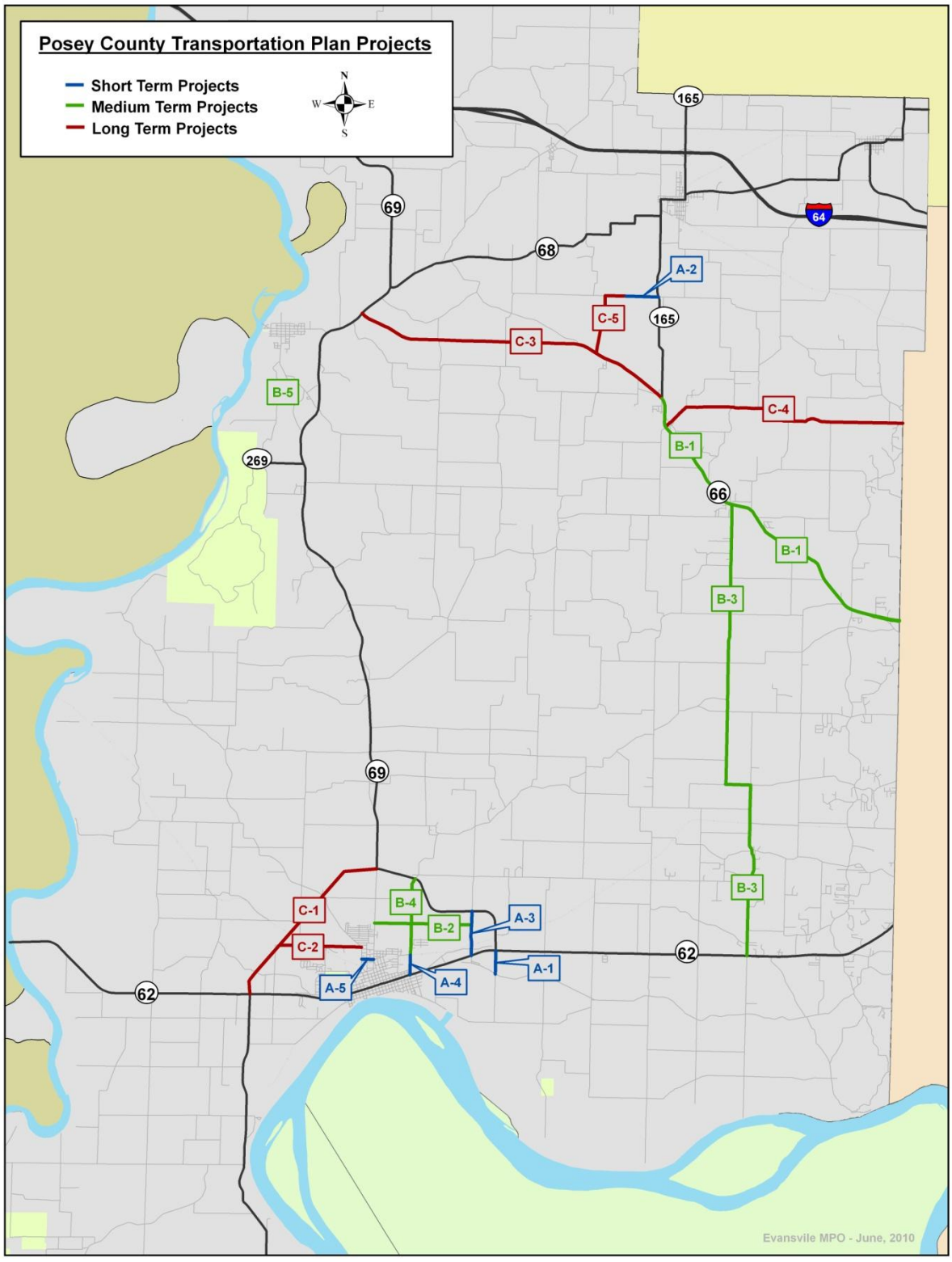
C-4 Blake/Winery Road Corridor: SR 66 to Posey County Line

This corridor project provides access and east-west mobility improvements in the northern area of the county. The preliminary design for the corridor is an upgrade of the existing two lane cross section.

C-5 High School Road/Hunter Road Corridor: North Posey High/Middle School to SR 66

This route connects SR 165 to SR 66 in conjunction with a project A-2 listed above. An improved two lane facility to address connectivity and safety along the full corridor is proposed.

Figure 4.7: Transportation Plan Projects



Functional Classification Changes

The majority of proposed projects are currently classified as major collectors or higher; and therefore eligible for federal aid funding (see page 2-1 for functional class discussion). The exceptions will require updates to the Federal Highway Administration functional classification maps if federal funds are to be used. If federal funds are sought, updates are required for:

- Tile Factory Road: Belle Fontaine Cemetery Road to SR 69 Bypass – proposed upgrade from rural minor collector to rural major collector
- Leonard Road: Seibert Lane to SR 69 Bypass – proposed upgrade from rural minor collector to rural major collector
- Blake Road: SR 66 to Winery Road – proposed upgrade from local road and rural minor collector to rural major collector
- Ford Road/Stierley Road Corridor : SR 62 to SR 66 – proposed upgrade from rural minor collector to rural major collector
- Givens Road: Pending the final alignment of the proposed SR 69 Western Bypass, Givens Road may require an extension of its current alignment to connect to the bypass.

C. Freight Transportation Recommendations

In consideration of the already extensive and expanding role of freight transportation in Posey County, it is critical take a proactive approach to freight planning and policies. Several of the projects described in section B of this chapter are primarily intended to address freight issues. Beyond those projects, the following actions are recommended to improve the efficient flow of freight while maintaining a high level of mobility and access for other vehicular traffic in the county.

- The formation of a Freight Committee to proactively deal with freight issues. Planning for increased freight impacts and for increased maintenance expenditures for freight routes are two issues that such a committee could consider to begin with.

- Truck Routes should be defined, and in urbanized areas there should be clear demarcation of roads where heavy truck traffic is not wanted.

In 2005, the Evansville MPO completed the *Intermodal Freight Movement Survey*. From this survey, information was obtained regarding "areas of concern" that the regional freight stakeholders deemed impediments to efficient freight movement. The MPO's Technical and Policy Board committees, which include freight industry representatives, local and state planners and engineers, was used to guide the scope of the study. Lists of these "areas of concern" were distributed to the appropriate jurisdictions to aid in their project selection process for potential physical improvements, policy changes and additional planning activities. Some of these recommendations, which may be applicable to Posey County, have been generalized and are presented below.

Transportation Projects

- Coordinate with the City/County Road Department and INDOT, where appropriate, to determine the feasibility of increasing the turning radius at locations with high freight-truck volumes.

Policies

- The Evansville MPO strongly encourages the use of frontage roads, shared commercial driveways and other access management strategies along roadways with heavy truck use, to minimize the number of conflict points.

Planning Activities

- Coordinate with INDOT in planning for a weigh station or weigh-in-motion technology in the region. Such a facility would allow for more consistent enforcement of commercial vehicle laws and regulations.

D. Preservation Needs

Preservation of the existing roadway pavement is necessary to protect previous investments made to the roadway system. Regular maintenance and rehabilitation of existing paved facilities optimizes their life cycle and maximizes return on investment.

To identify preservation needs based on historic investments, recent County Highway Department maintenance records were reviewed. The County roadway inventory totals 712 miles, approximately 412 of which are paved/hard surface. Nearly 100 miles of asphalt surface facilities have been paved, or received a significant rehabilitation, within the estimated treatment type life cycle (ten years). Approximately 80 miles of chip and seal facilities have been established, or rehabilitated, within their estimated life cycle of five years. Appendix C lists roadways that currently meet these standards. Records indicate that approximately 232 miles of paved roadways do not meet this standard and are potentially in need of rehabilitation. An increase in the historical maintenance budget will be required to best preserve the existing paved roads in the county. City/Town jurisdictional roads, totaling slightly more than 60 miles are almost entirely paved. Maintenance records for City/Town facilities are not included in the totals discussed.

E. Safety Needs

Roadway system safety is of great importance to individual system users and jurisdictional operators. The roadway system in Posey County is not unusual in its inclusion of unexpected driving conditions at some locations. These locations are often the result of construction prior to current design standards. Following the roadway design standards discussed in section 2.D will help to eliminate many of these locations. While crashes will continue to occur, targeted improvements to the system should diminish the number and severity of crashes.

