Transportation Summary Report

NIRCC

Fiscal Year 2016

Produced by the
Northeastern Indiana Regional Coordinating Council

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INTRODUCTION

The Northeastern Indiana Regional Coordinating Council (NIRCC) is designated as the metropolitan planning organization (MPO) responsible for conducting transportation planning in the Fort Wayne-New Haven-Allen County Metropolitan Planning Area. Working with other public and private agencies, NIRCC strives to implement a transportation system that assures healthy growth and orderly development in the region. One of the main goals of NIRCC is working to develop a well-coordinated, multimodal, and functional transportation system to satisfy existing and future travel demands.

NIRCC and its staff work to provide a complete transportation system, one which will enhance the efficient movement of goods and people, while promoting greater safety and maintaining a conscious regard for the quality of life. For this goal to become a reality, constant monitoring of the existing system must occur. Staff is continually collecting data on the existing system to support the short-range planning process and to identify the challenges and opportunities of the future.

This Transportation Summary Report highlights and visually illustrates some of the transportation planning activities conducted and the products produced by NIRCC during Fiscal Year 2016. The primary purpose of this report is to familiarize the reader with the techniques used by NIRCC and the resulting products to promote a better understanding of the transportation planning process in our community. Included in this report is a summary of the traffic surveillance activities, vehicle miles of travel, intersection and arterial analyses, corridor studies, travel time and delay studies, Fiscal Year 2016-2019 Transportation Improvement Program (TIP) Projects for the Fort Wayne-New Haven-Allen County Metropolitan Planning Area, quarterly review, TITLE VI & ADA, Safety Management System (SMS) activities, congestion management, bicycle/pedestrian planning activities, Red Flag Investigation (RFI) studies, and transit planning.

Traffic Surveillance

Studies completed by the Northeastern Indiana Regional Coordinating Council

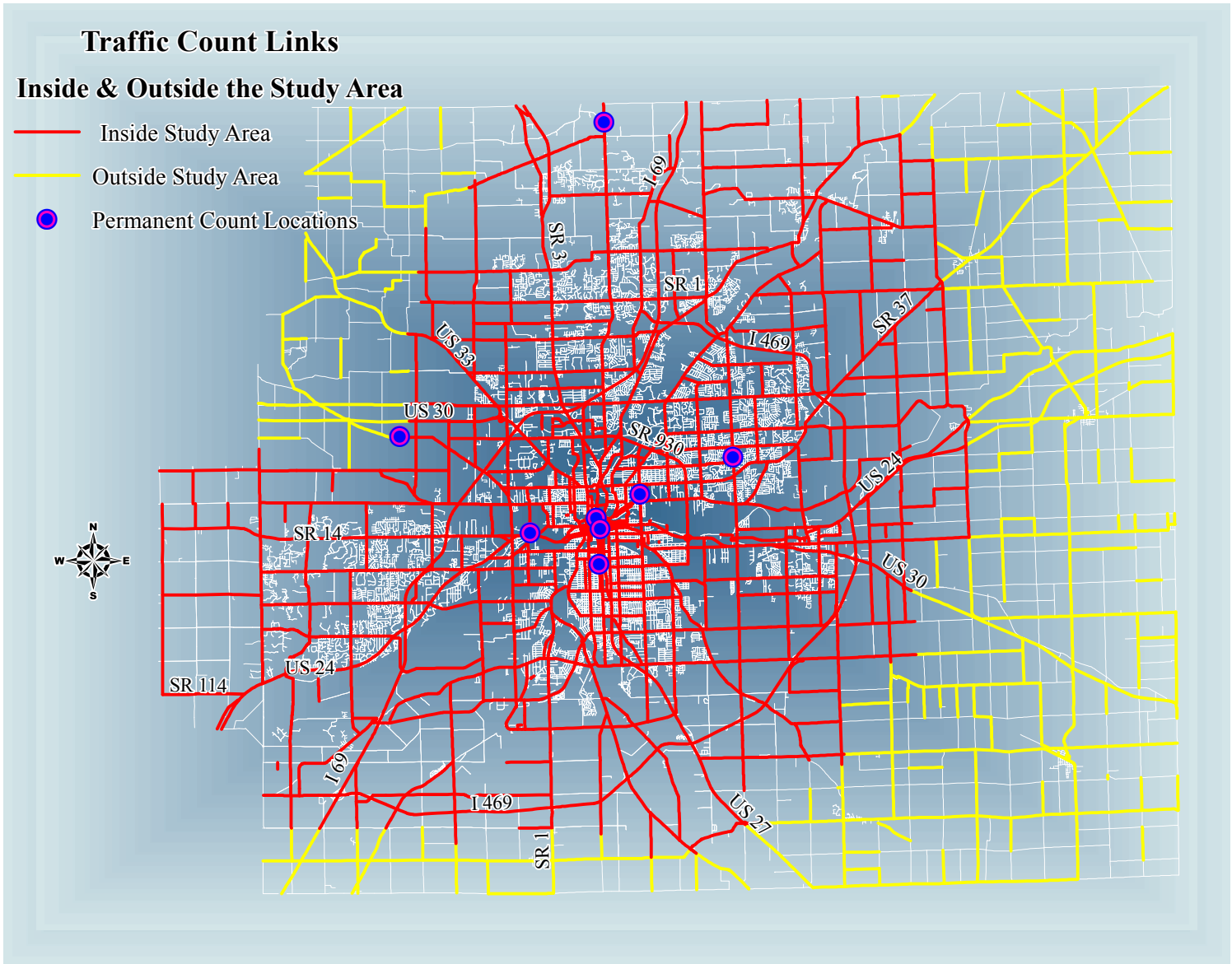
Transportation Summary Report Fiscal Year 2016

TRAFFIC SURVEILLANCE

Traffic counting provides an important base for short- and long-range transportation planning in an area. NIRCC is responsible for collecting and recording traffic count data for more than 2,000 traffic count links just within Allen County, as illustrated in figure 1. The majority of these links are located within the Metropolitan Planning Area and are shown in red. The yellow links are collected as part of our rural traffic count program. The data is collected on a rotational basis, which varies from link to link. NIRCC employs three types of counts, weekly, temporary ground counts, and classification counts.

The first type of counts are weekly counts. These are done at eight permanent local counting stations, also illustrated in figure 1. The permanent weekly counts are in locations that represent arterials and collectors in four different planning

Figure 1



areas of Fort Wayne and Allen County. The Indiana Department of Transportation (INDOT) maintains permanent counting stations on Interstate 69 and State Road 930. The data from these stations, collected each month, is used to develop monthly count factors. Monthly count factors are important because traffic volumes vary from one season to

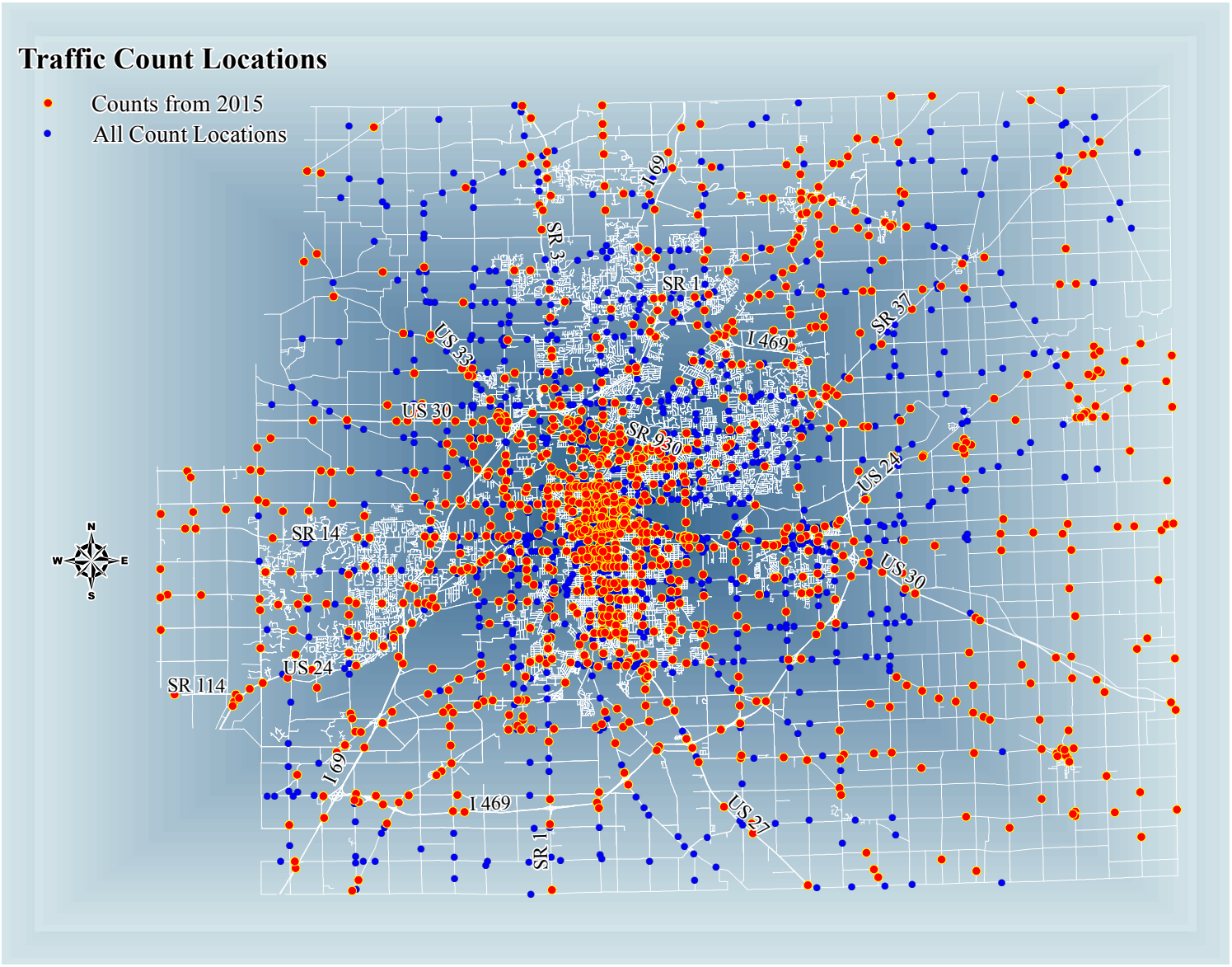


Figure 2

another for various reasons. Weather conditions, construction, economic activities and school/work schedules are just a few of the variables that cause seasonal variations in traffic flow. Traffic count data collected in November may be very different than traffic count data collected in July. Because of these differences, traffic counts throughout the year must be adjusted with these factors depending on the month and season if they are to be accurately compared. These factors are what adjust the raw traffic count data into the Average Annual Daily Traffic (AADT) volumes.

The second type of counts are temporary ground counts. In Count Year 2015 (March - December), data was collected at 1,155 locations, as illustrated in figure 2. Out of the 1,155 Counts, 69 locations were collected throughout the

county as part of our rural traffic count program and 436 locations were collected for the state program. All of these counts are forty-eight hour, weekday counts that are conducted region-wide and adjusted for vehicle axle variability and seasonal variability. These counts fulfill three main objectives:

1) sample locations to estimate vehicle miles of travel, 2) sample highway performance monitoring system locations, and 3) collect coverage and special counts for planning and analysis purposes.

The last type of traffic counts are traffic classifications. Classification counts are conducted at selected locations to determine the frequency of various vehicle types. This data is collected, summarized, and then recorded as a component of the transportation characteristic file. The amount of truck traffic at a sampled location is the critical information collected by classification counts. The information is used for general system monitoring and for augmenting the data needs of Highway Performance Monitoring System (HPMS) sections and several management systems.

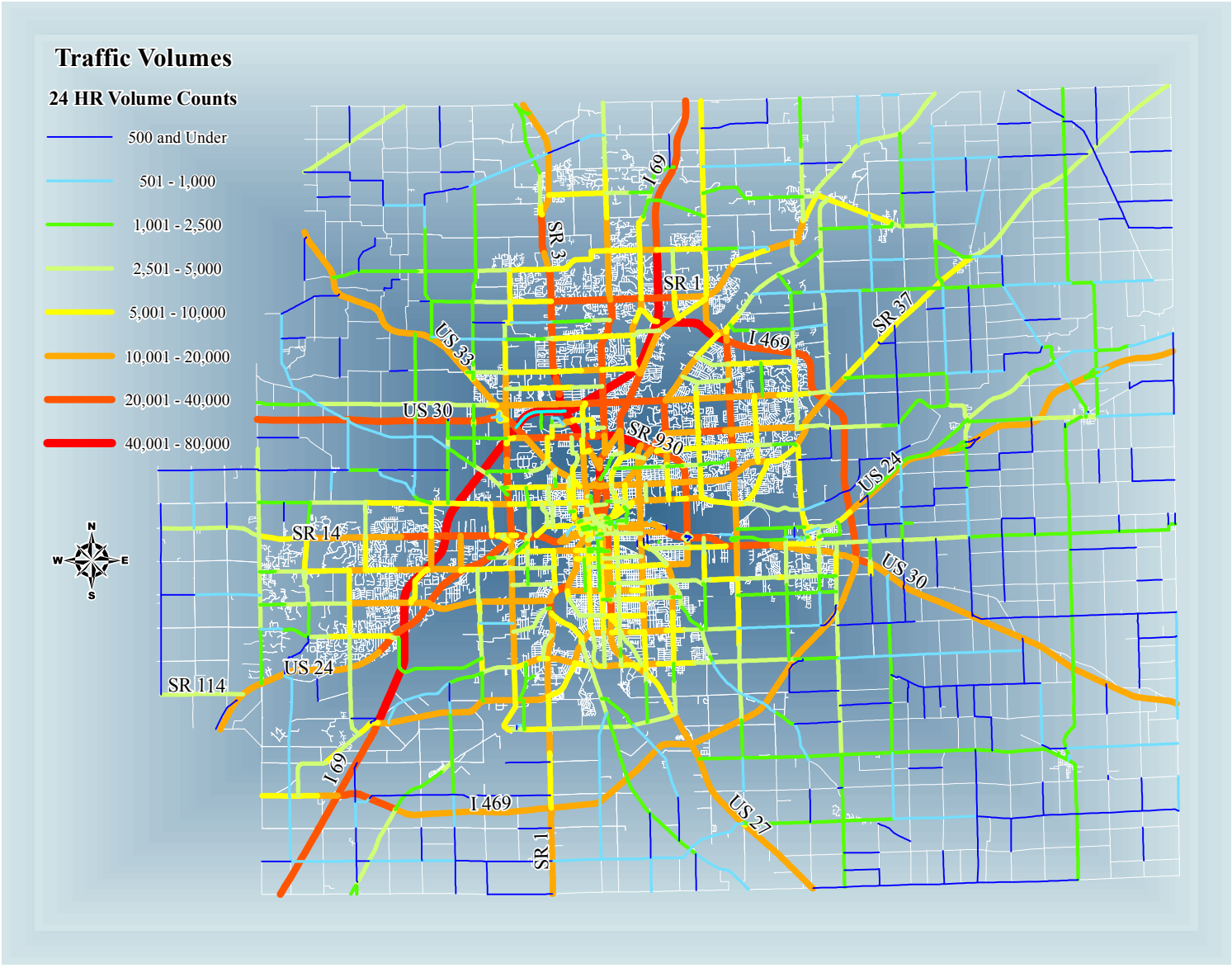


Figure 3

Figure 3 provides the range of traffic volumes present throughout Allen County. Some of the traffic count links shown in figure 1 and figure 3 exhibit links that may look unconnected or isolated. These links appear this way because they are usually part of the local road type samples or the railroad inventory count locations. Since most of the links are not functionally classified, they do not illustrate the continuity that the other links reveal.

