BLOOMINGTON • MONROE COUNTY

mpo

2035 Long Range Transportation Plan

Bloomington/Monroe County Metropolitan Planning Organization

Adopted by the
MPO Policy Committee:
TBD

Prepared By:
Bloomington/Monroe County
Metropolitan Planning Organization Staff

INTRODUCTION

Transportation is a common thread in the quality of life of the residents of any community. People need to move safely and efficiently between their homes, workplaces, shopping opportunities, and recreational activities. For each trip that a person makes, there are options. What mode of travel will be used? Which route will best connect the trip origin with its destination? What are the costs and benefits of the decisions made with regard to each trip?

The *2035 Long Range Transportation Plan* seeks to quantify the answers to those questions over a 20 year time horizon. The Plan serves primarily as a means to predict future transportation needs and to illustrate a plan of action to meet those needs. Specifically, it provides a menu of transportation projects to be implemented over the next 20 years that will alleviate projected congestion points, safety hazards, and connectivity limitations.

This document has been designed specifically to fulfill Federal and State transportation planning requirements, and, in doing so, to ensure that the Bloomington/Monroe County Metropolitan Planning Organization maintains its eligibility for Federal transportation funding. The Plan study area includes all of Monroe County to ensure that all communities are represented and that system-wide solutions to transportation issues can be created in a cooperative and coordinated process. In addition, the Plan strives to achieve a multi-modal transportation perspective, including provisions to improve facilities for bicycling, walking, and public transit.

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Vince Caristo

CONSULTANT

Bernardin Lochmueller & Assoc., Inc.

Executive Summary

1

2035 Long Range Transportation Plan

Purpose of the Long Range Transportation Plan

The 2035 Long Range Transportation Plan constitutes the long-range, multi-modal transportation plan for the Bloomington, Indiana Urbanized Area as required by Federal statutes (23 USC 135, Section 450.300) for the programming of Federal funds for transportation project planning and implementation of ground transportation modes (roadway, transit, bicycle, and pedestrian facilities). The Plan study area included all of Monroe County in order to make it coordinated and comprehensive in its scope. The City of Bloomington, Monroe County, and the Town of Ellettsville participated in a cooperative process through the MPO to develop the Plan. The 2035 Long Range Transportation Plan supersedes the 2030 Long Range Transportation Plan which was adopted by the Metropolitan Planning Organization's Policy Committee in the year 2010. The 2035 Long Range Transportation Plan is a "living" document, and complements the ongoing operational and capital improvement programs of the City of Bloomington, Monroe County, and the Town of Ellettsville.

When Bloomington became an Urbanized Area with the 1980 Census, the Governor of the State of Indiana designated the City of Bloomington Plan Commission as the MPO responsible for transportation planning. The Bloomington Area MPO completed the first long range transportation plan in 1984. With the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, the long-range transportation plan had to be fiscally constrained and multi-modal in character. The Transportation Equity Act for the 21st Century (TEA 21) adopted in 1998 continued these requirements, but permitted illustrative transportation projects if additional funding were available.

The 2035 Long Range Transportation Plan document consists of:

- A "Vision Statement" establishing transportation policies for preparing, evaluating and implementing multi-modal transportation improvements;
- A "Future Transportation Needs Plan" to identify forecasted transportation needs in the year 2035; and
- A "Cost Feasible Plan" showing the phasing for projects which reflects fiscal constraints.

The 2035 Long Range Transportation Plan incorporates all of Monroe County (including Ellettsville) into its study area to improve project coordination on the edge of the expanding urban area. Upon adoption, the 2035 Long Range Transportation Plan will:

- Serve as the basis from which to draw transportation projects involving Federal surface transportation funds for the Transportation Improvement Program for the Bloomington Urbanized Area;
- Be incorporated by reference into the Indiana Statewide Long-Range Multi-Modal Transportation Plan when it is updated; and
- Provide guidance of an advisory nature to Monroe County and the Indiana Department of Transportation on projects outside the Urbanized Area boundary.

The 2035 Long Range Transportation Plan should be updated at least every five years in order to maintain the required 20-year time horizon, but may be amended more frequently if needed.

Implementation of the Plan

The adoption of the 2030 Long Range Transportation Plan for the Bloomington Urbanized Area led to the completion (or programming) of several major improvement projects that are listed in the 4-year Transportation Improvement Program (TIP). These projects include, but are not limited to:

- Fullerton Pike Phase I (programmed)
- 17th Street & Fee Lane (completed)
- 17th Street & Arlington Road Roundabout (completed)
- 17th Street & Jordan Avenue (under construction)
- Sare Road & Rogers Road Roundabout (completed)
- B-Line Trail (completed)
- Karst Farm Trail (under construction)
- Jackson Creek Trail Phase I (completed)
- Rogers Street Reconstruction (completed)
- Rogers Street & Country Club Road Intersection (completed)
- Tapp Road & Rockport Road Intersection (programmed)
- Old SR 37 & Dunn Street Intersection (programmed)
- Black Lumber Trail Spur (programmed)

These major transportation investments are essential in addressing such issues as alleviation of traffic congestion, improvements to street connectivity, upgrades to roadway safety, and improvements for bicycle and pedestrian accessibility and commuting.

This 2035 Long Range Transportation Plan is designed to extend the required 20-year planning horizon in order to comply with federal requirements and to ensure that the BMCMPO remains in good standing with regard to planning and fiscal standards. A 2040 Metropolitan Transportation Plan is under development and will replace the 2035 Long Range Transportation Plan well before it expires in May 2020.

Public Involvement

The public involvement process for the 2030 Long Range Transportation Plan encompassed three major efforts to inform the public and gain their insight on community transportation issues. Beginning in the fall of 2005, the Policy and Technical Advisory Committees of the MPO met in joint session seven times during the development of the Plan. In addition, the Citizens Advisory Committee (CAC) of the MPO discussed the Plan during nine separate meetings spanning a period of nine months. During all of these meetings, the MPO committees assisted staff in developing the Plan's Vision Statement. The committees also reviewed the different roadway improvement alternatives analyzed by the MPO staff and consultant as well as the final project listing generated for the Cost Feasible Plan. Finally, four separate workshops were held in Bloomington and Ellettsville to solicit county-wide public input. The first two workshops, which were conducted on November 8, 2005, were designed to identify transportation priorities and areas of concern. The second two workshops, which were conducted on February 21, 2006, were designed to prioritize transportation projects in the Transportation Needs Plan. More information about the results of the workshops and the public involvement process in general is provided in Appendix B: Methodology.

Participants add their comments to a map during one of the public workshops held in November 2005.

The public process for updating the 2030 to the 2035 Long Range Transportation Plan followed the minimum requirements detailed in the BMCMPO Public Participation Plan. Public comments received are contained in the staff reports for adopting the plan as well as any revisions made. A more thorough public process has been underway and will continue as part of the 2040 Metropolitan Transportation Plan (MTP) development. A more detailed account of this public process will be included in the forthcoming 2040 MTP.

Transportation Vision Statement

Consistent with the planning requirements of the Moving Ahead for Progress in the 21st Century (MAP-21) Act, and the input of community leaders and citizens on transportation policies and problems, future transportation goals and objectives were prepared to reflect a vision for the City of Bloomington, Monroe County, and the Town of Ellettsville. The Vision Statement highlights the need to:

- Develop a truly multi-modal system;
- Create a fully developed network of alternative transportation facilities;
- Reduce the number and length of auto trips;
- Achieve a better relationship between land uses to reduce auto dependency;
- Achieve the widest possible range of alternatives to the automobile;
- Make transportation investments that are consistent with comprehensive plans;
- Make transportation investments that protect the environment, promote energy conservation, and improve quality of life;
- Increase safety for all users of the transportation system;
- Support economic vitality through strategic transportation investments;
- Improve the movement of goods through the transportation system;
- Promote fiscally sound transportation investments and maximize financial resources; and
- Preserve existing transportation investments through operational improvements.

Future Transportation Needs Plan

Development of the Future Transportation Needs Plan involved a six-step process: forecasting future travel demand; considering "committed" transportation improvements; identifying major transportation problems; proposing new transportation improvement projects; evaluating transportation improvement alternatives; and refining the final Future Transportation Needs Plan.

Future Travel

The MPO's Travel Demand Forecast Model was updated and made more accurate by expanding the traffic analysis zonal system, incorporating Indiana University student travel patterns, and giving special treatment to industrial parks, shopping centers, and major apartment complexes. Housing and employment data by traffic analysis zone (TAZ) were updated to the 2000 base year of the new travel model using census data. Daily traffic counts from the on-going City and County traffic count programs were incorporated into the Travel Demand Model, and the Model was calibrated to replicate actual daily traffic counts in the year 2000.

Next, key variables for predicting future travel demand were forecasted to the year 2035 and compared to population and employment forecasts of the Indiana Business Research Center at Indiana University, the U.S. Bureau of Census, and the U.S. Bureau of Economic Analysis Regional Economic Information System. The forecast in Table 1-1 shows increasing population, employment, and income through the Year 2035.

Table 1-1: Socioeconomic Forecasts for Monroe County

Year	Population	Group Quarters	Household Population	Households	Retail Emplyoment	Total TAZ Employment (under-reported base)	Total Employment
2025 Technical Memorandum 5 Extrapolated to 2030							
1997	116,653	15,112	101,541	42,321	15,249	66,887	76,094
2000	120,665	15,112	105,553	45,108	15,924	--	79,234
2005	126,687	15,112	111,575	48,093	17,150	--	84,772
2010	132,219	15,112	117,107	50,916	18,081	--	88,992
2015	138,627	15,112	123,515	54,173	18,651	--	91,975
2020	145,575	15,112	130,463	57,984	18,859	82,183	93,496
2025	152,423	13,355	139,068	61,852	19,078	83,518	95,015
2030	159,271	13,355	145,916	65,728	19,297	84,853	96,534
2035	164,598	13,135	151,463	68,654	19,803	87,099	99,089
2000 Control Indiana Statewide Travel Demand Model Documentation Binder							
2000	120,206	--	--	46,896	14,440	--	78,190
2030*	158,921	14,015	144,906	69,333	16,144	--	100,419
2035	178,279	14,015	144,906	80,552	16,996	--	111,534
2000 Census and TAZ I-69 Corridor Model							
2000	120,563	14,331	106,232	46,898	14,440	--	78,141
2030*	159,271	13,007	146,264	65,946	17,155	--	100,416
2030**	160,022	13,007	147,015	66,227	17,326	--	101,002
2035	173,175	12,566	160,609	72,670	18,288	--	108,622

** Without I-69 Corridor / **With I-69 Corridor / Source: BLA Technical Memorandum 8/19/2005*

Based on these county-wide control totals, the growth of 21,119 new households, 1,402 retail jobs, and 20,366 non-retail jobs from 2000 to 2030 was spatially allocated to the TAZs on the basis of past trends, known development projects, and the future development recommendations contained in the City of Bloomington's Growth Policies Plan, Monroe County's Comprehensive Land Use Plan, and Ellettsville's Comprehensive Plan.

Finally, the updated MPO Travel Demand Model was used to forecast future travel based on the allocation of future growth to the TAZs and to test the performance of subsequent transportation improvement alternatives. As a result of the increase in population and households, continuing decline in household size, increase in the number of vehicles per household, increase in employment in Monroe County as a regional retail and employment center, and increase in external travel passing through Monroe County, there will be an increase in trip-making activity from 2000 through 2030. These same assumptions were simply extended to 2035 for estimating travel demand needs and assumed no major implications from overall socioeconomic forecasts. Many of the committed projects listed below as well as short-term projects have not yet been implemented or have been accounted for by the model, thus making these planning and growth assumptions valid through 2035.

COMMITTED PROJECTS

Before identifying existing and future transportation problems, the base year 2000 highway network of the Travel Demand Model was modified to reflect programmed transportation improvements (known as "committed" projects) in the Fiscal Years 2006 through 2008 Transportation Improvement Program for the Bloomington/ Monroe County Metropolitan Planning Organization. This modified network, which is termed the Existing Plus Committed (E+C) roadway network, incorporates transportation improvements that are realistically anticipated to be completed in the immediate future, that will be funded before new projects are identified, and that will not be second-guessed in the development of the future transportation plan. The committed highway projects are listed as follows (see Figure 1-1 for a map of committed projects):

- West 3rd Street Phase II: Widen to four lanes with landscaped median from Landmark Avenue to SR 37 - *Project Completed*
- Curry Pike (City Phase): Widen to four lanes from SR 45 to Constitution Avenue
- Vernal Pike Phase I: Widen to three lanes from Curry Pike to Loesch Road and two-lane reconstruction from Loesch Road to Hartstrait Road - *Project Completed*
- Vernal Pike Phase II: Widen to three lanes from SR 37 to Curry Pike - *Project Completed*
- Country Club Drive/Rogers Street: Reconfigure intersection to add left-turn lanes - *Project Completed*
- Rogers Road/Smith Road: Realign curve to improve safety - *Project Completed*
- 3rd Street/Atwater Avenue: Extend one-way pair from Mitchell Street to High Street; spot intersection and safety improvements

- Basswood Drive: Extend two lane road from end of Basswood Drive to West 3rd Street/Johnson Avenue intersection
- Weimer Road: Realign between Tapp Road and Wapahani Road
- State Road 45/46 Bypass: Widen to four lanes from North Walnut Street to East 3rd Street - *Project Completed*
- State Road 48: Widen to four lanes from Curry Pike to west of Hartstrait Road
- State Road 45: Widen to four lanes from SR 45/46 Bypass to Pete Ellis Drive; Widen to three lanes and reconstruction from Pete Ellis Drive to Russell Road
- Sare Road (Phases I & II): Reconstruction from Rogers Road to David Drive, including signalization at Rogers Road; Reconstruction from McCartney Lane to 400 feet south of Moores Pike - *Project Completed*

MAJOR TRAFFIC PROBLEMS

Having added "committed" transportation improvements to the existing highway network, existing traffic (year 2000) and future traffic (year 2030) were assigned to the "existing-plus-committed" (E+C) highway network to identify traffic problems for which additional major transportation investments may be needed. Major traffic problem areas projected for year 2030 are assumed to persist into 2035 and are as follows:

- State Road 46: Union Valley Road to Smith Pike
- State Road 48: Curry Pike to State Road 37
- 3rd Street: Woodlawn Avenue to Indiana Avenue
- Hartstrait Road: State Road 48 to Woodyard Road
- 2nd Street/Bloomfield Road: Patterson Drive to Rogers Street, Weimer Road to Allen Street, and Rogers Street to College Avenue
- State Road 45/46 Bypass: North Walnut Street to East 3rd Street congested even after widening project
- Atwater Avenue: East 3rd Street to Woodlawn Avenue
- Walnut Street: 10th Street to 17th Street and 2nd Street to 3rd Street
- College Avenue: 10th Street to 17th Street
- Adams Street: Kirkwood Avenue to Vernal Pike
- Rogers Street: Rockport Road to 17th Street
- Henderson Street: Winslow Road to Hillside Drive and Grimes Lane to 1st Street
- Indiana Avenue: 12th Street to 13th Street
- Woodyard Road: Thomas Road to Vernal Pike
- Vernal Pike: Woodyard Road to 11th Street
- 10th Street: Walnut Street to Dunn Street and Fee Lane to Jordan Avenue
- Grimes Lane: Rogers Street to Henderson Street
- Moores Pike: College Mall Road to Smith Road

- State Road 37: Rockport Road to State Road 45 and State Road 48 to the State Road 45/46 Bypass
- State Road 45: Pete Ellis Drive to John Hinkle Place
- State Road 46: Owen County Line to Maple Grove Road, Smith Pike to Arlington Road, Arlington Road to State Road 37 (westbound traffic only), and College Mall Road to Pete Ellis Drive
- 11th Street: Adams Street to Rogers Street
- That Road: State Road 37 to Rogers Street
- Victor Pike: State Road 37 to Church Lane

TRANSPORTATION NEEDS PLAN

The Transportation Needs Plan addresses multi-modal transportation needs including transit investments, bicycle/pedestrian investments and roadway investments ("capacity expansion" projects). Of particular import, the Needs Plan also recognizes the essential need to first preserve existing transportation investments. The preservation of existing transportation investments (termed "capacity preservation") involves:

- The ongoing operation and maintenance of the existing roadway system, improvements to public transportation fixed-route services, and new bicycle and pedestrian facilities to promote commuting and short distance trips;
- The preservation of roadways through resurfacing and reconstruction based on a pavement management program, bridges through rehabilitation and reconstruction based on a bridge management program, and public transit services through a bus replacement and capital facilities maintenance program; and
- The preservation of safety and roadway capacity through low-cost capital improvements to address spot safety and localized congestion concerns through intersection signalization, signage, pavement marking, access management, traffic calming and guardrail improvements.

Due to their on-going nature capacity preservation projects are not defined in the 2035 Long Range Transportation Plan, but rather funding must be set aside for transportation preservation activities which are defined in the annual operating and capital improvement programs for the City of Bloomington, Monroe County, the Town of Ellettsville, Bloomington Public Transportation Corporation, Indiana University Campus Bus Service, and Rural Transit, as well as those in the Transportation Improvement Program of the MPO.

Future Transportation Needs Plan (cont.)

In addition to continuing to improve the operations of Bloomington Transit, Indiana University Campus Bus Service and Rural Transit, several specific transit needs have been identified. These include:

- Increased levels of service (number of days, hours of operation, frequency, and geographic coverage);
- A downtown shuttle system;
- New Park and Ride lot locations/ride sharing programs;
- Alternative fuels;
- A new/expanded downtown transfer facility;
- The creation of a regional transit authority; and
- Investigation of developing high occupancy vehicle (HOV) lanes.

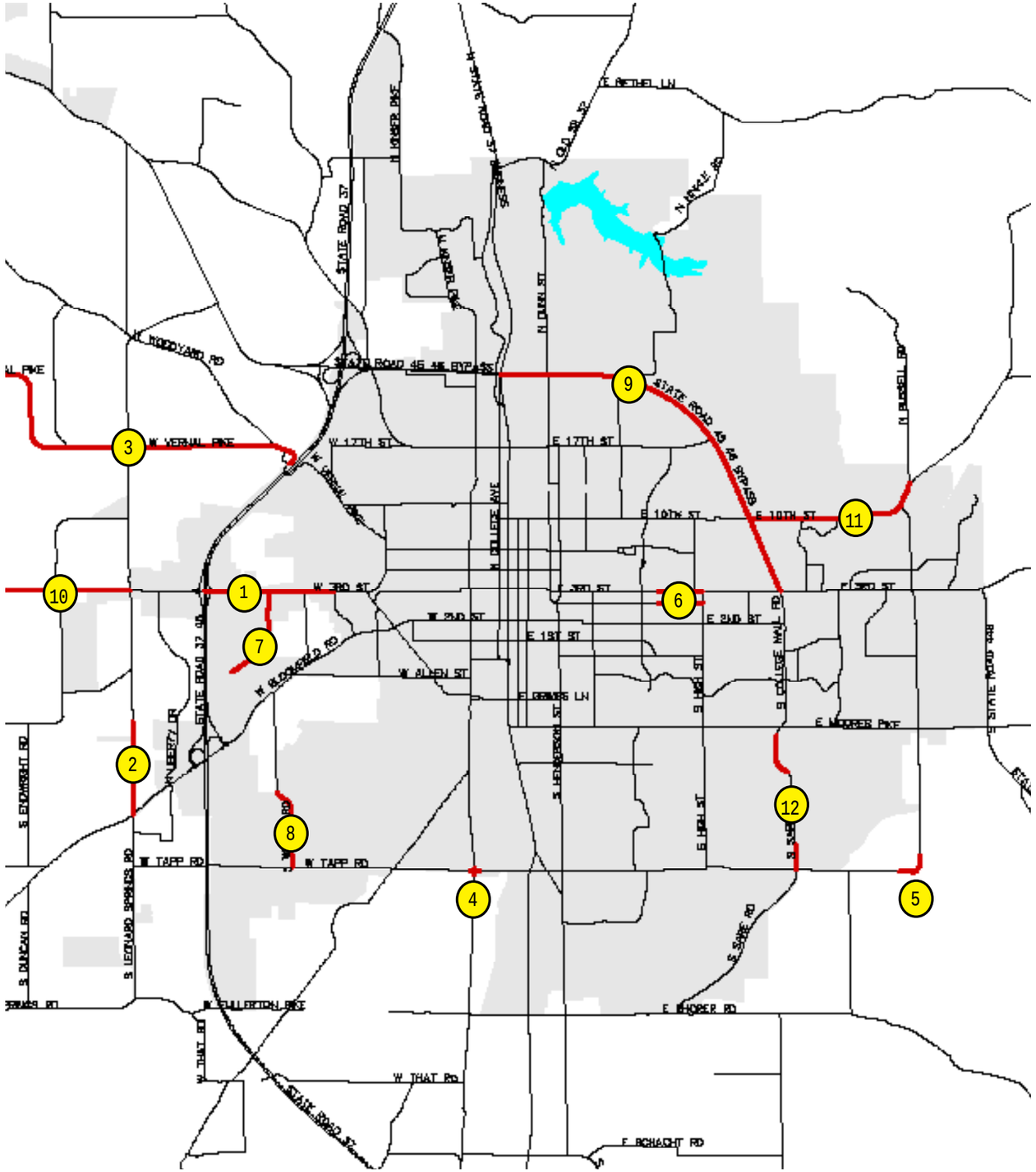
In terms of bicycle and pedestrian needs, the Transportation Needs Plan:

- Calls for funding for bicycle and pedestrian projects;
- Includes bicycle and pedestrian facilities as a part of roadway investment projects in the City of Bloomington and Monroe County;
- Outlines major trail projects needed to provide commuting, recreational, and short-range trip opportunities; and
- Incorporates projects outlined in the City of Bloomington's Alternative Transportation and Greenways System Plan and the soon to be adopted Monroe County Alternative Transportation and Greenways System Plan.

The Transportation Needs Plan appears in Figures 1-2 and 1-3, and Tables 1-2, 1-3, 1-4, and 1-5. The Transportation Needs Plan also recommends transportation system management (TSM) actions to address a few lingering congestion problems where major transportation investments are not proposed.

The Winslow Road corridor is an example of an area where growing congestion and infrastructure conditions merit future improvements.

Figure 1-1: Committed Projects



Legend

Map Features:

- Road Improvement Project
- Multi-Use Trail Project
- Lake
- Urbanized Area

1. **West 3rd Street Phase II** – from Landmark Avenue to SR 37
2. **Curry Pike** – from SR 45 to Constitution Avenue
3. **Vernal Pike Phase I and II** – from SR 37 to Hartstrait Road
4. **Country Club Drive/Rogers Street Intersection**
5. **Rogers Road/Smith Road Intersection**
6. **3rd Street/Atwater Avenue** – from Mitchell Street to High Street
7. **Basswood Drive** – from end of Basswood Drive to West 3rd Street
8. **Weimer Road** – from Tapp Road to Wapahani Road
9. **State Road 45/46 Bypass** – from Walnut Street to 3rd Street
10. **State Road 48** – from Curry Pike to Hartstrait Road
11. **State Road 45** – SR45/46 Bypass to Russell Road
12. **Sare Road Phase I and II** – from Rogers Road to David Drive and from McCartney Lane to Moores Pike

Cost Feasible Plan

In translating the Transportation Needs Plan into the Cost Feasible Plan, a forecast of likely financial resources has been provided to establish a fiscally-constrained Plan as required by the authority of the Federal Highway Administration.

Forecast of Existing and Potential Financial Resources

To determine the amount of local funds available for major transportation investments from fiscal year 2016 through 2035, funds are first set aside from the total transportation revenue stream for on-going operation and maintenance of the existing transportation system, for preservation of existing transportation investments (roadway resurfacing, bridge rehabilitation, transit operations, bicycle facilities, and pedestrian facilities), and for the completion of projects already in the pipeline.

Per the financial analysis in Chapter 4, the City of Bloomington and Monroe County can expect to receive approximately $64.0 million in Federal Surface Transportation Program Funds from fiscal years 2016 through 2035. In the Cost Feasible plan, only the Short Term (2016-2025) project lists are constrained to expected revenues. The Long Term (2026-2035) project lists are illustrative in nature and are provided to demonstrate key needs during that time frame. Local jurisdictions will implement long term projects as funding is available and needs dictate.

Setting aside Federal and State funds normally used for capacity preservation activities, the Indiana Department of Transportation will fund nearly $67 million in "capacity expansion" projects on State-maintained facilities between 2016 and 2035. Ultimately, the Cost Feasible Plan is advisory only for State projects because the Indiana Department of Transportation selects projects and establishes priorities on a statewide basis.

As noted in Figure 1-2, Interstate 69 has been identified as an Indiana Department of Transportation project to be included in the Cost Feasible Plan. Both Bloomington's Common Council and Mayor have publicly stated their opposition to this project and do not see this highway as an inevitability. The inclusion of Interstate 69 in the 2035 Long Range Transportation Plan should not be construed to be an expression of City of Bloomington support for this proposal. Rather, the Plan includes this project because the MPO is required to include INDOT projects in its Cost Feasible Plan.

Long Range Transportation Capital Improvement Program

Because sufficient historical transportation resources exist to fully fund locally initiated projects, all projects in the Transportation Needs Plan were carried forward into the Cost Feasible Plan for implementation phasing for Fiscal Years 2016 through 2035. Based on the availability of funding over time, transportation improvement projects were divided up over two time periods, corresponding with expected funding re-authorizations and local priorities for implementing the projects.

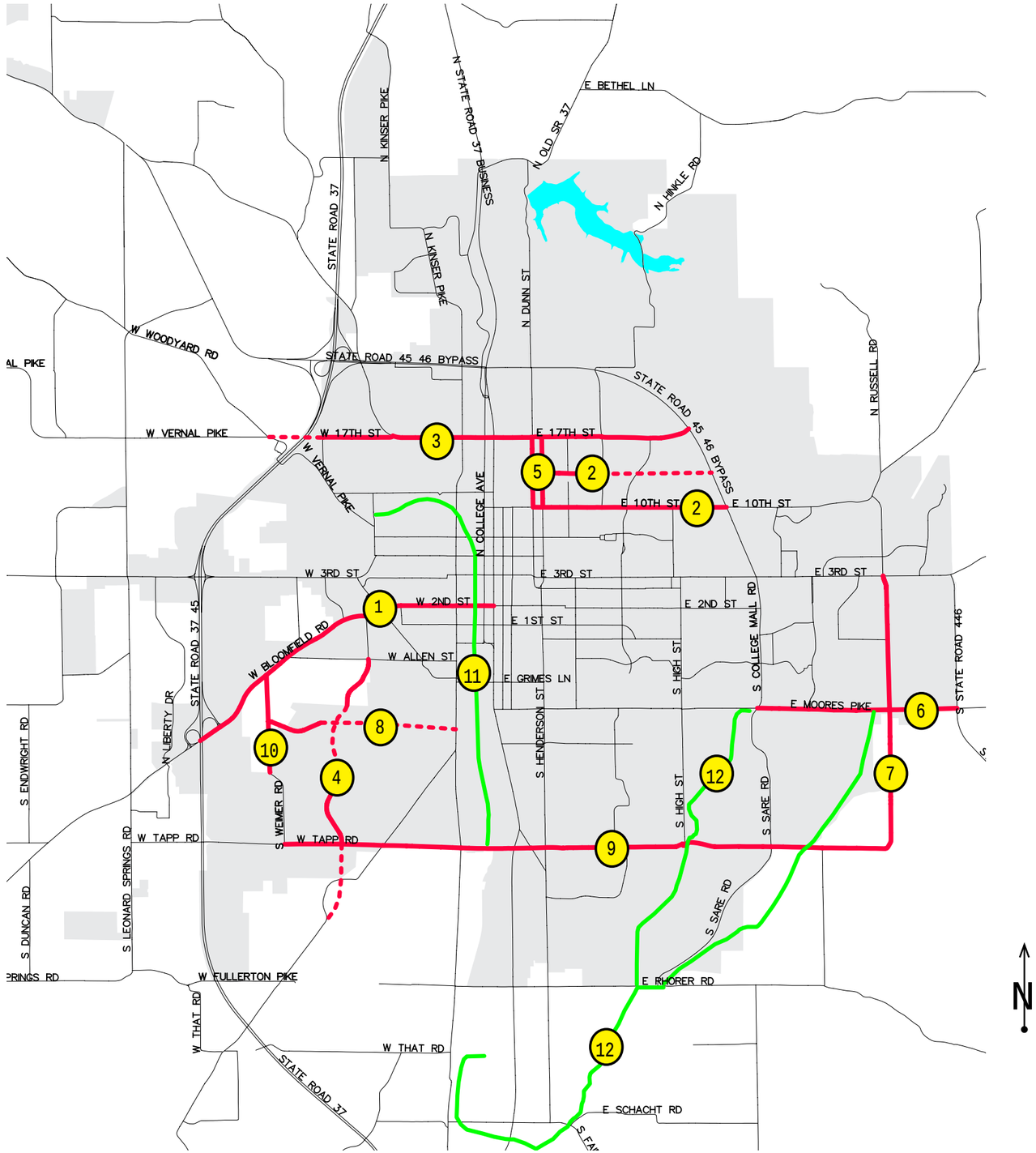
Cost Feasible Plan (cont.)

The phasing of projects (see Tables 1-2, 1-3, 1-4, and 1-5) establishes a long-range capital improvement program for major transportation investments from which projects are chosen for inclusion in the MPOs three-year Transportation Improvement Program. The project priorities within each of the three phases are advisory in nature. Moreover, lower-cost transportation projects (such as transportation enhancement projects, transit capital investments, intersection improvements, signalization improvements, and safety improvements) may be added to the four-year Transportation Improvement Program as long as such projects are compatible with the 2035 Long Range Transportation Plan. Table 1-6 provides an overview of the specific design components recommended for each of the projects in the cost feasible plan. Refer to Appendix F: Projects Index for a more detailed description of each project.

Table 1-2: Phasing of Highway Capital Improvement Projects for the City of Bloomington & Indiana University

Project	Total Project Cost	Federal	Local Match	Other Funds	Project Total Funds	Cumulative Amounts
Short-Term Projects (2016-2025)						
2nd Street/Bloomfield Road (Phase I)	$3,005,387	$2,404,310	$601,077	$0	$3,005,387	$3,005,387
10th Street/14th Street	$8,949,066	$7,159,253	$1,789,813	$0	$8,949,066	$11,954,453
Smith Road (Phase I)	$3,291,438	$2,633,150	$658,288	$0	$3,291,438	$15,245,891
Sudbury Road	$0	$0	$0	$5,321,238	$5,321,238	$20,567,129
Weimer Road	$2,276,917	$1,821,534	$455,383	$0	$2,276,917	$29,658,294
Fiscal Years 2016-2025 (totals)	$17,522,808	$14,018,246	$3,504,562	$5,321,238	$22,844,046	
Long-Term Illustrative Projects (2026-2035)						
Adams Street	$6,814,248	$5,451,398	$1,362,850	$0	$6,814,248	$6,814,248
2nd Street/Bloomfield Road (Phase II)	$18,047,010	$14,437,608	$3,609,402	$0	$18,047,010	$24,861,258
2nd Street/Bloomfield Road (Phase III)	$5,952,072	$4,761,658	$1,190,414	$0	$5,952,072	$30,813,330
Moores Pike	$3,903,258	$3,122,606	$780,652	$0	$3,903,258	$34,716,588
Smith Road (Phase II)	$3,291,438	$2,633,150	$658,288	$0	$3,291,438	$38,008,026
Tapp Road/Country Club Drive/Winslow Road/Rogers Road	$18,383,336	$14,706,669	$3,676,667	$0	$18,383,336	$56,391,362
Fiscal Years 2026-2035 (totals)	$56,391,362	$45,113,090	$11,278,272	$0	$56,391,362	

Figure 1-2: City of Bloomington/Indiana University Transportation Projects



Legend

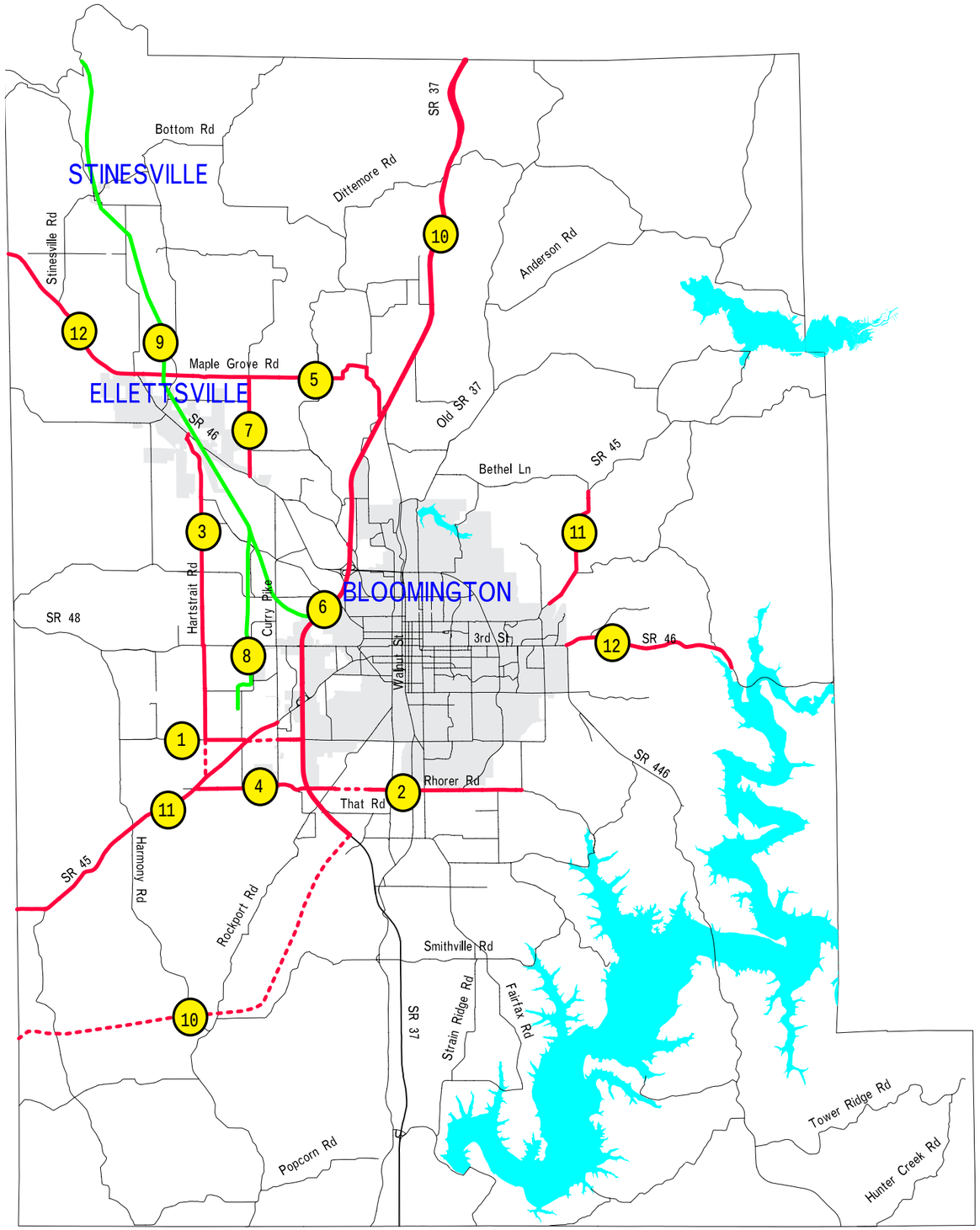
Map Features:

- Road Improvement Project (dashed line are proposed connections)
- Multi-Use Trail Project
- Lake
- Urbanized Area

1. 2nd Street/Bloomfield Road
2. 10th Street/14th Street
3. 17th Street
4. Adams Street
5. Dunn Street
6. Moores Pike
7. Smith Road
8. Sudbury Drive
9. Tapp Road/Country Club Drive/Winslow Road/Rogers Road
10. Weimer Road
11. CSX Corridor Trail
12. Jackson Creek Trail

*For project information please reference Appendix F

Figure 1-3: Monroe County/INDOT Transportation Projects



Legend

Map Features:

- Road Improvement Project (dashed line are proposed connections)
- Multi-Use Trail Project
- Lake
- Urbanized Area
- 1 Airport Road/Tapp Road
- 2 Fullerton Pike/Gordon Pike/Rhorer Road
- 3 Kirby Road/Hartstrait Road
- 4 Leonard Springs Road/Fullerton Pike
- 5 Maple Grove Road/Bottom Road
- 6 SR 37 West Frontage Road
- 7 Union Valley Road
- 8 Karst Farm Trail
- 9 Stinesville-Ellettsville Greenway
- 10 Interstate 69
- 11 State Road 45 (East and West)
- 12 State Road 46 (East and West)

*For project information please reference Appendix F

Table 1-3: Phasing of Highway Capital Improvement Projects for Monroe County & Ellettsville

Project	Total Project Cost	Federal	Local Match	Other Funds	Project Total Funds	Cumulative Amounts
Short-Term Projects (2016-2025)						
Fullerton Pike/Gordon Pike/Rhorer Road (Phase I)	$11,666,899	$9,333,519	$2,333,380	$0	$11,666,899	$11,666,899
Fullerton Pike/Gordon Pike/Rhorer Road (Phase II)	$886,005	$708,804	$177,201	$0	$886,005	$12,552,904
Fullerton Pike/Gordon Pike/Rhorer Road (Phase III)	$3,345,705	$2,676,564	$669,141	$0	$3,345,705	$15,898,609
Fiscal Years 2016-2025 (totals)	$15,898,609	$12,718,887	$3,179,722	$0	$15,898,609	
Long-Term Illustrative Projects (2026-2035)						
Airport Road/Tapp Road	$6,740,745	$5,392,596	$1,348,149	$0	$6,740,745	$6,740,745
SR 37 West Frontage Road	$10,609,362	$8,487,490	$2,121,872	$0	$10,609,362	$17,350,107
Fullerton Pike/Gordon Pike/Rhorer Road (Phase IV)	$4,301,621	$3,441,297	$860,324	$0	$4,301,621	$21,651,728
Union Valley Road	$4,919,289	$3,935,431	$983,858	$0	$4,919,289	$26,571,017
Kirby Road/Hartstraight Road	$35,203,539	$28,162,831	$7,040,708	$0	$35,203,539	$61,774,556
Leonard Springs Road/Fullerton Pike	$9,704,612	$7,763,690	$1,940,922	$0	$9,704,612	$71,479,168
Maple Grove Road/Bottom Road	$10,102,054	$8,081,643	$2,020,411	$0	$10,102,054	$81,581,222
Fiscal Years 2026-2035 (totals)	$81,581,222	$65,264,978	$16,316,244	$0	$81,581,222	

Table 1-4: Phasing of Highway Capital Improvement Projects for the State of Indiana in Monroe County

Project	Total Project Cost	Federal	Local Match	Other Funds	Project Total Funds	Cumulative Amounts
Short-Term Projects (2016-2025)						
Interstate 69 (Section 5)	$66,347,800	$55,341,200	$11,006,600	$0	$66,347,800	$66,347,800
Fiscal Years 2016-2025 (totals)	$66,347,800	$55,341,200	$11,006,600	$0	$66,347,800	
Long-Term Illustrative Projects (2026-2035)						
	$0	$0	$0	$0	$0	$0
Fiscal Years 2026-2035 (totals)	$0	$0	$0	$0	$0	

Cost Feasible Plan (cont.)

Table 1-5: Phasing of Multi-Use Trail Projects for the City of Bloomington, Monroe County, and Ellettsville

Project	Total Project Cost	Federal	Local Match	Other Funds	Project Total Funds	Cumulative Amounts
Short-Term Projects (2016-2025)						
Jackson Creek Trail (Phase I) - Rhorer Road to Child's School	$1,654,670	$1,323,736	$330,934	$0	$1,654,670	$1,654,670
Jackson Creek Trail (Phase II) - Rhorer Road to Fairfax Road	$1,477,081	$1,181,665	$295,416	$0	$1,477,081	$3,131,751
Jackson Creek Trail (Phase III) - Rhorer Road to Schmalz Park	$1,184,058	$947,246	$236,812	$0	$1,184,058	$4,315,809
Fiscal Years 2016-2025 (totals)	$4,315,809	$3,452,647	$863,162	$0	$4,315,809	
Long-Term Illustrative Projects (2026-2035)						
Jackson Creek Trail (Phase IV) - Child's School to Southeast Park	$955,894	$764,715	$191,179	$0	$955,894	$955,894
Jackson Creek Trail (Phase V) - Schmalz Park to SR 446/Moores Pike	$1,227,297	$981,838	$245,459	$0	$1,227,297	$2,183,191
Jackson Creek Trail (Phase VI) - Sare Road to SR 446/Moores Pike	$1,946,921	$1,557,537	$389,384	$0	$1,946,921	$4,130,112
Jackson Creek Trail (Phase VII) - Fairfax Road to Clear Creek Trailhead	$2,773,098	$2,218,478	$554,620	$0	$2,773,098	$6,903,210
Stinesville-Ellettsville Greenway (Monroe County)	$5,942,695	$4,754,156	$1,188,539	$0	$5,942,695	$12,845,905
Fiscal Years 2026-2035 (totals)	$12,845,905	$10,276,724	$2,569,181	$0	$12,845,905	

Table 1-6: Summary of Cost Feasible Project Descriptions

	RW	RE	RC	SW	SP/BL	MT	H/B
City of Bloomington / Indiana University							
2nd Street/Bloomfield Road	X			X	X		X
10th Street/14th Street		X		X	X		X
Adams Street			X	X	X		
Moores Pike	X			X	X		
Smith Road	X			X	X		
Sudbury Drive			X	X	X		
Tapp Road/Country Club Drive/Winslow Road/Rogers Road	X			X	X		X
Weimer Road		X		X			
Monroe County / Town of Ellettsville							
Airport Road/Tapp Road		X	X	X	X		
Fullerton Pike/Gordon Pike/Rhorer Road	X			X	X		
Kirby Road/Hartstrait Road	X			X	X		
Leonard Springs Road/Fullerton Pike	X			X	X		
Maple Grove Road/Bottom Road		X		X	X		
SR 37 West Frontage Road			X	X	X		
Union Valley Road		X		X	X		
State of Indiana							
Interstate 69	X		X			X	
Greenways Projects							
Jackson Creek Trail						X	
Stinesville-Ellettsville Greenway						X	

RW = Road Widening / RE = Road Reconstruction / RC = New Road Connection

SW = Sidewalk Facility / SP/BL = Sidepath or Bikelane Facility / MT = Multi-Use Trail Facility

H/B = Feasibility Study for High Occupancy Vehicle/Bus Only Facility

Vision Statement

2035 Long Range Transportation Plan

2

INTRODUCTION

The 2030 Long Range Transportation Plan provides a means of focusing and prioritizing community transportation investments. The Vision Statement serves as a policy guide for the development of the system-wide, multi-modal, Long Range Transportation Plan. It also establishes the framework for on-going transportation planning activities including the Transportation Improvement Program, corridor or sub-area improvement studies, detailed plans for individual modes, and transportation management systems efforts. Each of these activities should be considered within the context of the vision, goals, and objectives expressed here.

FUTURE TRANSPORTATION VISION

The future transportation system for Bloomington, Ellettsville, and Monroe County should reflect a commitment to the following core principles:

- Community sustainability
- Environmental stewardship
- Fiscal responsibility
- Connectivity for all forms of transportation
- Economic vitality & economic development
- Multi-modal accessibility
- Cross-jurisdictional coordination

Transportation plays a vital role in the quality of life of the community. Residents should be afforded the ability to move safely throughout the community using a variety of modes of transportation. While strategic roadway improvements will be needed in the future, support must be increased for alternative transportation options such as public transit, walking and bicycling. Enhancing alternative modes of travel reduces automobile dependency, increases community accessibility for people of all economic means, reduces emissions of polluting gases and supports a more sustainable community. Ensuring the development of a multi-modal transportation system that meets the needs of both current and future generations is consistent with efforts to promote sustainability as a community-wide goal.

