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1.0 Indianapolis 2035 Long-Range Transportation Plan Update

1.1 INTRODUCTION

The Indianapolis Metropolitan Planning Area (MPA) 2035 Long-Range Transportation Plan (LRTP) serves as the comprehensive plan for transportation investment to support the safe and efficient movement of people and goods within the Indianapolis region through the plan horizon year of 2035. The 2035 LRTP is the Indianapolis Metropolitan Planning Organization’s (MPO) primary transportation policy document. It establishes the purpose and need for major projects included in the Federal transportation funding program, identifies activities to address major transportation issues, and prioritizes investments in the transportation system.

Some pertinent Federal requirements of the 2035 LRTP are as follows. These are defined in more detail in subsequent sections of the document.

- A minimum 20-year plan horizon is required;
- The plan must be fiscally constrained; that is, activities are prioritized relative to realistic projections of available financial resources (Federal, state, local, and in some cases, private) out to the LRTP horizon year (2035);
- The plan identifies policies, strategies, and projects for the future;
- The plan focuses at the systems level, including roadways, transit, nonmotorized transportation, and intermodal connections;
- The plan must be consistent with the statewide long-range transportation plan; and
- The plan must be updated every four years in air quality nonattainment areas (such as Central Indiana).

The 2035 LRTP serves as a major update of the most recent 2030 LRTP (updated in 2009), in accordance with the four-year update required for air quality nonattainment areas by Federal transportation legislation – Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).1

---

The 2035 LRTP update addresses a number of transportation challenges:

- Future Federal transportation funding levels are uncertain. As of this writing, the current transportation funding legislation, SAFETEA-LU, has expired and is being maintained through short-term continuing resolutions; the timing on the reauthorization of a transportation bill is unknown.

- Existing transportation facilities require a significant portion of anticipated resources to be maintained. Unless funding assumptions are dramatically revised, the region can realistically expect a general decline in the quality of its infrastructure.

- Diversification of investments beyond the roadway system into transit (both bus and fixed-guideway) and bicycle-pedestrian facilities is sorely needed to ensure expanded choice for households that own a car and reasonable mobility for households without a car.

The 2035 LRTP incorporates a number of new planning and technical methods to ensure these challenges are effectively addressed. These include:

- An unprecedented public outreach process referred to as “Indy Connect,” which leverages analysis conducted by a private-sector coalition of interests concerned about transportation issues in Central Indiana, named the “Central Indiana Transit Task Force (CITTF)”;

- The 2035 LRTP utilizes new tools, including a new travel demand model;

- The 2035 LRTP expands its scope beyond roadway capacity, to explore appropriate levels of investment in transit, bicycle-pedestrian facilities, and preservation of the existing system at acceptable levels; and

- For the first time, the long-range plan considers the national trend of performance-based planning to support more effective project selection and programming decisions. A performance framework of LRTP goals, objectives and associated performance measures was established to guide plan development, with the intent to provide a more structured means to identify and prioritize transportation improvement strategies that best support attainment of long-term transportation goals. Transportation strategies and specific projects were screened through a process that considered the plan’s performance framework, public input, and financial

---

2 In late 2008, the Central Indiana Corporate Partnership, the Greater Indianapolis Chamber of Commerce, and the Central Indiana Community Foundation brought together a group of business leaders to form the Central Indiana Transit Task Force to examine the region’s transportation system. With a view to meeting Central Indiana’s mobility needs and improving its economic competitiveness, the CITTF has developed a series of recommendations for the region’s transportation system that served as input into the development of the Indianapolis 2035 LRTP.
considerations. The result is a fiscally constrained, phased program of projects to improve the transportation system over the 2035 LRTP horizon.

The 2035 LRTP was developed around a core set of steps that include:

**Defining investment needs.** Needs analysis typically occurs for both current-year travel conditions, given existing transportation infrastructure and available system capacity, and projected travel conditions, assuming certain changes in land use, population and employment growth over time. Detail related to the 2035 LRTP needs identification process is provided in Section 2.0.

**Defining long-range transportation goals and objectives and a complementary set of evaluation criteria to measure the contribution of planned investments towards achieving the goals.** For the 2035 LRTP, a detailed performance-based planning approach was developed to ensure investment decisions were made in the context of attaining stated goals and objectives. This process is defined in Section 3.0.

**Defining specific policy statements to guide investment decisions.** Policy statements typically address short-term transportation needs as well as long-term mobility and development goals. 2035 LRTP policies are defined in Section 4.0.

**Identifying and evaluating potential transportation investment solutions.** Detail related to the 2035 LRTP evaluation process is provided in Sections 5.0 through 8.0.

**Gathering input from stakeholder groups, the general public, and a spectrum of planning partner agencies.** This outreach is intended to ensure the transportation plan is vetted appropriately and developed with multiple perspectives in mind. Outreach activities are summarized in Sections 9.0 through 11.0.

**Matching available transportation revenue to cost for proposed projects (and programs) in the 2035 LRTP, to ensure it is fiscally constrained.** This fiscal leveling process is defined in detail in Section 12.0.

Elected representatives of the Indianapolis Regional Transportation Council (IRTC), staff members of various transportation, environmental, and resource agencies, local stakeholders, and interested citizens participated directly in the development of the 2035 LRTP. It was developed in accordance with SAFETEA-LU planning regulations as outlined in the Federal Highway Administration (FHWA) Metropolitan LRTP Checklist, included as Appendix A. In accordance with Federal planning regulations, the 2035 LRTP reflects latest available land use, population and employment, travel and economic activity assumptions. It identifies long-range transportation goals and specific long- and short-range investment strategies across all modes of transportation to support meeting those goals. It is fiscally constrained, and supports regional land use and economic development policies and plans. The horizon year for the plan is 2035, in accordance with the SAFETEA-LU requirement for a minimum 20-year
planning timeframe. In addition, because the Indianapolis region is an air quality nonattainment area, the 2035 LRTP also addresses transportation conformity regulations associated with the requirements of the Clean Air Act as amended in 1990.

Documentation for the 2035 LRTP update is provided in a three volume series which includes the following:

Volume I - Indianapolis Metropolitan Planning Area 2035 Long-Range Transportation Plan (this document);
Volume II - Indianapolis Metropolitan Planning Area 2035 Long-Range Transportation Plan Conformity Determination Report; and

1.2 INDIANAPOLIS METROPOLITAN PLANNING ORGANIZATION

Each urbanized area in the United States with a population of 50,000 or more, is required by Federal regulation to have a designated Metropolitan Planning Organization (MPO) with the responsibility of conducting a continuing, cooperative and comprehensive transportation planning process. The MPO is responsible for transportation planning in the area defined by the most current 10-year census as being urbanized, plus the area anticipated to be urbanized in the next 20 years. This area is known as the Metropolitan Planning Area (MPA). The present Indianapolis MPA is based on the most recent 2000 Census and includes all of Marion County and portions of the surrounding counties of Boone, Hamilton, Hancock, Hendricks, Johnson, Morgan, and Shelby (Reference Figure 1.1). The Indianapolis MPA comprises 1,337 square miles and a (year 2000) population of 1,299,722.³

³ Note that population estimates are updated to a 2010 base year for purposes of 2035 LRTP development, as described in Section 2.2.1.
Figure 1—1  Indianapolis Metropolitan Planning Area

Legend

- Interstates
- State Highways
- U.S. Highways
- Supporting Roadways
- Counties
- Adjusted Urbanized Area
- Metropolitan Planning Area

Source: Indianapolis Metropolitan Planning Organization
For MPOs such as the Indianapolis MPO, which serve an urbanized population greater than 200,000, they are further classified as a Transportation Management Area (TMA). These areas have additional Federal requirements for planning, monitoring, and maintaining the transportation system. Federal planning requirements are described in detail in Section 1.3 to 1.4, and Appendix A of this report.

In the Indianapolis MPA, the City of Indianapolis Department of Metropolitan Development (DMD) hosts the region’s MPO, but the MPO is officially directed by the IRTC. The IRTC is composed of a Policy Committee and a Technical Committee. The IRTC Policy Committee consists of elected and appointed policy officials from 36 local governments, representatives from the transit agencies, the Indianapolis Airport Authority, the Indiana Department of Transportation, and the Indiana Port Authority, as well as (nonvoting) representation from Indianapolis Metropolitan Development Commission, the FHWA, the Federal Transit Administration (FTA), and the Indiana Department of Environmental Management (IDEM). The IRTC serves as the MPO governing board and is responsible for adopting all Federally required MPO documents. The IRTC Technical Committee consists of planners and engineers from local governments and public agencies within the MPO planning area and serves as an advisory committee to the IRTC Policy Committee.

Indianapolis MPO staff coordinates and administers these official committees and their meetings and leads development of all Federally required MPO products, including: the long-range transportation plan, short-range transportation improvement program, associated transportation conformity determinations, the Unified Planning Work Program (UPWP), and Congestion Management Process (CMP).

## 1.3 Federal Transportation Planning Requirements

The Indianapolis MPO is directly responsible for developing a long-range transportation plan and short-range transportation improvement program. These plans serve as the vehicles for addressing growth and travel demand issues in metropolitan areas throughout the country. They must be updated at a minimum every four years in air quality nonattainment areas like the Indianapolis MPA (five years otherwise). Regional transportation planning by legislative definition must be comprehensive (including all modes), cooperative (involving a broad array of stakeholders and other interested parties), and continuous (ever improving and evolving). This “3-C” process directs cooperation across all levels of government to develop transportation plans which provide for comprehensive, multimodal strategies to improve regional transportation system performance.
Federal transportation planning provisions of SAFETEA-LU list eight planning factors which must be considered as part of the transportation planning process for all metropolitan areas. These factors are summarized in Table 1.1.

**Table 1.1 SAFETEA-LU Planning Factors**

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<td>1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.</td>
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<tr>
<td>2. Increase the safety of the transportation system for motorized and nonmotorized users.</td>
</tr>
<tr>
<td>3. Increase the security of the transportation system for motorized and nonmotorized users.</td>
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<tr>
<td>4. Increase the accessibility and mobility of people and for freight.</td>
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<tr>
<td>5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements, and state and local planned growth and economic development patterns.</td>
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<td>6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.</td>
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<tr>
<td>7. Promote efficient system management and operation.</td>
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<tr>
<td>8. Emphasize the preservation of the existing transportation system.</td>
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The SAFETEA-LU planning factors are codified in Title 23 Code of Federal Regulations (CFR) 450.306. Each has been considered as part of the 2035 LRTP development, as noted throughout various sections of this document. The planning factors have been addressed as appropriate, given the scale and complexity of many of the issues, including transportation system development, land use, employment, economic development, human and natural environment, and housing and community development.

In addition to the eight planning factors, a number of more specific transportation planning provisions are defined in SAFETEA-LU regulations that outline the various required elements of a long- (and short-) range transportation plan. These transportation planning requirements are codified in Title 23 CFR 450.322 and are referenced or footnoted throughout various sections of this document. Each requirement also is listed in checklist format with page number references identifying where each is addressed in the 2035 LRTP, in Appendix A of this report.

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4 23 CFR 450.306(a).
5 23 CFR 450.306(b).
Once a plan is drafted by an MPO and its governing body, it is provided for formal public review and feedback. The MPO board or policy committee must then adopt the plan prior to sending to the United States Department of Transportation (USDOT) for review and approval. USDOT approval occurs in direct consultation with the U.S. Environmental Protection Agency (USEPA) in air quality nonattainment areas, where a formal conformity determination must be made for both the long-range plan and its associated short-range transportation improvement program, as part of the approval process.

The most recent major update to the Indianapolis MPA long-range transportation plan was the 2030 LRTP, completed in 2005. The 2030 LRTP was subsequently amended in 2006 and 2007, with an update occurring in 2009. The 2030 LRTP (2009 Update) was completed to address the minimum four-year transportation plan update requirement, as well as address the provisions of new SAFETEA-LU planning regulations that were phased in during that time. The 2030 LRTP (2009 Update) was adopted on November 4, 2009 and received Federal approval on November 23, 2009.
The 2035 LRTP document contained herein satisfies the required four-year update from the 2030 LRTP (2009 Update), while also ensuring a minimum 20-year planning horizon.  

### 1.4 TRANSPORTATION CONFORMITY REQUIREMENTS

As defined by the Clean Air Act Amendments of 1990, the Indianapolis region has not met the National Ambient Air Quality Standard (NAAQS) for particulate matter and ozone. Currently, the counties of Hamilton, Hendricks, Johnson, Marion, and Morgan are considered an air quality nonattainment area under the annual NAAQS for particulate matter of 2.5 microns or less in size (PM$_{2.5}$); and the entire 9-county region is considered a maintenance area under the current eight-hour ozone standard 0.08 parts per million (ppm). Figures 1.3 and 1.4 identify the current Indianapolis MPA eight-hour ozone maintenance boundary and the PM$_{2.5}$ nonattainment boundary, in relation to the Indianapolis MPO planning area. 

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6 23 CFR 450.322 (c).
7 23 CFR 450.322 (a).
Figure 1—3  Ozone Maintenance Area

Source: Indianapolis Metropolitan Planning Organization
Figure 1—4 PM$_{2.5}$ Nonattainment Area

Source: Indianapolis Metropolitan Planning Organization
Any area designated as nonattainment or maintenance for criteria air pollutants, as defined by the Federal Clean Air Act, must address transportation conformity regulations and document how they were met in a Conformity Determination Report (CDR). The CDR is required for compliance with the provisions of the Clean Air Act Amendments of 1990 (CAA), Subsections 176(c) (1) (2) and (3), and the Transportation Conformity Rule, 40 CFR Part 93. Transportation conformity requires that state and regional transportation plans conform to the intent of the state air quality plan (State Implementation Plan (SIP)) to attain and maintain the NAAQS. Failure to conform could result in a restriction of use of Federal transportation funds. According to the CAAA, transportation plans, programs, and projects cannot:

1. Create new NAAQS violations;
2. Increase the frequency or severity of existing NAAQS violations; or
3. Delay attainment of the NAAQS.

The Indianapolis MPO is responsible for demonstrating conformity of both the LRTP and the Indianapolis Regional Transportation Improvement Program (IRTIP) for both the ozone and PM$_{2.5}$ air quality standards in its CDR\textsuperscript{8}. A demonstration of conformity entails a number of requirements, as summarized in Figure 1.5 below.

\textsuperscript{8} The US Environmental Protection Agency (EPA) is scheduled to finalize a more stringent ozone-standard shortly. Nonattainment area designations under the revised ozone standard will be based on ozone monitoring data from 2008-2010, and may impact the Indianapolis region. USEPA has not finalized their schedule for implementation of the revised standard, but the Clean Air Act mandates that nonattainment areas must demonstrate conformity within one year of designation. While this designation will not impact the 2035 LRTP, it could have a significant impact on subsequent 2035 LRTP updates and associated conformity analyses.
The CDR is a key product of the transportation planning process and ensures continued Federal funding for transportation programs and projects that contribute to attainment and maintenance of national air quality standards. The 2035 LRTP CDR is provided in Volume II of the LRTP document series.

1.5 **FINANCIAL CHALLENGES**

At the Federal level there are a number of significant transportation funding challenges impacting transportation plan development, across all scales of government – Federal, state, regional, and local. The United States, over the last 10 to 15 years, has seen declining transportation funding as revenues from taxes have failed to keep up with population and economic growth.

Federal motor fuel tax revenue, the largest current revenue source for transportation investment, has declined as a result of two key factors. First, Federal motor fuel tax revenue has not been indexed to inflation, causing population growth to rapidly outpace incoming revenue. Second, motor vehicles have become significantly more fuel efficient over the last several decades, limiting tax revenue associated with gas consumption. Recently the Highway Trust Fund (HTF), the primary transportation funding mechanism at the Federal level that is supported by Federal motor fuel tax, has been approaching insolvency - meaning that projected expenditures are expected to exceed incoming revenue. SAFETEA-LU legislation, the most recent five-year authorization of Federal transportation funds, was set to expire on September 30, 2009. The $286 billion program, which has been the law since 2005, is continuing
through temporary extensions until a major legislative reauthorization is approved. The HTF is only expected to remain solvent through the end of 2013. This will have a significant impact on the nature of the next major five-year transportation funding reauthorization, post SAFETEA-LU, when it occurs. As a result of the limitations on a dedicated transportation funding source from the HTF, much of the “new” Federal transportation funding support over the last two years has instead been associated with competitive funding grant programs such as the American Recovery and Reinvestment Act (ARRA) and TIGER I and II.

These financial challenges are mirrored at the state and local level. In addition to limited motor fuel tax revenue, the economic recession has put a significant strain on local general fund revenue sources that are often used to pay for local transportation investments directly, or provide the required local match for Federal revenue.

At the same time that revenues are diminishing across all levels of government, an increasing level of funding is needed to operate and maintain the transportation infrastructure already in place. Taken together, these two funding challenges directly impact the ability to adequately fund system preservation and maintenance for existing infrastructure or advance strategic capital investment for new roads or transit service.

Additional detail related to transportation funding for the 2035 LRTP is provided in Section 12.0 – Financial Constraint.

1.6 TRANSPORTATION PLANNING PARTNERS

Transportation planning requires participation by transportation agencies at the local, regional, state and national levels, as well as users of the transportation system to achieve established goals and objectives. MPOs are the primary entity in the planning process and are ultimately responsible for adopting and implementing transportation plans.

The 2035 LRTP represents a cooperative effort of citizens, planners, engineers, public officials, and the IRTC, who work with the MPO in developing and maintaining the plan.

Entities that participated in the planning process and development of the 2035 LRTP are listed below along with a brief description of their role in the planning process.9

---

9 23 CFR 450.322 (i)
Indianapolis Metropolitan Planning Organization (MPO)
The City of Indianapolis Department of Metropolitan Development hosts the Indianapolis MPO. The MPO is responsible for the continuing, cooperative and comprehensive (3-C) transportation planning function required of urbanized areas in order to qualify for federal transportation funds. The MPO is responsible for complying with federal requirements pertaining to transportation planning as determined in transportation authorization bills. Additional detail on the Indianapolis MPO and associated transportation planning requirements can be found in Sections 1.2 through 1.5.

Indianapolis Regional Transportation Council (IRTC)
The Indianapolis Regional Transportation Council (IRTC) is composed of a Policy Committee and a Technical Committee, both of which meet on a quarterly basis. A special, combined meeting of both committees is typically held at least once a year, and other special meetings are held as needed.

The IRTC Policy Committee serves as the MPO’s governing body and approves Federally required plans and documents. The Policy Committee is comprised of the elected and appointed policy officials of local governments and public agencies within the Indianapolis region. The IRTC Technical Committee consists of planners and engineers from local governments and public agencies within the MPA and serves as advisors to the IRTC Policy Committee. Additional detail on the IRTC is provided in Section 1.2.

United States Federal Government

United States Department of Transportation – Federal Highway Administration (FHWA) and Federal Transit Administration (FTA)
The FHWA and FTA are non-voting members on the IRTC. They provide guidance in the interpretation and implementation of Federal regulations pertaining to transportation planning. FHWA, because it has an office in the city of Indianapolis, has a greater opportunity to participate in the planning activities of the MPO and is involved with most aspects of the transportation planning process.

United States Environmental Protection Agency (EPA)
The USEPA is the national agency charged with the implementation of national air quality standards. They therefore play an important role in the determination of transportation conformity for the long-range transportation plan and short range transportation improvement program.

State of Indiana

Indiana Department of Transportation
The Indiana Department of Transportation (INDOT) is responsible for all interstates, U.S. Routes and state highways in the planning area. INDOT has the responsibility together with the MPO and Indianapolis Public Transportation
Corporation (IPTC) / IndyGo for conducting the 3-C planning process. It has the lead responsibility in the preparation of a statewide long-range transportation plan and a statewide transportation improvement program.

**Indiana Department of Environmental Management**

The Indiana Department of Environmental Management (IDEM) has the responsibility to oversee air quality planning and participate in the review of the air quality aspects of the Indianapolis regional transportation plans and programs, and transportation air quality conformity requirements.

**Municipal Governments**

**City of Indianapolis/Marion County**

The unified government of the City of Indianapolis (UniGov) encompasses Marion County with the exception of four cities which were excluded when UniGov was formed. The UniGov is responsible for all streets outside of the excluded cities and all thoroughfares in Marion County including those within the excluded cities.

**Excluded Cities and Towns in Marion County**

The cities and towns within Marion County excluded from UniGov are the cities of Beech Grove, Lawrence, and Southport; and the town of Speedway. These local public agencies are responsible for streets not on the state highway system or the official Thoroughfare Plan for Marion County.

**Other Cities and Counties**

As part of the Indianapolis MPA, Boone, Hamilton, Hancock, Hendricks, Johnson, Morgan, and Shelby counties participate in the transportation planning activities of the region. Individual incorporated cities and towns included in the MPA within these counties are represented on the IRTC.

**Other Represented Organizations**

**Indianapolis Public Transportation Corporation**

The Indianapolis Public Transportation Corporation operating as IndyGo is responsible for providing the Indianapolis/Marion County’s public transit service. IndyGo, as the public transit system operator, is included in the transportation planning process and is represented on the IRTC. As the publicly-owned transit service provider it is responsible together with the MPO and the state for conducting the 3-C planning process.

**Central Indiana Regional Transportation Authority**

The Central Indiana Regional Transportation Authority (CIRTA) was formed in 2005 to address transit needs outside of Marion County. It continues to work on the Draft Environmental Impact Statement for the Northeast Corridor rapid transit line, as well as other transit opportunities in the 10 counties which are
represented by CIRTA (Boone, Delaware, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan and Shelby).

**Indianapolis Airport Authority**

The Indianapolis Airport Authority is the public agency responsible for the operation of the Indianapolis International Airport, the region’s commercial air carrier airport, and most of the region’s reliever airports. Greenwood and Shelbyville operate their own municipal airports.

**Ports of Indiana**

The Ports of Indiana is a quasi-governmental organization that operates a statewide system of ports, foreign trade zones and economic development programs under the authority of the Indiana Port Commission, a seven-member bipartisan board appointed by the governor.

**Private Sector and Non-Profit Agencies**

Under SAFETEA-LU legislation, grantees under the Elderly Individuals and Individuals with Disabilities (Section 5310), Job Access and Reverse Commute (JARC) (Section 5316), and New Freedom (Section 5317) grant programs must meet certain requirements in order to receive funding. One of the requirements is that projects from the programs listed above must be part of a “locally developed Coordinated Public Transit-Human Services Transportation Plan.” This transportation plan is required to be developed through a process that includes representatives of public, private, and non-profit transportation services, human services providers, and the general public. IndyGo is in charge of administering this program in the Indianapolis area.

**Outreach to Other Interested Parties**

- Private providers of transportation services
- Traffic agencies
- Ridesharing agencies
- Parking agencies
- Transportation safety agencies
- Traffic enforcement agencies
- Commuter rail operators
- Airport and port authorities
- Freight companies
- Railroad companies
- Environmental organizations
- Neighborhood associations
• Local health departments
• Other city, county, and municipal departments
• Advocacy groups
• Interested citizens
• Public schools
• Private schools
• Parochial schools
• Charter schools
• Organizations representing the interest of the following:
  - Elderly people;
  - Minority populations;
  - Transportation agency employees;
  - Users of various modes of transportation;
  - Persons with disabilities;
  - Economically disadvantaged persons; and
  - Others underserved by the transportation system.
2.0 Investment Needs

2.1 INTRODUCTION

The first step in the transportation planning process involves identifying investment needs. Needs identification typically begins with evaluating current transportation system performance in the context of the latest available estimate and assumptions of multiple factors, including:

- Population, employment and various socioeconomic characteristics that impact the number and type of trips made within the region;
- Existing land use and development conditions that shape trip-making patterns as well as access to transportation systems; and
- Availability of transportation system infrastructure to address current travel demand.

In Transportation Management Areas (TMA) MPOs (greater than 200,000 population), this information is supplemented with current travel-time and congestion-related data collected through the Congestion Management Process (CMP), defined in more detail in Section 2.2.4.

Information related to current travel conditions and system performance in the region is also used to calibrate a regional travel demand model which serves as the primary tool to estimate travel conditions in the future given forecasted population and employment growth and changes to land development patterns over time. Travel forecasts are often initially developed assuming no additional investments are made to the transportation network already in place. This is referred to as a “No-Build” network. This type of forecast helps identify areas of system deficiency and, therefore, investment need, and serves as a baseline for comparison of various investment scenarios.

Investment needs also are identified through an ongoing outreach process with the public and various transportation stakeholders to enable dialogue about local transportation priorities. Statewide, regional or subregional studies (e.g., corridor studies) also serve as key inputs for the needs identification process.

Below is a summary of the needs identification, as it was conducted for the 2035 LRTP.

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10 23 CFR 450.322 (e).
2.2 EXISTING CONDITIONS

2.2.1 Population Trends

Population growth within the Indianapolis region during the period 1970 to 2008 reveals some of the emerging growth patterns of the region that have impacted travel conditions.\textsuperscript{11} Table 2.1 and Figure 2.1, below, show population growth that occurred between 1970 and 2008.

Table 2.1  Population Growth by County

<table>
<thead>
<tr>
<th>County</th>
<th>1970</th>
<th>1980</th>
<th>1990</th>
<th>2000</th>
<th>2008</th>
<th>Growth 00-08</th>
<th>Growth 70-08</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boone</td>
<td>30,870</td>
<td>36,443</td>
<td>38,147</td>
<td>46,107</td>
<td>53,969</td>
<td>17%</td>
<td>75%</td>
</tr>
<tr>
<td>Hamilton</td>
<td>54,532</td>
<td>82,027</td>
<td>108,936</td>
<td>182,740</td>
<td>260,733</td>
<td>43%</td>
<td>378%</td>
</tr>
<tr>
<td>Hancock</td>
<td>35,096</td>
<td>43,939</td>
<td>45,527</td>
<td>55,391</td>
<td>65,958</td>
<td>19%</td>
<td>88%</td>
</tr>
<tr>
<td>Hendricks</td>
<td>53,974</td>
<td>69,804</td>
<td>75,717</td>
<td>104,093</td>
<td>133,759</td>
<td>28%</td>
<td>148%</td>
</tr>
<tr>
<td>Johnson</td>
<td>61,138</td>
<td>77,240</td>
<td>88,109</td>
<td>115,209</td>
<td>135,922</td>
<td>18%</td>
<td>122%</td>
</tr>
<tr>
<td>Madison</td>
<td>138,451</td>
<td>139,336</td>
<td>130,669</td>
<td>133,358</td>
<td>131,223</td>
<td>-2%</td>
<td>-5%</td>
</tr>
<tr>
<td>Marion</td>
<td>792,299</td>
<td>765,233</td>
<td>797,159</td>
<td>860,454</td>
<td>876,198</td>
<td>2%</td>
<td>11%</td>
</tr>
<tr>
<td>Morgan</td>
<td>44,176</td>
<td>51,999</td>
<td>55,920</td>
<td>66,689</td>
<td>69,983</td>
<td>8%</td>
<td>58%</td>
</tr>
<tr>
<td>Shelby</td>
<td>37,797</td>
<td>39,887</td>
<td>40,307</td>
<td>43,445</td>
<td>43,900</td>
<td>1%</td>
<td>16%</td>
</tr>
<tr>
<td>Total</td>
<td>1,248,333</td>
<td>1,305,908</td>
<td>1,380,491</td>
<td>1,607,486</td>
<td>1,771,645</td>
<td>10%</td>
<td>42%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau

\textsuperscript{11} The data in this section reflects conditions in the nine-county area, which includes all of the eight counties that comprise the Indianapolis metropolitan planning area, plus neighboring Madison County.
Within the Indianapolis region, Marion County has long been the most populous of the nine counties. The 2008 American Community Survey results estimate Marion County’s population to be 876,198, representing 49.5 percent of the region’s total population. The proportion of population in Marion County has decreased during the past 30 years as population growth has been coupled with suburbanization. In 1970, the population of Marion County was 793,800, or nearly two thirds (63.4 percent) of the metro area’s population of 1,251,400. A particularly interesting feature of Marion County’s growth is the “trough” experienced in 1980, when, after a period of steady growth, population reached its lowest point – 766,000 residents (Figure 2.2). Since then, Marion County has experienced a modest rebound, and as of 2000 reached a new high point for total population.
While Marion County grew 10.6 percent between 1970 and 2008, Hamilton County more than quadrupled its population; Madison County lost population; Hendricks and Johnson Counties more than doubled their populations; and the other four counties collectively increased in size by nearly 60 percent. This reflects the dominance of population growth in the ring counties. From 1970 to 2008, 80 percent of the regional population growth occurred in the ring counties.

Even within Marion County, population growth has been dominated by the suburban townships. The total population in Marion County has wavered over the past 30 years, reaching a trough in 1980 but recovering in 1990 and 2000. The 1990 to 2000 period exhibited more robust growth than any period preceding. However, this growth shifted to different areas of the County. Figure 2.3 demonstrates this differential growth.
Center Township has experienced some rather severe population losses, with a 49 percent population loss from 1970 to 2008. Pike Township has experienced the greatest actual population gains and second highest percentage increase of all townships, with a 59,338-person (396 percent) increase. Lawrence Township has the second-highest actual population gain (49,951 persons) and the fourth-highest percentage increase (75 percent). Franklin Township has the highest percentage increase (399 percent) and the third-highest actual population gain (40,826). Decatur Township has the third-highest percentage increase (101 percent), but a relatively small actual increase (15,426).

The losses in Center Township require special explanation. From 1980 to 1990, a large decrease in the number of households was experienced, from about 100,000 to 70,000 at a rate of 30 percent. However, since 1990, the rate of population loss has slowed to 5 to 15 percent. Population loss in Center Township since 1990 can be attributed primarily to a decline in average household size.
Households constitute an important issue for study, as they are the statistical unit that marries population to housing, and, subsequently, to housing demand. What follows are household figures (Table 2.2 and Table 2.3) from 1980 to 2008.

Table 2.2  Household Growth by County

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Boone</td>
<td>12,647</td>
<td>13,961</td>
<td>17,081</td>
<td>20,262</td>
<td>18.6%</td>
<td>60.2%</td>
</tr>
<tr>
<td>Hamilton</td>
<td>27,263</td>
<td>38,755</td>
<td>65,933</td>
<td>92,148</td>
<td>39.8%</td>
<td>238.0%</td>
</tr>
<tr>
<td>Hancock</td>
<td>14,472</td>
<td>15,901</td>
<td>20,718</td>
<td>25,044</td>
<td>20.9%</td>
<td>73.1%</td>
</tr>
<tr>
<td>Hendricks</td>
<td>22,683</td>
<td>26,177</td>
<td>37,275</td>
<td>51,381</td>
<td>37.8%</td>
<td>126.5%</td>
</tr>
<tr>
<td>Johnson</td>
<td>25,345</td>
<td>31,435</td>
<td>42,434</td>
<td>50,810</td>
<td>19.7%</td>
<td>100.5%</td>
</tr>
<tr>
<td>Madison</td>
<td>49,985</td>
<td>49,804</td>
<td>53,052</td>
<td>51,763</td>
<td>-2.4%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Marion</td>
<td>285,092</td>
<td>319,821</td>
<td>352,164</td>
<td>356,503</td>
<td>1.2%</td>
<td>25.0%</td>
</tr>
<tr>
<td>Morgan</td>
<td>17,160</td>
<td>19,589</td>
<td>24,437</td>
<td>25,133</td>
<td>2.8%</td>
<td>46.5%</td>
</tr>
<tr>
<td>Shelby</td>
<td>13,823</td>
<td>14,767</td>
<td>16,561</td>
<td>17,112</td>
<td>3.3%</td>
<td>23.8%</td>
</tr>
<tr>
<td>Total</td>
<td>468,470</td>
<td>530,210</td>
<td>629,655</td>
<td>690,156</td>
<td>9.6%</td>
<td>47.3%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau

In the cases of Marion and Madison Counties, household growth exceeded population growth. This phenomenon occurred because of declines in average household size in these communities. Average household size has been
declining in this country for several decades, and influenced by multiple demographic trends, including persons marrying later in life, bearing children later in life, having fewer children, and living longer, among other things.