Vehicle Miles of Travel

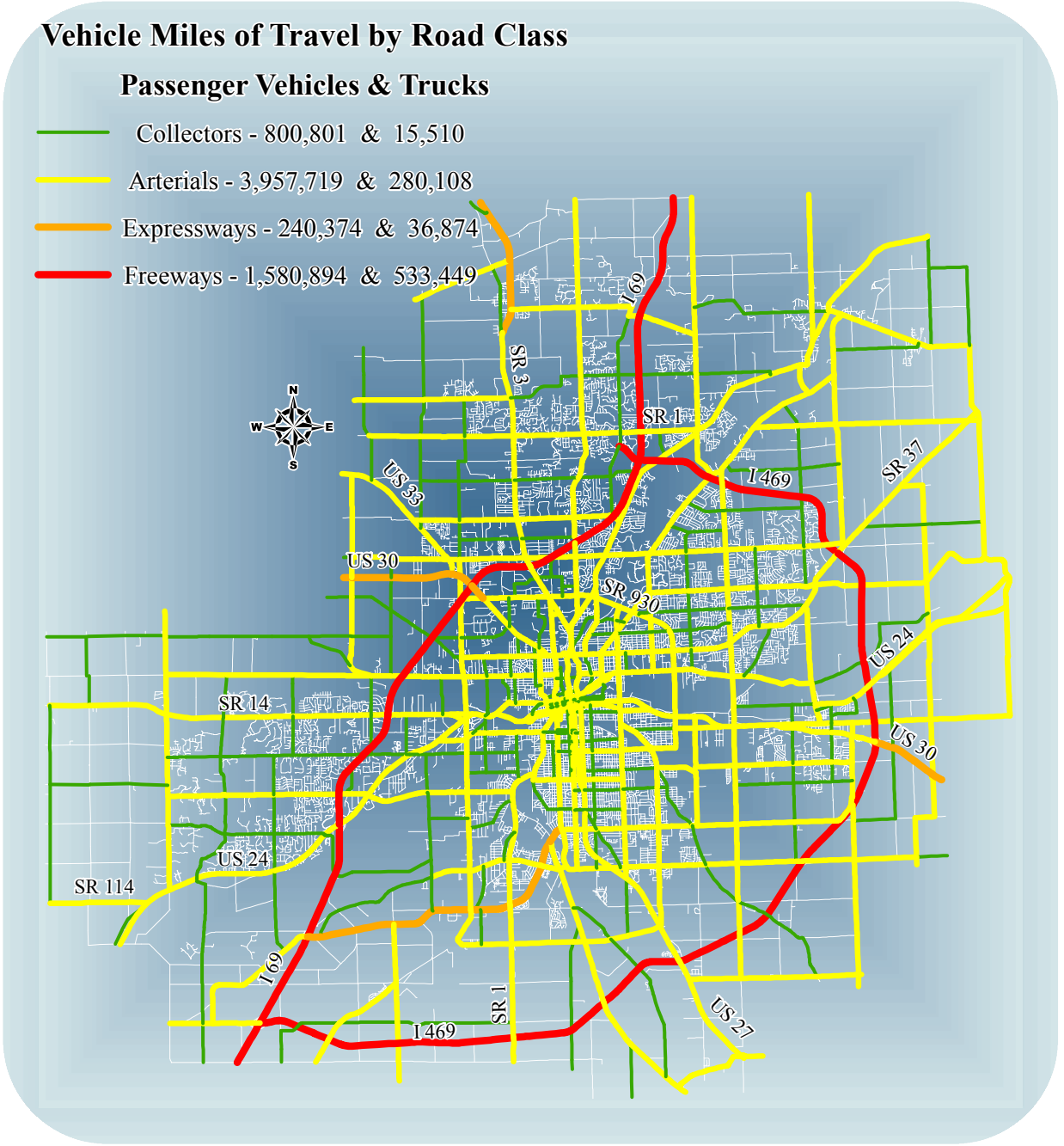
Studies completed by the Northeastern Indiana Regional Coordinating Council

Transportation Summary Report Fiscal Year 2016

VEHICLE MILES OF TRAVEL

The purpose of the vehicle miles of travel (VMT) estimate is to provide a measurement of regional traffic growth. The VMT estimate incorporates several factors that influence quality of travel within a region including traffic volume, length and type of roadway facility, seasonal traffic variations, and vehicle types. The VMT estimate has been published annually for the region beginning in Fiscal Year 1986. With each annual estimate, NIRCC staff has attempted to improve its sampling and analytical skills to produce the most reliable estimate possible. Region wide, vvehicle miles of travel increased from 7,265,884 in 2014 to 7,445,728 in 2015. This represents an increase of 2.48 percent. The VMT increased on arterial streets (1.58%), increased on collector streets (0.41%) and increased on expressways (0.8%) over the previous year. The VMT is illustrated for 2015 in figure 4.

Figure 4



The changes in VMT from year to year can be attributed to a number of possibilities. The most evident reason for VMT changes can be accredited to the increase or decrease in the amount of travel. Other factors that can affect the increase or decrease in VMT can include the price of gasoline, unemployment rates, automobile operating costs, and weather.

The bar chart shown in figure 5 displays the annual VMT estimates for the past 29 years time period spanning from 1986 to 2015 for the Fort Wayne-New Haven-Allen County Metropolitan Planning Area. It also provides a benchmark for VMT displaying the first estimate done in 1986. These VMT estimates do not include the number of vehicle miles traveled on the local streets. The amount of local samples NIRCC collects is not sufficient to calculate a reliable VMT estimate. For the most part, the general trend shown on the chart shows only slight changes in total VMT throughout the 29 year period but a significant increase since the inception of VMT in 1986. The VMT is anticipated to level out or continue to slightly increase. Even though gas prices and economic hardships may slightly change the growth patterns of VMT, there still seems to be factors that will continue to keep the VMT increasing a little even though some years experienced a slight decrease. These factors include an increase in automobile ownership per family, the spread of development, suburb to suburb travel, a rise in the percentage of two-income families, and other lifestyle changes.

Figure 5

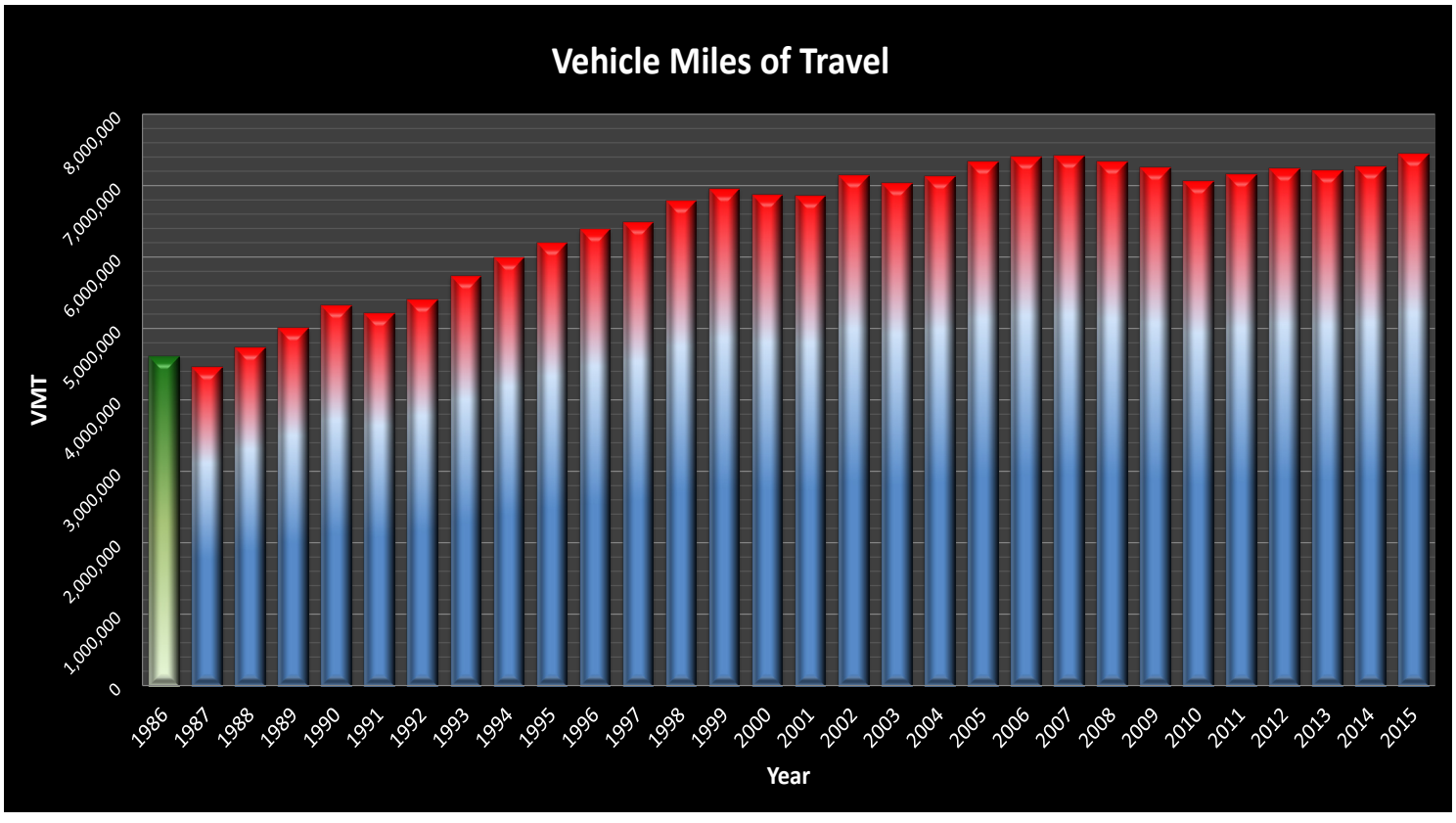
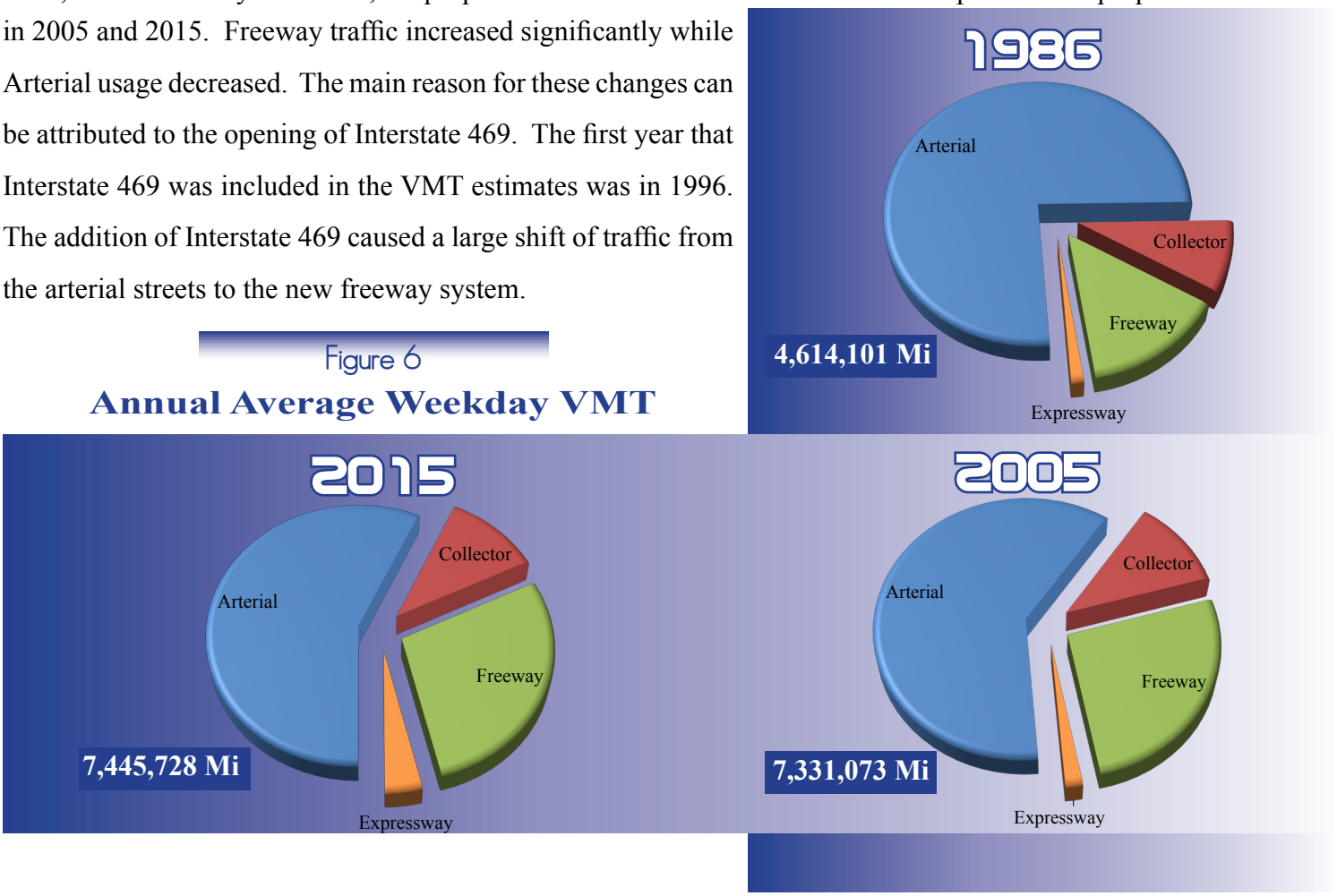


Figure 6 presents three pie charts that represent the proportions of VMT by street classification for the years 1986, 2005, and 2015. As you can see, the proportions of traffic in 1986 are different compared to the proportions of traffic in 2005 and 2015. Freeway traffic increased significantly while Arterial usage decreased. The main reason for these changes can be attributed to the opening of Interstate 469. The first year that Interstate 469 was included in the VMT estimates was in 1996. The addition of Interstate 469 caused a large shift of traffic from the arterial streets to the new freeway system.