Specific locations throughout the County that are currently experiencing the highest number of crashes are identified in table 3.4 on page 3-6. Reviewing crash records for these locations may be helpful in revealing improvements that will reduce crashes. Locations with persistent crash problems would ideally be investigated systematically. One way to methodically analyze safety problems is by using the RoadHAT (Hazard Analysis Tool) that is available to Indiana county and city transportation agencies through a partnership between INDOT and the Purdue University Center for Road Safety. RoadHAT has been used by the Evansville MPO to prepare documentation required for requesting federal funds for safety projects.

The Indiana Local Technical Assistance Program (LTAP) also can assist local public agencies in developing a Road Safety Audit (RSA), which puts a trained, multi-disciplinary team of people on site to determine what roadway deficiencies exist and what improvements may result in a lower crash rate.

When road safety and traffic flow issues are investigated by local officials, it is recommended that local roadway agencies consult the Manual for Uniform Traffic Control Devices (MUTCD). The MUTCD provides guidance for the appropriate placement/installation of traffic control devices, such as stop signs, road markings, and traffic signal lights. Engineering criteria are the basis for MUTCD guidance, and by following the warrant procedures in the MUTCD to determine traffic control needs, recommendations can be reached in an unbiased manner.

General Road Safety Needs for Indiana

The 2009 *Needs Assessment for Local Roads and Streets* (by LTAP) identifies three areas of particular concern for local agencies to address regarding road safety: traffic signs; lane delineation; and lane width.

> "Legible traffic signs provide information necessary for the safe and efficient operation of the road system. A survey of signs in Indiana indicates that 245,000 signs on local roads (including counties, cities and towns) are in poor condition and should be replaced." "To remain effective, signs must accurately display their intended information without ambiguity. A major factor in the legibility of a sign is the retroreflectivity characteristics...Section 2A.08 of the MUTCD states that, "Regulatory, warning, and guide signs shall be retroreflective or illuminated to show the same shape and similar color by both day and night, unless specifically stated otherwise in the text discussion in this Manual of a particular sign or group of signs" (FHWA, 2003)."
>
> "Lane delineation plays an important role in road safety. However, 88 percent of the paved county roads included in the condition survey did not have edgeline markings and 72 percent did not have centerline markings. These findings are considered representative of all county roads in the state, although not representative of the conditions in cities and towns."
>
> "Adequate lane width is an important factor contributing to safety; however, the survey of paved county roads indicates that over half (53 percent) of the roads surveyed are less than 18 feet, the minimum width recommended by the American Association of State Highway and Transportation Officials (AASHTO, 2004). These findings are considered representative of all county roads in the state, although not representative of the conditions in cities and towns."

In the Conclusion to the 2009 *Needs Assessment for Local Roads and Streets*, the LTAP report has this to say about roadway safety:

> Currently, local roads are the most hazardous roads for public travel, as indicated by state police statistics which document that more crashes occur on local roads and streets than on state or interstate highways. One way to improve safety was presented over forty years ago by Purdue University Prof. Harold Michael, who suggested that "a program to increase lane width and the use of pavement markings should be undertaken (HERPICC, 1962)." In response to this and more current research (NCHRP, 2004), it is recommended that additional edgeline and centerline markings be used on local roads... Other safety improvements include increasing road width and upgrading traffic signs. Increasing road width would bring roads up to the minimum suggested AASHTO standard of at least 18 feet for low volume, low speed roads... (p. 53).

F. Bicycle and Pedestrian Transportation Recommendations

Walking and bicycling (active transportation) facilities have become a high priority of citizens in most cities and towns. The informal opinion survey conducted by the EMPO (see Appendix A) shows that "Pedestrian network improvements" had the highest score among all the strategies to improve local transportation in the survey, and bicycle facilities improvements came in third highest, behind "improve freight movement through the area." The results of the survey are shown in Tables A.1 and A.2, on page A-1. While this survey was not a scientific or stratified survey, it should be regarded as valuable input for transportation decision making.

Posey County should seek to implement, where appropriate, measures that will more efficiently utilize existing roadway facilities, improve access to commercial and work environments, and improve air quality. These measures include active transportation strategies, which are often referred to as *alternative modes,* because they are alternatives to single-occupant vehicle (SOV) travel. SOV is the least desirable travel option in terms of air pollution and congestion, but is the most common way that Americans commute. A commitment by local communities to active modes of transportation is a fundamental component of addressing the system-wide transportation needs of the future.

The design of the built environment has a major impact on the safety, efficiency, and comfort of pedestrians and bicyclists. Design elements that provide for short and direct trips facilitate walking and cycling. Straight and interconnected streets, shallow building setbacks, small blocks, trees and landscaping, public spaces, and continuous facilities all encourage pedestrian and bicycle activity, as do mixed-use developments and clustered developments. Once an area has been developed with deficiencies for pedestrian and bicycle circulation it can be very difficult to add sidewalks, bike lanes, or multi-use paths. Safe, connected, and continuous facilities for bicycling and walking are vital to encourage and support travel by foot or by bicycle, and also help to promote transit use.

The acknowledged benefits of walking and bicycling for transportation include:

- Bicycling and walking are inexpensive (or no cost) alternatives to automobile travel;
- Increased exercise from walking or biking often leads to health improvement;
- Bicycling and walking are environmentally sustainable ways to travel;
- Reductions in automobile traffic leads to improved quality of life for individuals and community;
- Active transportation builds communities by providing more opportunities for interaction with others.

Pedestrian Accommodations

Existing sidewalks in some areas are in need of repair, and additional sidewalks are needed in some areas. Sidewalk maintenance is the responsibility of abutting property owners, although many property owners are unaware of this and/or are unable to finance sidewalk repairs. There are federal grant sources for sidewalk construction costs, which are described in the following chapter. Many cities, including Evansville, Bloomington, and Terre Haute have established sidewalk improvement matching grant programs to assist property owners in making sidewalk improvements. These programs match the property owner contribution at 50 percent, and the Bloomington program reduces the property owner match for residential locations to the cost of required concrete alone. This type of program may be necessary to prevent the deterioration of sidewalk facilities as local units of government receive less funding from state sources such as property taxes.

Sidewalks provide a significant measure of safety for those walking near roads by separating them from traffic, and are otherwise important in encouraging people to walk in their neighborhoods. Children especially benefit from

sidewalks because walking is often their only option for neighborhood trips, and child pedestrians are also more prone to have traffic accidents than adults. he disabled are particularly dependent on sidewalks for safety. By prioritizing pedestrian safety, a roadway is likely to attain safer attributes for all users as well.

Several recent U.S. health studies have recommended improvements in the built environment to expand opportunities for walking or biking to combat increasing health problems linked to sedentary lifestyles. The Institute of Medicine, which was charged by Congress in 2002 to develop a prevention-focused action plan to decrease the prevalence of obesity in the United States, has cited an urgent need to create activity-friendly communities. In a June, 2009 article in *PEDIATRICS*, the American Academy of Pediatrics recommended that "State and local governments should examine their planning and zoning efforts to ensure that children's ability to walk, play, and get to school safely are a top priority."

In addition to sidewalks, there are a variety of other roadway facilities and treatments to improve pedestrian safety. Raised medians and refuge islands provide safe haven halfway across streets. Good lighting at crossings improves pedestrian visibility. Buffers between the curb and sidewalk provide extra safety for pedestrians, as does a buffer of on-street parking. Access controls to limit driveway and median breaks reduce conflict points. And traffic calming measures to reduce traffic speed and/or volume can increase the walkability, livability, and overall roadway safety of an area. These facilities and measures should be considered in street improvement projects, transit projects, and for new roads.

"Road diets," which are reductions in the number of lanes on undivided roadways, can provide enhanced pedestrian safety by increasing the width of outside/curb lanes, putting the travel area for motor vehicles farther from the sidewalk. Wide curb lanes can also provide adequate space for the provision of bike lanes or a bicycle route. The City of Evansville implemented a road diet project in 2009, reducing about a two-mile segment of four-lane Lincoln Avenue (a minor arterial) to three lanes – two through lanes and a center left-turn lane – between Rotherwood Avenue and S. Hebron Avenue. A bicycle route was designated on this segment of Lincoln Avenue after the curb lanes were widened. That project has been well-received by the public, and another road diet project is in the planning stages in Evansville.

Bicycle Accommodations

Using a bicycle for transportation in most places requires that bicyclists use public roads. To safely use public roads, bicyclists must act as drivers of vehicles, exercising the same rights and responsibilities that motorists do. Bicyclists need continuous routes that have adequate design features to accommodate bicycles, and which link to community activity centers such as central business districts, schools, and transit stations. While many city streets and rural roads are technically adequate for bicycle travel, safety is major concern for busy collector and arterial streets, as well as rural roads where bicycles and cars have to share lanes that were designed to accommodate car and truck traffic.