2.2.2 Employment Trends

The number of jobs in the metropolitan area has been quite stable over the past 10 years (Figure 2.4). After an increase in jobs from 755,138 in 1995 to 846,224 in 2000, the job growth rate has largely leveled off. Employment increased only 0.4 percent from 2000 to 2009.

As with population, Marion County dominates the employment in the Indianapolis region. According to data from the Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages, jobs in the County reached a peak of 598,433 in 2000, and then stabilized at approximately 570,000 jobs. The rate of change for Marion County from 1995 to 2009 was just 1.1 percent. However, during the recession in 2008 and 2009, Marion County experienced a 4.4 percent decrease in employment.

**Figure 2—4 Indianapolis Region Employment Trends**

![Bar chart showing employment trends from 1995 to 2009.](chart.png)

Source: Bureau of Labor Statistics Quarterly Census of Employment and Wages

From 1995 to 2009, the growth rate in the nine-county area was a modest 12.5 percent. Hendricks County experienced the highest growth rate at 130.6 percent, while Hamilton County saw the largest real increase in employment, with over
50,000 new jobs (Figure 2.5). The overall growth rate for employment in the ring counties, excluding Madison County, was nearly 59 percent.

**Figure 2—5  Employment by County, 1995 to 2009, First Quarter**

Marion County maintains the lead in the absolute number of jobs, representing nearly two-thirds (64.5 percent) of metropolitan employment in 2009. Hamilton County has 13 percent of metropolitan jobs.

Like the rest of the nation, the Indianapolis region has experienced a dramatic shift from jobs in the manufacturing sector to the services sector. As shown below (Figure 2.6), manufacturing jobs made up about 26 percent of all jobs in 1970 but decreased sharply to 13 percent by 1997. Conversely, jobs in the services sector increased from 16 percent in 1970 to 26 percent in 1997 - almost a mirrored reversal of the manufacturing sector.
Figure 2-6 Jobs by Major Economic Sector

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Const, Mining</td>
<td>5.0%</td>
<td>4.6%</td>
<td>6.2%</td>
<td>5.5%</td>
<td>2.8%</td>
</tr>
<tr>
<td>FIRE</td>
<td>8.1%</td>
<td>8.7%</td>
<td>8.6%</td>
<td>7.3%</td>
<td>6.7%</td>
</tr>
<tr>
<td>TCPU</td>
<td>6.0%</td>
<td>5.4%</td>
<td>5.6%</td>
<td>8.6%</td>
<td>8.8%</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>5.5%</td>
<td>5.5%</td>
<td>5.7%</td>
<td>5.3%</td>
<td>4.9%</td>
</tr>
<tr>
<td>Retail Trade</td>
<td></td>
<td></td>
<td></td>
<td>15.8%</td>
<td>17.7%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td></td>
<td></td>
<td></td>
<td>13.0%</td>
<td>13.4%</td>
</tr>
<tr>
<td>Services</td>
<td></td>
<td></td>
<td></td>
<td>22.7%</td>
<td>29.6%</td>
</tr>
<tr>
<td>Government</td>
<td></td>
<td></td>
<td></td>
<td>14.8%</td>
<td>14.7%</td>
</tr>
</tbody>
</table>

Source: Indianapolis MPO 2030 Long-Range Transportation Plan and Bureau of Labor Statistics Quarterly Census of Employment and Wages
The proportion of jobs in the other sectors has remained far more stable. Retail trade increased its share of jobs by about three percent while government (all levels) reduced its share in the metro area by almost four percent. Construction and mining, combined, made up about one percent more of the economy in 1997 than in 1970 but jobs in transportation, communications, and public utilities (TCPU), wholesale trade, and finance, insurance, and real estate (FIRE) remained fairly constant in proportion.

Due to changes to the industry classification systems, it is difficult to compare employment by industry before and after 2000. However, it is clear that the shifts in employment trends have continued, with manufacturing continuing to decrease to 10.5 percent of total employment in 2009 and the services sector increasing to 48.3 percent.

One of the factors driving the notable shift from manufacturing to services was a marked increase in machine and computer technology in the manufacturing sector. Thus, jobs could be eliminated – particularly those requiring much physical effort or repetitive work – in favor of machines and higher skilled workers who can operate the advanced machines.

Also contributing to the shift was a downsizing in the size of nonproduction workers, such as those in various support departments like personnel, accounting, legal, marketing, and finance. While such jobs are not production jobs in the sense that they manufacture goods, they were considered manufacturing jobs if they were held within manufacturing companies. In cost-cutting measures, many of these functions were moved to consulting firms, law firms, and accounting firms but the functions remained important to the manufacturing firms. In essence, the same people are performing the same tasks for manufacturing as in the past, but they are now employed by nonmanufacturing (typically service) companies and so their jobs are classified outside of manufacturing.

In the nation as a whole, manufacturing jobs made up 21.6 percent of employment in 1970 and dropped to 12.4 percent by 1997. Thus, the Indianapolis region was a relatively strong manufacturing center in the country in 1970 (26.4 percent manufacturing jobs in the metro area versus 21.6 percent nationally), but has become very similar to the nation more recently (13.0 percent in the metro area versus 12.4 percent nationally).

Likewise, the region has become more like the nation in the services sector. Services in 1970 made up 16.2 percent of jobs in Indianapolis and 18.7 percent in the country. By 1997, services made up 29.6 percent of the region’s jobs and 30.8 percent nationally.

Unemployment Rates

During the 1990s, the unemployment rate in the region (Figure 2.7) was well below the national rate. In 1990, for instance, the unemployment rate in the Indianapolis region was 3.7 percent compared to the U.S. rate of 5.5 percent.
While the rate increased relative to the nation by 1995, it still remained at a lower rate. As of March 2000, the rate in the region had been under 3.0 percent for about three years while the national rate remained above 4.0 percent.

Figure 2—7 Unemployment Rates in the Indianapolis Region and the United States

Source: Indiana Business Research Center

In 2008 and 2009, the national and regional unemployment rates experienced a sharp rise due to the recession. The regional unemployment rate reached a 20-year high of 8.5 percent, but remained lower than the 9.3 percent national rate.

Personal Income

In the last 30 years, the real personal income per job in the nation and in Indianapolis region have steadily grown. However, a “gap” between real income per job in the U.S. and in the metro area – even more so in Marion County – is widening. Thus, economic growth in the past three decades is benefiting Indianapolis area residents and employed persons but not as much as in the nation as a whole.

\[12\] Real personal income is determined by adjusting actual personal income for, in essence, changes in buying power or inflation. In this case, the adjustment was made using the Gross Domestic Product Implicit Price Deflator.
Real personal income per job (constant 1996 dollars) in the U.S. in 1970 was $31,320. This national number was higher than any of the numbers from the Indianapolis region, but also is affected by differences in local costs of living:

- For Indiana as a whole, the figure was $29,650;
- For the Indianapolis region, it was $30,140; and
- For Marion County, where most of the jobs are, it was $26,310, about 16 percent less than the national average and 13 percent lower than the regional average.

These figures indicate personal income of residents of each jurisdiction compared to the number of jobs in each jurisdiction. So the comparisons shown above do not necessarily indicate that the jobs in Marion County, for example, pay less than those in the U.S., on average. Instead, they more closely reflect a pattern of lower relative incomes of Marion County residents despite the county’s ability to attract most of the jobs in the region. In all likelihood, the higher paying jobs are being held by residents of other counties.

By 1997, this pattern had been exacerbated, even with general improvements in real income across the board. In the U.S. as a whole, real personal income per job in 1997 was $42,470, some 36 percent higher than in 1970. In Indiana, real 1997 income per job was $38,070, 28 percent higher than in 1970. In the metropolitan region, the 1997 number was $39,230, 30 percent higher than in 1970, and higher than the State average when it had been below the State in 1970. In Marion County, it was $31,330 in 1997, only 19 percent higher than in 1970, 26 percent less than the national average, and 20 percent less than the metropolitan average.

Incomes have been rising but not relative to U.S. trends, particularly in Marion County. While there have been substantial improvements in the ability of Indianapolis area residents to afford a higher standard of living, those improvements have been increasing even more rapidly in many other parts of the country.
2.2.3 Land Use

Land use in the eight-counties that comprise the Indianapolis MPO is primarily agricultural and low-density residential. Agricultural uses occupy 67 percent of the land area. An additional 15 percent of land is used for one-, two- and three-family housing. Approximately 7.5 percent of the land area currently is vacant, although much of that is planned for residential or commercial use (Figures 2.8 and 2.9).

Figure 2—8  2009 Land Use Distribution

Source: Indiana Department of Local Government Finance

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13 Data for Madison County is not included in the land use summary.
Figure 2—9  2009 Land Use Map

Source: Indiana Department of Local Government Finance
Marion County is the most urbanized county in the region. It makes up nearly 12 percent of the land area in the eight-county region, but has nearly half of the region’s industrial land, 40 percent of commercial land, three quarters of multifamily housing, 30 percent of single to three-family housing, and 20 percent of all vacant land. Marion County has only 2 percent of the region’s agricultural land. Over 40 percent of Marion County’s land area is used for residential purposes. Sixteen percent is industrial or commercial. Development and redevelopment remains an opportunity in Marion County, with nearly 13 percent of land area vacant and over 11 percent being used for agricultural purposes.

2.2.4 Transportation Infrastructure

Street and Highway System

Central Indiana is truly a crossroads for the nation’s transportation systems. At one time, Indianapolis was a crossing point for railroads. Today, four interstate highways converge on the City (I-65, I-69, I-70, and I-74). Indianapolis is served by more interstate highways than any other city in the United States. I-69 and I-74 end at I-465 (beltway), and I-65 and I-70 extend to downtown as urban freeways. With the exception of I-465, all interstate highways approaching Indianapolis provide radial, rather than cross-town mobility.

Long before the interstate highway system, major roadways in central Indiana were oriented toward Indianapolis. East-west travel is relatively difficult north of downtown Indianapolis, whether the trip is within or outside Marion County. Much higher capacity is provided north-south. West of downtown, east-west movement is facilitated by several multilane routes, but there is no good, continuous north-south route (other than I-465). Similar patterns exist both inside and outside Marion County in all four quadrants of the Indianapolis region.

There are 4,504 miles of roadway in the MPO’s 2010 network. Nearly 90 percent of the roadway currently has volume over capacity (V/C) ratios of less than 0.7 during the peak a.m. and p.m. travel periods. This indicates that those roadways are nearly always able to handle the flow of vehicle traffic moving over them. Two hundred ten miles of roadway (4.7 percent) have V/C ratios greater than 0.85, and about 90 miles of road (2 percent) have V/C ratios greater than 1. As V/C ratios get closer to or above 1.0, significant roadway travel congestion is occurring which in turn correlates to travel time delay.

While these numbers indicate that a relatively small portion of the total roadway mileage in central Indiana’s 2010 network often reaches its vehicle carrying capacity, it is helpful to understand the volume of traffic that is flowing on those congested miles of road. By combining congestion levels with total travel volumes on the various roadway segments, it is possible to estimate the amount of delay experience throughout the region. Figure 2.10 shows areas in the region with the highest amount of delay in 2010 during the morning commute.
Figure 2—102010 Daily Congestion in the Morning Peak-Period

Source: Indianapolis MPO
Bicycle and Pedestrian Facilities

The Indianapolis region is making significant strides in the provision of facilities for bicycles and pedestrians. Marion County has an extensive network of greenways totaling 38.4 miles in length, with another 103.3 miles of greenways in various stages of planning. These facilities can be used for both transportation and recreational purposes. Other trail facilities exist within Marion County, including some within the Fort Harrison and White River State parks. Those facilities are multiuse paths and are primarily recreational in nature. In addition, Marion County has over 300 miles of on-street bicycle routes.

Facilities for bicyclists and pedestrians exist in each of the eight MSA counties surrounding Marion County. The largest countywide effort can be found in Hamilton County, which has an extensive system, including the Hamilton County Alternative Transportation system (HCAT). The HCAT system promotes alternative modes of transportation. A number of trails also exist for multiuse purposes. Extensive trail systems are also being developed for multiple other cities and towns in the region.

Transit Services

The Indianapolis MPA contains both public and private transportation services. Most of the services are in Marion and Madison County. IndyGo is the largest public transportation provider in the region, serving Marion County and, on a limited basis, Greenwood, Carmel and Fishers. The fixed route service is predominantly radially oriented; meaning that virtually all buses travel downtown to the central city where transfers occur with other routes (in the downtown “loop” area). Commuters from surrounding counties have the option of driving to ad hoc park-and-ride lots at the edges of Marion County and using transit to reach destinations within Indianapolis. Commuters in Hamilton County also have the option of using the IndyGo Commuter Express (ICE), which have established park-and-ride lots in Carmel and Fishers. In Madison County, the City of Anderson Transit System (CATS) provides service in Anderson, while Transportation for Rural Areas of Madison County (TRAM) provides demand-response service in nonurban areas of the county. The other seven counties have rural on-demand transit providers offering door-to-door service.

2.3 FORECAST CONDITIONS

Updates in projected regional population and employment trends to reflect the latest economic and demographic factors influencing travel in a region are significant to the LRTP update process. The location and types of land use that are correlated with population and employment characteristics significantly affect travel needs, travel distances, and the modes of travel used.
Population, household and employment forecasts developed for the 2035 LRTP were made using a 3-step process. As a first step, base year population and household figures were calculated for 2010 based on the 2000 census figures at the block level and 2009 estimates developed by a private sector group at the block group level. Base year employment figures were based on block-level summaries of employment by 2-digit North American Industry Classification System (NAICS) codes of ES-202 (Unemployment Insurance Participation Records) employment records.

The second step of the process was a growth-factor forecast of traffic analysis zone (TAZ) district data using average annual growth rates calculated from forecasts provided by INDOT. INDOT forecasts were produced during the most recent INDOT travel demand model update. That update used official state forecasts from the Indiana Business Research Center at Indiana University's Kelley School of Business together with private-sector forecasts from Woods and Poole and INDOT's econometric model.

An Average Annual Growth Rate (AAGR) for each county was calculated using the INDOT forecasts for a 29-year period from 2006 to 2035. These AAGR county rates were then applied to all TAZ areas located within each county for the various time periods (5, 10, 20, and 25 years). The resulting forecasts are based on the assumption that development over the next 25 years will consist mostly of filling vacant land and redeveloping existing land in TAZ areas with existing population and employment.

In the third step of the process, a portion of the forecasted regional growth of 2035 population households, autos, and employment (20% of select NAICS 2-digit sectors) was redistributed to a set of TAZs to be used for transit stations. It was assumed that these TAZ areas will be developed using the concepts of Transit-Oriented Development (TOD). The density of land use development within a quarter mile of these select transit stations was estimated using rates based on those seen in other U.S. cities currently implementing TOD. Population was estimated for the full build-out of TOD using that standard. The additional population, households and employment growth allocated to the TOD TAZ zones was “taken” from non-TOD TAZ zones, conserving regional control totals.

A summary of the population, employment and land use forecasts is provided below.

### 2.3.1 Population

The population and household forecasts for the region are presented in Table 2.4 and Figure 2.11. Population is projected to grow throughout the region over the plan horizon, but at slower rates than the recent past. As with the current trends, the suburban counties will continue to experience higher growth rates than Marion and Madison Counties. It is anticipated that household growth rates will continue to exceed population growth rates, suggesting continued decreases in household size.
### Table 2.4  Population and Household Forecast

<table>
<thead>
<tr>
<th>County</th>
<th>Population</th>
<th></th>
<th></th>
<th></th>
<th>Households</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2010</td>
<td>2015</td>
<td>2025</td>
<td>2035</td>
<td>2010</td>
<td>2015</td>
<td>2025</td>
<td>2035</td>
<td>2035</td>
</tr>
<tr>
<td>Boone</td>
<td>58,462</td>
<td>64,154</td>
<td>75,547</td>
<td>89,680</td>
<td>21,938</td>
<td>24,141</td>
<td>28,522</td>
<td>34,001</td>
<td></td>
</tr>
<tr>
<td>Hamilton</td>
<td>296,959</td>
<td>328,753</td>
<td>404,186</td>
<td>497,043</td>
<td>107,265</td>
<td>119,417</td>
<td>148,405</td>
<td>184,530</td>
<td></td>
</tr>
<tr>
<td>Hancock</td>
<td>71,488</td>
<td>79,644</td>
<td>96,648</td>
<td>118,230</td>
<td>26,892</td>
<td>30,329</td>
<td>37,629</td>
<td>47,123</td>
<td></td>
</tr>
<tr>
<td>Hendricks</td>
<td>149,425</td>
<td>164,044</td>
<td>193,333</td>
<td>229,686</td>
<td>55,054</td>
<td>61,078</td>
<td>73,362</td>
<td>88,904</td>
<td></td>
</tr>
<tr>
<td>Johnson</td>
<td>145,709</td>
<td>157,017</td>
<td>179,439</td>
<td>206,305</td>
<td>55,271</td>
<td>60,092</td>
<td>69,798</td>
<td>81,650</td>
<td></td>
</tr>
<tr>
<td>Madison</td>
<td>128,178</td>
<td>128,589</td>
<td>126,528</td>
<td>125,521</td>
<td>52,993</td>
<td>53,748</td>
<td>53,944</td>
<td>54,624</td>
<td></td>
</tr>
<tr>
<td>Marion</td>
<td>867,608</td>
<td>881,389</td>
<td>925,308</td>
<td>967,151</td>
<td>362,099</td>
<td>370,036</td>
<td>393,360</td>
<td>416,257</td>
<td></td>
</tr>
<tr>
<td>Morgan</td>
<td>72,611</td>
<td>75,600</td>
<td>80,144</td>
<td>85,643</td>
<td>26,727</td>
<td>28,125</td>
<td>30,384</td>
<td>33,130</td>
<td></td>
</tr>
<tr>
<td>Shelby</td>
<td>44,495</td>
<td>45,181</td>
<td>45,549</td>
<td>46,293</td>
<td>17,202</td>
<td>17,647</td>
<td>18,124</td>
<td>18,784</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,834,935</td>
<td>1,924,371</td>
<td>2,126,682</td>
<td>2,365,551</td>
<td>725,441</td>
<td>764,613</td>
<td>853,529</td>
<td>959,002</td>
<td></td>
</tr>
</tbody>
</table>

Source: Indianapolis MPO

### Figure 2—11  Population Forecast

![Population Forecast Chart](chart.png)

Source: Indianapolis MPO
Table 2.5 indicates that within Marion County, growth rates are forecasted to be greatest in Center and Perry Townships, followed by Warren and Washington. This reflects anticipated recentralization of the city-center due to enhanced transit opportunities. Center Township should remain the most populated township of Marion County.

Table 2.5  Population and Household Forecast in Marion County

<table>
<thead>
<tr>
<th>Marion County Township</th>
<th>Population</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2010</td>
<td>2015</td>
<td>2025</td>
<td>2035</td>
<td>2010</td>
<td>2015</td>
<td>2025</td>
<td>2035</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Center</td>
<td>139,279</td>
<td>141,497</td>
<td>157,268</td>
<td>170,417</td>
<td>59,128</td>
<td>60,421</td>
<td>68,267</td>
<td>75,035</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decatur</td>
<td>26,714</td>
<td>27,140</td>
<td>27,387</td>
<td>27,859</td>
<td>9,720</td>
<td>9,933</td>
<td>10,121</td>
<td>10,406</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Franklin</td>
<td>41,104</td>
<td>41,756</td>
<td>42,143</td>
<td>42,867</td>
<td>15,345</td>
<td>15,679</td>
<td>15,976</td>
<td>16,430</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lawrence</td>
<td>123,073</td>
<td>125,029</td>
<td>129,012</td>
<td>133,296</td>
<td>47,339</td>
<td>48,373</td>
<td>50,626</td>
<td>53,015</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perry</td>
<td>94,626</td>
<td>96,129</td>
<td>105,123</td>
<td>112,791</td>
<td>39,178</td>
<td>40,042</td>
<td>44,498</td>
<td>48,434</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pike</td>
<td>93,271</td>
<td>94,755</td>
<td>95,618</td>
<td>97,272</td>
<td>39,881</td>
<td>40,754</td>
<td>41,519</td>
<td>42,689</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warren</td>
<td>93,768</td>
<td>95,253</td>
<td>100,308</td>
<td>105,060</td>
<td>38,122</td>
<td>38,959</td>
<td>41,483</td>
<td>43,931</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washington</td>
<td>123,208</td>
<td>125,164</td>
<td>130,540</td>
<td>135,852</td>
<td>57,008</td>
<td>58,259</td>
<td>61,350</td>
<td>64,519</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wayne</td>
<td>132,565</td>
<td>134,666</td>
<td>137,909</td>
<td>141,737</td>
<td>56,378</td>
<td>57,616</td>
<td>59,521</td>
<td>61,797</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Indianapolis MPO
2.3.2 Employment

The employment forecast for the region is presented in Table 2.6. Similar to population, employment is expected to increase in the surrounding counties at a higher rate than in Marion County. Employment in Marion County will experience relatively low growth rates at five percent. However the growth rate in all suburban counties, excluding Madison County is projected to be 51 percent, with Hamilton, Hancock and Johnson Counties experiencing the highest rates of employment growth.

Table 2.6 Employment Forecast

<table>
<thead>
<tr>
<th>County</th>
<th>2010</th>
<th>2015</th>
<th>2025</th>
<th>2035</th>
<th>Growth Rate 2010-2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boone</td>
<td>19,145</td>
<td>20,575</td>
<td>23,558</td>
<td>26,899</td>
<td>40%</td>
</tr>
<tr>
<td>Hamilton</td>
<td>111,594</td>
<td>123,197</td>
<td>149,496</td>
<td>182,472</td>
<td>64%</td>
</tr>
<tr>
<td>Hancock</td>
<td>19,151</td>
<td>21,118</td>
<td>25,304</td>
<td>30,665</td>
<td>60%</td>
</tr>
<tr>
<td>Hendricks</td>
<td>48,708</td>
<td>52,385</td>
<td>59,932</td>
<td>68,582</td>
<td>41%</td>
</tr>
<tr>
<td>Johnson</td>
<td>41,903</td>
<td>46,118</td>
<td>55,442</td>
<td>67,126</td>
<td>60%</td>
</tr>
<tr>
<td>Madison</td>
<td>39,865</td>
<td>39,667</td>
<td>38,364</td>
<td>37,316</td>
<td>-6%</td>
</tr>
<tr>
<td>Marion</td>
<td>556,476</td>
<td>560,235</td>
<td>573,584</td>
<td>586,908</td>
<td>5%</td>
</tr>
<tr>
<td>Morgan</td>
<td>14,775</td>
<td>15,180</td>
<td>15,828</td>
<td>16,585</td>
<td>12%</td>
</tr>
<tr>
<td>Shelby</td>
<td>16,512</td>
<td>16,836</td>
<td>17,274</td>
<td>17,842</td>
<td>8%</td>
</tr>
<tr>
<td>Total</td>
<td>868,129</td>
<td>895,311</td>
<td>958,782</td>
<td>1,034,395</td>
<td>19%</td>
</tr>
</tbody>
</table>

Source: Indianapolis MPO
2.3.3 Land Use

The land use forecast for the region was developed using the comprehensive plans of local governments in the region. The results are presented in Figure 2.12 and Figure 2.13. Agricultural and rural residential areas are projected to remain the majority at 55 percent of land area. Residential land is projected to increase to 25 percent of land area. Local governments have set aside 9 percent of the region’s land area for park and conservation purposes. Industrial, commercial and office uses are planned for 6 percent of land area. An additional 3 percent of the land will be reserved for mixed use developments.

Figure 2—2035 Land Use Forecast

Source: Indianapolis MPO
Figure 2—13 Future Land Use Projections

Source: Indianapolis MPO
2.4 Travel Demand Modeling

The primary technical tool used to support the identification of transportation need (as well as subsequent evaluation of transportation investment strategies) is the regional travel demand model. The current travel demand model applied by the Indianapolis MPO is a daily, four-step model (trip generation, trip distribution, mode choice and trip assignment). The model is used to evaluate current travel conditions in the 2010 base year, and to project transportation demand of persons and goods for forecast years 2015, 2025, and 2035. It identifies all existing and proposed regionally significant transportation facilities and reflects the latest available forecasts for land use, population, travel, employment, congestion, and economic activity, as detailed in Section 2.3. Detailed travel model documentation is currently being finalized and will be available upon request.

As part of the needs identification process, a 2035 “No-Build” model network was developed. This network serves as the basis for evaluating future-year transportation deficiencies. The 2035 No-Build network reflects all existing, regionally significant roadway infrastructure. It is run with projected 2035 socioeconomic data (as defined in Section 2.3.1 and 2.3.2). The purpose of the 2035 No-Build model is to determine the location and severity of congestion in the year 2035, if no further transportation improvements were funded above and beyond what already is in place. Needs identification then stems from evaluating where the most severe congestion issues occur. Figure 2.14 below shows the results of the 2035 No-Build congestion analysis.

14 23 CFR 450.322 (f)(1).
15 23 CFR 450.322 (f)(2).
16 23 CFR 450.322 (e).
Figure 2—14  2035 Daily No-Build Congestion in the Morning Peak Period

Legend

AM Peak Vehicle Hours of Delay per Mile

- > 250
- 50 - 150
- 150 - 250
- < 50

Source: Indianapolis MPO
2.5 **CONGESTION MANAGEMENT PROCESS**

For all planning areas with population over 200,000, a formal Congestion Management Process (CMP) is required\(^\text{17}\) to identify congested areas, provide accurate up-to-date information on existing transportation system operations and performance, and to assess alternative strategies for congestion management that meet transportation needs with an emphasis on strategies that do not add roadway capacity. The CMP is an integral component of the transportation needs identification process. It helps identify areas with high congestion (as a complement to the travel model process) and recommends appropriate strategies to help reduce the rate of growth in single occupancy vehicle (SOV) usage.

As recommended by the FHWA, there are eight key steps included in the development of the CMP. These include:

1. Define CMP Objectives;
2. Identify Area of Application;
3. Define System/Network of Interest;
4. Develop Performance Measures;
5. Institute System Performance Monitoring Plan (SOV Reduction Testing Process);
6. Identify/Evaluate Strategies;
7. Implement Selected Strategies/Manage System; and

As part of the 2035 LRTP process, the Indianapolis MPO has been able to implement a number of these steps and advance towards a more comprehensive congestion management process for the region. Following is information about the way each of these steps is being incorporated into the Indianapolis MPO’s CMP.\(^\text{18}\)

**Define CMP Objectives:** The CMP objectives are taken from the overall goals and objectives developed for the LRTP (defined below in Section 3.3). These include efficiently maintaining and using existing infrastructure – through transportation demand management, transportation system management, intelligent transportation systems and operational improvements; promoting increased travel options and connectivity between modes; and supporting local and state planning efforts that ensure transportation and land uses are complementary.

\(^{17}\) 23 CFR500.109.

\(^{18}\) 23 CFR 450.322 (f)(4) and 23 CFR 450.322 (f)(10)(v).
Identify Area of Application: The area of CMP application includes all nine counties within the Indianapolis region.

Define System/Network of Interest: The defined regional transportation network currently used for travel modeling purposes is also used as the network for the CMP. This network includes Federal aid eligible roadways and the most current planned corridors for regional transit. A second, less comprehensive set of roadway corridors also is being identified that will be used as a representative sample of corridors throughout the region for tracking the impacts on congestion resulting from various CMP strategies.

In selecting the representative sample of corridors, the focus is on roadways that typically have higher levels of congestion; that serve as important travel corridors in their particular subarea of the region; and that are, or will likely be, used for core transit routes and/or primary bicycle and pedestrian routes. Tracking changes over time on these routes will help identify the more successful and less successful CMP strategies.

Develop Performance Measures: Performance measures will be used for tracking both current conditions and changes over time resulting from modifications to the multimodal transportation network. Likely performance measures to be used include:

- Roadway segment V/C ratios, highlighting those with ratios > 0.85;
- Level of Service (LOS) ratings for transit services;
- Potential ridership anticipated along the various transit served corridors;
- Roadway corridors mapped with land use and density information as well as propensity for walkability along the corridors; and
- Regional Bicycle and Pedestrian Plan with LOS ratings. Specific measures may include:
  - Percentage of the roadway corridor with sidewalk availability;
  - Percentage of roadway with or near on-street bicycle lanes; and
  - Roadway accessibility to pedestrian districts.

In addition, a spreadsheet will be prepared that provides data for each of the core roadway segments. Any “needs” project proposed for the LRTP is proposed to be analyzed (as part of future plan updates) through this process to determine the best CMP strategies to be pursued for each. Data items will include

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19 Level of service is a means to represent traffic flow conditions on a transportation corridor, or at points along a corridor (e.g., intersection). It uses the letters A through F to represent traffic conditions, with A being the best (free flow) and F being the worst (forced, breakdown in flow).
information related to roadway characteristics (e.g., name, description, jurisdiction, length), roadway performance (e.g., daily traffic volumes, V/C), roadway function (e.g., on core bus route, express bus corridor), and possible roadway strategies (e.g., travel demand management, ITS, access management, widening). A report will be developed with a listing of the top CMP strategies for each identified roadway segment.

As part of the 2035 LRTP, Vehicle Hours of Delay (VHD) was calculated for roadways in the CMP network for both existing (2010) and project (2035 No-Build) conditions, in line with initial measurement activities. The results are shown in Figure 2.10 and Figure 2.14, and supported the LRTP needs identification process.

**Institute System Performance Monitoring Plan (Single Occupant Vehicle (SOV) Testing Process):** An initial single occupant vehicle (SOV) analysis will be conducted to estimate the potential reduction in the expected rate of growth in SOV usage that would result from implementing a series of CMP strategies throughout the region. This initial estimate will be used to identify where roadway LOS will continue to need additional capacity, even after CMP strategies are put in place. Over time, the SOV analysis will be refined through subarea analyses - to better indicate the locations and levels of impact that will result from specific types of CMP strategies.

**Identify/Evaluate Strategies:** During this step in the process, the MPO will analyze the information gathered in the performance monitoring step and determine which strategies and types of infrastructure modifications have the most impact on congestion and SOV usage.

Regional CMP strategies (support for carpooling, bicycling, etc.) as well as the most appropriate localized CMP strategies will be evaluated to determine potential alternatives to expansion. The System Performance Report will be used over time to evaluate the most successful strategies to continue pursuing.\(^\text{20}\)

Variations in types of roadways (differentiated by number of lanes, travel speeds, surrounding land uses, infrastructure design and designation for use by different transportation modes) will result in different CMP strategies being most appropriate for each. By using approved regional transit plans and regional bicycle/pedestrian plans, appropriate modal considerations will also be recommended for the various roadways throughout the region. Using these multimodal plans as a guide, a Complete Streets policy is being considered for the region. As a matter of standard practice, the policy would help assure that roadways are designed, built and maintained with very strong consideration for accommodating not only automobiles but, in accordance with recommendations from the various modal plans, for transit vehicles and non-motorized modes of travel as well.

\(^\text{20}\) 23 CFR 450.322 (f)(4).
The findings from the Performance Monitoring Plan could show that a given corridor may not need to include all of the capacity that would be required to eliminate all congestion at all times of the day, but may provide enough physical capacity to eliminate much of the congestion in the off-peak periods and shoulders of the peak period. Reliance on identified congestion management strategies could then be utilized to help improve traffic flow, primarily during the peak periods.

**Implement Selected Strategies/Manage System:** As part of the MPO’s ongoing planning processes, information about the best ways to minimize increases in SOV usage and maintain a strong transportation network while limiting roadway expansions will be used to help select the types of projects to be included in future editions of the LRTP and the Indianapolis Regional Transportation Improvement Program (IRTIP). This information will primarily be learned through data compiled in the regularly produced CMP Performance Reports as well as through travel demand modeling work to analyze impacts of various changes to the region’s transportation network.