Figure 6

Annual Average Weekday VMT

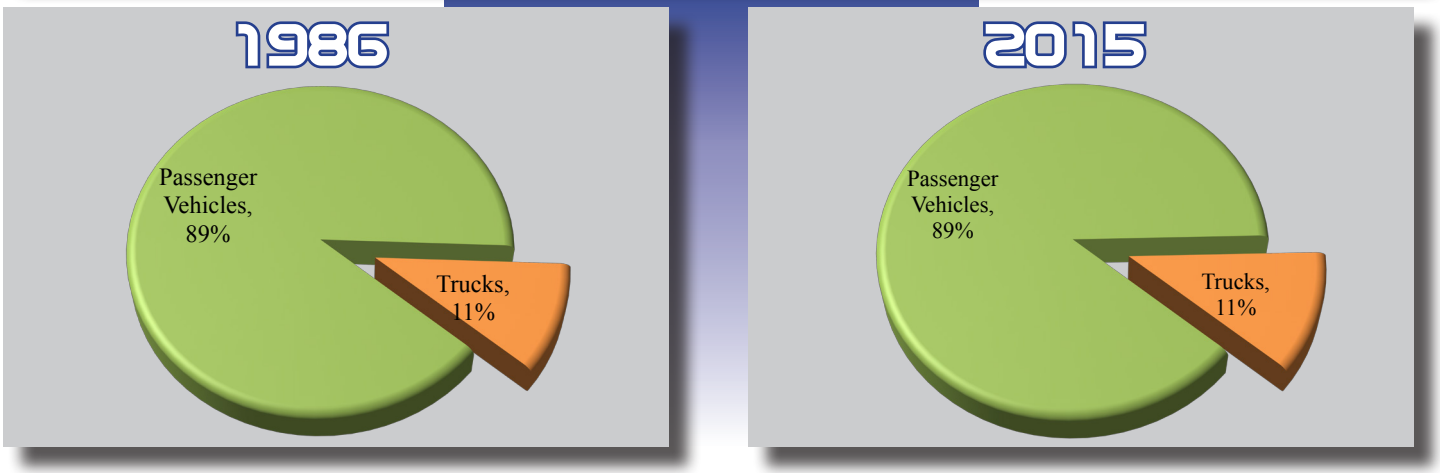


The VMT is also broken down to show the annual average VMT for passenger vehicles and trucks. The pie charts contained in figure 7 illustrate the VMT for 1986 and 2015. The proportion of truck traffic compared to passenger vehicle traffic is almost identical in 1986 and 2015. A further breakdown of the proportionate usage of passenger vehicles versus trucks on the different road classifications shows some interesting differences between 1986 and 2015. Even though the proportion of truck traffic compared to passenger vehicle traffic is nearly the same for these two years, the distribution of traffic on arterials and freeways are much different. As previously mentioned, the traffic distributions between arterials and freeways changed significantly when Interstate 469 was included into the VMT estimates. The most significant change in traffic distribution between 1986 and 2015 came from the Annual Average weekday VMT totals for trucks. The pie charts show how much of an impact Interstate 469 has made between 1986 and 2015. The utilization of the freeway system has alleviated a significant amount of truck traffic from the arterials.

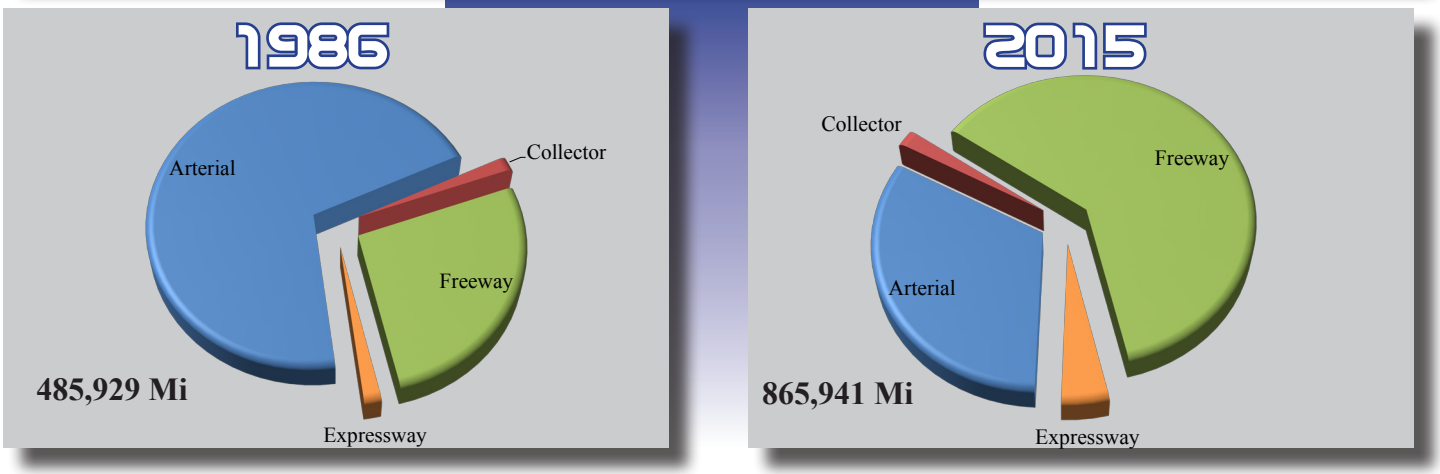
The pie charts contained in figure 8 illustrate the proportion of passenger vehicle traffic versus truck traffic for each type of road classification. Even though the amounts of truck traffic and passenger vehicle traffic significantly changed

Figure 7

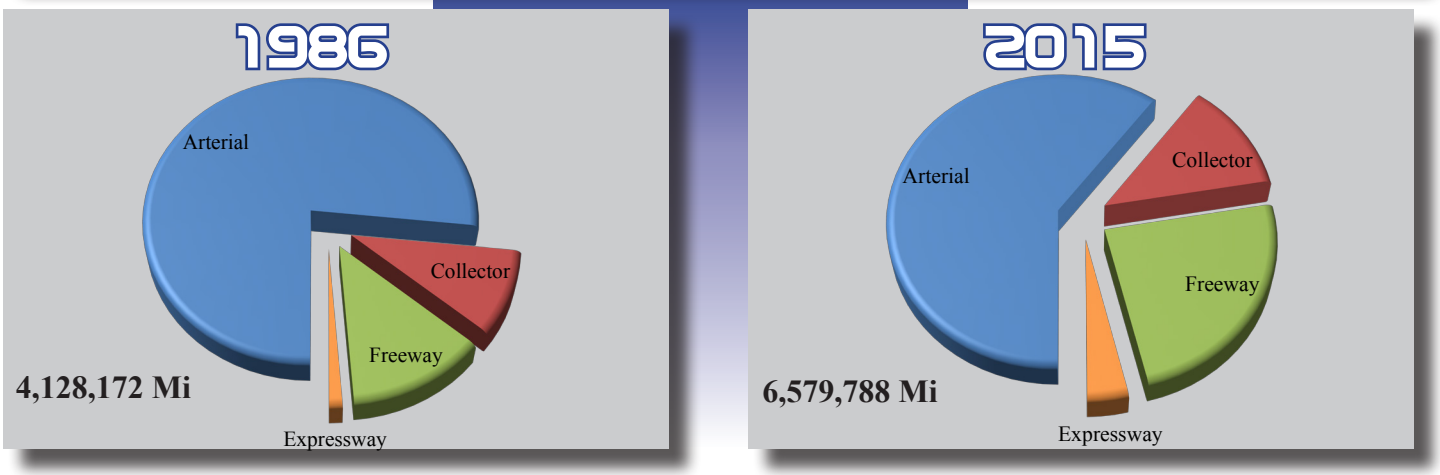
Annual Average Weekday VMT for Passenger Vehicles compared to Trucks



Annual Average Weekday VMT for Trucks



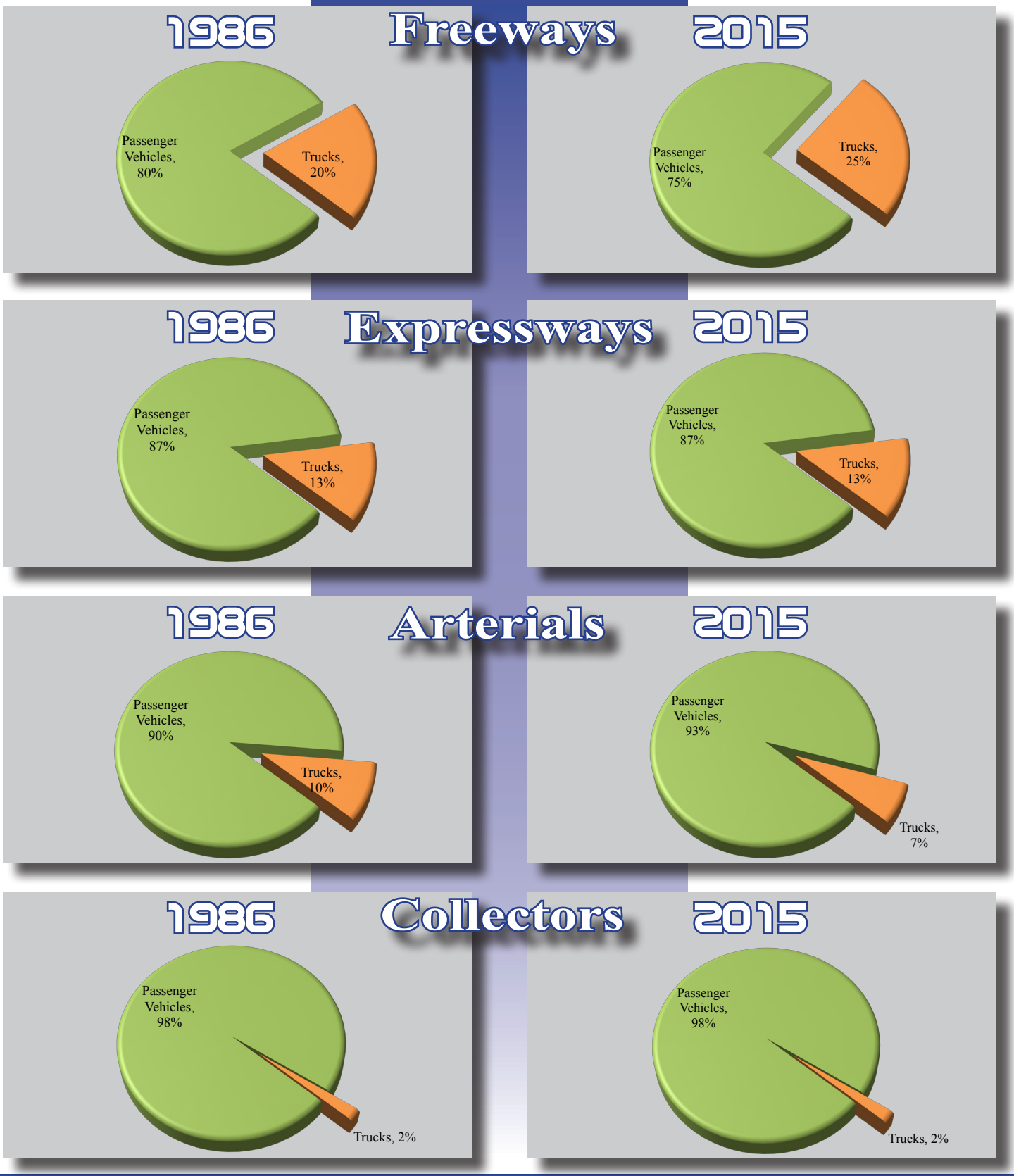
Annual Average Weekday VMT for Passenger Vehicles



for some of the road classifications, the proportions of passenger vehicles and trucks for each road classification remained very similar between 1986 and 2015.