New roads should be designed to accommodate all roadway users, including pedestrians and bicyclists, wherever possible. Retrofitting roads to accommodate pedestrians and bicyclists is often technically and/or financially impractical. Road reconstruction and maintenance projects are excellent opportunities to review pedestrian and bicycle accommodation possibilities, and to implement accommodation upgrades cost effectively.

During 2007 four "share the road" signs were erected on St. Philip Road on Posey County, in addition to dozens erected in Vanderburgh County and Warrick County. The signs consist of a yellow, diamond-shaped bicycle warning

sign and a rectangular placard (mounted below) stating *share the road*. The intent of these signs is to alert motorists to the possibility of encountering slower-moving cyclists. Rural roads are preferred by recreational cyclists for extended rides without frequent required stops, and there are no local alternatives for this. Most of the rural roads in this region do not have adequate shoulder width for bicycles or cars to safely exit the road. These signs could help prevent accidents, and will at least help raise awareness of cyclist's use of rural roads.

A good model for bicycle accommodation on low-volume rural roads can be found in Vanderburgh County, south of Burdette Park in Union Township. More than 32 miles of roads in southwest Vanderburgh County were designated as bicycle routes (four connected routes) during the summer of 2006. The bicycle routes, called the Burdette Park Discovery Trail, connect to Burdette Park, where a "trailhead" with information, bicycle parking, and showers are available for cyclists' use. Route Four also has a trailhead at the junction of Cypress Dale and Old Henderson roads. This comprehensive facility for recreational "road cyclists" has worked well by any measure.

Designated facilities are only one of the several elements that are essential to creating a safe bicycling environment. Bicycle safety education, bicycle use encouragement, and the enforcement of the Rules of the Road as they pertain to bicyclists should all be combined with a network of bicycle facilities to form a comprehensive approach to system-wide bicycle travel.

Separated Paths

Children and casual adult bike riders outnumber skilled adult cyclists by 20:1 and need to be separated from high-volume traffic by multi-use paths, trails, or low-volume roads simply to accommodate their desire to ride. In urban areas, greenways may be ideal places for children to learn to ride bikes, and for families and friends to take extended walks for exercise or pleasure. Such separated bikeways can play an important role in the active transportation scheme as well.

In order to facilitate the extension and connection of multi-use paths that were discussed in Chapter Three, it is recommended that an exploratory committee be formed by interested parties in Posey County. Parties that are involved with the development of the various trails, or who wish to develop new trails, should benefit by discussing their ideas and plans with each other, and may be able to help each other with developing paths. Beyond this, a "paths committee" could develop a vision, goals, and objectives for a separated path network in Posey County, if there is a desire to work towards those ends.

G. Transit Development

For those advocating for public transportation and for providers of public transportation, the goals of maintaining current transportation services and expanding transportation services in underserved areas is a constant challenge. One way of expanding transportation services is to collaborate with other agencies and leverage current assets. Since early 2009, the Evansville Metropolitan Planning Organization (EMPO) has collaborated in two instructive efforts to expand the public transportation options in areas outside that currently served by the Evansville Metropolitan Transportation System (METS). These collaborative efforts may serve as an example for those in Posey County who are interested in the development of transit service in some form.

One effort intends to expand public transportation in northern Vanderburgh County outside the Evansville City limits along the Highway 41 and Highway 57 corridors, where a variety of businesses are concentrated. The second effort is twofold: First, to provide a scheduled, fixed route transit service in Warrick County; second, is to link this new service with the Metropolitan Evansville Transit System. These efforts continue to evolve and their final outcomes

have not been reached yet. The following recommendations are based on the experiences of the Evansville MPO in working with other local organizations to achieve the goals of these nascent public transit efforts.

The initial step in expanding public transportation services is for the community to create a database of current transportation providers and the services they provide. Various social service agencies provide transportation to their clients. Some categories of clients may include low income, elderly, disabled, mentally handicapped, etc. Other organizations may provide transportation to larger segments of the population but may have geographical limitations. Often, these providers are familiar with each other but may not coordinate their services.

Regardless of the reasons organizations provide transportation, and the rules that may restrict their services, it is important to identify all these providers, along with a detailed summary of the services they provide. In order for a community to assess their unmet needs, it must know the current landscape.

The next step which may run parallel with the first is to create a committee. The committee should consist of transportation providers, community leaders, and volunteers. It is important that committee members understand that they are expected to contribute. It is also important that one member of the committee be the facilitator who identifies exactly what needs to be done, by whom and when it is expected.

The third step is to assess the unmet needs of the community. Surveys are a useful tool as well as community forums where the public is invited to speak. All the information gathered must be condensed into short, easily understood facts. This information must clearly identify the number of people, geographic area, population segments, times, etc. that are underserved.

Fourth is to propose a plan to meet the unmet transportation needs. This will be a plan tailored to the specific needs of the community. It may describe the type and number of vehicles needed, the areas to be served, frequency, cost, etc. Perhaps the most important of these will be identifying the lead public transportation agency. Lastly, the committee must act on the plan by presenting it to the public, media and elected officials. The committee must then lobby for its implementation.

H. Rideshare Facilities

In light of the exceptionally large percentage of residents that commute to jobs outside of Posey County, and the likelihood of increasing fuel prices in years to come, it would behoove county residents to have not only a transit option, but also good options for carpooling. To make carpooling convenient, park-and-pool lots are commonly utilized.

Park-and-pool facilities provide commuters with a choice of travel to work while increasing the efficiency of the transportation network. Park-and-pool facilities benefit the community by reducing traffic congestion on major thoroughfares, noise pollution, and harmful air pollution emissions. Participant benefits include reduced wear and tear on automobiles, fuel costs, vehicle depreciation, vehicle maintenance costs and other travel-related fees. Ridesharing is also an important mobility option for non-drivers, particularly in small towns and rural areas, where notices are often posted on bulletin boards and travel needs are shared through informal networks.

Commuters with a common destination meet at a park and ride facility to travel to work together to reduce the number of vehicle miles traveled each day. The development of park and ride facilities does not require the construction of new dedicated park and ride facilities. A common trend is the joint use of existing parking lots of commercial developments, churches or vacant lots to provide a safe and efficient location for commuters to park and

drive to work with other commuters in high-occupancy modes of travel. When located in commercial shopping centers, park and ride users may complete necessary shopping or errand running before or after work. Large commercial developments are also typically located on or near major roadways that are ideal for park and ride facility locations.

Research conducted by the Evansville MPO for the *Employment Accessibility Study* and the *Park and Ride Feasibility Study* (2002) indicates that *transportation demand management* (TDM) strategies – especially carpooling and park-and-ride facilities (remote transit parking/boarding areas) – have the potential for success within the Evansville region. Park and ride or carpool facilities are a good approach for regions such as those around Evansville and Mt. Vernon, due to the number of large employers, especially factories, which encourage workers to drive longer distances to work for better benefits and work conditions than those that may exist in surrounding rural counties. Park-and-pool can serve a large portion of the population if located in highly visible, accessible locations.

A further step towards establishing carpooling as a viable option for long-distance commuters is to create formal ride-matching programs. Larger ride-matching programs use computerized partner matching systems that take into account each commuter's origin, destination, schedule, and special needs. Smaller programs may simply match potential partners by hand, or use ride notice boards. Rideshare programs can be implemented by an individual employer as part of a Commute Trip Reduction program, by a Campus Trip Management program, or by a regional transportation agency or other public agency. The City of Evansville has made some initial steps towards establishing a regional, computerized ride-matching program, but it is unknown if or when such a program will be realized.

Plan Implementation – Chapter 5

Long Range Transportation Plan

Chapter Five: Plan Implementation

Local agencies acknowledge that available funding sources do not meet all the transportation needs identified in the County. Prioritization of transportation investments is necessary to maximize the return on transportation investments.

A. System Priorities and Funding

The Transportation Plan includes a tiered project listing and additional development recommendations which together address transportation challenges faced by the County and communities with the County.

Projects documented in chapter four have been assigned to short, medium and long term implementation groups.

- Short term projects: Under development, or a priority for imminent development. A desired completion date of 2018 is attributed to these projects.
- Medium term projects: Targeted for 2027 completion and are not under current development at this time.
- Long term projects: These projects serve as a vision section for future development and are proposed for 2035 completion.

Development groups and completion targets are illustrative and reflect project development status, available funds, agency priorities and other factors.