**Monitor Strategy Effectiveness:** The CMP Performance Measurement Report will examine the effectiveness of CMP strategies at both the regional level and corridor level. Examples of measures that may be used to examine CMP strategy effectiveness at the regional level include:

- Vehicle Miles Traveled (VMT) by roadway level of service;
- Bicycle facility miles per roadway (centerline miles);
- Number of carpools/vanpools;
- Bicycle crashes;
- Sidewalk miles per roadway (centerline) mile;
- Crashes involving pedestrians;
- Percent of population near transit;
- Percent of transit service by headway;
- Transit passengers per revenue hour;
- Transit cost per passenger trip; and
- Transit farebox recovery.

Examples of potential corridor measures to be examined include:

- Corridor weighted Volume to Maximum Service Volume ratio (V/MSV);
- Percentage of roadway corridor miles with on-road bicycle facilities;
- Percentage of roadway corridor miles with sidewalks;
• Transit passengers per revenue mile; and
• Transit service headway.

2.6 REGIONAL STUDIES

As part of the MPO’s continuing, coordinated and comprehensive process of analyzing the transportation needs for the Indianapolis MPA, numerous studies and plans have been completed to help identify strategies and investments to help improve various elements of the region’s transportation network. Studies have focused on roadway corridors, intersections, or sub-area networks; transit plans – both region-wide and in specific corridors or sub-areas; freight related issues; bicycle and pedestrian plans as well as related data gathering and geographic information based work.21

Following is a list of some of the key planning studies conducted over the last few years which helped to determine investment needs and investment strategies for addressing the region’s transportation issues.

Avon - US 36 Thoroughfare Study

The purpose of this study is to take a broad look at east-west transportation needs in Avon. The entirety of Washington Township is being considered as the study area since Avon’s corporation lines are irregular. US 36 is the primary east-west route through Avon, and INDOT has studied widening US 36 from four travel lanes to six (three in each direction, plus turn lanes). INDOT’s studies, however, considered US 36 in the context of the entire network of state-owned highways, and did not consider the impacts on adjacent local roadways. INDOT’s US 36 project has been postponed, and the future of the widening is in doubt. The MPO has continued to work with Avon for solutions other than widening US 36.

Hancock County – Mount Comfort Road / CR 600 W Corridor Study

The study is examining transportation needs in the northeast and eastern parts of the greater Indianapolis region. The area is served with radial connections to the Indianapolis urban center however there is a need for a safe, high capacity roadway to provide north-south connectivity for the communities in this growing area.

Johnson County East-West Transportation Enhancement Project: Stones Crossing Road (CR 700N) and Worthsville Road (CR 750N) from SR 37 to I-65

Increasing residential and commercial growth in Johnson County led to this analysis, looking at a corridor that could provide improved east – west access

21 A complete listing of studies the MPO has sponsored, along with copies of the studies, is on the Indianapolis MPO website at www.indympo.org.
through the county. State Road 37 and I-65 are the end-points for the analysis; however, further efforts have extended the corridor east into Shelby County. The Worthsville Road crossing at I-65 has been identified as the location of a potential interchange and will likely see further analysis.

**Northeast Corridor Transit**

The central Indiana region has recognized the need for transportation improvements in the Northeast Corridor for several decades. In 1980, a planned extension of I-69 between I-465 and the I-65/I-70 junction on the northeastern edge of downtown Indianapolis (I-465) was cancelled by the mayor of Indianapolis and the governor of Indiana due to concerns about community impacts. As population and employment in the corridor continued to grow through the 1980s and 1990s, existing arterial and expressway routes experienced increasing levels of congestion. In 2001, the ConNECTions study recommended an alternative that included a combination of highway and transit improvements. The highway element, including added travel lanes and interchange improvements on SR 37, I-69, and I-465, was advanced to the preparation of a Final Environmental Impact Statement, with issuance of a Record of Decision in February, 2002. At the most critical locations, some of these highway improvements have been implemented. Others are currently in the design phase, to be implemented during the next five years. Proposed transit improvements, including peak-period commuter rail service on the Hoosier Heritage Port Authority (HHPA) Railroad (former Nickel Plate Railroad) between Indianapolis and Noblesville, more intensive all-day light rail service on the HHPA Railroad inside I-465, and supporting bus improvements, were deferred pending further study.

Additional transit studies were initiated by the Indianapolis MPO in the DiRecTionS study, initiated in 2003. Phase 1 of the DiRecTionS study evaluated transit improvements at a regional system-wide level, with consideration of three transit technology options in six radial corridors extending from downtown Indianapolis. Phase 2 evaluated alignment options in each corridor and considered system-wide implementation strategies and phasing. In 2004, the policy committee of the Indianapolis MPO affirmed the Northeast Corridor as the highest priority corridor for fixed guideway transit investment. Four alignment options and four technology options were evaluated for the Northeast Corridor in Phase 3 of DiRecTionS. In 2008, the MPO policy committee unanimously selected the HHPA Railroad alignment and rail technology as the preferred strategy for fixed guideway transit in the Northeast Corridor.

In 2009, IndyGo explored alternative sites for a downtown transit center site and associated bus circulation options. A site adjacent to Union Station was identified as the preferred location. A concentration of downtown transit services on the Capitol Avenue / Illinois Street one-way pair was also identified as a preferred operational improvement to the current transit loop. Concurrently through 2009, the Central Indiana Transit Task Force (CITTF), a partnership of private sector business leaders and community foundations and public-sector
planning and transportation agencies, studied regional transportation strategies using an economic cost-benefit analysis approach. The results of the study, released in February 2010, identified a combination of highway improvements, managed lanes, and expanded transit service as the regional investment strategy with the greatest return on investment.

In the Northeast Corridor, a combination of peak-period commuter rail service to 116th Street in Fishers, all-day frequent service south of 38th Street, and enhanced bus service was recommended. The study also underscored the economic development, community livability, and regional competitiveness opportunities that the multimodal investment strategy could generate.

In February 2010, the Indianapolis MPO initiated a year-long process known as Indy Connect. The CITTF recommendation was used as the starting point for the development of the transit element of the plan. The Northeast Corridor EIS is being prepared consistent with and in coordination with the Indy Connect initiative.
3.0 Long-Range Goals, Objectives and Performance Measures: a Performance-Based Planning Process

3.1 INTRODUCTION

Once transportation needs, both current and forecast, are identified, the next step in plan development is defining an objective process to evaluate and select investment strategies that best address regional need. As part of the development of the 2035 LRTP, a *performance-based* planning process was developed to guide decisions regarding transportation investment in the Indianapolis region.

Performance-based planning consists of five basic elements as illustrated in Figure 3.1.

*Figure 3—1 Elements of Performance-Based Planning*
Establish Goals and Objectives. A goal is a general statement of purpose that reflects a desired end. An objective is an intermediate step required to reach a goal and is more focused and more easily measured.

Select Performance Measures. Performance measures are used to evaluate investment options and monitor progress towards achieving goals and objectives. The criteria for selecting measures often include: feasibility of calculating, policy sensitivity, ease of understanding, and usefulness in decision-making. They should help address questions such as:

- Are the proposed investment strategies helping to attain our longer-term transportation goals?
- Are we identifying and evaluating appropriate transportation strategies?
- Are we investing in transportation as efficiently and effectively as possible?

Identify Targets. A target is a specific value for a performance measure that an agency hopes to achieve.

Allocate Resources. In the context of long-range planning, resource allocation is the process of prioritizing projects based on their expected impact on system performance.

Measure and Report Results. From a long-range planning perspective, this step entails tracking progress towards overall goals and objectives, rather than tracking the performance of individual projects.

Throughout the U.S., the MPO community has become increasingly proactive in implementing performance-based planning over the last several years. MPOs must develop fiscally constrained long-range plans and recent, significant transportation funding issues have served as an immediate driver for developing more structured and transparent performance-based decision-making processes.

3.2 2035 LRTP PERFORMANCE-BASED PLANNING FRAMEWORK

To help implement a transparent, performance-based planning approach for the 2035 LRTP, a “performance framework” was designed to convey the following:

- The key resource allocation steps that occur during the plan development process;
- The performance assessment that occurs at each step and how it is intended to inform the decisions made at that point; and
- The linkage to long-range transportation goals and objectives, to ensure decisions are made with the desired end-state in mind.
The framework developed for the 2035 LRTP addresses three key components. These components served as the main building blocks for the analysis conducted as part of the LRTP update effort and include (as shown in Figure 3.2):

- **Network analysis** - Evaluation of the impact of different funding allocations across various transportation programs (e.g., roadway expansion, roadway preservation, transit, etc.) on the performance of the transportation network. This analysis was used to inform the preferred, relative distribution of funds across transportation investment areas.

- **Corridor analysis** - Identification of corridors of greatest strategic importance for the region, based on objective criteria, to inform project evaluation for roadway projects. Note: for the transit program, this level of analysis involved development of a broader Transit Vision Plan to identify strategic, focus areas for transit investment (by geographic segment and transit mode, as opposed to only transportation corridor).22

- **Project analysis** - Evaluation and prioritization of proposed roadway and transit expansion projects.

Each level of the framework (network, corridor, project) defines a key decision point in the resource allocation decision-making process that occurred as part of 2035 LRTP development. Performance analysis at each level was conducted in the context of the long-range goals and objectives (defined in Section 3.3 below) to ensure a common link to the planning direction for the 2035 LRTP.

22 Transit evaluation for the 2035 LRTP was supported by a stand-alone transit planning effort referred to as the Transit Vision Plan; the first regional transit planning endeavor conducted in Indiana to define a long-range vision for transit expansion and a finance plan for implementing the vision.
Figure 3—2 2035 LRTP Performance Framework
3.3 GOALS AND OBJECTIVES

The first step in a performance-based approach is to define the region’s long-term transportation goals and objectives. As a starting point for the 2035 LRTP, the goals and objectives established for the previous 2030 LRTP (2009 Update) were reviewed to assess if they should be updated. The existing goals and objectives had been vetted extensively through the 2030 LRTP planning process and were approved by both the IRTC Policy and Technical Committees. As part of the 2035 LRTP update, the IRTC conducted a subsequent review of the goals and objectives, but no changes were made. These goals and objectives are provided in Table 3.1.

For the previous and current LRTP, the goals and objectives align with SAFETEA-LU planning factors (defined in Section 1.3) to clearly demonstrate the link between the regional transportation plan and Federal planning requirements.

Table 3.1 2035 LRTP Goals and Objectives

<table>
<thead>
<tr>
<th>Goals</th>
<th>Objectives</th>
</tr>
</thead>
</table>
| **Goal 1**: Preserve, make safe, and improve utilization of the existing transportation system. | **Objective 1**: Maintain the existing network in a state-of-good repair.  
**Objective 2**: Use cost-effective transportation system management, transportation demand management, intelligent transportation system, and operational improvements and techniques to increase the efficiency and safety of the existing transportation system. |
| **Goal 2**: Enhance regional transportation mobility and accessibility. | **Objective 1**: Provide cost-effective transportation improvements to address identified mobility problems and reduce the growth in traffic congestion.  
**Objective 2**: Provide appropriate travel options and choice for all users, including auto, transit, paratransit, bicycle, and pedestrian.  
**Objective 3**: Improve accessibility to regional employment and activity centers.  
**Objective 4**: Enhance connections between modes.  
**Objective 5**: Support commercial goods movement within and through the region. |
| **Goal 3**: Coordinate transportation system improvements to be consistent with regional values. | **Objective 1**: Partner with state and local jurisdictions to ensure transportation and land use are complementary.  
**Objective 2**: Enhance transportation system sustainability and minimize impacts of the transportation system to the built and natural environment.  
**Objective 3**: Support regional economic development.  
**Objective 4**: Support transportation security. |
3.4 PERFORMANCE MEASURES

The next step in the performance-based approach is to define performance measures. Measures were selected based on the following guiding principles:

- Measures should relate to the regional goals and objectives listed above;
- Measures should vary based on the specific needs of the three key LRTP components – network analysis, corridor analysis, and project analysis;
- Measures should rely only on existing and readily available modeling tools and resources; and
- Measures should focus on a “vital few” – redundant and duplicative measures should be avoided, as well as measures that cannot be clearly communicated to decision-makers and the public.

Final performance measures used for 2035 LRTP evaluation are shown in Table 3.2. Detail on how the measures were applied as part of 2035 LRTP development are provided in Sections 5.0 through 7.0. The measures vary by level of analysis (network, corridor, project), given the type of resource allocation decision the measurement was intended to support, but measurement activities always align with broader goals and objectives of the 2035 LRTP.

Table 3.2 Performance Measures

<table>
<thead>
<tr>
<th>Goal</th>
<th>Performance Measure</th>
<th>Plan Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal 1: Preserve, make safe, and improve utilization of the existing transportation system.</td>
<td>Percent of pavement in good condition</td>
<td>Network Analysis: X; Corridor Analysis: X; Project Analysis: X; Plan Monitoring: X</td>
</tr>
<tr>
<td></td>
<td>Percent of bridges in good condition</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crash rates</td>
<td></td>
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<tr>
<td>Goal 2: Enhance regional transportation mobility and accessibility.</td>
<td>Reduction in peak-period delay</td>
<td></td>
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<tr>
<td></td>
<td>Volume to capacity ratio</td>
<td></td>
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<tr>
<td></td>
<td>Intercorridor connectivity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Intracorridor connectivity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Potential trips served by transit service</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Importance to freight mobility</td>
<td></td>
</tr>
<tr>
<td>Goal 3: Coordinate transportation system improvements to be consistent with regional values.</td>
<td>Changes in population and employment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Industry cluster support</td>
<td></td>
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<tr>
<td></td>
<td>Land use intensity</td>
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</tr>
</tbody>
</table>
3.5 **TARGET SETTING**

As part of the 2035 LRTP performance framework, the relationship between performance and budget was evaluated. This process provided decision-makers with an opportunity to reach consensus on an overall vision for transportation in the region and enable them to address two basic questions:

- Over the planning horizon, what is the preferred spending level among the following program areas – pavement preservation, bridge preservation, roadway expansion, bicycle and pedestrian facilities, transit, and operations and maintenance?
- What performance can be achieved with these spending levels?

The measures used for this analysis are network-level measures that link funding levels to system performance. The intent was to help decision-makers understand funding tradeoffs and establish relative priorities across program areas. Detail related to the network level analysis is provided in Section 5.0.

3.6 **ALLOCATE RESOURCES**

All levels of analysis (network, corridor and project) were applied to guide how resources are allocated in the 2035 LRTP. Results of the network and corridor analyses served as input into the project-level evaluation, with a final feedback loop between the total cost of projects and programs funded in the plan and the funding decisions made at the initial network step. Ultimately, the final set of projects and programs identified in the plan is intended to represent a cost-constrained set that reflects the funding targets developed during the network analysis.

3.7 **MEASURE AND REPORT RESULTS**

Table 3.2 presents a set of performance measures that can be used for performance monitoring through 2035 LRTP implementation. Section 5 documents 2010 performance levels and provides a baseline for these monitoring efforts.
4.0 Regional Transportation Policy

4.1 INTRODUCTION

An important component of the 2035 LRTP is the policy foundation that is used to guide plan development and help shape proposed system improvements that will address the transportation needs of the region. The policy statements documented below were developed through a series of stakeholder interviews conducted as part of 2035 LRTP development. Focused interviews were conducted to ensure that policy statements were developed in a collaborative forum, with multiple perspectives taken into account. Policy statements are intended to address both the region’s transportation needs and stated goals and objectives for the LRTP, while addressing the many issues, needs and opportunities that were identified through the stakeholder interview process.

4.2 2035 LRTP POLICY STATEMENTS

Many of the following policies were directly implemented for the 2035 LRTP, while others will be used to shape the MPO work program and plan development in the future.

4.2.1 Goal #1: Preserve, make safe, and improve utilization of the existing transportation system

Policy 1 – Continue to promote the safety of both motorized and nonmotorized transportation users within the Indianapolis region.

In addressing this policy, safety should be a key factor when identifying and prioritizing system preservation, capacity expansion and transit projects for the region’s Long-Range Transportation Plan and Indianapolis Regional Transportation Improvement Program. In addition safety audits are encouraged during project design to identify potential safety enhancements that could be incorporated into each project.23

23 23 CFR 450.322 (h)
Implementing agencies: project sponsors; Indianapolis MPO

Policy 2 - Maximize the efficiency of the existing transportation system in reducing congestion and enhancing the region’s mobility through such alternatives as transportation demand management and operational enhancements in lieu of single occupant vehicle (SOV) capacity expansion projects.

In addressing this policy, the Congestion Management Process (CMP) will serve as a starting point for assessing non-SOV options for the plan.

Implementing agencies: project sponsors; Indianapolis MPO

4.2.2 Goal #2: Enhance regional transportation mobility and accessibility

Policy 3 - Expand focus on multimodal transportation options, building on the “Complete Streets” strategy which currently is under development, including transit, bicycling and pedestrian modes, identifying investment options in alternative modes to encourage diversion from congested highway corridors.

In order to be effective, this policy should incorporate an educational process through which the region gains an understanding of the behavioral and land use changes that would be required in conjunction with an expanded multimodal focus and subsequent acceptance and usage of alternative transportation modes. Possible strategies for addressing this policy would include transit-oriented development (TOD) and related programs that encourage walkable communities, as well as incentives to encourage alternative modes in conjunction with disincentives for SOV usage. In addition, a portion of traditional highway funds should be shifted to transit.

Implementing Agencies: IndyGo, CIRTA, MPA jurisdictions, Indianapolis MPO, INDOT

Policy 4 - Support the creation or restructuring of a regional transportation authority which would integrate CIRTA and IndyGo, to serve as a comprehensive multicounty governance structure for transit in central Indiana.

In conjunction with the creation of such an organization, legislative action will be required to establish its board structure, address funding sources, identify functions and define the process through which counties join the organization. This new structure would serve as a catalyst for the continued development of a regional approach to transit in the Indianapolis region.

Implementing agencies: CIRTA, IndyGo, state legislators, Indianapolis MPO, counties
**Policy 5** – Encourage enhanced freight mobility through a combination of more efficient use of existing freight infrastructure and expanded freight infrastructure in the Indianapolis region, taking advantage of opportunities to capitalize on freight mobility as an economic development incentive.

In conjunction with this recommendation, the region should identify and take advantage of potential funding programs for freight-related projects. In addition, the project evaluation process should continue to include freight-related performance measures to ensure the consideration of freight enhancing projects in the programming process. The region also should promote practices to facilitate freight movements that minimize impacts in a variety of land use and development environments.

**Implementing agencies**: MPA jurisdictions, private sector partners, Indianapolis MPO

**4.2.3 Goal #3: Plan, design, and implement coordinated transportation system improvements to be consistent with regional values**

**Policy 6** – Promote the alignment of regional and local policies that ensure consistency across the region in terms of land use, economic development, and the efficient movement of both people and goods, while ensuring sustainable regional development.

The MPO should provide a forum for ensuring that local agencies understand the importance of making local decisions that support regional goals, with emphasis on smart growth concepts. In addition, both regional and local planning should reinforce the linkages between transportation, land use and economic development.

**Implementing Agencies**: Indianapolis MPO, MPA jurisdictions

**Policy 7** – Promote environmental stewardship and sustainability by supporting regional planning decisions that protect and enhance the environment, promote economic prosperity, ensure social equity, conserve natural resources, and enhance the region’s quality of life.

Consultation with environmental agencies on a regular and ongoing basis is a vital component of implementing this policy. In addition, a regional approach to integrated planning is essential in promoting a sustainable region.

**Implementing Agencies**: environmental agencies, INDOT, Indianapolis MPO, MPA jurisdictions
**Policy 8** – Promote a transportation system for the region that is secure for motorized and nonmotorized users, while at the same time playing a vital role in ensuring the security of the region in terms of disaster preparedness.

Continued coordination with Homeland Security, emergency management agencies and emergency responders is essential in implementing this policy.\(^\text{24}\)

**Implementing Agencies:** INDOT, Indianapolis MPO, IndyGo, Indiana Department of Homeland Security, County Emergency Management Agencies

### 4.2.4 Plan Development Policies

**Policy 9** – Promote the use of new and innovative alternative financing strategies to better match the region’s changing multimodal needs.

For example, these strategies should include the allocation of a portion of traditional highway funds for transit. In addition, nontraditional funding sources should be explored, such as congestion pricing, parking taxes, and public-private partnerships, as well as local revenue options.

**Implementing Agencies:** Indianapolis MPO, state legislators, MPA jurisdictions

**Policy 10** – Continue to implement a performance-based approach to planning and programming to identify and prioritize projects for the Indianapolis region.

Not unlike other regions in the country, the Indianapolis region will have more transportation needs than funding in the years ahead; therefore, they must make tough decisions regarding which projects to fund. A performance-based prioritization methodology will provide a transparent and quantitative means of project evaluation which will ensure accountability within the project selection process. This approach combines a benefit/cost type of analysis with an assessment of how well each potential project supports stated policy goals and objectives.

**Implementing Agencies:** Indianapolis MPO

\(^{24}\) 23 CFR 450.322 (h)
5.0 2035 LRTP Network Analysis

5.1 INTRODUCTION

Network analysis was a critical early step in the 2035 LRTP development process. The intent of the network analysis was to help stakeholders understand the implications of investment decisions on the transportation system as a whole. The analysis helped to frame a series of tradeoff discussions regarding the relative priority between the following six program areas:

- Pavement preservation;
- Bridge preservation;
- Roadway expansion;
- Transit expansion;
- Bicycle and pedestrian expansion; and
- Operations and maintenance.

In this context, relative priority was expressed in terms of the percent of available revenues allocated to each program area over the plan horizon. The network analysis combined quantifiable performance-based assessments in three program areas, with qualitative assessments in the other three. The results of the network analysis shaped the relative funding distribution across the program areas, and provided a first real link between resource allocation and the region’s stated goals, objectives and policy direction.

5.2 SCENARIO DEVELOPMENT

As part of the network analysis, a number of funding allocation scenarios were developed to demonstrate the performance impact of various funding allocations across program areas. To support scenario development, analysis was conducted in order to determine the relationship between funding levels and future performance in three program areas – pavement preservation, bridge preservation, and roadway expansion.
Pavement preservation. The measure used for the pavement preservation program areas is “percent of lane-miles in good condition.” “Good” condition is defined based on Pavement Serviceability Rating (PSR) thresholds defined by the FHWA for use in identifying deficient pavements. If a pavement segment has a PSR greater than the deficient threshold, it is considered “good.” The main input into this analysis was the Highway Performance Monitoring System (HPMS) data set compiled by INDOT. The analysis was conducted with the FHWA’s Highway Economic Requirement System – State Version (HERS-ST), which relies solely on HPMS data as input. National default values developed by FHWA were used for all system parameters. Figure 5.1 illustrates the results of the analysis for the entire Federal-aid eligible roadway network in the region. The star on the graph indicates that currently 78 percent of pavement in the region is in good condition.

Figure 5—1  2035 Pavement Performance versus Annual Budget

![Graph showing the relationship between annual budget and percent of pavement in good condition in 2035. The graph indicates that the current condition is 79%.]
**Bridge preservation.** The measure used for the bridge preservation program is “percent deck area on bridges in good condition.” “Good” condition is defined based on Structural Deficiency (SD) status. If a bridge is not classified as SD, it is considered to be in “good” condition. The main input into this analysis was the National Bridge Inventory (NBI) data set compiled by INDOT. The analysis was conducted with the FHWA’s National Bridge Inventory Analysis System (NBIAS), which relies solely on NBI data as input. National default values developed by FHWA were used for all system parameters. Figure 5.2 illustrates the results of the analysis for the entire Federal-aid eligible roadway network in the region. The star on the graph indicates that currently, 98 percent of the network is in good condition. The graph illustrates that it is not feasible to maintain this level over the planning horizon within the funding ranges analyzed as part of plan development.

**Figure 5—2  2035 Bridge Performance versus Annual Budget**

![Graph showing bridge performance vs annual budget](image)
**Roadway expansion.** The measure used for the roadway expansion program was “percent reduction in peak-period delay.” The regional travel demand model was used for this analysis. The model was used to estimate the peak-period delay within a half-mile buffer of each proposed expansion project for a Build and No-Build scenario. Projects were then ranked based on the ratio of hours of delay savings to cost, and cumulative delay savings was calculated for various funding levels (as the budget increases, more projects can be implemented and therefore more delay can be saved). Figure 5.3 illustrates the results of this analysis. Maintaining the 2010 level of delay over the plan horizon would require a 60 percent reduction in the 2035 no-build delay. This level of delay reduction is illustrated on the figure by the star. The figure indicates that this level of delay reduction is not feasible given the current set of potential roadway expansion projects that have been identified for the region.

*Figure 5—3  2035 Delay Reduction versus Annual Budget*

Three additional program areas also were included in the scenario analysis – bicycle and pedestrian facility expansion, transit expansion, and operations and maintenance (O&M). While performance in these areas was not analyzed as part of the scenario development process, they were included to provide a comprehensive, fiscally constrained view of funding options in the region.

Using the results from Figures 5.1, 5.2, and 5.3, four initial funding scenarios were developed (in this context, a scenario represents a different split of available funds between the program areas):

- Current allocation – this scenario represents the distribution of funds reflected in the 2009 to 2012 IRTIP.
• Preservation first – in this scenario, all non-operations and maintenance funds have been applied to pavement and bridge preservation. (Note that the O&M split was held constant in all scenarios at a level that reflects historic spending levels.)

• Multimodal expansion – this scenario includes funds for expanding roadway and bicycle and pedestrian networks.

• Transit shift – this scenario is the same as the multimodal expansion scenario, except that 10 percent of the funds have been shifted from the roadway expansion program to the transit expansion program.

Table 5.1 presents the four initial scenarios. The “% funding split” column indicates the percent of available funds allocated to each program area over the plan horizon. The development of the funding projections incorporated into this analysis is described in Section 12.0. Table 5.1 also indicates the expected impact on system performance for each scenario.
# Table 5.1 Initial 2035 LRTP Funding Scenarios

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</thead>
<tbody>
<tr>
<td>Pavement Preservation</td>
<td>% of pavement in good condition</td>
<td>Pavement Preservation</td>
<td>% of pavement in good condition</td>
<td>79%</td>
<td>20% 28%</td>
<td>37% 65%</td>
<td>19% 25%</td>
<td>19% 25%</td>
</tr>
<tr>
<td>Bridge Preservation</td>
<td>% of bridge deck area in good condition</td>
<td>Bridge Preservation</td>
<td>% of bridge deck area in good condition</td>
<td>97%</td>
<td>11% 20%</td>
<td>40% 55%</td>
<td>15% 25%</td>
<td>15% 25%</td>
</tr>
<tr>
<td>Roadway Expansion</td>
<td>Reduction in peak period delay, relative to no-build scenario</td>
<td>Roadway Expansion</td>
<td>Reduction in peak period delay, relative to no-build scenario</td>
<td>See note #1</td>
<td>41% 34%</td>
<td>0% 0%</td>
<td>36% 34%</td>
<td>26% 26%</td>
</tr>
<tr>
<td>Bicycle and Pedestrian Expansion</td>
<td>N/A</td>
<td>Bicycle and Pedestrian Expansion</td>
<td>N/A</td>
<td>5%</td>
<td>7%</td>
<td>7%</td>
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</tr>
<tr>
<td>Transit Expansion</td>
<td>N/A</td>
<td>Transit Expansion</td>
<td>N/A</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Operations and Maintenance</td>
<td>N/A</td>
<td>Operations and Maintenance</td>
<td>N/A</td>
<td>23%</td>
<td>-</td>
<td>23%</td>
<td>-</td>
<td>23%</td>
</tr>
</tbody>
</table>

Note #1 – In 2010 travelers experienced 35,000 hours of delay each day during the morning and evening peak traffic periods. In the no-build scenario (a scenario in which no roadway expansions work is performed), delay is expected to increase to roughly 87,000 hours per day. The delay figures shown above represent a percent decrease from this no-build value.
5.3 **SCENARIO ANALYSIS**

The scenarios defined above help to frame two fundamental tradeoffs decisions facing the region over the next 25 years:

- Taken collectively, the results of the pavement and bridge analysis illustrate a significant disconnect between the cost of preserving the existing transportation network and the expected revenues. For example, in Scenario 2 in Figure 5.4 all funds outside of O&M have been allocated to bridges and pavements. The pie charts indicate that even with this allocation of funds only 66 percent of pavements and 50 percent of bridges are expected to be in good condition in 2035. This is the first time in the Indianapolis region in which the tradeoff between **preserving the existing transportation system versus expanding it** was explicitly considered as part of the long-range planning process.

- The initial scenarios also helped to clarify the tradeoff between roadways and transit. While transit performance was not analyzed quantitatively as part of the scenario process, stakeholders were presented with a list of transit projects that could benefit from shifting a portion of expected roadway funds to the transit program. In addition, including the transit program in the tradeoff discussions enabled stakeholders to understand the implications of funding transit in terms of the opportunity costs associated with decreased roadway funding. It was important to explicitly address the tradeoff between **roadway versus transit** throughout the 2035 LRTP development process because transit is a regional priority, as captured in Objective 2 under regional Goal 2 – provide appropriate travel options and choice for all users, including auto, transit, paratransit, bicycle, and pedestrian.

Table 5.1 was presented at the IRTC Technical and Policy Committee meetings in August 2010. After the presentation and discussion, a survey was distributed to committee members and MPO staff. Survey participants were asked to rank the four scenarios in order of preference, and to fill in a new scenario that represented their preferred split of funds between the program areas. The results of this exercise are discussed in the next section.
5.4 **Network Analysis Results**

Figure 5.4 summarizes program area funding targets for the 2035 LRTP. They are based on the results of the scenario survey described above, and have been adjusted so that only non-INDOT funds are included. The figure represents the region’s preferred distribution of non-INDOT funds across the program areas throughout the plan horizon.

**Figure 5—4 2035 LRTP Funding Targets – Non-INDOT Funds**

![Pie chart showing distribution of non-INDOT funds across program areas.]

The results of the network analysis were used to inform the programming of roadway projects, as described in Sections 12.0. They also informed program-level (lump sum) funding for the pavement preservation, bridge preservation, bicycle and pedestrian, and O&M program areas, as described in Section 13.0.
6.0 Roadway Priorities

6.1 Introduction

Results of the network analysis defined in Section 5.0 indicate a significant portion of available funding is needed to support system preservation activities to ensure system performance does not degrade to a point that impacts safety or quality of travel in the region. Results also indicate the need for strategic roadway and transit capacity investment to ensure mobility goals are properly addressed as well. Below is detail related to the roadway capacity evaluation that was conducted within the performance framework approach, at the corridor and project level, to inform roadway capacity project selection decisions for the 2035 LRTP. Detail related to the transit evaluation process appears in Section 7.0.

6.2 Corridor Analysis

6.2.1 Identify Corridors

The first step in the corridor analysis process was to define the corridors used for analysis. The corridors are illustrated in Figure 6.1.

6.2.2 Establish Measures

The corridors were then ranked based on the following performance measures:

- **Existing volume to capacity (V/C) ratio** – measured as the percent of Federal-aid eligible lane-miles within the corridor with V/C ratio of 0.8 or greater (level of service (LOS) E or F), averaged over the a.m. and p.m. peak periods (6 a.m. to 9 a.m. and 3 p.m. to 6 p.m.).

- **Existing crash rates** – measured as crashes with fatalities or injuries per 100 million vehicle miles traveled on Federal-aid eligible routes within the corridor.\(^{25}\)

- **Intracorridor connectivity** – considers the existing travel volumes on Federal-aid eligible roads between adjacent corridors and the average route directness between these corridors. The measure is based on a “route directness index,” which is defined as the ratio of a straight-line distance to travel path distance. The score for a corridor represents the average of the

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\(^{25}\) 23 CFR 450.322 (h)
route directness indices for all origin/destination zone centroid combinations between a corridor and its adjacent corridors.

- **Intercorridor connectivity** – considers existing travel volumes on Federal-aid eligible roads within the corridor and the average route directness for points within the corridor. The measure is based on a “route directness index,” which is defined as the ratio of a straight-line distance to travel path distance. The score for a corridor represents the average of the route directness indices for all origin/destination zone centroid combinations within the corridor.