The following goals and objectives are designed to provide specific guidance for achieving the transportation vision set forth in the Plan.

MOBILITY & ACCESSIBILITY

Mobility is an integral component of economic activity, recreation, education and travel. The network of transportation facilities that serves the community has been instrumental in creating a society that is highly dependent on the continuing efficiency and economy of both freight and passenger services. However, changes to this transportation network have been one of the factors which have caused an expanded metropolitan area, a dispersal of shopping and industry and the growing number of rural residents who live an urban life without living in an urban community. As a result, the transportation network of the future must provide a menu of effective choices for community mobility without creating an unnecessary expansion of Bloomington's urbanized area.

GOAL 1

Develop a well-integrated, multi-modal transportation system for the efficient and economic movement of people and goods while supporting the land use policies of the respective communities Comprehensive Plans.

Objective 1.1 Provide for better access between the arterial roadway network and major employment and activity centers.

Objective 1.2 Ensure connectivity of the transportation system, including all modes of travel, between jurisdictions.

Objective 1.3 Enhance the efficient movement of freight through maintenance, operational and capital investment decisions.

Objective 1.4 Identify transportation needs for individuals with limited resources and/or limited access to a personal vehicle.

Objective 1.5 Identify opportunities for improved coordination and cost effective delivery of transportation services associated with human services destinations such as schools, hospitals, and social service agencies.

Objective 1.6 Increase public transit capital and operating investment to expand, enhance, and increase the use of transit services.

GOAL 2

Create a network of multi-use pathways, bicycle routes, greenways and sidewalks that traverses the community, connects activity centers, and links recreation opportunities.

Objective 2.1 Ensure transit, bicycle, and pedestrian facility design standards are incorporated into the design standards for thoroughfares as set forth in alternative transportation plans, thoroughfare plans, subdivision control ordinances and site design review processes.

Objective 2.2 Provide walkways, bikeways, and aesthetic features in association with all thoroughfare improvements to ensure their integration with the overall transportation network.

Objective 2.3 Identify and solicit transportation enhancement projects for the metropolitan area in a coordinated and unified manner, and aggressively pursue funding of selected projects.

Objective 2.4 Pursue all opportunities for the expansion of the community's alternative transportation and greenways networks, including rail-to-trail and rail-with-trail projects.

TRAFFIC MITIGATION

Traffic mitigation refers to actively reducing the demand for automobile trip-making, and in turn reducing the traffic impacts associated with trip-making. This principle is intended to reduce the frequency and length of auto trips through the application of a variety of key land use and transportation principles. The first component of traffic mitigation is mixed-use development, which reduces travel demand by placing residential areas in closer proximity to the shopping, employment and recreation destinations they seek. In addition, support of a compact urban form for development will keep trip lengths low, and allow more areas to be serviced by alternative modes of travel. Finally, investment in and support for these alternative modes of travel, such as walking, bicycling and public transit, must be significant and sustained to make them truly viable alternatives to personal motor vehicles.

GOAL 1

Reduce the number, length, and frequency of automobile trips on a per capita basis.

Objective 1.1 Promote land use and development policies that encourage the use of alternative transportation modes over the single-occupant vehicle.

Objective 1.2 Increase by one percent per year the transit vehicle revenue hours providing service with a frequency of 15 minutes or less.

Objective 1.3 Promote the location of new institutional, commercial, and employment destinations in close proximity to transit nodes.

Objective 1.4 Identify actions that improve physical access and remove physical barriers to the use of public transportation.

GOAL 2

Optimize the flow of traffic and the relationship between land uses to reduce traffic congestion, trip length, and trip frequencies.

Objective 2.1 Pursue transportation network design and operational policies that separate high speed/through traffic from neighborhood/local traffic.

Objective 2.2 Ensure the continuity of major thoroughfares.

Objective 2.3 Provide major thoroughfares around rather than through neighborhoods.

Objective 2.4 Provide for connectivity in the transportation network.

GOAL 3

Develop the widest possible range of transportation alternatives to automobile trip-making by residents.

Objective 3.1 Preserve abandoned rights-of-way for future transportation corridors for all modes.

Objective 3.2 Ensure the connection of street stubs for local circulation and linkage of residential areas to neighborhood shopping and services, educational facilities, and recreational areas.

Objective 3.3 Facilitate the most direct access by all modes from residential areas to major transit corridors.

Objective 3.4 Study the future potential of alternative transportation options such as light rail, dedicated bus lanes, high occupancy vehicle lanes, and a ridesharing/commuter transportation connection between Bloomington and Indianapolis.

Objective 3.5 Encourage the integration of City, County and Indiana University mass transit systems into a single, regional authority.

Growing traffic congestion, concerns over traffic safety, and the increasing cost of upgrading roads have elevated the importance of managing access to the roadway system. Traditionally, growth has followed a cycle whereby as an area develops, existing roads cannot effectively handle the increased traffic. When new, multi-lane facilities are constructed to relieve the pressure, they attract more traffic with the promise of limited delays and reasonable travel speeds. Additional development is naturally attracted to these facilities and a variety of new growth begins to compound, leading once again to traffic congestion that overwhelms the transportation network. This cycle typically continues until it becomes physically or economically impossible to add more capacity to the roadway. Access management together with effective land use management can preserve roadway capacity and, in turn, effectively slow down or even halt the cycle.

GOAL 1

Make transportation infrastructure investments that support the development policies of the City of Bloomington Growth Policies Plan, the Monroe County Comprehensive Land Use Plan, the Town of Ellettsville Comprehensive Plan and the Indiana University Master Plan.

Objective 1.1 Improve the aesthetics of transportation facilities with streetscape features compatible with the abutting area, consistent with the community's comprehensive plan and neighborhood plans.

Objective 1.2 Connect all high intensity activity centers to public transit.

Objective 1.3 Direct all future high intensity land uses toward those roadway corridors with the greatest reserve traffic carrying capacity.

Objective 1.4 Increase transit service frequency and route coverage so that more people can live within 1/4 mile of transit service with a frequency of 20 minutes or less.

Objective 1.5 Where appropriate, encourage transit-oriented development proposals featuring building-forward design and limited parking.

GOAL 2

Make transportation infrastructure investments in a manner that protects and enhances the environment, promotes energy conservation, and improves quality of life.

Objective 2.1 Examine the overall short and long-term social, economic, energy, and environmental (social, natural, and human-made) effects of major transportation investments.

Objective 2.2 Ensure transportation investments contribute to the overall improvement of air quality for the metropolitan area and support actions reducing the dependency on single-occupant vehicles.

Objective 2.3 Give priority and encouragement to alternative fuels, fuel efficiency and new technologies to reduce pollution and usage of non-renewable resources.

Objective 2.4 Plan, design, develop, construct, and maintain transportation facilities to minimize adverse impacts on environmentally sensitive areas, public parks and recreation areas, historic structures, and neighborhoods.

Safety & Security

A safe travel environment is a high priority for motorists, bicyclists, pedestrians and neighborhoods. The 2030 Long Range Transportation Plan is committed to reducing human and economic losses from death and injury attributed to mobility. The increased use of seat belts and airbags, as well as improvements in the crash resistance of vehicles, has increased transportation safety. However, it is important that complementary improvements to the transportation system and the built environment are made. Innovative approaches to accident reduction should be included in the planning process, including the use of electronics and telecommunications for driver guidance and warning, improved roadway design and lighting, and increased enforcement.

Goal 1

Increase the safety and security of the motorized and non-motorized surface transportation systems.

Objective 1.1	Prioritize additional bicycle facilities, removal of dangerous curves, improved street surfaces, and improved connections between neighborhoods over other types of street improvements.
Objective 1.2	Pursue transit capital investments that improve the security for transit riders and drivers including, but not limited to, improved lighting at major bus stops.
Objective 1.3	Improve one (1) high accident location per year as identified in the annual Traffic Accident Report.
Objective 1.4	Pursue the construction of railway/roadway grade separation.
Objective 1.5	Reduce the number of injuries and incidents per 100 million transit passenger miles.
Objective 1.6	Take advantage of funding opportunities provided by the Safe Routes to School Program to enhance walking and bicycling routes for school children.

ECONOMIC VITALITY

The places people live and work in a mobile society and the changing behavior patterns and lifestyles enabled by ease of access are supported by a less visible network for the transportation of goods and materials. A mobile society also involves a high degree of industrial specialization, with transport linking the many suppliers of parts and components with the final assembly plants. Recent emphasis on increasing industrial productivity to help compete internationally has focused on the importance of economy and reliability in transportation as a means of reducing production costs.

GOAL 1

Support economic vitality of the metropolitan area through transportation investments that enhance competitiveness, productivity, and efficiency.

Objective 1.1 Provide adequate access to the Monroe County Airport, inter-modal facilities, major freight terminals and major freight distribution routes.

Objective 1.2 Ensure that transportation investment decisions consider the recreational travel and tourism needs of Bloomington and Monroe County, particularly the State recreation areas on Lake Monroe.

GOAL 2

Improve the movement of goods through the transportation system as a means to enhance the region's economic competitiveness.

Objective 2.1 Continually evaluate the arterial street system through traffic counting and intersection analysis in order to program improvements to enhance efficiency without the need for roadway widening.

Objective 2.2 Make strategic investments such as frontage roads, grade separation of access points, signal timing improvements, and reduction of curb cuts to maximize local connectivity to the highway system.

Finance

Paying the bill for transportation facilities is a challenge in every community. Limited fiscal resources are met with the demand for improvement not only in roadway capacity, but also for bicycle, pedestrian and public transit enhancements. Careful consideration must be given to the overall program of transportation improvements so that the return on the community's investment can be maximized. This includes being strategic in selecting preferred roadway upgrades and investing in programs that reduce the need for such road projects. In addition, alternative sources of funding for transportation improvements should be utilized, including dedicated TIF districts and construction of certain facilities as a component of private development projects. Payments for transportation improvements should be viewed as long-term investments in the overall quality of life of the community.

Goal 1

Develop transportation plans and improvement programs on the basis of an integrated and comprehensive viewpoint of transportation expenditures and revenues for the maintenance, operation, and capital investment in all surface transportation modes.

Objective 1.1 Examine the effects of transportation projects within the metropolitan area without regard to the source of funding.

Objective 1.2 Increase public transit capital and operating investment to expand, enhance, and increase the use of transit services; and increase the funding for transit operations even if the funding for streets must be reduced.

Objective 1.3 Ensure transportation maintenance, operational, and capital investment decisions enhance the efficient movement of freight.

Objective 1.4 Increase the return of Bloomington/Monroe County Federal highway and transit tax dollars to the Bloomington metropolitan area for transportation improvements.

Goal 2

Preserve the investment in existing surface transportation systems and promote efficient system management and operation.

Objective 2.1 Use life-cycle costs (maintenance, operational, and capital costs) in the evaluation of the transportation alternatives and in the design and engineering of bridges, tunnels, and pavements.

Future Transportation Needs Plan

3

2035 Long Range Transportation Plan

INTRODUCTION

The Vision Statement for the 2035 Long Range Transportation Plan emphasizes the following core principles:

- Community sustainability
- Environmental stewardship
- Fiscal responsibility
- Connectivity for all forms of transportation
- Economic vitality & economic development
- Multi-modal accessibility
- Cross-jurisdictional coordination

These principles should be reflected in the Future Transportation Needs Plan. Fundamental to developing that Plan is an assessment of the ability of existing infrastructure (including programmed improvement projects) to accommodate future travel demands. As part of this process, future travel patterns are forecasted, programmed transportation infrastructure improvements are identified, and the adequacy of the transportation infrastructure is evaluated to determine if any significant deficiencies exist. The commitment to alternative modes of transportation and centralized land use policies must also be assessed as part of developing the Future Transportation Needs Plan.

This evaluation process helps to determine the scope that specific improvement projects should take in order to best address transportation system deficiencies. Some future travel demand can likely be accommodated through network modifications or "capacity preservation" actions, such as intersection improvements, signalization improvements, improved access control, expanded public transportation services, expanded alternative transportation facilities, and intelligent transportation system measures. Others problems must be addressed with "capacity expansion" actions, such as adding through lanes to existing roadways, constructing new roadways, or adding interchanges. The Future Transportation Needs Plan will identify the preferred approach to addressing future travel demands.

The primary purpose of the Future Needs Plan is to provide the most feasible combination of transportation improvement projects to reduce or eliminate identified deficiencies and improve the overall performance of the network. The Needs Plan is multi-modal in its approach, identifying needs for roadway, transit, bicycle, and pedestrian facilities. The underlying strategy of the Needs Plan focuses on preserving and enhancing existing transportation investments as well as making strategic new improvements. Actions that can accomplish this strategy include:

- *For Commuting & Recreation:* the on-going day-to-day operation and maintenance of the existing roadway system and bicycle and pedestrian facilities, the public transportation fixed-route services, the demand-response services for the elderly and handicapped;
- *For Capital Replacement:* the preservation of roadways through resurfacing and reconstruction based on a pavement management program, the rehabilitation and reconstruction of bridges through a

bridge management program, the improvement of transit service facilities and replacement buses through a public transportation capital assets management program; and

- *For Safety Improvements & Localized Congestion Relief:* low-cost capital improvements for preservation of safety and roadway capacity through intersection signalization, improved signage, pavement marking, and guardrail improvements based on safety, congestion, and access management programs.

Due to the on-going nature of these "capacity preservation" projects, most are not specifically defined in a long range transportation plan. This is partially due to limitations in the ability to forecast the best time to implement relatively small scale improvements. These types of improvements are often identified in the short-term based on response to localized development and travel patterns. The identification and funding of these types of projects are defined in the annual operating and capital improvement programs of the City of Bloomington and Monroe County and in the Transportation Improvement Program (TIP) of the Bloomington Area Metropolitan Planning Organization (MPO) as appropriate.

A system-wide reduction in congestion is one key objective of the Future Transportation Needs Plan. Reduction in congestion translates into user benefits such as travel time savings, reduced accident costs and reduced vehicle-operating costs. A reduction in congestion can also improve air quality and the future transportation costs of businesses. Other key objectives of the Plan include providing a program for roadway improvements that is fiscally constrained and generally feasible to implement, and providing guidance for transit and alternative transportation facilities improvements. It is important that the Plan be updated every five years to keep the plan fresh and to proactively respond to the changing conditions of the community. In essence, the Plan provides the best case scenario for programmed improvements over the next twenty years.

The intersection of Walnut Street and 1st Street is in the TIP as a cooperative project between the City of Bloomington and Monroe County (due to it's status as a bridge).

The Future Transportation Needs Plan is intended to be implemented over an extended period of time. For this reason, any major transportation investments ("capacity expansion" projects) should have a twenty-five year design horizon based on future transportation deficiencies as well as existing problems that have relevance in the long run. For the Needs Plan, a system-wide travel demand model for Monroe County was used as the primary tool to simulate traffic in the year 2035.

Conditions in the Base Year (2000) were first simulated and compared to real world measurements to help determine the accuracy and sensitivity of the model. Once the model was calibrated to reflect Base Year conditions, it was used to forecast traffic conditions in the year 2035. Socioeconomic data projections that determine future population and employment values were developed as input variables for the model. These variables are important to consider due to their correlation with future travel demand. Together, the Base Year network conditions, year 2035 network conditions, and socioeconomic projections were used to identify traffic problems in the year 2035. The following sections describe the methods used to develop projections for the key socioeconomic variables and the implications of those forecasts.

Socioeconomic Data Projections

The system-wide transportation network was divided into traffic analysis zones (TAZ) to factor in the spatial component of the socioeconomic data. The primary socioeconomic variables used as inputs for the travel demand model were:

- number of households
- household income
- household vehicles
- retail employment (by place of work)
- non-retail employment (by place of work)

Each TAZ was allocated a portion of the base year data for each of these variables. This information was subsequently used to project year 2035 traffic conditions on the model network. The variables were further adjusted for local conditions and trends, as well as the potential impacts of the proposed I-69 extension through Monroe County.

Three forecasts were used to compare results in the evaluation of the most appropriate values to use for the socioeconomic variables. The sources used for this data include Indiana Business Research Center at Indiana University, U.S. Bureau of the Census, and U.S. Bureau of Economic Analysis Regional Economic Information System. First, the socioeconomic results from the 2025 Long Range Transportation Plan were extrapolated to the year 2035. Second, the socioeconomic results from the 2004 Indiana Statewide Travel Demand Model (ISTDM) were utilized as another set of validated data values. Both methods provide a reasonable means to determine future forecasts of these variables and an effective way to compare the results. The results are summarized in Table 3-1.

TABLE 3-1: COMPARISON OF SUMMARY SOCIOECONOMIC FORECASTS FOR MONROE COUNTY

Year	Population	Group Quarters	Household Population	Households	Retail Emplyoment	Total TAZ Employment (under-reported base)	Total Employment
2025 Technical Memorandum 5 Extrapolated to 2030							
1997	116,653	15,112	101,541	42,321	15,249	66,887	76,094
2000	120,665	15,112	105,553	45,108	15,924	--	79,234
2005	126,687	15,112	111,575	48,093	17,150	--	84,772
2010	132,219	15,112	117,107	50,916	18,081	--	88,992
2015	138,627	15,112	123,515	54,173	18,651	--	91,975
2020	145,575	15,112	130,463	57,984	18,859	82,183	93,496
2025	152,423	13,355	139,068	61,852	19,078	83,518	95,015
2030	159,271	13,355	145,916	65,728	19,297	84,853	96,534
2035	164,598	13,135	151,463	68,654	19,803	87,099	99,089
2000 Control Indiana Statewide Travel Demand Model Documentation Binder							
2000	120,206	--	--	46,896	14,440	--	78,190
2030*	158,921	14,015	144,906	69,333	16,144	--	100,419
2035	178,279	14,015	144,906	80,552	16,996	--	111,534
2000 Census and TAZ I-69 Corridor Model							
2000	120,563	14,331	106,232	46,898	14,440	--	78,141
2030*	159,271	13,007	146,264	65,946	17,155	--	100,416
2030**	160,022	13,007	147,015	66,227	17,326	--	101,002
2035	173,175	12,566	160,609	72,670	18,288	--	108,622

** Without I-69 Corridor / **With I-69 Corridor / Source: BLA Technical Memorandum 8/19/2005*

A third method was also utilized to forecast future population and employment by source for Monroe County (see Table 3-2). The three forecast methods were evaluated to determine which values were most suitable to use under the model constraints for alternative scenario analysis (see Appendix C: Alternatives Analysis). Referring to Table 3-1, the addition of I-69 to the network was projected to result in increases to population (751), households (331), retail employment (171), and total employment (586) in comparison to the respective 2035 values without I-69. Generally, the socioeconomic impact (net difference in projected values) is minimal with the addition of I-69. Even so, scenarios that tested the transportation network with and without I-69 were included in the Alternatives Analysis process (Appendix C) in order to ensure a thorough evaluation of all alternatives.

After an evaluation of the various socioeconomic projections, and single set of county-wide socioeconomic controls for the year 2035 was established (see Table 3-3). The control values were allocated to each TAZ using the same methodology used for the Base Year model run. Allocation of the control values (with I-69 and without I-69) were based on several elements including past development trends, known development projects, and the growth policies of Bloomington, Monroe County, and Ellettsville.

TABLE 3-2: SOCIOECONOMIC FORECASTS ALTERNATIVES BY SOURCE FOR MONROE COUNTY

Source	2030 Population	2030 Total Employment
Woods & Poole 2003	159,890	124,090
Woods & Poole 2003	168,778	118,871
Woods & Poole 2003	163,090	116,770
STATS Indiana	149,228	--
30-year Historical Growth	170,707	--
10-year Historical Growth	159,149	--
Total Population Drive	--	93,303
2030 Share of State	--	99,243
30-year Population Change	--	93,768
I-69 Corridor Model	158,921	100,419

Source: BLA Technical Memorandum 8/19/2005

Individual TAZ socioeconomic values were adjusted based on the influence of factors such as proximity to existing developments (e.g., in-fill housing in Downtown Bloomington), the availability of suitably zoned land (e.g., North Park), the adequacy of infrastructure (e.g., the availability of sanitary sewers), and the avoidance of environmentally sensitive areas (e.g., the Sinking Creek area). This ensured that future expectations for the distribution of socioeconomic growth were appropriately applied to the respective model simulations (with I-69 and without I-69). The resulting model simulations reflect, to the best of the model's ability, the conditions of the roadway network in the year 2035.

TABLE 3-3: COUNTY-WIDE YEAR 2035 SOCIOECONOMIC CONTROLS WITH AND WITHOUT I-69

Socioeconomic Variable	Without I-69	With I-69
Population	159,271	160,022
Group Quarters	13,007	13,007
Household Population	146,264	147,015
Households	65,946	66,277
Retail Employment	17,155	17,326
Total Employment	100,416	101,102

Source: BLA Technical Memorandum 8/19/2005

Vehicular Transportation Demands

Growth in travel demand is expected to remain stable compared to historic growth rates. The socioeconomic forecasts discussed previously establish that the annual population growth rate will result in a Monroe County population of 159,271 in the year 2035, an increase of 38,708 from the year 2000. This is consistent with the modest historical growth rate of 1%, which translates into an average annual increase of 1,290 people (about 1% of 120,563) per year over 30 years. Population growth will increase travel demand for all modes of transportation. Unless significant unforeseen changes in transportation behavioral patterns occur, this modest growth will have safety and congestion impacts on the already stressed transportation network, even with the completion of currently programmed improvements.

Along with socioeconomic forecasts for Monroe County, it was necessary to consider external trip demands. External trips are those trips that begin outside Monroe County and either terminate inside Monroe County or simply travel "through" Monroe County. This consideration was especially important in estimating how external trips generated by the I-69 corridor might impact the local network, although the principle applies to any state road or other road of regional significance. The projections for external trips did not change significantly from the projections made for the 2025 Long Range Transportation Plan. Because I-69 has the most potential to impact the local network, model runs that included I-69 were made. Analysis of those model runs indicated that I-69 would produce between 12,000 and 20,000 additional external trips per day on portions of the Monroe County network.

Although the socioeconomic impacts of I-69 are minimal (see Table 3-3), the overall increase in population and households together with historical trends of declining household size and the increasing number of vehicles per household will result in increased travel demand. Because Monroe County is a regional retail and employment center, the increase in employment and external trip demand (largely due to I-69) will contribute to a significant increase in trip-making activity from 2000 to 2035. The projected increase in traffic congestion over the next 30 years cannot be accommodated by merely taking "capacity preservation" or network modification actions (low-cost capital investments such as intersection and signalization improvements or other transportation system management actions) alone to maintain the capacity of the existing roadway network.

Congested roadway conditions could potentially cause behavioral changes in the mode of transportation used (mode shift) and in the total number of daily trips taken by individuals. More specifically, the assumption is that people would shift to mass transit, bicycling or walking, or eliminate trips altogether. If realized, this could reduce future congestion and perhaps lessen, delay or even eliminate the need for certain improvement projects. This concept should be considered, along with other Travel Demand Management (TDM) strategies, as viable methods to reduce single occupancy vehicle use and increase system-wide efficiencies. Accordingly, the internal technical committee overseeing the development of the travel demand model changed the Level of Service (LOS) rating from C to D for acceptable levels of congestion in urban areas (the national standard is typically LOS C). By lowering the LOS standard to D, fewer roads exhibited poor ratings and thus the number of locations identified as congested or problematic was also reduced.

Vehicular Transportation Demands (cont.)

It is important to note that even with these assumptions in transportation elasticities and the change in acceptable LOS rating, future increases in travel demand will still necessitate network improvements and network modifications. For example, if public transportation's share of person trips (which was 3% in 2000) doubles over the next 30 years, the elasticity of transportation improvements suggests that a four-fold increase in capital equipment (and a corresponding increase in operational expenses) would be required. Put another way, if public transit services were doubled, there would be an increase in ridership of about 50%, up to nearly 4.5% of total trips. Nevertheless, it is fair to assume that any growth in ridership would require transportation improvements, and that even if ridership doubles through mode shifts, this alone will not have a major impact on the market share of auto trips. From the perspective of auto trips, if the transit mode split goes from 3% to 5%, the best case scenario would result in a reduction in auto trips from 97% to 95% of total trips.

Despite the LOS assumptions outlined above and the potential for significant mode shift, it is still reasonable to assume that the majority of trips will continue to be made in personal automobiles in the future. The Future Needs Plan should provide guidance for enhancing opportunities for alternative modes of transportation as much as possible, while providing key capacity expansion improvements to the roadway network.

The concentration of students on the IU campus makes it a key service area for transit, but also has a major impact on traffic congestion in the vicinity.

Highway Transportation Problems

Before identifying existing and future transportation problems, the base year transportation network from the year 2000 was updated in the Travel Demand Model to reflect completed transportation projects. Next, the network was modified to include committed transportation improvement projects based on the Transportation Improvement Program (TIP) for the Bloomington/Monroe County MPO for Fiscal Years 2000 through 2008. This modified network is termed the Existing Plus Committed (E+C), or the "No Build" highway network. This is the transportation system condition that would exist if no new major transportation projects were implemented in addition to those already programmed. The E+C Network incorporates transportation improvements that are realistically anticipated to be completed in the immediate future, that will be fully funded before new improvement projects are identified, and that will not be second-guessed in the development of the future transportation plan. A detailed review of the E+C Network is provided in Appendix C: Alternatives Analysis.

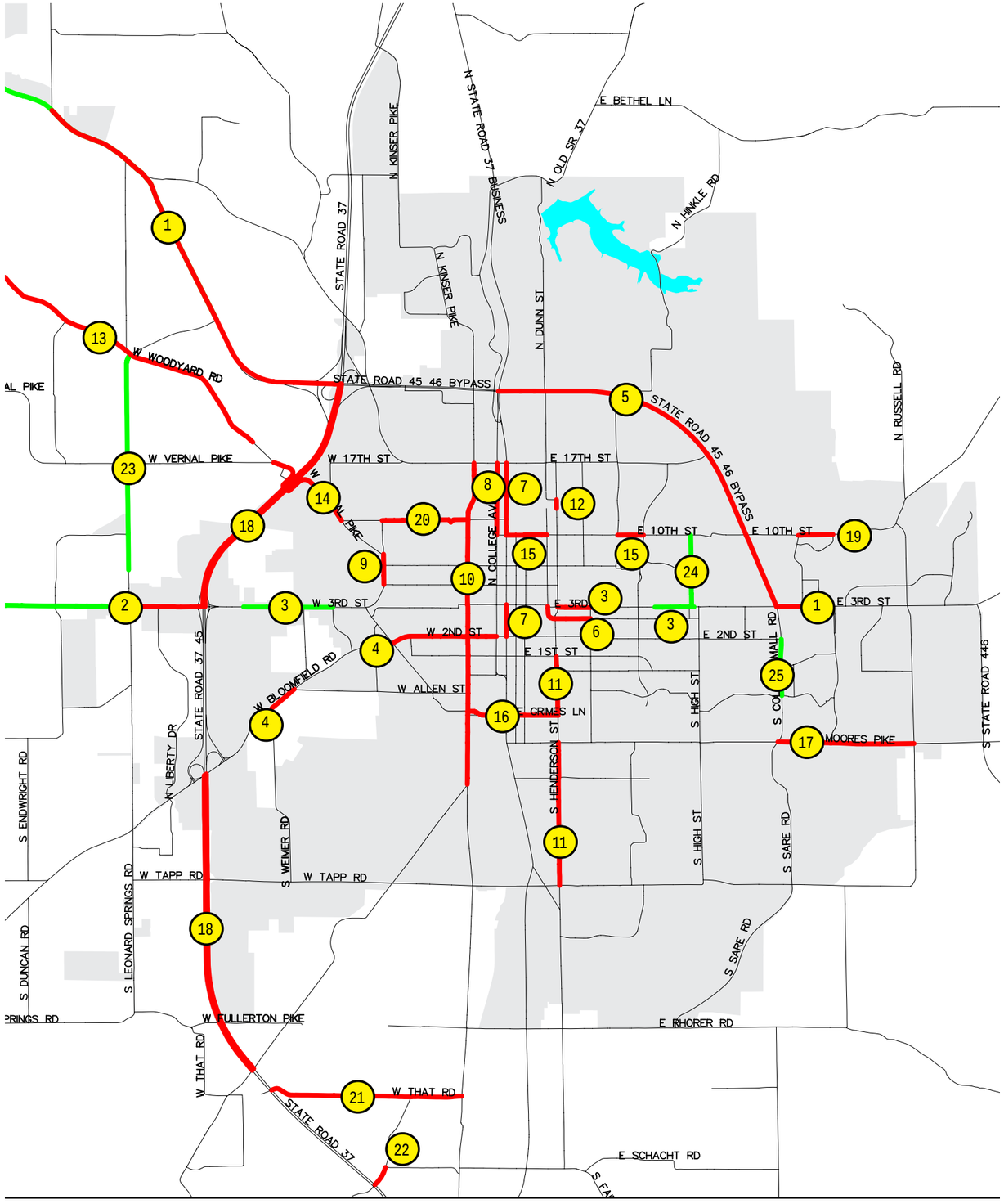
The first step in the analysis was to apply existing traffic to the 2000 Base Year Network, highlighting current traffic problems. Next, 2035 traffic projections were applied to the E+C Network to determine how existing traffic problems were affected over the 25 year time horizon of the Plan. The following list summarizes how existing traffic problems on the Base Year Network were affected when committed projects and 2035 traffic projections were applied. It also notes any new congested areas that appeared on the 2035 E+C Network. More detail on this process is provided in Appendix C: Alternatives Analysis. A map of the congested facilities is provided in Figure 3-1.

- State Road 46: Matthews Street to Hunter Lane improved; Union Valley Road to Smith Pike still congested
- Hunter Lane: Arlington Road to State Road 37 improved due to ramp closure
- State Road 48: Hartstrait Road to Hickory Drive improved; Gates Drive to State Road 37 still congested
- 3rd Street: Kimble Drive to Landmark Avenue improved; Union Street to Mitchell Street improved; Woodlawn Avenue to Indiana Avenue now congested
- Hartstrait Road: State Road 48 to Woodyard Road improved, but still potentially congested
- Curry Pike: Jonathan Drive to Woodyard Road improved
- Union Street: 3rd Street to 10th Street improved
- College Mall Road: 2nd Street to Covenanter Drive improved
- Bloomfield Road: Increased congestion Patterson Drive to Rogers Street; New congestion Weimer Road to Allen Street and Rogers Street to College Avenue
- State Road 45/46 Bypass: Business 37 (Walnut Street) to 3rd Street at College Mall Road attracts traffic after widening project, maintains high level of congestion
- Atwater Avenue: Continued congestion 3rd Street to Henderson Street; New congestion Henderson Street to Woodlawn Avenue

Highway Transportation Problems (cont.)

- Walnut Street: Increased congestion 10th Street to 17th Street; Potential new congestion 2nd Street to 3rd Street
- College Avenue: Increased congestion 10th Street to 11th Street; New congestion 11th Street to 17th Street
- Adams Street: Increased congestion Kirkwood Avenue to Vernal Pike
- Rogers Street: Increased congestion 2nd Street to Kirkwood Avenue; New congestion Rockport Road to 17th Street
- Henderson Street: Increased congestion Winslow Road to Hillside Drive; New congestion Grimes Lane to 1st Street
- Indiana Avenue: Increased congestion 12th Street to 13th Street
- Woodyard Road: Increased congestion Smith Road to Vernal Pike; New congestion Thomas Road to Vernal Pike
- Vernal Pike: Congestion expands to include Woodyard Road to 11th Street
- 10th Street: Congestion continues Walnut Street to Dunn Street and Fee Lane to Jordan Avenue
- Grimes Lane: Increased congestion Walnut Street to Henderson Street; New congestion Rogers Street to Walnut Street
- Moores Pike: Increased congestion College Mall Road to Smith Road
- State Road 37: Continued congestion Rockport Road to State Road 45 and State Road 48 to State Road 45/46 Bypass due to traffic signals
- State Road 45: Continued congestion Pete Ellis Drive to John Hinkle Place
- State Road 46: Continued congestion Owen County Line to Maple Grove Road, Smith Pike to Arlington Road, westbound through interchange at State Road 37 due to traffic signal, and College Mall Road to Pete Ellis Drive
- State Road 48: Continued congestion Curry Pike to State Road 37
- 11th Street: New congestion Adams Street to Rogers Street
- That Road: New congestion State Road 37 to Rogers Street
- Victor Pike: New congestion State Road 37 to Church Road

Figure 3-1: Major Traffic Problems (E+C) for the Year 2035



Legend

Map Features:

- Congested Facility
- Improved Facility
- Lake
- Urbanized Area

1. **SR 46** – from Owen County Line to SR 37 and from College Mall Rd to Pete Ellis Dr
2. **SR 48** – from Curry Pike to SR 37 and from Hartstrait Rd to Hickory Dr
3. **3rd St.** – from Woodlawn Ave to Indiana Ave, from Kimble Dr to Landmark Ave, and from Union St to Mitchell St
4. **2nd St./Bloomfield Rd.** – from Patterson Dr to College Ave and Weimer Rd to Allen St
5. **SR 45/46 Bypass** - from Walnut St to 3rd St
6. **Atwater Ave.** – from 3rd Street to Woodlawn Ave
7. **Walnut St.** – from 10th St to 17th St and from 2nd St to 3rd St
8. **College Ave.** – from 10th St to 17th St
9. **Adams St.** – from Kirkwood Avenue to Vernal Pike
10. **Rogers St.** – from Rockport Rd to 17th St
11. **Henderson St.** – from Winslow Rd to Hillside Dr and from Grimes Ln to 1st St
12. **Indiana Ave.** – from 12th St to 13th St
13. **Woodyard Rd.** – from Thomas Rd to Vernal Pike
14. **Vernal Pike** – from Woodyard Rd to 11th St
15. **10th St.** – from Walnut St to Dunn St and from Fee Ln to Jordan Ave
16. **Grimes Ln.** – from Rogers St to Henderson St
17. **Moores Pike** – from College Mall Rd to Smith Rd
18. **SR 37** – from Rockport Rd to SR 45 and from SR 48 to SR 45/46 Bypass
19. **SR 45** – from Pete Ellis Dr to John Hinkle Pl
20. **11th St.** – from Adams St to Rogers St
21. **That Rd.** – from SR 37 and Rogers St
22. **Victor Pike** – from SR 37 to Church Ln
23. **Curry Pike** – from Jonathan Dr to Woodyard Rd
24. **Union St.** – from 3rd St to 10th St
25. **College Mall Rd.** – from 2nd St to Covenanter Dr

Analysis of the model results suggests that even with the completion of the transportation projects included in the E+C Network, there will be relatively few improvements (and numerous problems) realized by the year 2035. In general, the following observations summarize the results of modeling 2035 traffic projections on the E+C Network:

- Several arterial roadways experience serious congestion problems (traffic flow failures during peak hours) with year 2000 traffic volumes;
- Nearly one-third of travel in the year 2035 will be on facilities with LOS E or worse if no new major investments are made to expand the capacity of the transportation system;
- The magnitude of several key existing and future capacity deficiencies cannot be addressed by actions involving lower-cost capital investments (such as intersection improvements, signalization improvements or other transportation system management actions) nor by the expansion of alternative modes (transit, bicycle and pedestrian) alone;
- The capacity deficiencies in the year 2035 focus mainly on the arterial and collector roads within the Metropolitan Planning Area (MPA); and
- There are significant deficiencies in the City of Bloomington, Town of Ellettsville, and portions of Monroe County.

Taken together, these observations indicate that a “No Build” approach to future transportation improvements would not offset the expected impacts of future growth. While the urbanized areas accept LOS D for the arterial system, many locations within urbanized corridors in the year 2035 would be worse than LOS D. In addition to "capacity preservation" actions and improvements to alternative transportation modes, the future transportation plan must include new major investments that expand the capacity of the roadway system.

The intersection of Country Club Drive and Rogers Street has significant congestion issues, and is slated for reconstruction to add left turn lanes in all directions.

Public Transit

Bloomington Public Transportation Corporation (BPTC), Indiana University Campus Bus, and Rural Transit are the three public transportation service providers that operate within Monroe County. The Bloomington Public Transportation Corporation (BPTC), known as Bloomington Transit, provides public transportation services exclusively within the Bloomington corporate limits. Indiana University Campus Bus primarily serves student transportation needs on the Indiana University campus. Rural Transit is a service operated by the Area 10 Agency on Aging serving transportation needs primarily within Monroe County with service also provided to Owen and Lawrence counties.

The community benefits from investment in these services in a number of ways, including:

- Quality alternative transportation opportunities;
- Reduced traffic congestion;
- Reduced noise and air pollution;
- Reduced demand for parking; and
- Improved quality of life.

Bloomington Transit Profile

Fixed route service operates on nine numbered routes serving most areas of Bloomington (see Figure 3-2). Days of service, span of service hours, and frequency vary by route (see Table 3-4). The route structure currently includes five radial routes which operate in a hub and spoke fashion from downtown Bloomington, three campus-oriented routes, and one cross-town local route. Radial routes are interlocked, with downtown serving as the mid-point for the route. A downtown transfer facility is provided whereby passengers can make convenient transfers between routes.

Bloomington Transit has equipped all of its buses with bike racks to provide increased convenience for riders.

FIGURE 3-2: BLOOMINGTON TRANSIT SYSTEM MAP

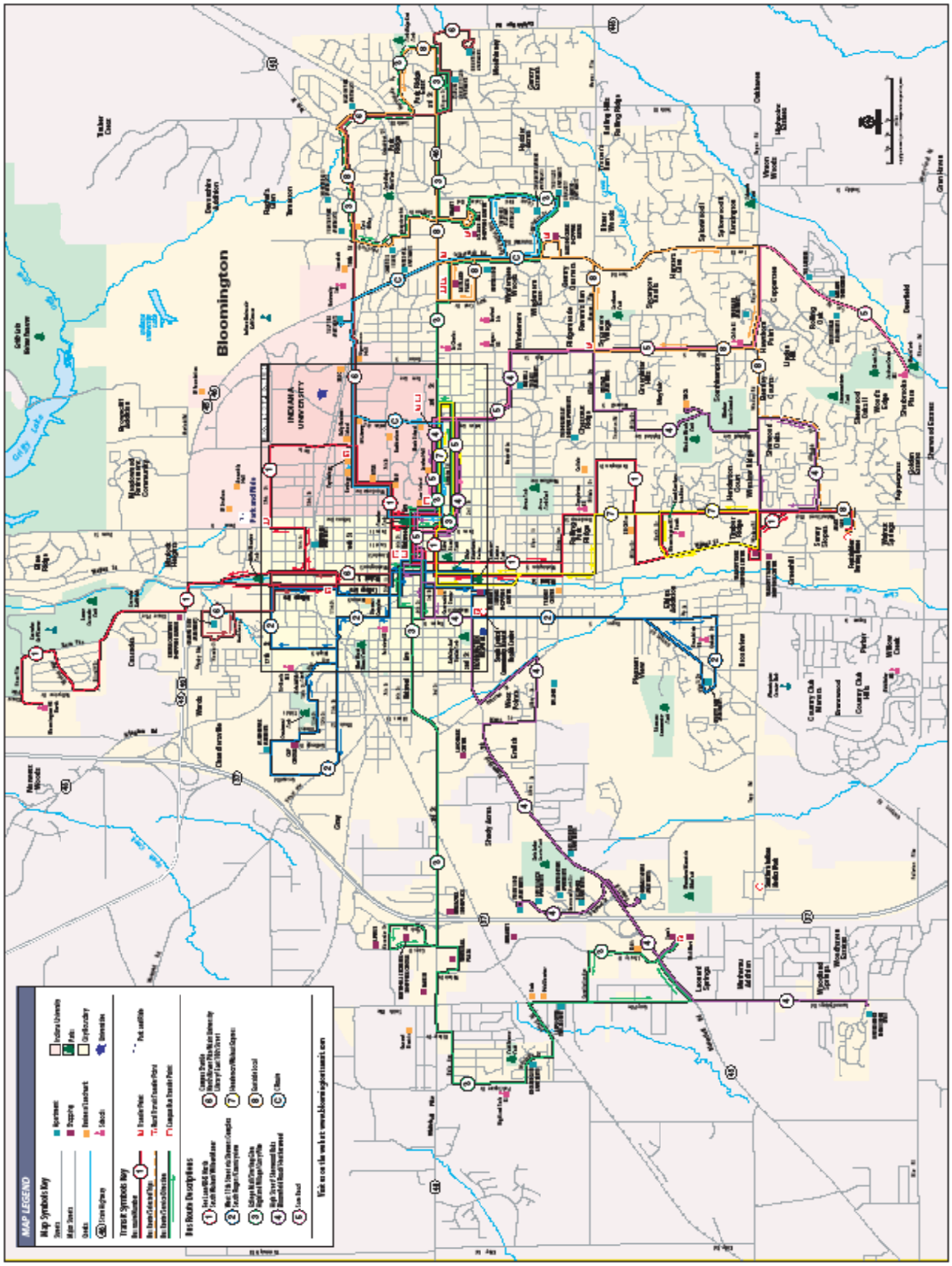


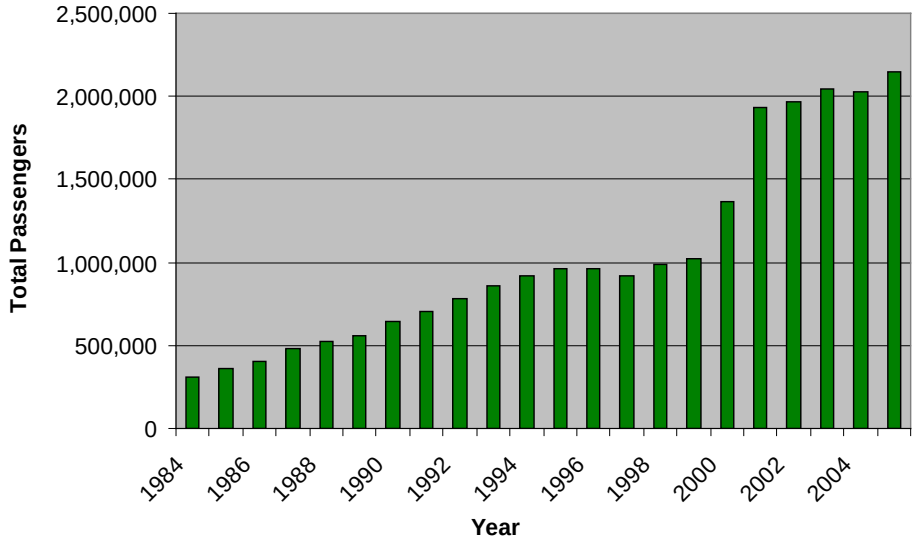
TABLE 3-4: BLOOMINGTON TRANSIT DAYS OF SERVICE, SERVICE SPAN, AND FREQUENCIES BY ROUTE

BT Route	Service Span			Frequency				Route Structure Type
	Weekday	Saturday	Sunday	Weekday	Weeknight	Saturday	Sunday	
1 Fee Lane/ BHSN	6:35am-9:35pm	7:35am-6:35pm	---	60	60	60	---	Radial
1 S. Walnut/Arbor Glen	6:35am-9:07pm	7:35am-6:35pm	---	30	60	60	---	Radial
2 W. 11th St/Showers	6:19am-8:36pm	8:30am-6:36pm	---	30	60	60	---	Radial
2 Hospital/Countryview	6:21am-8:51pm	7:51am-6:51pm	---	30	60	60	---	Radial
3 College Mall/Sterling Glen	6:35am-9:33pm	7:35am-7:03pm	---	30	30	30	---	Radial
3 Highland Village/Curry Pike	6:08am-8:38pm	7:38am-7:06pm	---	30	60	60	---	Radial
4 Bloomfield Road	6:40am-8:50pm	6:35am-8:35pm	---	60	60	60	---	Radial
4 High St/Sherwood Oaks	6:35am-8:35pm	8:10am-6:27pm	---	60	60	60	---	Radial
5 Sare Road	7:15am-8:00pm	8:15am-7:00pm	---	60	60	60	---	Radial
6 Campus Shuttle	6:50am-12:30am	7:30am-7:30pm	9:30am-9:30pm	20	60	60	60	Campus-oriented
6 Campus Shuttle - Summer & Breaks	7:30am-9:30pm	7:30am-7:30pm	9:30am-9:30pm	20	60	60	60	Campus-oriented
7 Henderson/Walnut Express	7:00am-9:30pm	---	---	15-20	30	---	---	Campus-oriented
7 Henderson/Walnut Express - Summer & Breaks	---	---	---	---	---	---	---	Campus-oriented
8 Eastside Local	8:30am-7:00pm	8:30am-7:00pm	---	60	60	60	---	Crosstown
C Route	7:25am-12:05am	8:30am-11:10pm	10:30am-11:10pm	5-15	40	40	40	Campus-oriented
C Route - Summer & Breaks	7:10am-11:10pm	9:30am-6:10pm	---	40	40	40	---	Campus-oriented

Fares on Bloomington Transit's fixed route service have remained relatively inexpensive. Adult base fare is 75 cents, with $25 monthly passes. Reduced fares for seniors and persons with disabilities are 35 cents, with $12 monthly passes. IU students board Bloomington Transit buses upon presentation of their student ID card. These students pay a mandatory transportation fee to the University, part of which is used to purchase universal access on Bloomington Transit services year-round. Fares on Bloomington Transit fixed route service have remained unchanged since 1996.