Transportation Funding

There are a variety of funding sources available to local public agencies for planned system maintenance and improvements. Many sources have specific purposes and limitations to for their use. The primary sources include:

Federal Funds

Federal transportation funding is authorized through the federal transportation funding bill (SAFETEA-LU). The various federal surface transportation funds available in Posey County include:

1. National Highway System (NHS) funds are dedicated for roadway facilities of national importance, due to direct access to interstates, transportation centers, and defense facilities. This includes the interstate system and all federal and state highway facilities classified as principal arterial. In order for a project to qualify to receive NHS funding, it must be initiated by the state DOT. Therefore, priority for NHS projects is also set by the state. Interstate construction and maintenance projects are eligible to receive 90% federal obligation, while other NHS project types are eligible for 80%.

2. Surface Transportation Program (STP) funds may be used to finance any surface transportation project on any Federal-Aid road. Federal-Aid roads consist of all surface transportation facilities, with the exception of urban local facilities or rural minor collectors and local roads. Projects initiated by state, county, or city/town agencies can qualify to receive STP funding.

   Each state receives a limited amount of STP funds. Of the funds received, 20% is obligated to Transportation Enhancement and Safety activities. Transportation Enhancement activities consist of projects which enhance the transportation system. These may include bicycle/pedestrian facilities, historic preservation, or landscape activities. Safety activities include hazard elimination and railroad crossing improvement projects. Both categories are distributed on a discretionary basis through INDOT.

The remaining 80% of STP funds are distributed based upon population levels. This allocation is based upon the latest decennial census. 37.5% of these funds are distributed to non-urban areas of the state. Posey county agencies compete to receive a portion of this funding. STP funds receive 80% federal participation.

3. Highway Safety Improvement Program funds are authorized in SAFETEA-LU for safety improvement projects to reduce traffic fatalities and serious injuries on all public roads. The program replaces the Hazard Elimination Safety STP setaside from earlier transportation bills. The federal participation for HSIP projects is 90-100%.

4. Bridge Replacement and Rehabilitation funds are available to be used to reconstruct, replace, or rehabilitate deficient bridge structures. Any bridge on a public road is eligible to receive funding, but funding discretion is the responsibility of the state. The federal share of Bridge Replacement and Rehabilitation funds is 80%.

5. Equity Bonus funds ensure that each state receives a guaranteed return on its contributions to the Highway Account of the Federal Highway Trust Fund.

6. Interstate Maintenance (IM) funds are available for the maintaining the interstate system. The state is responsible for programming of maintenance funds.

7. Transportation Enhancement (TE) funds are intended to enhance the transportation system through the use of non-traditional projects, such as bicycle & pedestrian facilities, landscaping, and historical facilities. TE funding is based upon a 10% set aside of Surface Transportation funds.

8. Transportation, Community, and System Preservation (TCSP) provides funding for a comprehensive initiative including planning grants, implementation grants, and research to investigate and address the relationships between transportation, community, and system preservation and to identify private sector-based initiatives. The Federal share payable on any TCSP project or activity shall be 80% or subject to the sliding scale rate in accordance with 23 USC 120(b).

9. High Priority Projects (HPP) the High Priority Projects Program provides designated funding for specific projects identified in SAFETEA-LU. A total of 5,091 projects are identified, each with a specified amount of funding over the 5 years of SAFETEA-LU. The Federal share remains at 80%.

10. Safe Routes to School (SRTS) for infrastructure related projects, eligible activities are the planning, design, and construction of projects that will substantially improve the ability of students to walk and bicycle to school. Each State must set aside from its Safe Routes to School apportionment not less than 10 percent and not more than 30 percent of the funds for noninfrastructure-related activities to encourage walking and bicycling to school. The Federal share for SRTS funds is 100%.

State Funds

State funds can be used as the sole funding instrument for a project or as matching funds to the federal assistance for state-initiated highway projects or programs.

Local Funds

There are a variety of transportation funding mechanisms available to local governments. Although many options are available, not all revenue sources may be used to fund or serve as a match to federal funds for improvement projects. Portions of some revenue sources are allocated to fund routine maintenance of transportation facilities, pay employee wages, and maintain equipment. The two major funds to maintain local transportation facilities in Indiana are referred to as the Motor Vehicle Highway (MVH) and Local Road and Street (LRS) distributions. These funds are derived from the state excise tax and taxes on gasoline and special fuels and other fees, and are received monthly

by the LPAs from the Auditor of State's office. The distribution of these funds is based on formulae that consider road mileage, population, and the number of vehicle registrations. A more complete list of local sources includes:

1. The Motor Vehicle Highway Account is the principal source of revenue for operation of the county highway departments. This fund is used for the purchase of materials, equipment, and labor for the maintenance and construction of county transportation facilities.

2. Local Road & Street funds provide revenue to both city and county highway departments in Indiana. These funds may be used for various improvements to the local transportation systems, including right of way acquisition, preliminary engineering, construction, or reconstruction activities. They may also be used for bond repayment.

3. The Cumulative Bridge Fund may be used to finance the construction or repair of county bridges and grade separations.

4. The State of Indiana also provides for a local option auto excise & wheel tax. Posey County exercises this taxing option. Revenue must be distributed evenly between the county and the municipalities based upon the ratio of city miles to total county miles.

5. Posey County enacted an Economic Development Income Tax (EDIT) in 2009. 80% of EDIT revenue is currently reserved for maintenance and construction of county transportation facilities

6. Tax Increment Financing (TIF) funds are funds collected from a specific area and can be spent to provide infrastructure improvements to encourage development in the area.

7. Local governments may also use general obligation bonds and cumulative capital improvement funds to fund transportation improvements.

Table 5.1 documents Posey County revenue sources reported by the County Auditor's office and are reflective of 2008, 2009 and projected 2010 revenues.

Table 5.1: Local Revenue Source Averages

Local Fund Revenue Sources*	Annual Average	
Motor Vehicle Highway Account	$	1,747,783
Local Road and Street Account	$	251,732
Local Option Highway User Tax; Wheel Tax + Excise Surtax	$	512,652
Cumulative Bridge Fund	$	1,380,554
Economic Development Income Tax	$	1,784,730
Total	**$**	**5,677,452**

*County only revenues and not reflective of City/Town revenues. Future data collection should include City/Town information.

B. Operations and Maintenance Costs

In order to establish local fiscal capacity to construct new projects, it is necessary to consider the funding required to ensure the preservation of the existing transportation system (roads, sidewalks, and trails). Costs that should be included are system maintenance costs for the preservation of the transportation system such as snow & ice removal; patching pot holes and repairing shoulders; traffic control devices, including signs and signals; and highway

department labor cost; administrative costs, utilities and rent, etc. Table 5.2 illustrates revenues available for capital improvement projects by subtracting reported operations and maintenance costs from total revenue. Continued collection of this data for local agencies will yield more accurate projections, as year to year fluctuations are minimized.

Table 5.2: Available Local Revenues

	Local Revenue Average	2009 Operations & Maintenance Costs	Available Revenues
Posey County	$ 5,677,452	$ 3,992,650	$ 1,684,801

C. Pavement Management

As a mechanism to protect the County's investment in pavement structures, reduce maintenance costs, improve general safety, and restore the function of pavements on Posey County highways, the following pavement management strategies are recommended:

1. Establish a database to manage historic and ongoing records on pavement sections. The database should include the following information:
    a. Existing pavement and base material types and thickness
    b. Sub-grade soil types (and strength values, if known)
    c. Type of roadway section (rural or urban)
    d. Functional Classification
    e. Construction history (year of original construction and overlays)
    f. Maintenance history (year of seal coat, patching, etc.)
    g. Use history (ADT, extra heavy vehicle use)
    h. Field performance condition rating

    Appendix C documents recent County provided maintenance history, and can serve as a starting point for database development.

2. Perform field performance condition rating and establish a pavement quality index (PQI) on each pavement section. A field performance condition rating should be completed on 1-mile intervals to establish a rating attributed to pavement roughness (ride quality) as well as pavement distress (cracking, rutting). Table 5.1 outlines the ratings and their corresponding description.

Table 5.3: Pavement Quality Index

Pavement Quality Index	
Numeric Rating	**Description**
3.7 to 4.5	Very Good
2.8 to 3.6	Good
1.9 to 2.7	Fair
1.0 to 1.8	Poor
0.0 to 0.9	Very Good

    a. Establish a Comprehensive Pavement Rehabilitation Plan that includes:
        i. Routine maintenance–crack filling, joint filling, seal coat to counter affects of natural elements
        ii. Functional improvements–seal coat and thin overlays to improve the ride on higher volume (>1500 ADT) and/or higher functional classification routes

iii. Structural improvements–overlays to improve structural capacity of the pavement to extend life of the pavement or address high truck loads
iv. Preservation–minimal investment in pavements to keep the surface in a safe condition until reconstruction can occur
v. Reconstruction–replacement of aggregate base and pavement when pavement can no longer be improved by one of the first four strategies

b. Establish *pavement quality goals* for each roadway functional classification.
   i. Principal Arterials: 3.1 or higher
   ii. Minor Arterial: 2.8 or higher
   iii. Major Collectors: 2.5 or higher
   iv. Minor Collectors: 1.9 or higher
   v. Local Roads: 1.4 or higher

D. Land Use Decisions

Premature Development Prevention

For the purpose of prioritizing improvements and managing growth, it is necessary to consider the impacts of various land use decisions. Posey County recognizes that development should occur when necessary infrastructure or support services exist or when such necessary infrastructure improvements are constructed concurrent with and by development. Premature development is the development of land prior to the necessary infrastructure or public support services capacity being available, or development occurring without the construction of necessary infrastructure improvements. Premature development can present an unnecessary risk to new residents and businesses, increased costs to taxpayers for later provision of services, and may result in the need to redirect scarce financial resources away from priority projects.