- **Significance to freight mobility** – considers land area devoted to industrial and logistics uses (weighted equally for share of the corridor used for industrial and logistics land uses, and the percentage of the total industrial and logistics land use in the region located in the corridor); and

- **Change in population, employment and land use** – Future changes in population and employment densities measured relative to current conditions (weighted equally for population and employment).

### 6.2.3 Establish Scoring System and Weights

For each measure, the highest scoring corridor received 100 points. Each subsequent corridor was then given a relative score, based on a percent comparison to the highest scoring corridor. Once these scores were established for each measure, a weighted average was calculated using the weights in Table 6.1. These weights provide an indication of relative priority between the measures. They were initially determined through stakeholder input during an IRTC Retreat on April 14, 2010, and subsequently modified based on the addition of the connectivity measures.

**Table 6.1 Corridor Analysis Weighting**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume-to-Capacity Ratio</td>
<td>20%</td>
</tr>
<tr>
<td>Crash Rate</td>
<td>10%</td>
</tr>
<tr>
<td>Intercorridor Connectivity</td>
<td>20%</td>
</tr>
<tr>
<td>Intracorridor Connectivity</td>
<td>15%</td>
</tr>
<tr>
<td>Importance to Freight Mobility</td>
<td>10%</td>
</tr>
<tr>
<td>Changes in Population and Employment</td>
<td>25%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
6.2.4 Rank Corridors

Based on the results of the scoring process, an overall score was assigned to each corridor. Figure 6.1 illustrates the results of the corridor analysis. The scores range from 64 to 19. This score is one factor considered in the roadway project prioritization process, which is described below.
Figure 6—1 Corridor Analysis Results

Source: Cambridge Systematics
6.3 PROJECT EVALUATION

6.3.1 Roadway Expansion Project Identification Process

Several steps were taken to identify roadway expansion projects included in the analysis for the 2035 LRTP. First, planning workshops were held in each county. These workshops gave IRTC members the opportunity to discuss roadway concerns and existing conditions in their communities. A few potential projects were identified through these meetings. Next, MPO staff sent lists of projects currently in the cost-constrained and illustrative plans to all project sponsors. Sponsors (i.e., local units of government and INDOT) reviewed these lists and provided the MPO with updates to the projects. Some projects were removed because they were either complete or the project sponsor does not plan to proceed with them at this time. In conjunction with the existing project review, there was a call for new projects. The MPO asked that jurisdictions submit any expansion projects they intend to undertake by 2035. The MPO also reviewed expansion projects submitted for the 2012 to 2015 IRTIP (currently under development as of completion of the 2035 LRTP Volume I document) to ensure they also were evaluated for the 2035 LRTP.

INDOT projects were updated using the Major Moves fact sheets that were acquired during a meeting with INDOT on March 29, 2010, and from INDOT’s web site. INDOT has cut back on the projects they will be undertaking in the 2010 to 2020 time period, and they are not planning specific projects beyond 2020. All incomplete INDOT projects from the 2030 LRTP were included in the project prioritization analysis, but only the projects INDOT has planned before 2020 are included in the cost-constrained portion of the 2035 LRTP. All other INDOT projects are in the illustrative plan.

6.3.2 Establish Measures for Ranking Projects

Once the pool of roadway capacity projects was identified, a set of performance measures was defined to support project-level evaluation and prioritization. Performance measures used are defined below:

- **Corridor score** - Since the results of the corridor analysis process are included directly in the project score, the performance aspects captured in that analysis were not replicated within the project evaluation process.

- **Delay savings** - Estimated peak-period travel delay before and after each project. This measure was calculated by using the regional travel demand model to estimate the 2035 peak-period delay for each project for a Build and No-Build scenario. The difference between the No-Build and Build delay numbers represents the delay savings.

- **Land use intensity** - Projected change in land use intensity in the vicinity of each project, in terms of economic development. Changes are based on existing and forecast land use information compiled by Indianapolis MPO.
from local agencies. Land use intensity was ranked on a scale of 1 to 10 based on the general categories listed in Table 6.2. The project land use score represents a weighted average (based on length) of the changes in economic intensity. For example, the highest possible project score would be for a project that runs entirely through an area that is vacant today and anticipated to be zoned for office use in the future.

**Table 6.2  Land Use Intensity Score Ranges**

<table>
<thead>
<tr>
<th>Land Use Type</th>
<th>Economic Intensity Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>10</td>
</tr>
<tr>
<td>Industrial</td>
<td>8-10</td>
</tr>
<tr>
<td>Commercial</td>
<td>5-8</td>
</tr>
<tr>
<td>Residential</td>
<td>3-5</td>
</tr>
<tr>
<td>Agricultural</td>
<td>1</td>
</tr>
<tr>
<td>Vacant</td>
<td>0</td>
</tr>
</tbody>
</table>

- **Industry cluster support** – Considers the number of employers associated with six targeted industries within a half-mile buffer around a proposed project. The targeted industry clusters include:
  - Life sciences;
  - Transportation, distribution, and logistics;
  - Advanced manufacturing;
  - Clean-tech energy;
  - Information technology; and
  - Motorsports.

These six industry clusters account for nearly 14,000 employers out of the approximately 80,000 employers in the Indianapolis region. The clusters were originally selected by the Indy Partnership, a regional economic development agency, as focal areas for employment growth efforts in the region. These employment fields were identified as business types with strong potential for job growth in central Indiana. The growth potential was anticipated due to existing clusters of employment in those fields or specific traits of our region and its amenities and infrastructure, which provide an advantage that will help these types of businesses grow.

Recent experience has shown that these clusters are growing at a more rapid rate than jobs outside of these cluster areas. This higher-than-average growth rate would be an indicator of areas needing additional transportation infrastructure to help meet the growing travel demand.
6.3.3 Score Each Project

Projects were awarded up to 100 points for each measure, based on how well they performed in relation to the other projects. Rather than using a directly proportional approach in which all projects are rated proportionally to the project with the highest measure value, thresholds were used to account for project outliers. For example, for delay reduction, any project that reduces daily peak-period delay by 1,000 hours or more receives 100 points. Any project that reduces delay by between 500 and 1,000 hours receives 90 points. All other projects are assigned points based on their proportion to 500 hours. For example, a project that reduces delay by 250 hours would receive 45 points (half of the points assigned to the 500-hour threshold).

The points for each measure were then combined into a single project score using the weights provided in Table 6.3. These weights reflect stakeholder input received during an IRTC Workshop on April 14, 2010, and subsequently modified to account for the removal of a congestion management program (CMP) measure, the use of two economic measures rather than one, and decreased emphasis given to the industry cluster measure.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corridor Rank</td>
<td>30%</td>
</tr>
<tr>
<td>Delay Savings</td>
<td>30%</td>
</tr>
<tr>
<td>Land Use Intensity</td>
<td>30%</td>
</tr>
<tr>
<td>Industry Cluster Support</td>
<td>10%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

6.3.4 Calculate Cost Efficiency

For each project, cost efficiency was calculated using the total score divided by the Federal share of the project’s construction cost. This value represents a surrogate benefit/cost ratio and reflects the amount of benefits associated with a project per Federal dollar of required expenditure.

\[
\text{cost effectiveness} = \frac{\text{project score}}{\text{Federal portion of project construction cost}}
\]

6.3.5 Place Projects into Tiers

Projects were then placed into three tiers based on a combination of project score and cost efficiency. The three tiers are defined as follows:

- Tier 1 – the project’s score is greater than or equal to the median score for all projects, AND the project’s cost efficiency is greater than or equal to the median cost efficiency for all projects.
• Tier 2 – the project’s score is greater than or equal to the median score for all projects, OR the project’s cost efficiency is greater than or equal to the median cost efficiency for all projects.

• Tier 3 – the project’s score and cost efficiency are both below the medians for all projects.

Prior to categorizing the project into tiers, INDOT projects were separated from non-INDOT projects. The score and cost efficiency medians were calculated and applied separately for each group of projects.

Roadway project priorities were then matched to available projected revenue to ensure fiscal constraint for plan recommendations. The financial balancing process between identified priorities and available funding was conducted to ensure optimal roadway investment across the region, and logical project phasing over the plan horizon. Detail on roadway project priorities funded as part of the 2035 LRTP are provided in Section 13.3.
7.0 Transit Priorities

7.1 INTRODUCTION

Similar to the roadway evaluation, the 2035 LRTP performance framework includes a transit evaluation at three levels – network, corridor, and project. The corridor level evaluation for transit, however, reflected a broader Transit Vision Plan that targeted evaluation by geographic segment and transit mode (as opposed to highway-focused corridors).

The Transit Vision Plan (TVP) was developed in support of ongoing regional transit initiatives. The TVP served to define a regional transit vision for central Indiana, along with specific transit project priorities and funding mechanisms to implement the vision. The TVP assumes a number of nontraditional (i.e., non-Federal or state aid) and currently uncommitted funding sources to implement the transit vision. At this time, these funding sources cannot be included as reasonably expected revenue for the fiscally constrained 2035 LRTP. However, significant public comment and support for transit expansion in the region continues to change the dialogue about multimodal transportation investment.

Based on the network-level analysis described in Section 5.0, the IRTC proposes to allocate 10 percent of available non-INDOT revenue to transit in the 2035 LRTP, increasing transit funding levels from previous planning efforts. While this amount is not adequate to implement a meaningful portion of the transit vision without the other transit funding sources coming to fruition, it is the intent of the IRTC to incrementally implement the transit vision as funding becomes available, in future LRTP updates.

Following is detail related to the TVP transit evaluation process. The entire TVP is included as Volume III of the 2035 LRTP.

7.2 A NEW EMPHASIS ON TRANSIT PLANNING

The 2035 LRTP represents a new approach to transportation planning in central Indiana, as it will include a significant emphasis on regional public transportation investment. Several factors are contributing to a new emphasis on planning for future public transit investment in central Indiana. Both nationally and regionally, the need to focus resources and to improve transportation choices is becoming more widely recognized.

At the national level, the “Interagency Partnership for Sustainable Communities” was announced on June 16, 2009, by the USDOT, Housing and Urban Development (HUD), and the USEPA. This newly formed partnership will utilize six “livability principles” as the agencies seek to coordinate Federal
investments in transportation, environmental protection and housing. Through the first of these principles, the Partnership seeks to “develop safe, reliable and economical transportation choices to decrease household transportation costs, reduce our nation’s dependence on foreign oil, improve air quality, reduce greenhouse gas emissions and promote public health.” Federal funding priorities are anticipated to shift to modes of transportation that not only promote mobility, but do so in a manner that leverages transportation investment to fulfill broader goals. Public transit is expected to become a vital component of any future Federal transportation strategy.

For central Indiana, public transit is very important for a number of practical reasons. Access to jobs and workforce development are noted as being critical factors by the region’s major employers. The economic competitiveness of the region is also at risk if people cannot get to the places they want and need to be. Maintaining a strong core is also vital to the region and public transit will help enhance the core while supporting the surrounding central Indiana communities.

Additionally, an aging population in central Indiana suggests a long-term need to provide viable mobility options not only for standard work trips, but also for non-work trips and during nonpeak periods. Offering public transit to and between medical facilities, commercial areas and other key destinations will support both the quality of life of the senior population and the increasing needs of the transit-dependent. As noted in the CITT Summary Report, 7 percent of all working households in Marion County have no car available, and an additional 10 percent of households have two working age adults but only one car available.

At the regional level, there is concern that increasing emissions resulting from roadway congestion, and the level of congestion itself, will hinder the ability of central Indiana to remain economically competitive. In 2009, 60 percent of commuting time was spent in congested levels of traffic. This daily aggravation negatively impacts residents’ quality of life, and could affect business location and expansion decisions. Offering viable alternatives to commuting by car is considered to be important to attracting and retaining jobs and workers in central Indiana, especially as it relates to “new economy” jobs and workers that are geographically flexible. Investment in public transit will benefit both those who use it for their work trips and those who must still travel the region’s roadways to access their jobs.

Downtown Indianapolis remains the primary employment center for the region, but in the past decade this pattern has grown more dispersed. Due at least in


part to the increasing congestion levels in and near downtown Indianapolis, urban center employment declined from 24 percent to 21 percent of total regional employment between 1998 and 2006.\textsuperscript{29} The long-range transportation planning process should respond to this trend by seeking to better serve these areas with mobility alternatives, while maintaining the primacy of the regional center and fostering sustainable growth patterns. Through efforts in recent decades, downtown Indianapolis has been successful in becoming a regional and national destination for both amateur and professional sports events; more transportation options for special event visitors during off-peak periods also are needed.

Negative environmental impacts already are being experienced as a result of existing levels of congestion, and are expected to worsen over time. Indianapolis ranks 99\textsuperscript{th} out of the 100 largest U.S. metropolitan areas for its per capita “carbon footprint,”\textsuperscript{30} suggesting that central Indiana residents have little choice but to drive automobiles to meet most of their daily needs. The nine-county central Indiana region also is classified as a nonattainment area by the USEPA due to high levels of criteria air pollutants, largely due to vehicle emissions.\textsuperscript{31} Public transit investments are one effective means of counteracting the environmental impacts of increasing vehicle use and emission levels.

### 7.3 TRANSIT VISION PLAN

As part of the Indianapolis region’s emphasis on transit planning, the Transit Vision Plan was developed in support of the 2035 LRTP, to determine regional priorities for public transportation investment. The Transit Vision Plan is intended to:

- Highlight unique opportunities for public transit investment in central Indiana, which would begin with a significant expansion of bus service in central Indiana;
- Incorporate findings from the Summary Report on Transportation Alternatives in Central Indiana published by the CITTF in February 2010, and other recent planning efforts;
- Incorporate public comments from the ongoing Indy Connect initiative;
- Reflect the recommendations of the IndyGo Comprehensive Operations Analysis (COA), which also is referred to as the “bus plan”;
Reflect the ongoing alternatives development process of the Northeast Corridor Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS); and

Provide a meaningful basis for discussion of public transit system needs as the LRTP update is developed.

Building upon system level planning work conducted in the past by the MPO, CITTF, IndyGo and others, a broad-based and flexible regional transit vision was developed and includes the following elements:

- A vision for transit investment in Central Indiana;

  Mobility and accessibility in Central Indiana will be enhanced through the development of a comprehensive network of public transit. Building on a strong transportation legacy, attractive alternatives to private automobile use will again be offered to all Central Indiana residents. Rather than continuing to lag behind comparable Midwestern cities in providing sustainable mobility options, Central Indiana will become a model of a comprehensive and efficient provision of public transit. The region as a whole will reap the environmental and economic rewards of a thoughtful and proactive strategy to incrementally create a complete public transit network, and round out the region’s transportation system.

- A series of principles that relate to system design, economic development and sustainability to guide transit planning and investment decisions; and

- A vision plan which includes potential transit projects through which the vision could be realized, including special consideration of public transit opportunities in downtown Indianapolis.

Agency and public review of the regional transit vision was undertaken in conjunction with the ongoing LRTP update process.

Each candidate transit project was evaluated and ranked using a cost-benefit measure that included potential trips served, anticipated capital costs, ongoing operations and maintenance costs, in addition to transit coverage and transit-supportive performance measures.

A prioritized list of projects was developed using a financial cash flow analysis, including a proposed dedicated transit funding source, which resulted in a phased list of projects that provide maximum transit expansion given various scenarios of projected revenue.

Relevant transit policies and implementation strategies also were outlined to supplement the phased list of projects.
7.4 PROJECT EVALUATION

7.4.1 Identify Transit Projects

A comprehensive list of candidate transit projects was developed in response to previous studies and recent public input. The list is based on information from the CITTF recommended transportation strategy, IndyGo Downtown Transit Center Feasibility Study, recommendations from the IndyGo COA, the Northeast Corridor AA/DEIS alternatives development process, public comments received during the Indy Connect initiative, and other relevant sources. Candidate projects are shown in Figures 7.1 organized by transit mode, including potential fixed guideway and bus rapid transit (BRT) projects.

It is important to note that all proposed bus routing and service level upgrades identified as part of the IndyGo COA update process also are considered candidate transit projects, but are not described in detail here. This would include both key and supporting local bus routes. COA recommendations will instead be assessed for inclusion more generally rather than on a route-by-route basis. In instances where a proposed fixed guideway or BRT service would supersede an existing bus route, replacement of that bus route would allow for a realignment of IndyGo resources to implement additional elements of the COA elsewhere.
Figure 7—1  Candidate Transit Projects

Source: Indianapolis MPO
This initial “universe” of projects was evaluated and prioritized in support of the fiscally constrained 2035 LRTP, as well as the longer-term transit vision plan (TVP). The end goal for the TVP is to establish a long-range transit system through a phased process (beginning with the 2035 LRTP), building incrementally and sustainably toward a comprehensive system of public transportation for central Indiana residents.

### 7.4.2 Establish Performance Measures

For the purposes of assessing performance characteristics, each project was assigned a typical service level. In some instances, projects were split into geographic segments or assigned different service levels to evaluate phased implementation options. For example, the projects were split by county as appropriate (into “inner” segments in Marion County and “outer” segments in the surrounding counties) to facilitate analysis of different county participation in a future regional funding scenario. Some projects also were split into “initial” and “upgrade” phases to reflect an increasing investment level as corridors develop into stronger transit markets over time.

Candidate projects were initially assessed for their ability to expand transit coverage and facilitate multimodal access. In essence, the projects were evaluated for their capacity to achieve the vision statement and guiding principles described on previous pages.

The following characteristics were defined for each of the candidate transit projects for ranking purposes. Note that these characteristics are generally cumulative in that service levels, operating costs and benefits reflect the build-out scenario for the entire system.

- **Project Service Characteristics**, which include mode (vehicle technology), service frequency (in-peak, mid-peak, and off-peak periods for weekdays, Saturdays and Sundays), hours of service (by period and by day), and average speed.

- **Project Geography**, which includes terminals, corridor length, major streets or railroads along the alignment, and number of stations.

- **Operating Statistics** (computed), which include round trip running time, vehicles required for peak service, revenue vehicle hours, and revenue vehicle miles.

- **Potential Trips Served**, based upon MPO model data on the number of origin-destination trips with both endpoints in walking distance (within a half-mile) of the project. Potential trips served are then adjusted using a factor which reflects differences in service frequency across projects or phases, computed using a simplified logit mode choice formula. The adjustment is applied to weekday service frequency to reflect the greater attractiveness of more frequent service.
• **Capital and Operations and Maintenance Costs**, which were estimated utilizing the above inputs.
  
  - Capital costs in 2010 dollars were estimated using typical unit costs for major items based on similar projects in the U.S. Cost items were grouped into the Standard Cost Categories defined by the FTA. Annualized capital costs also were computed, reflecting the useful life of project components, computed using a seven percent discount rate per the FTA New Starts program methodology.
  
  - O&M cost estimates were based on an analysis of cost-driven operating statistics and total operating expenses for a group of peer systems with somewhat comparable operations (all transit systems serving metropolitan areas between 500,000 and 4,500,000 population) for each mode (commuter rail, light rail and bus) from the 2007 National Transit Database (NTD). O&M costs are computed separately for each of four expense categories defined by NTD, including Vehicle Operations, Vehicle Maintenance, Non-Vehicle Maintenance, and General Administration.

7.4.3 Rank Projects

Project priorities were determined using a benefit-cost index that combines the origin-destination (O-D) potential trips served measure, adjusted to reflect a preference for higher service frequency with incremental costs. Capital costs were annualized to reflect life-cycle considerations and combined with annual O&M costs. The prioritization process also included considerations of project “precedence” (inner segments must occur before outer segments, basic service levels must be implemented before upgrades), which further adjusted the rankings to reflect appropriate phasing considerations within each corridor.

In addition to these quantifiable metrics, project priorities were influenced by the “readiness” of stakeholder communities to undertake them. Aside from the significant financial considerations to be discussed in detail in the following sections, the timing of implementation will be substantially determined by the readiness of stakeholder communities. Additional studies needed will include alternatives analyses (AA), environmental impact statements (EIS), community circulator studies, and station area planning studies to more fully define the candidate projects.

Supportive actions that can be undertaken by stakeholder communities to enhance their readiness to implement public transit improvements include (but are not limited to) the following:

- Participation in a regional transportation authority (RTA), which will finance public transit improvements that span across municipal and county boundaries.
Development of land use plans that address the integration of transit facilities with surrounding land uses, in order to leverage transit investments to support local development or redevelopment objectives.

Enacting transit-supportive zoning regulations that provide the potential for a transit-oriented development (TOD) pattern to emerge or be strengthened over time.

Willingness to engage in value capture strategies, potentially including tax-increment financing (TIF) or developer impact fees, to financially support the development of local elements of the regional transit system such as stations, park-and-ride facilities, streetscape improvements, and bicycle and pedestrian access.

Establishing the appropriate regulatory and administrative policies to support the development approval process, and an open and ongoing dialogue with nearby property owners and institutions that may benefit from transit investments.

The projects prioritized in the process were outlined based primarily upon improved transit coverage, higher service levels, and stakeholder and public comments in support. In order to support the 2035 LRTP, potential revenue was applied to develop an “optimal” system with regard to expanded system coverage, a logical project phasing strategy that manages risk, and expected funding. A key consideration was providing enhanced service that aligns with the region’s most promising markets for automobile-competitive public transit service. The results of this process are described in Volume III.
8.0 Bicycle and Pedestrian Priorities

8.1 INTRODUCTION

Bicycle and pedestrian corridor mileage and its connectivity throughout the MPO planning area have been steadily increasing over the past several decades. Primary improvements have occurred with the growing greenways networks, multi-use pathways, and more recently, with the delineation of on-road bicycle lanes. Given the multimodal emphasis of the 2035 LRTP, the network analysis included consideration of bicycle and pedestrian investment, with the preferred funding levels established at seven percent of available (non-INDOT) revenue.

8.2 BICYCLE AND PEDESTRIAN PROJECT IDENTIFICATION

The Indianapolis Regional Pedestrian Plan was developed between 2003 and 2006. It was shaped through dozens of meetings with numerous steering committees made up of local planning officials and citizens from communities and neighborhoods throughout the region. Initially the pedestrian plan was drawn up for Center Township in Marion County. That was followed by pedestrian plans for the eight surrounding townships in Marion County and then for the portions of the seven surrounding counties that are located within the Indianapolis MPA.

The Regional Pedestrian Plan incorporated existing bicycle and pedestrian plans from around the region and also involved a visioning process looking at the future bicycle and pedestrian needs in each area. Pedestrian corridors and districts were identified based on zoning, land use and travel patterns, focusing on high-density areas such as commercial districts, campus settings, town centers, cultural districts, and central business or village mixed use districts. The Regional Pedestrian Plan continues to serve as a critical guide for identifying needed bicycle and pedestrian projects.

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32 Indianapolis Regional Pedestrian Plan, approved at the November 1, 2006 Technical Committee and November 8, 2006 Policy Committee meetings.
The MPO has reviewed numerous local bicycle and pedestrian plans that have been adopted since 2006. This is being done in preparation for an update of the Regional Bicycle Plan, set to begin in 2011. Similar to the Regional Pedestrian Plan, the Regional Bicycle Plan will start with existing adopted plans and include a visioning process to address future needs. The MPO has identified over 4,600 miles of existing and planned trails and pathways within the regional system and found that approximately 10 percent of that total has been completed through the efforts of various local and county governments in the region.

8.3 **BICYCLE AND PEDESTRIAN LUMP SUM FUNDING**

The 2035 LRTP proposes to spend approximately seven percent of non-INDOT funding on bicycle and pedestrian facilities. This recommendation was developed as part of the network level analysis described in Section 5.0.

Bicycle and pedestrian projects are largely funded through the existing Transportation Enhancement and the Congestion Mitigation/Air Quality programs. It is anticipated that these programs will continue and that the region’s bicycle and pedestrian facilities projects will continue to use these federal programs as a funding source. Bicycle and/or pedestrian projects are not regionally significant in terms of their impact on air quality (i.e., they are not required to be included in the travel model analysis) and projects tend to be developed and implemented much quicker than major capital projects. As such, they are not individually “line-itemed” in the LRTP.

As part of the MPO’s performance tracking endeavors, it will track transportation expenditures to determine how well the region is meeting its spending goal for bicycle and pedestrian facilities. Previously, if a multi-use path or other bicycle or pedestrian improvement was included with a roadway project, it had not always been classified specifically as a bicycle or pedestrian expenditure. To help track ongoing development of these projects, the MPO’s Congestion Management Process (CMP) will examine all roadway expansion projects proposed in the 2035 LRTP and overlay them on completed pedestrian and bicycle plan maps, as well as on-road and off-road multi-use pathway plan maps. If roadway expansion plans overlap bicycle or pedestrian corridors, then the roadway project must include the multimodal components. Exemptions from this requirement would only be granted under special circumstances. It would be up to the local agency responsible for the project to provide the justification for consideration as to why the multimodal component is not appropriate to be built as part of the roadway expansion project.

As the CMP policies are finalized, the MPO is considering that they be adopted as part of a regional Complete Streets Strategy that also will examine how roadway expansion projects are coordinated and planned with transit improvements. Eventually, this same type of multimodal review also could occur with non-expansion roadway projects, such as street repaving and intersection improvements.
9.0 Environmental and Resource Agency Consultation

9.1 INTRODUCTION

One of the key SAFETEA-LU requirements impacting the plan development process is consideration of the plan’s impact on the surrounding environment. SAFETEA-LU requires consultation with state and local agencies responsible for environmental protection, land management, and natural and historic resource preservation as a means to proactively identify potential environmental impact of the long-range transportation plan.\textsuperscript{33}

Consultation with resource agencies also is intended to support general discussion of the types of potential environmental mitigation activities (at the corridor or regional, not project level) and potential areas to carry out mitigation activities.\textsuperscript{34}

These coordination activities help to build relationships with resource agencies not typically included in the transportation planning process; and, as a result, shape final plan recommendations given input from a broader range of stakeholder dialogue.

9.2 CONSULTATION ACTIVITIES

As part of environmental and resource agency consultation for the 2035 LRTP, the Indianapolis MPO first identified a set of environmental, historic, and natural resources that could be potentially (negatively) impacted by proposed LRTP projects. The five categories of environmental resources include:

- Historic Sites – includes historic bridges, historic districts, churches, cemeteries, apartments, houses, schools, post offices, railroad stations and farms; data from the National Register of Historic Places (NRHP).
- Wetlands – area of land whose soil is saturated with moisture either permanently or seasonally; data from National Wetlands Inventory.

\textsuperscript{33} 23 CFR 450.322(g).

\textsuperscript{34} 23 CFR 450.322 (f)(7).
• Floodplains – flat or nearly flat land adjacent to a stream or river that experiences occasional or periodic flooding; data from Indiana Department of Natural Resources (IDNR).

• Brownfields – property that the expansion, reuse or redevelopment of may be complicated by presence (or potential presence) of hazardous materials; data from Indiana Department of Environmental Management.

• Managed Lands – greenspace; data from the IDNR.

All proposed 2035 LRTP capacity-adding projects were mapped against these natural resource areas to determine a project’s proximity to sensitive environmental areas, as shown in Figure 9.1.35

35 23 CFR 450.322 (g)(1) and 23 CFR 450.322 (g)(2).
Figure 9—1 Environmental Resource Areas

Legend
- Interstates
- State Highways
- U.S. Highways
- Supporting Roadways
- Historic Sites
- Brownfields
- Wetlands
- Floodplains
- Greenspace

Sources: National Register of Historic Places, Indiana Department of Natural Resources, Indiana Department of Environmental Management, National Wetlands Inventory
The MPO then held an early consultation meeting on November 17, 2010, to discuss potential impacts of proposed projects and possible mitigation activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan. The meeting was conducted with state and federal agencies. Additionally, this meeting was held to inform environmental and historical resources agencies about the long-range planning process and to begin a consultation dialogue that will continue throughout project development for projects included in the plan. The MPO provided the agencies with a list of planned roadway expansion projects, as well as maps showing the proximity of the projects to the designated environmental sensitive areas.

Representatives from the following agencies attended the meeting:

- US Department of Housing and Urban Development (HUD);
- Federal Highway Administration;
- Indiana Department of Transportation, Divisions of Cultural Resources and Environmental Services; and
- Indiana Department of Natural Resources (IDNR), Division of Historic Preservation and Archaeology.

The following additional agencies were invited, but were unable to attend the meeting. They were provided with the project list and maps and invited to provide feedback.

- U.S. Environmental Protection Agency;
- Federal Transit Administration; and
- Indiana Department of Environmental Management, Offices of Air Quality and Water Quality.

The INDOT representatives recommended that the MPO review their memoranda of understanding and other mitigation documents from projects recently undertaken. The MPO may also begin a dialogue with Indy Parks and other local parks departments to discuss potential locations for environmental mitigation, such as wetland and habitat restoration. Further consultation activities will take place for every project as it moves further into development. In addition, the MPO has defined specific policy statements (defined in Section 4.0) in support of environmental stewardship, including:

- Promoting projects that maximize the efficiency of the existing transportation system through alternatives to single occupant vehicle (SOV) capacity

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36 23 CFR 450.322 (g).
37 23 CFR 450.322 (f)(7).
expansion projects (e.g., travel demand management and operation enhancements);

- Promoting a focus on multimodal transportation options;
- Supporting the creation of a regional transportation authority to enhance transit planning and implementation in the region;
- Coordinating regional and local land use, economic development and mobility plans with emphasis on smart growth concepts; and
- Promoting environmental stewardship and sustainability by supporting planning decisions that protect and enhance the environment, conserve natural resources, and enhance the region’s quality of life.

9.3 CONSULTATION ACTIVITIES – RURAL HISTORIC DISTRICTS

As the planning process for this 2035 LRTP was concluding, MPO staff were made aware of two new designations by the National Register of Historic Places. These are the Traders Point Hunt and Traders Point Eagle Creek Rural Historic Districts located in southeast Boone and northwest Marion counties.

Because roadway improvements to the Cooper Road corridor in Boone County could be affected by the designations of HRDs, MPO staff, in cooperation with the Town of Zionsville, removed two projects (#1201 and #1202) from the Cost Constrained Project List as shown in Table 13.2 and placed them on the Illustrative Project List (Table 13.3) pending further review with Historic Landmarks of Indiana, the Town of Zionsville, and interested stakeholders.
10.0 Public Involvement

Public participation activities for the 2035 LRTP were conducted throughout 2010, both separately and in conjunction with the Indy Connect planning initiative. Several rounds of meetings were held throughout the region. These meetings included planning workshops with members of the IRTC Technical and Policy Committees and Indy Connect public events.38

10.1 COUNTY PLANNING WORKSHOPS

Between January 12 and January 21, 2010, a series of eight planning workshops were held with members of the IRTC Technical and Policy Committees. One meeting was held in each county, and all local public agencies in the MPA, as well as the county seat, were invited to attend. The purpose of these meetings was to gather input within from the jurisdictions about their current and future needs and challenges in transportation planning. The MPO also requested updates on projects listed in the current LRTP.

Three maps were used to facilitate discussion. The maps presented were a future land use map of the entire 9-county region, 2035 volume-to-capacity ratios, and a map showing the current LRTP projects. Participants in the workshops were asked to comment on areas of growth and development in their communities, current and future land use, safety and security issues with their road networks, current infrastructure conditions and needs, the status of projects currently in the 2030 LRTP, and potential future projects.

These meetings gave the Indianapolis MPO staff an understanding of the transportation challenges each local jurisdiction is facing. From the information gathered from the county workshops, updates were made to the LRTP project lists.

10.2 Indy Connect Round 1

Beginning in mid-February 2010, over 150 public events were held throughout the region in conjunction with the Indy Connect transportation initiative. In addition to feedback on roadways, the MPO and its partners gathered public input on the transit vision produced by the Central Indiana Transit Task Force. People were provided an opportunity to fill out questionnaires and comment on roadway projects and conditions, bicycle and pedestrian facilities, current and potential IndyGo bus routes, and possible commuter and light rail lines.

38 23 CFR 450.322 (i).
Additionally, information about Indy Connect and the LRTP was available at over 30 street fairs, festivals and other neighborhood gatherings. Through this initiative, the MPO gathered nearly 10,000 public comments, and the Indy Connect website received over 75,000 hits.

