

Chapter 4

EVALUATION OF ALTERNATIVE TRANSPORTATION SKETCH PLANS

Chapter 4 discusses the development and evaluation of alternative transportation sketch plans for the target year 2045. The highway and transit alternatives considered as the 2045 plan evolved are presented along with the results of the analytical evaluations. The evolution and evaluation of the alternative plans were formulated through extensive interaction between the public, the Urban Transportation Advisory Board, Transportation Technical Committee, Transit Planning Committee, and Northeastern Indiana Regional Coordinating Council staff members. The result of this process is the selection of a fiscally constrained transportation plan that effectively responds to the regional travel needs and desires for the year 2045.

The recommended Transportation Plans for the Fort Wayne-New Haven-Allen County Metropolitan Area have been based upon a combined arterial roadway improvement concept with a high-level bypass facility. The transit component of these plans has been developed and recommended as a radially oriented bus route network. These two systems were designed to complement each other through improvements to the existing highway system and the level of transit service provided.

The development and testing of the transportation alternative sketch plans were based on these previously adopted plans and policies. The completion of Interstate 469 (the high-level bypass facility) in 1995 has shifted the highway planning focus for development of the 2025 and 2030 transportation plans away from the bypass concept. The new highway-oriented focus is on improving the arterial system. The transit planning effort has also been tempered to establish realistic strategies and levels of service for the 2045 target year. The priority for transit is focused on improving service for transit dependent populations while maintaining reliable and efficient service to the urbanized area. Consideration is given to identifying transit corridors that will provide a higher level of transit service through amenities and travel speed. The transit provider, Citilink, is also exploring non-traditional non-fixed route service delivery strategies to improve service. These suppositions guided the formation of the sketch plans.

Alternative Network Testing

The travel demands are based upon the projected socioeconomic data representing future activity within the Metropolitan Planning Area. The evaluation of the existing highway system under 2045 travel demands provided for the selection of specific alternatives aimed at relieving deficient corridors and increasing transit ridership. The deficient corridors (see Figure 3-6) exceeding the level-of-service D lane capacities (defined as a ratio of volume to capacity greater than 1.0) indicates situations of levels of service “E” or “F” exist on a corridor or section of roadway. Levels of service “E” and “F” represent congested conditions and failure of the system to efficiently meet travel demands.

Transit improvements were directed at reinforcing current strengths of the local transit system and developing strategies to enhance service efficiency. The evaluation process included a review of the current 2040 Transportation Plan recommendations to assess their continued viability.

Roadway Design Standards

The roadway design standards documented in previous Transportation Plans were modified in conjunction with the revision of the Access Standards Manual (see appendix D) utilized for the Congestion Management System Access Management Program (see appendix A). The revised roadway design standards were maintained in the development of this plan and are provided in Appendix E. The roadway design standards have been formulated to meet future highway requirements.

Highway Alternatives

The highway alternatives, as developed through a concerted effort of public participation and decisions of the Urban Transportation Advisory Board, were intended to improve mobility, accessibility, and/or alleviate congestion on the highway system. The alternatives evolved as packages of specific projects aimed at meeting these objectives. The improvements were stratified into project categories including system modifications, congestion management strategy implementation, and other highway improvements. The project categories do not represent independent improvement strategies but are complementary towards maximizing efficiency on the highway system and mitigating congestion.

The identification of deficient corridors stimulated discussion of strategies to meet the future travel demands. The system modifications category represents projects that enhance mobility through new road construction or capacity expansion through road widening projects. The congestion management strategy implementation projects represent improvements to the existing highway system to improve safety and mitigate congestion. These include projects that preclude expansion type projects such as center turn lanes, intersection improvements, road realignment, and intelligent transportation system projects. Railroad grade separation projects and interchange construction/modification are included in the other highway improvement category.

The focus of this plan includes discussion on a wide array of strategies for alleviating future congestion in addition to the traditional solutions of new road construction and widening projects. The new strategies include scaled-down widening projects, such as recommending an additional fifth lane for left-turning traffic instead of widening to six lanes, or similarly a three-lane road project instead of a four lane facility. Access control measures and congestion management techniques are additional tools addressed as components of this plan. The inclusion of management systems projects and efforts to combine highway, land use and transit service together to relieve congestion and improve efficiency, represent additional strategies considered in the development of this plan, and are components of the planning process.

The evaluation of the current 2040 transportation system identified additional deficiencies on the highway network. Viable solutions and strategies were developed to address selected deficiencies. In addition, suggested improvements from citizens, local elected officials and appointed officials were considered during the testing and evaluation of alternatives.