To minimize these risks, it is recommended that Posey County, as well as Mount Vernon and New Harmony, adopt by ordinance provisions defining conditions when a development proposal may be considered premature. Such an ordinance may include infrastructure provisions (e.g. lack of roads or highways, adequate drainage, adequate potable water supply, waste disposal systems, stormwater management systems, etc.), public service capacity provisions (e.g. parks, fire, medical, schools, police protection, etc.), or inconsistently adopted plans (e.g. Comprehensive Plan, Capital Improvement Plans, etc.).

Premature development ordinance provisions related to roadways should include provisions addressing the effects that increased traffic from new development may have on substandard roadways. A roadway may be substandard based on conditions such as width, grade, stability, alignment, site distance, and paved surface condition, such that an increase in traffic volume generated by a proposed subdivision would create a hazard to public safety, or seriously aggravate an already hazardous condition, and when roads are inadequate for their intended use. Provisions should define conditions when development or redevelopment on a gravel roadway or other substandard roadway would be denied or funds required to be escrowed for future improvements.

Corridor Studies

In order to preserve opportunities for new corridors and extension/expansion corridors, it is recommended that corridor studies be undertaken, where appropriate, in a timely manner. As development continues to occur in Posey County and its communities, opportunities to develop necessary connections within the transportation system

diminish. Corridor studies may serve to identify corridor alignments and right-of-way requirements so that land use decisions can be made consistent with the intent of the County Comprehensive Plan, and future corridor right-of-way can be preserved. Awareness and communication of corridor study needs between Posey County/City of Mount Vernon Area Plan Commission, the County Highway Department, and the zoning authorities in relevant jurisdictions are critical to ensure corridor alignment opportunities are not lost through land development and/or building construction.

Public Involvement – Appendix A

Long Range Transportation Plan

A. Public Opinion Survey

Public involvement for the Transportation Plan began with the distribution of public opinion surveys (questionnaires), which asked participants to rate 10 strategies to improve upon the current transportation system, and to list their top priority for improving the transportation system. The questionnaire was distributed at public locations in Mt. Vernon and Poseyville, at an arts festival in New Harmony, and to various business and civic organizations/committees. The contents of the transportation questionnaire are shown in Figure C-1 on the following page.

Sixty usable surveys were returned. Although these surveys were informal, and had a relatively low sample size, it does offer some insights into what the general public thinks about transportation issues. These survey results should serve as a baseline with which to compare future survey results, using the same survey format. The MPO staff recommends that this process be repeated prior to future Plan updates, but to expand the sample size of the survey by using press releases and other media outreach techniques. Results of the Posey County 2010 Transportation Survey are displayed below in Table A.1.

Table A.1: Results of 2010 Posey County Transportation Questionnaire

Questions (Transportation Strategies - Importance 1-5)	Average	# of responses
Pedestrian network improvements [sidewalks; signals; paths]	3.7	56
Improve freight movement through the area	3.6	56
Bicycle facility improvements [routes; lanes; parking]	3.6	58
Intersection improvements [layout; lanes; signage; lights]	3.4	52
Widen existing roads	3.3	55
Build new roads	3.2	55
Traffic Signal Improvements	3.1	56
Ridesharing (i.e. vanpools for large employment centers)	3.0	56
Create Transit opportunities and facilities	2.9	56
Alternative work hour programs (i.e. work schedules to shift start & end times to off-peak hours; fewer work days per week)	2.9	55
Part 2 - Top Transportation Priorities & Other Suggestions (most common responses)		
Transit service (bus, car pool, taxi service requests)		10
Improve/pave existing roads (straighten, widen, general)		8
Bike/Pedestrian facilities (bikeways, trails, sidewalks)		8

Figure A-1: Contents of Informal Opinion Survey

Please rate the following strategies to improve transportation in Posey County. Consider how each of these ideas effects transportation for everyone.

How important are these improvements?

Please circle one number: 1 2 (3) 4 5 (example)

1 = Unimportant

2 = Somewhat Important

3 = Important

4 = Very Important

5 = of Highest Importance

1) Expand or improve transit [bus] opportunities and facilities…….. 1 2 3 4 5

2) Traffic signal improvements [timing; placement; coordination]…….. 1 2 3 4 5

3) Intersection improvements [layout; lanes; signage; lights]……..... 1 2 3 4 5

4) Bicycle facility improvements [on-street lanes; paths, parking]…..… 1 2 3 4 5

5) Pedestrian network improvements [sidewalks; signals; paths]…..... 1 2 3 4 5

6) Build new roads……..... 1 2 3 4 5

7) Alternative work hour programs (e.g. work schedules to shift start & end times to off-peak hours; fewer work days per week)……. 1 2 3 4 5

8) Ridesharing (e.g. vanpools for large employment centers)……..... 1 2 3 4 5

9) Improve freight movement through the area (e.g. truck routes)…… 1 2 3 4 5

10) Widen existing roads…….…….. 1 2 3 4 5

Transportation Priority: What is your top priority for the area transportation system?

1)_____

Do you have any other suggestions or comments?

_____

Do you have regular access to a personal motor vehicle? Y N

Thank you for taking time to assist us with this questionnaire!

Project List – B

Long Range Transportation Plan

Table B-1: Long Range Plan List of Proposed Projects

ID#	ROAD	LIMITS	TYPE
SHORT TERM PROJECTS: 2010 – 2018			
A-1	Lamont Road (Port of Indiana entrance)	SR 62 to Lower Mt. Vernon	Upgrade
A-2	High School Road	SR 165 to North Posey High/Middle School	Upgrade
A-3	Leonard Road	SR 69 Bypass to SR 62	Upgrade
A-4	Tile Factory Road	SR 62 to Evansville Western railroad tracks	Upgrade
A-5	Grant Street	Lower New Harmony Road to Main Street in Mt. Vernon	Upgrade
MEDIUM TERM PROJECTS: 2019 – 2027			
B-1	SR 66	SR 165 to four lane terminus east of St. Philip Road	Widen (4 lanes)
B-2	Seibert Road	Industrial Road to Leonard Road	Upgrade
B-3	Ford/Stierley Road Corridor	SR 62 to SR 66	Upgrade
B-4	Tile Factory Road	Evansville Western railroad tracks to SR 69 bypass	Upgrade
B-5	Multi-use Path	Connect New Harmony to existing path paralleling SR 69	New
LONG TERM PROJECTS: 2028 – 2035			
C-1	SR 69 Western Bypass	SR 69 N. of Mt. Vernon to SR 62 @ SR 69 west of Mt. Vernon	New (2 lanes)
C-2	Givens Road	Lower New Harmony Road to proposed western SR 69	Upgrade
C-3	SR 66	SR 165 to SR 69	Upgrade
C-4	Blake/Winery Road Corridor	SR 66 to County Line	Upgrade
C-5	High School Road/Hunter Road Corridor	SR 66 to North Posey High/Middle School	Upgrade

Paving and Rehabilitation Records – C

Long Range Transportation Plan

ROADWAY PAVING AND REHABILITATION APPENDIX C

Road Name	Limits	Mileage	Year	Treatment Type
Bald Knob Rd		0.1	2000	Asphalt
Blackburn Rd	Copperline Rd to Oliver Rd	1.5	2000	Asphalt
Blaylock Rd	Hwy 69 to Stewartsville	1.5	2000	Asphalt
Copperline Rd	Stierley Rd to Ford Rd	0.6	2000	Asphalt
High School Rd	Existing Asphalt to Hunter Rd	0.3	2000	Asphalt
Hunter Rd	Hwy 66 to High School Rd	1.2	2000	Asphalt
Meinschein Rd	Existing Asphalt to Davis Rd	0.6	2000	Asphalt
Middle Mt Vernon Rd	Ford Rd to St Philip Rd	2	2000	Asphalt
Nation Rd	Davis Rd to Ford Rd	1	2000	Asphalt
Nation Rd	Blackford Rd to Skunk Run Rd	2	2000	Asphalt
Penfold Rd	Hwy 69 to Existing Asphalt	0.4	2000	Asphalt
Spahn Rd	Ball Park to St Wendel	1.3	2000	Asphalt
		12.5	**Total 2000 Asphalt Miles**	