10.3 **INDY CONNECT ROUND 2**

During the second round of Indy Connect meetings, the MPO and its partners held 12 public meetings throughout the region, presenting revisions to the 2035 LRTP and transit plan. The plans were adjusted to reflect both public feedback received during the first round of Indy Connect meetings and the ongoing planning efforts and analysis conducted by the MPO. People were given the opportunity to comment on the revised plans.

10.4 **OTHER PUBLIC INVOLVEMENT INITIATIVES**

In addition to the public meetings and workshops that were held, the public had other opportunities to get information and provide feedback on the 2035 LRTP. Two websites were available for information and comment. The regular MPO website, www.indympo.org, contains information about the current and past LRTPs, as well as information about the LRTP planning process. Contact information for the MPO staff is available on this site, and there is a general comment submission form. The Indy Connect website, www.indyconnect.org, provides further information about all the components of the Indy Connect initiative. Maps and factsheets are available for viewing and download. People also have the opportunity to submit comments though the general comment form on this website. Between February and November 2010, the Indy Connect website received over 75,000 hits. Indy Connect has also taken advantage of social media and has both a Facebook page and a Twitter account. Over 3,000 people are fans of the Indy Connect Facebook page, and over 500 people are following it on Twitter.\(^39\)

Finally, a draft version of the 2035 LRTP was distributed in hard copy format at libraries across the region and made electronically accessible on the Indianapolis MPO website.\(^40\)

\(^{39}\) 23 CFR 450.322 (j).

\(^{40}\) 23 CFR 450.322 (j).
11.0 Environmental Justice Considerations

In order to promote environmental justice in the Indianapolis MPO’s planning process, the MPO must assure that all planning and input gathering steps it conducts are being done with social equity and fair treatment of all residents in mind. As explained by the US Environmental Protection Agency’s (EPA’s) Office of Environmental Justice, fair treatment – in terms of environmental justice - means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.

The Indianapolis MPO uses various methods to track the thoroughness of its environmental justice processes. One of the most important tools to help understand impacts of potential transportation plans is the use of concise demographic mapping. Detailed maps have been prepared at the census block level, helping to pinpoint concentrations of numerous types of environmental justice populations. These include persons who are: minority, low income, elderly, disabled, have limited English proficiency, have low literacy skills, or live in homes without access to a vehicle.

In absolute terms, the areas within the MPA that have the greatest concentration of environmental justice population are the urbanized area of Indianapolis inside the 465 beltway as well as several of the older communities in the region, including Noblesville, Franklin, Mooresville and Brooklyn.

The goal of identifying the geographic distribution of the environmental justice population in the Indianapolis region is to ensure that transportation investments help, or at least do not cause disproportionately negative impacts to these areas.

As the Indianapolis MPO is conducting more of its planning process using performance measures, the mapping of environmental justice areas in relation to transportation projects can easily be tracked. Simple overlays of transportation projects can show whether areas with high concentrations of environmental justice population are being impacted. Determining whether the impacts are positive or negative can most successfully occur through thorough public outreach efforts that target the various neighborhoods and populations impacted by the various projects.

The Indianapolis MPO has conducted extensive public outreach as part of the 2035 LRTP development process. As part of the process of communicating the plans throughout the region, special efforts were made to assure that areas with
high environmental justice populations were provided sufficient opportunities to see the plans and provide input.

Public input meetings were held in every township in Marion County, with several meetings held in Center Township. Additional consultant assistance was used to reach out to minority populations in the central city. Planning documents were made available in Spanish and were distributed in local Hispanic grocery stores and other predominantly Hispanic businesses and churches. Public comments in Spanish were also taken over the phone as part of the public record. Additional input from local bus riders was sought by distributing draft copies of the transit plans during the morning bus arrival and transfer period downtown. In addition, all public meetings to discuss the long-range transportation plans within Marion County were held at locations accessible by public transit.

Along with encouraging input on the region’s planned transportation projects, specific tasks have been undertaken by the Indianapolis MPO staff to gather other information pertinent to how well the transportation plan is serving other environmental justice populations. The Indianapolis MPO has been participating in neighborhood walkability analyses in different parts of the region. These analyses show where there are hindrances impacting Americans with Disabilities Act (ADA) accessibility. As part of using more performance based measurements for analyzing transportation facilities, accessibility to transit services will be calculated, showing the percentage of the region’s population that is within a specific distance of a transit corridor. By tracking this information, the Indianapolis MPO will be able to see whether transit services are improving or declining with regard to service levels for the region’s population. This type of information will allow calculation and analysis of service levels specific to environmental justice populations. Concerns over inadequate or disproportionate service levels may be recognized and addressed over time.
12.0 Financial Constraint

12.1 INTRODUCTION

SAFETEA-LU requires that the 2035 LRTP be financially feasible and demonstrate fiscal constraint over the long-range planning horizon. Implementation of transportation improvements is contingent on available funding and a plan is considered fiscally constrained when the project costs do not exceed projected revenues. The 2035 LRTP must demonstrate reasonably expected sources of revenue available to projects and programs identified in the plan, as well as identify any additional financial strategies used to implement the plan to include implementation strategies for any new funding sources. As part of this requirement, the financial plan also must demonstrate the following:

- Reflect system level estimates of costs and revenue sources reasonably expected to be available to operate and maintain the transportation system;
- Include public transit operators in the cooperative development of funding estimates for the financial plan;
- Include recommendations on any additional financing strategies to fund projects and programs in the plan;
- Reflect year of expenditure dollars for all projects and strategies; and
- In nonattainment/maintenance areas, the financial plan must ensure timely implementation of transportation control measures included in the State Implementation Plan.

There are many transportation funding sources through which projects and programs in the 2035 LRTP are funded. Funds may be Federal, state, or local (or various combinations of these). Federal funds are available through various programs administered by the state for roadway construction and other multimodal projects including, but not limited to, pedestrian, bicycle, and transit facilities and major planning and/or environmental studies. The Indianapolis MPO has discretion over project selection for use of the suballocated urbanized portion of the Surface Transportation Program (defined below) which is determined through formula population calculations. Some MPOs also have discretion on the spending of Congestion Mitigation and Air Quality (CMAQ) funds as they receive a specified suballocation. The American Recovery and

41 23 CFR 450.322(f)(10).
Reinvestment Act of 2009 provided additional funding in Federal highway and Federal transit dollars. Furthermore, local jurisdictions fund capital projects and operations and maintenance activities, often through general fund monies. These funding sources are further explained in the following subsections.

To develop the financially feasible plan, the Indianapolis MPO prepared forecasts of Federal, state and local revenues; and planning level cost estimates for each proposed project. These forecasted revenues and costs were calculated in coordination with INDOT and local jurisdictions.

By reviewing projected funding trends and expected future funding mechanisms, the program of projects was linked to reasonable and expected funding sources, resulting in a financially feasible plan.

A careful evaluation of the availability of financial resources from Federal, state, and local sources helped guide policy and decision-makers in their request for priority programs and projects.

12.2 ROADWAY FINANCIAL CONSTRAINT

12.2.1 Roadway Revenue Sources

Development of the 2035 LRTP financial plan involved first projecting historic highway transportation revenue (modified to reflect recent funding trends at national/state level) through the 2035 LRTP horizon. The primary fund sources included in the (roadway) revenue projection process are defined below, along with a summary of the revenue projection methods.

Federal Revenue Sources

Federal funding apportionments for roadways/highways from the FHWA are divided among more than 100 individual programs, each having their own formula for distributing funding between states, MPOs, or to individual projects. The majority of transportation funding is generated by the Federal motor fuel tax of 18.4 cents-per-gallon on gasoline and 24.4 cents-per-gallon on diesel fuel.

The following list summarizes the FHWA funding programs anticipated to be available in the Indianapolis MPA for the 2035 LRTP.

- **Surface Transportation Program (STP, STP-Local/Urban)** – Funding for transportation improvements to routes functionally classified as urban collectors or higher.
- **Bridge Replacement and Rehabilitation** – Funding for bridge replacement or to rehabilitate aging or substandard bridges based on the sufficiency rating.
- **Congestion Mitigation and Air Quality (CMAQ)** – Funding for transportation projects that improve air quality by reducing transportation-related emissions.
- **Transportation Enhancement (TE) Activity Set Aside of the STP** – Funding for 12 exclusive activities such as pedestrian and/or bicycle facilities, rehabilitation and restoration of historic transportation-related structures, and mitigation of pollution due to highway runoff.

- **Interstate Maintenance (IM)** – Funding to rehabilitate, restore, and resurface the Interstate system. Reconstruction also is eligible if it does not add capacity, and High-Occupancy Vehicle (HOV) lanes can be added.

- **National Highway System (NHS)** – Funding of major roadways, including the Interstate system, a large percentage of urban and rural principal arterials, the Strategic Defense Highway Network (STRANET), and strategic highway connectors.

- **High-Priority Project (HPP)** – Congressional appropriations, earmarks, for high-priority projects on a congressional level. These appropriations are made annually.

- **Safe Routes to School Program (SRTS)** – A SAFETEA-LU program to encourage and improve the conditions for students to walk and bicycle to school. Activities of this program included infrastructure and non-infrastructure educational components.

- **Highway Safety Improvement Program (HSIP)** – A SAFETEA-LU program to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. Funds may be used for projects on any public road or publicly owned bicycle and pedestrian pathway or trail. Each state must have a State Highway Safety Plan in place to be eligible to use up to 10 percent of its HSIP funds for other safety projects (including education, enforcement and emergency medical services).

- **American Recovery and Reinvestment Act of 2009** – A special 2009 legislative recovery bill to stimulate the economy. The program provided a one-time urbanized formula allocation for transportation project programming in MPO areas as well as other state programs. Note: ARRA funds were not included as revenue used to fiscally constrain the transportation plan since they already have been programmed).

### State and Local Revenue Sources

There are a number of non-Federal aid funding programs that are available for the purpose of assisting the state and local governments in building and maintaining of roads and streets. The sources of revenue for these programs are the state gasoline tax, the special fuels tax, vehicle license fees, state court fees, and several smaller sources of revenue. These funds are not entirely dedicated to transportation, however, as some of the revenue collected goes to other functions, such as state law enforcement.

Of the state revenue dedicated for surface transportation purposes, approximately 50 percent is distributed to local units of government. Local
governments receive funding from the Motor Vehicle Highway Fund, the Local Roads and Streets Fund, and the Special Distribution Account. Each of these funds has a distribution formula that determines how much revenue each local unit of government receives. Money from the Motor Vehicle Highway Fund is allocated based on population, the number of motor vehicle registrations, and the number of miles of local streets. The Local Roads and Streets Fund is distributed based on the number of passenger car (but not truck) registrations. Depending on the size of the county, various weights also are given to the size of the population and the ratio of city and town street mileage to county road mileage. The Special Distribution Account uses both formulas weighted equally.

There are various sources of surface transportation revenue at the disposal of units of local government for supplementing the funds from the state. General-purpose sources, such as the property tax and the various local option income taxes (including the County Option Income Tax, the County Adjusted Gross Income Tax, and the Economic Development Income Tax). Many local governments have implemented Tax Increment Finance districts, which capture growth in tax revenue for special assessment areas, to fund transportation improvements in economic development and redevelopment areas. These funds are often used in conjunction with bonding instruments, including general obligation bonds (backed by the full faith and credit of the local unit of government) and revenue bonds (backed by a specific funding source) to obtain funding upfront for a particular capital project.

No regional funding sources for funding surface transportation currently exist. One outcome of the planning process for the LRTP has resulted in a dialogue with state government to allow for a county-by-county referendum to levy an additional income tax for the purpose of expanding regional transit. As of this writing, there is no permission or timeframe for these referenda.

### 12.2.2 Non-INDOT Roadway Revenue Projections

The primary data sources used in assessing the non-INDOT portion of the transportation revenue were annual reports filed by local units of government with the State Board of Accounts. Reports from the years 2005-2009 were collected for all applicable units of government. A significant amount of quality control was required to render the data usable, including comparisons to data collected by the U.S. Census Bureau in their Census of State and Local Government Finance.

Data were only available for larger local units of government, primarily consisting of counties and class II cities (population greater than 35,000). Furthermore, county-level data was not separated by geography, making it difficult to assess the proportion of revenues and expenditures attributable to county areas that fall within the Indianapolis MPA. In order to overcome these difficulties, revenue data was regressed onto a set of independent variables. The preferred regression model emerging from these efforts utilizes total roadway
centerline mileage and population growth as independent variables in a forced zero-intercept model, and has the characteristics indicated in Table 12.1.

Table 12.1 Non-INDOT Revenue Regression Model Characteristics

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<thead>
<tr>
<th></th>
<th>Degrees of Freedom (df)</th>
<th>Sum of Squares (SS)</th>
<th>Mean Square (MS)</th>
<th>F Statistic</th>
<th>Significance F</th>
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<td>Regression</td>
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<td>1.07E+16</td>
<td>5.36E+15</td>
<td>39</td>
<td>1.26E-09</td>
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<tr>
<td>Residual</td>
<td>36</td>
<td>4.96E+15</td>
<td>1.38E+14</td>
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<td></td>
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<tr>
<td>Total</td>
<td>38</td>
<td>1.57E+16</td>
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<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Standard Error</th>
<th>t Statistic</th>
<th>P-value</th>
<th>Lower 95%</th>
<th>Upper 95%</th>
<th>Lower 95.0%</th>
<th>Upper 95.0%</th>
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<tr>
<td>X Variable 1</td>
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<td>3,579</td>
<td>2</td>
<td>0</td>
<td>-521</td>
<td>13,995</td>
<td>13,995</td>
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<tr>
<td>X Variable 2</td>
<td>210</td>
<td>54</td>
<td>4</td>
<td>0</td>
<td>101</td>
<td>319</td>
<td>319</td>
</tr>
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</table>

Regression Statistic

<p>| | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
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<tr>
<td>Multiple R</td>
<td>0.83</td>
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<td>R Square</td>
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<tr>
<td>Adjusted R Square</td>
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<td></td>
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<tr>
<td>Standard Error</td>
<td>11,735,114</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>38</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Source: Indianapolis MPO

These factors were applied to the roadway centerline mileage and population growth for the Indianapolis MPA. A 20,000-run microsimulation was developed resulting in an average annual non-INDOT revenue (including state transfers, but excluding Federal funds) of $156,950,000, with a standard deviation of $43,186,000.

12.2.3 INDOT Roadway Revenue Projections

The primary source used in assessing the INDOT portion of the transportation revenue was the INDOT 2030 Long Range Transportation Plan. This document presents projected statewide revenue projections for highway preservation and expansion work for a time period from 2016 through 2030. For the purposes of

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In this plan, these figures have been adjusted to a time period from 2011 through 2035 using the same annual increase (3.2 percent) used in the INDOT plan. The portion of the projected statewide revenue available for use in the Indianapolis region was then estimated based on the share of the statewide population in the region (26 percent), and inflated from 2007 dollars to 2010 dollars using an annual inflation rate of 2.2 percent. The results of these calculations are presented in Table 12.2.

### Table 12.2  INDOT Revenue Projections

<table>
<thead>
<tr>
<th></th>
<th>Statewide Totals (2010 dollars)</th>
<th>Estimated Total for Indianapolis Region (2010 dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Preservation</td>
<td>Expansion</td>
</tr>
<tr>
<td>2011-2015</td>
<td>$3,101,792,024</td>
<td>$2,630,680,331</td>
</tr>
<tr>
<td>2016-2025</td>
<td>$ 7,768,263,757</td>
<td>$5,478,771,347</td>
</tr>
<tr>
<td>2026-2035</td>
<td>$10,443,927,894</td>
<td>$9,945,939,279</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$21,313,983,675</td>
<td>$18,055,390,957</td>
</tr>
</tbody>
</table>

Source: Indianapolis MPO

### 12.2.4 Total Roadway Revenue Projections

Table 12.3 summarizes the results of the roadway revenue projections.

### Table 12.3  Roadway Revenue Projections

<table>
<thead>
<tr>
<th>Source</th>
<th>Annual Revenue (2010 dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available Non-INDOT Roadways</td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td>$156,950,000</td>
</tr>
<tr>
<td>STP</td>
<td>$30,000,000</td>
</tr>
<tr>
<td>CMAQ</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>HSIP</td>
<td>$3,000,000</td>
</tr>
<tr>
<td>TE</td>
<td>$2,050,000</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$194,000,000</td>
</tr>
<tr>
<td>Available for INDOT Roadways</td>
<td>$407,743,160</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$601,743,160</td>
</tr>
</tbody>
</table>

Source: Indianapolis MPO
Table 12.3 presents revenue in 2010 dollars. The non-INDOT revenues were projected over the plan horizon assuming the annual escalation rates presented in Table 12.4. As described above, INDOT revenues were escalated using an annual rate of 3.2 percent, based on guidance in the INDOT 2030 Long Range Transportation Plan.

### Table 12.4 Non-INDOT Revenue Annual Escalation Rates

<table>
<thead>
<tr>
<th>LRTP Period</th>
<th>Timeframe</th>
<th>Annual Inflation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2011 to 2015</td>
<td>2.2%</td>
</tr>
<tr>
<td>2</td>
<td>2016 to 2025</td>
<td>2.2%</td>
</tr>
<tr>
<td>3</td>
<td>2026 to 2035</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

Source: Indianapolis MPO

#### 12.2.5 Roadway Project Costing

Project-specific estimates for right-of-way, preliminary engineering, and construction costs were provided by project sponsors. Pavement and bridge preservation costs (e.g., rehabilitation and reconstruction) were estimated using default unit costs developed by the FHWA for incorporation into its Highway Economics Requirements System – State Version and National Bridge Inventory Analysis System. All costs were inflated to the year of expenditure (YOE) assuming the inflation rates provided in Table 12.3.\textsuperscript{44} Table 12.5 defines the YOE assumed for each LRTP period.

### Table 12.5 2035 LRTP Periods

<table>
<thead>
<tr>
<th>LRTP Period</th>
<th>Timeframe</th>
<th>Assumed YOE for Estimation Purposes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2011 to 2015</td>
<td>2013</td>
</tr>
<tr>
<td>2</td>
<td>2016 to 2025</td>
<td>2021</td>
</tr>
<tr>
<td>3</td>
<td>2026 to 2035</td>
<td>2033</td>
</tr>
</tbody>
</table>

#### 12.2.6 Fiscally Constrained Roadway Priorities

The following financial information was combined with the results of the project prioritization process described in Section 6.0 in order to develop a constrained list of roadway expansion projects that can be implemented with planned available resources through 2035:

- Annual revenue available for non-INDOT projects - $194,000,000 (Table 12.3);

\textsuperscript{44} 23 CFR 450.322 (f)(10)(iv).
Amount of non-INDOT revenue allocated to roadway expansion projects – 25 percent (Figure 5.4);

Annual revenue available for INDOT projects – $407,743,160 (Table 12.3)

Annual escalation rates for revenue – ranging from 2.1% to 2.2% for non-INDOT revenue (Table 12.4) and 3.2% for INDOT revenue;

Project costs estimates for right-of-way, preliminary engineering, and construction – provided by project sponsors;

Annual inflation rates for project costs – ranging from 2.1% to 2.2% (consistent with escalation rates in Table 12.4); and

Assumed year of expenditure for each LRTP period (Table 12.4).

The resulting fiscally constrained list of roadway expansion projects are illustrated by 2035 LRTP period in Figure 12.1. Detailed programming information for each of these projects is provided in Section 13.3.45

45 23 CFR 450.322 (b).
Figure 12—1  Financially Constrained Roadway Projects, by 2035 LRTP Funding Period

Sources: Indianapolis MPO
12.3 **TRANSIT FINANCIAL CONSTRAINT**

A comprehensive transit vision for the Indianapolis MPA is provided in Volume III. The realization of this vision requires a new regional transit funding source, such as a sales tax or income tax collected in multiple counties. Because this funding source does not exist and will require legislative action for implementation, the fiscally constrained 2035 LRTP does not reflect any new revenues from it, and thus does not include any new transit projects. However, it is anticipated that regional leaders will pursue these funding sources, and incrementally implement the transit vision as funding becomes available.

In the meantime, the 2035 LRTP assumes that the existing federal, state, and local funding sources for IndyGo, including the transit property tax in Marion County, remain in place. Based on recent revenue projections developed as part of an ongoing transit comprehensive operations analysis study, it is anticipated that the following revenue will be available over the 2035 LRTP plan horizon:

- Annual operating revenue – $52,826,000/year (2010 dollars); and
- Annual capital revenue – $13,696,000/year (2010 dollars).

These annual revenue figures have been projected over the 2035 LRTP planning horizon using the inflation rates provided in Table 12.3 above. The results are provided in Table 12.6.

**Table 12.6 Transit Revenue Projections**

<table>
<thead>
<tr>
<th>Revenue Type</th>
<th>Annual Average for 2035 LRTP (YOE dollars)</th>
<th>Total for 2035 LRTP (YOE dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating</td>
<td>$70,588,800</td>
<td>$1,764,720,000</td>
</tr>
<tr>
<td>Capital</td>
<td>$18,300,800</td>
<td>$457,520,000</td>
</tr>
</tbody>
</table>

Source: Indianapolis MPO

Although no expansion of transit service is assumed through 2035, it is anticipated that IndyGo will continue to make periodic modifications to existing fixed route and paratransit services to meet market needs with these available resources.

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In addition to the above revenue, up to 10 percent of non-INDOT roadway funds, $19,306,667 annually (2010 dollars), may be allocated to a transit projects as the IRTC Policy Committee considers improvements to the regional transit system. This funding is intended to support implementation of the transit vision described in Volume III.
13.0 Plan Recommendations

13.1 INTRODUCTION

As provided for in the long-range transportation goals and objectives set forth for the 2035 LRTP, the Indianapolis MPO has developed a fiscally constrained transportation plan that improves regional mobility, meets air quality requirements, and supports regional land use and economic development policies. Both short- and long-range transportation investments planned for in the 2035 LRTP are summarized below by LRTP funding period, along with detail related to proposed transportation facilities including design concept, scope, project sponsor, and descriptions and source of funds.\(^{49}\)

Expenditures in the 2035 LRTP reflect matching of revenue fund source to appropriate project type, as well as a project and program mix that supports the region’s long-term transportation goals and objectives.

13.2 PROGRAM AREA FUNDING LEVELS FOR NON-INDOT ROADWAYS

Table 13.1 compares the program area funding targets for non-INDOT roadways developed during the network analysis process (described in section 5.0) to the actual funding levels.

\(^{49}\) 23 CFR 450.322 (b) and 23 CFR 450.322 (f)(6).
### Table 13.1 Allocation of Non-INDOT Revenue to Program Areas

<table>
<thead>
<tr>
<th>Program Area</th>
<th>Target Funding Split based on Network Analysis</th>
<th>Actual Funding Split</th>
<th>Actual Annual Funding (2010 dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pavement preservation</td>
<td>25%</td>
<td>25%</td>
<td>$48,266,667</td>
</tr>
<tr>
<td>Bridge preservation</td>
<td>15%</td>
<td>15%</td>
<td>$28,960,000</td>
</tr>
<tr>
<td>Roadway expansion</td>
<td>25%</td>
<td>25%</td>
<td>$48,266,667</td>
</tr>
<tr>
<td>Transit expansion</td>
<td>10%</td>
<td>10%</td>
<td>$19,306,667</td>
</tr>
<tr>
<td>Bicycle/pedestrian</td>
<td>7%</td>
<td>7%</td>
<td>$13,514,667</td>
</tr>
<tr>
<td>Operations and Maintenance</td>
<td>18%</td>
<td>18%</td>
<td>$34,752,000</td>
</tr>
<tr>
<td>Planning and other</td>
<td>N/A</td>
<td>N/A</td>
<td>$933,333</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>$194,000,000</strong></td>
</tr>
</tbody>
</table>

### 13.3 Roadway Capacity Recommendations

Table 13.2 presents a fiscally constrained list of roadway capacity projects, organized by the three 2035 LRTP periods: Period 1 (2011-2015), Period 2 (2016-2025), and Period 3 (2026-2035).50 (The sources of revenue for these projects are described in Section 12.) It organizes the projects by three phases – preliminary engineering (PE), right-of-way (RW), and construction (CN) – and indicates the period in which each phase is planned to occur.

Table 13.3 presents an illustrative list of additional roadway capacity projects. Based on the funding projections described in Section 12, there are insufficient at this time to implement these projects. This list represents regional priorities should additional funds become available.

---

50 23 CFR 450.322 (b) and 23 CFR 450.322 (f)(6).
Table 13.2  Roadway Capacity Recommendations

<table>
<thead>
<tr>
<th>MPO ID #</th>
<th>Sponsor</th>
<th>Facility</th>
<th>Location</th>
<th>Project Description</th>
<th>Funding Period</th>
<th>Cost Estimate (YOE)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PE PE RW RW CN CN Total</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Period 1: 2011-2015</td>
<td></td>
</tr>
<tr>
<td>4301</td>
<td>Brownsburg</td>
<td>W. Northfield Dr.</td>
<td>SR 267 to US 136</td>
<td>Widen 2 to 4 lanes</td>
<td>1</td>
<td>$6,005,000</td>
</tr>
<tr>
<td>2202</td>
<td>Carmel</td>
<td>Towne Rd.</td>
<td>131st St. to 146th St.</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>1</td>
<td>$12,010,000</td>
</tr>
<tr>
<td>2203</td>
<td>Carmel</td>
<td>Hazel Dell Parkway</td>
<td>140th St. to 146th St.</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>1</td>
<td>$1,020,850</td>
</tr>
<tr>
<td>2204</td>
<td>Carmel</td>
<td>Veteran’s Way</td>
<td>Executive Drive to City Center Drive</td>
<td>New 3-lane roadway</td>
<td>1</td>
<td>$6,005,000</td>
</tr>
<tr>
<td>6103</td>
<td>DPW</td>
<td>Emerson Ave.</td>
<td>Shelbyville Rd. to I-65.</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>1</td>
<td>$12,610,500</td>
</tr>
<tr>
<td>6105</td>
<td>DPW</td>
<td>Georgetown Rd.</td>
<td>62nd St. to 56th St.</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>1</td>
<td>$6,965,800</td>
</tr>
<tr>
<td>6113</td>
<td>DPW</td>
<td>82nd St.</td>
<td>Hague Rd. to Fall Creek Rd.</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>1</td>
<td>$2,161,800</td>
</tr>
<tr>
<td>6161</td>
<td>DPW</td>
<td>38th St</td>
<td>Post Rd. to Mitthoeffer Rd.</td>
<td>Widen 2 lane to 4 lane</td>
<td>1</td>
<td>$840,700</td>
</tr>
<tr>
<td>2302</td>
<td>Fishers</td>
<td>126th St.</td>
<td>SR 37 to I-69</td>
<td>Widen 2 to 4 lanes</td>
<td>1</td>
<td>$12,010,000</td>
</tr>
<tr>
<td>2102</td>
<td>Hamilton County</td>
<td>Olio Rd.</td>
<td>From 96th St. to the Olio Rd. bridge over Geist Reservoir</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>1</td>
<td>$240,200</td>
</tr>
<tr>
<td>2109</td>
<td>Hamilton County</td>
<td>146th St. (Phase I)</td>
<td>Springmill Rd. to Ditch Rd.</td>
<td>Widen 2 lane to 4 lane</td>
<td>1</td>
<td>$2,041,700</td>
</tr>
<tr>
<td>4103</td>
<td>Hendricks County</td>
<td>Ronald Reagan Pkwy</td>
<td>CR 200 S to CR 100 S</td>
<td>New 4 lane roadway</td>
<td>1</td>
<td>$8,632,788</td>
</tr>
<tr>
<td>1001</td>
<td>INDOT</td>
<td>I-65</td>
<td>From I-865 to 0.5 mi N of SR 32</td>
<td>Widen 4 lane to 6 lane</td>
<td>1</td>
<td>$50,000</td>
</tr>
<tr>
<td>2002</td>
<td>INDOT</td>
<td>SR 32</td>
<td>SR 37 to the East junction with SR 38</td>
<td>Widen 2- to 5 lanes</td>
<td>1</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>2011</td>
<td>INDOT</td>
<td>I-69</td>
<td>96th St to 116th St and I-69 @ 118th St</td>
<td>Auxiliary lanes NB &amp; SB and Interchange Mod.</td>
<td>1</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>2012</td>
<td>INDOT</td>
<td>I-69</td>
<td>I-69 @ SR 37</td>
<td>Interchange Mod.</td>
<td>1</td>
<td>Included in MPO ID # 2011 costs</td>
</tr>
</tbody>
</table>

Indianapolis 2035 Long Range Transportation Plan
<table>
<thead>
<tr>
<th>MPO ID #</th>
<th>Sponsor</th>
<th>Facility</th>
<th>Location</th>
<th>Project Description</th>
<th>Funding Period</th>
<th>Cost Estimate (YOE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3001</td>
<td>INDOT</td>
<td>I-70 / Mt. Comfort Rd.</td>
<td>I-70 Interchange Mod. at Mount Comfort Rd. plus Mt. Comfort Rd. from CR W 300 N to I-70.</td>
<td>Int. Mod. @ I-70; and widen 2 to 4 lanes on Mt. Comfort Rd.</td>
<td>PE 1 RW 1 CN 1</td>
<td>$1,437,880 RW 1 CN 1</td>
</tr>
<tr>
<td>5002</td>
<td>INDOT</td>
<td>SR 135 (Meridian St.)</td>
<td>CR 700 N (Stones Crossing Rd.) to CR 850 N (Curry Rd.)</td>
<td>Widen 2 lanes to 5 lanes</td>
<td>PE 1 RW 1 CN 1</td>
<td>$75,000 RW 1 CN 1</td>
</tr>
<tr>
<td>6002</td>
<td>INDOT</td>
<td>I-465 (south)</td>
<td>At SR 37 (South Leg)</td>
<td>Interchange Mod.</td>
<td>PE 1 RW 1 CN 1</td>
<td>$1,437,880 RW 1 CN 1</td>
</tr>
<tr>
<td>6003</td>
<td>INDOT</td>
<td>I-465 (west)</td>
<td>I-70 (west leg) to I-65 (NW leg)</td>
<td>Widen 6 lane divided to 10 lane divided</td>
<td>PE 1 RW 1 CN 1</td>
<td>$3,000,000 RW 1 CN 1</td>
</tr>
<tr>
<td>6006</td>
<td>INDOT</td>
<td>75th St.</td>
<td>Shadeland to SR 37</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>PE 1</td>
<td>$9,476,101 RW 1</td>
</tr>
<tr>
<td>6025</td>
<td>INDOT</td>
<td>I-70</td>
<td>Post Road to Mt. Comfort Rd.</td>
<td>Widen 4 lane divided to 6 lane divided</td>
<td>PE 1</td>
<td>$3,000,000 RW 1</td>
</tr>
<tr>
<td>6027</td>
<td>INDOT</td>
<td>US 40 (Washington St.)</td>
<td>From 1.57 miles W Marion/Hancock COL at Grassy Crk to Buck Crk 0.260 E</td>
<td>Widen 4 to 5 lanes</td>
<td>PE 1</td>
<td>$14,755,000 RW 1</td>
</tr>
<tr>
<td>6029</td>
<td>INDOT</td>
<td>I-465 (south)</td>
<td>I-465 / I-65 south side interchange</td>
<td>Interchange Mod.</td>
<td>PE 1 RW 1 CN 1</td>
<td>$3,500,000 RW 1</td>
</tr>
<tr>
<td>6030</td>
<td>INDOT</td>
<td>I-465 (northeast)</td>
<td>0.35 mi E of US 31 to 0.5 mi W of Allisonville Rd.</td>
<td>Widen 6 lanes divided to 10 lanes divided</td>
<td>PE 1 RW 1 CN 1</td>
<td>$13,181,021 RW 1</td>
</tr>
<tr>
<td>6031</td>
<td>INDOT</td>
<td>I-465 (northeast)</td>
<td>I-465 / Keystone interchange</td>
<td>Interchange Mod.</td>
<td>PE 1 RW 1 CN 1</td>
<td>Included in MPO ID # 6030 costs</td>
</tr>
<tr>
<td>6032</td>
<td>INDOT</td>
<td>I-465 (northeast)</td>
<td>I-465 / Allisonville interchange</td>
<td>Interchange Mod.</td>
<td>PE 1 RW 1 CN 1</td>
<td>Included in MPO ID # 6030 costs</td>
</tr>
<tr>
<td>6033</td>
<td>INDOT</td>
<td>I-69</td>
<td>I-465 to 116th St</td>
<td>New SB lane (widen from 3 to 4 thru lanes)</td>
<td>PE 1 RW 1 CN 1</td>
<td>Included in MPO ID # 2011 costs</td>
</tr>
<tr>
<td>6034</td>
<td>INDOT</td>
<td>I-69</td>
<td>82nd St to 96th St and I-69 @ 96th St.</td>
<td>Auxiliary lanes NB &amp; SB and Interchange Mod.</td>
<td>PE 1 RW 1 CN 1</td>
<td>Included in MPO ID # 2011 costs</td>
</tr>
<tr>
<td>7004</td>
<td>INDOT</td>
<td>SR 39</td>
<td>SR 67 to south of the White River bridge crossing; 0.4 miles</td>
<td>Bridge Replacement/Widen 2 to 4 lanes</td>
<td>PE 1 RW 1 CN 1</td>
<td>$1,300,000 RW 1</td>
</tr>
<tr>
<td>MPO ID #</td>
<td>Sponsor</td>
<td>Facility</td>
<td>Location</td>
<td>Project Description</td>
<td>Funding Period</td>
<td>Cost Estimate (YOE)</td>
</tr>
<tr>
<td>---------</td>
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<td></td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5108</td>
<td>Johnson County</td>
<td>E-W Corridor</td>
<td>Clark School Road (700 N) to Worthsville Rd (750 N)</td>
<td>New 2 lane road</td>
<td>1 1 1</td>
<td>$246,205 $132,110 $3,122,600 $3,500,915</td>
</tr>
<tr>
<td>4502</td>
<td>Plainfield</td>
<td>Perimeter Pkwy NE, Phase 1</td>
<td>Township Line Rd. from Dan Jones Road to US 40</td>
<td>Widen 2 lanes to 5 lanes</td>
<td>1</td>
<td>$8,971,830</td>
</tr>
<tr>
<td>6403</td>
<td>Speedway</td>
<td>25th St.</td>
<td>Georgetown Road Connector</td>
<td>New 4 lane road</td>
<td>1 1 1</td>
<td>$175,106 $7,085,900 $2,806,497 $10,067,503</td>
</tr>
<tr>
<td>6405</td>
<td>Speedway</td>
<td>Holt Rd.</td>
<td>South of 10th St. to 16th St.</td>
<td>Realignment and Extension - 4 lanes</td>
<td>1 1 1</td>
<td>$1,079,459 $2,642,200 $11,095,919 $14,817,578</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Subtotal $26,992,741 $44,361,722 $662,760,292 $734,114,755</td>
</tr>
</tbody>
</table>