Figure 8

Percentage of Annual Average Weekday VMT for Passenger Vehicles Compared to Traucks



Intersection and Arterial Analysis

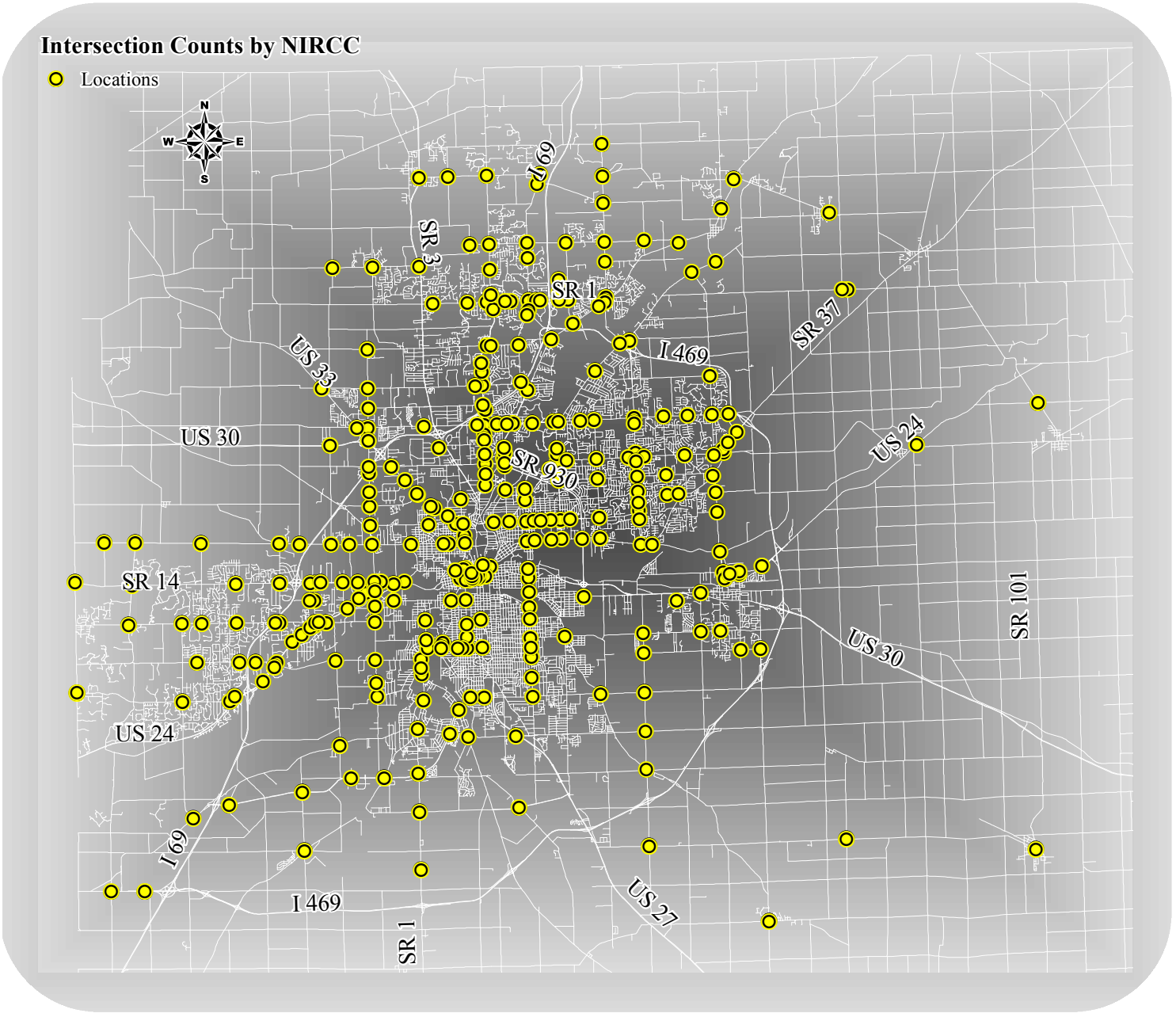
Studies completed by the Northeastern Indiana Regional Coordinating Council

Transportation Summary Report Fiscal Year 2016

INTERSECTION AND ARTERIAL ANALYSIS

NIRCC also conducts intersection and arterial analyses. Staff studies intersections within Allen County and examines their performance characteristics. These studies are conducted based on requests from the City of Fort Wayne, the City of New Haven, the Allen County Highway Department, and the Indiana Department of Transportation to evaluate problems and concerns with specific intersections. Figure 9 illustrates all the intersections that have been studied by NIRCC in the past. In Fiscal Year 2016, NIRCC evaluated 20 intersections which are listed in the table contained in figure 10. Out of these 20 intersections, 13 were signalized and 7 were unsignalized.

Figure 9



The targeted measures of effectiveness for intersections are delay and capacity. The level of service (LOS) of an intersection is defined alphabetically A through F, A being the best LOS and F being the worst. The LOS is based on the average delay (measured in seconds) experienced at an intersection. Level of service cannot be calculated when the volume to capacity ratio (V/C) exceeds 1.2 for an individual group. The level of service for each of the intersections counted in Fiscal Year 2016 are illustrated in figures 11 through 14 for each approach. These levels of service are only based on the peak hour for each intersection.

In order to qualify for a traffic signal, intersections must meet one or more of the primary volume signal warrants or both all-way stop warrants as described in the Manual on Uniform Traffic Control Devices 2009 Edition. The intersections reviewed for signal warrants along with other types of intersection analyses in Fiscal Year 2016 are illustrated in figure 15.

Figure 10

Signalized Intersections
• Aboite Center Rd / Westlakes Dr
• Bluffton Rd / Broadway
• Bluffton Rd / Engle Rd
• Bluffton Rd / Winchester Rd
• Coldwater Rd / Coldwater Crossing
• Coldwater Rd / Union Chapel Rd
• Coliseum Blvd / Lake Ave
• Edith Ave / State Blvd
• Getz Rd / Illinois Rd
• Illinois Rd / Magnavox Way
• Lake Ave / Maplecrest Rd
• Putnam St / Wells St
• Sherman Blvd / Spring St
Unsignalized Intersections
• Bluffton Rd / McFadden Way
• Carroll Rd / Hand Rd
• Constitution Dr / Getz Rd
• Constitution Dr / Magnavox Way
• Cross Creek Blvd / Washington Center Rd
• Homestead Rd / Lower Huntington Rd
• Lahmeyer Rd / Trier Rd

Figure 11

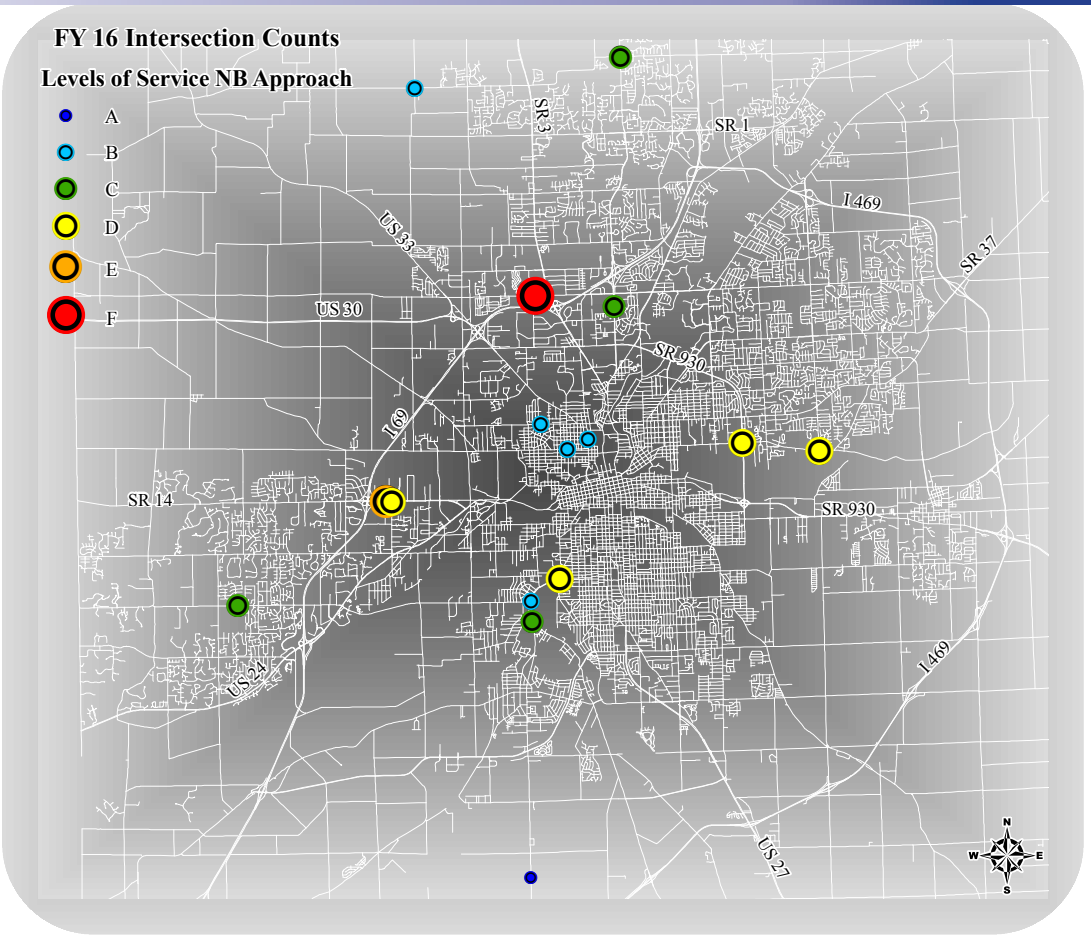
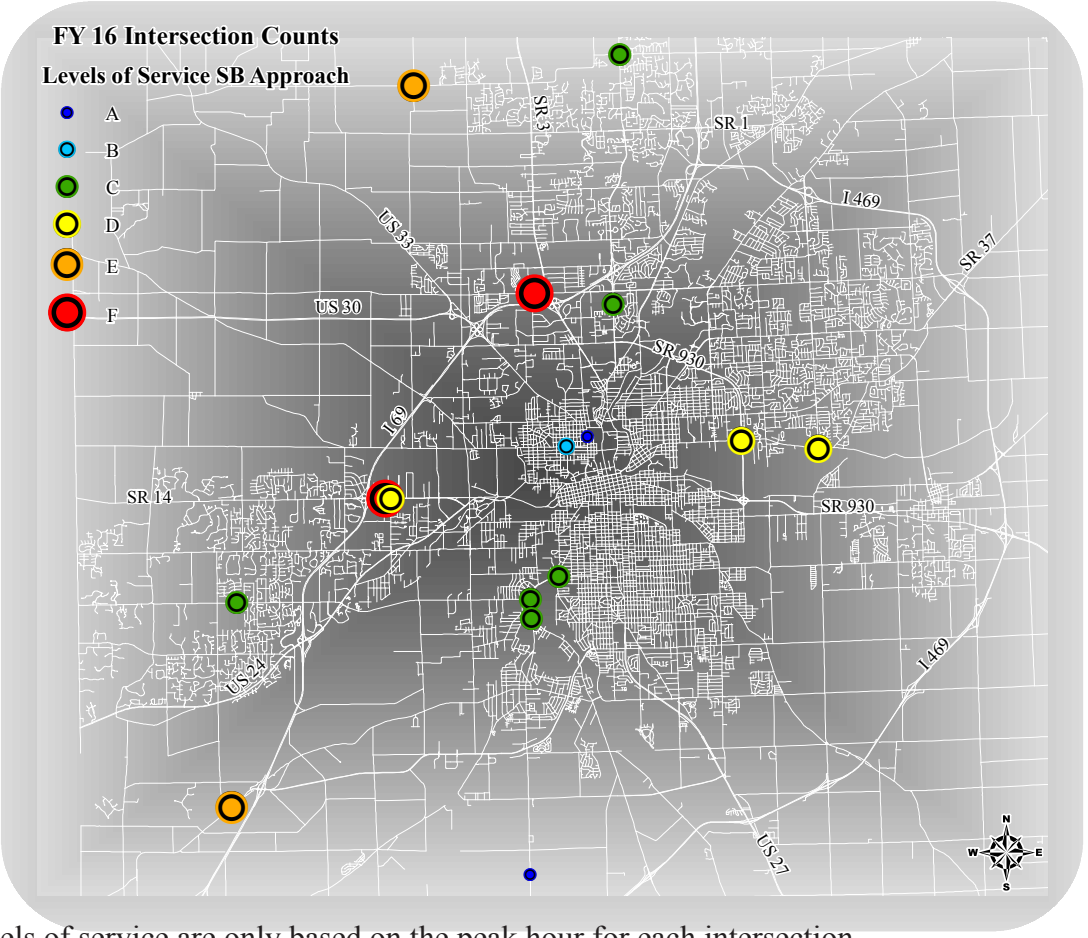


Figure 12



✻These levels of service are only based on the peak hour for each intersection.