Blackburn Rd	Copperline Rd to Blackford Rd	0.7	2000	Overlay
Bonebank Rd	Fire Station to Oak Grove Rd	2	2000	Overlay
County Line Rd	South of Hwy 62	0.2	2000	Overlay
Springfield Rd	Wadesville to Haines Rd	3.9	2000	Overlay
		6.8	**Total 2000 Overlay Miles**	

Breeze Rd	From Nation Rd	1	2001	Asphalt on Chip and Seal
Copperline Rd	Ford Rd to Hoenert Rd	0.9	2001	Asphalt on Chip and Seal
Mackey Ferry Rd	Hwy 69 to Bald Knob Rd	1	2001	Asphalt on Chip and Seal
Nation Rd	Leonard Rd to Skunk Run Rd	1	2001	Asphalt on Chip and Seal
		3.9	**Total 2001 Asphalt on Chip and Seal Miles**	

Ford Rd	Upper Mt Vernon Rd to Copperline Rd	1.4	2001	Overlay
Maple Leaf Dr	St Philip Rd to Yellow Leaf Rd	0.4	2001	Overlay
Sassafrass Dr	Yellow Leaf Rd to Copperline Rd	0.2	2001	Overlay
St Wendel Rd	Countyline Rd to Winery Rd	0.4	2001	Overlay
		2.4	**Total 2001 Overlay Miles**	

Road Name	Limits	Mileage	Year	Treatment Type
Countyline Rd	Copperline Rd North	0.4	2002	Asphalt on Chip and Seal
Wildman Rd	Weinzapfel Rd to Upper Mt Vernon Rd	0.8	2002	Asphalt on Chip and Seal
		1.2	**Total 2002 Asphalt on Chip and Seal Miles**	
Blackford Rd	Breeze Rd to Blackford Rd	**1.5**	**Total 2002 Overlay on Existing Asphalt Miles**	
Caborn Rd	Hwy 62 to Sawmill Rd	1	2002	Overlay
Leonard Rd	Nation Rd to R/R Tracks	1.3	2002	Overlay
Lowe Rd	Cynthiana City Limits to Hwy 65	0.2	2002	Overlay
Nation Rd	Caborn Rd to Davis Rd	0.9	2002	Overlay
		3.4	**Total 2002 Overlay Miles**	
Springfield Rd	Springfield Rd	**1.3**	**Total 2003 Overlay Miles**	
Damm Rd	Hwy 66 to Luigs Rd	1.5	2003	Asphalt on Existing Chip and Seal
Harmony-Springfield Rd	Old Beech Rd to Harmony Township Rd	1.2	2003	Asphalt on Existing Chip and Seal
Mackey Ferry Rd	Old Hwy 69 to West 0.6 Miles	0.6	2003	Asphalt on Existing Chip and Seal
Midway Dr	Hwy Garage to High School Rd	0.2	2003	Asphalt on Existing Chip and Seal
Overton Rd	Bethsaida Church Rd to North of Existing Asphalt	0.9	2003	Asphalt on Existing Chip and Seal
Scherer Rd	High School Rd to Dunks House	0.7	2003	Asphalt on Existing Chip and Seal
		5.1	**Total 2003 Asphalt on Existing Chip and Seal Miles**	
Griffin Rd	South of Black River	0.4	2004	Asphalt on Chip and Seal
Hausman Rd	Wolfinger Rd to North 0.7 Miles	0.7	2004	Asphalt on Chip and Seal
Lee Rd	To West	0.4	2004	Asphalt on Chip and Seal
Lee Rd	East of Hwy 69	0.2	2004	Asphalt on Chip and Seal
Shireman Rd	North of Blake Rd	0.8	2004	Asphalt on Chip and Seal
Stone Rd	Hwy 69 to Somers Rd	1	2004	Asphalt on Chip and Seal
		3.5	**Total 2004 Asphalt on Chip and Seal Miles**	
Haines Rd	From Stierley Rd	2.9	2004	Overlay
Showers Rd	Hwy 65 to Cynthiana	1.2	2004	Overlay
St Wendel Rd	North American Green to Gries Rd	1.2	2004	Overlay
Tile Factory Rd	Mt Vernon City Limits to Hwy 69 Bypass	1.1	2004	Overlay
		6.4	**Total 2004 Overlay Miles**	

Road Name	Limits	Mileage	Year	Treatment Type
Caborn Rd	Existing Chip and Seal to Upper Mt Vernon Rd	0.7	2005	Asphalt on Chip and Seal
French Rd	0.3 Miles of Bridge	0.3	2005	Asphalt on Chip and Seal
Shireman Rd	From Blake Rd	0.7	2005	Asphalt on Chip and Seal
Upper Mt Vernon Rd	Ford Rd to Stierley Rd	0.5	2005	Asphalt on Chip and Seal
		2.2	**Total 2005 Asphalt on Chip and Seal Miles**	
Breeze Rd	Nation Rd to Blackford Rd	1.1	2005	Asphalt on Asphalt
County Line Rd	St Wendel Rd to North of County Line Rd	0.7	2005	Asphalt on Asphalt
Givens Rd	Smith Rd to R/R	0.35	2005	Asphalt on Asphalt
Smith Rd	Givens Rd to City Limits	0.3	2005	Asphalt on Asphalt
Springfield Rd	Hwy 69 East 0.5 Miles	0.5	2005	Asphalt on Asphalt
Stewartsville Rd	Lockwood Rd to Ramsey Rd	0.9	2005	Asphalt on Asphalt
Watertank Rd	East of Poseyville to Big Creek	2.6	2005	Asphalt on Asphalt
		6.45	**Total 2005 Asphalt on Asphalt Miles**	
Copperline Rd	Bufkin-Springfield Rd to Hwy 69	3.3	2005	Chip and Seal
Davis Rd	Nation Rd to Middle Mt Vernon Rd	0.8	2005	Chip and Seal
Indian Mounds Rd	R/R to Nation Rd	1	2005	Chip and Seal
Lamont Rd	Nation Rd to 0.5 Miles	0.5	2005	Chip and Seal
		5.6	**Total 2005 Chip and Seal Miles**	

ROADWAY PAVING AND REHABILITATION APPENDIX C

Road Name	Limits	Mileage	Year	Treatment Type
Baseline Rd	John Will Rd to Gish Rd	0.6	2005	Resealed
Bellefontaine Cemetery F	Lower New Harmony Rd to Industrial Rd	1	2005	Resealed
Bonebank Rd	Oak Grove Rd to Conlin Rd	0.7	2005	Resealed
Copperline Rd	Blackburn Rd to Bufkin-Springfield Rd	1.2	2005	Resealed
Gries Rd	East of St Wendel Rd	0.3	2005	Resealed
Harmony Township Rd	Hwy 69 to Rush Creek Rd	1.4	2005	Resealed
Hastings Rd	Hwy 69 to Mikes Dr	1.1	2005	Resealed
Holler Rd	Hwy 69 to Bald Knob Rd	0.8	2005	Resealed
Joest Rd	Blake Rd to Mary Anderson Rd	0.7	2005	Resealed
Lang Rd	From Romaine Rd	0.8	2005	Resealed
Mary Anderson Rd	Joest Rd to Hwy 66	1.1	2005	Resealed
Nation Rd	Indian Mounds Rd to Gun Club Rd	1.2	2005	Resealed
New Harmony Rd	South West of Stewartsville	0.9	2005	Resealed
Romaine Rd	Lang Rd to Wadesville	1.6	2005	Resealed
Saurerkraut Rd	Givens Rd to Upton Rd	0.6	2005	Resealed
Schmitt Rd	Winery Rd to Blake Rd	1.1	2005	Resealed
Section Line Rd	North of Hwy 66	0.15	2005	Resealed
Somers Rd	Stone Rd to Bethsaida Church Rd	0.6	2005	Resealed
Sphan Rd	Ball Park to Blake Rd	0.7	2005	Resealed
Will Rd	St Wendel Rd to Baseline Rd	1.2	2005	Resealed
		17.75	**Total 2005 Resealed Miles**	