**Period 2: 2016 - 2025**

<table>
<thead>
<tr>
<th>MPO ID #</th>
<th>Sponsor</th>
<th>Facility</th>
<th>Location</th>
<th>Project Description</th>
<th>Funding Period</th>
<th>Cost Estimate (YOE)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>Total</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1103</td>
<td>Boone County</td>
<td>148th St. Extension Phase 3: New Road connecting CR 400 S to CR 300 S</td>
<td>CR 400 S at CR 650 E northeasterward to CR 300 S at CR 750 E</td>
<td>New Road; 2 lane divided</td>
<td>1 1 2</td>
<td>$273,828 $983,619 $4,375,535 $5,632,982</td>
</tr>
<tr>
<td>1104</td>
<td>Boone County</td>
<td>CR 650 S</td>
<td>SR 267 to western limit of the I-65 Interchange</td>
<td>Widen 2 to 4 lanes</td>
<td>1 1 2</td>
<td>$435,370 $332,269 $4,205,389 $4,973,027</td>
</tr>
<tr>
<td>1107</td>
<td>Boone/ Hendricks Counties</td>
<td>Ronald Reagan Pkwy</td>
<td>56th St. in Hendricks Co. to SR 267/I-65 Interchange in Boone Co.</td>
<td>New roadway, 4 lanes divided</td>
<td>1 2 2</td>
<td>$2,066,200 $13,006,224 $28,902,720 $43,975,144</td>
</tr>
<tr>
<td>4302</td>
<td>Brownsburg</td>
<td>East Northfield Dr.</td>
<td>CR 300 N to CR 400 N</td>
<td>New 2 lane alignment</td>
<td>1 2</td>
<td>$264,220 $2,513,280 $2,777,500</td>
</tr>
<tr>
<td>4304</td>
<td>Brownsburg</td>
<td>East Northfield Dr.</td>
<td>56th St. to US 136</td>
<td>Widen 2 to 5 lanes</td>
<td>1 2</td>
<td>$7,140,000 $7,140,000</td>
</tr>
<tr>
<td>2205</td>
<td>Carmel</td>
<td>Illinois Rd./103rd St.</td>
<td>Springmill Rd. to 106th St.</td>
<td>Widen 2 to 4 lanes</td>
<td>1 2</td>
<td>$2,125,770 $8,425,200 $10,550,970</td>
</tr>
<tr>
<td>2206</td>
<td>Carmel</td>
<td>Illinois Rd.</td>
<td>106th St. to 116th St.</td>
<td>New 4 lanes divided roadway</td>
<td>1 2</td>
<td>$6,545,450 $15,565,200 $22,110,650</td>
</tr>
<tr>
<td>2207</td>
<td>Carmel</td>
<td>Range Line Rd.</td>
<td>136th St. to US 31</td>
<td>New 4 lanes divided roadway</td>
<td>1 2</td>
<td>$3,002,500 $7,140,000 $10,142,500</td>
</tr>
<tr>
<td>2208</td>
<td>Carmel</td>
<td>116th St.</td>
<td>Keystone Ave. to Hazel Dell Parkway</td>
<td>Widen 2 lanes to 4 lanes</td>
<td>1 1 2</td>
<td>$1,201,000 $1,801,500 $7,140,000 $10,142,500</td>
</tr>
<tr>
<td>MPO ID #</td>
<td>Sponsor</td>
<td>Facility</td>
<td>Location</td>
<td>Project Description</td>
<td>Funding Period</td>
<td>Cost Estimate (YOE)</td>
</tr>
<tr>
<td>---------</td>
<td>---------------</td>
<td>------------</td>
<td>----------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------</td>
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<tr>
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</tr>
<tr>
<td>2210</td>
<td>Carmel</td>
<td>131st St.</td>
<td>Keystone Ave. to Hazel Dell Parkway</td>
<td>Widen to 4 lanes divided</td>
<td>1 1 2</td>
<td>$2,402,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,603,000</td>
</tr>
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<td>Towne Rd.</td>
<td>96th St. to 116th St.</td>
<td>Widen to 4 lanes divided</td>
<td>1 1 2</td>
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<td>$19,067,900</td>
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<td>2216</td>
<td>Carmel</td>
<td>96th St.</td>
<td>Haverstick Dr. to Priority Way West Dr.</td>
<td>Widen 4 to 6 lanes divided, with intersection improvements and multi-use paths</td>
<td>1 1 2</td>
<td>$600,500</td>
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<td>96th St.</td>
<td>Priority Way West Dr to White River Bridge</td>
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<td>2 2 2</td>
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<td>6101</td>
<td>DPW</td>
<td>10th St.</td>
<td>Raceway Rd. to Tomahawk Tr.</td>
<td>Widen 2 to 4 lanes divided</td>
<td>1 1 2</td>
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<td>6102</td>
<td>DPW</td>
<td>79th St.</td>
<td>Fall Creek Rd. to Sunnyside Rd.</td>
<td>Widen 2 to 4 lanes divided</td>
<td>1 1 2</td>
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<td>DPW</td>
<td>Georgetown Rd.</td>
<td>86th St. to 62nd St.</td>
<td>Widen 2 to 4 lanes divided</td>
<td>1 1 2</td>
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<td>DPW</td>
<td>21st St.</td>
<td>Post Rd. to Mithoeffer Rd.</td>
<td>Widen 2 to 4 lanes divided</td>
<td>1 1 2</td>
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<td>56th St.</td>
<td>Guion Rd. to Kessler Blvd.</td>
<td>Widen 2 to 4 lanes divided</td>
<td>1 1 2</td>
<td>$909,500</td>
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<tr>
<td>6109</td>
<td>DPW</td>
<td>56th St.</td>
<td>Raceway Rd. to Dandy Trail Rd.</td>
<td>Widen 2 to 4 lanes divided</td>
<td>1 1 2</td>
<td>$895,496</td>
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<td>DPW</td>
<td>56th St.</td>
<td>Dandy Trail Rd. to I-465</td>
<td>Widen 2 to 4 lanes divided</td>
<td>1 1 2</td>
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<td>Dandy Trail Rd.</td>
<td>Crawfordsville Rd. to 34th St.</td>
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<td>1 1 2</td>
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<td>6122</td>
<td>DPW</td>
<td>Southport Rd.</td>
<td>Bluff Rd. to Meridian Rd. (SR 135)</td>
<td>Widen 2 to 4 lanes divided</td>
<td>1 1 2</td>
<td>$749,841</td>
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<td>6123</td>
<td>DPW</td>
<td>Southport Rd.</td>
<td>Meridian St. (SR 135) to East St. (US 31)</td>
<td>Widen 2 to 4 lanes divided</td>
<td>1 1 2</td>
<td>$620,917</td>
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<td>DPW</td>
<td>Payne Rd.</td>
<td>79th St to 71st St</td>
<td>New 2 lane on 4 lane divided</td>
<td>1 1 2</td>
<td>$384,320</td>
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<td>6156</td>
<td>DPW</td>
<td>Zionsville Rd.</td>
<td>96th St. to 86th St.</td>
<td>Widen 2 lanes to 4 lanes divided</td>
<td>1 1 2</td>
<td>$463,586</td>
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<td>Greenwood</td>
<td>(E-W Corridor)</td>
<td>Worthsville Rd.</td>
<td>I-65 to US 31</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>1 1 2</td>
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<td>2105</td>
<td>Hamilton County</td>
<td>206th St.</td>
<td>Hague Rd/Carrigan Rd to SR 19</td>
<td>Widen 2 lanes to 4 lanes</td>
<td>1 1 2</td>
<td>$780,650</td>
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<tr>
<td>2110</td>
<td>Hamilton County</td>
<td>146th St. (Phase II)</td>
<td>Ditch Rd. to Towne Rd.</td>
<td>Widen 2 lanes to 4 lanes</td>
<td>1 1 2</td>
<td>$840,700</td>
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<td>Funding Period</td>
<td>Cost Estimate (YOE)</td>
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<td>2111</td>
<td>Hamilton County</td>
<td>146th St. (Phase III)</td>
<td>Towne Rd. to Shelborne Rd.</td>
<td>Widen 2 lanes to 4 lanes</td>
<td>1  1  2</td>
<td>$840,700 $2,041,700 $9,236,304 $12,118,704</td>
</tr>
<tr>
<td>2112</td>
<td>Hamilton County</td>
<td>146th St. (Phase IV)</td>
<td>Shelborne Rd. to Boone Co. line</td>
<td>Widen 2 lanes to 4 lanes</td>
<td>1  1  2</td>
<td>$840,700 $2,041,700 $11,372,592 $14,254,992</td>
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<tr>
<td>3101</td>
<td>Hancock County</td>
<td>Mt. Comfort Road / CR 600 W, Segment A</td>
<td>CR 300 N to CR 400 N</td>
<td>Widen 2 lanes to 4 lanes</td>
<td>1  1  2</td>
<td>$547,536 $1,636,363 $5,928,199 $8,112,098</td>
</tr>
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<td>3103</td>
<td>Hancock County</td>
<td>Mt. Comfort Road / CR 600 W, Segment C</td>
<td>CR 600 N to CR 650 N</td>
<td>Widen 2 lanes to 4 lanes divided</td>
<td>1  1  2</td>
<td>$425,755 $736,814 $3,637,687 $4,800,255</td>
</tr>
<tr>
<td>3105</td>
<td>Hancock County</td>
<td>Mt. Comfort Road / CR 600 W, Segment E</td>
<td>CR 850 N to CR 1000 N</td>
<td>Widen 2 lanes to 4 lanes divided</td>
<td>1  1  2</td>
<td>$527,359 $1,038,985 $8,648,825 $10,215,169</td>
</tr>
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<td>3106</td>
<td>Hancock County</td>
<td>CR 300 N, Segment F</td>
<td>CR 700 W to CR 600 W</td>
<td>Widen 2 lanes to 4 lanes divided</td>
<td>1  1  2</td>
<td>$546,695 $1,733,283 $9,026,102 $11,306,081</td>
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<td>3107</td>
<td>Hancock County</td>
<td>CR 300 N, Segment H</td>
<td>CR 500 W to CR 400 W</td>
<td>Widen 2 lanes to 4 lanes divided</td>
<td>1  1  2</td>
<td>$230,928 $1,026,405 $7,713,342 $9,006,675</td>
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<td>3108</td>
<td>Hancock County</td>
<td>CR 300 N, Segment G</td>
<td>CR 600 W to CR 500 W</td>
<td>Widen 2 lanes to 4 lanes divided</td>
<td>1  1  2</td>
<td>$890,061 $3,301,909 $10,723,280 $14,915,251</td>
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<tr>
<td>4104</td>
<td>Hendricks County</td>
<td>Ronald Reagan Pkwy</td>
<td>CR 300 N to US 136</td>
<td>New 4 lanes roadway</td>
<td>2</td>
<td>$22,848,000 $22,848,000</td>
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<td>4105</td>
<td>Hendricks County/Avon</td>
<td>CR 100 N (10th St.)</td>
<td>Raceway Rd. to SR 267</td>
<td>Widen 2 lanes to 4 lanes divided</td>
<td>1  2</td>
<td>$4,804,000 $30,150,792 $34,954,792</td>
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<tr>
<td>2001</td>
<td>INDOT</td>
<td>US 31 Fwy Upgrade</td>
<td>Added lanes from 96th Street to 161st St., roadway reconstruction from 161st St. to SR 38 in Hamilton county; interchange modifications @ I-465/106th St., and 9 new interchanges/roundabouts at 166th, 131st, 136th, 146th, 151st, 161st, SR 32, 191st and SR 38.</td>
<td>Widen 4 lane to 6 lanes (from 96th St. to 161st. St.)</td>
<td>2  2  2</td>
<td>$53,366,065 $141,808,755 $436,496,732 $631,671,552</td>
</tr>
<tr>
<td>5003</td>
<td>INDOT</td>
<td>SR 135 (Meridian St.)</td>
<td>CR 500 N (Whiteland Rd.) to CR 700 N (Stones Crossing Rd.)</td>
<td>Widen 2 lane to 5 lanes</td>
<td>2  2  2</td>
<td>$200,000 $4,000,000 $23,233,333 $27,433,333</td>
</tr>
<tr>
<td>5004</td>
<td>INDOT</td>
<td>I-69 Indy to Evansville</td>
<td>MAR/JO Co Line to SR 144</td>
<td>New 4 lane freeway</td>
<td>2</td>
<td>$90,011,283</td>
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<tr>
<td>6004</td>
<td>INDOT</td>
<td>I-465 (northeast)</td>
<td>0.5 W of Allisonville to Fall Creek</td>
<td>Widen 6 lane to 10 lanes divided</td>
<td>2  2  2</td>
<td>$11,130,000 $15,642,000 $60,226,110 $86,998,110</td>
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<td>MPO ID #</td>
<td>Sponsor</td>
<td>Facility</td>
<td>Location</td>
<td>Project Description</td>
<td>Funding Period</td>
<td>Cost Estimate (YOE)</td>
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<tr>
<td>6005</td>
<td>INDOT</td>
<td>I-69</td>
<td>I-465 to 96th Street interchange + 2 int. at I-465 &amp; at 82nd St.</td>
<td>Widen to 8 lanes divided with 6 Collector/ Distributor lanes (up 14 lanes total)</td>
<td>PE: 2, RW: 2, CN: 2</td>
<td>Included in MPO ID # 6004 PE &amp; RW costs: $144,411,739</td>
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<tr>
<td>6011</td>
<td>INDOT</td>
<td>I-69 Indy to Evansville</td>
<td>I-465 to MAR/OO Co Line</td>
<td>New 4 lane freeway</td>
<td>2</td>
<td>$180,022,566</td>
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<tr>
<td>7001</td>
<td>INDOT</td>
<td>SR 39</td>
<td>SR 37 to SR 67</td>
<td>New Alignment, remains 2 lanes</td>
<td>PE: 2, RW: 2, CN: 2</td>
<td>$750,000, $750,000, $29,500,000</td>
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<tr>
<td>7002</td>
<td>INDOT</td>
<td>I-69 Indy to Evansville</td>
<td>SR 144 to MPA Boundary</td>
<td>New 4 lane freeway</td>
<td>2</td>
<td>$90,011,283</td>
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<tr>
<td>4504</td>
<td>Plainfield</td>
<td>Perimeter Pkwy NE, Phase 2</td>
<td>SR 267 to Dan Jones Road</td>
<td>Widen 2 to 5 lanes</td>
<td>1, 1, 2</td>
<td>$480,788, $600,500, $5,712,000</td>
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<tr>
<td>4505</td>
<td>Plainfield</td>
<td>Perimeter Pkwy SW (CR 600 S)</td>
<td>Center St. to Moon Rd.</td>
<td>Widen 2 to 4 lanes</td>
<td>1, 2</td>
<td>$540,450, $7,714,056</td>
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<tr>
<td>6401</td>
<td>Speedway</td>
<td>16th St.</td>
<td>Main St. to East Town Limit</td>
<td>Relocation - 4 lanes</td>
<td>1, 1, 2</td>
<td>$3,416,004, $9,367,800, $57,967,661</td>
</tr>
<tr>
<td>6404</td>
<td>Speedway</td>
<td>Lynhurst Dr.</td>
<td>Moller Road Connector, 26th St. to 30th St.</td>
<td>New 4 lane road</td>
<td>1, 1, 2</td>
<td>$917,204, $162,135, $10,139,514</td>
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<tr>
<td>2403</td>
<td>Westfield</td>
<td>161st St.</td>
<td>Union Street to Gray Road</td>
<td>Widen 2 lanes to 4 lanes</td>
<td>1, 2, 2</td>
<td>$1,081,501, $4,846,489, $16,248,928</td>
</tr>
<tr>
<td>2405</td>
<td>Westfield</td>
<td>Springfield Road</td>
<td>146th St. to SR 32</td>
<td>Widen 2 lanes to 4 lanes divided</td>
<td>1, 1, 2</td>
<td>$1,621,350, $1,861,550, $23,704,800</td>
</tr>
<tr>
<td>1203</td>
<td>Zionsville</td>
<td>96th St.</td>
<td>Zionsville Rd. to Hamilton Co. line</td>
<td>Widen 2 to 4 lanes divided</td>
<td>1, 1, 2</td>
<td>$840,700, $1,032,860, $11,466,840</td>
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<tr>
<td>1204</td>
<td>Zionsville</td>
<td>Bennett Pkwy</td>
<td>106th St. to 96th St.</td>
<td>New 2 lane</td>
<td>1, 1, 2</td>
<td>$672,560, $1,921,600, $9,024,960</td>
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</tbody>
</table>

Subtotal $105,031,988 $271,361,586 $1,628,650,462 $2,005,044,036

Period 3: 2026 - 2035

<table>
<thead>
<tr>
<th>MPO ID #</th>
<th>Sponsor</th>
<th>Facility</th>
<th>Location</th>
<th>Project Description</th>
<th>Funding Period</th>
<th>Cost Estimate (YOE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4201</td>
<td>Avon</td>
<td>CR 800 E (Dan Jones Rd.)</td>
<td>CR 300 S to CR 200 N</td>
<td>Widen 2 lane to 4 lane boulevard</td>
<td>3, 3</td>
<td>$4,453,268, $7,320,000</td>
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<tr>
<td>4202</td>
<td>Avon</td>
<td>CR 200 N (21st St.)</td>
<td>Dan Jones Rd to Persimmon Grove</td>
<td>Widen 2 lane to 4 lane boulevard</td>
<td>3, 3, 3</td>
<td>$1,778,211, $5,490,000, $29,636,850</td>
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| Period: 2026 - 2035 |

Subtotal: $117,773,268 $36,905,061
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<th>MPO ID #</th>
<th>Sponsor</th>
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<th>Location</th>
<th>Project Description</th>
<th>Funding Period</th>
<th>Cost Estimate (YOE)</th>
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<tr>
<td>4203</td>
<td>Avon</td>
<td>CR 100 S (Morris St.)</td>
<td>Ronald Reagan Pkwy to SR 267</td>
<td>Widen 2 lane to 4 lane boulevard</td>
<td>3 3 3</td>
<td>$1,855,620, $5,490,000, $30,927,000</td>
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<tr>
<td>4303</td>
<td>Brownsburg</td>
<td>CR 625 E / Witham Rd.</td>
<td>W. Northfield Dr. to CR 800 N</td>
<td>New alignment and new bridge over I-74</td>
<td>3 3 3</td>
<td>$814,716, $1,006,500, $11,638,800</td>
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<tr>
<td>2211</td>
<td>Carmel</td>
<td>96th St.</td>
<td>Intersection with Keystone Ave.</td>
<td>New Interchange/ Grade-Separated Roundabout</td>
<td>3 3 3</td>
<td>$7,320,000, $20,135,000, $54,900,000</td>
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<tr>
<td>2214</td>
<td>Carmel</td>
<td>Spring Mill Rd.</td>
<td>96th St. to 116th St.</td>
<td>Widen 2 to 4 lanes divided</td>
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<td>$3,660,000, $5,490,000, $18,300,000</td>
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<tr>
<td>2215</td>
<td>Carmel</td>
<td>131st St.</td>
<td>Hazel Dell Parkway to River Ave.</td>
<td>Widen 2 to 4 lanes divided</td>
<td>3 3 3</td>
<td>$2,470,500, $3,705,750, $12,352,500</td>
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<tr>
<td>6106</td>
<td>DPW</td>
<td>Township Line Rd.</td>
<td>79th St. to 71st St. (WestLane Rd.)</td>
<td>New roadway, 4 lane divided</td>
<td>3 3 3</td>
<td>$512,400, $1,251,720, $9,424,500</td>
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<tr>
<td>6111</td>
<td>DPW</td>
<td>79th St.</td>
<td>Georgetown Rd. to Michigan Rd.</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>3 3 3</td>
<td>$1,024,800, $2,196,000, $12,169,500</td>
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<tr>
<td>6112</td>
<td>DPW</td>
<td>79th St.</td>
<td>Michigan Rd. to Township Line Rd.</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>3 3 3</td>
<td>$1,079,700, $1,756,800, $9,699,000</td>
</tr>
<tr>
<td>6114</td>
<td>DPW</td>
<td>Bluff Rd.</td>
<td>West St. to Troy Ave.</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>3 3 3</td>
<td>$774,090, $938,790, $7,759,200</td>
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<tr>
<td>6115</td>
<td>DPW</td>
<td>Cooper Rd.</td>
<td>Michigan Rd. to 62nd St.</td>
<td>New 2 lane road on 4 lane divided ROW</td>
<td>3 3 3</td>
<td>$448,350, $1,409,100, $7,823,250</td>
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<tr>
<td>6116</td>
<td>DPW</td>
<td>County Line Rd.</td>
<td>SR 37 to Morgantown Rd.</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>3 3 3</td>
<td>$732,000, $640,500, $3,568,500</td>
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<tr>
<td>6118</td>
<td>DPW</td>
<td>Girls School Rd.</td>
<td>Rockville Rd. to 21st St.</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>3 3 3</td>
<td>$1,921,500, $3,294,000, $20,496,000</td>
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<tr>
<td>6124</td>
<td>DPW</td>
<td>Thompson Rd.</td>
<td>High School Rd. to Mann Rd.</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>3 3 3</td>
<td>$1,352,370, $2,196,000, $13,176,000</td>
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<tr>
<td>6125</td>
<td>DPW</td>
<td>Township Line Rd.</td>
<td>96th St. to 79th St.</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>3 3 3</td>
<td>$1,332,240, $3,294,000, $21,594,000</td>
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<tr>
<td>6126</td>
<td>DPW</td>
<td>71st St.</td>
<td>Georgetown Rd. to Michigan Rd.</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>3 3 3</td>
<td>$2,415,600, $3,477,000, $20,862,000</td>
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<tr>
<td>6131</td>
<td>DPW</td>
<td>Allisonville Rd.</td>
<td>96th St. to 86th St.</td>
<td>Widen 4 lane divided to 6 lane divided</td>
<td>3 3 3</td>
<td>$1,180,350, $2,196,000, $17,202,000</td>
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<tr>
<td>MPO ID #</td>
<td>Sponsor</td>
<td>Facility</td>
<td>Location</td>
<td>Project Description</td>
<td>Funding Period</td>
<td>Cost Estimate (YOE)</td>
</tr>
<tr>
<td>----------</td>
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<td>----------</td>
<td>----------</td>
<td>---------------------</td>
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<tr>
<td>6134</td>
<td>DPW</td>
<td>Bluff Rd.</td>
<td>Thompson Rd. to SR 37</td>
<td>Widen 2 to 4 lanes divided</td>
<td>PE 3, RW 3, CN 3</td>
<td>PE $3,184,200, RW $6,039,000, Total $9,223,200</td>
</tr>
<tr>
<td>6137</td>
<td>DPW</td>
<td>County Line Rd.</td>
<td>Five Points Rd. to Franklin Rd.</td>
<td>New roadway, 2 lanes on 4 lane divided ROW</td>
<td>PE 3, RW 3, CN 3</td>
<td>PE $825,330, RW $2,196,000, Total $13,725,000</td>
</tr>
<tr>
<td>6139</td>
<td>DPW</td>
<td>Fall Creek Rd.</td>
<td>Hague Rd. to I-465 (Shadeland )</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>PE 3, RW 3, CN 3</td>
<td>PE $997,350, RW $1,643,340, Total $8,967,000</td>
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<tr>
<td>6144</td>
<td>DPW</td>
<td>Girls School Rd.</td>
<td>Crawfordsville Rd. to 21st St. (pt SR 134)</td>
<td>Widen 2 to 4 lanes divided</td>
<td>PE 2, RW 3, CN 3</td>
<td>PE $434,112, RW $1,079,700, Total $7,869,000</td>
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<tr>
<td>6155</td>
<td>DPW</td>
<td>West St.</td>
<td>Raymond St. to Bluff Rd.</td>
<td>Widen 2 to 4 lanes divided</td>
<td>PE 2, RW 3, CN 3</td>
<td>PE $338,436, RW $640,500, Total $4,547,436</td>
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<tr>
<td>6157</td>
<td>DPW</td>
<td>High School Rd</td>
<td>46th St. to 56th St.</td>
<td>Widen 2 to 4 lanes divided</td>
<td>PE 3, RW 3, CN 3</td>
<td>PE $955,260, RW $1,564,650, Total $11,212,410</td>
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<tr>
<td>6158</td>
<td>DPW</td>
<td>10th St.</td>
<td>I-465 to Tomahawk Tr.</td>
<td>Widen 4 to 6 lanes divided</td>
<td>PE 3, RW 3, CN 3</td>
<td>PE $2,351,550, RW $3,074,400, Total $29,398,950</td>
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<tr>
<td>5202</td>
<td>Greenwood (E-W Corridor)</td>
<td>Worthsville Road Corridor</td>
<td>SR 135 to just east of the South 5 Points Road intersection</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>PE 3, RW 3, CN 3</td>
<td>PE $9,882,000, RW $6,039,000, Total $15,921,000</td>
</tr>
<tr>
<td>5203</td>
<td>Greenwood</td>
<td>Smith Valley Rd.</td>
<td>Meridian St. (SR 135) to S. Emerson Ave. (north turn)</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>PE 3, RW 3, CN 3</td>
<td>PE $4,575,000, RW $8,235,000, Total $12,810,000</td>
</tr>
<tr>
<td>2101</td>
<td>Hamilton County</td>
<td>96th St.</td>
<td>US 421 to Shelborne Rd.</td>
<td>Widen 2 to 4 lanes; with intersection improvements</td>
<td>PE 3, RW 3, CN 3</td>
<td>PE $1,226,100, RW $4,575,000, Total $14,493,600</td>
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<tr>
<td>2103</td>
<td>Hamilton County</td>
<td>206th St.</td>
<td>SR 19 to Cumberland Rd.</td>
<td>Widen 2 lanes to 4 lanes</td>
<td>PE 3, RW 3, CN 3</td>
<td>PE $1,098,000, RW $2,745,000, Total $16,810,000</td>
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<tr>
<td>2104</td>
<td>Hamilton County</td>
<td>96th St.</td>
<td>Lantern Road to Cumberland Road</td>
<td>Widen 2 to 4 lanes divided</td>
<td>PE 3, RW 3, CN 3</td>
<td>PE $1,511,397, RW $2,196,000, Total $18,253,050</td>
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<td>2106</td>
<td>Hamilton County</td>
<td>Olio Rd.</td>
<td>Tegler Ave. to SR 38</td>
<td>Widen 2 to 4 lanes divided</td>
<td>PE 3, RW 3, CN 3</td>
<td>PE $2,013,000, RW $2,104,500, Total $27,907,500</td>
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<td>2107</td>
<td>Hamilton County</td>
<td>Olio Rd. (new)</td>
<td>SR 38 to SR 32</td>
<td>New 4 lane road</td>
<td>PE 3, RW 3, CN 3</td>
<td>PE $2,562,000, RW $3,111,000, Total $31,293,000</td>
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<tr>
<td>2108</td>
<td>Hamilton County</td>
<td>146th St.</td>
<td>SR 37 to Boden Rd.</td>
<td>Widen 4 to 6 lanes</td>
<td>PE 3, RW 3, CN 3</td>
<td>PE $2,230,038, RW $183,000, Total $34,255,038</td>
</tr>
<tr>
<td>MPO ID #</td>
<td>Sponsor</td>
<td>Facility</td>
<td>Location</td>
<td>Project Description</td>
<td>Funding Period</td>
<td>Cost Estimate (YOE)</td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>----------</td>
<td>----------</td>
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<tr>
<td>3102</td>
<td>Hancock County</td>
<td>Mt. Comfort Road / CR 600 W, Segment B</td>
<td>CR 400 N to CR 600 N</td>
<td>Widen 2 to 4 lanes divided</td>
<td>3 3 3</td>
<td>$593,835 $2,491,728 $18,208,500 $21,294,063</td>
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<tr>
<td>3104</td>
<td>Hancock County</td>
<td>Mt. Comfort Road / CR 600 W, Segment D</td>
<td>CR 650 N to CR 850 N</td>
<td>Widen 2 to 4 lane divided / New Alignment</td>
<td>3 3 3</td>
<td>$3,771,630 $805,383 $30,983,913 $35,560,926</td>
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<tr>
<td>5102</td>
<td>Johnson County</td>
<td>(E-W Corridor) Stones Crossing Rd.</td>
<td>SR 37 to SR 135</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>3 3 3</td>
<td>$1,464,000 $1,555,500 $16,470,000 $19,489,500</td>
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<tr>
<td>5103</td>
<td>Johnson County</td>
<td>(E-W Corridor) Clark School Rd.</td>
<td>CR 300 E to Johnson/ Shelby County Line</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>3 3 3</td>
<td>$1,830,000 $1,555,500 $22,875,000 $26,260,500</td>
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<tr>
<td>5106</td>
<td>Johnson County</td>
<td>CR 200 N</td>
<td>SR 144 to US 31</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>3 3 3</td>
<td>$457,500 $320,250 $6,771,000 $7,548,750</td>
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<tr>
<td>5107</td>
<td>Johnson County</td>
<td>Whiteland Rd.</td>
<td>CR 225 E to I-65</td>
<td>Widen 2 lane to 4 lane divided</td>
<td>3 3 3</td>
<td>$768,600 $1,098,000 $8,601,000 $10,467,600</td>
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<td>2501</td>
<td>Noblesville</td>
<td>Greenfield Ave.</td>
<td>Allisonville Rd. to Cumberland Rd.</td>
<td>Widen 2 to 4 lanes</td>
<td>3 3 3</td>
<td>$1,295,640 $2,047,770 $14,250,695 $17,594,105</td>
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<td>2502</td>
<td>Noblesville</td>
<td>Allisonville Rd.</td>
<td>146th St. to Greenfield Ave.</td>
<td>Widen 2 to 4 lanes</td>
<td>3 3 3</td>
<td>$2,721,210 $4,410,300 $29,939,523 $37,071,033</td>
</tr>
<tr>
<td>2402</td>
<td>Westfield</td>
<td>161st St.</td>
<td>Springfield Rd. to US 31</td>
<td>Widen 2 to 4 lanes</td>
<td>3 3 3</td>
<td>$1,494,501 $2,135,001 $17,186,751 $20,816,252</td>
</tr>
<tr>
<td>2406</td>
<td>Westfield</td>
<td>Western Way</td>
<td>South Union St. to Western Way with 56th St. spur</td>
<td>New 4 lane roadway</td>
<td>3 3 3</td>
<td>$2,397,300 $11,369,790 $45,201,000 $58,968,090</td>
</tr>
<tr>
<td>1205</td>
<td>Zionsville</td>
<td>CR 375 S</td>
<td>CR 1000 E to US 421</td>
<td>New 2 lane</td>
<td>3 3 3</td>
<td>$641,800 $3,074,400 $9,680,700 $13,596,900</td>
</tr>
<tr>
<td>1206</td>
<td>Zionsville</td>
<td>Templin Rd.</td>
<td>Mulberry St. to Willow Rd.</td>
<td>New 2 lane</td>
<td>3 3 3</td>
<td>$530,700 $2,470,500 $6,057,300 $9,058,500</td>
</tr>
<tr>
<td>1207</td>
<td>Zionsville</td>
<td>CR 875 E</td>
<td>CR 250 S to CR 200 S</td>
<td>New 2 lane</td>
<td>1 2 3</td>
<td>$276,230 $1,199,520 $4,849,500 $6,325,250</td>
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</table>