Figure 13

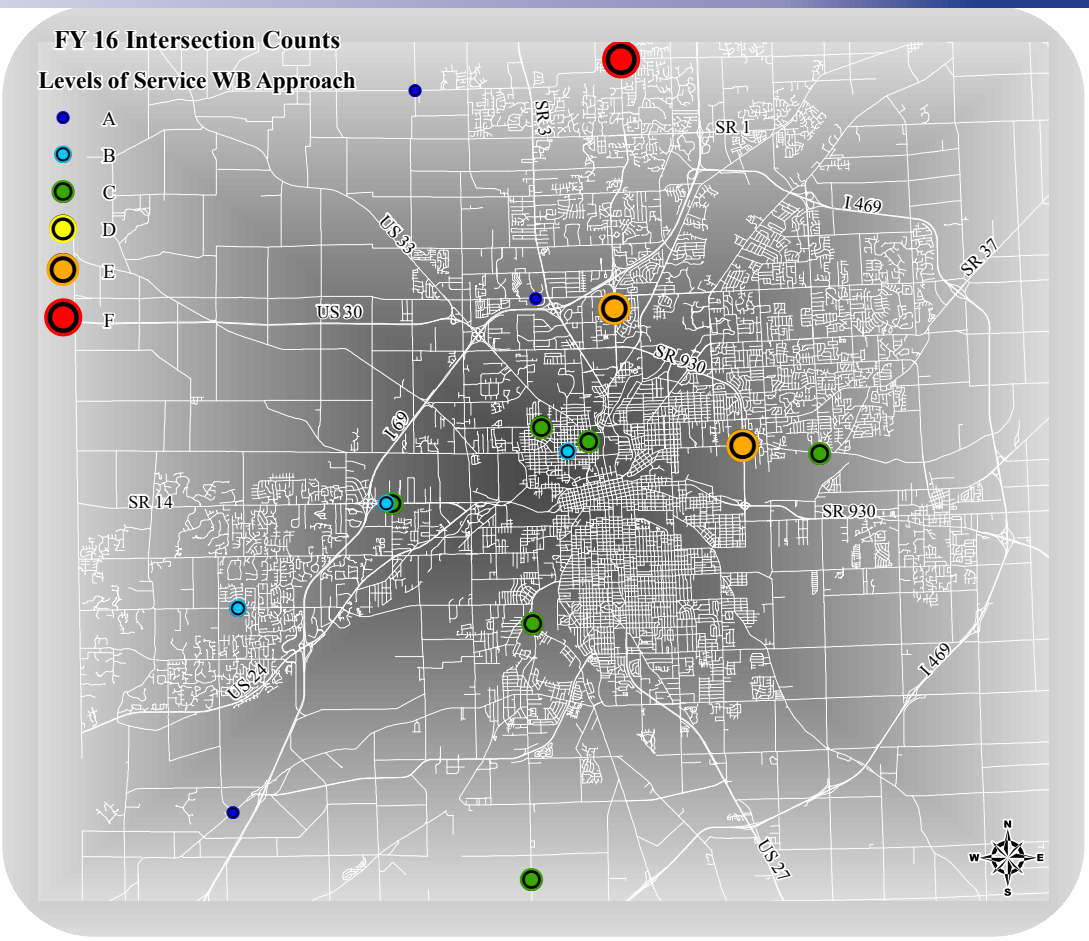
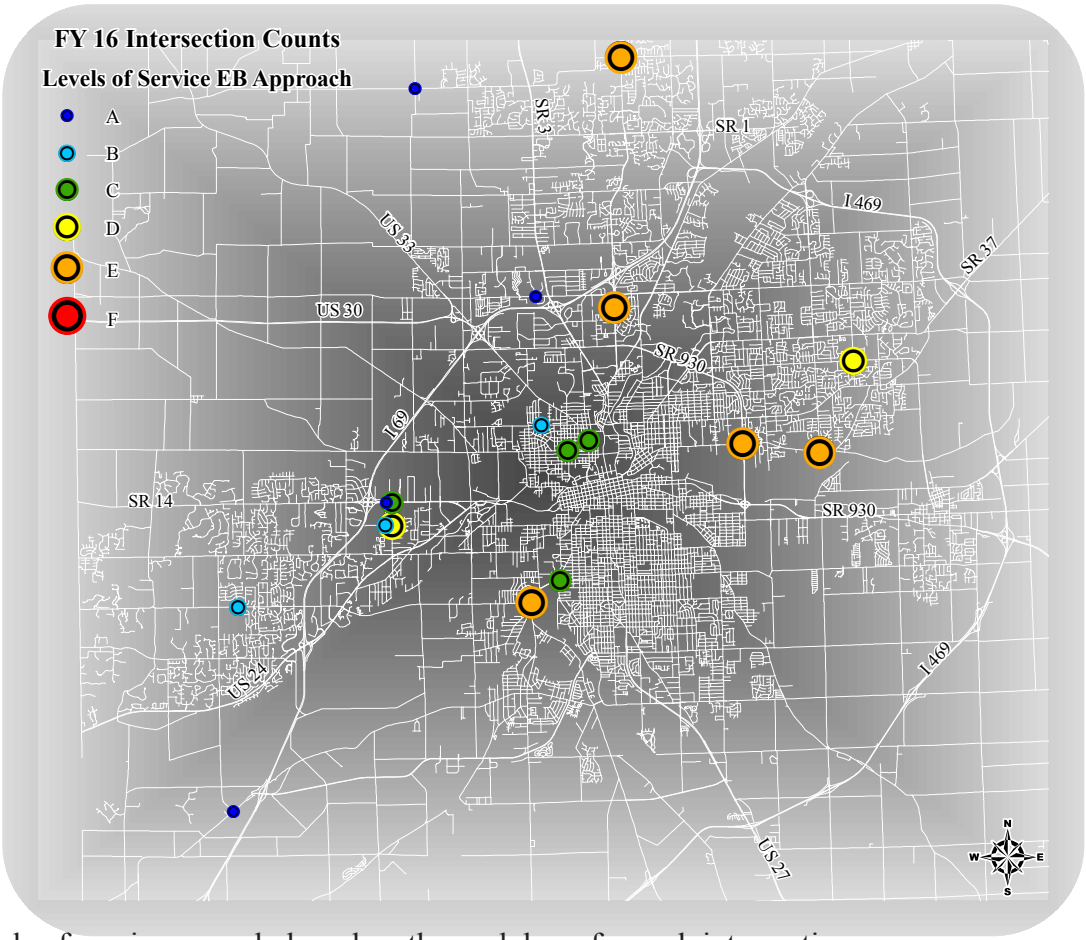
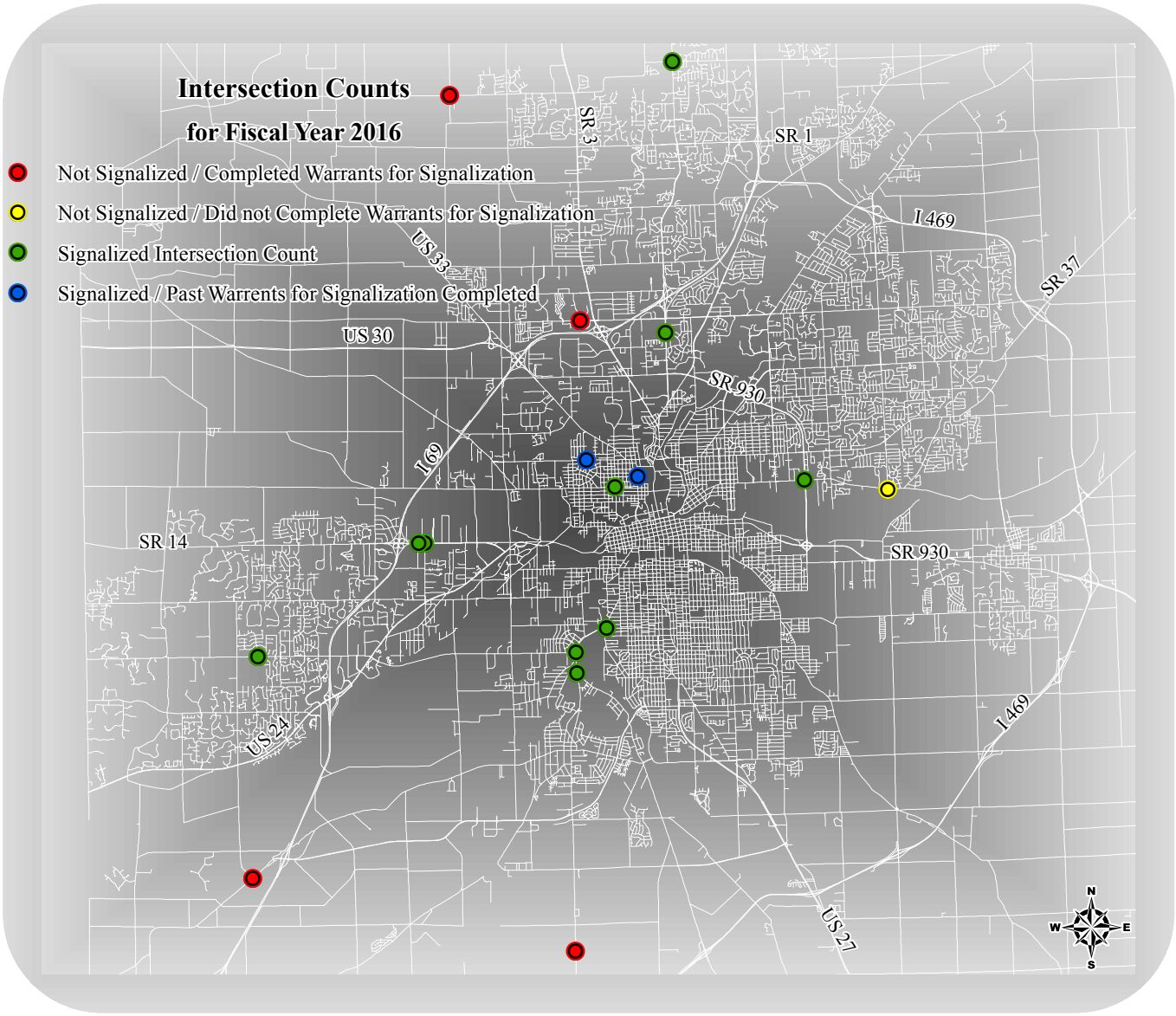


Figure 14



✻These levels of service are only based on the peak hour for each intersection.

Figure 15


Intersection Counts
for Fiscal Year 2016
Not Signalized / Completed Warrants for Signalization
Not Signalized / Did not Complete Warrants for Signalization
Signalized Intersection Count
Signalized / Past Warrents for Signalization Completed
SR 3
SR 1
I 469
US 33
SR 37
US 30
SR 930
I 69
SR 14
SR 930
US 24
I 469
US 27
N
W
E
S

Corridor Studies

Studies completed by the Northeastern Indiana Regional Coordinating Council

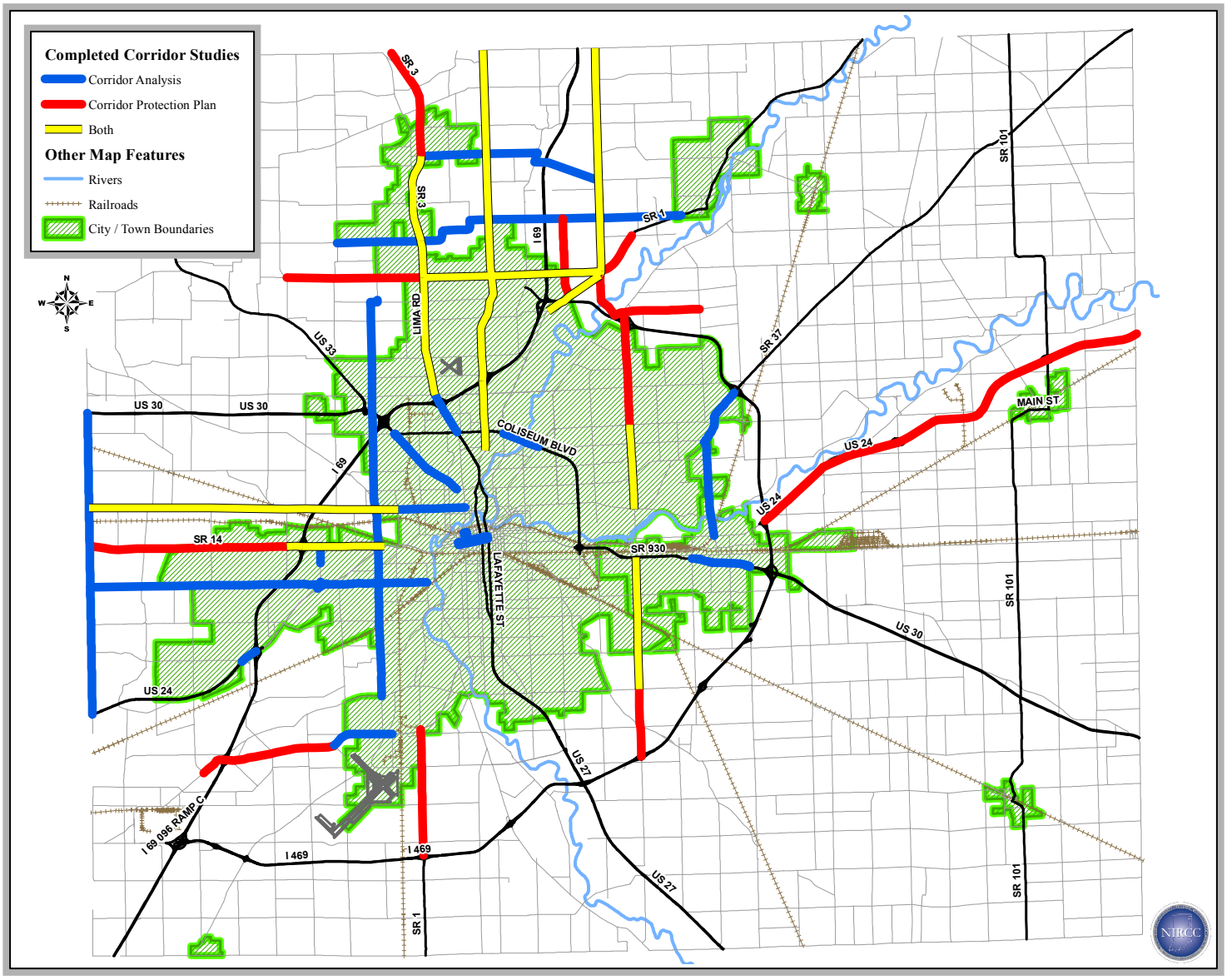
Transportation Summary Report Fiscal Year 2016

CORRIDOR STUDIES

Another activity conducted by NIRCC is the study of corridors throughout Allen County. There are two types of studies that are used to evaluate different aspects of the corridors: corridor and impact analysis studies and corridor protection studies and plans. Figure 16 illustrates the corridor studies that have been completed by NIRCC.