The evaluation considered the entire proposed current 2040 Plan projects to determine if they remained practical under the 2045 travel demands. Remaining deficiencies from the 2040 travel demands on the existing plus committed system were identified. Solutions were developed and reviewed, including policies and projects, to determine feasible options addressing the remaining deficiencies. As a result of this process, scenarios were developed, tested, and evaluated. Several current 2040 Plan projects were modified or removed as a result of policy changes or changes in travel demands.

Extensive testing of the arterial system was evaluated and re-evaluated as the process moved toward preparing a final list of highway modifications to provide congestion relief. Three, four, five, and six lane highway improvements were considered to determine their ability to solve the corridor deficiencies. Strategies such as access control and congestion management solutions (i.e. intersection improvement, traffic operation improvements, intelligent transportation system improvements, etc.) were also considered. These types of strategies, when implemented properly can solve congestion problems along specific corridors and avoid the need for widening projects. A complete list of the highway projects is provided in Chapter 6.

A comparison of the existing plus committed transportation system and the recommended 2045 transportation system yields positive results. The comparison utilizes the 2045 travel demands. Table 4-1 presents a comparison of the two systems. The data is reported for the federal functional class system only. The existing plus committed transportation system will carry an estimated 11.95 million vehicle miles of travel (VMT) on a daily basis. Under the identical travel demands, the recommended 2045 system will carry an estimated 11.91 million vehicle miles of travel.

Table 4-1. VMT and VHT Comparison

Transportation System	Weekday Vehicle Miles of Travel	Yearly Weekday Vehicle Miles of Travel	Weekday Vehicle Hours of Travel	Yearly Weekday Vehicle Hours of Travel
Existing /Committed	11,947,775	3,106,421,500	277,765	72,218,900
Recommended 2045	11,910,088	3,096,622,880	276,261	71,827,860

Equally important is the comparison of vehicle hours of travel for the two systems. The existing plus committed transportation system will induce an estimated 277,765 vehicle hours of travel (VHT) on a

daily basis. The same estimate for the recommended 2045 system is 276,261 vehicle hours. Table 4-2 shows the VMT per-capita for the existing/committed network and the 2045 analysis year.

Table 4-2. VMT Per-Capita

Transportation System	Existing /Committed	2045
VMT	11,947,775	11,910,088
Population	416,340	416,340
VMT/Capita	28.70	28.61

The amount of vehicle miles of travel and vehicle hours of travel can directly relate to a community’s standard of living and quality of life. The most significant ramification of the transportation system performance is the impacts on safety, air quality, and energy consumption. Air quality is directly affected by the level-of-service and extent of congestion on the highway system.

As the recommended 2045 plan began to solidify, testing continued to reveal deficiencies for which feasible solutions are difficult to develop. Previous plans had similar difficulties, partially due to narrow rights-of-way and a reluctance to disturb viable neighborhoods. In certain cases, solutions are difficult or too expensive to be practical. The primary area of such deficiencies occur in the Fort Wayne Central Business District, the north central section of Fort Wayne, and the intense concentration of commercial and retail development along certain sections of Coliseum Boulevard (SR 930). Traffic operation improvements, intelligent transportation systems, and improved transit service may help alleviate some travel pressure in this area. These areas will continue to be studied to determine what are the most feasible solutions. Figures 4-1 shows the remaining deficiencies after the 2045 funded projects are in place, and Figure 4-2 shows the remaining deficiencies after the 2045 funded and illustrative projects are constructed.

The deficient locations on the recommended 2045 plan will require further analysis to determine if viable solutions can be developed to help mitigate congestion. It is of course apparent, that the transportation system is not likely to ever be totally congestion free. A certain level of congestion is expected and will have to be tolerated. The objective is to reduce congestion to acceptable levels and provide for a safe and efficient system.

The final result of the highway alternative evaluation process is a comprehensive list of system modification projects, congestion management strategy implementation, other highway improvements, and policy options. With these tools, the community has the planning support necessary to implement projects and administer policies that will provide for an efficient transportation system for future travel demands within the limitations of fiscal constraint.