**Subtotal** | | $87,752,434 | $151,241,892 | $849,898,531 | $1,088,892,857 |

**2035 LRTP Total** | | $219,777,163 | $466,965,200 | $3,141,309,285 | $3,828,051,649 |

Source: Indianapolis MPO
## Table 13.3 Roadway Capacity Illustrative Projects

<table>
<thead>
<tr>
<th>MPO ID #</th>
<th>Sponsor</th>
<th>Facility</th>
<th>Location</th>
<th>Project Description</th>
<th>Cost Estimate (2010 dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2218</td>
<td>Carmel</td>
<td>116th St</td>
<td>Michigan Rd. to Shelborne Rd.</td>
<td>Reconst./widen to 4-in. div.</td>
<td>$2,500,000 $3,750,000 $12,500,000 $18,750,000</td>
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<tr>
<td>6119</td>
<td>DPW</td>
<td>Mann Rd.</td>
<td>Kentucky Rd. to Southport Rd. (Phase 1 - KY Rd. to I-465)</td>
<td>W 2-in. to 4-in. div.</td>
<td>$1,100,000 $1,850,000 $19,500,000 $22,450,000</td>
</tr>
<tr>
<td>6120</td>
<td>DPW</td>
<td>Post Rd.</td>
<td>Brookville Rd. (US 52) to I-74</td>
<td>W 2-in. to 4-in. div.</td>
<td>$1,081,000 $1,800,000 $10,200,000 $13,081,000</td>
</tr>
<tr>
<td>6121</td>
<td>DPW</td>
<td>Southport Rd.</td>
<td>Mann Rd. to SR 37</td>
<td>W 2-in. to 4-in. div.</td>
<td>$1,164,000 $2,200,000 $14,600,000 $17,964,000</td>
</tr>
<tr>
<td>6129</td>
<td>DPW</td>
<td>46th St</td>
<td>Pendleton Pike to Mitthoeffer Rd</td>
<td>W 2-in. to 4-in. div.</td>
<td>$1,190,000 $1,230,000 $6,800,000 $9,220,000</td>
</tr>
<tr>
<td>6135</td>
<td>DPW</td>
<td>Camby Rd</td>
<td>Kentucky Ave to Mooresville Rd</td>
<td>W 2-in. to 4-in. div.</td>
<td>$1,081,000 $1,800,000 $10,200,000 $13,081,000</td>
</tr>
<tr>
<td>6136</td>
<td>DPW</td>
<td>Camby Rd Extension</td>
<td>Mooresville Rd. to Mann Rd.</td>
<td>New 2 ln. on 4-in. div. ROW</td>
<td>$934,000 $1,270,000 $7,800,000 $10,004,000</td>
</tr>
<tr>
<td>6140</td>
<td>DPW</td>
<td>Franklin Rd.</td>
<td>38th St. to 21th St.</td>
<td>W 2-in. to 4-in. div.</td>
<td>$1,100,000 $1,400,000 $10,200,000 $12,700,000</td>
</tr>
<tr>
<td>6141</td>
<td>DPW</td>
<td>Franklin Rd.</td>
<td>Brookville Rd. (US 52) to Troy Ave.</td>
<td>W 2-in. to 4-in. div.</td>
<td>$1,000,000 $500,000 $10,000,000 $11,500,000</td>
</tr>
<tr>
<td>6142</td>
<td>DPW</td>
<td>Franklin Rd.</td>
<td>Southeastern Ave. to Stop 11 Rd.</td>
<td>W 2-in. to 4-in. div.</td>
<td>$983,000 $2,400,000 $13,700,000 $17,083,000</td>
</tr>
<tr>
<td>6146</td>
<td>DPW</td>
<td>Lynhurst</td>
<td>Bradbury to Rockville Rd.</td>
<td>W 2-in. to 4-in. div.</td>
<td>$950,000 $1,800,000 $12,000,000 $14,750,000</td>
</tr>
<tr>
<td>6176</td>
<td>DPW</td>
<td>Mann Rd.</td>
<td>Kentucky Rd. to Southport Rd.</td>
<td>W 2-in. to 4-in. div.</td>
<td>$2,025,000 $2,900,000 $18,000,000 $22,925,000</td>
</tr>
<tr>
<td>6160</td>
<td>DPW</td>
<td>Co. Line Rd.</td>
<td>Morgantown to SR 135</td>
<td>W 2-in. to 4-in. div.</td>
<td>$1,100,000 $1,400,000 $10,200,000 $12,700,000</td>
</tr>
<tr>
<td>5204</td>
<td>Greenwood</td>
<td>Worthsville Road / I-65 Interchange</td>
<td>Worthsville Road</td>
<td>Interchange</td>
<td>$2,000,000 $3,000,000 $20,000,000 $25,000,000</td>
</tr>
<tr>
<td>4106</td>
<td>Hendricks County</td>
<td>CR 100 N</td>
<td>Raceway Rd to SR 267</td>
<td>Widen 2-in. to 4-in.</td>
<td>$1,000,000 $2,000,000 $12,000,000 $15,000,000</td>
</tr>
<tr>
<td>5101</td>
<td>Johnson County</td>
<td>Smith Valley Rd.</td>
<td>Mann Rd. to SR 37</td>
<td>Widen 2-in. to 4-in. div. ROW</td>
<td>$1,000,000 $500,000 $10,000,000 $11,500,000</td>
</tr>
<tr>
<td>5104</td>
<td>Johnson County</td>
<td>CR 144</td>
<td>SR 37 to Whiteland Rd</td>
<td>Widen 2-in to 4-in div.</td>
<td>$700,000 $600,000 $7,800,000 $9,100,000</td>
</tr>
<tr>
<td>5105</td>
<td>Johnson County</td>
<td>Whiteland Rd</td>
<td>CR 144 to SR 135</td>
<td>Widen 2-in to 4-in div.</td>
<td>$500,000 $400,000 $5,600,000 $6,500,000</td>
</tr>
<tr>
<td>MPO ID #</td>
<td>Sponsor</td>
<td>Facility</td>
<td>Location</td>
<td>Project Description</td>
<td>Cost Estimate (2010 dollars)</td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
<td>---------------------------</td>
<td>-----------------------------------</td>
<td>--------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PE</td>
</tr>
<tr>
<td>4506</td>
<td>Plainfield</td>
<td>Perimeter Pkwy NW</td>
<td>Vestal Rd. to SR 267</td>
<td>W 2-in. to 4-in.</td>
<td>$750,000</td>
</tr>
<tr>
<td>4507</td>
<td>Plainfield</td>
<td>Perimeter Pkwy SW (Moon Rd.)</td>
<td>South approach at US 40 to Hadley Rd. (CR600S)</td>
<td>W 2-in. to 5-in.</td>
<td>$142,000</td>
</tr>
<tr>
<td>1201</td>
<td>Zionsville</td>
<td>Cooper Rd.</td>
<td>SR 334 to CR 550 S</td>
<td>New 2-lane</td>
<td>$290,000</td>
</tr>
<tr>
<td>1202</td>
<td>Zionsville</td>
<td>CR 600 S.</td>
<td>Cooper Rd to CR 900 E</td>
<td>New 2-lane</td>
<td>$110,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$26,638,000</td>
</tr>
</tbody>
</table>

Source: Indianapolis MPO
Table 13.4 summarizes the planned expenditures by plan period from Table 13.2 on non-INDOT roadways and compares them to the results of the revenue projections described in Section 12. (All figures are in year of expenditure (YOE) dollars.) Available funds and planned expenditures are assumed to be balanced because in each period the projected revenue is above the planned costs.

### Table 13.4 Fiscal Balancing - Non-INDOT Roadway Expansion Projects

<table>
<thead>
<tr>
<th>2035 LRTP Plan Period</th>
<th>Period 1</th>
<th>Period 2</th>
<th>Period 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal revenue</td>
<td>$49,863,737</td>
<td>$113,566,852</td>
<td>$139,851,760</td>
</tr>
<tr>
<td>Local revenue</td>
<td>$209,510,811</td>
<td>$509,164,999</td>
<td>$953,965,666</td>
</tr>
<tr>
<td>Total revenue</td>
<td>$259,374,548</td>
<td>$622,731,851</td>
<td>$1,093,817,426</td>
</tr>
<tr>
<td>Total estimated cost of planned projects</td>
<td>$256,774,555</td>
<td>$612,554,997</td>
<td>$1,086,644,559</td>
</tr>
<tr>
<td>Difference between revenues and costs</td>
<td>1.0%</td>
<td>1.6%</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

Source: Indianapolis MPO

Table 13.5 summarizes the planned expenditures by plan period from Table 13.2 on INDOT roadways and compares them to the results of the revenue projections described in Section 12. (All figures are in year of expenditure (YOE) dollars.)

INDOT is currently updating its Long Range Plan (LRP). This new plan update is a transition from INDOT’s older statewide transportation plans which were more project specific. In contrast, the new plan focuses on long range strategies. INDOT’s new LRP will refer to a 10-year funding program (through 2020); however, for the time frame beyond 2020, INDOT will identify transportation needs identified as corridor deficiencies. This is the reason that no INDOT projects have been identified for Period 3 (2026 – 2035) in Table 13.5.

Because of this change and due to the slight difference in timelines for the MPO’s 2035 LRTP and INDOT’s LRP, INDOT’s revenue forecasts were developed by MPO staff using INDOT’s 2007 LRP and other data publicly available. This process is described in Section 12.

### Table 13.5 Fiscal Balancing - INDOT Roadway Expansion Projects

<table>
<thead>
<tr>
<th>2035 LRTP Plan Period</th>
<th>Period 1</th>
<th>Period 2</th>
<th>Period 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Revenue</td>
<td>$638,152,307</td>
<td>$1,329,044,235</td>
<td>$2,412,693,030</td>
</tr>
<tr>
<td>Total estimated cost of planned projects</td>
<td>$590,517,671</td>
<td>$1,281,559,866</td>
<td>-</td>
</tr>
<tr>
<td>Difference between revenues and costs</td>
<td>7.5%</td>
<td>3.6%</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Indianapolis MPO
13.3.1 Anticipated Performance Results

Figure 13.1 illustrates that in 2010, nearly 98 percent of all roadways in central Indiana had less than 50 daily vehicle hours of delay per mile (VHD/mi), and less than 0.5 percent of roads had greater than 150 VHD/mi.

In the 2035 no-build scenario (a scenario in which no roadway expansion work is done), it is predicted that roadways with less than 50 VHD/mi would decrease by 4 percent and make up 94 percent of the roads in the region. Roadways with greater than 150 VHD/mi, on the other hand, are expected to increase by 275 percent to a share of 1.2 percent of the region’s roads. These results are illustrated in Figure 13.2. Areas of high VHD/mi in 2010 see exacerbation of congestion problems in the 2035 no-build scenario.

Similarly, the VHD/mi on roadways is expected to increase in 2035 even with implementation of all of the projects identified in Table 13.2. (This scenario is referred to as the build scenario.) These results are illustrated in Figure 13.3. However, it does so less dramatically than in the no-build scenario, as indicated in Table 13.5. With implementation of the 2035 LRTP roadway projects, the share of roadways with less than 50 VHD/mi remains essentially the same as in 2010, but the roadway mileage experiencing greater than 150 VHD/mi increases from 14 miles of roadway to 36 mile of roadway, representing a 157 percent increase.

Table 13.6 Delay Comparison

<table>
<thead>
<tr>
<th>Daily VHD/mile in Morning Peak Period</th>
<th>2010 (Base Case)</th>
<th>2035 with no Improvements (No-build scenario)</th>
<th>2035 with Improvements (Build scenario)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Miles</td>
<td>Percent</td>
<td>Miles</td>
</tr>
<tr>
<td>&lt; 50</td>
<td>4,407</td>
<td>97.86%</td>
<td>4,262</td>
</tr>
<tr>
<td>50 - 150</td>
<td>82</td>
<td>1.82%</td>
<td>188</td>
</tr>
<tr>
<td>150 - 250</td>
<td>9</td>
<td>0.21%</td>
<td>31</td>
</tr>
<tr>
<td>&gt; 250</td>
<td>5</td>
<td>0.11%</td>
<td>23</td>
</tr>
<tr>
<td>Total</td>
<td>4,504</td>
<td>0.11%</td>
<td>4,504</td>
</tr>
</tbody>
</table>

Source: Indianapolis MPO

While the actual mileage totals for these high delay corridor segments may not seem extensive, it should be recognized that most of these high “vehicle delay” segments also have high vehicle capacities. This means that proportionately, these high VHD/mi segments represent a higher amount of the total daily delay hours in the region, compared to the mileage percentage that they represent.

One of the areas showing the highest amounts of VHD/mi in 2035 after planned roadway improvements is in the northeast part of the region, near the suburban sections of the potential northeast corridor commuter rail route. There may be...
opportunities to offer alternatives to some of this congestion through development of the rail transit alternative. By designing well-connected multimodal access to potential stations in this vicinity, there may be opportunities to encourage people to reduce their use of single occupancy vehicles and utilize other travel options in this area. There may be similar opportunities in the southern part of the region as well, as there is a cluster of high congestion roadway segments in the vicinity of the potential southern commuter rail corridor, in the US 31 South / Madison Avenue corridor.
Figure 13—1  2010 Daily Congestion in the Morning Peak Period

Source: Indianapolis MPO
Figure 13—2  2035 Daily Congestion in the Morning Peak Period, with no Improvements

Legend

AM Peak Vehicle Hours of Delay per Mile
- > 250
- 50 - 150
- 150 - 250
- < 50

Source: Indianapolis MPO
Figure 13—3  2035 Daily Congestion in the Morning Peak Period, with Improvements

Source: Indianapolis MPO
13.4 ADDITIONAL RECOMMENDATIONS

13.4.1 Transit

The Transit Vision Plan (Volume III) describes a series of potential future transit funding sources and presents potential regional transit projects recommended for implementing if the sources become committed. It is the intent of the Indianapolis MPO to pursue these funding sources, and incrementally implement the transit vision as funding becomes available, in future LRTP updates. As an initial step for the 2035 LRTP, the IRTC Policy Committee voted to consider up to 10 percent of non-INDOT roadway funds to support future transit investment.\(^{51}\)

The 2035 LRTP also assumes that the existing Federal, state, and local funding sources for IndyGo, including the transit property tax in Marion County, remain in place. Table 12.5 presents these revenue projections. It is anticipated that IndyGo will continue to make periodic modifications to existing fixed route and paratransit services to meet market needs with these available resources.\(^{52}\)

13.4.2 Bicycle and Pedestrian

As a result of the systems analysis discussed in Chapter 5, the target for spending on bicycle and pedestrian facilities in the 2035 LRTP is 7 percent of non-INDOT roadway funds.\(^{53}\) Bicycle and pedestrian funding comes from several different sources. The majority of federal funding dedicated to bicycle and pedestrian projects comes from the Transportation Enhancement Program (TE) and the Congestion Mitigation and Air Quality Improvement Program (CMAQ). Safe Routes to School is another program that benefits bicycle and pedestrian projects, and STP funds may also be used to fund bicycle and pedestrian improvements. Currently the MPO spends about 5 percent of non-INDOT funds on bicycle and pedestrian facilities.

13.4.3 System Preservation

System preservation includes capital work, such as rehabilitation and reconstruction, aimed at improving the condition of existing roads and bridges without adding capacity. Because of the large volume and routine nature of preservation projects, they are not specified in the 2035 LRTP. However, overall lump sum funding levels have been established for the non-INDOT pavement and bridge preservation programs, as illustrated in Table 13.6. This table also provides guidance on the recommended split of these funds between

\(^{51}\) 23 CFR 450.322 (b) and 23 CFR 450.322 (f)(10)(v).

\(^{52}\) 23 CFR 450.322 (f)(9).

rehabilitation and reconstruction. These figures (which are presented here for information purposes only) are based on the network analysis defined above in Section 5.0.\textsuperscript{54} They represent the splits recommended by HERS-ST and NBIAS, the two FHWA tools used for the preservation analysis.

Table 13.7 System Preservation Funding for Non-INDOT Roadways

<table>
<thead>
<tr>
<th>Program Area</th>
<th>Lump Sum Annual Funding Level (2010 dollars)</th>
<th>Preliminary Split by Work Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pavement preservation</td>
<td>$48,266,667</td>
<td>70%</td>
</tr>
<tr>
<td>Bridge preservation</td>
<td>$28,960,000</td>
<td>6%</td>
</tr>
</tbody>
</table>

13.4.4 System Management and Operations

A major purpose of Management and Operation activities is to enhance the efficiency of the existing transportation infrastructure through technology applications and operations strategies that do not add physical roadway capacity.\textsuperscript{55}

Planned management and operations investment strategies in the Indianapolis MPA include:

- Implementing the Indianapolis Metropolitan Planning Area Regional Intelligent Transportation System (ITS) Architecture;\textsuperscript{56}
- Integrating communications systems between agencies of different municipalities and counties;
- Supporting the regional commuter assistance program (Central Indiana Commuter Service);
- Supporting an ozone awareness program;
- Supporting implementation of INDOT’s Traffic Management Strategic Deployment Plan through the use of:
  - Full Advanced Traffic Management System (ATMS);
  - Closed Circuit Television (CCTV) Cameras and Vehicle Detection;
  - Permanent Overhead Dynamic Message Signs (DMS);

\textsuperscript{54} 23 CFR 450.322 (f)(5).
\textsuperscript{55} 23 CFR 450.322 (f)(10)(v).
- Travel Time Signs (TTS);
- Hoosier Helper Freeway Service Patrol (FSP); and
- Reference Markers; and

- Using ITS equipment and software to:
  - Improve traffic signal timing;
  - Provide real-time traffic condition information;
  - Provide alternate route information when incidents occur on the interstate;
  - Assist emergency vehicle movement with traffic signal preemption and monitoring;
  - Identify maintenance issues before the public identifies there is a problem;
  - Implement bus priority strategies and congested locations for rerouting buses;
  - Convey driver information through Dynamic Message Signs (DMS) and Highway Advisory Radio (HAR); and
  - Monitor rail crossings and convey the blockages to drivers.

Maintenance and operations funding largely comes from CMAQ and state funding programs.\(^\text{57}\)

### 13.4.5 Safety

With the passage of SAFETEA-LU, all states are required to prepare a Strategic Highway Safety Plan. Also, SAFETEA-LU requires that metropolitan transportation plans include a safety element that incorporates or summarizes the priorities, goals, countermeasures, or projects contained in the Strategic Highway Safety Plan.

As part of the plan update process, the MPO coordinated with INDOT to prioritize safety-funded projects. In addition, during the public involvement process, local citizens provided locations where safety improvements should be considered. Note that for the 2035 LRTP, specific safety improvement projects are not line itemed in the plan. Instead, lump sum funding of $2,838,549 annually is provided for safety projects with the amount established in accordance with INDOT.\(^\text{58}\)

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\(^\text{57}\) 23 CFR 450.322 (f)(3).

\(^\text{58}\) 23 CFR 450.322 (h).
13.4.6 Security

SAFETEA-LU requires that the long range transportation plans include a security element as one of the eight Federal planning factors.\textsuperscript{59} In support of this requirement, MPO staff discussed the issue of security at the January 2010 County Planning Workshops.\textsuperscript{60} All counties in the region have an emergency management coordinator and emergency evacuation plans. The Marion County emergency management plan can be accessed on the Marion County Division of Homeland Security website -

http://www.indy.gov/eGov/City/DPS/DHS/Preparedness/Pages/cemp.aspx

IndyGo spends between $125,000 and $250,000 of their total 5307 grant money on capital security projects annually. Past projects have included a closed circuit TV (CCTV) security system and an access control system for the IndyGo facility, along with door locks, fencing and gates for the property. They have applied for a Transportation Security Administration (TSA) grant that will allow them to hire off-duty police officers to patrol the system. IndyGo also has used technology grant money to equip the bus fleet with audio and video sets that monitor employee and passenger behavior and activity.

13.4.7 Other Intermodal Elements: Freight/Rail Movement, Aviation, and Waterways

Since 1991, Federal transportation legislation has emphasized improving the intermodal efficiency of the freight transportation system by providing better connections among the four major modes of freight transport (air, highways, railroads, and waterways). The MPO recognized that the 2035 LRTP had to consider that freight-related truck traffic adds to highway congestion, loading, and access control issues.

Strong growth in the region’s freight and distribution industry means there will continue to be more truck traffic competing for room on the region’s roadways. Significant amounts of rail freight also moves through the region, oftentimes resulting in conflicts at at-grade crossings. Minimizing these conflicts is a goal in trying to promote more efficient freight operations. The logistics and distribution industries are primary economic drivers in central Indiana. The region’s central location in North America, its strong network of interstate highways and its historic manufacturing base have long been recognized as reasons to continue focusing on maintaining efficient freight and intermodal operations in the region.

The 2035 LRTP includes freight-related land use as one of the criteria in ranking subareas within the region for their overall roadway expansion and maintenance

\textsuperscript{59} 23 CFR 450.322 (h).

\textsuperscript{60} 23 CFR 450.322 (h).
needs. Freight-related land uses included areas with concentrations of manufacturing, warehousing, and distribution-related businesses. The highest concentrations of these freight focused land uses were in the SSW1, SW1, E3, SW2 and NW1 sectors.

The Indianapolis MPO has regularly conducted freight-related planning studies to help guide transportation planning decisions. Improvements near the airport helped increase access to the Federal Express facility and have facilitated employment growth on-site and in surrounding areas.

Currently, the MPO is examining freight rail corridors throughout the region and coordinating with the private sector on strategies to support direct rail connections to both western and eastern U.S. ports. Freight needs also are being coordinated with rail transit plans currently being examined in the region. Additionally, freight intermodal facilities and freight bottleneck locations are being identified throughout the region. This type of information will be able to be used in future planning activities to address access to important freight facilities and for recommending strategies to ease freight-related congestion.

The SW sector of the region, as mentioned above, is the region’s primary focal area for freight movement and intermodal infrastructure. Facilities such as the Federal Express hub at Indianapolis International Airport, the CSX Avon rail yard, and substantial amounts of freight distribution and logistics operations located in all directions around the airport make this area one of the more prominent freight distribution regions in the nation.
14.0 Conclusions

This section highlights key themes of the 2035 LRTP development process and discusses its implementation.

14.1 POLICIES

- **Multimodal emphasis.** The distinguishing feature of the 2035 LRTP is its emphasis on expansion of the transit and bicycle-pedestrian networks. This emphasis has met with wide support from a broad array of community stakeholders. Roadway capacity will still be enhanced in selected areas. The multimodal elements of the 2035 LRTP will supplement the roadway system, and provide an increased array of choices to travelers.

- **System preservation and maintenance.** Another main component of this update is the diversion of roadway capacity resources to roadway system preservation and maintenance. This emphasis reflects the reality that the useful life of many roadway projects constructed during the large network expansion of the 60’s and 70’s is reaching its end.

14.2 RESOURCES

- **Major resource shortfalls.** A comparison of the investment needs in the region to the “cost-constrained” 2035 LRTP makes apparent the gap in needed transportation resources. Notwithstanding the fact that the 2035 LRTP assigns anticipated resources to their highest and best uses (according to the priorities of the Indianapolis Regional Transportation Council), anticipated performance of the transportation system is expected to decline across nearly all measures. Roadway congestion will get worse, and pavement and bridge conditions will decline from today’s levels. Part (a majority, even) of this deterioration results from intractable elements of transportation and land use interactions, particularly urban sprawl, as well as the bias of certain funding sources towards capacity improvements. However, there is reason to believe that substantial funding shortfalls also play a role, particularly in system preservation. As such, there is a case for increasing the amount of funding for preservation, and communities should think creatively about expanding their resource base for preservation activities.

- **Transit resources.** In response to the requests of community stakeholders, the 2035 LRTP identifies the potential transit projects that could be funded with a reasonable local option dedicated funding source. However, it is not within the purview of the 2035 LRTP to adopt such a funding source, and
separate action will be required by state, regional, and local agencies outside of the Indianapolis MPO to identify and implement these sources.

14.3 IMPLEMENTATION OF THE 2035 LRTP

14.3.1 Indianapolis Regional Transportation Improvement Program (IRTIP)

The IRTIP is the Indianapolis MPO’s document that assigns federal funds to projects for the upcoming four-year period. As such, it is expected to be the primary instrument for the implementation of the 2035 LRTP policies, and this plan update has large implications for the development of upcoming IRTIPs, as follows:

- **Scoring criteria.** The IRTIP uses a quantitative scoring system to assist in the assignment of limited federal transportation funding to individual projects. While the scoring system includes all types of projects, the designation of funding allocation targets (to transit, bicycle-pedestrian, pavement maintenance, etc.) in the 2025 LRTP will necessitate a review of the IRTIP scoring procedures to ensure their consistency.

- **Congestion Management Process, project definition, and complete streets.** The development of the new Congestion Management Process (CMP) in the 2035 LRTP, which is intended to encourage multimodal improvements in conjunction with (or in place of) roadway capacity projects, has implications for future development of the IRTIP. These implications will require further discussion. For example, should multimodal improvements be a requirement for capacity projects (thus affecting the eligibility of a project for federal funds), or should such improvements be considered as a bonus in the IRTIP scoring system (thus affecting the competitiveness of a project for federal funds)? Should policies for multimodal consideration in capacity roadway projects be extended to non-capacity activities, such as maintenance and preservation? A review of the IRTIP scoring criteria (see first bullet point) could possibly be combined with a discussion of these issues.

14.3.2 Unified Planning Work Program (UPWP)

The UPWP identifies the major activities of the MPO staff. Obviously, the 2035 LRTP has major implications for staff activities. Some of the areas where the 2035 LRTP will influence the assignment of planning resources include the following:

- **Pricing studies.** The recommendations of the Central Indiana Transit Task Force included the imposition of value pricing on certain congested highway corridor segments. Despite the intuitive appeal of these recommendations, they are not included in the 2035 LRTP because further study is needed around a number of topics, including but not limited to geography, design,
and implementing agency. These questions will be examined in upcoming studies identified in the Indianapolis MPO’s work program.

- **Systems management and ITS.** While management and operations issues, including intelligent transportation systems (ITS), are always incorporated (and required) in long-range transportation plans, the 2035 LRTP will increase the reliance on these activities, owing to the reduced proportion of funding allocated to roadway capacity expansion. Operational issues should therefore be re-examined in light of the 2035 LRTP, and may result in the reprioritization of certain management and operational activities.

- **Data development.** Transportation planning is by nature a data-intensive activity, but the performance-management approach adopted by the 2035 LRTP expands the types and quality of required data to include detailed pavement quality and system performance measures.

- **Project tracking systems.** As projects (transit, roadway, or other) move from the concept stage towards implementation, they typically get redefined and broken into smaller sequential projects. As such, it can be challenging to ensure that multimodal elements of projects included in a project’s initial approval are maintained as the project moves into construction. The Indianapolis MPO will be working on a long-term project tracking system to ensure, among other things, that these project elements do not get lost.

- **Land use.** International research has made clear the relationship of urban growth patterns to urban transportation systems, including the geographic spread of population and employment (“urban sprawl”), the balance of jobs to housing, and the densification of areas around transit stops. The Indianapolis MPO intends to work with its member agencies to identify the highest and best uses of land from a transportation perspective, for inclusion in the comprehensive planning processes of local communities.

### 14.3.3 Monitoring

In accordance with good planning practice, the outcomes of the 2035 LRTP should be identified and monitored to ensure that progress is made towards desired policy outcomes.

- **Census information.** As of this writing, population information from the 2010 Census has not yet been released. While 2035 LRTP uses the best population information available (based on the 2000 Census and updated with Federal, state, and local sources), it is conceivable that errors in existing information will become apparent when the 2010 Census becomes fully available. As the Census is released, data should be compared to the data used as the basis for the 2035 LRTP, and any issues identified.

- **Project schedules and LRTP amendments.** Because of its role in air quality conformity, the 2035 LRTP makes assumptions (again, based on the best information currently available) about the dates at which capacity projects
will open to traffic. As these assumptions become more refined, amendments to the 2035 LRTP may become necessary to ensure that planned project schedules are consistent with the implementation schedules of local and state agencies.

- **Resources and the new Federal transportation bill.** The selection of projects for inclusion in the “cost-constrained plan” is subject to a number of assumptions about anticipated revenues over the planning horizon. Several of these assumptions, such as the amount of Federal transportation funds available, are subject to review. In other cases, such as with regional transit, new funding sources are proposed. As the status of these funding sources becomes clearer, they should be reviewed and contrasted with the funding assumptions of the 2035 LRTP.