The main purpose of a corridor and impact analysis is to evaluate traffic impacts of future developments on an existing corridor, as well as locations that are in need of current or future infrastructure improvements. The corridor analysis estimates the number of new trips from anticipated developments that will be added to an existing facility to examine the changes of service level. When service levels fall below acceptable levels, recommendations are tested to

Figure 16



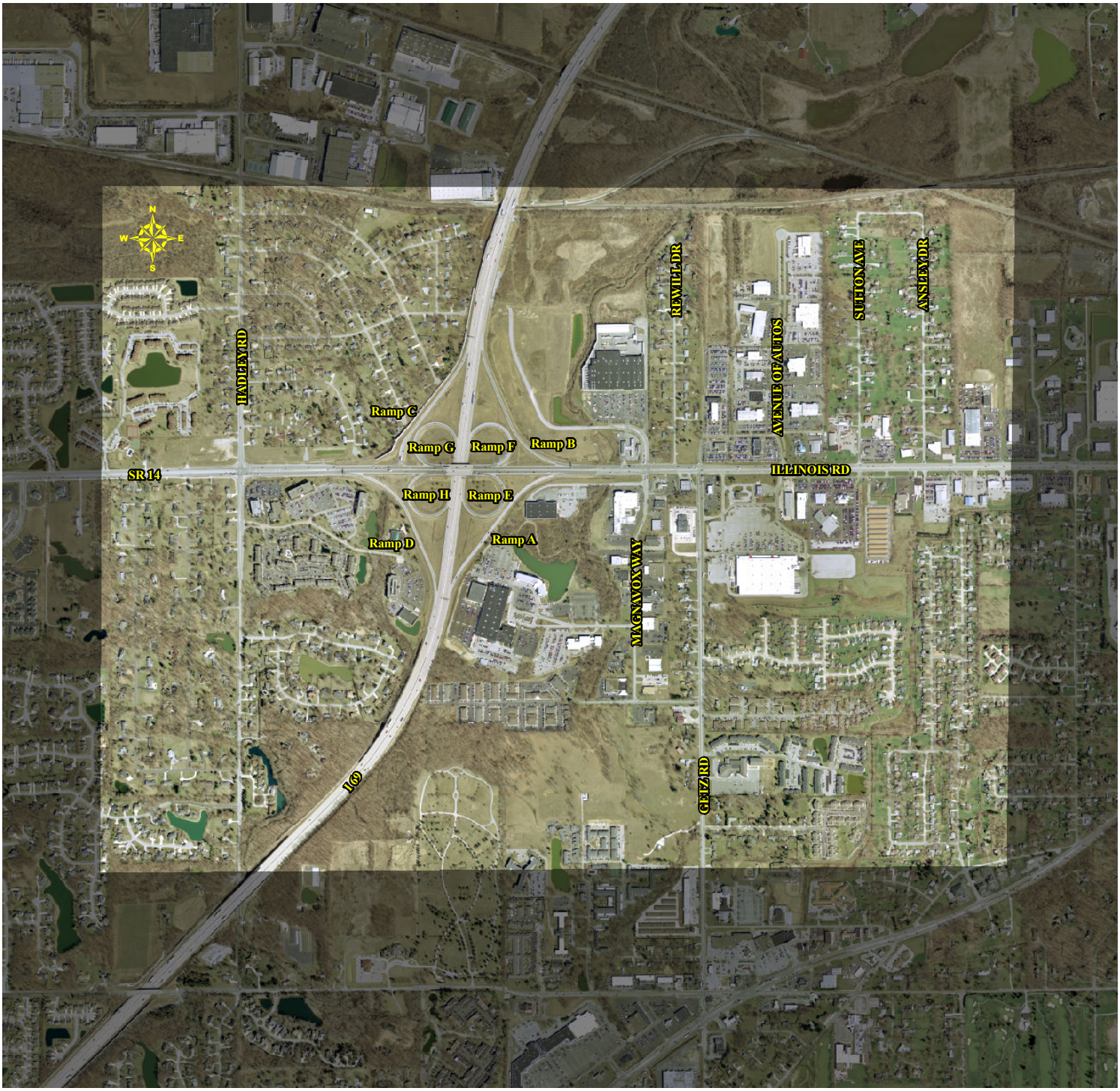
accommodate future traffic and relieve anticipated congestion problems along the corridor. Information provided by a corridor and impact analysis helps in developing a corridor protection plan that can be an efficient tool for mitigating potential congestion.

Corridor protection studies and plans evaluate and identify optimal access points along corridors for future developments and improvements. The adoptions of these plans facilitate efforts to resolve existing congestion and mitigate future problems. The recommendations from the plans aid local officials, planners, and developers during future development by protecting the integrity of the corridor from detrimental access.

Besides the traditional corridor studies which often only analyze one corridor or set of continuous corridors, NIRCC also performs a study called a sub-area analysis. A sub-area analysis analyzes a number of corridors within a given area or development. Information and materials produced by this type of analysis provide local policy-makers with an additional tool for assessing the impacts of new and expanding development to an area. The analysis focuses on assessing the current and future operating characteristics of the corridors and develops alternative strategies to improve safety and mitigate congestion. Staff looks at highway, transit, pedestrian and bicycle access as the major components of the analysis. Staff also evaluates how facilities, both within and outside of the analysis area, interact with each other and impact the current and future traffic patterns.

In Fiscal Year 2016, NIRCC completed one Sub-Area Analysis which is shown in figure 17. This analysis is described on pages 28 through 33.

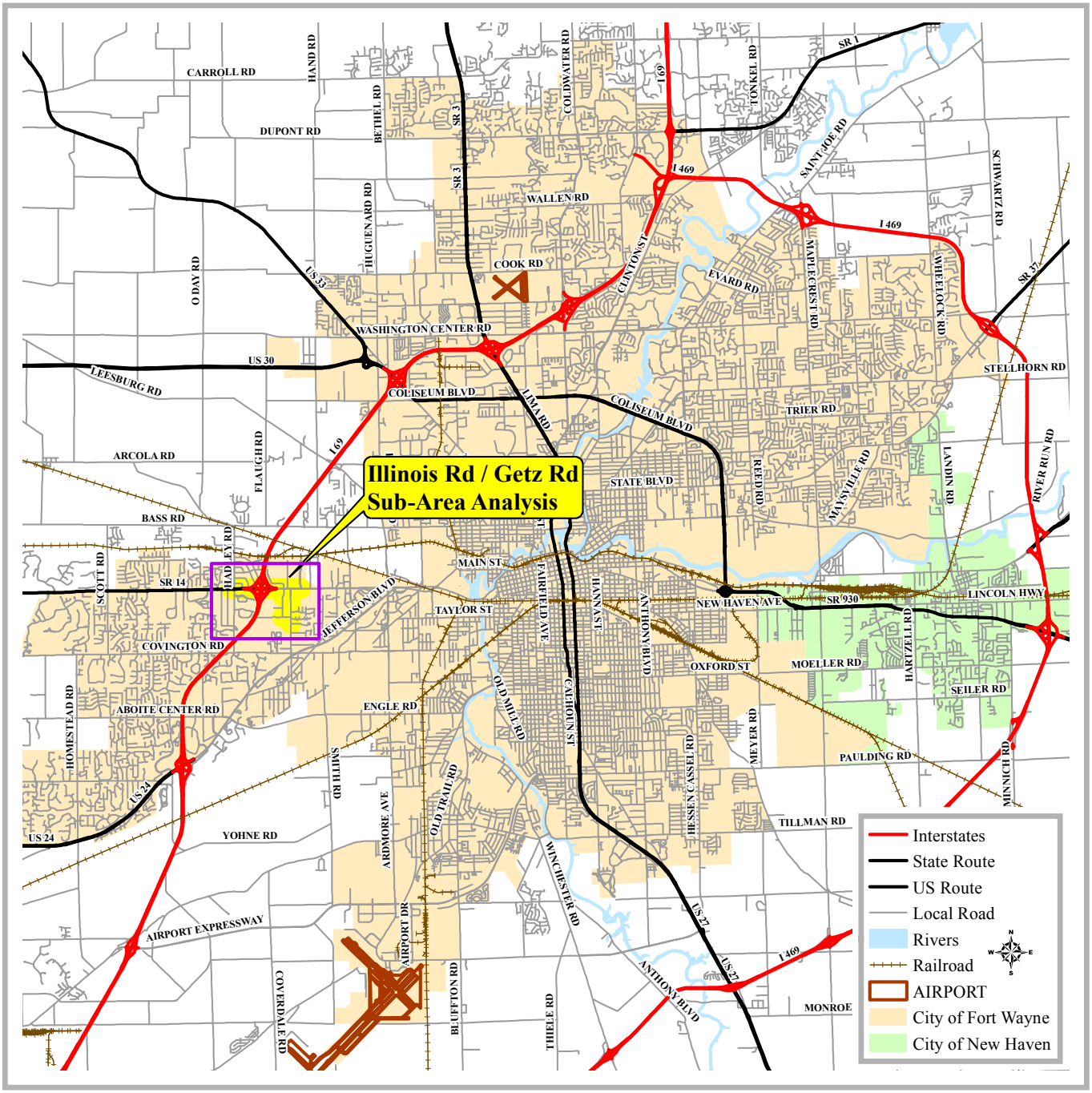
Figure 17


N
W
E
S
HADLEY RD
Ramp C
Ramp G
Ramp F
Ramp B
SR 14
Ramp H
Ramp E
Ramp D
Ramp A
I-69
REWILL DR
AVENUE OF AUTOS
SUTTON AVE
ANSLEY DR
ILLINOIS RD
MAGNAVOX WAY
GETZ RD

Sub-Area Analysis
State Road 14 / Illinois Road / Getz Road Sub-Area Analysis

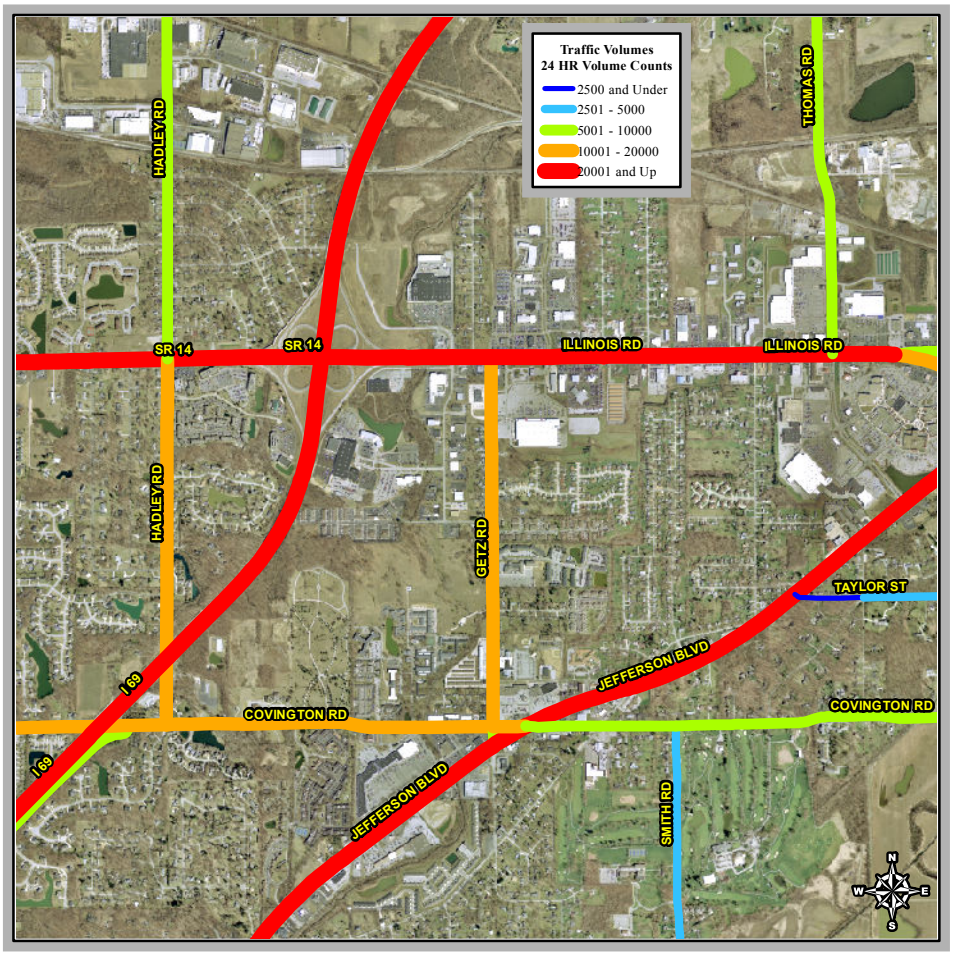
The main purpose of this sub-area analysis is to evaluate traffic impacts of proposed roadway projects and future developments on an existing area. The sub-area analysis of the State Road 14 / Illinois Road / Getz Road area was initiated by NIRCC in FY16 due to the planned interchange reconstruction along with the number of existing and potential developments throughout the area. The State Road 14 & Interstate 69 interchange has a funded project in FY 2020 for proposed ramp modifications by INDOT. This project will relocate the Interstate 69 Off Ramp H to the Interstate

Figure 18



69 Off Ramp C location to help eleaviate drivers merging and weaving on the State Road 14 bridge. The analysis for this study calculated and examined existing conditions and estimated future changes to the levels of service (LOS) based on current and projected traffic volumes and with the planned future improvements.

Figure 19



LOS is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. LOS is based upon the average stopped delay per vehicle for various movements within the intersection. LOS "A" describes operations with very low delays; most vehicles do not stop at all. LOS "C" describes operations with longer delays; stopping vehicles are significant but many still pass without stopping. LOS "F" describes operations with delays unacceptable to most drivers; the intersection is exceeding capacity. When service levels fall below acceptable levels, recommendations are tested to accommodate future traffic and relieve anticipated congestion problems along the corridor. These studies also identify problem areas and develop recommendations for roadway improvements.

The State Road 14 / Illinois Road / Getz Road area was studied from west of Hadley Road to Reckeweg Rd and from Illinois Rd / SR 14 to south of Constitution Drive. State Road 14 / Illinois Road are classified as arterials, where as Getz Road is classified as a collector. State Road 14 / Illinois Road is an east/west corridor on the west side of the City of Fort Wayne. Traffic volumes along this corridor vary from 34,200 vehicles per day to 37,800 vehicles per day along Illinois Road and State Road 14. Along Getz Road there are about 13,800 vehicles per day (figure 19). Figure 18 shows the entire corridor in relation to the City of Fort Wayne.