Blackford Rd	From Nation Rd	1.8	2006	Asphalt
County Line Rd	Schmitt Rd to Baseline Rd	0.7	2006	Asphalt
Emge Rd	Corbett Rd to St Wendel Rd	0.4	2006	Asphalt
Hausmann Rd	Hausmann Manor to Middle Mt Vernon Rd	0.7	2006	Asphalt
St Philip Rd	From Middle Mt Vernon Rd	0.8	2006	Asphalt
Winery Rd	Luigs Rd to St Wendel Rd	2.6	2006	Asphalt
		7	**Total 2006 Asphalt Miles**	

Road Name	Limits	Mileage	Year	Treatment Type
Base Rd	Rippy Rd to Crab Orchard Rd	1.6	2006	Chip and Seal
Benthall Rd	From Existing Chip and Seal	0.7	2006	Chip and Seal
Bluff Rd	Indian Mounds Rd to Gun Club Rd	1.2	2006	Chip and Seal
Byes Rd	High School Rd to Hwy 68	1.5	2006	Chip and Seal
Copperline Rd	Base Rd to Lower New Harmony Rd & Crab Orchard Rd to existing Chip and Seal	1.75	2006	Chip and Seal
Cox Rd	Mackey Ferry Rd to Holler Rd	1	2006	Chip and Seal
Curtis Rd	East of Savah	0.5	2006	Chip and Seal
Fifer Hills Rd	Continental Camp Rd to Continental Camp Rd	1.5	2006	Chip and Seal
McKinnies Rd	Nation Rd North	0.6	2006	Chip and Seal
Raben Rd	South and North of Bonebank Rd & South of Zoar	0.9	2006	Chip and Seal
Saurekraut Lane	Mackey Ferry Rd to Lexan Rd	0.5	2006	Chip and Seal
Sharon Dr	Lavon Dr to Linda Dr	0.1	2006	Chip and Seal
Winkler Ferry Rd	Jackson Rd West	0.7	2006	Chip and Seal
		12.55	**Total 2006 Chip and Seal Miles**	

Base Rd	Upper Upton Rd to Lower New Harmony Rd	0.7	2006	Resealed
Baseline Rd	From St Wendel Rd	0.7	2006	Resealed
Caborn Rd	South of Hwy 62	2.2	2006	Resealed
Copperline Rd	East of Hwy 69	3.3	2006	Resealed
Gun Club Rd	South of Hwy 62	2.6	2006	Resealed
Hoenert Rd	Hoenert Rd to Boberg Rd	1.2	2006	Resealed
John Will Rd	Tenbarge Rd to West	1.4	2006	Resealed
Lang Rd	Romaine Rd to Hidbrader Rd	1.1	2006	Resealed
Lavon Dr	From Copperline Rd	0.15	2006	Resealed
Lower Mt Vernon Rd	Leonard Rd to Indian Mounds Rd & Carson School Rd to Ford Rd	1.8	2006	Resealed
Moye Rd	Hidbrader Rd to Romaine Rd	1	2006	Resealed
Oak Grove Rd	Bonebank Rd to the Camps	1.4	2006	Resealed
Old Evansville Rd	Stillwell Rd to Conrey Rd	1.3	2006	Resealed
Rippy Rd	Farmersville Rd to Base Rd	1.5	2006	Resealed
Romaine Rd	Moye Rd to West	1.1	2006	Resealed
Sawmill Rd	Gun Club Rd to Caborn Rd	0.1	2006	Resealed
Tenbarge Rd	John Will Rd to Spahn Rd	0.5	2006	Resealed
Upper Upton Rd	Base Rd to Upton Rd	0.2	2006	Resealed
		22.25	**Total 2006 Resealed Miles**	

Road Name	Limits	Mileage	Year	Treatment Type
Blake Rd	Wadesville to Fletshall Rd	1.4	2007	Asphalt
Copperline Rd	Wildeman Rd to St Philip Rd	1	2007	Asphalt
Copperline Rd	St Philip Rd to County Line	1	2007	Asphalt
Copperline Rd	Blackburn Rd to Bill Lang's	0.2	2007	Asphalt
Farmersville Rd	Hwy 69 to Blackford Rd	1.4	2007	Asphalt
Hartman Rd	Middle Mt Vernon Rd to Wolfinger Rd	1.5	2007	Asphalt
Overpass Rd	Wolfinger Rd to Hwy 62	0.4	2007	Asphalt
Scherer Rd	Carmichael Rd to Existing Chip and Seal	0.8	2007	Asphalt
Upton Rd	Mt Vernon City Limits to Sand Rd	2.2	2007	Asphalt
		9.9	**Total 2007 Asphalt Miles**	
Base Rd	Lower New Harmony Rd to Rippy Rd	1.3	2007	Chip and Seal
Caborn Rd	South of Darnell School Rd	0.2	2007	Chip and Seal
John Will Rd	Wagon Wheel Rd to Existing Chip and Seal	0.2	2007	Chip and Seal
Johnson Rd	Bufkin-Springfield Rd to Blackburn Rd	1	2007	Chip and Seal
Lower Mt Vernon Rd	Caborn Rd to Davis Rd	1.1	2007	Chip and Seal
Mt Pleasant Rd	High School Rd to Wagon Wheel Rd	0.5	2007	Chip and Seal
Wade Rd	Springfield Rd to Oliver-Springfield Rd	0.9	2007	Chip and Seal
Winternheimer Rd	Bluegrass Rd to Hwy 66	0.7	2007	Chip and Seal
		5.9	**Total 2007 Chip and Seal Miles**	
Bluff Rd	Port Rd to Indian Mounds Rd	1.8	2007	Resealed
Downen Rd	Hwy 66 to Hoenert Rd	1	2007	Resealed
Fletchal Rd	Scherer Rd to Blake Rd	1.5	2007	Resealed
Givens Rd	Base Rd to Sauerkraut Ln	0.5	2007	Resealed
High School Rd	Hwy 165 to Scherer Rd	1.2	2007	Resealed
Hoenert Rd	Boberg Rd to Copperline Rd	1.2	2007	Resealed
Indian Mounds Rd	R/R to Nation Rd	1	2007	Resealed
John Will Rd	Baseline Rd to Existing Chip and Seal	0.6	2007	Resealed
Lamont Rd	Lamont Rd	0.4	2007	Resealed
Mt Pleasant Rd	High School Rd to Carmichael Rd	0.8	2007	Resealed
Scherer Rd	Fletchel Rd to New Asphalt	1.2	2007	Resealed
Section Line Rd	Damm Rd to Hwy 66	0.7	2007	Resealed
Winternheimer Rd	Stierley Rd to Bluegrass Rd	1.3	2007	Resealed
		13.2	**Total 2007 Resealed Miles**	

Road Name	Limits	Mileage	Year	Treatment Type
Barter Rd	West of Ford Rd	0.7	2008	Asphalt on Chip and Seal
County Line Rd	Hwy 62 to Middle Mt Vernon Rd	0.8	2008	Asphalt on Chip and Seal
Emge Rd	Emge Rd	0.4	2008	Asphalt on Chip and Seal
		1.9	**Total 2008 Asphalt on Chip and Seal Miles**	
High School Rd	Scherer Rd to Mt Pleasant Rd	1.4	2008	Chip and Seal
Mertens Rd	Caborn Rd to Stierley Rd	1.1	2008	Chip and Seal
		2.5	**Total 2008 Chip and Seal Miles**	
Blake Rd	Schmidt Rd to Winery Rd	1	2008	Overlay
Diamond Island Rd	Rexing Rd to Vand. County Line	1.2	2008	Overlay
		2.2	**Total 2008 Overlay Miles**	
Base Rd	Crab Orchard Rd to Lower New Harmony Rd	0.7	2008	Resealed
Section Line Rd	Hwy 66 to Damm Rd	0.2	2008	Resealed
Winternheimer Rd	Hwy 66 to Stierley Rd	0.5	2008	Resealed
		1.4	**Total 2008 Resealed Miles**	
Bellefontaine Rd	Industrial Rd to Lower New Harmony Rd	1.1	2009	Asphalt on Chip and Seal
Bluff Rd		0.3	2009	Asphalt on Chip and Seal
Boberg Rd		1	2009	Asphalt on Chip and Seal
Copperline Rd		0.6	2009	Asphalt on Chip and Seal
Gumble Rd	County Line Rd to St Philip Rd	1	2009	Asphalt on Chip and Seal
Overton Rd		0.6	2009	Asphalt on Chip and Seal
		4.6	**Total 2009 Asphalt on Chip and Seal Miles**	
St Philip Rd	Middle Mt Vernon Rd to Hwy 62	2.1	2009	Asphalt on Asphalt
St Philip Rd	Creamery Rd to Hwy 66	5	2009	Asphalt on Asphalt
Springfield Rd	Hwy 69 to Wadesville	9.5	2009	Asphalt on Asphalt
		16.6	**Total 2009 Asphalt on Chip and Asphalt Miles**	