Fixed route ridership has grown dramatically since 1984. Ridership reached the one million passenger mark for the first time ever in 1999. On the heels of this milestone, fixed route ridership jumped significantly in 2000 to 1.37 million passenger trips with the advent of the Bloomington Transit/IU universal access partnership. Continuing the success, fixed route ridership grew to 2.04 million in 2003, another all-time high. This was a 100 percent increase in just four years. By 2005, another an all-time high was set with 2.15 million passengers carried. Fixed route ridership has increased almost seven-fold from just over 300,000 in 1984 to 2.15 million in 2005 (see Figure 3-3).

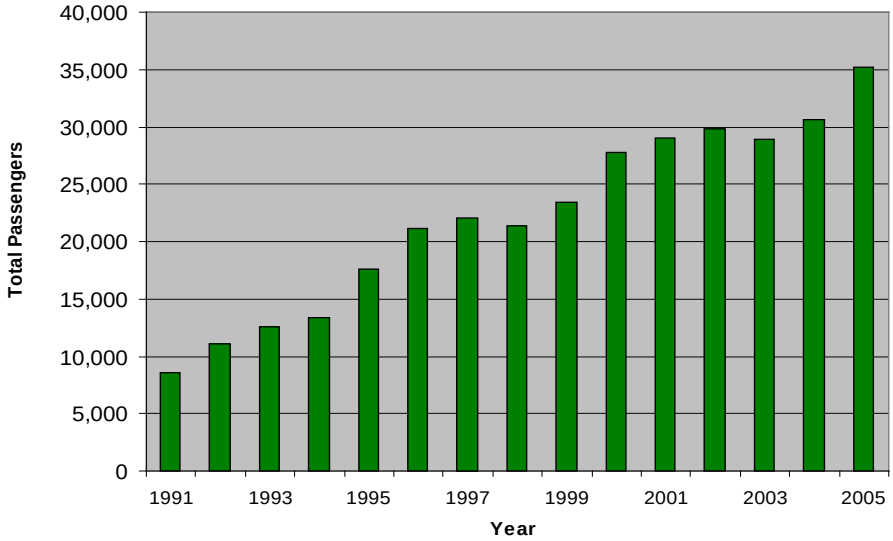
FIGURE 3-3: ANNUAL FIXED ROUTE RIDERSHIP 1984 - 2005



Bloomington Transit also operates a curb-to-curb transportation service for persons with disabilities, known as BT Access service. BT Access provides vital mobility for persons with disabilities who cannot use regular fixed route service due to the nature of their disability. BT Access operates days and hours comparable to those that the fixed route service operates. The BT Access service area includes the entire city of Bloomington during weekdays. The service area is more limited on weeknights and weekends to include all areas within ¾ mile of fixed routes operating during those days and times. BT Access fare is $1.50 per one-way trip and has remained unchanged since 1996.

BT Access ridership has grown more than three-fold in the period from 1991 to 2005 (see Figure 3-4) as persons with disabilities continue to become more independent and self-sufficient. Contributing to the growth in BT Access ridership in recent years has been the trend in relocating persons with disabilities to independent living situations. BT Access is used by eligible riders to access employment, education, health care services, shopping, and recreational activities.

FIGURE 3-4: ANNUAL BT ACCESS RIDERSHIP 1991 – 2005



Facilities and Equipment

The current fixed route fleet consists of 36 vehicles of four different sizes, including vehicles 25, 30, 35 and 40 feet in length. Seating capacity varies from 20 passengers to 40 passengers per vehicle. Average fleet age is 6.89 years and has been decreasing since 2002. Half of the fleet is 2001 model year or younger. All vehicles in the Bloomington Transit fleet are air-conditioned and equipped with bicycle racks that hold up to 2 bikes, two-way radios, and GPS vehicle locator systems. The fleet are fully accessible to persons with disabilities including persons in wheelchairs. Sixteen of the fleet vehicles feature new low-floor technology which helps speed passenger boarding/alighting and helps reduce reliability problems due to wheelchair lifts.

In 2005, Bloomington Transit began using soy biodiesel in its entire vehicle fleet. Soy biodiesel is a blend of soy methyl ester with regular diesel fuel. Bloomington Transit is using a B20 blend which has 20 percent soy methyl ester and 80 percent diesel. The use of this alternative fuel has led to reduced emissions generated by buses. Moreover, soy methyl ester is a homegrown, renewable resource that provides support for local agriculture and promotes less dependence on foreign oil.

Additionally in 2005, Bloomington Transit placed its first ever order for two electric hybrid buses. These buses will be delivered to Bloomington Transit in late 2006. Bloomington Transit will also take delivery of an electric hybrid support vehicle in mid-2006. The use of electric hybrid technology by Bloomington Transit will result in reduced emissions and noise generated by buses, improved fuel economy, extended brake life, and smoother acceleration of the vehicle.

Construction of the current Bloomington Transit Operations Facility located on Grimes Lane was completed in 1997. The facility is jointly occupied by both Bloomington Transit and IU Campus Bus with Bloomington Transit owning the facility and IU owning the land. Common elements of the facility that are shared by the two transit entities include vehicle fueling, vehicle cleaning, hydraulic hoist infrastructure, tire changing equipment, administrative offices, employee parking, employee break and locker rooms, and conference rooms. In addition, the two transit entities participate in joint fuel procurement and joint use of two-way radio communications equipment and GPS automatic vehicle locator system network. Such sharing of facilities and equipment has resulted in cost savings for both entities since the inception of the joint facility. The facility is designed to adequately store and operate about 60 buses. The current combined fleet for both entities has reached the 60-bus threshold. Significant future expansion of transit services for one or both entities will necessitate expansion of the facility to store and maintain vehicles, and administer bus operations.

Fundamental to daily passenger service is the Bloomington Transit downtown passenger transfer facility located at 4th Street and Washington Street. It is approximately 700 square feet in size and features a heated indoor waiting area, passenger seating, ceiling fans, employee restrooms, pass and ticket sales window, water fountain, and vending machines. Outdoor amenities include passenger benches, sidewalks, signage, newspaper vending, public telephone, and landscaping. Buses park on the street at curbside on both 4th Street and Washington Street to adequately accommodate six 30-foot buses.

The facility was constructed in 1988 and is reaching its lifespan utility. As Bloomington Transit's service, ridership, and bus size have grown since the facility was constructed, there is an important need to improve the downtown facility. Needed improvements include additional bus parking space to accommodate larger buses, removal of buses from the street to reduce street congestion, wider sidewalks to handle increased pedestrian traffic, sheltered or canopied areas where passengers can board buses, improved signage and passenger information, and additional benches. A current feasibility study funded by the MPO Unified Planning Work Program will guide the development of a new and/or expanded downtown passenger transfer facility that will address many of the current and future needs.

Passenger shelters are another important transit amenity needed to serve passengers waiting for buses. Bloomington Transit currently has thirty passenger shelters with benches located along all routes in various locations in the community. The number of passenger shelters provided by Bloomington Transit has grown steadily in recent years and will continue to increase along all routes. For example, Bloomington Transit will be adding another ten shelters during 2006. Moreover, three artistically-designed shelters will be added to the West 3rd Street corridor upon widening of the roadway which is expected to be completed in the next few years. Continued support and promotion of passenger shelters (e.g. artistically-designed shelters) is an important amenity to implement. Shelters provide a quality service amenity for transit users and can be an effective tool to increase public awareness of public transit.

Intermodal Coordination & Partnerships

Important steps have been taken by the three transit providers to promote intermodal coordination and to develop innovative partnerships. A reciprocal transfer agreement with Rural Transit allows riders on both systems the opportunity to transfer between systems at no additional cost. This is important because Rural Transit provides an important connection for trips originating in Bloomington bound for destinations outside Bloomington city limits. To better facilitate such transfers, Rural Transit vehicles are able to utilize the Bloomington Transit Downtown Passenger Transfer Facility, thus greatly improving the convenience for Rural Transit and Bloomington Transit passengers.

The universal access program was a significant and very successful partnership. Bloomington Transit and IU negotiated this partnership in 2000 whereby IU purchases universal access on all Bloomington Transit services for their students. This partnership has directly resulted in improved mobility and transportation choices for students and increased ridership/revenue for Bloomington Transit. Moreover, the universal access program encourages IU students to use public transportation to get to and from campus each day rather than driving. The program helps reduce traffic congestion and parking demand in and around the IU campus.

Another key step toward intermodal coordination is to create a bicycle-to-bus connection. Bloomington Transit has to equipped all fleet buses with bike racks. This feature has helped to expand the reach of the Bloomington Transit system to people who live at distances not easily walked. People can bike from locations several miles away from the nearest Bloomington Transit bus stop and carry their bike on the bike racks included on each bus. The bike racks hold up to two (2) bikes per bus at a time. Loading and unloading of bikes takes only a few seconds.

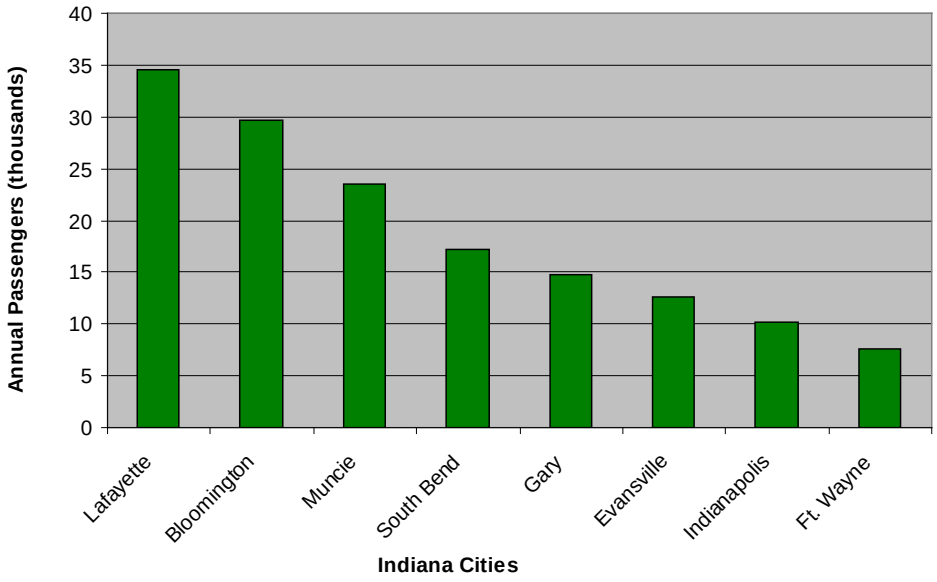
The growth of ridership for persons with disabilities is expected to continue and increase demands on the BT Access program. A partnership with Bloomington Transit and Area 10 Agency on Aging was formed to better service this growing group of transit users. Bloomington Transit manages policy development, customer service and eligibility, reservation intake, and daily passenger scheduling. Daily vehicle operations, provision of vehicles, and fleet maintenance for BT Access service has traditionally been contracted to the Area 10 Agency on Aging who operates the service in accordance with Bloomington Transit policies, procedures, and specifications.

Bloomington Transit staff uses computerized scheduling systems to maintain a customer database and daily scheduling of customers. The BT Access fleet consists of ten vans. Average fleet age is 4.1 years with six of the vehicles being model year 2003 or younger. All BT Access vans are air-conditioned, two-way radio-equipped, and fully accessible to persons with disabilities including persons in wheelchairs.

Bloomington Transit Group Comparison

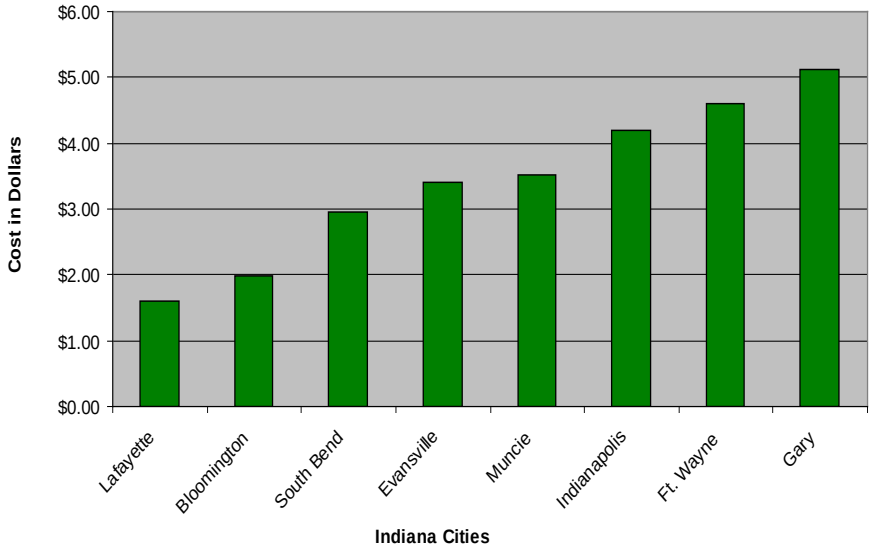
Bloomington Transit performs very well compared to other transit systems within the state of Indiana. Bloomington Transit was second only to Lafayette in the number of annual passengers carried per capita in the State of Indiana in 2004 (see Figure 3-5). Bloomington Transit's annual passenger per capita exceeds several larger urban areas in the State including Indianapolis, Evansville, South Bend, and Fort Wayne.

FIGURE 3-5: ANNUAL PASSENGERS PER CAPITA



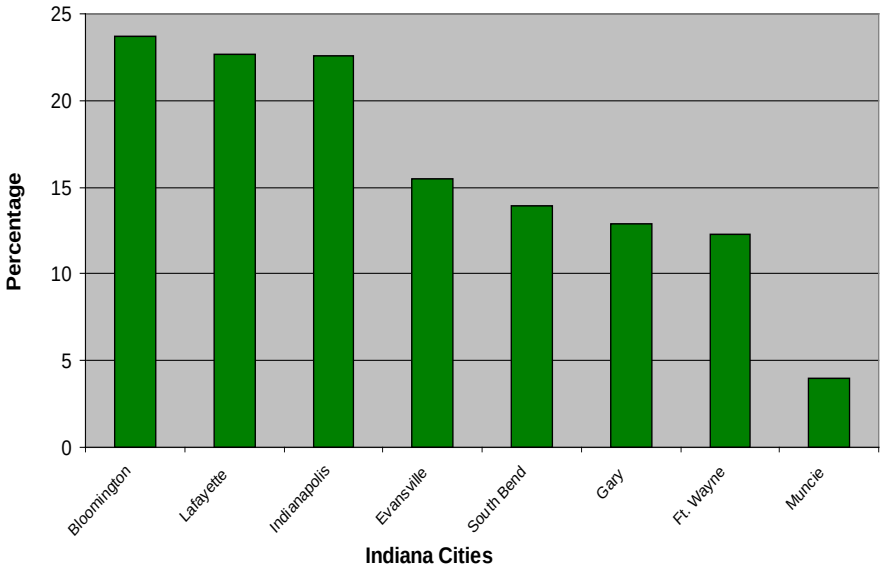
Operating expense per passenger trip on Bloomington Transit is one of the lowest in the State compared to other urban transit systems (see Figure 3-6). In 2004, the cost per passenger trip on Bloomington Transit was $1.98 compared to an average of $3.42 for the group of cities that includes Bloomington, Evansville, Fort Wayne, Gary, Indianapolis, Lafayette, Muncie, and South Bend.

FIGURE 3-6: OPERATING COSTS EXPENSED PER PASSENGER TRIP



In terms of recovering operating costs through passenger fares, Bloomington Transit ranks as one of the very best systems in Indiana (see Figure 3-7). In 2004, BPTC recovered 23.7 percent of its operating cost from passenger fare revenues. The group average for the eight largest transit systems in the State was 16.0 percent in 2004.

FIGURE 3-7: PERCENT OF OPERATING COSTS RECOVERED FROM FARES



INDIANA UNIVERSITY (IU) CAMPUS BUS PROFILE

The Indiana University Campus Bus service is operated as an auxiliary enterprise of Indiana University and primarily serves student-oriented trips between locations on the IU campus. Some select satellite bus service is provided to off-campus locations, in addition to an extensive park and ride service located at the IU Memorial Stadium lot, as well as connections to the BT Downtown Transit Center.

Highlights for Fiscal Year 2006 include:

- In the FY 2006 Transportation Appropriations Bill, the IU Campus Bus Service was awarded $600,000 to conduct improvements to the park and ride facility located at the Indiana University Memorial Stadium parking lot. An additional $1,500,000 in Federal Transit Administration Section 5309 funding will be requested in FY 2007 in order to fully fund all of the proposed facility improvements. The IU Architect's Office has been consulted and has drawn up preliminary plans and estimates to get this project started.
- Proposed improvements to the Memorial Stadium park and ride facility include: realigning entrances to the parking lot with existing street traffic; installing asphalt paving with bumper blocks for parking cars; paving bus traffic lanes with reinforced concrete to handle the heavy weight of fully loaded buses; constructing passenger shelters with restroom facilities for the drivers; and providing other passenger amenities that would make the facility safer and more convenient.

The service operates seven days a week, 7:30 A.M. until midnight. Routes and schedules are reduced during summer and other semester break-periods during the year, and it does not operate on Thanksgiving Day, Christmas Day, and New Years Day. More information on the IU Campus Bus Service can be found at their website (www.iubus.indiana.edu), or by calling (812) 855-8384.

RURAL TRANSIT PROFILE

Rural Transit serves the residents of Monroe, Lawrence and Owen counties. The Area 10 Agency on Aging operates this combination fixed-route and demand-response service. Rural Transit's routes concentrate on the rural areas of Monroe County, outside the city limits of Bloomington, as well as all of Owen and Lawrence counties.

The service begins at the BT Downtown Transit Center in Bloomington and operates from 6:00 A.M. to 9:30 P.M., weekdays only. Transfers from Rural Transit to both the Bloomington Transit and Indiana University Campus Bus Service systems are available free of charge. More information on Rural Transit can be found at their website (www.area10.bloomington.in.us/ruraltransit), or by calling (812) 876-3383.

FUTURE PUBLIC TRANSIT PLANS

Bloomington Transit has enjoyed extraordinary growth in service and ridership over the past 20 years. Growth in ridership and service is expected to continue well into the future. As Bloomington continues to grow, it is essential to plan for the provision of expanded public transportation services that give the traveling public viable alternatives to driving. The 2030 Long Range Transportation Plan identifies a number of Bloomington Transit service and capital improvements necessary over the next 25 years to ensure the provision of mobility options. In this section, a summary of the following future service and capital needs for Bloomington Transit is provided:

- Days of Service;
- Span of Service Hours;
- Frequency of Service;
- Geographic Coverage of Service;
- Crosstown Service;
- Downtown Shuttle/Circulator Service;
- Park and Ride Service;
- BT Access Service;
- Fleet Replacement and Alternative Fuels;
- Facilities;
- Passenger Amenities;
- Advanced Technology;
- Regional Authority; and
- Estimated Costs.

All Bloomington Transit buses are now powered by soy biodiesel, resulting in reduced emissions and cleaner air for the community.

Days of Service

Currently, Bloomington Transit provides service Monday through Saturday on most routes. Sunday transit service is provided only on two Bloomington Transit campus-oriented routes. No service is provided on major holidays such as New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, and Christmas Day. For many people, Sunday has become either a work day, a day of worship, a day of shopping, or a day of recreation. There are few choices for travel on Sunday other than driving given the limited transit service available. Further, holidays such as New Year's Day, Memorial Day, and Independence Day have become major shopping days with many people working on these days in the retail and service industries. Good public transportation services in Bloomington are currently not available on these holidays.

As such, the following guidelines with respect to days of Bloomington Transit service are recommended:

1) Transit service should be provided seven days a week including Sundays on all routes not campus-oriented.
2) Transit service should be provided on holidays that are major shopping days such as New Year's Day, Memorial Day, and Independence Day.

Span of Service Hours

Currently, Bloomington Transit's weekday span of service hours generally ranges from about 6:30 a.m. to 8:30 p.m. on most routes. These hours meet the traveling needs of many people; however, more and more people are working in various jobs and careers that often require work outside the normal 8 a.m. to 5 p.m. hours. Modern lifestyles are often busy requiring travel at all hours of the day for many varying purposes. To be a truly viable alternative to driving, public transportation must provide service that is available over a large segment of the day and night. For Bloomington Transit purposes, guidelines with respect to span of transit service hours are shown Table 3-5, and should be considered for future service improvements.

TABLE 3-5: BLOOMINGTON PUBLIC TRANSPORTATION CORPORATION RECOMMENDED SPAN OF HOURS

Day	Non-Campus Oriented Routes	Campus-Oriented Routes
Weekdays	6:00 am to 11:00 pm	7:00 am to 12 midnight
Saturday	7:00 am to 10:00 pm	8:00 am to 11:00 pm
Sunday	8:00 am to 7:00 pm	9:00 am to 11:00 pm
Shopping Holidays	7:00 am to 10:00 pm	8:00 am to 10:00 pm

Frequency of Service

Currently, frequency of Bloomington Transit service varies by route, by day of the week, and by time of day. Frequency is an important convenience factor. The choice to use public transportation is often made based on how often buses are available. Bloomington Transit services can be made more convenient by improving frequencies. Table 3-6 has recommended frequency of service as another potential method to consider for meeting the traveling needs of the community.

TABLE 3-6: BLOOMINGTON PUBLIC TRANSPORTATION CORPORATION RECOMMENDED FREQUENCY OF SERVICE

Day	Non-Campus Oriented Routes	Campus-Oriented Routes
Weekdays	Every 30 minutes	Every 5-15 minutes
Weeknights	Every 60 minutes	Every 60 minutes
Saturday	Every 30 minutes	Every 60 minutes
Sunday	Every 60 minutes	Every 60 minutes
Shopping Holidays	Every 60 minutes	Every 60 minutes

Geographic Coverage of Service

Currently, most areas of Bloomington have fixed route service available within a ¼ mile walking distance with a few exceptions. As the City further develops and annexes additional area, it will be important to expand Bloomington Transit service into these areas. Areas not currently served and recommended for future transit service include the following by region:

- West – Curry Pike, Bloomfield Road to Alexander Drive;
- West – Whitehall Pike/SR 48 from Hickory to Ivy Tech;
- West – Liberty Drive from Constitution to Whitehall Pike/SR 48;
- Southwest – Tapp Road from Rockport to SR 37;
- Southwest – Adams from Tapp Road to Allen;
- Southwest – Fullerton Pike in the vicinity of SR 37;
- South – Rogers Street from Graham to Rhorer Road;
- South – S. Walnut from Winslow to Rhorer Road;
- East – Smith Road from Hagan to Moores Pike; and
- North – N.Walnut, north of 45/45 Bypass to Gilbert Drive.

Crosstown Service

As Bloomington continues to grow, development often occurs in corridors that are not radially oriented to downtown Bloomington. This creates challenges to improve service because the Bloomington Transit system is largely based on a radial network in which all fixed routes are coordinated to arrive and depart at a central location to help facilitate transfers (e.g. Downtown Transfer Facility). But the transit demands from this new development may be better served with routes that do not utilize the existing radial network. As such, special crosstown transit routes can provide more direct service between origins and destinations outside of downtown. Bloomington Transit currently provides one crosstown route (Route 8) serving the eastside of Bloomington. With development rapidly occurring on Bloomington's west side, more crosstown routes are recommended to provide direct connections between points without having to make a transfer at the downtown station. Similar crosstown routes are recommended in the City's south and southeast areas as they develop further.

Crosstown routes should be overlaid on top of current radial and campus-oriented routes in such a way that transfers can be conveniently coordinated, thus reducing the need for riders to make these transfers at the downtown facility. Crosstown routes generally are not as productive in terms of ridership and cost recovery through passenger fares. As such, special attention should be taken to conserve resources in the design of crosstown routes.

Downtown Shuttle/Circulator Service

Downtown Bloomington is the heart of the community, with a mix of retail and professional businesses, residences, attractions, and amenities that serve the needs of community members and visitors alike. Known for its central Courthouse Square, distinctive shopping destinations, rich diversity of dining choices and accessible transportation links, the downtown prospers as the center of entertainment, cultural, artistic, financial, and governmental activities.

Downtown also serves as the hub of the Bloomington Transit radial route structure. As downtown Bloomington continues to thrive, it will be important to improve the availability of alternative transportation within the downtown area. This can be achieved through the provision of a downtown shuttle/circulator service. Such a service could provide a way to connect multiple destinations for persons coming to downtown. Multimodal linkages could be provided with possible shuttle connections at the downtown transit terminal, the CSX multiuse trail, bus stops for the IU Campus Bus near the Sample Gates and for Rural Transit, park and ride lots in or on the periphery of downtown, and downtown parking garages.

The downtown shuttle not only has the potential for multimodal linkages, but it also has the ability to link key civic destinations throughout the downtown such as City Hall, the County Courthouse, the Justice Building, the Monroe County Library, 3rd Street and Peoples Parks, the Bloomington Convention Center, and the U.S. Post Office. However, linkage possibilities for downtown employees and the growing residential population are high for these previously mentioned uses and key locations as well as with the numerous retail/commercial uses found in the downtown area.

The service should be relatively frequent (at least every 10-15 minutes), operate on weekends and at night, and be well-publicized to be successful and well utilized. However, the operating and capital costs for providing the shuttle/circulator service will be significant. As such, Bloomington Transit should explore the possibility of developing partnerships with other organizations to develop funding sources to help subsidize the operating and capital costs if a downtown shuttle service is provided. Such organizations could include the City, Monroe County, or Downtown Bloomington, Incorporated.

The Downtown transfer center, a 700 square foot facility, is in need of significant expansion in order to meet expected future demand.

Park and Ride/Ridesharing

Park and ride is a popular intermodal transportation concept that is attractive to many users. Park and ride is especially popular with persons who need to make one or more stops as part of their daily commute. For example, a person may need to stop on their way to or from their final destination at several locations to dine, shop, bank, or perform any number of other daily errands or tasks. Using public transportation when such multiple stops or trips are involved is not always convenient or practical. Park and ride provides a person with access to their automobile for necessary multiple stops while providing them with a convenient shuttle to and from their final destination. Ultimately, they could reduce the total distance traveled by automobiles within the community and decrease average daily vehicle counts along road corridors near final destination points.

In Bloomington, park and ride has primarily been used as a way for Indiana University students to park at a parking lot peripheral to the campus and make a short hop trip to campus on a bus. The IU Campus Bus Memorial Stadium park and ride operation has proven to be successful in attracting thousands of daily users as well as providing a practical use for a large parking lot that would otherwise remain empty. Bloomington Transit should explore locations where large underutilized parking facilities could potentially be used for park and ride lots. Important factors to consider for prospective sites would be impact on surrounding neighborhoods, impact on traffic volumes on adjacent streets, adequacy of adjacent streets in terms of width and safety considerations, operating and capital costs, and impact to existing transit service.

The concept of suburban park and ride may also be viable where parking lots in suburban areas can be used by persons coming from locations where public transportation service is not convenient or available. In such instances, a person could drive to a parking lot and board a Bloomington Transit bus to get to their final destination. This concept has potential for both the IU and Ivy Tech student markets as well as for commuters going to work.

Another potential use of suburban park and ride could be to promote carpooling and/or vanpooling. A rideshare matching program could be instituted as a way for persons who have similar trip origins and destinations to carpool and thus reduce the number of single occupant vehicles on roads and streets in the Bloomington and Monroe County area. Carpoolers drive to a park and ride lot where they park their cars and then take a single vehicle to their final destination (either within the MPO planning area and Monroe County or to other long-distance locations). Vanpooling programs have been successfully used in other urban areas. The program offers a group of commuters who have similar trip origins and destinations the opportunity to form a vanpool. Costs to lease and operate a van are shared between the users. Vanpools can use park and ride lots or they can be used to pickup and drop-off users directly from/to their trip origin/destinations.

Bloomington Transit should explore the concept of suburban park and ride lots to determine their viability in encouraging the use of public transportation. In addition, the MPO should explore or designate a participant organization to explore the viability of community or regional ridesharing program to partner with Bloomington Transit in future development of suburban park and ride facilities.

Passenger Amenities

An important element in good public transportation service is the provision of passenger amenities to enhance comfort, convenience, and security. Amenities can be provided at a bus stop, a downtown transit facility, or onboard the bus. Popular amenities that promote usage of public transportation at typical bus stops include shelters, benches, trash receptacles, signage, and information. Amenities that are commonly found at downtown transfer facilities include heated and air-conditioned indoor waiting areas, seating, video and audio surveillance, bicycle racks and lockers, vending machines, lighting, trash receptacles, extensive informational signage, wide sidewalks, outdoor canopied boarding areas, landscaping, and public telephones. Amenities most commonly found onboard transit buses include heating and air conditioning, comfortable seating, electronic fare collection, public address systems, video and audio surveillance, wheelchair accessible features, onboard and printed information including bilingual information, more visible and readable bus destination signage, a low floor feature whereby there are fewer steps for boarding and alighting passengers, a bus kneeler feature whereby the bus can be lowered a few inches to facilitate boarding and alighting for the elderly and persons with disabilities, and safety equipment. Bloomington Transit should expand the provision of all of the above-mentioned passenger amenities at bus stops, downtown facilities, and onboard buses to help promote and encourage transit use.

Fleet Replacement, Alternative Fuels, and Advanced Technology

Newer vehicles that feature modern technologies have been introduced into the Bloomington Transit transit fleet in greater numbers in the past five years. These vehicles feature reduced emissions and noise, improved fuel economy, improved reliability, improved accessibility for persons with disabilities, greater passenger comforts, improved maneuverability, the use of alternative fuels, and greater use of advanced technology.

Heavy-duty transit buses have a lifespan of 12 years. Light and medium duty vehicles have lifespans of 5 and 10 years, respectively. It is important that Bloomington Transit continue to replace its fleet according to the prescribed duty cycles. In this manner, Bloomington Transit can ensure the best possible level of fleet reliability and cost efficiency. Moreover, Bloomington Transit should continue to research, test and when practical use emerging technologies in the field of alternative fuels so as to reduce emissions and noise, conserve natural resources, and promote advancement of such new technology. In some cases, the use of new propulsion and alternative fuel technologies comes at considerably higher financial costs. Bloomington Transit should prudently evaluate the operating and capital costs to ensure return on increased investment in any alternative fuel technology. Such return on investment includes considerations with regard to operating and capital cost efficiency, vehicle reliability, public safety, and improving the natural environment.

Other advanced technologies are rapidly affecting the public transportation industry such as GPS vehicle locator systems and their application to next bus information, advanced developments in paratransit scheduling software, internet and web-based technologies, fare collection technology, communications technology, and safety/security enhancements. There is great potential to apply new advanced technologies to improving the efficiency, effectiveness, flow of information, and user friendliness of public transportation. Bloomington Transit should also prudently evaluate the operating and capital costs of advanced technologies to ensure return on investment in such technology.

Hybrid electric buses will begin to join the Bloomington Transit fleet in the future, reinforcing Bloomington Transit's commitment to environmental responsibility.

Facilities

As public transportation services are expanded in the Bloomington area, it will be important to match the growth of services with any needed expansion in facilities. Such facilities most notably would include the Grimes Lane operations facility and the downtown passenger transfer facility.

As mentioned previously, the Grimes Lane facility is near capacity in terms of the number of buses that can be efficiently stored and operated in and from the facility. Significant fleet expansion will necessitate expansion of the Grimes Lane facility. Significant expansion in the number of downtown-oriented bus routes would necessitate the expansion and/or improvement of the downtown passenger transfer facility.

As crosstown and/or suburban services grow, Bloomington Transit should explore the possibility of suburban or outlying passenger facilities. For example, an east or west side transfer facility could be provided at a key location(s) where several transit routes intersect. Such facilities should be more modest in nature compared to the downtown facility.

BT Access Service

In accordance with the Americans with Disabilities Act of 1990 (ADA), paratransit service (known as BT Access) must be comparable to fixed route service in terms of days and hours of service, service area, fares, and capacity constraints. Under existing Bloomington Transit policy, the one area in which BT Access goes beyond the ADA is in the service area. In recent years, BT Access ridership is growing at rates faster than fixed route service. Given that BT Access service consumes about 10 percent of the operating budget compared to producing only 1.5 percent of the total system ridership, it may be necessary to reduce the BT Access service area in the future to that prescribed by the ADA. Persons with disabilities who are capable of using fixed route service should always use fixed route service when conditions permit. Bloomington Transit should develop and pursue strategies to help ensure strict eligibility determinations. Bloomington Transit should continue to employ travel training as a means to encourage and train persons with disabilities who are currently using BT Access to use fixed route service instead.

High quality BT Access service should continue to be provided by Bloomington Transit. This includes timely replacement of BT Access vehicles, high quality eligibility and scheduling tools, efficient and effective routing of vehicles, and service that meets all the parameters of the ADA.

Regional Authority

In the Bloomington area, there are three transit entities including Bloomington Transit, IU Campus Bus, and Rural Transit. All three entities tap Federal funding for capital and/or operating assistance. All three entities have their own policy-making bodies. Reasonably good coordination of service and programs currently exists between the three entities. Examples of such coordination include the shared operating facility between Bloomington Transit and IU Campus Bus, the universal access partnership agreement between Bloomington Transit and IU, and the reciprocal transfer agreement between Bloomington Transit and Rural Transit.

There may be potential for realizing further efficiencies through the development of an over-arching regional transit authority. Such authority could, in its least form, develop policy and decision-making for the distribution of Federal funding resources. In its greatest form, a regional authority might develop policy and decision-making for the provision of services. There are significant issues and gaps in State enabling legislation for regional transit authorities. One of the more notable issues is the lack of dedicated funding for regional public transportation.

Bloomington Transit lacks State authority to provide services outside the Bloomington jurisdictional boundaries unless substantive conditions are met. Often these conditions effectively negate the possibility of such services being provided. This serves as an impediment to Bloomington Transit in the possibility of providing intrastate, intra-regional, or even intra-county transit services. Bloomington Transit should pursue legislative efforts to overcome the existing barriers to development of regional transit authorities.

Bus stop shelters provide protection from the elements for passengers waiting for the next bus to arrive.

Estimated Costs

Bloomington Transit estimated annual operating costs and one-time capital costs for each of the service expansion scenarios discussed previously are shown in Table 3-7. These dollar figures are helpful for future evaluation of these scenarios and can be used to compare with market trends/demands, available funding, and other elements to consider for implementation. A summary of capital costs for the replacement of the existing fixed route bus fleet with and without electric hybrid propulsion for the year 2006 and projected to the year 2030 is included in Table 3-8. This table provides a useful comparison of replacement capital costs for conventional and hybrid propulsion systems. Although the hybrid propulsion system is considerably more expensive (2006 dollars), costs for new emerging technologies, like hybrid propulsion, usually decline over time as they become commonplace. Bloomington Transit has purchased two hybrid buses for 2006 and will continue to evaluate emerging propulsion systems for capital fleet replacements. It is expected that these cost projections will become similar as fuel costs are expected to increase and hybrid propulsion costs are expected decline over time. Finally, a summary of other capital project costs for the year 2006 and projected to the year 2030 is included in Table 3-9.

Table 3-7: Bloomington Transit Summary of Annual Operating Costs for Service Improvements

Service Expansion Scenario	Annual Operating Cost (2006 Dollars)	One-Time Capital Cost (2006 Dollars)
Sunday Service – Most Routes	$402,480	$0
Major Holiday Service – Most Routes	$29,340	$0
Weeknight Service Extension to 11 p.m. – All Routes	$322,218	$0
Weekday Early Morning Service Starting 6 a.m. – All Routes	$230,724	$0
Weekday Frequency of 30 Minutes – All Routes	$994,500	$1,375,000
Saturday Earlier Morning Service Starting 7 a.m. – Most Routes	$33,321	$0
Saturday Frequency of 30 Minutes – Most Routes	$336,960	$0
Saturday Later Night Service to 10 p.m. – Most Routes	$102,680	$0
Expanded Geographic Coverage – New Service in 10 Corridors	$2,038,009	$1,375,000
Crosstown Service – New Service in 3 corridors	$1,436,280	$1,100,000
Downtown Shuttle Service – 1 New Circulator Route	$316,140	$275,000
Park and Ride Shuttle Service – 1 New Park & Ride Route	$520,200	$550,000
BT Access Ridership Growth – Doubling Current Demand	$923,000	$360,000
50 Additional Passenger Shelters	$25,000	$250,000

TABLE 3-8: BLOOMINGTON TRANSIT SUMMARY OF EXISTING FLEET REPLACEMENT COSTS WITH AND WITHOUT ELECTRIC HYBRID PROPULSION (2006 DOLLARS)

Project	2006 -2010	2011 -2015	2016 -2020	2021 -2025	2026 -2030	TOTAL
Existing Fixed Route Fleet Replacement Schedule with Diesel Propulsion	$4,735,000	$2,870,000	$3,695,000	$2,595,000	$4,245,000	$18,140,000
Existing Fixed Route Fleet Replacement Schedule with Electric Hybrid Propulsion	$7,410,000	$4,500,000	$5,790,000	$4,070,000	$6,650,000	$28,520,000

TABLE 3-9: BLOOMINGTON TRANSIT SUMMARY OF OTHER CAPITAL COSTS (2006 DOLLARS)

Project	2006 -2010	2011 -2015	2016 -2020	2021 -2025	2026 -2030	TOTAL
New/Expanded Downtown Transfer Facility	$5,000,000					$5,000,000
Expanded Grimes Lane Operations Facility		$3,000,000				$3,000,000
Security and Surveillance Systems	$300,000		$300,000		$300,000	$900,000
Automatic Vehicle Locator and Radio Communications System with Next Bus Information	$350,000		$350,000		$350,000	$1,050,000
Paratransit Scheduling Systems	$75,000	$75,000	$75,000	$75,000	$75,000	$375,000
Fare Collection Technology	$350,000		$350,000		$350,000	$1,050,000
BT Access Vehicle Replacement	$320,000	$400,000	$400,000	$400,000	$400,000	$1,920,000
BT Access Vehicle Expansion	$200,000	$200,000	$200,000	$200,000	$200,000	$1,000,000
Support Vehicle Replacement	$100,000	$70,000	$130,000	$70,000	$130,000	$500,000
Engine/Transmission Replacement	$500,000	$500,000	$500,000	$500,000	$500,000	$2,500,000
TOTAL (By Phase)	$7,195,000	$4,245,000	$2,305,000	$1,245,000	$2,305,000	$17,295,000

Alternative Transportation

Alternative transportation, particularly in the forms of bicycling and walking, is a demonstrated priority of the citizens and policy makers throughout the communities served by the MPO. The merits of alternative transportation are numerous and include:

- improvement to the community's quality of life through traffic reduction;
- promotion of exercise and healthier living;
- commitment to environmental stewardship; and
- improvement to the community's overall sustainability and welfare.

These acknowledged benefits have elevated the importance of alternative transportation in the community, especially in the recent past.

One of the most important benefits of an alternative transportation and greenways system is to minimize the use of cars. It is difficult, if not impossible, for the traffic capacity of the street network to keep up with increases in traffic as the community grows. This has resulted in increasing road maintenance costs, construction of new and wider roads, traffic congestion, driver frustration, longer commute times, and increased use of nonrenewable energy resources. The communities served by the MPO have embraced and expanded opportunities and facilities for alternative transportation. The following initiatives have been undertaken recently:

- Development and adoption of the Bloomington Alternative Transportation and Greenways System Plan (the Bloomington Plan);
- Allocation of $500,000 annually by the City of Bloomington for development of alternative transportation facilities as outlined in the Bloomington Plan;
- Development of the Monroe County Alternative Transportation and Greenways System Plan (the Monroe County Plan);
- Construction of 15 miles of multi-use/bicycle paths and trails in the City of Bloomington;
- Development of 8 miles of bike lanes in the City of Bloomington;
- Identification of 11 miles of signed bike routes in the City of Bloomington;
- Expansion of bicycle parking opportunities in the downtown area of Bloomington and other key destinations;
- Coordination with Bloomington Transit resulting in the installation of bike racks on all buses;
- Designation of the City of Bloomington as a "Bicycle Friendly Community" by the League of American Bicyclists;
- Development of the Bloomington Bicycle Map that identifies bike routes, bike lanes, multi-use trails, Indiana laws related to bicycling, and other safety and health information;
- Organization of bicycle events including the Hoosier Hills bike ride, the Hilly Hundred bike ride, the Little 500 collegiate intramural race, Bloomington Bikes Week, various bicycle rodeos held at schools, and other events that incorporate bicycling and alternative transportation as a theme of importance.

These local efforts are intended to go well beyond satisfying the recreational needs of the community. They are meant to provide sensible opportunities to those who wish to use alternative transportation as their preferred means of travel for local trips. They are also meant to sensitize both users and nonusers of alternative transportation to its benefits, local opportunities, and proper usage of facilities.

The 2035 Long Range Transportation Plan incorporates the recommendations of the Bloomington and Monroe County Alternative Transportation and Greenways System Plans. These Plans reflect the proposed program of improvements for the respective communities, and should be the primary source of guidance for any road or alternative transportation project proposed as part of the 2035 Long Range Transportation Plan. More specifically, Monroe County prioritizes the completion of alternative transportation facilities associated with roadway projects in the 2035 Long Range Transportation ahead of non-roadway projects, such as multi-use trails and greenways.

Despite the efforts to enhance alternative transportation opportunities, deficiencies in the network still exist. As a result, the community's needs are underserved and obstacles restrict those who wish to use alternative transportation. These deficiencies discourage people from considering walking or biking as a viable transportation option. Upon review of the existing network of alternative transportation facilities, several themes emerge that need to be addressed in order to improve the system and make it more functional.

FACILITIES ALONG MAJOR ROADS

Alternative transportation did not always have the same priority as it does today. As a result, facilities for bicyclists and pedestrians were not always incorporated as part of roadway construction. It is imperative that these transportation corridors accommodate bicyclists and pedestrians. The roads identified below most often represent the preferred travel route for motorists, bicyclists, and pedestrians alike because most attractors and destinations are located along them. Additionally, they provide the most direct route between the point of origin and the destination.

State Network

Several State owned and operated roads traverse Monroe County. INDOT has committed to alternative transportation in the INDOT 2030 Long Range Transportation Plan, as reflected in its policy statement:

> "INDOT will support non-motorized modes of travel as a means to increase system efficiency of the existing surface transportation network, reduce congestion, improve air quality, conserve fuel and promote tourism benefits. INDOT will work to remove unnecessary barriers to pedestrian and bicycle travel."