The study examines the following scenarios:

- Scenario 1: Existing Traffic Volumes
- Scenario 2: Existing volumes + traffic generated by the proposed developments(Phase I)
- Scenario 3: Existing volumes + traffic generated by the proposed developments(Phase I) + traffic generated by the areas with a potential for development (Phase II)

There is potential for a number of developments throughout the State Road 14 / Illinois Road / Getz Road area. Figure 20 shows the proposed and potential developments that may occur in phase I and II for this sub-area analysis. These developments, along with an estimated 1.5 percent to 2.0 percent annual growth rate, will increase the average annual daily traffic (AADT). The annual growth rate was estimated to be approximately 1.5 percent on State Road 14 and 2.0 percent for Illinois Road and Getz Road within the subarea. Figure 21 shows the number of trips these proposed and potential developments may generate.

Figure 20

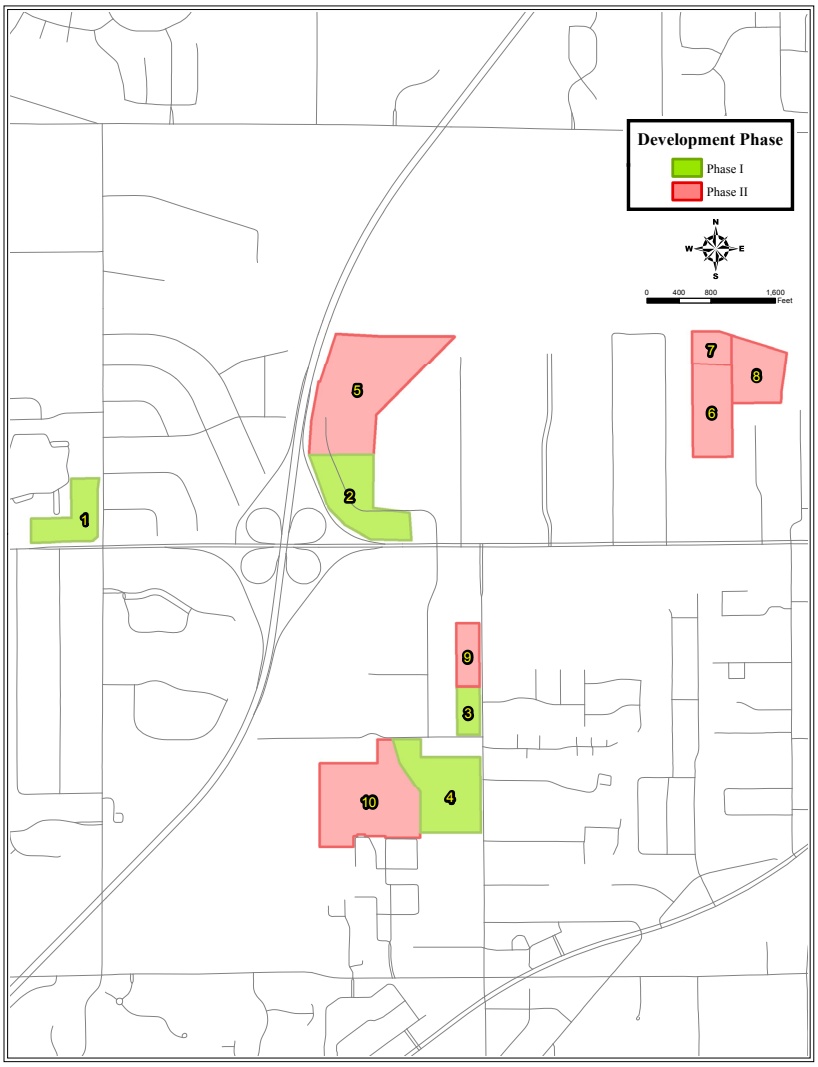


Figure 21

Table 4: New Trips from Phase I Residential/Commercial Developments (combined)						
	24Hour		Peak-Enter		Peak-Exit	
Site	Enter	Exit	AM	PM	AM	PM
1. Commercial Site 55k SQFT	1219	1219	106	148	83	189
2. Commercial Site 22 Acres	4911	4910	123	238	76	269
3. Commercial Site 3 Acres	1068	1067	27	51	16	59
4. Apartments 272 Dwelling Units	896	896	26	103	99	55
New Trips from Phase II Residential/Commercial Developments (combined)						
5. Commercial Site 25Acres	10462	10461	140	269	86	304
6. Assited Living ~ 9 Acres	133	133	12	16	6	19
7 Duplexes 10 Dwelling Units	*	*	2	4	5	3
8. Storage Units 9 Acres	160	159	18	18	17	17
9. Commercial Site 6 Acres	2135	2135	54	104	32	117
10. Apartments 400 Dwelling Units	1318	1318	39	151	145	81
* No data availible						

Figure 22

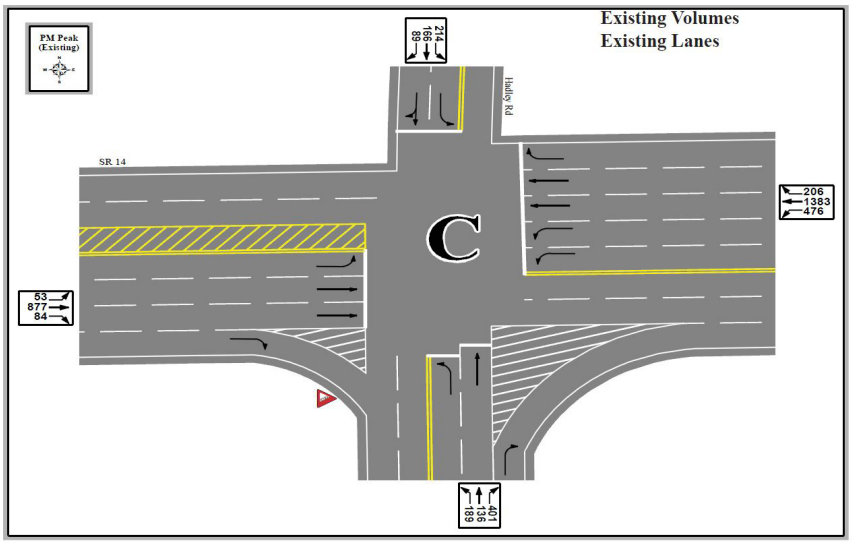


Figure 23

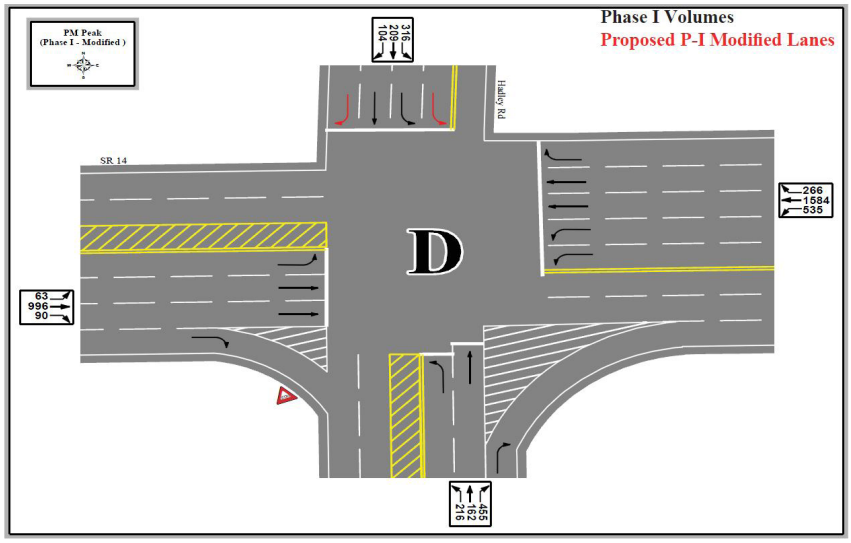
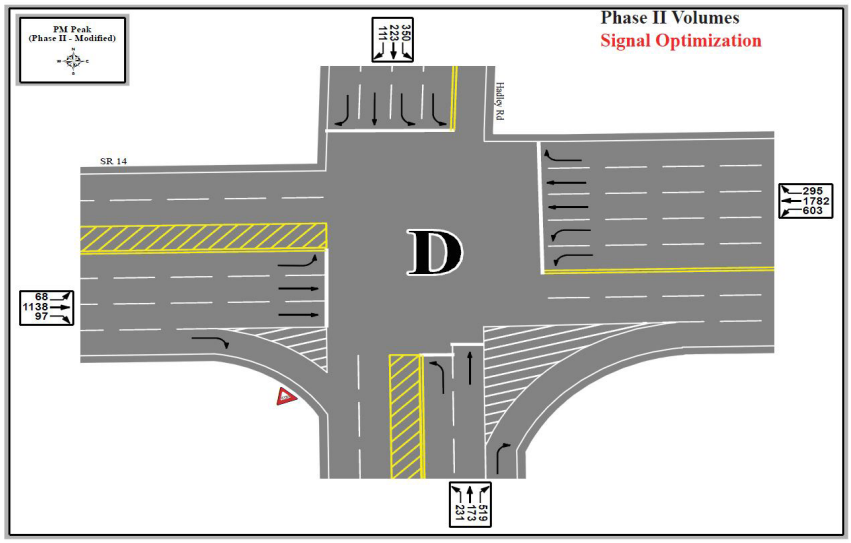


Figure 24



The State Road 14 / Illinois Road / Getz Road study focused on 10 intersections/intersecting ramp locations (Hadley Road @ State Road 14, Interstate 69 Ramp D @ State Road 14, Interstate 69 Ramp C @ State Road 14, Interstate 69 Ramps G/H @ State Road 14, Interstate 69 Ramps E/F @ State Road 14, Interstate 69 Ramps A/B @ State Road 14, Illinois Road @ Magnavox Way, Getz Road @ Illinois Road, Constitution Drive @ Getz Road, and Constitution Drive @ Magnavox Way). You can see an example of the State Road 14 @ Hadley Road intersection in figures 22-24. Here you will see the proposed changes and the potential levels of service for this scenario (keep in mind these examples only show the PM Peak).

The following describes this example of the State Road 14 and Hadley Road intersection analysis. There were three scenarios analyzed for this intersection which showed existing conditions and the potential of future development and the impacts it would have on levels of service. This analysis also generated proposed projects and the resulting level of service changes to compare with existing conditions:

Scenario 1: - Existing Conditions

State Road 14 is a 4-lane facility, while Hadley Road is 2-lanes at this intersection. Figure 22 shows the geometry at this intersection, along with the current p.m. peak volumes, and LOS. The intersection analysis indicates that this intersection is currently operating at a LOS "E" for a.m. and

"C" during the p.m. peak hour.

Scenario 2: - Proposed Development Recommendations

The analysis indicates the State Road 14 at Hadley Road intersection will operate at a LOS "F" for a.m. and an "E" for p.m. peak hours with the added trips of phase I during the peak hours. The intersection can be improved to a LOS "D" during the a.m. and p.m. peak hours (Figure 23) with the addition of a second exclusive left turn lane and a exclusive right turn lane on the north approach.

Scenario 3: - Potential Development Recommendations

Using the improvements from scenario 2 (addition of a second exclusive left turn lane and a exclusive right turn lane on the north approach) the analysis indicates the State Road 14 at Hadley Road intersection will operate at a LOS "E" for a.m. and "D" for the p.m. peak hour with the added trips of phase II. The intersection can be improved to a LOS "E" for a.m. and "D" (improved delay) for p.m. peak hours with signal optimization. See figure 24 for the p.m. peak volumes, and LOS.

The following gives a summary of the recommended improvements from the corridor analysis. If you would like any additional information about this corridor analysis or would like to see the full report please contact NIRCC.

The recommended improvements are listed below based on Phase II traffic flow projections:

1. **The Hadley Road / State Road 14 intersection improvements;** add a second exclusive left turn lane and a exclusive right turn lane on the north approach.
2. **The Interstate 69 Ramp D / State Road 14 intersection improvements;** no recommendations.
3. **The Interstate 69 Ramp C / State Road 14 intersection improvements;** The Indiana Department of Transportation has a project funded for 2020 that will relocate the Interstate 69 Off Ramp H to the Interstate 69 Off Ramp C location to help eleaviate weaving on Interstate 69 and State Road 14 bridge, and add a third eastbound through lane.
4. **The Interstate 69 Ramps G/H / State Road 14 intersection improvements;** The Indiana Department of Transportation has a project funded for 2020 that will relocate the Interstate 69 Off Ramp H to the Interstate 69 Off Ramp C location to help eleaviate the eastbound weaving on the State Road 14 bridge.
5. **The Interstate 69 Ramps E/F / State Road 14 intersection improvements;** no recommendations, but as an alternative we evaluated relocating the Interstate 69 Off Ramp F to a shifted Interstate 69 Off Ramp A location to help eleaviate the eastbound weaving on the State Road 14 bridge.
6. **The Interstate 69 Ramps A/B / State Road 14 intersection improvements;** no recommendations, but as an alternative we evaluated relocating the Interstate 69 Off Ramp F to a shifted Interstate 69 Off Ramp A location to help eleaviate weaving on Interstate 69 and State Road 14.
7. **The Illinois Road / Magnavox Way intersections improvements;** signal optimization, and modifying the

current northbound left/thru/right configuration to a dual left and a shared thru/right.

8. **The Getz Road / Illinois Road intersection improvement;** signal optimization.
9. **The Constitution Drive / Getz Road intersection improvement;** signalization and an added exclusive left turn lane on the west approach.
10. **The Constitution Drive / Magnavox Way intersection improvement;** no recommendations.