- **Performance monitoring.** Updates to long-range transportation plans are required every four years. Assuming an 18-month timeframe needed for development of the next update, the next update cycle will begin in 2013. An anticipated first task of that update will be to evaluate the performance of the current 2035 LRTP in meeting its preservation, congestion, and funding targets. This information will be collected on a continual and ongoing basis.
A. Planning Regulations Check List

The following table lists SAFETEA-LU planning regulations and provides page number references where each regulation is addressed in the 2035 LRTP.
### Table A.1  Compliance with Federal Planning Regulations

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Yes</th>
<th>No</th>
<th>Page</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>23 CFR 450.306</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. The LRTP reflects consideration of the eight planning factors?</td>
<td>X</td>
<td>0</td>
<td>1-7</td>
<td>Consideration of factors noted throughout various sections of document</td>
</tr>
<tr>
<td>b. Planning factors have been addressed given scale and complexity of issues?</td>
<td>X</td>
<td>0</td>
<td>1-7</td>
<td></td>
</tr>
<tr>
<td><strong>23 CFR 450.322</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. The LRTP covers at least a 20-year planning horizon as of the effective date?</td>
<td>X</td>
<td>0</td>
<td>1-9</td>
<td></td>
</tr>
<tr>
<td>Does the LRTP include an air quality conformity determination?</td>
<td>X</td>
<td>0</td>
<td>Vol II</td>
<td></td>
</tr>
<tr>
<td>b. Includes long- and short-range planning strategies?</td>
<td>X</td>
<td>0</td>
<td>12-8, 13-1, 13-2, 13-21</td>
<td></td>
</tr>
<tr>
<td>c. Updated within four years for nonattainment, five years for attainment?</td>
<td>X</td>
<td>0</td>
<td>1-9</td>
<td></td>
</tr>
<tr>
<td>For TMAs, Certification Review at least every four years?</td>
<td>X</td>
<td>N/A</td>
<td></td>
<td>Last certification review was approved in October 2010</td>
</tr>
<tr>
<td>d. In nonattainment and maintenance areas is there a process for developing transportation control measures (TCM)?</td>
<td>X</td>
<td>0</td>
<td>Vol II</td>
<td></td>
</tr>
<tr>
<td>e. Latest available estimates and assumptions for land use, population, travel, employment, congestion and economic activity were used in the update of the transportation plan?</td>
<td>X</td>
<td>0</td>
<td>2-1, 2-24</td>
<td></td>
</tr>
<tr>
<td>f. The LRTP addresses each of the following:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Projected transportation demand of persons and goods</td>
<td>X</td>
<td></td>
<td>2-24</td>
<td></td>
</tr>
<tr>
<td>2. Identifies existing and proposed transportation facilities, including roads, transit, bicycle and pedestrian facilities, multimodal and intermodal facilities</td>
<td>X</td>
<td></td>
<td>2-24</td>
<td></td>
</tr>
<tr>
<td>3. Operational and management strategies to improve performance of the existing and proposed transportation facilities to relieve vehicular congestion and maximize safety</td>
<td>X</td>
<td></td>
<td>13-23</td>
<td></td>
</tr>
<tr>
<td>4. Identifies congestion management strategies and identifies SOV projects that result from congestion management process (TMAs only)</td>
<td>X</td>
<td></td>
<td>2-26, 2-28</td>
<td></td>
</tr>
<tr>
<td>Regulation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Assessment of capital investment and other strategies to preserve existing and projected future transportation infrastructure and multimodal capacity increases</td>
<td>X</td>
<td>13-22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. List of all existing and proposed transportation facilities (including design concept, scope, descriptions, and source of funds)</td>
<td>X</td>
<td>13-1, 13-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. General discussion of types of potential environmental mitigation activities at the corridor or regional level (i.e., policy/strategy level, not project-specific) and potential areas to carry out activities developed in consultation with Federal, state and tribal wildlife, land management, and regulatory agencies.</td>
<td>X</td>
<td>9-1, 9-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Pedestrian walkway and bicycle facilities (23 USC 17 (g)).</td>
<td>X</td>
<td>13-21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Transit enhancement activities.</td>
<td>X</td>
<td>13-21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Financial plan that demonstrates how the adopted transportation plan can be implemented and includes strategies for implementation of any new funding sources (23 USC 101 (a)(5)).</td>
<td>X</td>
<td>12-1 to 12-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Financial plan contains system-level estimates of costs and revenue sources ‘reasonably expected to be available to operate and maintain the transportation system.</td>
<td>X</td>
<td>12-1 to 12-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii. Public Transit operators were included in the cooperative development of funding estimates for the financial plan.</td>
<td>X</td>
<td>12-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii. Financial plan includes recommendations on any additional financing strategies to fund projects and programs in the metropolitan transportation plan.</td>
<td>X</td>
<td>12-10, Volume 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>iv. All projects and strategies proposed for funding reflect “year of expenditure” dollars.</td>
<td>X</td>
<td>12-7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>v. In nonattainment and maintenance areas, the financial plan addresses financial strategies to ensure implementation of transportation control measures (TCM).</td>
<td>X</td>
<td>2-26, 13-21, 13-21</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Comparison of conservation plans/maps with transportation plans.</td>
</tr>
<tr>
<td>2. Comparison of natural or historic resources with transportation plans.</td>
</tr>
<tr>
<td>h. Metropolitan transportation plan includes a safety element that incorporates or summarizes the priorities, goals, countermeasures, or projects for the Metropolitan Planning Area contained in the TN Strategic Highway Safety Plan required under 23 USC 148 as well as (as appropriate) emergency relief and disaster preparedness plans and strategies and policies that support homeland security (as appropriate) and safeguard the personal security of all motorized and nonmotorized users.</td>
</tr>
<tr>
<td>Regulation</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Metropolitan transportation plan includes a Security Element/Section.</td>
</tr>
<tr>
<td>i. Citizens, state and local agencies, freight transportation services,</td>
</tr>
<tr>
<td>providers of freight transportation services, representatives of users of</td>
</tr>
<tr>
<td>pedestrian walkways and bicycle facilities, disabled persons, and private</td>
</tr>
<tr>
<td>citizens were all given reasonable opportunity to comment on the</td>
</tr>
<tr>
<td>transportation plan using the participation plan.</td>
</tr>
<tr>
<td>j. Metropolitan transportation plan published and made electronically</td>
</tr>
<tr>
<td>If significant written and oral comments were received during the draft</td>
</tr>
<tr>
<td>metropolitan long-range plan as a result of the participation process,</td>
</tr>
<tr>
<td>was a summary, analysis or report part of the final metropolitan</td>
</tr>
<tr>
<td>transportation plan?</td>
</tr>
</tbody>
</table>
B. Public Comment and Document Modifications

B.1 Introduction

On January 14, 2011, the updated version of the 2035 LRTP was sent electronically to all members of the Indianapolis Regional Transportation Council (IRTC) and hard copies of the document were delivered to a total of 32 locations of various local libraries and government offices throughout the region. (See list of document distribution locations at the end of this Appendix.) An official public notice of the availability of the document was posted in the Indianapolis Star on January 14, 2011. The posting detailed the document’s availability on-line as well as at the various libraries and government offices throughout the region and also provided notice that there would be an opportunity for public comment on the plan at the IRTC meeting scheduled for February 16, 2011. During the month that the LRTP was available for public review, eight additional changes were made to the document – based on continued staff review as well as comments from the public and local government agencies. These modifications are as follows:

- Completed INDOT project costs and revenue projections. INDOT’s list of projects spans only the first two time periods; there are no projects scheduled after 2020.
- Greenwood project #5201 (Worthsville Road from US 31 to I-65): moved from the third to the second time period because of project schedule.
- DPW projects #6115 (Cooper Road), #6131 (Allisonville Road), and #6139 (Fall Creek Road): moved from 2nd to 3rd time period to maintain fiscal constraint.
- Johnson County project #5108 (new 2-lane road connecting Worthsville Road to Clark School Road): added to first funding period; funded with Group IV STP which are not managed by the MPO
- Zionsville projects #1201 (Cooper Rd Extension from SR 334 to CR 550S) and adjacent project #1201 (CR 600 S from Cooper Rd to CR 900E): moved from cost constrained list to illustrative list pending further review
- Chapter 9 Environmental and Resource Agency Consultation: Environmental and Historic Resources Map (Figure 9.1) and text updated by adding new Rural Historic Districts: Traders Point Hunt and Traders Point Eagle Creek
- Changed the description of CIRTA on page 1-16 to include Delaware County.
The changes made to the projects lists, as indicated above, resulted in the need to reanalyze the air quality conformity. Although the emissions forecasts changed slightly, the conformity determination is still under budget for all pollutants (see Volume II).

## B.2 Public Comment

These changes were presented at the February 16th IRTC meeting in advance of the opportunity for public comment on the plan. During the public comment period, two persons spoke – representing Health by Design and an individual from the Zionsville area. The Health by Design representative encouraged the development of multimodal improvements throughout the region and stated that she appreciated the public outreach efforts utilized during the development of the plan. The individual from the Zionsville area appreciated the opportunity to conduct additional planning to better understand the transportation and land use issues in the Greater Zionsville area.

On the following pages are copies of three written comments and one response from the Indianapolis MPO that were provided during the month of official public input prior to the February 16, 2011 IRTC vote on the LRTP. The items are as follows:

- **Figure B-1:** Letter from the Hoosier Environmental Council
- **Figure B-2:** E-mail from Health by Design
- **Figure B-3:** Response to Health by Design from the Indianapolis MPO
- **Figure B-4:** Letter from Zionsville resident
February 15, 2011

Ms. Stephanie Belch
Principal Planner
Indianapolis Metropolitan Organization
City-County Building
Indianapolis, IN 46204
stephanie.belch@indy.gov

RE: Draft Indianapolis Metropolitan Planning Area 2035 Long-Range Transportation Plan

Dear Stephanie,

The Hoosier Environmental Council submits the following comments on the draft 2035 Long-Range Transportation Plan (Plan).

We appreciate that the 2035 Plan expands its scope beyond roadway capacity. In its introduction, the Plan elaborates on this, stating, "...to explore appropriate levels of investment in transit, bicycle-pedestrian facilities, and preservation of the existing system at acceptable levels." We recommend that it go beyond “exploration” of appropriate levels of investment and begin the investment as soon as possible. There have been a number of central Indiana plans over the years that recommended increased investment in alternative forms of transportation. We believe it is now time to act given the consistent community support and the availability of increased federal funding for transit and passenger rail. The Plan should provide more detail and list specific projects for the non-roadway system components including transit, passenger rail, and bicycle-pedestrian facilities. The plan should be focused on the most efficient ways to move people and goods, in a manner that enhances the livability and sustainability of the central Indiana region.

1.4 Transportation Conformity Requirements

As noted in the Plan, the MPO region is a designated nonattainment area for PM_{2.5} and a maintenance area for ozone. Therefore, the Indianapolis MPO is required to demonstrate compliance with the Clean Air Act in a Conformity Determination Report ("CDR"). See Pg. 1-12. In order to ensure compliance with national air quality standards, the CDR must consider various factors, including current regional emissions analysis, planning assumptions, and emissions models.

This plan, however, fails to provide sufficient evidence to ensure compliance with the CAA requirements. For instance, the plan does not offer any information about annual revenue available for INDOT projects. This information is the basis for determining whether INDOT projects within the MPA are fiscally constrained and reasonably expected to be completed during the horizon term. Also, INDOT has failed to list a single project within the MPA during the outer years of the plan (2026-2035).

Without this basic information, the MPO is unable to produce reliable emission models or accurate planning assumptions, calling into question the validity of the CDR. Failure to
present an accurate CDR could jeopardize federal funding for all future transportation projects and programs in the MPA.

2.2.4 Transportation Infrastructure
This section does not contain any discussion of the existing rail infrastructure in central Indiana. This infrastructure includes the existing freight rail lines which pass through the area, such as CSX and Indiana Railroad tracks. Nor does it describe the existing Amtrak passenger rail service which serves Indianapolis, and connects the city to Chicago, to Cincinnati, and to points beyond.

2.4 Travel Demand Modeling
We recommend that more detail be provided that describes how transit and bicycle-pedestrian components of the Plan affect congestion and travel delays on the MPA’s roadways.

6.2 Corridor Analysis
"Intermodal connectivity” should be another measure considered. This should describe how existing roadways and corridors interconnect with transit, rail, and bicycle-pedestrian facilities.

7.0 Transit Priorities
We recommend the Plan identify specific transit projects from the Transit Framework Plan that could be implemented with the additional 10% in funding. Also, we recommend that the Plan analyze what level of additional funding could be shifted from roadway capacity expansion to transit, based on congestion reduction benefits from this added transit investment.

For example, identified transit projects such as implementation of the IndyGo COA, Bus Rapid Transit, light rail, and commuter rail projects identified in the Transit Vision Framework could be listed as either fiscally constrained or illustrative, depending on which projects would be funded by the additional 10% of non-INDOT revenue being dedicated to transit.

We also recommend that the transit project list include the proposed high speed passenger rail corridor from Chicago to Indianapolis to Cincinnati. The next step needed to move this proposal forward is completion of an environmental impact statement, followed by preliminary engineering.

12.2 Roadway Financial Constraint
INDOT roadway revenue is not listed in the draft Long-Range plan, as required by federal regulations. Therefore it is impossible to determine if INDOT projects are fiscally constrained. (page 12-7)

Roadway Capacity Recommendations. Table 13.2
Part of Section 6 of the I-69 Indy to Evansville highway project is within the Indianapolis MPA boundary. According to the INDOT’s 2030 Long-Range Transportation Plan (2007),
this section of the I-69 project was listed as an “Innovative Financing” project. No
innovative financing has been identified since completion of this plan, nor has the State’s
Long-Range plan been updated since 2007. Since there is no reasonably expected revenue
identified for I-69 Section 6, the three components (identified below) of this project listed
in Table 13.2 should be deleted, since they are not fiscally constrained. If they are included
at all in the Indianapolis MPA LRTP, they should be designated as “illustrative” projects.
See attached page 281 of Indiana 2030 Long-Range Transportation Plan. Also see
description of I-69 Major Moves project - corridor 294 - from INDOT website, included at
the end of these comments.

- ID # 5004, I-69 Indy to Evansville, Marion/Johnson County Line to SR 144,
  $90,011,283, page 13-7
- ID #6011, I-69 Indy to Evansville, I-465 to Marion/Johnson County Line,
  $180,022,566, page 13-8
- ID #7002, I-69 Indy to Evansville, SR 144 to MPA boundary, $90,011,283, page 13-9

The Plan is not reasonably complete since there are no INDOT projects listed in planning
period three (2026-2035).

The corridor and project rankings described in Section 6.2.4, Figure 6.1, and Section 6.3.2
should be matched with the roadway projects in Tables 13.2 and 13.3.

Conclusion
We appreciate the work of the Indianapolis MPO in preparing this Long-Range Plan and the
extensive public outreach completed as part of the IndyConnect process. The Plan contains
many positive features, policy declarations and recommendations. However, it suffers
from lack of critical information, including the absence of INDOT revenues and projects
beyond 2020. It also needs to move beyond planning and exploration of alternative
transportation modes such as transit and rail, and begin implementation of these widely
supported and beneficial transportation projects.

Thank you for considering these comments.

Sincerely,

Tim Maloney               Steven Meyer
Senior Policy Director    Land Use Policy Coordinator
Hoosier Environmental Council  Hoosier Environmental Council
tmlaloney@kecweb.org       smeyer@kecweb.org

Cc:
Lori Miser, Executive Director, Indianapolis Metropolitan Planning Organization
Mike Terry, President and CEO, IndyGo
Ehren Bingaman, Executive Director, Central Indiana Regional Transportation Authority

Figure B-1
Hoosier Environmental Council letter, page 3
Appendix A

INDOT Major Moves Fact Sheets

Project Name: I69
DES: 9905330
Corridor Number: 294
Project Location/Route: Evansville to Indianapolis
Counties Involved: various
District: various
Project Description/Benefits of Project: New freeway
Current Completion Date: unknown
Cost: unknown
Source of Funding: unknown
For More Information: I-69 Evansville to Indianapolis

http://dotmaps.indot.in.gov/apps/majormoves/factsheet.aspx?type=c&qid=294
Dear Lori,

I am writing to ask several questions in advance of finalization of the MPO’s long range plan. These are questions that have arisen as HbD members have participated in public meetings and attended IRTC meetings throughout the planning process. We appreciate any answers, clarifications, and insights you can offer. If you think it would be better to discuss and address these issues in a meeting, we are more than happy to do so. I also recognize that some of these topics may be further explained in the full, written draft document of the plan, which I see has just been posted. Thank you very much!

- At the 12/15 IRTC meeting, we heard local elected officials indicating that they want more transit in their communities.
  - Is there an opportunity to revisit the option of flexing some of the $9B that will be dedicated to roads for use in funding transit?
  - Is there a supportive role that HbD can play in raising that issue and/or advancing such a conversation with local policymakers?

- In a related manner, did I understand you to say in December that the forth-coming cost-constrained plan will contain no transit improvements? How does that reflect the commitment made by policy members (in September, I think) to direct 10% of total anticipated funding to transit infrastructure?

- Similarly, how will the commitment to invest 7% of the total budget in bike/ped facilities be reflected in the planning document? Will there be specific bike/ped projects reflected in the cost-constrained plan?

- Please outline what is included in the language related to the costs to “build, operate, and maintain” roads and highways.
  - Does that truly account for all future direct costs for these roads?
  - Does that account for the ongoing operation and maintenance of all of the roads in the MPA (i.e. those built under previous plans) or just the 397 miles detailed in this plan?
  - Is it correct that local streets/roads are not included in this?


Figure B-1
Health by Design e-mail, page 1
There was an explicit decision made to prioritize pavement and bridge preservation over new roadway expansion (40% of funding vs. 20%). However, it appears that the vast majority of projects shown (and listed in other docs) are new construction and/or road widenings. Where are the preservation projects reflected? Can you please offer more detail as to what criteria were used in determining if a project was found suitable for preservation vs. reconstruction vs. expansion?

- With respect to the overall prioritization and phasing of projects, will preservation, new capacity, transit, and bike/ped projects occur in parallel from the outset (as opposed to, for example, all new capacity projects happening first, followed by preservation projects 10 years from now, etc.)? Do I understand correctly that there is information re: phasing with regard to new capacity projects and in the COA? What about for preservation, bike/ped, and other elements of the transit plan?

- Is it your intention to offer a complete streets policy for a vote in February?
  - Do I understand correctly that the complete streets policy would only apply to added-capacity projects not routinely?
  - Is there anything (info, resources, support) that we can offer at this time in preparation for policy development?

Again, thank you very much for your time and input in responding. Take care!

Kim

Kim Irwin, MPH, CHES
Health by Design
Executive Director, Alliance for Health Promotion
401 West Michigan Street
Indianapolis, IN 46202
Direct line: 317.352.3844
Fax: 317.634.7817
kirwin@acsm.org
www.healthbydesignonline.org

Figure B-2
Health by Design e-mail, page 2
Hi Kim. Stephanie and Philip have prepared a response to your questions and it is included below. Let us know if you have any further questions or need more information. Thanks for your message.

Kim,

Thanks for your questions. I believe many of your questions are addressed in the document, but here’s a brief summary:

The 2035 Long-Range Transportation Plan (LRTP) does reflect the IRTC’s decision to spend 10% of traditional roadway funds on transit (see Chapter 5). These traditional roadway funds are under the MPO’s purview, not INDOT’s. However, the more detailed spending plan for transit will depend on the General Assembly allowing a referendum to raise local transit funding. I anticipate Health by Design and other advocacy groups will take part in that effort to work with the General Assembly and other local elected officials.

With the existing funding structure for transit, 10% of existing funding will not cover the cost of implementing any meaningful piece of the proposed system, so we do not show specific transit projects in the cost constrained plan.

The LRTP is only required to list added-capacity, or regionally significant, projects in the cost-constrained plan. Furthermore, many maintenance projects cannot be appropriately identified years in advance, as is the case with the capacity projects. We are developing a Pavement Management System to assist in the early identification of projects. The funding targets discussed in Chapter 5 and again in Chapter 13 for the overall funding breakdown are targets. Bicycle and pedestrian facilities will continue to receive federal funding through the TE, CMAQ, and other federal programs. Currently, the MPO spends about 5 percent of its federal program on bicycle and pedestrian facilities. As more plans are completed and approved, they will help identify the priorities for spending on bicycle/pedestrian facilities. At some point in the future, we may list specific bicycle/pedestrian projects in the LRTP, but for the time being, we are relying on the Indianapolis Regional Transportation Improvement Program (IRTIP) process and the development of regional bike/ped plans to guide spending.

Regarding the language “build, operate, and maintain” roads and highways, I’m assuming you’re asking about the network analysis and the breakdown of funding to be spent over the planning horizon of 2035. Chapter 5 discusses how the analysis was done, and presents scenarios on how different breakdowns could affect the performance of our transportation network. The Operations & Maintenance figures are based on historic data and represent what is spent on all non-INDOT roads — including local streets. While local streets are included in the overall financial analysis, the
MPO only has control over federal transportation funds. And those funds can only be spent on the Federal-Aid system, or roads classified higher than local streets. But, you are correct in noting the differences. Federal funds cannot be spent on operations and maintenance of local roadway network that includes the federal-aid system (but not state-owned facilities).

As part of the LRTP development process we only collected information on added-capacity projects. Pavement and bridge preservation projects are also determined by the IRTIP and any planning support a project may have. As the MPO develops its Pavement Management System, and performs other data-collecting activities, we will have better information to inform the process. We did not evaluate whether a specific project would be more suitable for preservation or reconstruction.

Regarding the prioritization and phasing of projects, it is dependent upon the IRTIP process. The LRTP lays out funding targets and the IRTIP uses those targets to determine the slate of projects that receive federal funding in a given time frame. So there will always be a mix of projects being built in any given year, or IRTIP time frame.

Complete Streets is moving forward. Anna Tyszkieiwicz is leading that effort and will be forming a sub-committee to form policy and implementation goals. I’m sure the MPO would benefit from HbD being involved in that effort. Anna will be presenting a draft schedule at the February IRTC meetings.

We’d be glad to meet with you to discuss further. Just let us know if you would like to set up a meeting. Thanks

From: Kim Irwin [mailto:kirwin@acsom.org]
Sent: Friday, January 14, 2011 04:14 PM
To: Misler, Lori
Subject: Questions re: long range plan

Dear Lori,

I am writing to ask several questions in advance of finalization of the MPO’s long range plan. These are questions that have arisen as HbD members have participated in public meetings and attended IRTC meetings throughout the planning process. We appreciate any answers, clarifications, and insights you can offer. If you think it would be better to discuss and address these issues in a meeting, we are more than happy to do so. I also recognize that some of these topics may be further explained in the full, written draft document of the plan, which I see has just been posted. Thank you very much!

- At the 12/15 IRTC meeting, we heard local elected officials indicating that they want more transit in their communities.
  - Is there an opportunity to revisit the option of flexing some of the 598 that will be dedicated to roads for use in funding transit?
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such a conversation with local policymakers?

- In a related manner, did I understand you to say in December that the forth-coming cost-constrained plan will contain no transit improvements? How does that reflect the commitment made by policy members (in September, I think) to direct 10% of total anticipated funding to transit infrastructure?

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Again, thank you very much for your time and input in responding. Take care!

Kim

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Fax: 317.634.7817
krwin@acsm.org
www.healthbydesignonline.org
The following letter was received by e-mail on February 14, 2011, from Roger Zanes, 10111 Fox Trace, Zionsville, IN 46077:

Comment on Long-Range Transportation Planning for Southeastern Boone County

I have been following the ongoing discussion about the 2010 Zionsville Transportation Plan (Jan. 25, 2011 update) with considerable interest, particularly the matter concerning a possible I-865/Cooper Road interchange and a Cooper Road extension slicing right through the heart of Zionsville's rural zone all the way up to IN-32. I believe these ideas are dated and that we need new thinking to improve the transportation infrastructure of southeastern Boone County.

The current Plan update says that among the general goals for Zionsville are to retain the small town atmosphere and to preserve the beauty of the natural environment. I agree. But I also know enough about regional planning and development to know that a small town atmosphere can only be retained when you have a small town/rural transportation infrastructure. Personally, I think what Zionsville has right now works quite well for those of us who live here. It is all of the other people using our roads to get through Zionsville that make our roads congested at times. Therefore, if we want to retain our small town atmosphere and preserve the beauty of the natural environment, we need to figure out how to make it easier for those other people to get around Zionsville and not pass through it.

The current Zionsville Transportation Plan lists the following among its goals:

1. Provide improved mobility between the Zionsville area and the Indianapolis regional transportation system;

2. Create a new local access point to the interstate system and improve connections to Michigan Road; and,

3. Improve east-west connections within the planning area.

The Zionsville Plan considers the Cooper Road extension and interchange as its way of accomplishing the...
first two goals. The Plan's argument supporting the Cooper Road interchange is that it would provide an alternate access to the regional arterial system for existing and anticipated development west and northwest of the Zionsville Village and would reduce travel demand through the Village. That may have been true, in 1998, when this interchange was first proposed and Cooper Road was at what was considered the western periphery of Zionsville, but such is no longer the case, and the argument is also no longer valid.

As for the third goal, the Zionsville Plan's solution is identical with the one in the Indianapolis Metropolitan Planning Area 2035 Long-Range Transportation Plan - Vol. 1 (Draft), published on 13 Jan 2011, in which it proposes to develop an extension of 146th Street between Michigan Road and IN-267. Again, in my opinion, this solution may have made sense 25 years ago, but it no longer does. Drive 146th from Michigan Road to Whitestown and ask yourself, "Do I really want to destroy the rural character of this road so that people living to the east of Zionsville can get to points west a few minutes quicker?"

As a regional planner, when I look at a map of southeastern Boone County, and then look further to see what influences are approaching us, and from what direction they are coming, the OBVIOUS solution to our transportation needs is to - while it is still mostly farmland and thus less expensive to acquire - upgrade SR 32 to a 4 lane limited access highway (a la Keystone Parkway) that then loops down to I-65 along the CR S 400 E corridor and links up with the Ronald Reagan Parkway. In addition, I'd give serious consideration to a connector running north from CR S 400 E all the way to somewhere near the intersection of Michigan Road and SR 47.

To me, there are so many advantages of the above solution that I am at a loss to understand why I have not yet read of someone else having the same idea. (Perhaps it is because the outer border of the Indianapolis Metropolitan Planning Organization runs along IN-32 and CR S 400 E?) Among them are:

1. We eliminate the slice down our chest (the Cooper Road extension) and keep the rural core of greater Zionsville
rural.
2. We keep 146th Street rural, since we won't need that extension to I-65.
3. We eliminate the need for a Cooper Road interchange, AND radically reduce the number of tractor-trailers on the southern part of Michigan Road, since they now have a highway giving them access directly to I-65.
4. We have a highway connecting the Executive Airport to I-65 and the Ronald Reagan Parkway.
5. We have a highway connecting I-65 and the growing industrial park near MEDCO and Amazon to SR 31 in Westfield.
6. We have a highway giving all of those living in areas north and east of Zionsville a quick way to I-65.

One more thing, since someone asked: regarding the Thoroughfare Plan's proposed primary arterial that would follow the current CR S 700 E corridor, it's better than the CR S 875 E (Cooper Road extension) one, but also not great, in my opinion, primarily because it would terminate into SR 334, which would lead to traffic bottlenecks once Anson is fully developed.

In conclusion, I have no problem with more development in Zionsville, as long as it is smart and ecologically sensitive, but I also want to preserve the overall rural appearance, with woods, agricultural fields, and compact commercial facilities. And, I want to do nothing that makes it easier to get THROUGH Zionsville, but everything that makes it easier to get AROUND Zionsville. My proposal, therefore, is to effectively build a bypass around the greater Zionsville area that facilitates flow from SR 31 North to I-65 and points south along the Ronald Reagan Parkway and radically reduces the non-Zionsville traffic that now uses Michigan Road and other secondary roads through Zionsville.
C. Approval Letters

INDIANAPOLIS METROPOLITAN PLANNING ORGANIZATION
INDIANAPOLIS REGIONAL TRANSPORTATION COUNCIL
POLICY COMMITTEE

Resolution Number 11-MPO-002

A RESOLUTION approving the 2035 Long Range Transportation Plan for the Indianapolis Metropolitan Planning Area.

WHEREAS, the 2035 Indianapolis Long Range Transportation Plan (LRTP) incorporates surface transportation projects proposed by local and state governments and transit agencies within the Indianapolis Metropolitan Planning Area; and

WHEREAS, the projects contained in the proposed 2035 LRTP have been reviewed as to their impact and importance to the continued improvement of the surface transportation system operating within the area; and

WHEREAS, changing conditions necessitate periodic update of the LRTP; and

WHEREAS, section 176(c) of the Clean Air Act, amended in 1990, requires that the Transportation Conformity Rule establish criteria and procedures by which the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and metropolitan planning organizations (MPOs) determine the conformity of federally funded or approved highway and transit plans, programs, and projects to state implementation plans (SIPs) prepared for criteria pollutants; and

WHEREAS, the MPO consulted with the Interagency Consultation Group and the agencies did not take exception to the MPO finding that (1) each project in the 2035 LRTP is consistent with the design concept and scope of the project that was modeled in the most recent conformity demonstration, (2) the open-to-traffic date of each project in the 2035 LRTP as amended is consistent with the open-to-traffic dates in the most recent conformity demonstration, (3) that the previous emissions analysis meets the requirements of 40 CFR 93.118 and demonstrate conformity of the 2035 LRTP; and

WHEREAS, the proposed 2035 LRTP update was made available for public comment and comments received were provided to the Indianapolis Regional Transportation Council Policy Committee (ITC); and

WHEREAS, the Indianapolis Regional Transportation Council (ITC) Policy Committee is the approval body for all transportation-related activities of the Metropolitan Planning Organization for the Indianapolis Urbanized Area under applicable U.S. Department of Transportation regulations.

NOW, THEREFORE, BE IT RESOLVED, that the ITC hereby approves the 2035 Long Range Transportation Plan as shown as the attached Exhibit A.

The above and foregoing resolution was adopted the 14th day of January 2011 by the ITC Policy Committee.

DATE: January 14, 2011

[Signature]

Lori Miller, Executive Director
Indianapolis MPO
For the ITC Policy Committee Chair

Figures C-1

Indianapolis Regional Transportation Council – Policy Board Resolution
RESOLUTION 3-2011
ENDORSEMENT OF 2035 TRANSPORTATION PLAN & AIR QUALITY CONFORMANCE DETERMINATION

WHEREAS, each urban area participating in the programs of the Federal Highway Administration and the Federal Transit Administration must assure that relevant transportation plans are maintained through a process that is comprehensive, cooperative and coordinated, and

WHEREAS, the Madison County Council of Governments is the agency designated by the Governor to maintain those plans for the Anderson/Madison County Metropolitan Planning Area, and

WHEREAS, the basis for transportation planning and improvement programming in the Anderson Urban Area continues to be the Year 2030 Transportation Plan adopted in 2005 and updated in 2009, and an annually prepared Transportation Improvement Program, and

WHEREAS, the planning process maintained by the Council of Governments staff has assured that those plans, and subsequent improvement projects, are consistent with the comprehensively planned development of the Anderson/Madison County Metropolitan Planning Area as well as federal policies and priorities.

WHEREAS, the analysis of the results of the air conformity modeling found the Transportation Plans and Transportation Improvement Programs for the 9-County Central Indiana 8-hour ozone standard non-attainment area and the 5-County Central Indiana PM 2.5 non-attainment area to be in conformity with the goals and objectives of the budget test as approved by the USEPA on October 19, 2007 and as required in conformity rule as amended in July 2004 (69 FR 40004), and

NOW, THEREFORE, BE IT RESOLVED THAT the Madison County Council of Governments hereby certifies that the plans, program and process of its transportation planning effort complies with Title 23 of the Code of Federal Regulations, Part 45.114 (c), as revised on August 10, 2005, and that the 2035 Transportation Plan and the 2011 Air Quality Conformity Determination in Appendix A will now serve as the basis for further transportation studies and transportation improvements is hereby endorsed and approved.

ADOPTED by the Madison County Council of Governments Policy Committee, this 25th day of March, 2011.

President, Madison County Council of Governments
April 11, 2011

Ms. Audra Blasdel, Director
LPA/MPO and Grant Administration
Indiana Department of Transportation
100 N. Senate Avenue, Room IGC-N 755
Indianapolis, Indiana 46204-2217

Dear Ms. Blasdel:

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have completed our review of the IMPO and MCCOG 2035 Transportation Plan updates and FY 2009-2012 TIPs as amended (see enclosed resolutions). Enclosed are the USEPA and IDEM comment letters noting that all applicable Clean Air Act conformity requirements have been addressed.

Therefore, FHWA and FTA find the IMPO and MCCOG 2035 Transportation Plan updates and FY 2009-2012 TIPs as amended demonstrate conformity for 8-hour ozone and the annual standard for PM 2.5 as required by the conformity rule.

If you have any questions, please contact Larry Heil of this office at (317) 226-7480 or by e-mail at larry.heil@dot.gov.

Sincerely,

for: Robert F. Tally, Jr., P.E.
Division Administrator

Enclosure
Figure C-3
Federal Highway Administration / Federal Transit Administration Approval Letter
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