State roads have historically only focused on serving the needs of motor vehicles. Many of these facilities fail to accommodate bicyclists and pedestrians due to the lack of sidewalks, bike lanes, multi-use paths, or other facilities befitting alternative transportation. Additionally, many of them pose significant barriers to alternative transportation because of limited safe crossing opportunities for anything other than motor vehicles.

Areas of special concern, in no particular order, are:

State Road 37/Interstate 69 (Morgan County Line to the Lawrence County and/or Greene County Line)

- **Problem**: This highway bisects the County and provides no alternative transportation opportunities. It is also a substantial barrier to east/west alternative transportation movement.
- **Need**: A multi-use path along State Road 37/Interstate 69 should be constructed from Morgan County to Lawrence County (SR 37) and/ or Greene County (I-69) with exclusive east/west bicycle/pedestrian crossings including but not limited to 2nd Street, 3rd Street and Vernal Pike. This would create an alternative transportation spine that could serve Bloomington and Monroe County and provide access to adjoining counties.

State Road 45 (Greene County Line to State Road 37)

- **Problem**: This state road lacks bicycle and pedestrian facilities along the majority of this section. The lack of facilities limits connections between Greene County, Monroe County, and Bloomington.
- **Need**: Bicycle and pedestrian facilities should be installed along State Road 45 from the Greene County Line to State Road 37.

State Road 45 (State Road 45/46 Bypass to Brown County)

- **Problem**: This section of state road serves a significant number of residential units and businesses but has either substandard bicycle/ pedestrian facilities, or lacks them altogether. The lack of facilities limits connections between Bloomington, Monroe County, and Brown County.
- **Need**: The bicycle and pedestrian facilities along E. State Road 45 should be upgraded to current standards, filled in where lacking, and extended to Brown County.

State Road 45/46 Bypass (State Road 37 to East 3rd Street)

- **Problem**: This bypass serves a large concentration of the population within the MPA and connects to educational, commercial, and recreational destinations but provides negligible bicycle and pedestrian facilities. Additionally, crossing several lanes of congested high speed traffic poses a significant risk to both pedestrians and cyclists along the bypass.
- **Need**: Bicycle and pedestrian facilities should be installed along the State Road 45/46 Bypass from State Road 37 to 3rd Street. Exclusive bicycle/ pedestrian crossings at 10th Street and 7th Street and improved crossings at Walnut Street, College Avenue, and 3rd Street should be provided along the State Road 45/46 Bypass.

State Road 46 (Owen County to State Road 37)

- **Problem**: Sidewalks were added to some sections and additional outside lane width was provided between Smith Pike and Hartstrait Road when State Road 46 was widened. The corridor still lacks bicycle facilities in many areas and lacks sidewalks in most areas outside of Ellettsville. This lack of facilities limits connections between Ellettsville, Bloomington, Monroe County, and Owen County.
- **Need**: The sidewalk system should be expanded and bicycle facilities should be added along State Road 46 from Owen County to State Road 37.

State Road 46/East 3rd Street (State Road 45/46 Bypass to Brown County)

- **Problem**: Development of and around this state road in the urbanized area has led to an incomplete system of pedestrian and bicycle facilities along a major commercial corridor. This lack of facilities limits users' ability to access key destinations and limits connections between Bloomington, Monroe County, and Brown County.
- **Need**: Bicycle and pedestrian facilities should be installed along State Road 46/3rd Street where lacking from the State Road 45/46 Bypass to Brown County.

W. State Road 48 (Owen County Line to State Road 37)

- **Problem**: This section of state road, which connects educational, industrial and commercial destinations to residential areas, lacks bicycle and pedestrian accommodations for most of its length. This lack of facilities limits connections between Bloomington, Monroe County, and Owen County.
- **Need**: Bicycle and pedestrian facilities should be installed along State Road 48 from the Owen County Line to State Road 37.

State Road 446 (E. State Road 46 to Lawrence County)

- **Problem**: This State Road is a popular route for cyclists wishing to access Lake Monroe and Hoosier National Forest. Lack of bicycle facilities creates difficulties for bicyclists wishing to use this State Road and poor maintenance of shoulders makes existing facilities unsafe.
- **Need**: Shoulders along State Road 446 should be kept free of debris until such time that exclusive bicycle facilities are installed.

Urban/Rural Primary and Secondary Arterials

In a demonstration of their commitment to alternative transportation, both the City of Bloomington and Monroe County have developed Alternative Transportation and Greenways System Plans. The long term goal of the Monroe County Plan is "making alternative transportation a way of life for many Monroe County residents." Similarly, the Bloomington Plan "represents a commitment by the City to design, construct, and maintain a network of safe, convenient, and attractive bicycle and pedestrian facilities for commuting and recreational use throughout the City."

Additionally, the Bloomington Growth Policies Plan (GPP) has given further priority to alternative transportation by suggesting all primary arterials, secondary arterials, and primary collectors within the City be constructed with four foot bike lanes in both directions so that bicyclists' needs may be better served. The GPP does allow for the construction of an eight foot wide multi-use path on one side of the road to accommodate both pedestrians and bicyclists if the street has a limited number of access points or is located in a low density area.

Many existing primary and secondary arterials were constructed prior to this new emphasis on alternative transportation, and thus lack adequate alternative transportation facilities. The sidewalk network along these roads is often incomplete or absent altogether. The obstacles are arguably greatest for bicyclists on these roads due to the lack of multi-use paths/bike lanes, narrow travel lane widths, and vehicular speeds which create uncomfortable and potentially unsafe riding situations.

Areas of special concern, in alphabetical order, are:

Atwater Avenue (Dunn Street to High Street)

- **Problem**: Bicycle facilities are non-existent and sidewalks are either missing or in states of disrepair along certain stretches of the road.
- **Need**: Bicycle facilities should be installed and the sidewalks should be repaired and filled in where lacking along Atwater Avenue from Dunn Street to High Street.

Bethel Lane (Old State Road 37 North to Boltinghouse Road)

- **Problem**: This road lacks pedestrian and bicycle facilities.
- **Need**: Facilities for bicyclists and pedestrians should be installed along Bethel Lane from Old State Road 37 North to Boltinghouse Road.

College Mall Road (East 3rd Street to Moores Pike)

- **Problem**: Bicycle facilities are absent on the northern and southern sections of road. Road crossings are dangerous at the Eastland Plaza, 2nd Street, Covenanter Drive, and Moores Pike intersections due to lack of pedestrian signals, poorly demarcated crosswalks, conflicts with vehicles, mass transit stops, and crossing widths.
- **Need**: Complete the multi-use path along College Mall Road from 2nd Street to 3rd Street and Covenanter Drive to Moores Pike. Improve intersection crossings by installing pedestrian crossing signals, demarcating crosswalks, and minimizing vehicle/pedestrian conflicts at Eastland Plaza, 2nd Street, Covenanter Drive, and Moores Pike.

Hartstrait Road (State Road 46 to State Road 48)

- **Problem**: This road lacks pedestrian and bicycle facilities. It is a significant north/south connection between Ellettsville, State Roads, and recreational destinations.
- **Need**: Facilities for bicyclists and pedestrians should be installed along Hartstrait Road from State Road 46 to State Road 48. Expansion of this road south to State Road 45 should also include bicycle and pedestrian facilities.

Kirby Road (State Road 48 to Airport Road)

- **Problem**: Like Hartstrait Road, this north/south road lacks pedestrian and bicycle facilities.
- **Need**: Facilities for bicyclists and pedestrians should be installed along Kirby Road from State Road 48 to Airport Road.

Madison Street/Rogers Street/Kinser Pike (17th Street to 2nd Street and Rockport Road to Country Club Drive)

- **Problem**: The Madison Street/Rogers Street/Kinser Pike corridor serves numerous neighborhoods, civic facilities, and the Bloomington Hospital. It lacks bicycle facilities along these sections of the road and several links of sidewalk are missing as well.
- **Need**: Bicycle facilities should be installed and the sidewalk network should be completed along Madison Street/Rogers Street/Kinser Pike from the SR 45/46 Bypass to 2nd Street and Rockport Road to Country Club Drive.

2nd Street/Bloomfield Road (State Road 37 to Walnut Street)

- **Problem**: This major east/west corridor serves such important destinations as commercial centers, residential neighborhoods, and the Bloomington Hospital, but lacks bicycle facilities along this entire stretch. Sidewalks are missing throughout sections of this corridor as well.
- **Need**: Bicycle facilities and completion of the sidewalk network should be constructed along 2nd Street/Bloomfield Road from State Road 37 to Walnut Street.

17th Street (from Monroe Street to the SR 45/46 Bypass)

- **Problem**: 17th Street serves a large number of the college student population that is dependent upon walking and bicycling. Additionally, sections through campus experience pronounced use during university sporting events. This road provides no accommodations for bicyclists and only marginal facilities for pedestrians.
- **Need**: Facilities for bicyclists and pedestrians should be installed where missing along 17th Street from Monroe Street to the State Road 45/46 Bypass.

Tapp Road/Country Club Drive/Winslow Road/Rogers Road (from State Road 37 to Smith Road)

- **Problem**: This road provides only sporadic pieces of sidewalk along its entire length. It is a major east/west arterial on the City's south side and has no accommodations for bicyclists. The intersections at Tapp Road and Adams Street, Country Club and Rogers, and Country Club/Winslow Road and Walnut Street present challenges to pedestrians and bicyclists.
- **Need**: Accommodations for bicyclists and pedestrians and improvements to the Adams Street, Rogers Street, and Walnut Street intersections should be installed along Tapp Road/Country Club Drive/Winslow Road/Rogers Road.

10th Street (Rogers Street to the SR 45/46 Bypass)

- **Problem**: 10th Street has large pedestrian/bicyclist usage due to its location within the Indiana University campus. It poses a significant challenge to bicyclists due to lack of facilities, narrow travel lanes and high traffic volumes. Sidewalks are available for much of this section of 10th except for its eastern-most stretch.
- **Need**: Facilities for bicyclists should be installed and the sidewalk network should be completed along 10th Street from Rogers Street to the State Road 45/46 Bypass. If 10th Street is turned into a one-way street, its corresponding one-way street should also be provided with complete bicycle and pedestrian facilities.

3rd Street (State Road 37 to Adams St. and Rogers St. to College Mall Road)

- **Problem**: This major east/west corridor directly serves high density residential areas, the university campus, and commercial centers in the City. However, it lacks bicycle facilities altogether and lacks many sections of sidewalk for pedestrians.
- **Need**: Bicycle/pedestrian facilities should be installed along 3rd Street from State Road 37 to Adams Street and Rogers Street to College Mall Road.

Connectivity

An alternative transportation network can only be functional if it provides a complete network in all directions of travel that links commercial, educational, recreational, and residential areas to one another. A synergistic effort should exist between all local governmental entities to ensure that alternative transportation systems link to one another and provide regional benefits.

One of the major challenges facing alternative transportation users is that the system currently has major gaps. Facilities have been installed or constructed in a piecemeal fashion resulting in disjointed segments that don't serve the needs of bicyclists or pedestrians. Segments of sidewalks, bike lanes, or multi-use paths were constructed as individual lots were developed or as sections of road were built or improved. Unfortunately, this has resulted in these facilities stopping abruptly at arbitrary points and failing to tie into desired destinations or other facilities.

The challenge that results from this deficiency is that most of the connections that need to be made are in already-developed areas. This is problematic because, in many instances, the publicly owned right-of-way is too narrow to add sidewalks, bike lanes, or multi-use paths/trails.

Areas of special concern, in alphabetical order, are:

Adams Street (West 3rd Street to West Kirkwood Avenue)

- **Problem**: This connection is meant to expand the bicycle facilities planned for West 3rd Street. No bicycle facilities are currently provided along this existing stretch of Adams Street.
- **Need**: Facilities for bicyclists should be installed along Adams Street from West 3rd Street to West Kirkwood Avenue.

Adams Street (Allen Street to Rockport Road)

- **Problem**: The planned extension of Adams Street will serve educational institutions, neighborhoods, and recreational destinations.
- **Need**: Bicycle and pedestrian facilities should be incorporated in the expansion of Adams Street from Allen Street to Rockport Road.

Airport Road (State Road 45 to Garrison Chapel Road)

- **Problem**: This road serves the Karst Farm Park and the Monroe County Airport. It lacks any pedestrian or bicycle facilities.
- **Need**: Facilities for both pedestrians and bicyclists should be installed along Airport Road from State Road 45 to Garrison Chapel Road.

Brummets Creek Road (State Road 45 to State Road 46)

- **Problem**: This is a popular north/south route for bicyclists between two state roads. No facilities are currently provided for bicyclists.
- **Need**: Accommodations for bicyclists should be provided along Brummets Creek Road from State Road 45 to State Road 46.

Curry Pike/Smith Pike (State Road 45 to State Road 46)

- **Problem**: The sidewalk network along this road is incomplete.
- **Need**: The sidewalk network should be completed along Curry Pike from State Road 45 to State Road 46. The City project between State Road 45 and Constitution Drive will incorporate sidewalks.

Dunn Street (3rd Street to 12th Street)

- **Problem**: The sidewalk network is nearly complete along this road except for a few blocks at the northern edge of this stretch. Facilities for bicyclists are nonexistent.
- **Need**: Bicycle facilities should be installed along Dunn Street from 3rd Street to 12th Street and the sidewalk network should be completed.

Friendship Road (State Road 46 to terminus)

- **Problem**: This road is a popular rural route for bicyclists to visit Salt Creek. No facilities are currently provided for bicyclists.
- **Need**: Accommodations for bicyclists should be provided along Friendship Road from State Road 46 to its terminus.

Fullerton Pike/Leonard Springs Road (Duncan Road to Rockport Road)

- **Problem**: This road will eventually provide a connection to Gordon Pike. No bicycle and pedestrian facilities are in place.
- **Need**: Bicycle and pedestrian facilities should be installed along Fullerton Pike/Leonard Springs Road from Duncan Road to Rockport Road. If Fullerton Pike is extended to Gordon Pike, this extension should also include facilities for bicyclists and pedestrians.

Hillside Drive/Moores Pike (Walnut Street to State Road 446)

- **Problem**: This is an important east/west connector in Bloomington accessing commercial, educational, and residential areas. Sidewalks are missing in sections between South High Street and Sare Road and bicycle accommodations are nearly nonexistent.
- **Need**: The sidewalk system should be completed and facilities should be installed to accommodate bicyclists along Hillside Drive/Moores Pike between Walnut Street and State Road 446.

Lampkins Ridge Road (State Road 446 to Friendship Road)

- **Problem**: This is a popular route for bicyclist to access Salt Creek and Lake Monroe. No facilities are currently provided for bicyclists.
- **Need**: Accommodations for bicyclists should be provided along Lampkins Ridge Road from State Road 446 to Friendship Road.

Liberty Drive (State Road 48 to State Road 45)

- **Problem**: This road serves large commercial and employment areas between two state roads. Sidewalks are lacking along most of the road, especially the northern half, and bicycle facilities are absent altogether.
- **Need**: The sidewalk network should be completed and facilities should be installed to accommodate bicyclists along Liberty Drive from State Road 48 to State Road 45.

Loesch Road (Profile Parkway to Woodyard Road)

- **Problem**: This stretch of road is an important link between Ivy Tech State College and other facilities planned to accommodate alternative transportation. No facilities are currently provided for pedestrians or bicyclists.
- **Need**: Facilities for bicyclists and pedestrians should be installed along Loesch Road from Profile Parkway to Woodyard Road.

Lost Man's Lane (Union Valley Road to Maple Grove Road)

- **Problem**: This road is ideal for alternative transportation because of low traffic volumes. No facilities are currently provided for pedestrians or bicyclists.
- **Need**: Facilities for bicyclists and pedestrians should be installed along Lost Man's Lane from Union Valley Road to Maple Grove Road.

Mount Tabor Road (Delap Road to Brighton Road)

- **Problem**: This connection between Ellettsville and Stinesville lacks pedestrian and bicycle facilities.
- **Need**: Facilities for bicyclists and pedestrians should be installed along Mount Tabor Road from Delap Road to Brighton Road.

Patterson Drive/Grimes Lane (West 3rd Street to Walnut Street)

- **Problem**: Sections of multi-use path exist along Patterson Drive between Rogers Street and Allen Street. The other sections of this road poorly serve bicyclists and many sections of sidewalk are missing.
- **Need**: The bicycle and pedestrian network should be completed along Patterson Drive/Grimes Lane from West 3rd Street to Walnut Street.

Reeves Road/Sale Street (State Road 46 to Starnes Road)

- **Problem**: This road provides important access to the new Richland-Bean Blossom Grade School. No bicycle or pedestrian facilities currently exist, therefore limiting the ability of children to walk or bike to school.
- **Need**: Provide bicycle and pedestrian facilities along Reeves Road/Sale Street from State Road 46 to Starnes Road.

Rhorer Road/Gordon Pike (South Walnut Street to Snoddy Road)

- **Problem**: This road will provide an important connection between future City and County alternative transportation facilities. No facilities are currently provided for pedestrians or bicyclists.
- **Need**: Facilities for bicyclists and pedestrians should be installed along Rhorer Road between South Walnut Street and Snoddy Road.

Smith Road (State Road 45 to Rogers Road)

- **Problem**: This road provides an important north/south connector on the City's east side to planned alternative transportation facilities. A section of multi-use path exists between Brighton Avenue and Moore's Pike. Bike lanes also exist between State Road 45 and State Road 46. However, bicycle and pedestrian facilities are largely absent from the remainder of this section of Smith Road.
- **Need**: Complete the bicycle and pedestrian facilities along Smith Road from State Road 45 to Rogers Road.

Snoddy Road (Rogers Road to Rhorer Road)

- **Problem**: This road will provide an important connection between future alternative transportation facilities and areas of residential growth. Limited facilities are currently provided for pedestrians and bicyclists.
- **Need**: Facilities for bicyclists and pedestrians should be installed along Snoddy Road between E. Rogers Road and Rhorer Road.

Sycamore Drive (Reeves Road to Cedar Drive)

- **Problem**: This road directly serves the new Richland Bean Blossom Grade School. No sidewalks or bicycle facilities exist on this road.
- **Need**: Install sidewalks and bicycle facilities on Sycamore Drive from Reeves Road to Cedar Drive.

Vernal Pike/Howard Road (State Road 48 to Adams Street)

- **Problem**: This road segment crosses jurisdictions between Bloomington and Monroe County and provides an important connection between the two future alternative transportation networks. It currently lacks bicycle and pedestrian facilities.
- **Need**: Bicycle/pedestrian facilities should be installed along Vernal Pike/ Howard Road from State Road 48 to Adams Street.

Special Projects

Greenways are often viewed as linear parks that are constructed to serve the recreational needs of the community. These corridors are often found in rural areas traversing preservation land and are rarely thought of as serving alternative transportation needs. However, greenways can play an important role in alternative transportation. This is especially true if they provide connections between residential areas, places of employment, and other destinations.

Several potential greenways can fulfill this need and complement the alternative transportation network:

CSX Corridor Trail (Adams Street to Country Club Drive)

- An abandoned CSX rail corridor through the middle of downtown Bloomington provides a unique opportunity to provide over three miles of trail and link urban areas, rural areas, residential neighborhoods, downtown employment centers, commercial attractors, recreational destinations, and schools to one another.
- **Need**: A multi-use path should be constructed along the abandoned CSX rail corridor from Adams Street to Country Club Drive.

Jackson Creek Trail (Moores Pike to Church Lane)

- The presence of the Jackson Creek floodplain provides an opportunity to develop a twelve-mile long multi-use path connecting multiple city and county destinations. The trail would split near its midpoint and fork into two trails on its northern end. The projected layout of the trail would link educational institutions, residential neighborhoods, other multi-use trails, and recreational destinations to one another.
- **Need**: A multi-use path should be constructed along Jackson Creek from Moores Pike to Rogers Road.

Karst Farm Trail (Karst Farm Park to Loesch Road)

- This proposed five-mile long multi-use path is planned to be constructed on publicly owned land. It will connect Ellettsville and Bloomington, three educational institutions, several large residential areas, several major employment centers, the airport, and Karst Farm Park.
- **Need**: A multi-use path should be constructed from Karst Farm Park to Loesch Road.

Stinesville-Ellettsville Greenway (Owen County Line to Loesch Road)

- A multi-use path over ten miles long from the Owen County line through Stinesville and Ellettsville and terminating at the Karst Farm Trail could be constructed along abandoned railroad corridor and Jack's Defeat Creek. This will provide substantial alternative transportation opportunities in the northeastern quarter of the County with possible connections to Owen County and Bloomington.
- **Need**: A multi-use path should be constructed from the Owen County Line to Loesch Road.

Many areas of the community, such as the 3rd Street bridge over State Road 37, still present significant obstacles to cyclists.

The Future Transportation Needs Plan addresses multi-modal transportation needs including transit, bicycle, pedestrian, and major highway investments. In addition to these future needs, the Future Transportation Needs Plan acknowledges the essential need to first preserve existing transportation investments. The preservation of existing transportation investments involves the following:

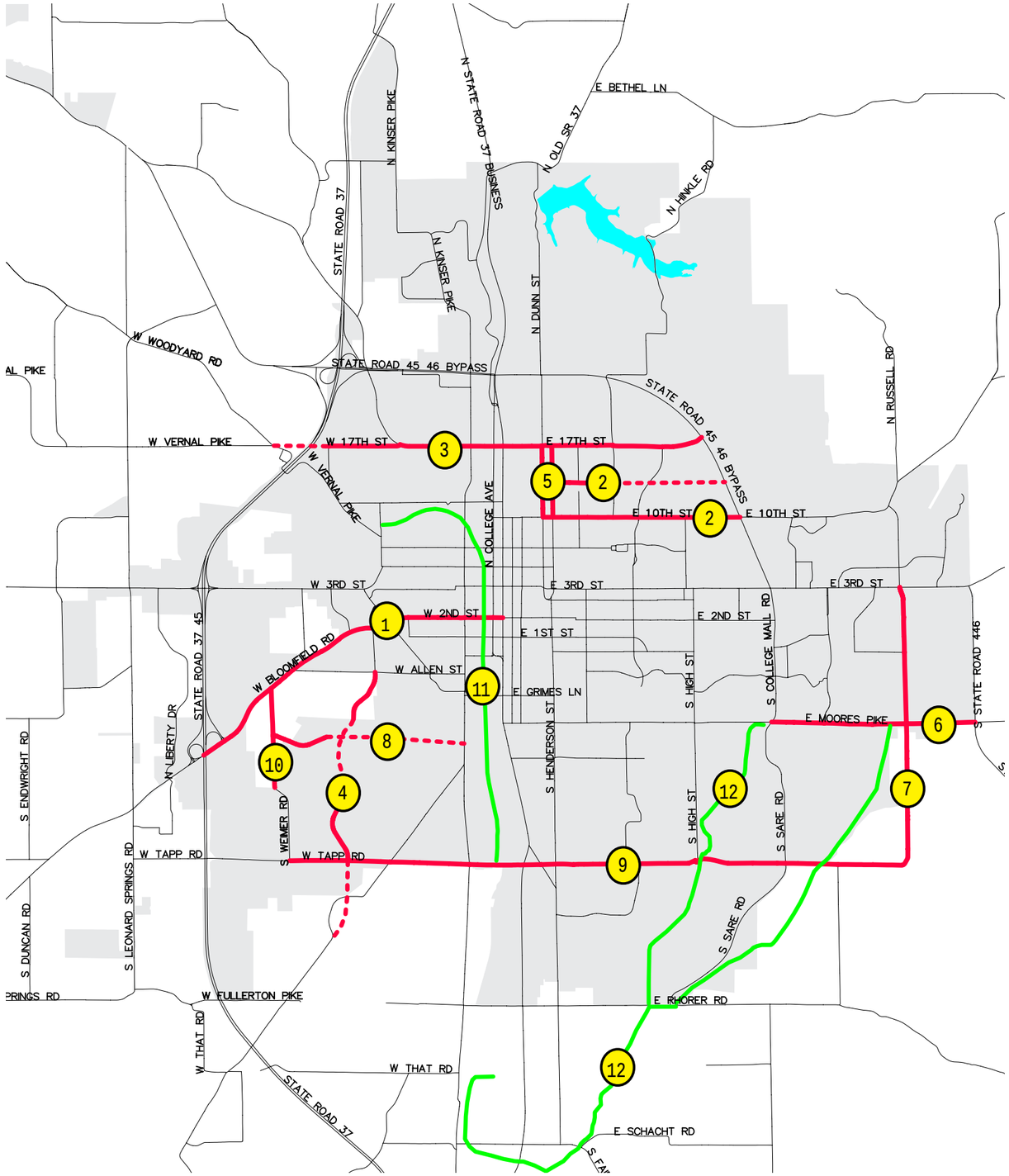
- The on-going operation and maintenance of the existing roadway system, public transportation fixed-route services for the general public and demand-response services for the elderly and handicapped, and bicycle and pedestrian facilities for commuting and recreation;
- The preservation of roadways through resurfacing and reconstruction based on a pavement management program, bridges through rehabilitation and reconstruction based on a bridge management program, public transit services through bus replacement and capital facilities maintenance based on a public transportation capital assets management program; and
- The preservation of safety and roadway capacity through low-cost capital improvements to address spot safety and localized congestion concerns through intersection, signalization, sign, pavement marking, and guardrail improvements based on safety, congestion, and access management programs.

Due to their on-going nature, most "capacity preservation" projects are not defined in a long-range transportation plan. Instead, funding is set aside for such improvements in the annual operating and capital improvement programs of the City of Bloomington, the Town of Ellettsville, and Monroe County, as well as in the Transportation Improvement Program of the MPO as appropriate. In the following sections, the future needs for highway, transit, and alternative transportation improvements are summarized.

HIGHWAY

An important component of the Future Transportation Needs Plan is the program of major highway capital investments that are needed to accommodate future travel demands. A detailed analysis and comparison of alternative scenarios for transportation projects is provided in Appendix C. The Final Transportation Needs Plan contains combination of highway improvements that provided the best means to address future travel needs based on key criteria (e.g. cost, feasibility, LOS, safety, and environmental/other impacts). Figure 3-8 and Figure 3-9 illustrate the major highway improvement projects recommended for implementation over the 20 year horizon of the Long Range Transportation Plan. Table 3-10 provides an overview of the specific design components recommended for each of the projects highlighted by the Needs Plan. Refer to Appendix F: Projects Index for a more detailed description of each project.

Figure 3-8: City of Bloomington/Indiana University Transportation Projects



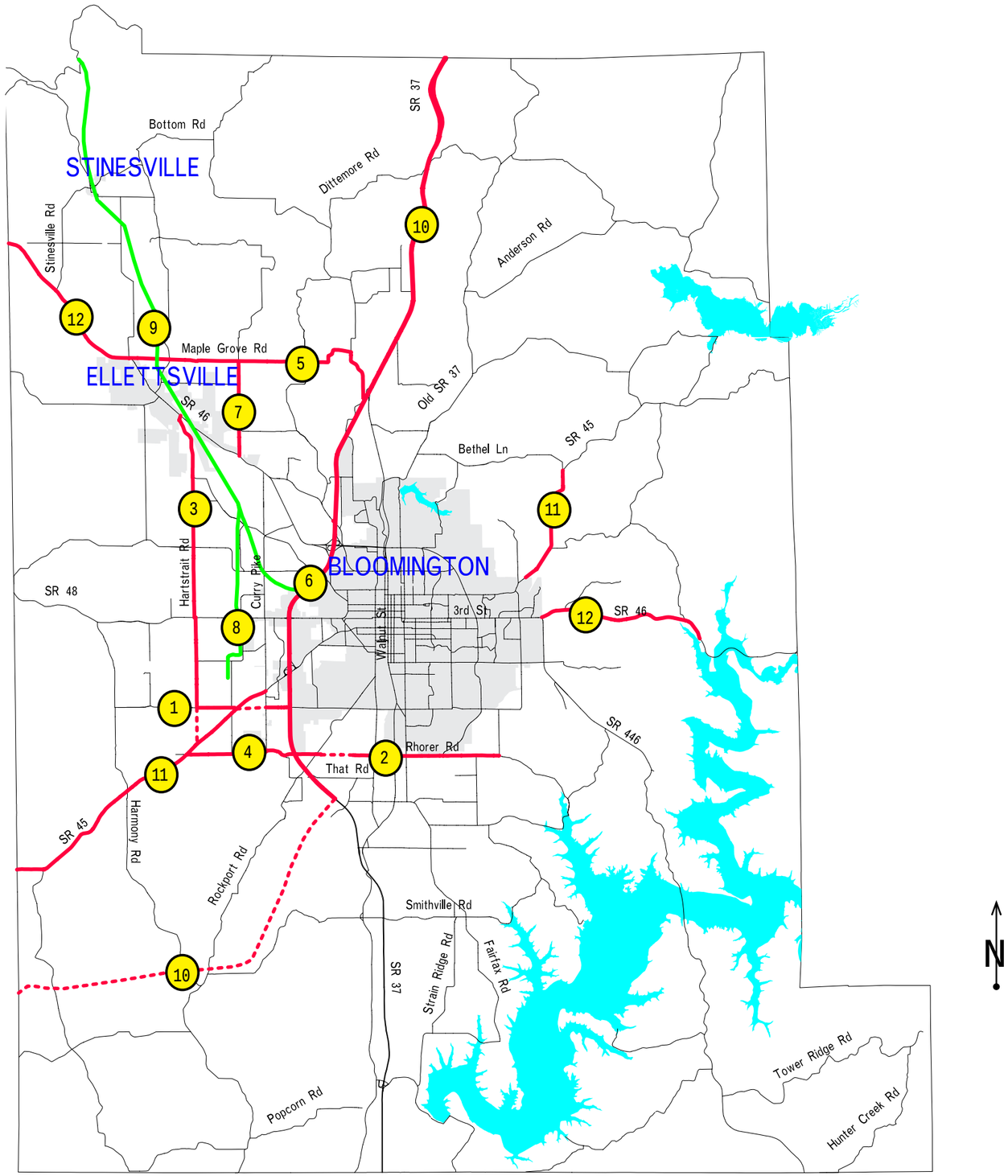
Legend

Map Features:

- Road Improvement Project (dashed line are proposed connections)
- Multi-Use Trail Project
- Lake
- Urbanized Area
- 1 2nd Street/Bloomfield Road
- 2 10th Street/14th Street
- 3 17th Street
- 4 Adams Street
- 5 Dunn Street
- 6 Moores Pike
- 7 Smith Road
- 8 Sudbury Drive
- 9 Tapp Road/Country Club Drive/Winslow Road/Rogers Road
- 10 Weimer Road
- 11 CSX Corridor Trail
- 12 Jackson Creek Trail

*For project information please reference Appendix F

Figure 3-9: Monroe County/INDOT Transportation Projects



Legend

Map Features:

- Road Improvement Project (dashed line are proposed connections)
- Multi-Use Trail Project
- Lake
- Urbanized Area
- 1 Airport Road/Tapp Road
- 2 Fullerton Pike/Gordon Pike/Rhorer Road
- 3 Kirby Road/Hartstrait Road
- 4 Leonard Springs Road/Fullerton Pike
- 5 Maple Grove Road/Bottom Road
- 6 SR 37 West Frontage Road
- 7 Union Valley Road
- 8 Karst Farm Trail
- 9 Stinesville-Ellettsville Greenway
- 10 Interstate 69
- 11 State Road 45 (East and West)
- 12 State Road 46 (East and West)

*For project information please reference Appendix F

TABLE 3-10: SUMMARY OF NEEDED MAJOR TRANSPORTATION IMPROVEMENTS

	RW	RE	RC	SW	SP/BL	MT	H/B
City of Bloomington / Indiana University							
2nd Street/Bloomfield Road	X			X	X		X
10th Street/14th Street		X		X	X		X
Adams Street			X	X	X		
Moores Pike	X			X	X		
Smith Road	X			X	X		
Sudbury Drive			X	X	X		
Tapp Road/Country Club Drive/Winslow Road/Rogers Road	X			X	X		X
Weimer Road		X		X			
Monroe County / Town of Ellettsville							
Airport Road/Tapp Road		X	X	X	X		
Fullerton Pike/Gordon Pike/Rhorer Road	X			X	X		
Kirby Road/Hartstrait Road	X			X	X		
Leonard Springs Road/Fullerton Pike	X			X	X		
Maple Grove Road/Bottom Road		X		X	X		
SR 37 West Frontage Road			X	X	X		
Union Valley Road		X		X	X		
State of Indiana							
Interstate 69	X		X			X	
Greenways Projects							
Jackson Creek Trail						X	
Stinesville-Ellettsville Greenway						X	

RW = Road Widening / RE = Road Reconstruction / RC = New Road Connection

SW = Sidewalk Facility / SP/BL = Sidepath or Bikelane Facility / MT = Multi-Use Trail Facility

H/B = Feasibility Study for High Occupancy Vehicle/Bus Only Facility

In addition to major roadway projects, the Future Transportation Needs Plan recommends transportation system management (TSM) actions (e.g., pavement resurfacing and reconstruction, bridge rehabilitation and reconstruction, intersection improvements, signal modernization, safety improvements, access management) together with travel demand management (TDM) strategies to mitigate a few lingering congestion problems where major transportation investment projects were not proposed. These actions and strategies could provide solutions to the following lingering problems identified in the plan for the year 2035 (short-term relief is anticipated for most road segments listed below pending the implementation of the highway improvement projects):

- State Road 45/46 Bypass from Business 37 (Walnut Street) to 3rd Street at College Mall Road
- State Road 48 from Curry Pike to State Road 37
- Walnut Street from 10th Street to 17th Street
- College Avenue from 17th Street to 10th Street
- Adams Street from Kirkwood Avenue to Vernal Pike
- Indiana Avenue from 12th Street to 13th Street
- Grimes Lane from Rogers Street to Walnut Street
- Moores Pike from College Mall/Sare Road to Clarizz Boulevard
- 3rd Street/Adams Street/Kirkwood Avenue from State Road 37 to Rogers Street

In addition to the lower-cost capital investments listed above, traffic operational improvements or similar mitigation actions and strategies will be necessary to address unforeseen future congestion problems not identified within the plan. Because the Future Transportation Plan sets aside funding for numerous projects, other lower-cost highway and bridge capital investments may be defined, as needed, on an annual basis by their inclusion in the Transportation Improvement Program (TIP) for the Bloomington Area. These types of unforeseen investments are anticipated to be relatively low cost problems to address and are best dealt with in this manner.

PUBLIC TRANSIT

All three transit providers serving Monroe County have experienced growth in demand and expansion in service over the last decade. These trends are expected to continue well into the future, and transit will continue to be an integral part of the system-wide transportation network for Monroe County. The MPO is committed to assisting and providing the necessary resources to aid in the expansion of local transit services in the future. The Bloomington Transit future needs section earlier in this chapter outlines numerous improvement initiatives. Table 3-11 provides a prioritization matrix that identifies short-term and long-term initiatives that Bloomington Transit should use to help implement their needed improvements. These Bloomington Transit initiatives also provide opportunities for partnerships with Rural Transit and the IU Campus Bus providers to build upon. Together, these options provide a wide array of possibilities for transit service providers to pursue.

As with any transportation initiative, funding is a key limiting factor in the implementation of the transit recommendations. Timing, prioritization, feasibility, collaboration, and the future assurance of Federal funding all factor into the ability to implement any of these improvements. Realistically, sufficient funding exists to implement only a fraction of the transit improvements recommended for Bloomington Transit, let alone to fulfill the future needs of Rural Transit and IU Campus Bus services. As a result, the prioritization and timing of transit service improvements must be addressed by the MPO, the public, and the transit providers in the near future. This will ensure the best course of action is taken to meet current transit needs and to plan for future improvement options that will allow sustained growth in transit ridership.

TABLE 3-11: CONCEPTUAL PRIORITIZATION OF BPTC INITIATIVES

Project	Short-Term (0-10 Years)	Long-Term (11-25 years)
New/Expanded Downtown Transfer Facility	High	Low
Expanded Grimes Lane Operations Facility	Low	High
Security and Surveillance Systems	Ongoing	Ongoing
Next Bus Information System and Automatic Vehicle Locator	High	Low
Paratransit Scheduling Systems	High	Low
Fare Collection Technology	High	Low
BT Access Vehicle Replacement	Ongoing	Ongoing
BT Access Vehicle Expansion	Low	High
Support Vehicle Replacement	Ongoing	Ongoing
Engine/Transmission Replacement	Ongoing	Ongoing
Capital Fleet Replacement with Diesel Propulsion	Low	Low
Capital Fleet Replacement with Electric Hybrid Propulsion	High	Low
Span and Frequency of Service	High	Ongoing
Expansion of Geographic Coverage of Service Area	Low	High
Crosstown Service Expansion	Low	High
Downtown Shuttle/Circulator Service	High	Low
Park and Ride/ Ridesharing	High	Low
Passenger Amenities	Ongoing	Ongoing
Regional Authority	Low	High

High = Top priority for consideration to implement improvement

Low = Low priority for consideration to implement improvement

Ongoing = Moderate priority for consideration to implement improvement

ALTERNATIVE TRANSPORTATION

The community's commitment to alternative modes of transportation is a fundamental component of addressing the system-wide transportation needs of the future. In recent years, key policy foundations have been established that will help direct future investments in alternative transportation facilities. The ongoing promotion of alternative transportation will, in time, result in the creation of a world-class network of bicycle and pedestrian facilities. Today, this network is in its infancy and much needs to be accomplished to attain these goals and to address the future needs of the community.

As noted earlier in this chapter, both the City of Bloomington and Monroe County have developed Alternative Transportation and Greenways System Plans. These plans provide the guidance necessary to identify, design and build a successful alternative transportation network. Future roadway improvements should be designed in concert with the guidance found in the respective City and County Alternative Transportation and Greenways System Plans to ensure that the desired network comes to fruition.

In addition to integrating alternative transportation facilities with roadway system improvements, key multi-use trail facilities should also be constructed. These facilities are typically not associated with highway or transit system improvements, making their implementation more challenging. Even so, such facilities have great potential to benefit the alternative transportation network. The following facilities are identified as high priority projects in addition to the others mentioned previously:

- CSX Corridor Trail (Adams Street to Country Club Drive)
- Jackson Creek Trail (Moores Pike to Church Lane)
- Karst Farm Trail (Karst Farm Park to Loesch Road)
- Stinesville-Ellettsville Greenway (Owen County Line to Loesch Road)

SUMMARY

The improvements recommended in the Future Transportation Needs Plan will not eliminate all congestion and solve all safety problems. However, if the Plan is implemented, the system will perform satisfactorily with acceptable congestion levels remaining. In this way, the plan establishes a cost-effective program for addressing the future transportation needs of the community. The Future Transportation Needs Plan is multi-modal in nature, and the recommended improvements to all modes of transportation should be carried forward to the extent that future funding allows.

Financial Forecast

4

2035 Long Range Transportation Plan

Introduction

Financial resources define the feasibility, timing, and scope of project implementation for the 2035 Long Range Transportation Plan. The purpose of this chapter is to define reasonable financial forecasts that support the recommended multi-modal transportation needs plan for the Bloomington/Monroe County urbanized area. The resulting "fiscally-constrained" plan of projects is a requirement first set forth in the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. Successive Federal transportation legislation (TEA-21, SAFETEA-LU, MAP-21) continued this requirement and permitted the inclusion of "illustrative" transportation projects that could be implemented if additional funding were to become available during the established twenty year plan period.

Financial resources for Federal, state, and local highway transportation projects are typically set aside for two categorical areas:

- "Capacity preservation" activities that protect existing capital investments which include operation and maintenance, and reconstruction (including pavement resurfacing, bridge rehabilitation transit operations, and bicycle/pedestrian facilities) of existing transportation facilities and services and
- "Capacity expansion" activities are major new transportation capital investments, and include new roadways and interchanges, additional travel lanes, new transit facilities and new bicycle/pedestrian facilities such as trails.

Federal Resources & Programs

Current Federal funding for highway, transit and railroad facilities is governed by the Moving Ahead for Progress in the 21st Century Act (MAP-21). This Act guarantees specific funding levels for highways, highway safety, and public transportation. MAP-21 was adopted in 2012 and is the successor to previous funding bills such as SAFETEA-LU, TEA-21, and ISTEA. Major funding programs administered by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) include the:

- National Highway System (NHS) for the roughly 163,000 miles of the federally designed National Highway System that includes the Interstate Highway System (about 46,000 miles) and other freeway, expressways and principal arterials of national significance.
- Interstate Maintenance (lM) for Interstate Highway System resurfacing, rehabilitation and reconstruction.
- Surface Transportation Program (STP) for State and local roadways functionally classified as major collectors and arterials.
- Highway Bridge Replacement and Rehabilitation Program (HBR) for State and local bridges.
- Congestion Mitigation and Air Quality Improvement Program (CMAQ) for air quality non-attainment areas.
- Federal Transit Program Formula Grants and Capital Investment Grants.s

Surface Transportation Program (STP) funds represent the primary source of federal support for improvements to urbanized area roadways. Urbanized areas with a population of 200,000 or more persons (referred to as Group I areas) have a dedicated funding allocation stipulated by Federal statute. Indiana urbanized areas such as Bloomington with a population of 50,000 to less than 200,000 persons (referred to as Group II areas), receive funding allocation levels based on a proportion of statewide population.

Under a sharing agreement for surface transportation programs, the Indiana Department of Transportation (INDOT) retains 75% of the federal funds received by the State of Indiana. The remaining 25% federal fund balances are made available to local jurisdictions.

The Federal STP fund allocation for the Bloomington urban area in fiscal year 2015 was approximately $2.584 million. A conservative constant real dollar growth rate of 2.0% has been used to forecast STP funds available between fiscal years 2016 and 2035. As shown below, the Bloomington urban area is therefore likely to receive a total of $64,031,219 in STP funds between fiscal years 2016 and 2035 for locally initiated capital roadway system improvements.

Fiscal Years 2016 through 2025	= $28,855,962
Fiscal Years 2026 through 2035	= $35,175,257
Total	*= $64,031,219*

The Highway Safety Improvement Program (HSIP) provides Federal funding for eligible safety improvement projects on local roadways. The Bloomington urbanized area recieved an annual allocation of $507,304 for fiscal year 2015. Utilizing the same 2.0% annual growth rate, the following HSIP resources are predicted for fiscal years 2016 through 2035.

Fiscal Years 2016 through 2025	= $5,665,934
Fiscal Years 2026 through 2035	= $6,906,742
Total	*= $12,572,676*

The Federal Transit Administration allocates funds to urbanized areas through the Section 5307 Formula Grant Program. These allocations are made on the basis of a statutory formula to all urbanized areas of the nation. For Urbanized Areas similar to Bloomington, these funds may be used for capital and operating costs without limitation. The required local match is 20% for capital expenditures and 50% of operational expenditures. The State of Indiana's Public Mass Transportation Fund (PMTF) provides up to one-half the local match. The discretionary FTA Section 5309 program represents an additional funding source for Bloomington Transit with a matching rate of 80% federal and 20% state or local funds.

The Federal Transit Administration also allocates funds to each State for the Section 5310 Elderly and Persons with Disabilities Program to ensure that elderly citizens and citizens with disabilities have access to public transportation facilities and services. Under the FTA's Section 5311 Non-urbanized Area Formula Program, funds can be used for public transportation in non-urbanized areas with populations less than 50,000. The State of Indiana determines the manner of allocation of funds to various transit services.

Committed State Construction Funds

The Indiana Department of Transportation has one committed capital project identified for construction in Bloomington and Monroe County between Fiscal Year 2016 and Fiscal Year 2035:

- **I-69 Section 5**: New road construction and reconstruction of State Road 37 in Monroe County. Within the MPO planning area, the estimated remaining construction cost of this project is $67,000,000. This does not include future payments to the developer/operator of I-69 Section 5 that will occur as part of the State's Public Private Partnership (PPP) for the construction of this project.

