

I. INTRODUCTION

The 2040MTP is part of the *Comprehensive Plan for Tippecanoe County* and builds on 40 years of experience starting with the completion of the original transportation plan in 1978. The 2040MTP represents the sixth update to the transportation plan and becomes part of the comprehensive, coordinated and continuous process of planning and implementing needed transportation improvements.

This Plan is the product of a cooperative and comprehensive effort involving public officials, agency staffs and citizens of the community. It has been discussed and evaluated in open forums facilitated by the staff of the Area Plan Commission of Tippecanoe County. We have attempted to present the information in a clear and concise way using maps, graphics and other methods to visualize information to better communicate the process and its recommendations.

The APC web site currently provides a wealth of additional information about the status of specific projects, traffic volumes, crash analysis, count data and other transportation related information that takes advantage of GIS functionality. This plan, as well as other planning documents, will be displayed interactively on the web site and provide more detailed project level information. In the future, crash data, *The Thoroughfare Plan*, and the Highway Performance Monitoring System (HPMS) data will also be presented interactively.

A. Reasons for Transportation Planning

This plan is a guide for the development and maintenance of the transportation system in our community and is important for a number of reasons:

- It helps the community prioritize their needs and make difficult funding decisions to ensure scarce resources are allocated where they are most needed. The cost of our transportation system can best be managed by sound planning and fiscal programming.
- It helps the community coordinate projects and funding from many sources. It is crucial that all funding agencies participate so that decisions are made in a coordinated and informed way.
- It provides comprehensive information on which transportation facilities will be implemented in the future. This provides residents, developers, existing and prospective businesses as well as the general public with information about the community's direction and future.

B. Local Organization and Process

The Area Plan Commission of Tippecanoe County is designated by the Governor as the official Metropolitan Planning Organization (MPO) for the community to conduct transportation planning. Thus, in addition to local and state mandated functions related to planning and zoning, the agency is responsible for local transportation planning and for review of all federal highway and transit related projects and programs within the County. The Executive Director and planning staff carry out a variety of technical tasks that support the transportation planning functions.

Area Plan Commission decisions are informed by the following three standing committees created to oversee the planning process and to advise on important decisions and resolutions. Each was heavily involved in the process culminating in this Plan Update.

- The Policy Committee (at time of adoption known as the Administrative Committee) provides the counsel of elected and appointed officials involved with policy, administrative and fiscal decisions. Members of this committee ultimately have important responsibilities for implementing the plan's recommendations. The committee meets as needed in open advertised public meetings.
- The Technical Transportation Committee provides the advice and knowledge of various agency engineers, planners, police, transit operator, Purdue University and the Purdue Airport, and INDOT.

Members are responsible for designing, operating, and maintaining the transportation system. The Committee meets monthly in open advertised public meetings.

- The Citizen Participation Committee provides ideas and comments from representative groups and individuals throughout the community. These citizens provide important observations in evaluating and suggesting projects. The Committee meets bi-monthly and has a mailing roster of over 50 recipients which includes neighborhood organizations, minority organizations, League of Women Voters, all local media and other interested individuals.

Review and adoption of the 2040MTP was accomplished during the spring of 2012 through input by the Policy, Citizen, and the Technical Transportation Committees as well as meetings with individuals and community groups. Suggestions and comments throughout the review period were incorporated in the Plan where appropriate. The Area Plan Commission adopted the 2040MTP on June 20, 2012.

C. SAFETEA-LU

This plan has been prepared to comply with the Federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). Metropolitan Planning Organizations are required to consider and include the following seven goals in developing transportation plans and programs:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency

This Plan is part of the *Comprehensive Plan for Tippecanoe County* that was adopted in 1981 and provides for orderly growth and provision of services to all of Tippecanoe County. Goals adopted in the *Comprehensive Plan for Tippecanoe County* reinforce our strong local economy and transportation's role in supporting economic development. This Plan continues those specific goals and objectives. All of the components of the *Comprehensive Plan* are designed to strengthen the role of transportation in the community. Other elements include a Thoroughfare Plan, Bicycle and Pedestrian Plan, Land Use Plan, Housing Plan, Multi-Hazard Mitigation Plan, Neighborhood Plans and a Parks and Recreation Plan.

The 2040MTP seeks to reduce travel time, maintain on-time delivery service, and reduce lost productivity by strengthening and improving the network circulation. One objective this Plan incorporates is connectivity and ease of movement by persons and goods in and through the area. It continues to develop multiple circumferential ring road systems around the community and strengthen the cross routes. Improvements to major corridors that bring commuter traffic from surrounding counties are specifically targeted.