TOTALS

81.15 **Total Chip and Seal/Reseal Treatment (2005+)**

98.85 **Total Asphalt/Asphalt Overlay Treatment (2000+)**

Level of Service Tables – D

Long Range Transportation Plan

Table D-1: Annual Average Daily Traffic Volumes for Urbanized Areas

Source: 2009 FDOT Quality/Level of Service Handbook
(http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/2009FDOTQLOS_Handbook.pdf)

STATE SIGNALIZED ARTERIALS

Class I (>0.00 to 1.99 signalized intersections per mile)

Lanes	Median	B	C	D	E
2	Undivided	9,600	15,400	16,500	***
4	Divided	29,300	35,500	36,700	***
6	Divided	45,000	53,700	55,300	***
8	Divided	60,800	71,800	73,800	***

Class II (2.00 to 4.50 signalized intersections per mile)

Lanes	Median	B	C	D	E
2	Undivided	**	10,500	15,200	16,200
4	Divided	**	25,000	33,200	35,100
6	Divided	**	39,000	50,300	53,100
8	Divided	**	53,100	67,300	70,900

Class III/IV (more than 4.5 signalized intersections per mile)

Lanes	Median	B	C	D	E
2	Undivided	**	5,100	11,900	14,900
4	Divided	**	12,600	28,200	31,900
6	Divided	**	19,700	43,700	48,200
8	Divided	**	27,000	59,500	64,700

FREEWAYS

Lanes	B	C	D	E
4	43,500	59,800	73,600	79,400
6	65,300	90,500	110,300	122,700
8	87,000	120,100	146,500	166,000
10	108,700	151,700	184,000	209,200
12	149,300	202,100	238,600	252,500

Freeway Adjustments

Auxiliary Lanes	Ramp Metering	Oversaturated Conditions*
+ 20,000	+ 5%	-10% of E

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	7,800	15,600	22,200	27,900
4	Divided	34,300	49,600	64,300	72,800
6	Divided	51,500	74,400	96,400	109,400

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Major City/County Roadways	- 10%
Other Signalized Roadways	- 35%

State & Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Divided/Undivided & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 15%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6.

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/ Bicycle Lane

Coverage	B	C	D	E
0-49%	**	3,200	12,100	>12,100
50-84%	2,400	3,700	>3,700	***
85-100%	6,300	>6,300	***	***

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	**	**	5,000	14,400
50-84%	**	**	11,300	18,800
85-100%	**	11,400	18,800	>18,800

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	>5	≥4	≥3	≥2
85-100%	>4	≥3	≥2	≥1

[1] Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. Although presented as daily volumes, they actually represent peak hour direction conditions with applicable K and D factors applied. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, Pedestrian LOS Model and Transit Capacity and Quality of Service Manual, respectively for the automobile/truck, bicycle, pedestrian and bus modes.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* For oversaturated conditions during peak hour, subtract 10% from the LOS E (capacity volumes). This number becomes the new maximum service volume for LOS D, and LOS E cannot be achieved.

** Cannot be achieved using table input value defaults.

*** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
605 Suwannee Street, MS 19
Tallahassee, FL 32399-0450

Table D-2: Annual Average Daily Traffic Volume for Areas Transitioning into Urbanized Areas or Areas over 5,000 not in Urbanized Areas

Source: 2009 FDOT Quality/Level of Service Handbook

STATE SIGNALIZED ARTERIALS

Class I (>0.00 to 1.99 signalized intersections per mile)

Lanes	Median	B	C	D	E
2	Undivided	8,900	14,100	15,200	***
4	Divided	26,900	32,100	33,800	***
6	Divided	41,500	48,600	51,000	***

Class II (2.00 to 4.50 signalized intersections per mile)

Lanes	Median	B	C	D	E
2	Undivided	**	9,400	13,700	14,700
4	Divided	**	22,700	30,000	31,700
6	Divided	**	35,700	45,400	47,800

Class III (more than 4.5 signalized intersections per mile)

Lanes	Median	B	C	D	E
2	Undivided	**	4,700	10,700	13,400
4	Divided	**	11,500	25,500	28,900
6	Divided	**	18,000	39,800	43,900

FREEWAYS

Lanes	B	C	D	E
4	42,600	57,600	68,700	73,600
6	63,900	86,600	103,300	113,700
8	85,200	115,600	137,600	153,700
10	106,400	145,600	172,400	192,800

Freeway Adjustments

Auxiliary Lanes	Ramp Metering
+ 20,000	+5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	8,000	15,100	21,100	26,800
4	Divided	31,400	45,400	58,800	66,600
6	Divided	47,200	68,100	88,200	100,000

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Major City/County Roadways	- 10%
Other Signalized Roadways	- 35%

State & Non-State Signalized Roadway Adjustments

(Alter corresponding volume by the indicated percent.)

Divided/Undivided & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 15%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6.

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.

Paved Shoulder/ Bicycle Lane Coverage	B	C	D	E
0-49%	**	2,800	7,300	>7,300
50-84%	2,200	3,400	13,100	>13,100
85-100%	4,100	>4,100	***	***

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	**	**	5,000	14,400
50-84%	**	**	11,300	18,800
85-100%	**	11,400	18,800	>18,800

[1] Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. Although presented as daily volumes, they actually represent peak hour direction conditions with applicable K and D factors applied. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, Pedestrian LOS Model and Transit Capacity and Quality of Service Manual, respectively for the automobile/truck, bicycle, pedestrian and bus modes.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

** Cannot be achieved using table input value defaults.

*** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
605 Suwannee Street, MS 19
Tallahassee, FL 32399-0450

Table D-3: AADT Volumes for Rural Undeveloped Areas and Cities or Developed Areas with <5,000 Population

Source: 2009 FDOT Quality/Level of Service Handbook
(http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/2009FDOTQLOS_Handbook.pdf)

Rural Undeveloped Areas

FREEWAYS

Lanes	B	C	D	E
4	37,100	50,800	59,900	63,700
6	56,500	76,400	89,900	98,300
8	75,100	101,100	119,900	132,900

Freeway Adjustments

Auxiliary Lanes
+18,000

UNINTERRUPTED FLOW TWO-LANE HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	4,500	8,100	13,800	27,600

Passing Lane Adjustment

Alter LOS B-D volumes in proportion to passing lane length to the highway segment length.

UNINTERRUPTED FLOW MULTILANE HIGHWAYS

Lanes	Median	B	C	D	E
4	Divided	26,300	41,100	52,100	59,100
6	Divided	39,400	61,700	78,000	88,600

ISOLATED STATE SIGNALIZED INTERSECTIONS

Lanes	B	C	D	E
2	**	4,700	10,400	12,300
4	**	10,300	23,200	25,500
6	**	15,800	36,000	38,500

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/ Bicycle Lane Coverage	B	C	D	E
0-49%	**	**	**	7,800
50-84%	**	**	**	14,000
85-100%	**	4,200	>4,200	***

[1] Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. Although presented as daily volumes, they actually represent peak hour direction conditions with applicable K and D factors applied. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model and Pedestrian LOS Model, respectively for the automobile/truck, bicycle, and pedestrian modes.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

** Cannot be achieved using table input value defaults.

*** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
605 Suwannee Street, MS 19
Tallahassee, FL 32399-0450

Cities or Rural Developed Areas Less Than 5000

FREEWAYS

Lanes	B	C	D	E
4	37,100	49,900	59,400	63,700
6	54,800	74,600	89,000	98,300
8	73,300	100,200	118,700	132,700

Freeway Adjustments

Auxiliary Lanes
+18,000

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	7,800	14,200	20,000	25,600
4	Divided	23,800	37,200	48,000	54,600
6	Divided	35,600	55,800	72,000	82,000

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

STATE SIGNALIZED ARTERIALS

Lanes	Median	B	C	D	E
2	Undivided	**	9,800	13,000	13,900
4	Divided	**	23,300	28,000	29,900
6	Divided	**	36,400	42,400	45,000

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Major City/County Roadways - 10%
Other Signalized Roadways - 35%

State & Non-State Signalized Roadway Adjustments

(Alter corresponding volume by the indicated percent.)

Divided/Undivided & Turn Lane Adjustments

Lanes	Median	Exclusive Left Turn Lanes	Exclusive Right Turn Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 15%

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/ Bicycle Lane Coverage	B	C	D	E
0-49%	**	2,800	7,300	>7,300
50-84%	2,200	3,400	13,100	>13,100
85-100%	4,100	>4,100	***	***

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	**	**	5,000	14,400
50-84%	**	**	11,300	18,800
85-100%	**	11,400	18,800	>18,800