The State's 2013-2035 Future Transportation Needs Report does not identify any further major capital projects to be undertaken within Bloomington and Monroe County during this time period. Rather, the majority of investment is anticipated to focus on preservation and safety enhancements to existing State roads in the MPO area. As these improvements will be undertaken on an as-needed basis, no firm estimate of future investments in such projects is currently available.

Motor Vehicle Highway Account (MVHA)

Motor Vehicle Highway Account (MVHA) fund receipts for the City of Bloomington and Monroe County have varied substantially but are expected to stabilize in future years. MVHA funds must be used for the construction or reconstruction and maintenance of streets and alleys. These funds therefore represent the primary measure of operating and maintenance expenditures for Bloomington and Monroe County between 2016 and 2035. The forecast assumption for the Year 2035 Long Range Transportation Plan is that MVHA receipts will remain at a constant real dollar growth rate of 2.0% to the Year 2035 and that these funds will continue to be used for basic administration, operation and maintenance.

Fiscal Years 2016 through 2025	= $63,815,109
Fiscal Years 2026 through 2035	= $77,790,262
Total	*=$141,605,371*

Local Road and Street (LRS) Funds

Local Road and Street Account (LRS) funds, including special accelerated allocations, are available for capital investment; however, a portion of the funds must be set aside for "preservation" projects such as resurfacing, intersection/signalization and safety improvements. Based on past and present budgets, approximately 50% of the City of Bloomington funds and 80% of the Monroe County funds may be used for major capital investments. These funds represent the primary measure of expenditures that will be used by Bloomington and Monroe County for engineering, land acquisition, construction, resurfacing, restoration, and rehabilitation of roadway facilities. The forecast assumption for the Year 2035 Long Range Transportation Plan is that LRS receipts will remain at a constant real dollar growth rate of 2.0% to the Year 2035 and that these funds will continue to be used for the purposes prescribed by the Indiana General Assembly.

Fiscal Years 2016 through 2025	= $17,218,467
Fiscal Years 2026 through 2035	= $20,989,215
Total	*= $38,207,682*

Wheel Tax

Wheel Tax Funds for Bloomington and Monroe County are used for resurfacing and minor roadway rehabilitation projects. The forecast assumption for the Year 2035 Long Range Transportation Plan is that Wheel Tax receipts will remain at a constant real dollar growth rate of 2.0% to the Year 2035 and that these funds will continue to be used for the purposes prescribed by the Indiana General Assembly.

Fiscal Years 2016 through 2025	= $19,701,130
Fiscal Years 2026 through 2035	= $24,015,567
Total	*= $43,716,697*

CUMULATIVE BRIDGE FUND

The Monroe County Cumulative Bridge Fund will continue to be dedicated to bridge preservation for the cost of construction, maintenance, and repair of bridges, approaches, grade separations and county-wide bridge inspection. The forecast assumption for the 2035 Long Range Transportation Plan is that the Cumulative Bridge Fund will remain at a constant real dollar growth rate of 2.0% to the Year 2035 and that these funds will continue to be used for the purposes proscribed by the Indiana General Assembly.

Fiscal Years 2016 through 2025	= $15,683,487
Fiscal Years 2026 through 2035	= $19,118,084
Total	*= $34,801,571*

CUMULATIVE CAPITAL DEVELOPMENT FUNDS

The City of Bloomington and the Monroe County Cumulative Capital Development Funds may be used for major roadway capital investments. The forecast assumption for the 2035 Long Range Transportation Plan is that Cumulative Capital Development Fund will remain at a constant real dollar growth rate of 2.0% to the Year 2035.

Fiscal Years 2016 through 2025	= $17,685,635
Fiscal Years 2026 through 2035	= $21,558,690
Total	*= $39,244,325*

TAX INCREMENT FINANCING DISTRICTS

The City of Bloomington and Monroe County also generate revenues through several tax increment financing (TIF) districts. The funds from these districts are specifically intended for capital infrastructure investments including roadway and drainage improvements. Forecasts for these districts are inexact given their direct link to projected development and property values. Estimates suggest that these districts could generate over $30.0 million over the twenty year forecast period.

Bicycle & Pedestrian Funding Forecast

The MPO receives a dedicated stream of Federal bicycle and pedestrian project funding via the Transportation Alternatives Program (TAP). The fiscal year 2015 allocation from this program was $154,049. Using an annual growth factor of 2.0% to match the growth factor utilized for the STP allocation, the following forecast was developed.

Fiscal Years 2016 through 2025	= $1,720,529
Fiscal Years 2026 through 2035	= $2,097,316
Total	*= $3,817,845*

The City of Bloomington has an Alternative Transportation Fund that has traditionally received $200,000 in Common Council appropriations each year. Using this dollar amount as an annual allocation level, the following forecast has been made.

Fiscal Years 2016 through 2025	= $2,000,000
Fiscal Years 2026 through 2035	= $2,000,000
Total	*= $4,000,000*

Summary Forecast

The Indiana Department of Transportation is expected to invest a minimum of $67.0 million in Bloomington and Monroe County between 2016 and 2035. The Bloomington/Monroe County urbanized area is also forecast to receive approximately $64.0 million in Federal Surface Transportation Program (STP), $12.5 million in Highway Safety Improvement Program (HSIP), and $3.8 million in Transportation Alternatives Program (TAP) funds during the same time frame for transportation infrastructure investments.

The sum total of revenue sources from the Motor Vehicle Highway Account, the Local Road and Street Fund, the Cumulative Bridge Fund, the Cumulative Capital Development funds, the Alternative transportation Fund, and TIF district receipts suggest that the local area will have over $297.0 million in local funds available for capacity preservation and capacity expansion activities for Fiscal Years 2016 through 2035.

Cost Feasible Plan

5

2035 Long Range Transportation Plan

Introduction

The 2035 Long Range Transportation Plan recommends capacity preservation and capacity expansion investments for roadways, public transportation, and bicycle/pedestrian transportation facilities. These two investment categories are defined as follows:

- "Capacity Preservation" investments protect existing public capital assets and encompass operations, maintenance, safety improvements, and low-cost reconstruction (e.g., pavement resurfacing, bridge rehabilitation, transit operations, and bicycle/pedestrian facilities) of existing transportation facilities and services.
- "Capacity Expansion" investments, such as additional travel lanes, new transit facilities/services, and new bicycle/pedestrian pathway and trail facilities that enhance public safety and mobility alternatives.

Capacity preservation projects are usually not defined in long-range transportation plans due to their continuous on-going nature. Funding for transportation preservation activities is more appropriately set aside in the multi-year Transportation Improvement Program for the MPO and in the annual operating and capital improvement programs for INDOT, Bloomington, Ellettsville, Monroe County, Bloomington Transit, Indiana University, and Rural Transit.

Capacity expansion projects identified in this chapter therefore represent significant public infrastructure investments from the standpoint of public policy support, development time, and funding commitments. Roadway capacity expansion projects recommended for the 2035 Long Range Transportation Plan are supported by existing and projected, empirically-based, transportation system analyses. Public Transportation system recommendations and bicycle-pedestrian project recommendations are founded on planning needs studies.

The list of multi-modal transportation investments illustrated in the following tables are divided into two broad time periods to maximize corresponding flexibility for each associated implementing jurisdiction. Short-term (2016-2025) projects are to be implemented on a priority greater than that for long-term (2026-2035) projects. The division of these investments between two major time frames also balances the projected availability of federal funds (i.e., fiscal constraint) which are expected to support up to eighty percent of development and construction costs. The project priorities within each of the two phases, short-term and long-term, are advisory in nature and dependent upon the availability of Federal, state, and local funding. Low-cost preservation and capacity investment projects may be added to the short-range Transportation Improvement Program if such projects are compatible with the long-range transportation plan.

Public Transit System Improvements

The Bloomington Public Transportation Corporation has realized explosive growth in recent years with ridership reaching the 1.0 million passenger mark in 1999 and then expanding to 2.15 million passengers in 2005. Within this same time frame, Bloomington Transit and Indiana University have:

- Established a fully integrated and coordinated operational transit facilities center on Grimes Lane west of Walnut Street in Bloomington; and
- Implemented logistical and financial accounting systems that permit Indiana University students to use their Campus Bus Service pass on the Bloomington Transit system.

Given these strategic accomplishments, the 2035 Long Range Transportation Plan has identified and focused on a number of service and capital improvements that will be necessary over the next twenty-five years to ensure mobility and transportation options for Bloomington Transit. These improvements include:

- Expanded days of service;
- Extended service hours;
- Increased frequency of service;
- Expanded coverage of service;
- Crosstown service improvements;
- The creation of downtown shuttle/circulator service;
- The establishment of urban and suburban park and ride facilities;
- A greater level of passenger amenities;
- Fleet replacement that will capitalize on alternative fuels and advanced technology;
- Expansion of the existing Grimes Lane transit facility to accommodate increased fleet size;
- More efficient and effective routing for persons with disabilities unable to use the fixed route system; and
- The potential establishment of a regional transit authority to realize further economies of scale for service and cost efficiencies.

Short-term capital fleet replacement for the Bloomington Transit system with diesel propulsion will cost an estimated $11.3 million while long-term replacement with the same propulsion system is projected to cost $6.84 million. Conversely, short-term fleet replacement with an electric hybrid propulsion system is estimated at $17.7 million and long-term replacement with hybrid propulsion is projected to cost $10.7 million.

Public Transit System Improvements (cont.)

Additional public transportation system investments such as a new/expanded downtown transfer center, an expansion of the Grimes Lane facility, vehicle locator/communications systems, paratransit scheduling, advanced fare collection technology, BT accessible vehicle replacement/expansion, support vehicle replacement, and engine/transmission replacement will cost an estimated $13.75 million for the 2016-2025 time frame and $3.55 million between the year 2026 and 2035.

The total public transportation investment need for Bloomington Transit is therefore projected to range from $35,135,000 to $45,515,000 between 2016 and 2035. Bloomington Transit should continue to coordinate the operations and physical facilities improvements with IU Campus Bus and Rural Transit to ensure future transit needs are met. The total Bloomington Transit investments needed exceed projected federal assistance and therefore the following transit needs are identified as short term priorities:

- Expanded and modernized Downtown Transfer Facility;
- Capital Fleet Replacements;
- Span and Frequency of Service for fixed routes;
- Downtown Shuttle or Circulator Service; and
- Park and Ride/Ridesharing.

Alternative Transportation System Projects

The alternative transportation element of the 2035 Long Range Transportation Plan identifies several important improvement projects. These projects include multi-use trails and pathways to be constructed along existing roadways, abandoned railroad rights-of-way, or new terrain locations.

The summary of project cost estimates included in the tables of this chapter highlight funding needs. The availability of federal funding for development and construction will be largely derived from discretionary program funds such as Transportation Enhancement, Recreational Trail, and/or Land and Water Conservation Funds. The appropriate funding program category will be identified by the associated local planning agency at the time of application submissions.

Cost estimates for the recommended transportation projects were derived from and supported by:

- The Jackson Creek Trail Master Plan (2003);
- The Master Plan for the McDoel Switchyard and CSX Rail Corridor (2004);
- The Monroe County Alternative Transportation & Greenways System Plan (2006); and
- The City of Bloomington Alternative Transportation & Greenways System Plan (2008);

Table 5-5 identifies the description for each project, the estimated trail length and a breakdown of costs in 2006 dollars. The implementation of project phases is equally divided between short-term (2016-2025) projects and long-term (2026-2035) projects to reflect the probable availability of program funding streams.

The Bloomington Common Council currently allocates $200,000 a year for bicycle and pedestrian projects. These allocations have traditionally been used for operational costs, right-of-way acquisition, and for capital improvements. Expenditures of this annual allocation are guided by the Bloomington Alternative Transportation and Greenways System Plan, which was last updated in 2008. Development of Monroe County's bicycle and pedestrian transportation network will be guided by the Monroe County Alternative Transportation and Greenways System Plan adopted in 2006.

In addition, other bicycle and pedestrian facilities are included for all applicable improvement projects identified in the 2035 Long Range Transportation Plan. The location, type of facility, and design shall rely on the recommendations contained within the respective Bloomington and Monroe County Alternative Transportation and Greenways System Plans. Therefore the specific costs and timing for these bicycle and pedestrian facilities are fully integrated into the projects listed in tables 5-1 through 5-5.

Conclusion

The 2035 Long Range Transportation Plan remains part of the comprehensive, coordinated and continuing transportation planning process first envisioned in the Federal Aid Highway Act of 1962 for Urbanized Areas. As such, the 2035 Long Range Transportation Plan should be reviewed and updated at least every five years, but may be amended more frequently if necessary to accommodate the ever-changing multi-modal transportation needs of Bloomington, Ellettsville, Monroe County, and the State of Indiana. Tables 5-1 through 5-5 contain the cost feasible projections for the 2030 Long Range Transportation Plan. Refer to Appendix F: Projects Index for a full, detailed description of each of the projects listed in the following tables.

Table 5-1: Summary of Cost Feasible Improvement Projects

Project	Length (miles)	Construction Costs	Right of Way Costs	Preliminary Engineering	Total Project Cost
City of Bloomington / Indiana University					
2nd Street/Bloomfield Road	2.00	$10,107,944	$14,874,936	$2,021,589	$27,004,469
10th Street/14th Street	2.91	$5,627,555	$2,196,000	$1,125,511	$8,949,066
Adams Street	1.78	$4,850,720	$993,384	$970,144	$6,814,248
Moores Pike	1.44	$2,714,695	$645,624	$542,939	$3,903,258
Smith Road	1.98	$3,381,230	$2,525,400	$676,246	$6,582,876
Sudbury Drive	1.39	$3,787,921	$775,732	$757,584	$5,321,238
Tapp Road/Country Club Drive/Winslow Road/Rogers Road	4.74	$12,064,092	$3,906,425	$2,412,818	$18,383,336
Weimer Road	0.70	$1,442,079	$546,421	$288,417	$2,276,917
Jackson Creek Trail	12.05	$10,016,982	$0	$1,202,038	$11,219,020
Sub-Total	28.99	$53,993,218	$26,463,923	$9,997,286	$90,454,427
Monroe County / Town of Ellettsville					
Airport Road/Tapp Road	1.50	$4,444,480	$1,452,771	$843,494	$6,740,745
Fullerton Pike/Gordon Pike/Rhorer Road	4.80	$16,256,709	$1,505,015	$2,438,506	$20,200,230
Kirby Road/Hartstraight Road	6.53	$19,642,366	$11,632,700	$3,928,473	$35,203,539
Leonard Springs Road/Fullerton Pike	2.27	$4,523,760	$4,276,100	$904,752	$9,704,612
Maple Grove Road/Bottom Road	5.71	$5,686,420	$3,278,350	$1,137,284	$10,102,054
SR 37 West Frontage Road	2.20	$6,039,000	$3,362,562	$1,207,800	$10,609,362
Union Valley Road	2.03	$3,687,658	$494,100	$737,531	$4,919,289
Stinesville-Ellettsville Greenway	13.58	$5,305,978	$0	$636,717	$5,942,695
Sub-Total	38.62	$65,586,371	$26,001,597	$11,834,557	$103,422,525
State of Indiana					
Interstate 69	23.30	- - -	- - -	- - -	$66,347,800
Sub-Total	23.30	$0	$0	$0	$66,347,800
Total	90.91	$119,579,589	$52,465,520	$21,831,844	$260,224,753

Table 5-2: Phasing of Highway Capital Improvement Projects for the City of Bloomington & Indiana University

Project	Total Project Cost	Federal	Local Match	Other Funds	Project Total Funds	Cumulative Amounts
Short-Term Projects (2016-2025)						
2nd Street/Bloomfield Road (Phase I)	$3,005,387	$2,404,310	$601,077	$0	$3,005,387	$3,005,387
10th Street/14th Street	$8,949,066	$7,159,253	$1,789,813	$0	$8,949,066	$11,954,453
Smith Road (Phase I)	$3,291,438	$2,633,150	$658,288	$0	$3,291,438	$15,245,891
Sudbury Road	$0	$0	$0	$5,321,238	$5,321,238	$20,567,129
Weimer Road	$2,276,917	$1,821,534	$455,383	$0	$2,276,917	$29,658,294
Fiscal Years 2016-2025 (totals)	$17,522,808	$14,018,246	$3,504,562	$5,321,238	$22,844,046	
Long-Term Illustrative Projects (2026-2035)						
Adams Street	$6,814,248	$5,451,398	$1,362,850	$0	$6,814,248	$6,814,248
2nd Street/Bloomfield Road (Phase II)	$18,047,010	$14,437,608	$3,609,402	$0	$18,047,010	$24,861,258
2nd Street/Bloomfield Road (Phase III)	$5,952,072	$4,761,658	$1,190,414	$0	$5,952,072	$30,813,330
Moores Pike	$3,903,258	$3,122,606	$780,652	$0	$3,903,258	$34,716,588
Smith Road (Phase II)	$3,291,438	$2,633,150	$658,288	$0	$3,291,438	$38,008,026
Tapp Road/Country Club Drive/Winslow Road/Rogers Road	$18,383,336	$14,706,669	$3,676,667	$0	$18,383,336	$56,391,362
Fiscal Years 2026-2035 (totals)	$56,391,362	$45,113,090	$11,278,272	$0	$56,391,362	

Table 5-3: Phasing of Highway Capital Improvement Projects for Monroe County & Ellettsville

Project	Total Project Cost	Federal	Local Match	Other Funds	Project Total Funds	Cumulative Amounts
Short-Term Projects (2016-2025)						
Fullerton Pike/Gordon Pike/Rhorer Road (Phase I)	$11,666,899	$9,333,519	$2,333,380	$0	$11,666,899	$11,666,899
Fullerton Pike/Gordon Pike/Rhorer Road (Phase II)	$886,005	$708,804	$177,201	$0	$886,005	$12,552,904
Fullerton Pike/Gordon Pike/Rhorer Road (Phase III)	$3,345,705	$2,676,564	$669,141	$0	$3,345,705	$15,898,609
Fiscal Years 2016-2025 (totals)	$15,898,609	$12,718,887	$3,179,722	$0	$15,898,609	
Long-Term Illustrative Projects (2026-2035)						
Airport Road/Tapp Road	$6,740,745	$5,392,596	$1,348,149	$0	$6,740,745	$6,740,745
SR 37 West Frontage Road	$10,609,362	$8,487,490	$2,121,872	$0	$10,609,362	$17,350,107
Fullerton Pike/Gordon Pike/Rhorer Road (Phase IV)	$4,301,621	$3,441,297	$860,324	$0	$4,301,621	$21,651,728
Union Valley Road	$4,919,289	$3,935,431	$983,858	$0	$4,919,289	$26,571,017
Kirby Road/Hartstraight Road	$35,203,539	$28,162,831	$7,040,708	$0	$35,203,539	$61,774,556
Leonard Springs Road/Fullerton Pike	$9,704,612	$7,763,690	$1,940,922	$0	$9,704,612	$71,479,168
Maple Grove Road/Bottom Road	$10,102,054	$8,081,643	$2,020,411	$0	$10,102,054	$81,581,222
Fiscal Years 2026-2035 (totals)	$81,581,222	$65,264,978	$16,316,244	$0	$81,581,222	

Table 5-4: Phasing of Highway Capital Improvement Projects for the State of Indiana in Monroe County

Project	Total Project Cost	Federal	Local Match	Other Funds	Project Total Funds	Cumulative Amounts
Short-Term Projects (2016-2025)						
Interstate 69 (Section 5)	$66,347,800	$55,341,200	$11,006,600	$0	$66,347,800	$66,347,800
Fiscal Years 2016-2025 (totals)	$66,347,800	$55,341,200	$11,006,600	$0	$66,347,800	
Long-Term Illustrative Projects (2026-2035)						
	$0	$0	$0	$0	$0	$0
Fiscal Years 2026-2035 (totals)	$0	$0	$0	$0	$0	

Table 5-5: Phasing of Bicycle & Pedestrian Capital Improvement Projects for the City of Bloomington, Monroe County, and Ellettsville

Project	Total Project Cost	Federal	Local Match	Other Funds	Project Total Funds	Cumulative Amounts
Short-Term Projects (2016-2025)						
Jackson Creek Trail (Phase I) - Rhorer Road to Child's School	$1,654,670	$1,323,736	$330,934	$0	$1,654,670	$1,654,670
Jackson Creek Trail (Phase II) - Rhorer Road to Fairfax Road	$1,477,081	$1,181,665	$295,416	$0	$1,477,081	$3,131,751
Jackson Creek Trail (Phase III) - Rhorer Road to Schmalz Park	$1,184,058	$947,246	$236,812	$0	$1,184,058	$4,315,809
Fiscal Years 2016-2025 (totals)	$4,315,809	$3,452,647	$863,162	$0	$4,315,809	
Long-Term Illustrative Projects (2026-2035)						
Jackson Creek Trail (Phase IV) - Child's School to Southeast Park	$955,894	$764,715	$191,179	$0	$955,894	$955,894
Jackson Creek Trail (Phase V) - Schmalz Park to SR 446/Moores Pike	$1,227,297	$981,838	$245,459	$0	$1,227,297	$2,183,191
Jackson Creek Trail (Phase VI) - Sare Road to SR 446/Moores Pike	$1,946,921	$1,557,537	$389,384	$0	$1,946,921	$4,130,112
Jackson Creek Trail (Phase VII) - Fairfax Road to Clear Creek Trailhead	$2,773,098	$2,218,478	$554,620	$0	$2,773,098	$6,903,210
Stinesville-Ellettsville Greenway (Monroe County)	$5,942,695	$4,754,156	$1,188,539	$0	$5,942,695	$12,845,905
Fiscal Years 2026-2035 (totals)	$12,845,905	$10,276,724	$2,569,181	$0	$12,845,905	

Transportation Planning Requirements

A

2035 Long Range Transportation Plan

Federal Statutes

Transportation planning for federal-aid projects became mandatory in urban areas of the nation with the passage of the Federal Aid Highway Act of 1962. The 1962 Act required the establishment of a coordinated, comprehensive, and continuing transportation planning process, and led to the designation of Metropolitan Planning Organizations (MPO's) for transportation planning by the Governor of each State.

The Governor of the State of Indiana designated the City of Bloomington Plan Commission as the Metropolitan Planning Organization for the Bloomington/ Monroe County urbanized area in March 1982.

The Bloomington/Monroe County MPO is an organization consisting of:

- An intergovernmental Policy Committee that is advised by the Technical Advisory Committee and the Citizen Advisory Committee;
- The Bloomington Plan Commission as the contracting entity; and
- The City of Bloomington Planning Department as the lead staff agency.

This structure effectively provides close communication between the technical planning staff, key policy/decision-makers, and citizens' representatives. In addition, the Planning Department maintains close working relationships with other City departments, Monroe County governmental agencies, Bloomington Transit, Indiana University, the Indiana Department of Transportation, the Federal Highway Administration, and the Federal Transit Administration.

As an arm of State government, the MPO is responsible for the preparation and maintenance of a Long Range Transportation Plan, conducting short-range transportation studies as needed, collecting and maintaining information on the metropolitan transportation system, and advising the Indiana Department of Transportation (INDOT) on transportation improvement projects and priorities within the urbanized area.

The Clean Air Act of 1971 required the development of a State Implementation Program (SIP) for achieving National Ambient Air Quality standards (NAAQS) in non-attainment areas. The relationship between transportation planning and air quality planning was formalized with the Clean Air Act Amendments of 1990, which established a direct relationship between projects in the metropolitan transportation improvement program and air quality compliance. As an attainment area for air quality, Bloomington has not been subjected to these requirements.

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 represented a fundamental federal policy shift for transportation planning and funding in that it emphasized intermodal relationships and more efficient use of existing transportation investments. ISTEA also incorporated requirements of the 1990 Clean Air Act Amendments by requiring conformity of new transportation investments and transportation control measures with air quality goals. By enhancing market-based inter-modal transportation and mode inter-connectivity relationships, the implementation of ISTEA was designed to improve efficiency in the movement of goods and persons, increase safety, and ensure secure public transportation investments.

The Transportation Equity Act for the 21st Century (TEA-21) enacted in June 1998, authorized the Federal surface transportation programs for highways, highway safety, and transit from 1998 to 2003. The TEA-21 Restoration Act, enacted July 1998, provided technical corrections to the original law. The material presented in this chapter reflects the requirements of these two laws and refers to this combination as TEA-21.

TEA-21 maintained a 20-year planning perspective, air quality consistency, fiscal constraint, and public involvement requirements established under ISTEA. However, TEA-21 permitted the identification of additional projects for "illustrative purposes" that would be included in the Long-Range Transportation Plans and Transportation Improvement Programs if reasonable additional funding sources were available.

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was enacted in August 10, 2005 as a replacement for TEA-21. SAFETEA-LU authorizes the Federal surface transportation programs for highways, highway safety, and transit from 2005 to 2009.

Federal guidelines for the implementation of SAFETEA-LU with regard to metropolitan transportation plans have yet to be issued. The Bloomington/Monroe County Year 2030 Transportation Plan was therefore developed in consultation with the FHWA, Indiana Division, using the guidelines established by TEA-21.

TEA-21 states: "It is in the national interest to encourage and promote the safe and efficient management, operation, and development of surface transportation systems that will serve the mobility needs of people and freight and foster economic growth and development within and through urbanized areas, while minimizing transportation-related fuel consumption and air pollution".

The Metropolitan Planning Organization (MPO) for the Bloomington/Monroe County urbanized area is to carry out a continuing, cooperative, and comprehensive transportation planning process that results in plans and programs considering all transportation modes and supporting community development and social goals. This process is to lead to the development and integrated management and operation of integrated, intermodal transportation systems and facilities for the efficient, economic movement of people and goods.

The primary products of the MPO are the Unified Planning Work Program (UPWP), the Long Range Transportation Plan (LRTP) and the Transportation Improvement Program (TIP).

Under current federal requirements, the 2030 Long Range Transportation Plan is to:

- Include short-range and long-range strategies and actions for the development of integrated, inter-modal transportation system;
- Cover a period of at least twenty years and the geographic area expected to be urbanized in that period;
- Address congestion management strategies;
- Contain an element for bicycle and pedestrian transportation;
- Reflect the results of the management systems;
- Assess capital investment and other measures to preserve the existing transportation system and make more efficient use of existing transportation facilities to relieve congestion and enhance the mobility of people and goods;
- Include design concept and scope descriptions of all existing and proposed transportation facilities;
- Reflect a multi-modal evaluation of transportation, socioeconomic, environmental, and financial impacts;
- Identify any major transportation investment requiring further analysis;
- Reflect area comprehensive plans and other goals and strategies for employment, housing economic development, environmental protection, and energy conservation;
- Identify transportation enhancement activities;
- Contain information on available financial resources; and
- Address current planning process factors prescribed under federal legislation.

Transportation Planning Process Factors

Transportation planning process factors which were considered by the MPO in the development of the 2030 Long Range Transportation Plan under TEA-21 are categorized into seven broad areas as follows:

A. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency, through:
   - The likely effect of transportation decisions on land use and land development, and the consistency of transportation plans and programs with the provisions of short-range and long-range land use and development plans.
   - International border crossings and access to ports, airports, intermodal transportation facilities, major freight distribution routes, national parks, recreation and scenic areas, monuments and historic sites and military installations.
   - Connectivity of roads within metropolitan planning areas with roads outside that area.
   - Recreational travel and tourism.

B. Increase the safety and security of the transportation system for motorized and non-motorized users, by:
   - Capital investments that would result in the increased security in transit systems.

C. Increase the accessibility and mobility options available to people and for freight, by:
   - The effects of all transportation projects to be undertaken within the metropolitan area without regard to source of funding.
   - Expansion, enhancement, and increased use of transit services.

D. Protect and enhance the environment, promote energy conservation and improve the quality of life, by:
   - Consistency of transportation planning with applicable Federal, State, or local energy use goals, objectives, programs, or requirements.
   - The overall social, economic, energy and environmental effects of transportation decisions.

E. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight by:
   - Enhancement of efficient freight movement.
   - Programming of expenditures for transportation enhancement activities.

F. Promote efficient system management and operation, by:

- The need to relieve congestion and prevent congestion from occurring where it does not yet occur including: The consideration of congestion management strategies or actions which improve the mobility of people and goods in all phases of the planning process; and a congestion management system that provides for effective management of new and existing transportation facilities through the use of travel demand reduction and operation management strategies.
- The transportation needs identified through the use of the management systems.
- Preservation of rights-of-way for construction of future transportation facilities, including identification of unused right-of-way which may be needed for future transportation corridors.
- The use of life-cycle costs in the design and engineering or bridges, tunnels, or pavements.

G. Emphasize the preservation of the existing transportation systems, by

- Preservation of the existing transportation facilities and, where practical, ways to meet transportation needs by using existing transportation facilities more efficiently.

The 2030 Long Range Transportation Plan provides a framework for transportation policy planning requirements and ensures that investment decisions will be made in accordance with federal statutes, general metropolitan planning requirements, and transportation planning process factors.

Methodology

B

2035 Long Range Transportation Plan

INTRODUCTION

The foundation from which any long range transportation plan is constructed is comprised of two crucial components: sound technical analysis and engaged public participation. The 2030 Long Range Transportation Plan for the Bloomington/ Monroe County Metropolitan Planning Organization was developed by incorporating these two principles to the fullest extent possible.

The production of technical data and the corresponding analysis was provided by Bernardin Lochmueller & Associates, Inc. (BLA). The work produced by BLA was then reviewed by a technical review committee made up of MPO, City of Bloomington, Monroe County, and Town of Ellettsville staff. This oversight of the consultant's work ensured the production of all details were locally supervised and that the process remained locally driven.

Public input into the development of the plan was afforded through public workshops, the Citizens Advisory Committee, and the Policy and Technical Advisory Committees of the Metropolitan Planning Organization. Two rounds of public workshops were held, including meetings in Bloomington and Ellettsville during both rounds. The public was given the opportunity to identify transportation priorities and areas of concern during the first round of workshops on November 8, 2005. At the second pair of public workshops, held on February 21, 2006, projects proposed for inclusion in the 2030 Long Range Transportation Plan were highlighted and attendees were given the opportunity to prioritize these projects.

The second public participatory process involved the MPO Citizens Advisory Committee. The Citizens Advisory Committee (CAC) discussed elements of the plan at nine different meetings over the course of nine months, all of which were open to the public. During these meetings, the CAC formulated a vision statement and were presented with the draft plan and critical elements of the plan as they became available. After careful consideration of the information, the CAC was able to formulate its recommendation.

The third opportunity for public participation was during the numerous Policy and Technical Advisory Committee meetings in which the Long Range Transportation Plan was discussed. The Policy and Technical Advisory Committees discussed elements of this plan at seven different meetings over the course of six months. During these meetings, the Committees developed the vision statement of the Long Range Transportation Plan, were presented with the alternatives and their outcomes, and were presented with public input on the Plan from both the CAC and the public workshops. This process led the Policy Committee to take official action on the Plan.

Technical Assistance

Technical assistance on the 2030 Long Range Transportation Plan was provided by Bernardin Lochmueller & Associates, Inc. (BLA). BLA began work in July 2005 following a publicly announced request for proposals. BLA was charged with helping the MPO achieve the following objectives over a six month period:

- Ensure the 2030 Long Range Transportation Plan update will meet the planning requirements of INDOT, FHWA and FTA;
- Move the base year of the Bloomington/Monroe County Travel Demand Model (TDM) in TRANSCAD up to the year 2000 and ensure validation of the TDM as an acceptable tool for predicting travel patterns;
- Develop county-wide socioeconomic forecasts for the year 2030, and allocate household and employment growth to the Traffic Analysis Zones (TAZ) consistent with recent development activity and the most recent updates of City of Bloomington Growth Policies Plan and the Monroe County Comprehensive Land Use Plan;
- Move the travel forecast year to the year 2030 with alternative external trip tables with and without I-69;
- Review future transportation needs through an update of the Existing-Plus-Committed Roadway Network and application of 2030 travel patterns;
- Examine and validate future transportation improvements of the previous 2025 Long Range Transportation Plan with respect to future transportation needs for the year 2030 without and with I-69;
- Update future transportation improvement costs and forecasted funding sources;
- Evaluate the performance of transportation improvements in accordance with adopted transportation goals; and
- Help to produce an updated and approved multi-modal Transportation Plan report.

The work produced by BLA was analyzed on an on-going basis by a technical review committee comprised of MPO, Monroe County, City of Bloomington, and Town of Ellettsville staff. The committee provided feedback and direction on the consultant's work, ensuring local control of the update process. The technical review committee performed the following functions relevant to the work performed by BLA:

- Determined the Existing Plus Committed network;
- Verified employment and population data;
- Coordinated economic growth projections;
- Formulated all of the Alternatives for the Plan;
- Determined location and preferred design features of the proposed freeway facility;
- Provided all traffic volume data that went into the Travel Demand Model's calibration;
- Determined the appropriate level of service for functionally classified roads in the urbanized area; and
- Formulated the Preferred Alternative that was recommended to the Policy

PUBLIC PARTICIPATION

The opportunity for broad based public participation was provided during a series of public workshops focusing on the Long Range Transportation Plan. Workshops were presented in both Bloomington and Ellettsville to reach both rural and urban citizens within the MPO. Workshops at the two locations were held on the same day and provided with identical information.

ROUND 1 PUBLIC WORKSHOPS

The first round of public workshops was conducted on November 8, 2005 to obtain public input for the 2030 Long Range Transportation Plan. These workshops presented several activities that were intended to elicit opinion on existing transportation facilities, transportation facility needs, transportation funding priorities, and general comments on other transportation concerns and issues.

The following locations were used:

- Ellettsville Fire Department Community Meeting Room
- Bloomington Convention Center Meeting Room

Fifty-nine total attendees were arranged in small groups to facilitate discussion. After welcome and introductions, participants were given an overview of the 2030 Long Range Transportation Plan. In particular, it was explained what function the Plan serves and why it needs to be updated.

The groups were then given maps of both Bloomington and Monroe County and each individual was asked to identify the three biggest transportation problems and the three most important improvements that should be made. A group note-taker recorded these specific comments which were then presented to everyone in attendance.

A survey was distributed to all participants of the workshop. The survey was meant to elicit input on a number of transportation issues, help gauge public sentiment on the community's transportation priorities, and provide an opportunity for individuals to write-in comments on specific transportation concerns relevant to them. Staff was available to answer any questions that workshop participants had about the survey.

Individuals unable to attend the workshop were also given a chance to complete the survey. Printed copies were available in the City of Bloomington Planning Department and an electronic version was posted on the MPO website. The surveys gathered at the workshops were then supplemented by those received by the Planning Department either by surface mail or facsimile. A total of fifty completed surveys were received. The top responses to each of the questions asked

TABLE B-1: NOVEMBER 8, 2005 WORKSHOP SURVEY RESULTS

Top Citizen Responses to Survey Questions		
Category	Survey Question	Top Response
Existing Transportation Facilities	Most important to the future?	City or Town roads
	Most in need of improvement?	Sidewalks
Transportation Problems	Most pressing issues of today?	
	Roads	Road Congestion
	Bicycle/Pedestrian	Lack of Sidewalks
	Public Transit	Inefficient Public Timing
Transportation Funding Priorities	Where should money be spent?	Building sidewalks and other pedestrian facilities

on the survey are shown in Table B-1.

In an effort to inform the community of the first round of workshops and encourage public participation in the update of the Long Range Transportation Plan, press releases were posted on the City of Bloomington's website and sent to the local media. As a result, the following articles were published in the local newspaper:

- "Public meetings set on long-range transportation plans," by Kurt Van der Dussen printed on November 7, 2005 in the Herald Times; and
- "Trains, (planes?) and automobiles," by Sarah Morin printed on November 9, 2005 in the Herald Times.

ROUND 2 PUBLIC WORKSHOPS

A second round of public workshops was conducted on February 21, 2006 to obtain public input on the projects recommended for inclusion in the 2030 Long Range Transportation Plan. The workshops were structured to provide citizens with an update of the Plan and the projects identified therein, as well as gauge public sentiment towards these projects. The same locations in Bloomington and Ellettsville were used as during the first round of workshops.

After the welcoming statement and introductions, MPO staff gave a presentation using maps and a Powerpoint slideshow. The presentation illustrated the development process the MPO is required to follow in the update of the Long Range Transportation Plan. Staff also highlighted elements of the draft 2030 Long Range Transportation Plan including the projects of the recommended alternative. Workshop participants were informed of upcoming meetings relevant to and necessary for Plan adoption. Workshop attendees were then given an opportunity

TABLE B-2: FEBRUARY 21, 2006 WORKSHOP SURVEY RESULTS

City of Bloomington/Indiana University Projects			
Implementation Priority	Priority Ranking %		
	High	Low	None
2nd Street/Bloomfield Road - Road widening from SR 37 to Walnut Street.	79.3	13.8	6.9
10th Street/14th Street - Road reconstruction from Dunn Street to SR 45/46 Bypass; create one-way pair.	38.6	45.6	15.8
17th Street - Road reconstruction from SR 37 to SR 45/46 Bypass with intersection improvements.	43.9	35.1	21.1
Adams Street - New road construction from Rockport Road to Allen Street.	10.7	62.5	26.8
Dunn Street - New road extension between 12th Street to 13th Street with a railroad crossing; possible one-way pair with Indiana Avenue.	28.1	47.4	24.6
Moores Pike - Road widening from College Mall Road to SR 446.	31.6	42.1	26.3
Smith Road - Road widening from Rogers Road to 3rd Street.	31.6	45.6	22.8
Sudbury Drive - New road construction from Weimer Road to Rogers Street.	17.5	63.2	19.3
Tapp Road/Country Club Drive/Winslow Road/Rogers Road - Road widening from Weimer Road to Smith Road.	53.4	32.8	13.8
Weimer Road - Road reconstruction from Wapehani Road to Bloomfield Road.	16.1	39.3	44.6

Greenways Projects			
Implementation Priority	Priority Ranking %		
	High	Low	None
CSX Corridor Trail	67.8	16.9	15.3
Jackson Creek Trail	37.9	48.3	13.8
Karst Farm Trail	39.0	44.1	16.9
Stinesville-Ellettsville Greenway	41.4	39.7	19.0

Monroe County/ Town of Ellettsville Projects			
Implementation Priority	Priority Ranking %		
	High	Low	None
Airport Road/Tapp Road - Road reconstruction from Kirby Road to SR 45 and a new road connection between SR 45 and Leonard Springs Road.	56.1	28.1	15.8
Fullerton Pike/Gordon Pike/Rhorer Road - Road widening and connection from SR 37 to Snoddy Road.	38.6	47.4	14.0
Hartstrait Road - New road connection and reconstruction between SR 46 and Delap Road	22.8	54.4	22.8
Kirby Road/Hartstrait Road - New road connection and reconstruction between SR 45 and SR 46.	35.1	43.9	21.1
Leonard Springs Road/Eller Road - Road reconstruction from SR 37 to SR 45.	38.6	42.1	19.3
Maple Grove Road/Bottom Road - Road reconstruction between SR 46 and SR 37.	19.3	50.9	29.8
SR 37 Frontage Road - Construction between SR 48 and SR 46 beginning north of Whitehall Crossing.	42.1	40.4	17.5
Union Valley Road - Road reconstruction from SR 46 to McNeely Street.	22.8	52.6	24.6

Indiana Department of Transportation Projects			
Implementation Priority	Priority Ranking %		
	High	Low	None
I-69 (Greene County Line to Morgan County Line) - SR 37/New Terrain Route through Monroe County.	49.1	12.7	38.2
SR 45 - Road widening from Greene County Line to Curry Pike.	56.1	29.8	14.0
SR 45 - Road widening from Russell Road to Bethel Lane.	28.1	45.6	26.3
SR 46 - Road widening from SR 446 to four miles east of SR 446.	28.6	50.0	21.4
SR 46 - Road widening from Owen County Line to Red Hill Road.	40.4	31.6	28.1

to ask questions at the end of the presentation in both open-forum format and one-on-one with MPO staff.

Workshop participants were provided with map handouts of Bloomington and Monroe County which identified all of the improvement projects in the recommended alternative. Participants were encouraged to rank the importance of these projects on a survey that was distributed to them. Participants were able to rank projects as "high, low, or none" in an effort to help MPO staff determine if a project should be completed in the short term, the long term, or not at all.

As with the previous workshop, the survey was available in the Bloomington Planning Department and posted to the MPO's website. Additionally, the survey was sent out to members of the Chamber of Commerce via the Chamber e-News. A total of 59 completed surveys were received from either workshop participation, hand-delivery, mail, facsimile, or electronic mail. Surveys were accepted until March 13, 2006 to provide citizens ample time to complete and return the surveys. The results of this survey are presented in Table B-2.

Public outreach efforts were performed again to encourage public participation at the February 21, 2006 workshop. MPO staff conducted radio interviews on WFHB (93.1FM) and WGCL (1370AM) on February 21, 2006. Press releases posted on Bloomington's website and sent to the local media resulted in the following published articles:

- "Last chance today to help shape long-range transportation plan," by Sarah Morin printed on February 21, 2006 in the Herald Times;

CITIZENS ADVISORY COMMITTEE

The MPO Citizens Advisory Committee (CAC) is a volunteer group of citizens with members representing a broad spectrum of the community. It provides recommendations to the Policy and Technical Advisory Committees on transportation related topics that affect the MPO. All meetings of the Citizens Advisory Committee are open to the public.

The CAC was involved throughout the development of the 2030 Long Range Transportation Plan as detailed below:

- June 22, 2005: The CAC was asked to review the inclusion of several projects in the update of the 2025 Long Range Transportation Plan;
- August 24, 2005: The CAC was informed of the update process including work to be performed by the consultant;
- September 28, 2005: Formulation of an alternate vision statement that was agreeable to the CAC was discussed. Staff also provided the CAC with an update of the travel demand model and the socioeconomic data forecasts used to generate this model. The structure of the public workshops was also discussed at this time;
- November 16, 2005: CAC members further discussed their vision statement for the 2030 Long Range Transportation Plan;
- December 14, 2005: The CAC was presented with the results from the public workshops held on November 8th and adopted its vision statement (as stated below);
- January 25, 2006: The CAC was informed of the expected timetable for the 2030 Long Range Transportation Plan adoption process;
- February 22, 2006: Staff presented the CAC with the details of the recommended alternative. The public workshops held the night before and future meetings pertinent to the adoption process were also discussed;
- March 8, 2006: At a special meeting the CAC was able to comment and ask questions on the first full copy draft of the 2030 Long Range Transportation Plan;
- March 22, 2006: The CAC made a final recommendation on the completed draft of the 2030 Long Range Transportation Plan.

CITIZENS ADVISORY COMMITTEE VISION STATEMENT

As indicated above, the Citizens Advisory Committee formulated a vision statement that reflected its priorities for the future of transportation in the community. The CAC vision statement, as adopted by that Committee on December 14, 2005, is as follows:

We believe the next twenty-five years challenge us to decrease our dependence upon the automobile and increase our usage of alternative forms of transportation such as mass transit, walking, and bicycling. We feel these forms of transportation should be given priority and encouragement to replace a significant portion of automobile transportation by 2030. We feel it is both possible and necessary for all forms of mechanical transport to operate with less pollution and increased fuel efficiency by 2030 and, by giving priority and encouragement to alternative fuels, fuel efficiency, and technologies, our environment can be improved and our vehicles made to waste less of our precious nonrenewable resources.