2. Increase the safety of the transportation system for motorized and nonmotorized users.

This Plan continues to emphasize increased safety for both motorized and non-motorized users in the following ways:

- Current and historic vehicle crash analysis was considered in the development of the list of projects in the Plan.
- The Plan encourages development of a highway system that diverts through traffic away from residential neighborhoods while still providing accessibility.
- The projects contained in the Plan reduce congestion by providing alternative routes to satisfy user needs. With reduced congestion, conflicts are reduced and safety is enhanced.
- Industry safety and design standards, as well as those delineated in the Thoroughfare Plan, are required for all road improvements.
- In addition to road design standards, all improvement projects incorporate safety considerations for bicyclists and pedestrians and satisfy the adopted transportation goal of encouraging provisions for all modes of travel.
- The Plan advocates construction of grade separations to reduce motor vehicle and train conflicts.

- The Plan includes implementation of projects identified in the Transit Development Plan and the Bicycle and Pedestrian Plan, such as context sensitive design measures for pedestrian and bicycle safety around Purdue.

CityBus has several safety programs and meets Federal Transit Authority (FTA) requirements that it spend 1% of its funding on safety and security. Efforts are focused on worker health and safety, driver training, and passenger safety. CityBus promotes FTA's "Transit Watch - if you see something, say something" to encourage riders to be a part of overall safety.

INDOT has developed a *Strategic Highway Safety Plan* (SHSP) whose goal is to reduce traffic crash fatalities. The SHSP is consistent with the goals and objectives of this community and is summarized in Appendix 6.

3. Increase the security of the transportation system for motorized, nonmotorized and transit users.

The APC works closely with the Tippecanoe County Emergency Management Agency (TEMA) and is represented on its Local Emergency Planning Committee by the Executive Director. TEMA has an adopted *Comprehensive Emergency Management Plan*. In conjunction with TEMA, APC is updating the 2006 *Multi-Hazard Mitigation Plan* (MHMP). This plan is a requirement of the federal Disaster Mitigation Act of 2000 and has been adopted by APC and its member jurisdictions as a part of the *Comprehensive Plan* of Tippecanoe County. The MHMP provides a comprehensive assessment of how specific hazards affect the community, adopts mitigation goals for each hazard, and proposes solutions to prevent future damage caused by natural and manmade hazards. It represents a proactive tool to reduce personal and property damage and its implementation will reduce costs to local, state and federal governments. Additionally, the plan's existence ensures a wealth of readily available information to local governments, emergency service departments and area citizens through the County's GIS web site, with additional information available in its Management Information Technology Services Department.

TEMA is the lead county agency for security issues and APC will continue to play a supporting role providing them with assistance as needed. APC looks forward to working with TEMA to implement and broaden the MHMP and bring greater focus to transportation issues.

CityBus has several security strategies in operation. Access control, surveillance and monitoring on bus as well as office and maintenance facilities are currently employed strategies. Operations include Computer Aided Dispatching and Automatic Vehicle Locator technology. Additionally, CityBus has an emergency preparedness plan containing mitigation strategies for manmade and natural disasters.

4. Increase the accessibility and mobility options available to people and freight.

This Plan strengthens and creates accessibility on two distinct levels. One focuses on improving the continuity of the road network. The other provides additional connections and improvements between modes of travel. All citizens, travelers and businesses benefit from this dual approach.

Improving travel time is of the utmost concern for moving both people and freight. This Plan reduces travel and delivery time by increasing accessibility through the development of circular or ring road systems with major radial connections. Improvements are also targeted for the corridors that connect to and from other counties and states.

Increasing bicycle and pedestrian mobility, as well as the safety of transit riders, is advanced because all proposed road improvements are required to include provisions for these two modes. When sidewalks are available it is safer for transit users and they provide more options for bicyclists and pedestrians.

5. Protect and enhance the environment, promote energy conservation and improve quality of life.

This Plan incorporates these three goals by being part of the *Comprehensive Plan for Tippecanoe County* which guides all future development into a more sustainable compact urban environment. Benefits include less travel, reduced fuel consumption, and a cleaner environment that combine to enhance the quality of life. The community's Goals and Objectives state that any environmental impacts will follow the policy to avoid, minimize and mitigate. A comparison of the 2040MTP with conservation plans, environmental analyses, and inventories of natural and historic resources is contained in Appendix 3. The results are forwarded to local agencies for their consideration during environmental assessments and for discussion

with State and federal conservation, environmental, and historic agencies. All Federal Aid construction projects follow applicable INDOT, Federal Highway Administration (FHWA), Indiana Department of Environmental Management (IDEM), and Environmental Protection Agency (EPA) guidelines regarding environmental protection.