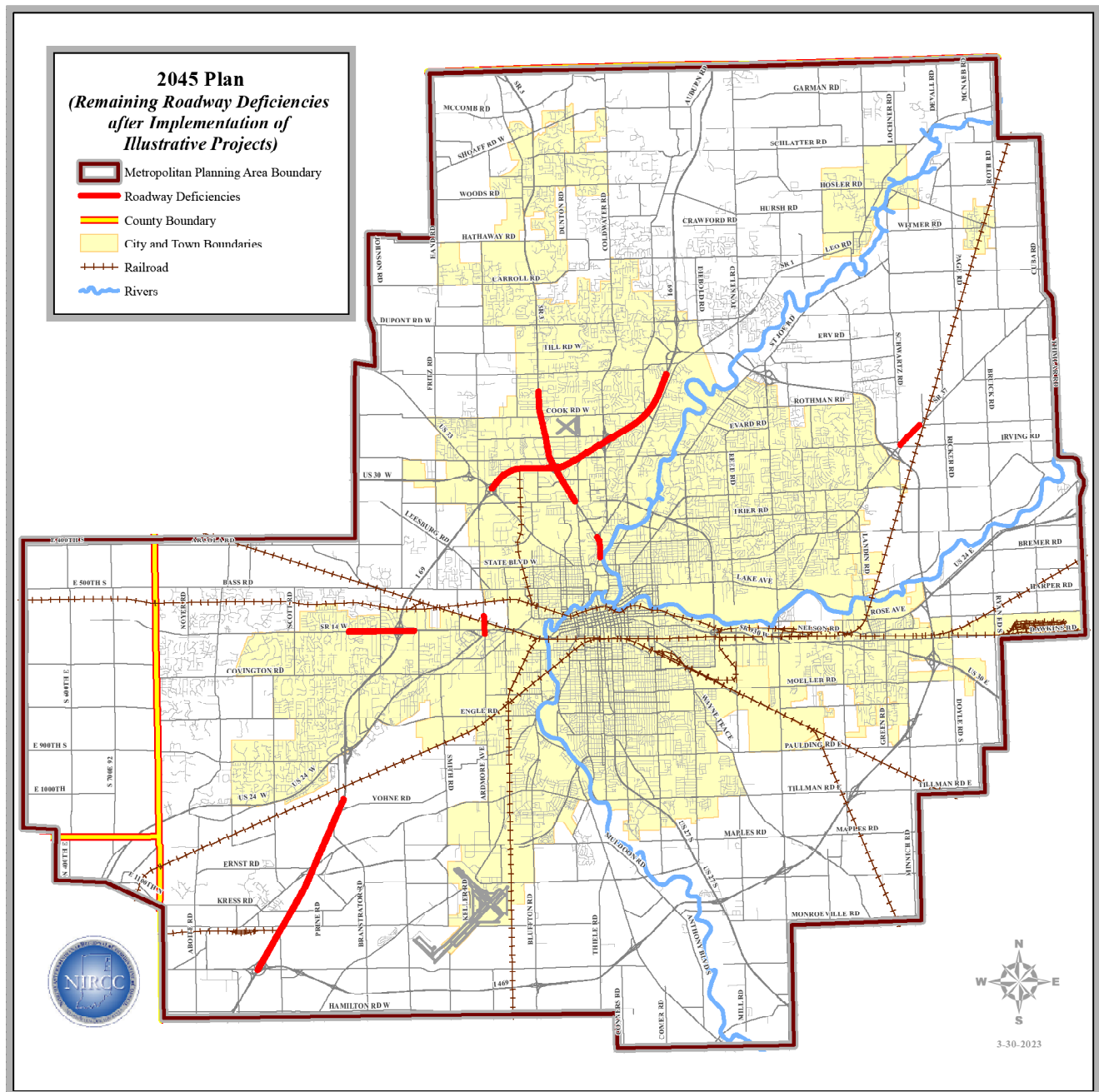


Figure 4-2
Network Deficiencies after 2045 Funded and Illustrative Projects

Transit Alternatives

Transit alternatives were developed and evaluated through a concerted effort of public participation, Fort Wayne Public Transportation Corporation (dba Citilink) staff, Transit Planning Committee, and the Urban Transportation Advisory Board. Many of the proposed projects are recommendations from the Citilink 2030 Transit Development Plan (TDP) Final Report completed in January 2020. The intentions of all alternatives presented are to improve mobility and accessibility on the transit system through improved transit service. The highway and transit systems are complementary and mutually dependent. Highway system improvements increase transit mobility and efficiency. Improving transit mobility and efficiency increases transit ridership. Increased transit ridership reduces demands on the highway system helping to mitigate congestion.