Recommendations

- *The 2030 Long Range Transportation Plan (2030 Plan) must encourage land use decisions that reduce automobile usage. Land uses prescribed by the Bloomington Growth Policies Plan such as mixed-use activity centers, Neighborhood Activity Centers (NAC's), and Community Activity Centers (CAC's) must be developed to provide urban infill and limit fringe area development. Appropriate land uses must be sought which decrease our reliance on the automobile and increase our reliance on pedestrian, bicycle, and mass transportation.*
- *The 2030 Plan must encourage the connectivity prescribed by the Bloomington Growth Policies Plan within and between neighborhoods, and between the neighborhoods and retail and commercial zones. Improved connectivity will encourage use of pedestrian, bicycle, and mass transportation systems and will reduce usage of the automobile.*
- *The 2030 Plan must encourage the integration and expansion of city, county, and university mass transportation systems. A single mass transportation system must be developed that provides seamless and efficient transportation between rural and metropolitan areas and reduces usage of the automobile.*
- *The 2030 Plan must encourage Indiana University to recognize its responsibility to the community and participate fully in transportation planning with the City of Bloomington, Monroe County, and the Town of Ellettsville. The university must join in developing a common vision of city and county transportation and must provide resources and cooperation to develop a system that reduces automobile usage.*
- *The 2030 Plan must encourage the use of high efficiency technologies and low polluting fuels in all mechanized vehicles operating within Monroe County.*
- *The 2030 Plan must encourage ride-sharing between Bloomington and Indianapolis as a short term alternative to single passenger automotive travel. In the long term it must encourage a mass transportation system between Bloomington, Indianapolis and other commuter destinations to reduce usage of the automobile.*

POLICY & TECHNICAL ADVISORY COMMITTEES

The Policy Committee of the MPO discusses and approves MPO policy. It is made up of local elected and appointed officials from Bloomington, Monroe County, Ellettsville, Indiana University, Bloomington Transit and State/Federal transportation agencies. The Technical Advisory Committee provides technical advice to the Policy Committee on MPO projects and programs. The Technical Advisory Committee is made up of technical and administrative staff representing the same jurisdictions that participate in the Policy Committee. All meetings of the Policy and Technical Advisory Committees are open to the public.

The Policy and Technical Advisory Committees addressed the 2030 Long Range Transportation Plan at the following meetings:

- September 9, 2005: The Policy and Technical Advisory Committees first addressed technical data and the Vision Statement of the 2030 Long Range Transportation Plan;
- October 14, 2005: The Policy and Technical Advisory Committees discussed the vision statement and the public workshops. An update of the travel demand model and the socioeconomic data that went into its formulation were also reviewed at this meeting;
- November 4, 2005: A representative of BLA was present to explain and answer questions on the scope of work performed by the firm. The travel demand model and the data that went into this model were explained in detail to the Policy and Technical Advisory Committees at this meeting. Additionally, the public workshops to be held on November 8th in Bloomington and Ellettsville were discussed;
- December 9, 2005: The Policy and Technical Advisory Committees were presented with a workshop summary report. The six alternative scenarios were also presented to the Committee at this time;
- January 13, 2006: The Policy and Technical Advisory Committees were again provided with an overview of the alternatives. The differences between the 2025 Plan and the proposed 2030 Plan were also highlighted at this meeting;
- February 10, 2006: Staff presented the recommended alternative to the Policy and Technical Advisory Committees. No objections to establishing Alternative Five as the preferred alternative were raised by the Committees;
- March 10, 2006: The Policy and Technical Advisory Committees were presented with a full copy of the first draft of the 2030 Long Range Transportation Plan;
- March 31, 2006: After recommended changes were incorporated, the Policy Committee took official action on the 2030 Long Range Transportation Plan.

Alternatives Analysis

2035 Long Range Transportation Plan

C

Introduction

This appendix details the development and evaluation of six transportation improvement alternatives that address the major transportation problems forecasted for the year 2030. These alternatives represent various future scenarios, providing an opportunity to test a variety of transportation improvement combinations.
For the 2030 Long Range Plan, emphasis was placed on using the adopted 2025 Future Transportation Needs Plan for developing new alternatives to analyze. This approach allowed for the creation of a more limited number of realistic and feasible alternative scenarios. This appendix provides a detailed summary of each of the six alternatives, including the specific improvements proposed for each alternative and the impact that each alternative would have on the performance of the overall road

Base Year Network

The year 2000 was established as the new Base Year for the Bloomington/Monroe County Travel Demand Model. The new Base Year Network in the Travel Demand Model incorporates road projects completed up to and including the year 2000. The following projects were added to the original 1997 Base Year Network to establish the 2000 Base Year Network for travel model calibration and validation:

- College Mall Road Phase I (1998): Road widened to four lanes with left-turn lane improvements from 3rd Street to 2nd Street
- Landmark Avenue (1998/1999): New two lane road connection constructed between 3rd Street and 2nd Street/Bloomfield Road
- State Road 37 West Frontage Road (1998/1999): New two lane road connection (Gates Drive) constructed from State Road 48 to Whitehall Crossing Boulevard and right-in/right-out for Whitehall Crossing Boulevard to State Road 37
- Winslow Road/High Street/Rogers Road (1999): Signalized intersection converted to a free-flow roundabout configuration
- Patterson Drive (1999/2000): New two lane road connection constructed from 3rd Street to 2nd Street and from Allen Street to Grimes Lane
- West 3rd Street Phase I (2000): Road widened to three lanes from Elm Street to Adams Street and four lanes from 5th Street to Landmark Avenue (Des. #931350)
- Curry Pike Phases I, II, and III (2000): Road widening for four lanes from Constitution Avenue to Jonathan Drive (Des. #9286025)
- Old State Road 37/Rhorer Road/Gordon Pike (2000): Intersection safety improvements and signalization (Des. #9485600)
- Country Club Drive/Rogers Street (1999): Intersection improvement and signalization

EXISTING PLUS COMMITTED NETWORK

The year 2000 Base Year Network was then used as the basis for creating the Existing Plus Committed (E+C) Network. The E+C Network adds completed, under construction and programmed roadway projects since the year 2000 to the Base Year Network. This network can also be considered the "No-Build" network which would result if current projects were completed but no future improvements were made.

The following projects were added to the Base Year Network to create the E+C Network:

- College Mall Road (2003): Road widening to four lanes with left-turn lanes from 2nd Street to Moores Pike (Des. #9486030)
- West 3rd Street Phase II (Construction 2008): Road widening to four lanes with left-turn lanes from east of Landmark Avenue to SR 37 (Des. #300766)
- Curry Pike City Phase (R.O.W. 2008): Road widening for four lanes from SR 45 to Constitution Avenue (Des. #300858)
- Curry Pike Phase III & IV (2003/2005): Road widening to four lanes from Jonathan Drive to SR 46 (including new road segment from Woodyard Road to SR 46), new four lane road from SR 46 to Stoutes Creek currently under construction, and two lane road to Arlington Road via Hunter Road
- Vernal Pike Phase I (Construction 2006): Road widening to three lanes from Curry Pike to Loesch Road and two-lane reconstruction from Loesch Road to Hartstrait Road (Des. #9485590)
- Vernal Pike Phase II (Construction 2008): Road widening to three lanes from SR 37 to Curry Pike (Des. #9485590)
- State Road 48/Daniel's Way (2001): Intersection signalization
- Country Club Drive/Rogers Street (Construction 2008): Intersection reconfiguration to add left-turn lanes
- Rogers Road/Smith Road (Construction 2006): Curve realignment
- 3rd Street/Atwater Avenue (R.O.W. 2008): Extension of one-way pair from Mitchell Street to High Street at 3rd Street
- Tapp Road Phase III (Construction 2007): Road widening to four lanes from the existing 4-lane section east of SR 37 to Weimer Road
- Basswood Drive (Construction 2008): Construction of new two lane roadway between Bloomfield Road and 3rd Street at Johnson Avenue (incorporating existing Basswood Drive alignment)
- Weimer Road (Construction 2008): Realignment of Weimer Road between Tapp Road and Wapehani Road
- Liberty Drive (2001): Construction of new two lane roadway connection between Constitution Boulevard and SR 48
- Daniel's Way: Construction of two lanes for a new roadway connection

between existing north-south terminus extending westward to Hartstrait Road

- Park Square Drive (2003): Construction of new two lane roadway connection from existing terminus to SR 48 at Wayne's Lane/Profile Parkway, including signalization at SR 48
- State Road 45/46 Bypass (Construction 2009): Road widening to four lanes from Walnut Street to 3rd Street (Des #9010075)
- State Road 46 (2003): Construction of new four lane divided roadway connection from SR 37 to Smith Pike; Road widening to four lanes from Smith Pike to east of CSX Railroad; Temperance Street-Main Street one-way pair from east of CSX Railroad to McNeely Street; Road widening to four lanes from McNeely Street to Maple Grove Road
- State Road 48 (Construction 2006): Road widening to four lanes from Curry Pike to west of Hartstrait Road (Des. #8461610)
- State Road 45 (Construction 2006): Road widening to four lanes from State Road 45/46 Bypass to Pete Ellis Drive (Des. #8824615)
- State Road 45 (R.O.W 2008): Road widening and reconstruction for three lanes from Pete Ellis Drive to Russell Road (Des. #9902910)
- Sare Road Phase I (Construction 2008): Reconstruction from Rogers Road to David Drive, including signalization at Rogers Road
- Sare Road Phase II (R.O.W. 2008): Reconstruction from McCartney Lane to 400 feet south of Moores Pike
- 7th Street: Roadway access disconnected from Woodlawn Avenue to Jordan Avenue
- State Road 46: Signalization at Pete Ellis Drive and Clarizz Boulevard
- Bloomfield Road: Signalization at Basswood Drive
- State Road 45: Signalization at Industrial Boulevard

Proposed Improvement Projects

Future transportation patterns were projected onto the Existing Plus Committed Network to identify capacity deficiencies on the network in the year 2030. Potential transportation improvement projects that could alleviate these deficiencies were then developed. A subcommittee of staff members from the MPO, the City of Bloomington, Monroe County, and the Town of Ellettsville developed six alternative project scenarios to be tested on the 2030 E+C Network.

In order to determine which project, or combination of projects, provided the greatest community benefit, the following guidelines were used during the evaluation process:

- Public input
- User benefits
- Total project costs
- Community impacts
- Environmental impacts

Below is a comprehensive list of all of the projects, in addition to the Existing Plus Committed Network, that were examined for the alternatives analysis. The four groups of projects were tested in various combinations to create the six alternatives discussed later in this chapter.

2025 Plan Projects

This menu of projects reflects the final list of improvements recommended in the 2025 Long Range Transportation Plan. The projects numbers in parentheses reflect the designations from the 2025 Plan. Some project descriptions have been modified to remove projects (or project segments) that have already been accounted for on the Base Year or E+C Networks.

- 2nd Street/Bloomfield Road (B2): Road widening to four lanes from SR 37 to Rogers Street (four-lane divided west of Adams Street, five-lane with continuous center turn-lane east of Adams Street)
- Tapp/Country Club/Winslow/Rogers Road (B4): Road widening and upgrade from east of SR 37 (Deborah Drive) to Smith Road (four-lane divided except two-lane divided from Weimer Road to Rogers Street and from Henderson Street to Smith Road)
- Adams Street (B6): Construction of new two lane road connection from Allen Street to Rockport Road
- Weimer Road (B7): Road reconstruction of two lanes from Wapehani Road to Bloomfield Road
- Moores Pike (B10a): Road widening to three lanes from High Street to State Road 446
- Smith Road (B12): Road widening for three lanes from Rogers Road to 3rd Street
- 17th Street (B13a): Construction of new two lane road connection between State Road 37 and Vernal Pike; 8 intersection modernizations/ improvements between SR 37 and the SR 45/46 Bypass

- Hillside Drive (B16): Road widening to three lanes from High Street to Walnut Street; Construction of new two lane roadway connection from Walnut Street to Bloomfield Road at Basswood Drive
- Dunn Street (B18): Construction of new three lane road connection from 12th Street to 13th Street with a railroad underpass; Extend the Dunn Street/ Indiana Avenue one-way pair to 17th Street
- Airport Road/Tapp Road (M1): Road reconstruction of two lanes from Kirby Road to SR 45; Construction of new two lane road connection SR 45 to Leonard Springs Road
- Fullerton Pike/Gordon Pike/Rhorer Road (M3a): Road widening to four lanes from SR 37 to Snoddy Road, including construction of new road connection between Fullerton Pike and Gordon Pike
- Ellettsville Southern Bypass (M4): Construction of new two lane road connection from SR 46 near Flat Woods Road to Curry Pike near Woodyard Road
- State Road 37 West Frontage Road (M6): Construction of new two lane road connection from SR 48 to SR 46
- Hartstrait Road (M7): Construction of new two lane road connection from SR 46 to Delap Road
- Maple Grove Road/Bottom Road (M10): Road reconstruction for two lanes from SR 46 to SR 37
- Leonard Springs Road/Eller Road (M13a): Road widening to four lane divided road from SR 37 to SR 45
- Hartstrait Road/Kirby Road (M14): Road widening to four lane divided road from SR 45 to SR 46
- Union Valley Road (M17): Road reconstruction for two lanes from SR 46 to McNeely Street
- State Road 46 (S2): Road widening to four lanes from Red Hill Road to Owen County Line
- State Road 45 (S5): Road widening to four lanes from Curry Pike to Greene County Line
- 10th Street/14th Street (IU 1): Road reconstruction for two lanes from Indiana Avenue to State Road 45/46 Bypass

I-69 Corridor Improvements

The following list details the specific improvements included with the I-69 Corridor Improvements through Monroe County. The interchange/overpass/access treatments listed here are those recommended by the MPO, not necessarily the final design treatments endorsed by INDOT. The proposed route for I-69 follows SR 37 south from the Morgan County line, and breaks west onto a new terrain corridor just south of Rockport Road, exiting Monroe County at the Greene County line. South of the new terrain split, no further corridor improvements to SR 37 are recommended.

- I-69 Corridor: Road widening and new road construction for a limited access highway between the Morgan County and Green County lines, including a four lane profile in rural areas and a six lane profile in urbanized areas
    - Separated multi-use path along Interstate 69 from Morgan County to Greene County (I-69)
    - Exclusive east/west bicycle and pedestrian crossings at Fullerton Pike, 2nd Street, 3rd Street and Vernal Pike (and other locations where appropriate/feasible)
- Bryant's Creek Road: Grade separation with overpass (no highway access)
- Chambers Pike: Grade separation with interchange and a north-south frontage road network
- Sample Road: Grade separation with interchange, include north-south frontage road from Chambers Pike to Walnut Street/College Avenue
- Walnut Street/College Avenue: Grade separation with overpass (no highway access)
- Kinser Pike: Grade separation with interchange and improved connections to Walnut Street and Bottom Road
- Acuff Road: Grade separation with overpass (no highway access)
- Arlington Road: Maintain existing overpass (no highway access)
- State Road 46: Maintain existing interchange
- Vernal Pike/17th Street: Grade separation with underpass (no highway access)
- Whitehall Crossing Boulevard: Right-in/Right-out access point from highway corridor removed (no highway access)
- State Road 48/3rd Street: Upgrade existing interchange to single point interchange
- State Road 45/Bloomfield Road/2nd Street: Maintain existing interchange
- Tapp Road: Grade separation with overpass (no highway access)
- Fullerton Pike: Grade separation with interchange
- Rockport Road: Grade separation with overpass (no highway access), provide north-south frontage road connection to Fullerton Pike

- That Road: Access closed with no overpass, provide north-south frontage road connection to Fullerton pike
- New Terrain Interchange: Grade separation with interchange to split new terrain I-69 from continuation of SR 37 to the south
- Bolin Lane (New Terrain Corridor): Grade separation with overpass (no highway access)
- Tramway Road (New Terrain Corridor): Grade separation with overpass (no highway access)
- Lodge Road (New Terrain Corridor): Grade separation with overpass (no highway access)
- Rockport Road (New Terrain Corridor): Grade separation with overpass (no highway access)
- Harmony Road (New Terrain Corridor): Grade separation with overpass (no highway access)
- Evans Lane (New Terrain Corridor): Grade separation with overpass (no highway access)
- Burch Road (New Terrain Corridor): Grade separation with overpass (no highway access)
- Breeden Road (New Terrain Corridor): Grade separation with interchange
- Carter Road (New Terrain Corridor): Grade separation with overpass (no highway access)
- Carmichael Road (New Terrain Corridor): Grade separation with overpass (no highway access)
- Victor Pike: (South of New Terrain Interchange) Maintain existing local access to SR 37

STATE ROAD 37 CORRIDOR IMPROVEMENTS

This menu of projects reflects the MPO's desired improvements along the State Road 37 corridor, under a scenario where I-69 is not constructed through Monroe County.

- Bryant's Creek Road: Maintain existing local access
- Chambers Pike: Grade separation with interchange
- Sample Road: Grade separation with interchange
- Walnut Street/College Avenue: Grade separation with interchange
- Kinser Pike: Grade separation with interchange
- Acuff Road: Grade separation with overpass (no highway access)
- Arlington Road: Maintain existing overpass
- State Road 46: Maintain existing interchange
- Vernal Pike/17th Street: Grade separation with overpass (no highway access)
- State Road 48: Upgrade existing interchange to single point interchange

- State Road 45: Maintain existing interchange
- Tapp Road: Grade separation with overpass (no highway access)
- Fullerton Pike: Grade separation with interchange
- Rockport Road: Grade separation with overpass (no highway access)
- That Road: Maintain existing local access
- Victor Pike: Maintain existing local access
- Maintain existing configuration for all intersections south of Victor Pike

Modified 2025 Plan Projects

This menu of projects includes the final list of improvements recommended in the 2025 Long Range Transportation Plan as detailed earlier, but with the modifications as noted below.

- Hillside Drive: Connection from Weimer Road to Bloomfield Road removed; Connection from Walnut Street to Rogers Street removed; Improvements from Walnut Street to High Street removed
- Sudbury Drive: Connection from Weimer Road to Rogers Street added to reflect development approvals
- Gordon Pike/Fullerton Pike/Rhorer Road: Road widening to four lanes from State Road 37 to Walnut Street, three lanes from Walnut Street to Walnut Street Pike and two lanes from Walnut Street Pike to Snoddy Road
- Moores Pike: Road widening to three lanes from College Mall Road to State Road 446

Alternatives Analysis: Overview

The alternatives analysis involved six alternative scenarios comprised of various combinations of the proposed improvement projects detailed in the previous section. The development of the project list involved two steps. First, the subcommittee of staff worked with the consultant to propose a preliminary list of projects and alternatives to evaluate. The six alternatives were primarily based on the 2025 Future Transportation Needs Plan and the community input received in response to the projects identified in that plan. The preliminary results of each of the six alternatives were then reviewed by the MPO staff and the consultant to ensure that there were no fatal flaws with the proposed scenarios. These six alternatives were then presented several times to the Policy, Technical Advisory, and Citizens Advisory Committees for additional input.

The six alternative scenarios that were tested with the updated Travel Demand Model are as follows:

1) Alternative 1: E+C Network with I-69
2) Alternative 2: E+C Network with Upgraded SR 37
3) Alternative 3: 2025 Plan Projects with I-69
4) Alternative 4: 2025 Plan Projects with Upgraded SR 37
5) Alternative 5: Modified 2025 Plan Projects with I-69
6) Alternative 6: Modified 2025 Plan Projects with Upgraded SR 37

It is important to note that all proposed improvement projects will incorporate pedestrian and bicycle facilities. The type, location and design of these facilities will be based on recommendations from the Bloomington and Monroe County Alternative Transportation and Greenways System Plans. Although the 2030 Travel Demand Model can't model alternative modes of transportation, it is in the best interest of the MPO to implement and promote alternative modes of transportation. The inclusion of alternative transportation facilities recognizes that these modes do have the potential to reduce congestion and reliance on automobile transportation.

ALTERNATIVES ANALYSIS: PERFORMANCE

A cursory summary of the Level of Service (LOS) improvements, the LOS problems, and the general system-wide performance of each of the six tested alternatives is provided below. The six alternative scenarios were tested by the performance of the effectiveness of individual projects on the entire network (Table C-1). However, this section will focus mainly on the congested facilities identified on key road corridors. Congested facilities are road segments where the LOS for rural roads is below a "C" rating and where the LOS for urban roads is below a "D" rating (LOS ratings are from A to E). This allows for the identification of potential benefits and costs among competing projects that may be similar in design and location, and to help differentiate the most feasible project(s) needed for the Year 2030 Future Transportation Needs Plan. An important consideration to factor in these LOS/congested facilities summaries is that they are compared to the results of the Existing Plus Committed (E+C) Network to help determine whether proposed projects will improve or degrade conditions In other words, this method establishes a baseline to compare the results of the alternative scenarios. Consideration should then be given to comparing the results between the six Alternatives.

EXISTING PLUS COMMITTED (E+C) NETWORK

An evaluation of the Existing Plus Committed Network was performed to establish a baseline for comparison with the six alternatives that were tested. This alternative can also be referred to as a "No-Build" scenario because it assumes that no new road improvement or network modification projects will be implemented beyond what is already committed. This analysis highlights the differences in system performance between the 2000 Base Year Network and the 2030 E+C Network. Where future projections show significant reductions in performance levels, particularly a decline in LOS, improvement projects that minimize those reductions should be considered.

The LOS conditions of the 2000 Base Year Network are identified below. This analysis applies 2000 traffic data to the Base Year Network to highlight existing problems. The congested facilities identified in the 2000 Base Year Network are as follows:

- State Road 45: Garrison Chapel Road to Leonard Springs Road
- Bloomfield Road: Patterson Drive to Rogers Street
- State Road 46: Matthews St. to Hunter Lane
- Hunter Lane: Arlington Road to State Road 37
- State Road 45/46 Bypass: Business 37 (Walnut Street) to 3rd Street at College Mall Road
- State Road 48: Hartstrait Road to Hickory Drive; Gates Drive to State Road 37
- 3rd Street: Kimble Drive to Landmark Avenue
- Atwater Avenue: 3rd Street to Henderson Street
- 3rd Street from Union Street to Mitchell Street
- Walnut Street from 10th Street to 17th Street
- College Avenue from 11th Street to 10th Street
- Hartstrait Road: State Road 48 to Woodyard Road

- Curry Pike: Jonathan Drive to Woodyard Road
- Adams Street: Kirkwood Avenue to Vernal Pike
- Rogers Street: 2nd Street to Kirkwood Avenue
- Henderson Street: Winslow Road to Hillside Drive
- Indiana Avenue: 12th Street to 13th Street (under railroad bridge)
- Union Street: 3rd Street to 10th Street
- College Mall Road: 2nd Street to Covenanter Drive
- Woodyard Road: Smith Road to Vernal Pike
- Vernal Pike: Curry Pike to State Road 37
- 10th Street: Walnut Street to Dunn Street; Fee Lane to Jordan Avenue
- Grimes Lane: Walnut Street to Henderson Street
- Moores Pike: College Mall Road to Smith Road
- Tapp Road: Weimer Road to Rockport Road
- Country Club Road: Rockport Road to Business 37
- Winslow Road: Business 37 to Henderson Street
- Rogers Road: High Street to Smith Road

Improvements

A model run projection to the year 2030 on the E+C Network resulted in few road segments that exhibited no change or improvements in LOS performance (e.g. congested facility). The following list of road segments showed improvements in LOS or reduction in congestion from the Base Year Network. In some instances where LOS improvements are identified, additional road segments are then identified as having congested facilities due to changes in the network and the effects that these changes have on travel patterns. These network changes occurred after the base year, but were committed improvement projects that are realized in the 2030 E+C Network model run projection.

- State Road 46: Matthews Street to Hunter Road improved; Union Valley Road to Smith Pike still congested
- Hunter Road: Arlington Road to State Road 37 improved due to ramp closure
- State Road 48: Hartstrait Road to Hickory Drive improved; Gates Drive to State Road 37 still congested
- 3rd Street: Kimble Drive to Landmark Avenue improved; Union Street to Mitchell Street improved; Woodlawn Avenue to Indiana Avenue now congested
- Hartstrait Road: State Road 48 to Woodyard Road improved, but still potentially congested
- Curry Pike: Jonathan Drive to Woodyard Road improved
- Union Street: 3rd Street to 10th Street improved

- College Mall Road: 2nd Street to Covenanter Drive improved

Problems

The model run projection for the E+C Network to the year 2030 resulted in numerous road segments exhibiting decreases in LOS performance, resulting in congested facility classifications for those segments. The following list of road segments shows congested facilities from the E+C Network.

- Bloomfield Road: Increased congestion Patterson Drive to Rogers Street; New congestion Weimer Road to Allen Street and Rogers Street to College Avenue
- State Road 45/46 Bypass: Business 37 (Walnut Street) to 3rd Street at College Mall Road attracts traffic after widening project, maintains high level of congestion
- Atwater Avenue: Continued congestion 3rd Street to Henderson Street; New congestion Henderson Street to Woodlawn Avenue
- Walnut Street: Increased congestion 10th Street to 17th Street; Potential new congestion 2nd Street to 3rd Street
- College Avenue: Increased congestion 10th Street to 11th Street; New congestion 11th Street to 17th Street
- Adams Street: Increased congestion Kirkwood Avenue to Vernal Pike
- Rogers Street: Increased congestion 2nd Street to Kirkwood Avenue; New congestion Rockport Road to 17th Street
- Henderson Street: Increased congestion Winslow Road to Hillside Drive; New congestion Grimes Lane to 1st Street
- Indiana Avenue: Increased congestion 12th Street to 13th Street
- Woodyard Road: Increased congestion Smith Road to Vernal Pike; New congestion Thomas Road to Vernal Pike
- Vernal Pike: Congestion expands to include Woodyard Road to 11th Street
- 10th Street: Congestion continues Walnut Street to Dunn Street and Fee Lane to Jordan Avenue
- Grimes Lane: Increased congestion Walnut Street to Henderson Street; New congestion Rogers Street to Walnut Street
- Moores Pike: Increased congestion College Mall Road to Smith Road
- State Road 37: Continued congestion Rockport Road to State Road 45 and State Road 48 to State Road 45/46 Bypass due to traffic signals
- State Road 45: Continued congestion Pete Ellis Drive to John Hinkle Place
- State Road 46: Continued congestion Owen County Line to Maple Grove Road, Smith Pike to Arlington Road, westbound through interchange at State Road 37 due to traffic signal, and College Mall Road to Pete Ellis Drive
- State Road 48: Continued congestion Curry Pike to State Road 37
- 11th Street: New congestion Adams Street to Rogers Street

- That Road: New congestion State Road 37 to Rogers Street
- Victor Pike: New congestion State Road 37 to Church Road

System-wide Performance

The E+C Network demonstrates increases in congested vehicle-hours of travel, system-wide volume-to-capacity ratio, and daily vehicle-miles of travel. This is largely attributable to projected socioeconomic growth combined with improvement projects that have little long term impact in meeting the travel demands of that growth. In comparison with the 2000 Base Year network, most road segments within the urbanized area exhibited a decline in LOS rating when 2030 traffic data was projected onto the E+C Network. The poor performance of this network under 2030 traffic demands suggests that a menu of improvement projects must be considered.

ALTERNATIVE 1: E+C NETWORK WITH I-69

Alternative 1 tests the performance of the E+C Network with the inclusion of the I-69 Corridor Improvements. The only changes to the E+C Network with this alternative are the series of modifications and capacity expansions detailed under the I-69 Corridor Improvements section (page 128). Traffic demand for the year 2030 was projected onto this network to test the impact of the estimated 12,000 to 20,000 additional vehicles per day added by I-69. This alternative provides an effective measurement of the impacts that I-69 has on the entire network, and will highlight other improvements that may be necessary.

Improvements

A model run of Alternative 1 resulted in few road segments that exhibited no change or improvements in LOS performance. This was largely expected because of the projected increase in average vehicles per day on the network. Most segments that showed LOS improvements are likely the result of changes in travel patterns that maximize the free flow conditions provided by an interstate in order to reduce travel times. In some instances these reductions are significant, but generally are along the southwest area to Owen County and along State Road 45. The following list of road segments show improvements in LOS or reduction in congestion from the E+C Network.

- State Road 45: Congestion eliminated Garrison Chapel Road to Leonard Springs Road
- Hunter Road: Congestion improved with ramp closure
- 3rd Street: Congestion improved Union Street to Mitchell Street with one-way pair extension
- Curry Pike: Congestion improved Jonathan Drive to Woodyard Road with four-laning
- Union Street: Congestion improved 3rd Street to 10th Street
- College Mall Road: Congestion improved 2nd Street to Covenanter Drive with four-laning
- Vernal Pike: Congestion eliminated Curry Pike to State Road 37
- State Road 37: Congestion eliminated Rockport Road to State Road 45 and

State Road 48 to State Road 45/46 Bypass (at traffic signals)

- State Road 46: Congestion reduced to Smith Pike to Arlington Road and State Road 37 interchange area

Problems

The model run projection to the year 2030 under Alternative 1 resulted in numerous road segments that exhibited a decrease in the LOS performance, most of which are similar to the results of E+C Network. The following list of road segments shows congested facilities from the base year network. Increases in congestion related to vehicles utilizing the I-69 corridor are generally found along arterial networks providing direct linkage to the interstate.

- Bloomfield Road: Congestion expands to include Basswood Drive to College Avenue
- State Road 46: Congestion continues Union Valley Road to Smith Pike
- State Road 45/46 Bypass: Congestion continues Business 37 (Walnut St.) to 3rd Street at College Mall Road after four-laning
- State Road 48: Congestion continues Gates Drive to State Road 37
- 3rd Street: Congestion improved Kimble Drive to Landmark Avenue with four-laning; Congestion created SR 37 to Landmark Avenue with I-69
- Atwater Avenue: Congestion continues 3rd Street to Henderson Street
- Walnut Street: Congestion continues 10th Street to 17th Street
- College Avenue: Congestion continues from 17th Street to 10th Street
- Adams Street: Congestion continues Kirkwood Avenue to Vernal Pike
- Rogers Street: Congestion continues Rockport Road to 17th Street
- Henderson Street: Congestion continues Winslow Road to Hillside Drive and Grimes Lane to 1st Street
- Indiana Avenue: Congestion continues 12th Street to 13th Street (under railroad)
- Woodyard Road: Congestion continues Thomas Road to Vernal Pike
- 10th Street: Congestion continues Walnut Street to Dunn Street and Fee Lane to Jordan Avenue; Congestion increases Union Street to State Road 45/46 Bypass
- Grimes Lane: Congestion continues Rogers Street to Henderson Street
- Moores Pike: Congestion continues College Mall Road to Smith Road
- Tapp Road: Congestion continues Weimer Road to Rockport Road
- Country Club Road: Congestion slightly reduced Rockport Road to Business State Road 37
- Winslow Road: Congestion continues Business State Road 37 to Henderson Street
- Rogers Road: Congestion continues High Street to Smith Road
- State Road 46: Congestion continues Owen County Line to Maple Grove Road and College Mall Road to Pete Ellis

- State Road 48: Congestion increased Curry Pike to State Road 37 due to elimination of SR 37 connection through Whitehall Crossing
- 11th Street: Congestion continues: Adams Street to Rogers Street
- Kirkwood Avenue: New congestion Waldron Street to Rogers Street

System-wide Performance

Vehicle hours of travel and vehicle miles of travel were projected to increase due to the additional 12,000 to 20,000 trips passing through Monroe County on 1-69. This alternative does provide congestion relief within the I-69/State Road 37 urban corridor in comparison to the E+C Network. This may eliminate the need to improve State Road 45 from I-69/State Road 37 to the Greene County line. However, significant problems remain within the remainder of the system-wide network. This reflects the fact that most of the realized user benefits of I-69 are regional in nature rather than being confined to Monroe County.

ALTERNATIVE 2: E+C NETWORK WITH UPGRADED SR 37

Alternative 2 tests the performance of the E+C Network with the inclusion of an upgraded State Road 37 corridor. The only change to the system-wide network is the network modifications detailed under the State Road 37 Corridor Improvements section (page 129). These model constraints were again projected for the Year 2030 to test how well the system-wide network will withstand the demands of future growth and transportation needs. A key difference between Alternative 1 and 2 is that this network will not have the additional estimated 12,000 to 20,000 average vehicles per day added to the network generated by I-69. This alternative provides a way to measure the system-wide impacts that an upgraded State Road 37 would have. This helps to determine if any additional improvement projects are necessary if an upgraded State Road 37 project is included in the final transportation needs plan.

Improvements

A model run projection to the year 2030 under Alternative 2 showed results that were very similar to Alternative 1. Very few road segments exhibited improvement over the E+C Network. Although the overall vehicles per day on the network were 12,000 to 20,000 less under this scenario, the overall results are very similar. In comparison to Alternative 1, all results are the same with the exception of State Road 45 from Garrison Chapel Road to Leonard Springs Road, which does not see improvement under Alternative 2. This is largely due to the I-69 induced changes in travel patterns for Alternative 1 that are not realized under Alternative 2.

- Hunter Road: Congestion improved with ramp closure
- 3rd Street: Congestion improved Union Street to Mitchell St with extension of one-way pair
- Curry Pike: Congestion improved Jonathan Drive to Woodyard Road with four-laning
- Union Street: Congestion improved 3rd Street to 10th Street
- College Mall Road: Congestion improved 2nd Street to Covenanter Drive with four-laning
- Vernal Pike: Congestion eliminated Curry Pike to State Road 37

- State Road 37: Congestion eliminated Rockport Road to State Road 45 and State Road 48 to State Road 45/46 Bypass (at traffic signals)
- State Road 46: Congestion reduced to Smith Pike to Arlington Road and State Road 37 interchange area

Problems

Similar to the Improvements section, the model run projection to the year 2030 under Alternative 2 resulted in numerous road segments that exhibited congestion problems. Most of the following road segments are also identified as problems in Alternative 1.

- State Road 45: Congestion continues Garrison Chapel Road to Leonard Springs Road
- Bloomfield Road: Congestion expands to include Basswood Drive to College Avenue
- State Road 46: Congestion continues Union Valley Road to Smith Pike
- State Road 45/46 Bypass: Congestion continues as four lanes from Business 37 (Walnut St.) to 3rd Street at College Mall Road with four-laning (volumes slightly lower than with I-69)
- State Road 48: Congestion increases Curry Pike to State Road 37 due to elimination of SR 37 connection through Whitehall Crossing
- 3rd Street: Congestion improved Kimble Drive to Landmark Avenue with four-laning; Congestion created SR 37 to Landmark Avenue with SR 37 upgrades (less than with I-69)
- Atwater Avenue: Congestion continues 3rd Street to Henderson Street
- Walnut Street: Congestion continues 10th Street to 17th Street
- College Avenue: Congestion continues 17th Street to 10th Street
- Adams Street: Congestion continues Kirkwood Avenue to Vernal Pike
- Rogers Street: Congestion continues Rockport Road to 17th Street
- Henderson Street: Congestion continues Winslow Road to Hillside Drive and from Grimes Lane to 1st Street
- Indiana Avenue: Congestion continues 12th Street to 13th Street (under railroad)
- Woodyard Road: Congestion continues Thomas Road to Vernal Pike
- 10th Street: Congestion continues Walnut Street to Dunn Street and Fee Lane to Jordan Avenue; Congestion increases Union Street to State Road 45/46 Bypass
- Grimes Lane: Congestion continues Rogers Street to Henderson Street
- Moores Pike: Congestion continues College Mall Road to Smith Road
- Tapp Road: Congestion continues Weimer Road to Rockport Road
- Country Club Road: Congestion continues Rockport Road to Business State Road 37 (less than with I-69)
- Winslow Road: Congestion continues Business State Road 37 to

Henderson Street

- Rogers Road: Congestion continues High Street to Smith Road
- State Road 45: Congestion continues from Pete Ellis Drive to John Hinkle Place
- State Road 46: Congestion continues Owen County Line to Maple Grove Road and College Mall Road to Pete Ellis Drive
- 11th Street: Congestion continues Adams Street to Rogers Street
- Kirkwood Avenue: New congestion Waldron Street to Rogers Street

System-wide Performance

While Alternative 2 does not include the additional 12,000 to 20,000 vehicles per day that came with I-69 under Alternative 1, very few improvements are realized. Similarly, congestion relief is marginal within the State Road 37 urban corridor in comparison to E+C Network. In addition, the need to improve State Road 45 from State Road 37 to the Greene County line remains a significant problem under Alternative 2. Numerous other problems remain in the system-wide network. This alternative, like Alternative 1, offers few benefits over the E+C Network and suggests that other alternatives may provide more favorable results.

ALTERNATIVE 3: 2025 PLAN PROJECTS WITH I-69

Alternative 3 tests the performance of the 2025 Future Transportation Needs Plan network with the inclusion of I-69. This alternative assumes that all the improvements listed in the 2025 Plan Projects section (page 126) and the I-69 Corridor Improvements section (page 128) are implemented by 2030. Because the 2025 Future Transportation Needs Plan Network was previously adopted as the preferred scenario, it should perform reasonably well in the analysis. The key difference, as with Alternative 1, is an additional estimated 12,000 to 20,000 average vehicles per day added to the network because of I-69.

Improvements

A model run projection to the year 2030 under Alternative 3 resulted in substantial improvements for road segments considered to be congested facilities. This result was expected because this Alternative included the previously adopted Future Needs Plan, which performed well for various measurements. The following improvements in congested facilities demonstrate the potential this alternative has to address anticipated congestion problems.

- State Road 45: Congestion eliminated Garrison Chapel Road to Leonard Springs Road; with traffic diversion to I-69, the 4-laning of SR 45 from Greene County Line to Curry Pike is no longer needed
- Bloomfield Road: Congestion eliminated State Road 37 to Rogers Street with four-laning; Congestion continues Rogers Street to College Avenue
- State Road 46: Congestion eliminated Union Valley Road and Smith Pike with Woodyard Road improvement
- Hunter Road: Congestion decreased with ramp closure
- 3rd Street: Congestion decreased Kimble Drive to Landmark Avenue with

four-laning

- Atwater Avenue: Congestion eliminated 3rd Street to Henderson Street
- 3rd Street: Congested eliminated Union Street to Mitchell Street with extension of one-way pair
- Curry Pike: Congestion decreased Jonathan Drive to Woodyard Road with four-laning
- Henderson Street: Congestion continues Winslow Road to Hillside Drive; Congestion eliminated Grimes Lane to 1st Street
- Union Street: Congestion decreased 3rd Street to 10th Street
- College Mall Road: Congestion decreased 2nd Street to Covenanter Drive with four-laning
- Woodyard Road: Congestion decreased Thomas Road to Vernal Pike with reconstruction (despite significant traffic attraction)
- Vernal Pike: Congestion eliminated Curry Pike to State Road 37 due to closure at State Road 37
- 10th Street: Congestion eliminated Walnut Street to Dunn Street; Significant congestion Railroad overpass to State Road 45/46 Bypass
- Grimes Lane: Congestion eliminated Rogers Street to Henderson Street (congestion shifted to Hillside Drive from Rogers Street to Henderson Street)
- Moores Pike: Congestion eliminated College Mall Road to Smith Road with reconstruction
- Tapp Road: Congestion eliminated Weimer Road to Rockport Road with reconstruction (4-laning of Tapp from State Road 37 to Leonard Springs Road and 4-laning Leonard Springs Road from Tapp to State Road 48 not needed)
- Country Club Road: Congestion eliminated Rockport Road to Business State Road 37 with reconstruction
- Winslow Road: Congestion eliminated Business State Road 37 to Henderson Street with reconstruction
- Rogers Road: Congestion eliminated High Street to Smith Road with reconstruction
- State Road 37: Congestion eliminated Rockport Road to State Road 45 and State Road 48 to State Road 45/46 Bypass (at traffic signals)
- State Road 45: Congestion eliminated Pete Ellis Drive to John Hinkle Place
- State Road 46: Congestion eliminated Owen County Line to Maple Grove Road with 4-laning

- State Road 46: Congestion eliminated College Mall Road to Pete Ellis Drive
- Kirkwood Avenue: Congestion eliminated Waldron Street to Rogers Street with reconstruction

Problems

The model run projection to the year 2030 under Alternative 3 provided some mixed results. The following road segments are congested facilities, but further comparison to Alternative 1 and 2 for some locations resulted in some improvement in congestion. The same holds true for some locations where congestion is worse than the other alternatives.

- State Road 45/46 Bypass: Congestion continues Business 37 (Walnut St.) to 3rd Street at College Mall Road with four-laning (volumes slightly lower than Alternatives 1 & 2 due to 10th/14th one-way pair)
- State Road 48: Congestion continues Gates Drive to State Road 37 due to Whitehall Crossing closure at State Road 37 (volumes slightly lower than Alternatives 1 & 2)
- Walnut Street: Congestion continues 10th Street to 17th Street (volumes slightly lower than Alternatives 1 & 2)
- College Avenue: Congestion continues 17th Street to 10th Street (increase volumes 10th Street to 11th Street)
- Adams Street: Congestion continues Kirkwood Avenue to Vernal Pike (higher than Alternatives 1 & 2 due to inclusion of Monroe Street from 11th Street to 17th Street)
- Rogers Street: Congestion continues Rockport Road to 17th Street (slightly less than Alternatives 1 & 2)
- Indiana Avenue: Congestion continues 12th Street to 13th Street under railroad bridge despite new Dunn Street connection (implies need to convert Dunn and Indiana to one-way pair north of 12th Street to State Road 45/46 Bypass)
- State Road 46: Congestion confined to State Road 37 interchange area (similar to Alternative 1)
- State Road 48: Congestion continues Curry Pike to State Road 37 due to elimination of Whitehall Crossing/State Road 37 connection
- 11th Street: Congestion increases Adams Street to Rogers Street due to Monroe connection from 11th Street to 17th Street

System-wide Performance

Although congestion problems remain for this alternative, the system-wide network performed very well and shows significant improvements even with the increase in average daily traffic from I-69. Most of the problems indicated with Alternative 3 are either trade-offs from the previous alternatives or are very concentrated in length which may allow for site specific adjustments to address these problems.

This alternative does provide a net system-wide improvement that presents a clear advantage over the Alternatives 1 & 2 in regard to congested facilities. Alternative 3 should be considered a feasible option to consider for the Final Transportation Needs Plan.

ALTERNATIVE 4: 2025 PLAN PROJECTS WITH UPGRADED SR 37

Alternative 4 tests the performance of the 2025 Future Transportation Needs Plan network with an upgraded State Road 37 corridor. It is very similar to Alternative 3, but does not include the additional estimated 12,000 to 20,000 average vehicles per day added to the network generated by I-69. This alternative assumes that all the improvements listed in the 2025 Plan Projects section (page 126) and the State Road 37 Corridor Improvements section (page 129) are implemented by 2030. As with Alternative 3, it should perform well in the analysis and give the ability to measure how the system will perform with an upgraded State Road 37 network.

Improvements

A model run projection to the year 2030 under Alternative 4 resulted in substantial road segment improvements for congested facilities. This was expected because this alternative included the previously adopted future needs plan, which performed well for various measurements. The following improvements in congested facilities demonstrate the potential this alternative has to address anticipated congestion problems.