Transit use, bicycling and walking continue to play a large role in this community. For the first time the 2040MTP includes specific project level recommendation for these modes. Multi-modal travel promotes energy conservation and improves the quality of life. The Plan also advocates the use of joint corridors and corridor reuse wherever possible by using existing corridors for new construction and road improvements.

6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.

As part of the original 1978 transportation plan, citizens established an objective to develop an area-wide circulation network to accommodate present and anticipated future traffic demands. This Plan continues to recommend projects that strengthen connections throughout the community by advancing ring and radial routing that connect all National Highway System Roads and major principal corridor arterials in both cities.

The 2040MTP builds upon the multi-modal plans and programs of previous plans. Transit use, bicycling, and walking play a increased role in this community and for the first time this plan makes specific project level recommendations for both bicycling and walking. APC works closely with CityBus to assist it in serving the community, because multi-modal travel not only promotes energy conservation it also improves the quality of life.

7. Promote efficient system management and operation

This goal stresses the need to improve the performance of our existing transportation facilities so as to maximize safety and mobility, and improve efficiency. In this community the management systems are primarily roadway, traffic, bridge, and transit programs. These start with continued monitoring and maintenance of the system, identification of deficiencies, and then targeting specific projects (such as signal system upgrades, traffic engineering projects, access management plans, reduction or elimination of rail crossings) and for implementation and programming in the TIP.

Lafayette, West Lafayette and Tippecanoe County have roadway management systems that seek to preserve existing transportation facilities through maintenance and repair programs as well as to utilize existing transportation facilities more efficiently (e.g. signal coordination, sign replacement, pavement marking, and intersection improvements). Community wide expansion of the Advanced Traffic Management System in Lafayette is of paramount importance. Additionally Tippecanoe County has a bridge inventory and management system. All jurisdictions are now updating roadway management systems to address Americans with Disabilities Act needs. All use their systems to document and establish priorities.

CityBus has adopted several strong system management practices that promote safety, mobility and more efficient use of their existing transportation infrastructure. Ridership increases are evidence that their aggressive programs of fleet maintenance and acquisition, marketing, schedule adherence and strategic planning contribute to a system that successfully provides an alternative to the automobile.

The concept of corridor reuse and joint corridor use also enhances our existing transportation facilities. There are very few new corridors in the 2040MTP. Most improvements utilize existing corridors or are short extensions of existing facilities that providing greater connectivity to the transportation system. Most projects in the community are designed to relieve bottlenecks and include intersection widening, adding a travel lane, or lengthening a turn lane. The Hoosier Heartland corridor shares an alignment with the current Norfolk Southern tracks placing two modes in one corridor and reducing both the number of road and rail crossings. Additionally, the new perimeter parkway around Purdue University primarily utilizes existing rights-of-way.

8. Preserve the existing transportation system.

This Plan recognizes that the community cannot build its way out of congestion, which is environmentally, physically and fiscally irresponsible. The plan promotes the preservation of existing transportation facilities through continued maintenance and repair programs and utilizes existing transportation facilities more efficiently. The management and operations systems that member jurisdiction currently utilize preserve and protect the communities' investments in their infrastructure. The Transportation Improvement Program tracks the revenues and costs needed to maintain and protect those roadway and transit assets.

Most road improvements in the community use existing, not new, corridors by removing parking or widening to increase capacity. Several roads will be reconstructed within existing corridors such as the Purdue perimeter parkway, portions of McCormick Rd, and the Hoosier Heartland. Many of the recommended projects follow land use changes and roads originally built as rural cross sections and now need to be updated to an urban cross section with sidewalks and bicycle facilities.

D. Environmental Justice

This plan has an established Environmental Justice review procedure to ensure that proposed improvements take into consideration minorities (African American, Hispanic, Asian, and American Indian) and persons of low income. Additionally, it makes certain that these groups are not disproportionately impacted by recommended highway projects.

Each step in the review process addresses one of the following three principles of Environmental Justice. Proposed improvements were compared to areas of higher than average number of minorities or persons of low income. Data from the American Community Survey (ACS) and the 2010 census was used because it is the best available source of information and mapped in Appendix 9. Additional outreach to minority groups has been accomplished through our public involvement process. After assessment, indicating minimal or no impact, proposed projects are scheduled based on need and funding.