The fixed-route transit service is based upon a radially oriented configuration of transit routes. This type of system is often described by comparing its design to a wagon wheel. The Fort Wayne Central Business District represents the hub of the wheel, and the transit lines radiate out from the CBD like spokes. The transit alternatives concerning route expansion and modifications are based upon general assumptions for potential improvements. Areas in the Metropolitan Planning Area have been identified where housing and commercial growth indicates the potential for expanding transit service. These areas will be monitored for their transit propensity. The effect of the aging population, access to education and employment centers, and reverse commute issues will guide transit expansion in the Metropolitan Planning Area.

In addition to the Citilink 2030 TDP, three (3) additional transit related studies / documents / plans have been completed for the Metropolitan Area. The Bus Fort Wayne Plan was completed in 2013 (Appendix G) by the City of Fort Wayne under their “Active Transportation” initiative that also includes the Bike Fort Wayne and the Walk Fort Wayne Plans. The Bus Fort Wayne Plan is a ten-year plan that lays the groundwork for establishing public transit as a preferred transportation choice for the Fort Wayne and Allen County community. Since its completion, several of the plan’s tasks listed in its implementation matrix have been initiated and/or completed. The Coordinating Development and Transportation Services Guide Update was completed in 2014 (Appendix H) to encourage the coordination of land use developments and transit services. The information provided in the guide is intended to help developers, architects, engineers, plan commission members, and planning staffs accommodate transit service in the design of new and existing developments. The Coordinated Public Transit – Human Services Transportation Plan (CTP) for Allen County Update was completed in 2017 (Appendix I). Please note, NIRCC initiated an update of the CTP for Allen County in early 2023 with completion anticipated in December 2023. Strategies and recommendations from the CTP that are endorsed and approved by the Urban Transportation Advisory Board (UTAB) will be amended into this plan. The CTP is required to satisfy funding requirements for the Federal Transit Administration’s Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities Program for both Capital and Operational funding. This program is vital to transit and human

service transportation in the Metropolitan Area. All projects selected for funding from these FTA programs must be derived from this coordinated plan and be competitively selected. The plan developed strategies to address the identified transportation needs and gaps within Allen County (2017 strategies listed below). Local projects must meet at least one of the strategies identified for each program or project type.

Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities Program – Capital Funding Strategies:

- Maintain existing service / fleets
- Maintain and increase coordination / efficiency between all transportation providers
- Expand existing service / fleets
- Increase public awareness of available services and programs offered by providers that are available to them

Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities Program – Operational Funding Strategies:

- Provide transportation above and beyond existing complementary paratransit service
- Provide transportation outside current service areas
- Provide transportation within and outside current service schedules

Citilink continues to improve transit service by implementing strategies identified in their 2030 TDP. These improvements include reducing headways from sixty minutes to thirty minutes on selected routes and extending service hours as funding allows. These modifications have improved service and provide a more flexible operating system. Additional headway reductions for selected routes are under consideration. Through improved transit service, ridership is anticipated to increase. The increase in estimated ridership will correlate to an improved level of transit service and enhanced mobility for the entire community.

Citilink completed the Hanna Creighton Neighborhood Transit Facility in 2005 to serve as a satellite bus stop facility with a customer waiting area in conjunction with a neighborhood redevelopment project in the Hanna Creighton Neighborhood. The 2010 Transit Development Plan and Update included a new centralized transfer facility that was constructed and completed in 2012. The new Citilink Central Station is located at the corner of Calhoun and Baker streets. Citilink installed Wi-Fi service for their customers at the Central Station in 2017 and as of 2023, all fixed route buses are equipped with Wi-Fi service. In addition to these projects, Citilink continues to upgrade bus shelters, benches, and other customer amenities throughout their service area. Other capital improvements include the replacement of transit coaches, para-transit coaches, and support/service vehicles as part of a regular vehicle replacement program.

In addition to the transit service and capital improvements, policies were adopted by the Urban

Transportation Advisory Board in support of improving transit service in the metropolitan area. These policies are presented in Chapter 6. The transit improvements are derived from the policies. Augmenting these policies will include continued efforts to explore a wide realm of transit options and incorporate land use and highway design features that compliment transit service. The future transportation system will efficiently serve the community through cooperative and complementary highway and transit networks.

The financial constraint requirement also effects the selection of viable transit solutions. Proposed improvements to the transit system must indicate the financial support for implementation. Due to the uncertainty of transit funding some of the proposed solutions as outlined in this plan may result in trade-offs from service modifications. In essence, this means that less efficient service may be replaced with efforts aimed at improving ridership and mobility with minimal increases in overall operating cost.

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