- State Road 45: Congestion eliminated Garrison Chapel Road to Leonard Springs Road with proposed four-laning
- Bloomfield Road: Congestion eliminated State Road 37 to College Avenue with 4-laning
- State Road 46: Congestion eliminated Union Valley Road to Smith Pike with Woodyard Road improvement
- Hunter Road: Congestion improved with ramp closure
- 3rd Street: Congestion improved Kimble Drive to Landmark Avenue with four-laning
- Atwater Avenue: Congestion eliminated 3rd Street to Henderson Street
- 3rd Street: Congestion improved Union Street to Mitchell Street with extension of one-way pair
- Curry Pike: Congestion improved Jonathan Drive to Woodyard Road with four-laning
- Rogers Street: Congestion eliminated 2nd Street to Rockport Road (slightly lower volumes than Alternatives 1, 2 & 3)
- Henderson Street: Congestion continues Winslow Road to Hillside Drive; Congestion eliminated Grimes Lane to 1st Street
- Union Street: Congestion decreased 3rd Street to 10th Street
- College Mall Road: Congestion decreased 2nd Street to Covenanter Drive with four-laning
- Woodyard Road: Congestion decreased Thomas Road to Vernal Pike with

reconstruction (despite significant traffic attraction)

- Vernal Pike: Congestion eliminated Curry Pike to State Road 37 due to closure at State Road 37
- 10th Street: Congestion eliminated Walnut Street to Dunn Street; Significant congestion Railroad overpass to State Road 45/46 Bypass
- Grimes Lane: Congestion eliminated Rogers Street to Henderson Street (congestion shifted to Hillside Drive from Rogers Street to Henderson Street)
- Moores Pike: Congestion eliminated College Mall Road to Smith Road with reconstruction
- Tapp Road: Congestion eliminated Weimer Road to Rockport Road with reconstruction (4-laning of Tapp from State Road 37 to Leonard Springs Road and 4-laning Leonard Springs Road from Tapp to State Road 48 not needed)
- Country Club Road: Congestion eliminated Rockport Road to Business State Road 37 with reconstruction
- Winslow Road: Congestion eliminated Business State Road 37 to Henderson Street with reconstruction
- Rogers Road: Congestion eliminated High Street to Smith Road with reconstruction
- State Road 37: Congestion eliminated Rockport Road to State Road 45 and State Road 48 to State Road 45/46 Bypass (at traffic signals)
- State Road 45: Congestion eliminated Pete Ellis Drive to John Hinkle Place
- State Road 46: Congestion eliminated Owen County Line to Maple Grove Road with 4-laning
- State Road 46: Congestion reduced to Curry Pike to State Road 37 interchange area
- State Road 46: Congestion eliminated College Mall Road to Pete Ellis Drive
- 11th Street: Congestion eliminated Adams Street to Rogers Street
- Kirkwood Avenue: Congestion eliminated Waldron Street to Rogers Street

Problems

The model run projection to the year 2030 under Alternative 4 produced similar results to Alternative 3, but in most cases the indicated congestion problems are not as severe. Additionally, there are fewer problems identified with this scenario than all the other alternatives. This is largely attributed to the lack of increased average vehicles per day from I-69 and the improvement projects of the 2025 Future Transportation Needs Plan.

- State Road 45/46 Bypass: Congestion continues Business 37 (Walnut St.) to 3rd Street at College Mall Road with four-laning
- State Road 48: Congestion continues Gates Drive to State Road 37 due to Whitehall Crossing closure at State Road 37 (volumes slightly lower than

Alternatives 1, 2 & 3)

- Walnut Street: Congestion continues 10th Street to 17th Street (lower volumes than Alternatives 1, 2 & 3)
- College Avenue: Congestion continues 17th Street to 10th Street (lower volumes than Alternatives 1, 2 & 3
- Adams Street: Congestion continues Kirkwood Avenue to Vernal Pike (lower volumes than Alternative 3)
- Indiana Avenue: Congestion continues 12th Street to 13th Street under railroad bridge despite new Dunn Street connection (implies need to convert Dunn and Indiana to one-way pair north of 12th Street to State Road 45/46 Bypass)

System-wide Performance

Like Alternative 3, congestion problems remain in Alternative 4 but are generally less severe than the previous alternatives, are fewer in number, and in many cases are relatively short in road segment length. Despite the continuing problem areas, significant congestion improvements are realized throughout the system-wide network, providing advantages over Alternative 1, Alternative 2, and in some instances Alternative 3. Alternative 4 should be considered a feasible option to consider for the Final Transportation Needs Plan.

ALTERNATIVE 5: MODIFIED 2025 PLAN PROJECTS WITH I-69

Alternative 5 tests the performance of a modified 2025 Future Transportation Needs Plan network with I-69. With this alternative, several individual improvement projects from the 2025 Plan Projects list were modified to reflect current priorities and constraints. Like Alternatives 1 and 3, I-69 was included with this scenario. This alternative assumes that all improvement projects detailed in the Modified 2025 Plan Projects section (page 130) and the I-69 Corridor Improvements section (page 128) are implemented by 2030. This scenario provided the opportunity to fine-tune the 2025 network and test its system-wide performance with the I-69 network.

Improvements

A model run projection to the year 2030 was performed for Alternative 5, resulting in substantial road segment improvements for congested facilities previously identified in the E+C network as well as Alternatives 1 and 2. There were some additional improvements over Alternatives 3 and 4 as well. Because the results were virtually identical to Alternative 3 for congestion improvements, these are not listed below. However, because there were modifications to the 2025 network, the impacts of the specific modified road segments are listed below.

1) Impact of dropping Hillside Drive Extension from Walnut Street to Bloomfield Road:
    - Increased volumes on Bloomfield Road/2nd Street by 6,000 vehicles per day between Basswood Drive and Weimer Road, by 2,000 vehicles per day from Weimer Road to Allen Street, and by 1,000 vehicles per day

from Allen Street to Walnut Street (LOS drops from B to C between Basswood Drive and Patterson Drive with 4-laning of Bloomfield Road)

- Increased volumes on Tapp Road by 2,500 vehicles per day from Leonard Springs Road to Weimer Road, by 1,000 vehicles per day from Weimer Road to Rogers Street, and by 2,500 vehicles per day from Rogers Street to Business State Road 37 (LOS does not change)
- Decreased volumes on Hillside Drive by 5,500 vehicles per day from Walnut Street to Henderson Street (LOS improves from E to D), by 3,000 vehicles per day from Henderson Street to Woodlawn Avenue, and by 2,000 vehicles per day from Woodlawn Avenue to College Mall Road
- Increased volumes on Leonard Springs Road by 2,500 vehicles per day from Tapp Road to State Road 45; Super Wal-Mart entrance onto Leonard Springs may require section of Leonard Springs from Wal-Mart entrance to State Road 45 to be four-laned to avoid problems

2) Impact of dropping Rhorer Road from 4 lanes to 3 lanes from Business State Road 37 to Walnut Street Pike and from 4 lanes to 2 lanes from Walnut Street Pike to Sare Road:
   - Volumes still maintain a LOS C or better provided high-type 2-lane reconstruction (separate left-turn and right-turn lanes at major intersections and subdivision entrances, signal rather than 4-way stop)

Problems

Because the results were virtually identical to Alternative 3 for congestion problems, these are not listed below (please refer to the Alternative 3 Problems section). However, because there were modifications to the 2025 network, the impacts of the specific modified road segments are listed below. Few additional problems were identified with this scenario.

1) Impact of dropping Hillside Drive Extension from Walnut Street to Bloomfield Road:
   - Increased volumes on 3rd Street/Adams Street/Kirkwood Avenue by 5,000 vehicles per day from State Road 37 to Landmark Avenue, and by 1,500 vehicles per day from Landmark Avenue to Rogers Street (LOS declines from C and D to D and E from State Road 37 to Landmark Avenue); congestion problem west of Kimble Drive
   - Increased volumes on Grimes Lane by 11,000 vehicles per day from

Rogers Street to Walnut Street and by 1,000 vehicles per day east of Walnut Street (LOS declines from B to E); new congestion problem on Grimes Lane from Rogers to Walnut Street

2) Increased volumes on Moores Pike by 15-16,000 vehicles per day from College Mall Road to Clarizz Boulevard; congestion problem unless reconstructed

System-wide Performance

Similar to Alternative 3, congestion problems remain. However, the system-wide network performed very well and shows significant improvements with the modified 2025 network and with the increase in average daily vehicles from I-69. The negative impacts to the system-wide network from the project modifications were minimal in comparison to Alternative 3. This is important because all of the modifications that were incorporated into Alternative 5 were made in response to significant implementation barriers for these projects. The modifications to these projects provide a more realistic approach to their actual implementation.

This alternative does provide a net system-wide improvement that presents a clear advantage over the E+C network and Alternatives 1, 2 and 4 in regard to congested facilities. It also represents a reasonable advantage over Alternative 3 and thus far is the most feasible option to consider for the Final Transportation Needs Plan.

ALTERNATIVE 6: MODIFIED 2025 PLAN PROJECTS WITH UPGRADED SR 37

Alternative 6 tests the performance of a modified 2025 Future Transportation Needs Plan network with an upgraded State Road 37 corridor. Like Alternative 5, this alternative incorporated modifications to individual improvement projects from the 2025 Future Transportation Needs Plan. Under this alternative, State Road 37 corridor improvements were substituted for the I-69 project tested under Alternative 5. This alternative assumes that all improvement projects detailed in the Modified 2025 Plan Projects section (page 130) and the State Road 37 Corridor Improvements section (page 129) are implemented by 2030.

Improvements

For Alternative 6, the model run projection to the year 2030 resulted in substantial road segment improvements for congested facilities previously identified in the E+C Network as well as Alternatives 1 and 2. Similar to Alternative 5, the results were virtually identical for congestion improvements with Alternative 4. The improvements are not listed below (please refer to Alternative 4 Improvements), but like Alternative 5 the impacts of the specific modified road segments are provided. The main difference between the results from Alternatives 5 and 6 is that fewer total vehicle trips were modeled for this network (just as in Alternatives 2 and 4), but the net difference from Alternative 5 is negligible.

1) Impact of dropping Hillside Drive Extension from Walnut Street to Bloomfield Road:
   - Increased volumes on Bloomfield Road/2nd Street by 6,000 vehicles per day from Basswood Drive to Weimer Road, by 3,000 vehicles per day

from Weimer Road to Allen Street, and by 2,000 vehicles per day from Allen Street to Walnut Street (small change in LOS with 4-laning from Basswood Drive to Rogers Street)

- Increased volumes on Tapp Road by 2,000 vehicles per day from Leonard Springs Road to SR 37, by 1,000 vehicles per day from State Road 37 to Rockport Road, and by 1,500 vehicles per day from Rockport Road to Business SR 37 (no change in LOS)
- Decreased volumes on Hillside Drive by 4,000 vehicles per day from Walnut Street to Henderson Street (LOS improves from E to D), by 3,000 vehicles per day from Henderson Street to Woodlawn Avenue, and by 2,000 vehicles per day from Woodlawn Avenue to College Mall Road
- Increased volumes on Leonard Springs Road from Tapp Road to State Road 45 by 2,000 vehicles per day (but no change in LOS with 4-laning); Super Wal-Mart entrance onto Leonard Springs may require section of Leonard Springs from Wal-Mart entrance to State Road 45 to be four-laned to avoid problems

2) Impact of dropping Rhorer Road from 4 lanes to 3 lanes from Business SR 37 to Walnut Street Pike and from 4 lanes to 2 lanes from Walnut Street Pike to Sare Road:
   - Volumes still maintain a LOS C or better provided high-type 2-lane reconstruction (separate left-turn and right-turn lanes at major intersections and subdivision entrances, signal rather than 4-way stop)

Problems

Again, because the results were virtually identical to Alternative 4 for congestion problems, these are not listed below (please refer to Alternative 4 Problems). The impacts of the specific modified road segments are listed below. Few additional problems were identified with this scenario and are virtually identical to Alternative 5.

1) Impact of dropping Hillside Drive Extension from Walnut Street to Bloomfield Road:
   - Increased volumes on 3rd Street/Adams Street/Kirkwood Avenue by 4,000 vehicles per day from State Road 37 to Patterson Drive and by 1,000 vehicles per day from Patterson Drive to Rogers Street (LOS declines from C and D to D and E from State Road 37 to Patterson Drive); congestion problem west of Kimble Drive
   - Increased volumes on Grimes Lane by 11,000 vehicles per day from

Rogers Street to Walnut Street and by 2,000 vehicles per day east of Walnut Street (LOS declines from B to E); new congestion problem on Grimes Lane from Rogers Street to Walnut Street

2) Increased volume on Moores Pike from College Mall Road to Clarizz Boulevard by 15,000 to 16,000 vehicles per day; congestion problem unless reconstructed

System-wide Performance

Like Alternative 5, the system-wide network for Alternative 6 performed very well and showed significant improvements with the modified 2025 Plan network. Congestion problems do remain, but compared to the E+C Network and Alternatives 1-4 it does provide a net system-wide improvement with respect to congested facilities. The negative impacts to the system-wide network from the 2025 Plan project modifications were minimal compared to the other Alternatives and practically identical to Alternative 5. The differences in system improvements and problem areas between Alternatives 5 and 6 are difficult to differentiate. It is thus quite challenging to identify a clear advantage or preference between the two Alternatives.

Alternative 6 presents the same advantages over Alternatives 1-4 as Alternative 5 does. It could be considered the most feasible option to consider for the 2030 Final Transportation Needs Plan with the exception that I-69 is excluded from this alternative. Because I-69 is a planned State and Federal project, deference should be given to the inclusion of this project in order to appropriately plan for its implementation into the system-wide network. As a result, Alternative 6 should only be considered as a preferred scenario if the status of I-69 changes.

Alternatives Analysis: Results

The six Alternatives analyzed for the 2030 Plan produced a wide range of results, primarily defined by the relative level of congestion produced on various road facilities. In addition to congestion, several other factors were used to evaluate the overall performance of each alternative. The results in Table C-1 highlight other measurements that were used in the evaluation process. These results indicate trade-offs or mixed performance results between the alternatives, which is often the case when utilizing multiple performance measurements.

The previous section focused on the performance of congested facilities on the roadway network. Roads determined to be congested included rural roads with Level of Service D, E, or F and urban roads with Level of Service E or F. This variable is the most useful in determining the preferred alternative because it has a direct relationship to tangible problems within the structure of the transportation system. Other performance values measure factors that have more indirect relationship to the performance of the network, including economic variables, mileage variables, and ratios and indexes. These are helpful to evaluate qualitative values, but are best used as a check and balance when selecting a preferred alternative. For example, if an alternative performs well for congested facilities but has less than desirable social, political, and/or fiscal results for the other measurements, then the alternative should not be considered feasible. But if it does perform well for congested facilities and no fatal flaws are exhibited with the other results, then the alternative should be selected as the preferred alternative.

This is the case for Alternative 5, which includes the modified 2025 Plan Projects with the I-69 corridor improvements. No fatal flaws were exhibited from the performance results for this Alternative. This network is the preferred network for the 2030 Future Transportation Needs Plan. The following list details the improvement projects included with Alternative 5.

City of Bloomington / Indiana University Projects

- Weimer Road: Reconstruction of Weimer Road for two lanes between Bloomfield Road and Wapehani Road
- 2nd Street/Bloomfield Road: Road widening to four lanes from SR 37 to Walnut Street (four-lane divided west of Adams Street, five-lane with continuous center turn-lane east of Adams Street)
    - Bike lanes on both sides of the corridor with complete/modernization of the sidewalk network; or
    - Upgrade a sidewalk facility to a separated multi-use path on one side of the road with a sidewalk on the other side of the road
- Tapp Road/Country Club Drive/Winslow Road/Rogers Road: Road widening and upgrade from Weimer Road to Smith Road (four-lane divided except two-lane divided from Weimer Road to Rogers Street and from Henderson Street to Smith Road)
    - Separated multi-use path and complete/modernization of the sidewalk network

- Adams Street: Construction of new two lane road connection between Allen Street and Rockport Road to be implemented from future development approvals
  - Separated multi-use path and completion/modernization of the sidewalk network
- Moores Pike: Road widening to three lanes from College Mall Road to State Road 446
  - Bike lanes on both sides of the corridor with completion/modernization of the sidewalk network; or
  - Upgrade a sidewalk facility to a separated multi-use path on one side of the road with a sidewalk on the other side of the road
- Smith Road: Road widening to three lanes from Rogers Road to 3rd Street
  - Separated multi-use path and completion/modernization of the sidewalk network
- 17th Street: Construction of new two lane road connection from State Road 37 to Vernal Pike and 8 intersection modernizations/improvements from State Road 37 to the State Road 45/46 Bypass
  - Bike lanes on both sides of the corridor with complete/modernization of the sidewalk network; or
  - Upgrade a sidewalk facility to a separated multi-use path on one side of the road with a sidewalk on the other side of the road
  - Provide exclusive bicycle and pedestrian crossings across State Road 37/Interstate 69
- Sudbury Drive: Construction of new two lane road connection from Weimer Road to Rogers Street
  - Upgrade a sidewalk facility to a separated multi-use path on one side of the road with a sidewalk on the other side of the road
- Dunn Street: Construction of new three lane road connection from 12th Street to 13th Street with a railroad underpass and extending the Dunn/Indiana one-way pair to 17th Street
- 10th Street/14th Street: Road reconstruction for two lanes from Indiana Avenue to State Road 45/46 Bypass; Creation of one-way pair
  - Bike lanes on 10th Street/14th Street and complete/modernize the sidewalk network

MONROE COUNTY / TOWN OF ELLETTSVILLE PROJECTS

- Airport Road/Tapp Road: Road reconstruction for two lanes from Kirby Road to State Road 45; Construction of new two lane road connection from State Road 45 to Leonard Springs Road; Road reconstruction for two lanes from Leonard Springs Road to State Road 37
    - Bike lanes on both sides of the corridor with complete/modernization of the sidewalk network; or
    - Upgrade a sidewalk facility to a separated multi-use path on one side of the road with a sidewalk on the other side of the road
- Fullerton Pike/Gordon Pike/Rhorer Road: Road widening to four lanes from State Road 37 to Walnut Street, three lanes from Walnut Street to Walnut Street Pike and two lanes from Walnut Street Pike to Snoddy Road
    - Bike lanes on both sides of the corridor with complete/modernization of the sidewalk network; or
    - Upgrade a sidewalk facility to a separated multi-use path on one side of the road with a sidewalk on the other side of the road
- Kirby Road/Hartstrait Road: Road widening to four lanes (divided) road from State Road 45 to State Road 46
    - Bike lanes on both sides of the corridor with complete/modernization of the sidewalk network; or
    - Upgrade a sidewalk facility to a separated multi-use path on one side of the road with a sidewalk on the other side of the road
- Maple Grove Road/Bottom Road: Road reconstruction for two lanes between State Road 46 and State Road 37
- Leonard Springs Road/Fullerton Pike: Road widening to four lanes (divided) from State Road 45 to State Road 37
- Union Valley Road: Road reconstruction for two lanes from State Road 46 to Maple Grove Road
- State Road 37 West Frontage Road: Construction of new two lane road connection between State Road 48 and State Road 46

STATE OF INDIANA PROJECTS

- State Road 46: Road widening to four lanes from State Road 446 to 4 miles east of State Road 446
- State Road 46: Road widening to four lanes from Red Hill Road to Owen County Line
  - Bike lanes on both sides of the corridor with complete/modernization of the sidewalk network; or
  - Upgrade a sidewalk facility to a separated multi-use path on one side of the road with a sidewalk on the other side of the road
- State Road 45: Road widening to three lanes from Russell Road to Bethel Lane
  - Bike lanes on both sides of the corridor with complete/modernization of the sidewalk network; or
  - Upgrade a sidewalk facility to a separated multi-use path on one side of the road with a sidewalk on the other side of the road
- State Road 45: Road widening to four lanes from Curry Pike to Greene County Line
  - Bike lanes on both sides of the corridor with complete/modernization of the sidewalk network; or
  - Upgrade a sidewalk facility to a separated multi-use path on one side of the road with a sidewalk on the other side of the road

I-69 Corridor

The following list details the specific improvements included with the I-69 Corridor improvements through Monroe County. The interchange/overpass/access treatments listed here are those recommended by the MPO, not necessarily the final design treatments endorsed by INDOT. The proposed route for I-69 follows SR 37 south from the Morgan County line, and breaks west onto a new terrain corridor just south of Rockport Road, exiting Monroe County at the Greene County line. South of the new terrain split, no further corridor improvements to SR 37 are recommended.

- I-69 Corridor: Road widening and new road construction for a limited access highway between the Morgan County and Green County lines, including a four lane profile in rural areas and a six lane profile in urbanized areas
  - Separated multi-use path along Interstate 69 from Morgan County to Greene County (I-69)
  - Exclusive east/west bicycle and pedestrian crossings at Fullerton Pike, 2nd Street, 3rd Street and Vernal Pike (and other locations where appropriate/feasible)
- Bryant's Creek Road: Grade separation with overpass (no highway access)
- Chambers Pike: Grade separation with interchange and a north-south

frontage road network

- Sample Road: Grade separation with interchange, include north-south frontage road from Chambers Pike to Walnut Street/College Avenue
- Walnut Street/College Avenue: Grade separation with overpass (no highway access)
- Kinser Pike: Grade separation with interchange and improved connections to Walnut Street and Bottom Road
- Acuff Road: Grade separation with overpass (no highway access)
- Arlington Road: Maintain existing overpass (no highway access)
- State Road 46: Maintain existing interchange
- Vernal Pike/17th Street: Grade separation with underpass (no highway access)
- Whitehall Crossing Boulevard: Right-in/Right-out access point from highway corridor removed (no highway access)
- State Road 48/3rd Street: Upgrade existing interchange to single point interchange
- State Road 45/Bloomfield Road/2nd Street: Maintain existing interchange
- Tapp Road: Grade separation with overpass (no highway access)
- Fullerton Pike: Grade separation with interchange
- Rockport Road: Grade separation with overpass (no highway access), provide north-south frontage road connection to Fullerton Pike
- That Road: Access closed with no overpass, provide north-south frontage road connection to Fullerton pike
- New Terrain Interchange: Grade separation with interchange to split new terrain I-69 from continuation of SR 37 to the south
- Bolin Lane (New Terrain Corridor): Grade separation with overpass (no highway access)
- Tramway Road (New Terrain Corridor): Grade separation with overpass (no highway access)
- Lodge Road (New Terrain Corridor): Grade separation with overpass (no highway access)
- Rockport Road (New Terrain Corridor): Grade separation with overpass (no highway access)
- Harmony Road (New Terrain Corridor): Grade separation with overpass (no highway access)
- Evans Lane (New Terrain Corridor): Grade separation with overpass (no highway access)
- Burch Road (New Terrain Corridor): Grade separation with overpass (no highway access)
- Breeden Road (New Terrain Corridor): Grade separation with interchange
- Carter Road (New Terrain Corridor): Grade separation with overpass (no

highway access)

- Carmichael Road (New Terrain Corridor): Grade separation with overpass (no highway access)
- Victor Pike: (South of New Terrain Interchange) Maintain existing local

Environmental Justice

2035 Long Range Transportation Plan

D

FEDERAL STATUTES

Executive Order 12898 issued on February 11, 1994, titled *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, and the President's *Memorandum on Environmental Justice*, requires each federal department and agency to:

"identify and address disproportionately high and adverse human health, or environmental effects, of their policies, programs, and activities on minority populations and low-income populations."

The U.S. Department of Transportation's final Order to Address Environmental Justice in Minority Populations (U.S. DOT Order 5680-1, published in the Federal Register on April 15, 1997) establishes requirements concerning the National Environmental Policy Act of 1969 (NEPA), Title VI of the Civil Rights Act of 1964, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended (URA), and the Transportation Equity Act for the 21st Century (TEA-21), and other DOT applicable statutes, regulations and guidelines.

According to the Department of Transportation's Order to Address Environmental Justice in Minority Populations, "adverse effect" means the totality of significant individual or cumulative human health, or environmental effects. The term "disproportionately high" means an effect that:

- is predominately borne by a minority and/or low-income population; or
- will be suffered by the minority and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority and/or non low-income population.

Further, "minority" population includes Black, Hispanic, Asian American, American Indian or Alaska Native. "Low-income" population means someone whose median household income is at, or below, the U.S. Department of Health and Human Services poverty guidelines.

In conclusion, the underlying principle of Title VI is that minority and low-income residents should participate in the planning process, benefit from planned transportation improvements, and should not bear an unfair burden of the

Compliance

To demonstrate compliance of the Year 2030 Transportation Plan with Title VI, Census Tracts in the metropolitan planning area were categorized as:

- high minority tracts: where 50 percent or more of the residents in the tract were "minority" populations, per the latest available decennial U.S. Census; and/or
- low income tracts: where 50 percent or more of the households in the tract earned less than 50 percent of the area median household income, per the latest available decennial U.S. Census (for Monroe County, Indiana the 2000 median household income was $33,311).

Methodology/Results

The percentage of both non-white and low-income population was determined by Census Tract. Referring to Table D-1, there were no Census Tracts where the minority population accounted for a majority, or 50 percent or more of the population ("Percent Minority" column; Table D-1).

Table D-1 shows all households that earn 50 percent or less of the median household income for Monroe County in two ranges:

- Very Low Household Income – households with less than $10,000 household income (less than ~30 percent range)
- Low Household Income - households with household incomes between $10,000 and $16,700 (~30 to 50 percent range)

Four of the twenty nine total Census Tracts were identified as low income tracts (e.g. 50 percent or more of the households in the tract earned less than 50 percent of the median household income of $33,311 – see "Percent Below Median Income" column; Table D-1). Of these four tracts, only one had more than 50 percent of the households in the "Very Low Household Income" range (Tract 2.02 had 143 households in the very low income range out of a total 209 households). These Census Tracts (see Table D-1 and Figure D-1) were:

- Census Tract 1 covering the Bloomington Central Business District and immediate surrounding areas.
- Census Tract 2.01 covering the northern portion of the Indiana University campus.
- Census Tract 2.02 covering the southern portion of the Indiana University campus.
- Census Tract 16 covering the area north of downtown and immediately northwest of the Indiana University campus.

Table D-1: Minority Population and Low-Income Households by Census Tract

Census Tract	Population	Households	White	Non-White	% Minority	HH Very Low Income	HH Low Income	% Below Median Income
1.00	**3160**	**1,707**	**2775**	**385**	**12.2%**	**668**	**310**	**57%**
2.01	**7078**	**603**	**5760**	**1318**	**18.6%**	**230**	**126**	**59%**
2.02	**4542**	**209**	**3419**	**1123**	**24.7%**	**143**	**20**	**78%**
3.01	4346	2,062	3854	492	11.3%	538	364	44%
3.02	3082	1140	2852	235	7.6%	137	106	21%
4.01	2980	1378	2686	267	9.0%	256	215	34%
4.02	2580	1124	2239	368	14.3%	107	226	30%
5.01	3911	1674	3544	349	8.9%	179	139	19%
5.02	3307	1344	3037	288	8.7%	37	122	12%
6.00	6838	3,054	5937	901	13.2%	772	491	41%
7.00	2872	1,137	2768	104	3.6%	54	63	10%
8.00	5162	2,427	4548	614	11.9%	444	215	27%
9.01	2414	1,164	2149	260	10.8%	211	142	30%
9.03	4448	2,292	3740	708	15.9%	401	270	29%
9.04	2994	1,311	2685	373	12.5%	161	124	22%
10.01	4423	1,708	4038	385	8.7%	86	54	8%
10.02	4843	2,134	4341	384	7.9%	118	172	14%
11.01	5051	2,382	4421	542	10.7%	496	347	35%
11.02	2601	1,246	2488	201	7.7%	190	148	27%
11.03	2745	1,107	2703	96	3.5%	64	79	13%
12.00	5755	2,171	5649	106	1.8%	44	124	8%
13.01	5659	2,210	5532	127	2.2%	148	116	12%
13.03	4445	1,704	4374	152	3.4%	68	108	10%
13.04	3184	1,235	3065	132	4.1%	62	114	14%
13.05	1871	655	1731	59	3.2%	57	24	12%
14.01	1855	726	1782	43	2.3%	38	87	17%
14.02	4966	1,987	4848	148	3.0%	100	80	9%
15.00	6726	2,693	6520	193	2.9%	78	200	10%
16.00	**6725**	**2,314**	**6025**	**700**	**10.4%**	**945**	**498**	**62%**

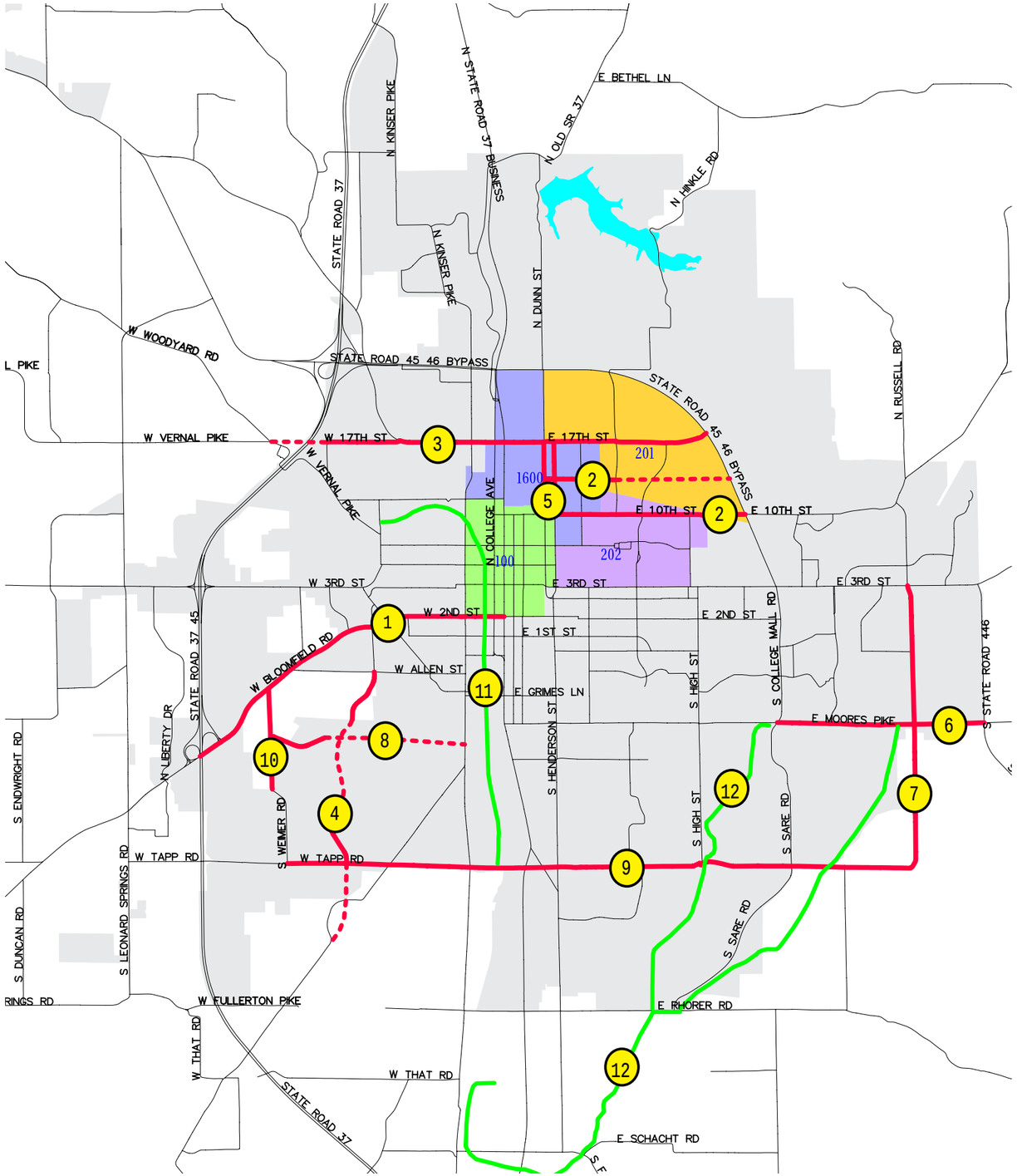
Source: U.S. Census Bureau / 2000 Census

CONCLUSION

Figure D-1 shows the relationship between Census Tracts and major highway investments. Figure D-2 compares Census Tracts with the fixed route system of Bloomington Transit. Census Tract 1 covers the Bloomington Central Business District and improved traffic flow will result from the West 2nd Street/Bloomfield Road (Adams Street to Walnut Street) project, but it will not displace housing within Census Tract 1. Because Census Tracts 2.01 and 2.02 cover the Indiana University campus, the "low income" household classification for these two tracts is very likely a reflection of the large number of students residing in university housing. The planned 10th/14th Street Arterial (College Avenue to Union Street) through the Indiana University campus will improve motor vehicle circulation without displacing any housing units. In Census Tract 16, north of downtown Bloomington, a connection for Dunn Street between 12th Street and 13th Street will improve traffic flow. As with the previous tracts, no residential displacements are anticipated for this improvement project in Census Tract 16.

In conclusion, the multi-modal transportation improvements contained in the 2030 Long Range Transportation Plan will benefit areas with a concentration of low-income households through improved mobility and accessibility without having a “disproportionately high” or “adverse effect.” In fact, no households will be displaced in implementing transportation improvements in these low-income areas. Finally, the 2030 Long Range Transportation Plan makes multi-modal transportation investments within, and to, low-income areas ensuring that low-income groups receive a proportionate share of benefits, without enduring adverse impacts. Thus, the Year 2030 Long Range Transportation Plan is in compliance with Title VI, relative to “Environmental Justice.”

Figure D-1: Low Income Census Tracts and 2035 Transportation Projects



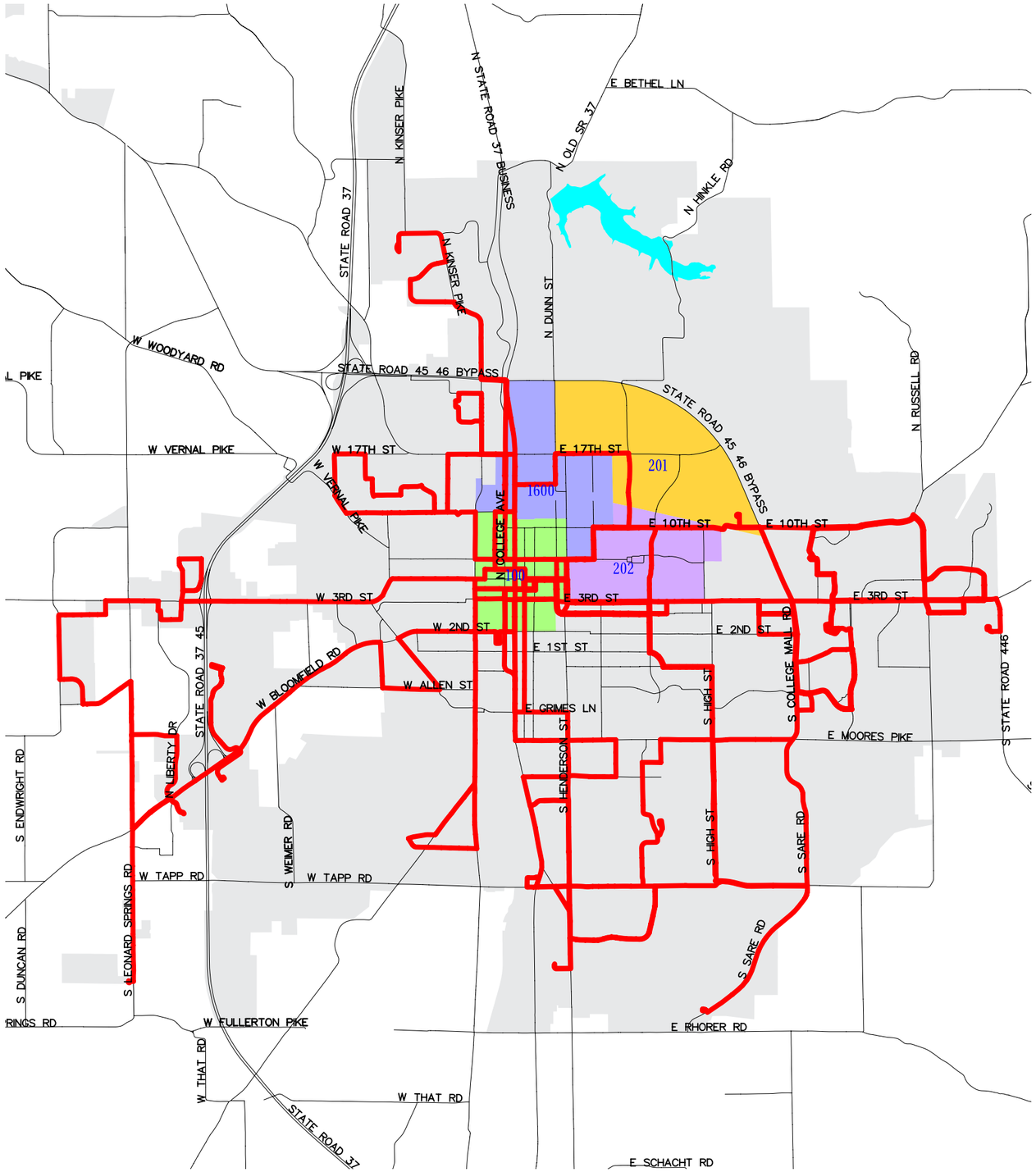
Legend

Map Features:

- Road Improvement Project (dashed line are proposed connections)
- Multi-Use Trail Project
- Lake
- Urbanized Area
- Low Income Census Tracts: 100 (green); 201 (yellow); 202 (purple); and 1600 (blue)
- 1 — 2nd Street/Bloomfield Road
- 2 — 10th Street/14th Street
- 3 — 17th Street
- 4 — Adams Street
- 5 — Dunn Street
- 6 — Moores Pike
- 7 — Smith Road
- 8 — Sudbury Drive
- 9 — Tapp Road/Country Club Drive/Winslow Road/Rogers Road
- 10 — Weimer Road
- 11 — CSX Corridor Trail
- 12 — Jackson Creek Trail

*For project information please reference Appendix F

Figure D-2: Low Income Census Tracts and BPTC Bus Routes



Legend

Map Features:

- Bloomington Public Transportation Corporation (BPTC) Bus Routes
- Low Income Census Tracts: 100 (green); 201 (yellow); 202 (purple); and 1600 (blue)
- Lake
- Urbanized Area

Air Quality

2035 Long Range Transportation Plan

E

Overview

The Clean Air Act of 1971 required the development of a State Implementation Program (SIP) for achieving National Ambient Air Quality Standards (NAAQS) in non-attainment areas. The relationship between transportation planning and air quality planning was formalized with the Clean Air Act Amendments of 1990, which establish a direct relationship between projects in the metropolitan Transportation Improvement Program and air quality compliance.

Under current Federal requirements, an air quality conformity determination is required for major transportation investments in designated air quality "non-attainment" and "maintenance" areas. The composite of major transportation investments contained in an urbanized area long-range transportation plan must therefore demonstrate air quality improvement or, at minimum, no degradation in air quality relative to the "Existing Plus Committed" transportation network.

Compliance

Monroe County and Bloomington have not been not been subjected to Federal air quality requirements because the City of Bloomington and Monroe County currently meet Federal air quality standards and the region is in "attainment" for each of the criteria pollutants.

Although a conformity determination is not needed for the Bloomington urbanized area, the projects programmed in the Cost Feasible Plan for the 2030 Long Range Transportation Plan will result in an improvement to air quality. The analysis completed for the Plan initially showed that traffic congestion would increase for the "no-build" (Existing Plus Committed) transportation network over the next 25 years because of increased:

- System-wide volume-to-capacity ratios;
- Road miles operating below Level-of-Service "C" or "D";
- Vehicle-miles of travel on facilities operating on below Level-of-Service "C" or "D";
- Congested vehicle-hours of travel; and
- Total vehicle-miles of travel.

Since congestion and air quality are correlated to vehicle speeds, total vehicles, and vehicle-miles of travel, air quality would degrade over the 25-year forecast period if no further major transportation investments are made in the Bloomington urbanized area. In other words, an increase in mobile source generated carbon monoxide and ozone (hydrocarbons and nitrous oxides) will occur under a "no-build" Transportation Plan alternative.

Conversely, the recommended set of projects in the 2030 Long Range Transportation Plan that focus on alternative transportation and public transportation while adding some roadway capacity will result in air quality improvements over the no-build condition through the achievement of reductions in:

- System-wide volume-to-capacity ratio;
- Congested roadways;
- Vehicle-miles of travel on congested roadways; and
- Congested vehicle-hours of travel.

Forecasted growth in population, employment, and income will bring about increased transportation demands within the Bloomington/Monroe County area during the twenty-five year forecast period extending to Year 2030. The recommendations of the 2030 Long Range Transportation Plan will, however, contribute to overall air quality improvement through a systematic application of transportation capacity preservation and capacity expansion projects.

Projects Index

F

2035 Long Range Transportation Plan

INTRODUCTION

The following Projects Index is provided as a central reference point for the description of the recommended improvement projects listed in the 2030 Long Range Transportation Plan. The project descriptions provided here should be the starting point for design at the time of project implementation, subject to future funding and other constraints.

2nd Street/Bloomfield Road (Phase I)

Start:	Rogers Street
End:	Walnut Street
Length:	0.27 miles
Description:	Road widening to four lanes (five lanes including the continuous center turn-lane).
Bicycle/Pedestrian:	(a) On-street bike lanes with sidewalks on both sides of road; or (b) Sidepath on one side of road with sidewalk on other side of road.

2nd Street/Bloomfield Road (Phase II)

Start:	State Road 37
End:	Patterson Drive
Length:	1.67 miles
Description:	Road widening to four lanes (divided).
Bicycle/Pedestrian:	(a) On-street bike lanes with sidewalks on both sides of road; or (b) Sidepath on one side of road with sidewalk on other side of road.

2nd Street/Bloomfield Road (Phase III)

Start:	Patterson Drive
End:	Rogers Street
Length:	0.53 miles
Description:	Road widening to four lanes (five lanes including the continuous center turn-lane).
Bicycle/Pedestrian:	(a) On-street bike lanes with sidewalks on both sides of road; or (b) Sidepath on one side of road with sidewalk on other side of road.

10th Street/14th Street

Start:	Dunn Street
End:	State Road 45/46 Bypass
Length:	2.91 miles
Description:	Road re-construction to two lanes and creation of one-way pair.
Bicycle/Pedestrian:	On-street bike lanes with sidewalks on both sides of road.

CITY OF BLOOMINGTON/INDIANA UNIVERSITY PROJECTS (CONT.)

17TH STREET

Start:	Vernal Pike
End:	State Road 45/46 Bypass
Length:	2.97 miles
Description:	Construction of new two lane road connection between Crescent Road and Vernal Pike (crossing State Road 37); 8 intersection modernizations/improvements between State Road 37 and State Road 45/46 Bypass.
Bicycle/Pedestrian:	(a) On-street bike lanes with sidewalks on both sides of road, or (b) Sidepath on one side of road with sidewalk on other side of road; Provide exclusive bicycle and pedestrian crossing of State Road 37.

ADAMS STREET

Start:	Rockport Road
End:	Allen Street
Length:	1.78 miles
Description:	Construction of new two lane road connection (to be implemented by future development).
Bicycle/Pedestrian:	Sidepath on one side of road with sidewalk on other side of road.

DUNN STREET

Start:	12th Street
End:	13th Street
Length:	0.08 miles
Description:	Construction of new three lane road connection with railroad crossing; extension of Dunn Street /Indiana Avenue one-way pair to 17th Street.
Bicycle/Pedestrian:	Sidewalks on both sides of road.

MOORES PIKE

Start:	College Mall Road
End:	State Road 446
Length:	1.44 miles
Description:	Road widening to three lanes.
Bicycle/Pedestrian:	(a) On-street bike lanes with sidewalks on both sides of road, or (b) Sidepath on one side of road with sidewalk on other side of road.

Smith Road (Phase I)

Start:	Moores Pike
End:	3rd Street
Length:	0.99 miles
Description:	Road widening to three lanes.
Bicycle/Pedestrian:	Sidepath on one side of road with sidewalk on other side of road.

Smith Road (Phase II)

Start:	Rogers Road
End:	Moore's Pike
Length:	0.99 miles
Description:	Road widening to three lanes.
Bicycle/Pedestrian:	Sidepath on one side of road with sidewalk on other side of road.

Sudbury Drive

Start:	Weimer Road
End:	Rogers Street
Length:	1.39 miles
Description:	Construction of new two lane road connection (to be implemented by future development).
Bicycle/Pedestrian:	Sidepath on one side of road with sidewalk on other side of road.

Tapp Road/Country Club Drive/Winslow Road/Rogers Road

Start:	Weimer Road
End:	Smith Road
Length:	4.74 miles
Description:	Road reconstruction to two lanes (divided) from Weimer Road to Rogers Street; Road widening to four-lanes (divided) from Rogers Street to Henderson Street; Road reconstruction to two lanes (divided) from Henderson Street to Smith Road.
Bicycle/Pedestrian:	Sidepath on one side of road with sidewalk on other side of road.

City of Bloomington/Indiana University Projects (cont.)

Weimer Road

Start:	Wapehani Road
End:	Bloomfield Road
Length:	0.70 miles
Description:	Reconstruction for two lanes.
Bicycle/Pedestrian:	Sidepath on one side of road with sidewalk on other side of road.