1. Principal One: Avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.

To identify whether a project disproportionately impacts minority and low income persons, two levels of analysis were conducted. All projects are first reviewed on a macro level. Those that show a possible impact on minority or low income areas were further evaluated on a micro level.

For the macro review, maps were created showing the proposed improvements and areas of concentrated minority group and/or low-income population based on the latest Census ACS data. The maps show areas with higher than average target populations. Projects that were located in areas with less than average target populations, have been already evaluated (under construction or starting construction shortly), or were funded using only local funding, received no further review.

The micro level review was then conducted for projects that may have an environmental justice concern. Projects were examined individually using aerial photos from 2010. Each project was evaluated according to the nine standards for impact: displacement of residents; increase in noise and air pollution; creation of barriers in neighborhoods; destruction of natural habitat; reduction in access to transit; displacement of persons, businesses, farms, nonprofit organizations; increase in traffic congestion; and isolation.

Results of the micro level review (Appendix 9) range from as many as six concerns per project to none. Most of the impacts are due to road widening projects that involve dislocations and relocations. In the urban area the impacts also included potential barriers between neighborhoods and increase noise and air pollution, with rural and urban edge areas involving natural habitats. Projects with documented potential impacts will have them addressed in the environmental phase of each project. Proper engineering will be able to mitigate some of the issues and reducing the right-of-way where appropriate may reduce the dislocation of residents and businesses. Many of the projects involve widening corridors that already exist and mitigation measures can be employed to minimize negative impacts.

2. Principal Two: Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.

There were multiple opportunities for potentially affected parties to have a voice in the decision making process used in creating this Plan. Identification of general transportation needs that would be addressed in the Plan began with discussions at Technical and Citizen Committees and stakeholder.

During the six meetings of the Citizen Participation Committee in 2011 and three in 2012 the committee considered and discussed highway bottlenecks and delays, trail needs, bicycle and pedestrian needs and potential destinations, possible projects, Goals and Objectives, Complete Streets Policy, and population and employment forecasts. The Committee recommended highway, bicycle and pedestrian improvements. It also reviewed the final list of recommended highway, bicycle and pedestrian project. Press releases were sent to local media resulting in meetings being listed in the local meeting section. Comments received are included in Appendix 10 committee Input.

The Technical Transportation Committee assisted in developing the 2040MTP at seven regular meetings by reviewing area needs, development patterns and socioeconomic projections. It also recommended projects to be incorporated into the Plan, prioritize projects, and recommend the Plan to the APC. The meetings were open public meetings and covered by both broadcast and print media. Input from the Policy Committee (previously known as the Administrative Committee) was obtained at one open public meeting that was covered by the media.

There were several well attended outreach meetings that provided citizen and stakeholder input at the meeting and through follow-up communications. The APC adopted the 2040MTP at a public hearing. All meetings complied with the adopted Public Participation Plan.

3. Principal Three: Prevent the denial of, reduction in or significant delay in the receipt of benefits by minority and low-income populations.

Projects proposed in the 2040MTP were identified from deficiencies shown in earlier traffic modeling and through public input and comment. The phasing of projects was based on need and anticipated financing.

E. Major Local Issues

For more than 30 years the community has planned many major highway improvements. Many have been constructed or are now under construction. The recent completion of the: Hoosier Heartland, relocation of a portion of US 231, McCarty Lane Extension, Cumberland Avenue Extension and Veterans Memorial Parkway will fundamentally transform our community. Our travel patterns have already begun to change and make new demands on our roads and land use.

To maintain this community's quality of life, the next chapter for this community's transportation planning needs is to:

- Continually improve our network of roads. This includes Lindberg and Klondike Roads, the perimeter parkway around Purdue, extending US 231 north of US 52 and new roads in areas of new development.
- Address bottlenecks that cause delay at intersections and in road corridors. This includes Sagamore Parkway, South Street (SR 26), and Teal. Previous efforts to develop circumferential routes that provide relief to congested streets need to continue.
- Make safety improvements that are aimed at fatal and severe crash locations as identified through crash analysis, such as around Purdue, Sagamore Parkway and State/South Street (SR 26).
- Provide more sustainable transportation options, such as CityBus, bicycle facilities and sidewalks. This includes retrofitting roads in several urban growth areas with curb, gutter and sidewalk to keep pace with development.
- Be more efficient in managing our roads with up-to-date inventories, traffic signal coordination, control of access and road maintenance.
- Find ways to adequately fund needed improvements. The needs identified in the 2040MTP exceed the available funding options and if we desire to decrease delay or improve safety additional funding sources will be needed.