CSX Corridor Trail

Start:	Adams Street
End:	Country Club Drive
Length:	2.38 miles
Description:	Multi-use bicycle and pedestrian trail.
Bicycle/Pedestrian:	Multi-use bicycle and pedestrian trail.

Jackson Creek Trail

Start:	Moores Pike
End:	Clear Creek Trailhead
Length:	12.05 miles
Description:	Multi-use bicycle and pedestrian trail.
Bicycle/Pedestrian:	Multi-use bicycle and pedestrian trail.

Monroe County/Town of Ellettsville Projects

Airport Road/Tapp Road

Start:	Kirby Road
End:	State Road 37
Length:	1.50 miles
Description:	Road reconstruction to two lanes from Kirby Road to State Road 45; Construction of new two lane road connection between State Road 45 and Leonard Springs Road; Road reconstruction to two lanes from Leonard Springs Road to State Road 37.
Bicycle/Pedestrian:	(a) On-street bike lanes with sidewalks on both sides of road, or (b) Sidepath on one side of road with sidewalk on other side of road.

Fullerton Pike/Gordon Pike/Rhorer Road (Phase I)

Start:	State Road 37
End:	Walnut Street
Length:	2.65 miles
Description:	Road widening to four lanes; connection of existing Fullerton Pike and Gordon Pike road stubs.
Bicycle/Pedestrian:	(a) On-street bike lanes with sidewalks on both sides of road, or (b) Sidepath on one side of road with sidewalk on other side of road.

Fullerton Pike/Gordon Pike/Rhorer Road (Phase II)

Start:	Walnut Street
End:	Walnut Street Pike
Length:	0.25 miles
Description:	Road widening to three lanes.
Bicycle/Pedestrian:	(a) On-street bike lanes with sidewalks on both sides of road, or (b) Sidepath on one side of road with sidewalk on other side of road.

Fullerton Pike/Gordon Pike/Rhorer Road (Phase III)

Start:	Walnut Street Pike
End:	Sare Road
Length:	0.80 miles
Description:	Road widening to three lanes.
Bicycle/Pedestrian:	(a) On-street bike lanes with sidewalks on both sides of road, or (b) Sidepath on one side of road with sidewalk on other side of road.

MONROE COUNTY/TOWN OF ELLETTSVILLE PROJECTS (CONT.)

FULLERTON PIKE/GORDON PIKE/RHORER ROAD (PHASE IV)

Start:	Sare Road
End:	Snoddy Road
Length:	1.18 miles
Description:	Road reconstruction to two lanes.
Bicycle/Pedestrian:	(a) On-street bike lanes with sidewalks on both sides of road, or (b) Sidepath on one side of road with sidewalk on other side of road.

KIRBY ROAD/HARTSTRAIT ROAD

Start:	State Road 45
End:	State Road 46
Length:	6.53 miles
Description:	Road widening to four lanes (divided).
Bicycle/Pedestrian:	(a) On-street bike lanes with sidewalks on both sides of road, or (b) Sidepath on one side of road with sidewalk on other side of road.

LEONARD SPRINGS ROAD/FULLERTON PIKE

Start:	State Road 37
End:	State Road 45
Length:	2.27 miles
Description:	Road widening to four lanes (divided).
Bicycle/Pedestrian:	Sidewalks on both sides of road; further bicycle/pedestrian improvements encouraged to be incorporated in the future.

MAPLE GROVE ROAD/BOTTOM ROAD

Start:	State Road 46
End:	State Road 37
Length:	5.71 miles
Description:	Road reconstruction to two lanes.
Bicycle/Pedestrian:	(a) On-street bike lanes with sidewalks on both sides of road, or (b) Sidepath on one side of road with sidewalk on other side of road.

SR 37 WEST FRONTAGE ROAD

Start: State Road 46

End: State Road 48

Length: 2.20 miles

Description: Construction of a new two lane road.

Bicycle/Pedestrian: (a) On-street bike lanes with sidewalks on both sides of road, or (b) Sidepath on one side of road with sidewalk on other side of road.

UNION VALLEY ROAD

Start: State Road 46

End: Maple Grove Road

Length: 1.53 miles

Description: Road reconstruction to two lanes.

Bicycle/Pedestrian: (a) On-street bike lanes with sidewalks on both sides of road, or (b) Sidepath on one side of road with sidewalk on other side of road.

KARST FARM TRAIL

Start: Karst Farm Park

End: Stinesville-Ellettsville Trail

Length: 5.10 miles

Description: Multi-use bicycle and pedestrian trail.

Bicycle/Pedestrian: Multi-use bicycle and pedestrian trail.

STINESVILLE-ELLETTSVILLE GREENWAY

Start: Owen County Line

End: State Road 37

Length: 13.58 miles

Description: Multi-use bicycle and pedestrian trail.

Bicycle/Pedestrian: Multi-use bicycle and pedestrian trail.

2006 - 2010

FUNDED PROJECTS:

The Funded Projects for this time period are already categorized as Committed Projects in the Long Range Transportation Plan. This indicates that they are currently in the design and construction process, and will be under construction during this time period. The following three projects fall into this category:

- **State Road 45/46 Bypass**: Widen to four lanes from Kinser Pike to Pete Ellis Drive
- **State Road 48**: Widen to four lanes from Curry Pike to west of Hartstrait Road
- **State Road 45**: Widen to four lanes from SR 45/46 Bypass to Pete Ellis Drive

2011 - 2015

FUNDED PROJECTS:

STATE ROAD 45 (EAST)

Start:	0.1 Miles East of Pete Ellis Drive
End:	Russell Road
Length:	1.00 miles
Description:	Road widening to three lanes.
Bicycle/Pedestrian:	N/A

INNOVATIVE FINANCING PROJECTS:

[NOTE: The "Innovative Financing" label reflects the State's commitment to constructing the listed project using non-traditional funding sources.]

INTERSTATE 69

Start:	Greene County Line
End:	Morgan County Line
Length:	23.30 miles
Description:	Road widening and new road construction for a limited access highway, including a four lane profile in rural areas and a six lane profile in urbanized areas.
Bicycle/Pedestrian:	Separated multi-use path along Interstate 69 from Morgan Co. to Greene Co.; exclusive east/west bicycle and pedestrian crossings at 2nd Street, 3rd Street and Vernal Pike.

2016 - 2020

NO STATE PROJECTS ARE FUNDED FOR THIS PERIOD.

2021 - 2025

NO STATE PROJECTS ARE FUNDED FOR THIS PERIOD.

2026 - 2030

FUNDED PROJECTS:

STATE ROAD 46 (WEST)

Start:	Red Hill Road
End:	Owen County Line
Length:	4.00 miles
Description:	Road widening to four lanes.
Bicycle/Pedestrian:	(a) On-street bike lanes with sidewalks on both sides of road, or (b) Sidepath on one side of road with sidewalk on other side of road.

ILLUSTRATIVE UNFUNDED PROJECTS

STATE ROAD 45 (EAST)

Start:	Russell Road
End:	Bethel Lane
Length:	1.00 miles
Description:	Road widening to three lanes.
Bicycle/Pedestrian:	N/A

STATE ROAD 45 (WEST)

Start:	Greene County Line
End:	Curry Pike
Length:	6.44 miles
Description:	Road widening to four lanes.
Bicycle/Pedestrian:	(a) On-street bike lanes with sidewalks on both sides of road, or (b) Sidepath on one side of road with sidewalk on other side of road.

STATE ROAD 46 (EAST)

Start:	SR 446
End:	Four miles east of SR 446 (Friendship Road)
Length:	4.00 miles
Description:	Road widening to four lanes.
Bicycle/Pedestrian:	Sidepath on one side of road.

Glossary

G

2035 Long Range Transportation Plan

TERMS

3C Planning means Comprehensive, Cooperative and Continuous transportation planning process.

Analysis Area means any geographic area such as a zone or group of zones combined for the purpose of making an analysis.

Apportionment means any method for dividing federal funds by an established formula. An apportionment operates like a line of credit to sub-federal governments.

Authorization means the level of funding designated by Congress for specific legislation.

Average Daily Traffic (ADT) means the average number of vehicles passing a specified point during a 24 hour period.

Bike Lane means a portion of the road that has been designated and designed for the exclusive use of bicycles with distinct signage and pavement markings.

Bloomington Transit (BT) is a municipal corporation that provides public transportation within the City of Bloomington limits.

Bottleneck means the point of minimum capacity along a highway segment.

Build Condition, Option, Alternative or Alternate means a transportation plan, program or alternative involving a major capital investment.

Capacity means the maximum rate of flow at which persons or vehicles can be reasonably expected to traverse a point or uniform segment of a lane or roadway during a specified time period under prevailing roadway, traffic and control conditions, usually expressed in vehicles per hour or persons per hour.

Capacity Expansion Projects means major transportation investments that expand the capacity of any highway or transit system to accommodate additional vehicles. Highway expansion projects involve projects that add through travel lanes including major roadway widening, new roadways, new freeway interchanges, and substantial realignments of existing roadways.

Capacity Preservation Projects means transportation investments to preserve the capacity of the existing highway or transit system. Such projects include bridge rehabilitation and replacement, pavement rehabilitation and reconstruction, and low capital cost investments such as traffic signal improvements or safety improvements (e.g. guardrails and minor horizontal/vertical curve realignments). Typical transit projects involve bus and equipment replacement, transit shelters, and garage facility maintenance.

Carpool means any vehicle (usually a car) or arrangement in which two or more occupants, including the driver, share use or cost in traveling between fixed points on a regular basis (also referred to as ridesharing).

Census Tract means small areas with generally stable boundaries, defined within counties and statistically equivalent entities, usually in metropolitan areas and other highly populated counties. They are established by the U.S. Census Bureau to be relatively homogeneous with respect to population characteristics, economic status, and living conditions.

Central Business District (CBD) means an area of a city that contains the greatest concentration of commercial activity. The traditional downtown retail, trade and commercial area of a city or an area of very high land valuation, traffic flow, and concentration of retail business offices, theaters, hotels and services.

Citizens Advisory Committee (CAC) is a committee, organized under the MPO, that is comprised of citizens representing a broad spectrum of the community. The committee is tasked with providing recommendations to the Policy and Technical Advisory Committee on transportation-related topics that affect the MPO.

Committed Improvement means transportation investments for which funds have been programmed. This includes projects that are under construction, but not yet open for operation. In the most stringent sense, committed improvements involve projects for which funds have been programmed through the construction phase. In the least stringent sense, committed projects may involve proposed projects for which design has been completed and any environmental clearances have been received such that the project may be scheduled for bid letting.

Comprehensive Planning means a planning process that requires inclusion of land use, transportation, water and sewage, education, health and other elements.

Cross-Town Routes means a non-radial bus or rail service which does not enter the Central Business District.

Daily Vehicle Miles Traveled (DVMT) means the total number of miles driven per day in a specified area by all vehicle types.

Deadhead Miles means the miles a transit vehicle travels without passengers or cargo on board, often to and from a garage or from one route to another.

Discrimination means any intentional or unintentional act, or any failure to act, which has the effect of excluding or denying a person from participation in benefits, or has otherwise subjected a person to unequal treatment under any program or activity because of race, color or national origin.

Divided Highway means a multi-lane facility with a positive barrier median, or a median that is 4 feet or wider.

Federal Fiscal Year (FFY) means a twelve month period for which records are kept. The Federal Fiscal Year is from October 1st to September 30th.

Federal Highway Administration (FHWA) is part of the U.S. Department of Transportation and is responsible for administering federal-aid transportation funds and programs.

Federal Transit Administration (FTA) is part of the U.S. Department of Transportation and is responsible for administering federal-aid public transportation funds and programs.

Geographic Information System (GIS) means spatial data, presented in an electronic map format, which geographically represents the geometry of the highways, an electronic map) and its geographically referenced component attributes data that are integrated through GIS technology to perform analysis.

Grant means an agreement between the federal government and a state or local government, whereby the federal government provides funds or aid-in-kind to carry out specified programs.

Highway means any road, street, parkway, or freeway/expressway that includes right-of-way, bridges, railroad/highway crossings, tunnels, drainage structures, signs, guardrails, and protective structures in connection with highways.

Indiana Department of Transportation (INDOT) is the agency that administers and funds transportation needs within the State of Indiana.

Indiana Statewide Transportation Improvement Program (INSTIP) is Indiana's multiyear program of transportation projects that is comprised of the Transportation Improvement Programs from all of the State's MPOs.

Land Use means the purpose for which land or a structure on the land is being used.

Level Of Service (LOS) means a qualitative measure describing operational conditions within a traffic flow stream, generally described in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort, convenience and safety. Typically, a scoring system of A through F is used to describe the level of service. For highways, the LOS definitions found in the *Highway Capacity Manual* (Transportation Research Board Special Report 209) are used.

Local Share is the non-federal matching funds provided by a local entity to secure federal matching funds.

Long Range Transportation Plan (LRTP or Plan) means the official multi-modal transportation plan adopted by the MPO for the metropolitan area in accordance with Federal metropolitan transportation planning guidelines. As a minimum, the transportation plan must have a twenty year horizon and must be updated every five years (every three years in air quality non-attainment areas).

Maintenance Area means any geographic region of the United States designated as non-attainment pursuant to the Clean Air Act Amendments of 1990 (Section 102e, United States Code 7410 et seq.) and subsequently redesignated to attainment status subject to the requirement to develop a maintenance plan under Section 175 of the Clear Air Act as amended.

Major (metropolitan) Transportation Investment means a high-type highway or transit improvement of substantial cost that is expected to have a significant effect on capacity, traffic flow, level of service, or mode share at the transportation corridor or sub-area scale.

Mass Transportation/Mass Transit means the provision of general or special transportation service, either publicly or privately, to the public on a regular and continuing basis in an urban area. This does not include a school bus, charter or sightseeing service.

Management System means a systematic process, designed to assist decision-makers in selecting cost effective strategies/actions to improve efficiency and safety of, and protect the investment in the nation's infrastructure. Typical management systems include the pavement management system, bridge management system, transit management system, congestion management system, safety management system, and intermodal management system.

Metropolitan Planning Organization (MPO) means the forum for cooperative transportation decision-making for the metropolitan planning area. The MPO is designated by the Governor of each state and is composed of the chief-elected officials of the metropolitan planning area.

Metropolitan Planning Area (MPA) is the transportation planning area designed by the MPO. As a minimum, the MPA must cover the Urbanized Area (UZA) and the contiguous areas likely to become urbanized within the twenty year forecast period covered by the metropolitan transportation plan.

Metropolitan Transportation Plan means the official inter-modal transportation plan developed and adopted through the metropolitan transportation planning process for the metropolitan area. This is also referred to as the long range transportation plan.

Multi-Use Trail or Path means a hard surface, off-road path for use by bike, foot and other non-motorized traffic typically not within the road right-of-way.

National Highway System (NHS) means a federal transportation program, authorized in 1995, that includes the Interstate Highway System and other roads that are important to national defense, commerce, and mobility. The NHS in Indiana includes 2,897 miles of roadways and was developed by the U.S. Department of Transportation, in cooperation with INDOT and the State's MPOs.

No Build Condition, Option, Alternative or Alternate means a transportation plan, program or alternative involving no major capital investment. This is sometimes referred to as the "do-nothing" option. The No Build condition typically includes the existing transportation system plus committed or already programmed improvements to the transportation system.

Non-Attainment Area means any geographic region of the United States that the Environmental Protection Agency has designated as a non-attainment area for transportation related pollutants for which a National Ambient Air Quality Standard (NAAQS) exists.

Operational Improvement means a capital investment for the installation of traffic surveillance and control equipment, computerized signal systems, motorist information systems, integrated traffic control systems, incident management programs, and transportation demand management facilities, strategies or programs.

Operating Expense means the total of all operating costs incurred during the reporting period.

Operating Subsidy means the revenue received through federal, state, and local cash grants or reimbursements to fulfill operating expense obligations not covered by fares or other revenues generated by the transit system.

Peak Direction means the direction of higher demand during a peak commuting period.

Peak Hour means that one-hour period during which the maximum amount of travel occurs. Generally, there is a morning peak and an afternoon peak and traffic assignments may be made for each period, if desired.

Policy Committee is a committee of the MPO which reviews and approves transportation policy. It is composed of local elected and appointed officials from area municipalities, Indiana University and state and federal transportation agencies.

Preliminary Engineering (PE) means the first phase of a transportation improvement project, defines scope and project design.

Primary Arterial means a class of street serving major movement of traffic, typically carrying over 20,000 vehicles per day.

Primary Collectors means roadways that typically carry between 3,000 to 10,000 vehicles per day.

Radial Routes means transit service patterns, in which most routes converge into and diverge from a central transfer point or hub, like spokes of a wheel. If the routes are timed to arrive and depart at the same time, it is called a pulse system.

Revenue means all operating funds associated with the provision of transit service.

SAFETEA-LU stands for the Safe, Accountable, Flexible, Efficient Transportation Equity Act: a Legacy for Users. This is the five-year federal transportation program authorizing the annual funding for federal transportation programs and replaces TEA-21.

Secondary Arterial means a street typically carrying between 10,000 to 20,000 vehicles per day.

Secondary Collector means roadways in Bloomington that typically carry less than 3,000 vehicles per day.

Sidepath means a hard surface path physically separated from the road with a grass or tree plot within a road right of way for the use of bicyclists, pedestrians and other non-motorized users.

Sidewalk means a hard-surface path within the street right-of-way that is designated for the exclusive use of pedestrian traffic.

Signed Bike Routes means a street that is safe for use by both vehicles and bicycles without a designated bike facility. These routes are identified with appropriate signage.

Statewide Transportation Plan means the official statewide, multi-modal transportation plan that is developed through the statewide transportation planning process.

Thoroughfare Plan means the official plan for the designation and preservation of major public road rights-of-way in accordance with the Indiana Code (IC 36-7-4-

506).

Technical Advisory Committee (TAC) is a committee of the MPO which provides technical advice on transportation projects and programs. It consists of MPO agencies planners, engineers and transit managers.

Transportation Demand Management (TDM) means strategies or actions taken to reduce or shift the peak-hour of travel demand or to shift the mode of travel demand. Typical actions to shift or reduce the peak-hour of travel demand involve programs to shift work hours, limit the trip generation of new development, and congestion tools. Typical actions to shift the mode of travel include transit fare subsidy programs, control of parking fees, expansion of transit services, construction/designation of high occupancy vehicle lanes or preferential parking areas, and construction of pedestrian and bicycle facilities.

Transportation Enhancement Activities (TEA) means the provision of facilities for pedestrians and bicycles, acquisition of scenic easements and/or scenic or historic sites, scenic and historic highway programs, landscaping and other scenic beautification, historic transportation buildings, structures or facilities (including historic railroad facilities and canals), preservation of abandoned railway corridors (including conversion and use thereof for pedestrian or bicycle trails), control and removal of outdoor advertising, archaeological planning and research, and mitigation of water pollution due to highway runoff.

Transportation Equity Act for the 21st Century (TEA-21) means the former six-year federal ground transportation program covering highways, transit and transportation enhancement activities. It authorized the annual funding for federal transportation programs prior to SAFETEA-LU, which was approved in 2005.

Transportation Improvement Program (TIP) means the staged, multi-year, multi-modal program of transportation projects which is consistent with the metropolitan transportation plan.

Transportation System Management (TSM) means a variety of low-cost capital investments or programs to preserve roadway capacity including signal system improvements, intersection improvements (adding turn lanes), access control policies, and transportation demand management strategies.

Urbanized Area (UZA) means a statistical geographic area defined by the U.S. Census Bureau that consists of a central core and adjacent densely settled territory containing a population of at least 50,000 people.

Unified Planning Work Program (UPWP) means the document which describes urban transportation and transportation related activities to be undertaken in an area during a period of time. The UPWP is prepared by the Metropolitan Planning Organization (MPO).

Volume To Capacity (V/C) Ratio means the observed number of vehicles or persons passing a point on a lane, roadway, or travel-way, compared to the maximum rate of flow at that point.

MAP-21 Compliance

2035 Long Range Transportation Plan

H

Introduction

The successor to SAFETEA-LU, Moving Ahead for Progress in the 21st Century (MAP-21), enacted in 2012, continued and enhanced requirements for the development and content of metropolitan transportation plans. Any such plan adopted after the enactment of MAP-21 must conform to these requirements. The Bloomington/Monroe County MPO's 2035 Long Range Transportation Plan is an interim step toward full compliance with the provisions as detailed within this appendix and the applicable requirements of U. S. C. Title 23, Chapter 1, Subpart C: Metropolitan Transportation Planning and Programming.

This appendix outlines the MAP-21 requirements and demonstrates how the BMCMPO continues to meet the minimum requirements of MAP-21.Working towards the future, MAP-21will provide new methods to identify, plan, and account for the transportation needs of the BMCMPO. Specifically MAP-21 supports a performance-based planning process that requires:

- MPOs and states to develop transportation plans and transportation improvement programs through a performance-driven, outcome-based approach to planning;
- MPOs to establish performance targets that address both the surface transportation performance measures set forth in 23 U.S.C 150(c), in coordination with the state, and public transportation performance measures in coordination with providers of public transportation, to ensure consistency with performance targets related to transit asset management and transit safety, as set forth in 49 U.S.C. 5326(c) and 5329(d);
- MPO plans to include performance targets that address performance measures and standards and a System Performance Report;
- Transportation Improvement Programs (TIP) to include a description of the anticipated progress brought about by implementing the TIP toward achieving the performance targets;
- The DOT to submit, by October 1, 2017, a Report to Congress evaluating the effectiveness of performance-based planning and assessing the technical capacity of MPOs in smaller areas to undertake performance-based planning;
- MPOs may undertake Scenario Development in preparing the metropolitan transportation plan and are encouraged to consider alternative demographic growth and revenue options;
- Within two years, MPOs in urbanized areas designated as transportation management areas to include transit officials on their policy boards (*not applicable for the BMCMPO*);
- Regional transportation planning organizations may be designated, comprised of volunteer local government and transportation officials to assist the state in addressing the needs of non-metropolitan areas; and
- Creates a pilot program for TOD planning around new fixed guideway or core capacity projects.

Performance Measures

MAP-21 also establishes national performance goals for Federal highway programs:

- *Safety:* To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- *Infrastructure Condition:* To maintain the highway infrastructure asset system in a state of good repair.
- *Congestion Reduction:* To achieve a significant reduction in congestion on the NHS.
- *System Reliability:* To improve the efficiency of the surface transportation system.
- *Freight Movement and Economic Vitality:* To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
- *Environmental Sustainability:* To enhance the performance of the transportation system while protecting and enhancing the natural environment.
- *Reduced Project Delivery Delays:* To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

The Secretary, in consultation with States, MPOs, and other stakeholders, will establish performance measures for pavement conditions and performance for the Interstate and NHS, bridge conditions, injuries and fatalities, traffic congestion, on-road mobile source emissions, and freight movement on the Interstate System. States (and MPOs, where applicable) will set performance targets in support of those measures, and State and metropolitan plans will describe how program and project selection will help achieve the targets.

Currently, no specific state or local performance measures, as described under 23 USC 150(c), have been fully promulgated through a rulemaking process. However, the FHWA published several Notices of Proposed Rulemaking (NPRM) in the Federal Register: to propose performance management regulations related to assessing the condition of bridges on the National Highway System (NHS), pavements on the Interstate, and pavements on the non-Interstate NHS; to propose safety performance measures and integrate performance management into the Highway Safety Improvement Program; to propose a performance-based transportation planning process; and to propose a process for developing State asset management plans. The NPRM process for system performance, traffic congestion, on-road mobile source emissions, and freight movement have not yet been initiated.

(1) *The metropolitan transportation planning process shall include the development of a transportation plan addressing no less than a 20-year planning horizon as of the effective date. In nonattainment and maintenance areas, the effective date of the transportation plan shall be the date of a conformity determination issued by the FHWA and FTA. In attainment areas, the effective date of the transportation plan shall be its date of adoption by the MPO.*

The 2035 Long Range Transportation Plan will be approved by the BMCMPO Policy Committee in 2015, and establishing a 20 year planning horizon that runs from 2015 through 2035. The Plan will continue to meet the 20 year planning horizon with the addition of this Appendix H and other compliance updates to the Plan. A 2040 Metropolitan Transportation Plan will be adopted later, bringing the BMCMPO into full compliance with MAP-21 metropolitan trnasportation plan requirements.

(2) *The transportation plan shall include both long-range and short-range strategies/actions that lead to the development of an integrated multimodal transportation system to facilitate the safe and efficient movement of people and goods in addressing current and future transportation demand.*

The 2035 Long Range Transportation Plan includes both long-range and short-range policies and projects that serve to produce an integrated multimodal transportation network in the metropolitan planning area. A comprehensive Vision Statement (Chapter 2 of the 2035 Plan) details the goals and strategies of the plan. These goals and strategies will guide future investments in a manner consistent with the purpose of creating a truly multimodal transportation system. In addition, future transportation projects, including highway, transit, bicycle, and pedestrian facilities, are provided in a phased manner, addressing both short-term and long-term needs.

(3) *The MPO shall review and update the transportation plan at least every four years in air quality nonattainment and maintenance areas and at least every five years in attainment areas to confirm the transportation plan's validity and consistency with current and forecasted transportation and land use conditions and trends, and to extend the forecast period to at least a 20-year planning horizon.*

The BMCMPO is in attainment area air quality. The 2030 LRTP was adopted in 2010 and the 2035 Long Range Transportation Plan was adopted in May 2015, thus falling within the 5-year requirement.

(4) *In metropolitan areas that are in nonattainment for ozone or carbon monoxide, the MPO shall coordinate the development of the metropolitan transportation plan with the process for developing transportation control measures (TCMs) in a State Implementation Plan (SIP).*

The Bloomington Metropolitan Area is in attainment for all Federal air quality standards, and is therefore not subject to this requirement.

(5) *The MPO, the State(s), and the public transportation operator(s) shall validate data utilized in preparing other existing modal plans providing input to the transportation plan. In updating the transportation plan, the MPO shall base the update on the latest available estimates and assumptions for population, land use, travel, employment, congestion, and economic activity. The MPO shall approve transportation plan contents and supporting analyses produced by a transportation plan update.*

Coordination and collaboration among the various planning partners is a key component of the on-going MPO transportation planning process. The Indiana Department of Transportation and the Bloomington Public Transit Corporation have representation on the Policy and Technical Advisory Committees of the MPO, and continue to be active participants in the 3C metropolitan planning process. The 2035 Plan made use of the socioeconomic, population, land use, travel, employment, fiscal, and other data for trend estimates and assumptions out to 2035. The data and associated analysis are documented within the 2035 Long Range Transportation Plan.

(6) *The metropolitan transportation plan shall, at a minimum, include:*

(a) *The projected transportation demand of persons and goods in the metropolitan planning area over the period of the transportation plan.*

The 2035 Long Range Transportation Plan utilized an analysis of future transportation demand of persons and goods through the year 2035 as a foundation for developing its recommended transportation projects. A travel demand model incorporated locally created assumptions for future land use and development within the study area, and projected the future transportation demand on the roadway network. The Plan recommends projects and strategies to address future demand, within the requirements of fiscal constraint.

(b) *Existing and proposed transportation facilities (including major roadways, transit, multimodal and intermodal facilities, pedestrian walkways and bicycle facilities, and intermodal connectors) that should function as an integrated metropolitan transportation system, giving emphasis to those facilities that serve important national and regional transportation functions over the period of the transportation plan.*

The 2035 Long Range Transportation Plan incorporates all existing and proposed transportation facilities that function as an integrated metropolitan transportation system. The individual modes of transportation, including highway, transit, pedestrian walkways, and bicycle facilities, are all addressed in detail within the plan. Emphasis is placed on facilities that serve national and regional functions.

(c) Operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility of people and goods.

The 2035 Long Range Transportation Plan provides operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility of people and goods. Specifically, the Vision Statement in Chapter 2 provides a variety of objectives designed to enhance safety and mobility throughout the metropolitan transportation system. These strategies include intelligent transportation systems, transit system improvements, bicycle and pedestrian facility improvements and travel demand management.

The 2035 Plan advocates the usage of new electronics and telecommunications for driver guidance and warning, improved roadway design and lighting, and increased enforcement. Many of these factors are considered in the completion of the MPO's Intelligent Transportation System (ITS) architecture.

The Public Transit section of the Future Needs Plan (Chapter 3) provides recommendations for future enhancements to the local transit system. The Plan supports regular updates of the Transit Development Program, a tool utilized to analyze transit service effectiveness and recommend changes to maximize efficiency and ridership. Continued increases in transit ridership, as envisioned in the 2035 Plan, will help reduce motor vehicle trips system-wide.

The Alternative Transportation section of the Future Needs Plan (Chapter 3) documents a significant number of projects and programs that have been undertaken within the metropolitan planning area, all aimed at improvement bicycle and pedestrian facilities. In this sense, the 2035 Plan recognizes the need for a multimodal approach to safety and mobility. As more and safer transportation options are provided throughout the network, local residents will be able to access community resources more efficiently and conveniently.

Finally, the MPO utilizes its on-going process of crash data analysis to help identify locations where safety improvements are required. The Annual Crash Report identifies the highest incident locations, and local agencies are engaged to evaluate potential roadway modifications to address those situations. The MPO utilizes this crash analysis as a key component of its implementation of the Highway Safety Improvement Program in partnership with the Indiana Department of Transportation.

(d) *Consideration of the results of the congestion management process in TMAs that meet the requirements of this subpart, including the identification of SOV projects that result from a congestion management process in TMAs that are nonattainment for ozone or carbon monoxide.*

The Bloomington Metropolitan Area is in attainment for all Federal air quality standards, and is therefore not subject to this requirement.

(e) *Assessment of capital investment and other strategies to preserve the existing and projected future metropolitan transportation infrastructure and provide for multimodal capacity increases based on regional priorities and needs. The metropolitan transportation plan may consider projects and strategies that address areas or corridors where current or projected congestion threatens the efficient functioning of key elements of the metropolitan area's transportation system.*

The 2035 Long Range Transportation Plan incorporates a variety of strategies to preserve the existing and projected metropolitan transportation infrastructure and provide for multimodal capacity increases. The final Cost Feasible Plan was developed as a result of analyzing various project alternatives to determine the best combination of projects to serve regional needs. In addition, the plan looks beyond roadway capacity projects to recommend strategies that reduce motor vehicle trip demand and expand alternative transportation capacity. A detailed plan for future enhancements to Bloomington Transit service is included in Chapter 3: Future Transportation Needs Plan. In the same chapter, proposed bicycle and pedestrian facility improvements are outlined. The Vision Statement (Chapter 2), details a number of strategies that will enhance the future transportation network, including access management, increased connectivity, mixed land uses, and railway/road grade separations. All of these projects and strategies will maintain the efficient function of the metropolitan transportation system.

(f) *Design concept and design scope descriptions of all existing and proposed transportation facilities in sufficient detail, regardless of funding source, in nonattainment and maintenance areas for conformity determinations under the EPA's transportation rule (40 CFR part 93). In all areas (regardless of air quality designation), all proposed improvements shall be described in sufficient detail to develop cost estimates.*

All proposed transportation projects in the 2035 Long Range Transportation plan have been described in sufficient detail to develop cost estimates (Appendix F: Projects Index provides a comprehensive listing and description of each proposed project). These detailed descriptions were used to develop cost estimates. The BMCMPO is in attainment for air quality purposes, so no conformity determination is required.

(g) *A discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the metropolitan transportation plan. The discussion shall be developed in consultation with Federal, State, and Tribal land management, wildlife, and regulatory agencies. The MPO may establish reasonable timeframes for performing this consultation.*

The 2035 Long Range Transportation Plan does not currently contain a discussion of potential environmental mitigation activities associated with proposed projects and activities contained in the 2035 Plan. Projects listed in the TIP undergo a preliminary Red Flag Investigation (RFI) to identify local resources and aid in future mitigation activities. These investigations help identify environmental and cultural resources within a 1/4 mile of the project area. Typically, site features will be flagged under broad categories (Streams and Wetlands, Threatened and Endangered Species, Cultural Resources, and Other Environmentally Sensitive Features). A summary of potential conflicts between proposed projects and the identified environmental and cultural features will be produced at the conceptual level and aid in more detailed environmental and cultural feature mitigation through the design stage. For the upcoming 2040 Metropolitan Transportation Plan, all proposed projects will be evaluated with a Red Flag Investigation.

(h) *Pedestrian walkway and bicycle transportation facilities in accordance with 23 U.S.C. 217(g).*

The 2035 Long Range Transportation Plan includes a detailed plan for the enhancement of bicycle and pedestrian facilities throughout the planning area. Chapter 3 contains a section called "Alternative Transportation" that describes future facility improvements, including a list of specific road segments and the recommended enhancements for those segments. As referenced in this section, the 2035 Plan also incorporates (by reference) the Monroe County Alternative Transportation and Greenways System Plan and the Bloomington Bicycle and Pedestrian Transportation and Greenways Systems Plan that have been adopted locally by Monroe County and Bloomington.

(i) *Transportation and transit enhancement activities, as appropriate.*

The 2035 Long Range Transportation Plan incorporates transportation and transit enhancement activities as outlined previously. Such facilities are also incorporated in roadway projects where desirable and feasible. Likewise, the 2035 Plan incorporates an in-depth discussion of future transit needs as well as strategies to meet those needs. All of these activities are carried forward as appropriate into the MPO's Transportation Improvement Program.

(j) A financial plan that demonstrates how the adopted transportation plan can be implemented

(i) *For purposes of transportation system operations and maintenance, the financial plan shall contain system-level estimates of costs and revenue sources that are reasonably expected to be available to adequately operate and maintain Federal-aid highways (as defined by 23 U.S.C. 101(a)(5) and public transportation (as defined by title 49 U.S.C. Chapter 53).*

Chapter 4 of the 2035 Long Range Transportation Plan provides a detailed forecast of local and federal funds available over the life of the Plan (2006-2035). The local governments within the Bloomington urbanized area rely mainly on Motor Vehicle Highway (MVH), Local Roads and Streets (LRS), Cumulative Capital Development, and local wheeltax funds for maintenance and construction of roadways. In certain circumstances, Tax Increment Finance Districts collect and direct funding for projects to specific geographic areas. These funds may pay for local road construction or reconstruction, as well as serve as the match for available federal funds.

Details of the assumptions and inflation factors that were used to generate these forecasts can be found in Chapter 4: Financial Forecast. Based on a review of past budget allocations, the City of Bloomington and Monroe County dedicate significant portions of their local funds to maintenance and preservation of the existing highway system. The estimated revenue stream in the 2035 Long Range Transportation Plan is adequate to continue this practice at appropriate levels.

(ii) *For the purpose of developing the metropolitan transportation plan, the MPO, public transportation operator(s), and State shall cooperatively develop estimates of funds that will be available to support metropolitan transportation plan implementation, as required under § 450.314(a). All necessary financial resources from public and private sources that are reasonably expected to be made available to carry out the transportation plan shall be identified.*

All sources of funding that are reasonably expected to be made available for the implementation of the transportation plan are reviewed in detail in Chapter 4: Financial Forecast of the 2035 Long Range Transportation Plan. The MPO worked cooperatively with its local planning partners, Bloomington Transit, and the Indiana Department of Transportation to develop these estimates. Additionally, a component of the 2035 Plan is a list of projects and costs for the INDOT system that brings the project list in line with the most recent revenue projections for the State of Indiana.

(iii) *The financial plan shall include recommendations on any additional financing strategies to fund projects and programs included in the metropolitan transportation plan. In the case of new funding sources, strategies for ensuring their availability shall be identified.*

The financial forecast for the 2035 Long Range Transportation Plan includes traditional sources of highway and transit revenues, and does not contemplate the addition of any non-traditional funding sources. The Indiana Department of Transportation projects list references a new category of funding known as "Innovative Financing", but no such concepts are included for local revenue.

(iv) *In developing the financial plan, the MPO shall take into account all projects and strategies proposed for funding under title 23, U.S.C., title 49, U.S.C., Chapter 53, or with other Federal funds; State assistance; local sources; and private participation. Starting December 11, 2007, revenue and cost estimates that support the metropolitan transportation plan must use an inflation rate(s) to reflect "year of expenditure dollars" based on reasonable financial principles and information, developed cooperatively by the MPO, State(s), and public transit operator.*

The financial plan for the 2035 Long Range Transportation Plan includes all proposed projects and strategies. Total project costs for each proposed project are provided, including costs by phases where certain projects haven been split into multiple sections. Cost estimates for all projects, and available revenues for funding those projects, were developed using current year dollars. As projects move from the Long Range Transportation Plan into the Transportation Improvement Program, they will be reevaluated to ensure that "year of expenditure dollars" are reflected in the final cost estimates.

(v) *For the outer years of the metropolitan transportation plan (i.e., beyond the first 10 years), the financial plan may reflect aggregate cost ranges/cost bands, as long as the future funding sources(s) is reasonably expected to be available to support the projected cost ranges/cost bands.*

Each project (or project phase) proposed in the 2035 Long Range Transportation Plan has a cost estimate associated with it, utilizing current year dollars. Those estimates were utilized in combination with the Financial Forecast (Chapter 4) to develop an implementation schedule for the 20-year planning horizon. While the requirements of this section would allow it, costs and revenues have not been aggregated into ranges for the outer years of the metropolitan transportation plan.

(vi) *For nonattainment and maintenance areas, the financial plan shall address the specific financial strategies required to ensure the implementation of TCMs in the applicable SIP.*

The Bloomington Metropolitan Area is in attainment for all Federal air quality standards, and is therefore not subject to this requirement.

(vii) *For illustrative purposes, the financial plan may (but is not required to) include additional projects that would be included in the adopted transportation plan if additional resources beyond those identified in the financial plan were to become available.*

All projects included in the 2035 Long Range Transportation Plan have a cost estimate, and have been phased for fiscal planning throughout the 20-year planning horizon. The projects listed within the 2020 through 2035 time frame have been identified as "Long-Term Illustrative Projects" to reflect increased cost and revenue uncertainty in the outer years of the planning horizon.

(viii) *In cases that the FHWA and the FTA find a metropolitan transportation plan to be fiscally constrained and a revenue source is subsequently removed or substantially reduced (i.e., by legislative or administrative actions), the FHWA and the FTA will not withdraw the original determination of fiscal constraint; however, in such cases, the FHWA and the FTA will not act on an updated or amended metropolitan transportation plan that does not reflect the changed revenue situation.*

All revenue sources currently listed in the 2035 Long Range Transportation Plan continue to be valid.

(7) The MPO shall consult, as appropriate, with State and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation concerning the development of the transportation plan. The consultation shall involve, as appropriate:

(1) Comparison of transportation plans with State conservation plans or maps, if available; or

(2) Comparison of transportation plans to inventories of natural or historic resources, if available.

The 2035 Long Range Transportation Plan was developed in consultation with agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation. The land use management authorities from all local governments within the MPO planning area were active participants in the development of the 2035 Plan. All proposed projects were reviewed for their potential environmental and historic property impacts utilizing data layers provided on the City of Bloomington's Geographic Information System. The GIS includes data layers that document a wide variety of environmental and historic features throughout the MPO planning area, including streams, sinkholes, forested areas, topography, historically designated properties, and properties eligible for historic designation. One roadway project, a segment of Hillside Drive between Rogers Street and Walnut Street, was eliminated from the final list of transportation projects in the Plan due to the negative environmental and historic property impacts that it would potentially create.

(8) The metropolitan transportation plan should include a safety element that incorporates or summarizes the priorities, goals, countermeasures, or projects for the MPA contained in the Strategic Highway Safety Plan required under 23 U.S.C. 148, as well (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 non-motorized users.

The 2035 Long Range Transportation Plan identifies safety and security as key factors in the planning process as part of the Vision Statement provided in Chapter 2. The Bloomington/Monroe County MPO has implemented programs that address a number of the goals and objectives identified in the Vision Statement under the Safety & Security heading. Through the Annual Accident Report program, the MPO has been able to analyze Vehicle Crash Record System (VCRS) data to identify intersections and road segments that pose safety hazards. This has translated into several projects in various stages of implementation through the MPO's Transportation Improvement Program, including some that have been awarded Highway Safety Improvement Program (HSIP) grants from the State of Indiana.

The State of Indiana published its Strategic Highway Safety Plan in October 2010. That plan contains numerous safety emphasis areas, as well as specific strategies that will lead to safety improvements in each of the emphasis areas. The 2035 Long Range Transportation Plan hereby incorporates the Emphasis Areas outlined in the State of Indiana's Strategic Highway Safety Plan as follows:

[1] Roadway Departure Crashes

[2] Intersection Crashes

[3] Large Vehicle Conflict Crashes

[4] Roadway Restriction Related Crashes

[5] Vulnerable User Crashes

[6] Human Factor Contribution to Crashes

The Bloomington/Monroe County MPO will coordinate closely with INDOT on strategies and programs that help to address these issues on the State and local road networks within the MPO planning area. The 2035 Plan also advocates the usage of new electronics and telecommunications for driver guidance and warning, improved roadway design and lighting, and increased enforcement as mentioned through the completion of the MPO's Intelligent Transportation System (ITS) architecture.

In addition, the 2035 Plan recognizes that safety and security must apply to bicycle, pedestrian and transit facilities as well. Every roadway project proposed in the 2035 Plan includes recommended bicycle and pedestrian facilities to be constructed as part of the roadway improvements. Providing dedicated facilities for bicyclists and pedestrians will greatly enhance their safety, as well as that of motor vehicle operators. This will also enhance the ability of Bloomington Transit to serve its routes in a safe and efficient manner. Bloomington Transit has also proposed a series of vehicle and facility improvements as part of the 2035 Plan, including a new central transfer station in downtown Bloomington.

(9) *The MPO shall provide citizens, affected public agencies, representatives of public transportation employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, and other interested parties with a reasonable opportunity to comment on the transportation plan using the participation plan developed under § 450.316(a).*

The Bloomington/Monroe County Metropolitan Planning Organization has a long-standing policy of providing ample public participation opportunities to all interested citizens and organizations. The MPO's Public Participation Plan outlines the process by which citizens, affected public agencies, representatives of public transportation employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, and other interested parties are provided with a reasonable opportunity to comment on the transportation plan. In addition to the Public Participation Plan, the MPO has a Citizens Advisory Committee that meets regularly to review and comment on MPO plans and projects, providing an additional conduit for public participation.

(10) *The metropolitan transportation plan shall be published or otherwise made readily available by the MPO for public review, including (to the maximum extent practicable) in electronically accessible formats and means, such as the World Wide Web.*

The 2035 Long Range Transportation Plan is available in electronically accessible format on the BMCMPO website (www.bloomington.in.gov/mpo). The electronic version of the document includes all maps and supporting graphics included in the print version. The Plan is provided in Adobe Acrobat format, which is a widely accepted standard for distribution of electronic documents.

(11) *A State or MPO shall not be required to select any project from the illustrative list of additional projects included in the financial plan under paragraph (f)(10) of this section.*

The State or the MPO shall not be required to select or implement any project considered to be "illustrative" within the 2035 Long Range Transportation Plan, as it may be amended in the future.

(12) In nonattainment and maintenance areas for transportation-related pollutants, the MPO, as well as the FHWA and the FTA, must make a conformity determination on any updated or amended transportation plan in accordance with the Clean Air Act and the EPA transportation conformity regulations (40 CFR part 93). During a conformity lapse, MPOs can prepare an interim metropolitan transportation plan as a basis for advancing projects that are eligible to proceed under a conformity lapse. An interim metropolitan transportation plan consisting of eligible projects from, or consistent with, the most recent conforming transportation plan and TIP may proceed immediately without revisiting the requirements of this section, subject to interagency consultation defined in 40 CFR part 93. An interim metropolitan transportation plan containing eligible projects that are not from, or consistent with, the most recent conforming transportation plan and TIP must meet all the requirements of this section.

The Bloomington Metropolitan Area is in attainment for all Federal air quality standards, and is therefore not subject to this requirement.