Travel Time and Delay Studies

Studies completed by the Northeastern Indiana Regional Coordinating Council

Transportation Summary Report Fiscal Year 2016

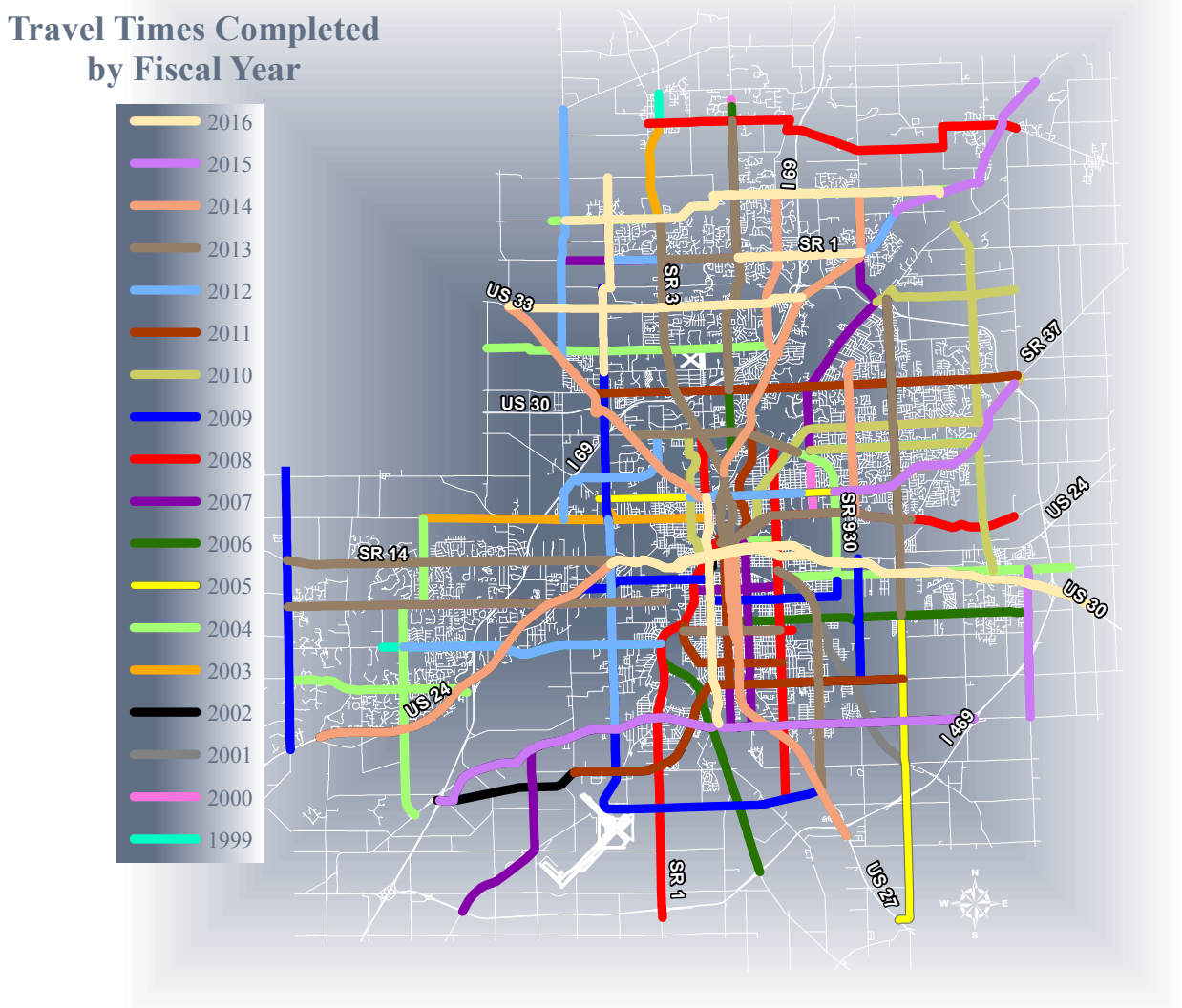
TRAVEL TIME & DELAY STUDIES

Another activity conducted by NIRCC is the travel time and delay studies. Figure 25 illustrates the travel time and delay studies that have been completed since Fiscal Year 1999. Travel time is one method to measure the congestion in the transportation system. It is essential for proper evaluation of the system because time is one of the most compelling and accurate yardsticks of the efficiency of street and highway service. Travel time is defined as the total time for a vehicle to complete a designated trip over a section of the road or from a specific origin to a specific destination. The studies conducted by NIRCC use the "average speed" method to obtain the travel time and delay data.

The following lists some of the uses that travel time data provide.

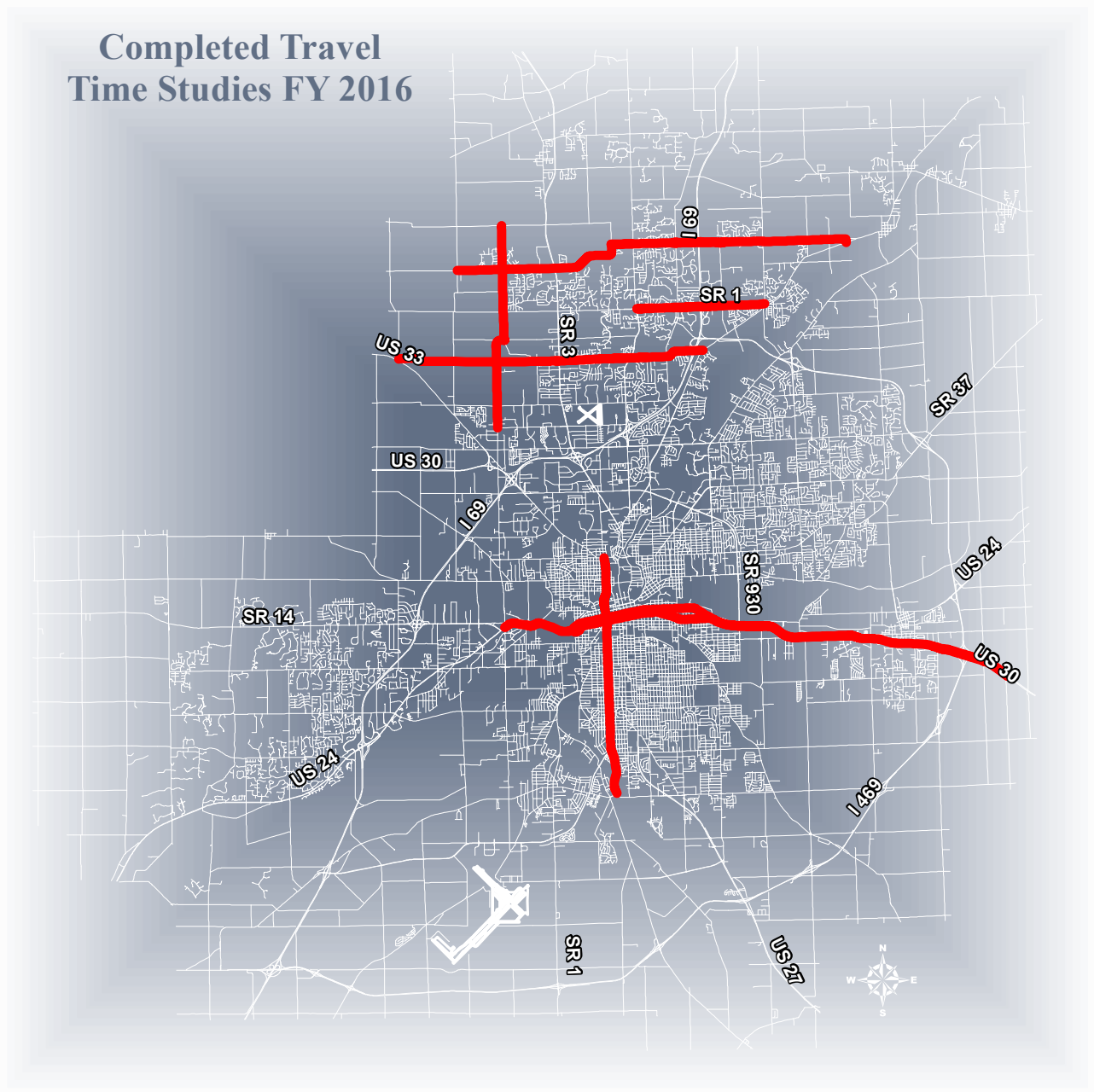
- *Identification of problem locations on facilities by virtue of high travel times and delay.*
- *Measurement of arterial level of service.*
- *Input into transportation planning models.*
- *Evaluations of route improvements.*
- *Input to economic analysis of transportation alternatives.*

Figure 25



NIRCC studied seven (7) corridors during Fiscal Year 2016 including: **1) Carroll Road / Union Chapel Road** from Hand Road to State Road 1, **2) Fairfield Avenue / Wells Street** from Lower Huntington Road to State Boulevard, **3) Bethel Road / Huguenard Road / Till Road** from Hathaway Road to Ludwig Road, **4) Washington Boulevard / SR 930 / US 30** from Kitch Street to Franke, **5) Dupont Road / SR 1** from Coldwater Road to Tonkel Road, **6) Jefferson Boulevard / Maumee Avenue / Washington Boulevard** from Lindenwood Avenue to Kitch Street, and **7) Wallen Road** from Johnson Road to Clinton Street. The travel time studies completed during Fiscal Year 2016 are illustrated in Figure 26.

Figure 26



In order to calculate average travel times for a corridor, six runs are completed in each direction for three different time periods; morning peak travel (AM peak), evening peak travel (PM peak), and daytime travel (OFF peak). Traffic count information for each link in a corridor is examined to determine the peak hours.

In fiscal year 2007, NIRCC began using GPS (Global Positioning System) technology to conduct travel time and delay studies. The GPS software computes travel times by recording latitude and longitude coordinates every second during the travel time. The software takes this data and computes speed and time. This information can then be exported to create maps of every point taken by the software. We take the point data from the AM and PM peak time periods and create density maps. As the travel time vehicle slows down or stops, a mass of points are taken in a smaller area compared to the vehicle traveling at faster speeds resulting in more spacing between the points taken. The density maps shown in Figures 27 - 42 give the results of this data. You will see on the maps that as the travel time vehicle slows down or stops multiple times at any given point the areas are shown in red. The blue areas indicate the vehicle is traveling at faster speeds.

The following pages present a summary along with density maps of the four corridors studied in Fiscal Year 2016. Some of the density maps show only sections of the entire travel time while others show the entire corridor. The density maps provided in this report only show the AM and PM peak time periods in each direction. Red boxes around any of the density maps reveal that they are the travel time with the greatest amount of delay for that corridor. Green boxes around any of the density maps reveal that they are the time period with the least amount of delay for that corridor. If an Off peak time period experienced either the greatest or least amount of delay it will not be provided as a density map.

Bar graphs are also included on each page. Two of the bar charts display the average time that NIRCC staff actually encountered from the beginning to the end of the travel time corridor during the time period with the greatest amount of delay, shown in red, and the time period with the least amount of delay, shown in green. These two bar charts also display, in blue, what the travel time would be if there were no delays along the corridor. This time is reflective to what a person would experience if he or she were able to travel along this corridor at the posted speed limit without having to stop or slow down for traffic control devices and traffic congestion.

The other two bar charts display the average speed that NIRCC staff actually encountered from the beginning to the end of the travel time corridor during the time period with the greatest amount of delay, shown in red, and the time period with the least amount of delay, shown in green. These two bar charts also display, in blue, what the average speed would be if there were no delays along the corridor. This speed is reflective to what a person would experience if he or she was able to travel along this corridor at the posted speed limit without having to stop or slow down for traffic control devices and traffic congestion.

Travel Time and Delay Summary Section for Fiscal Year 2016

Figure 27
Carroll Road / Union Chapel Road
AM Peak Eastbound

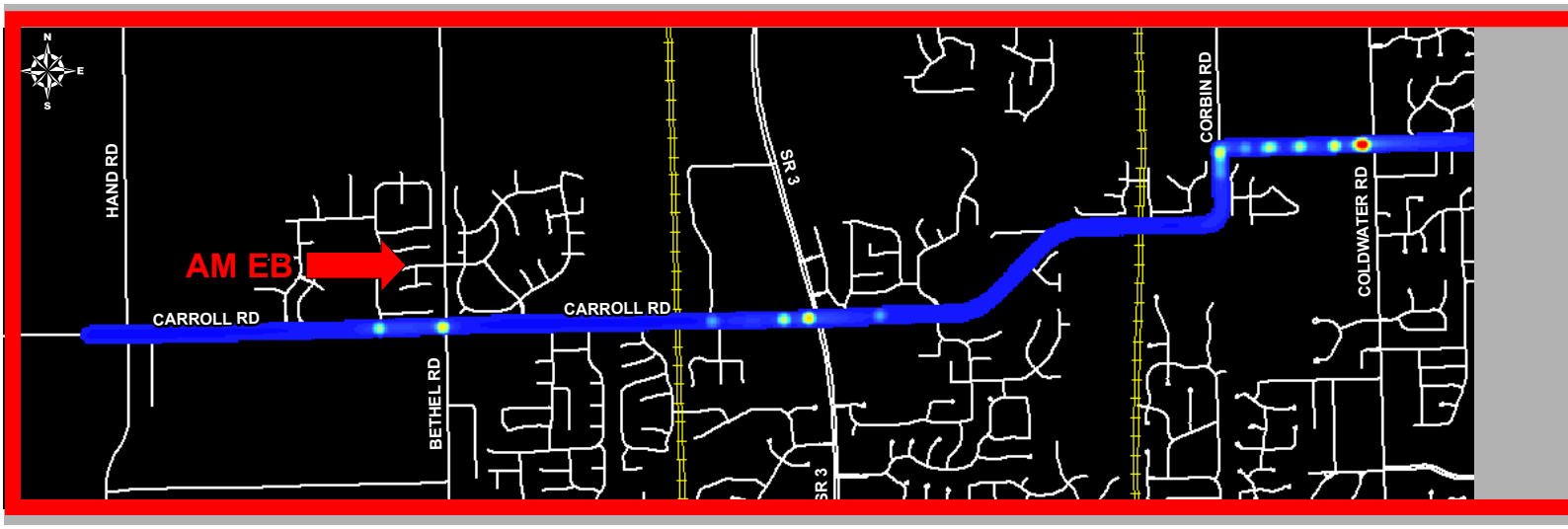
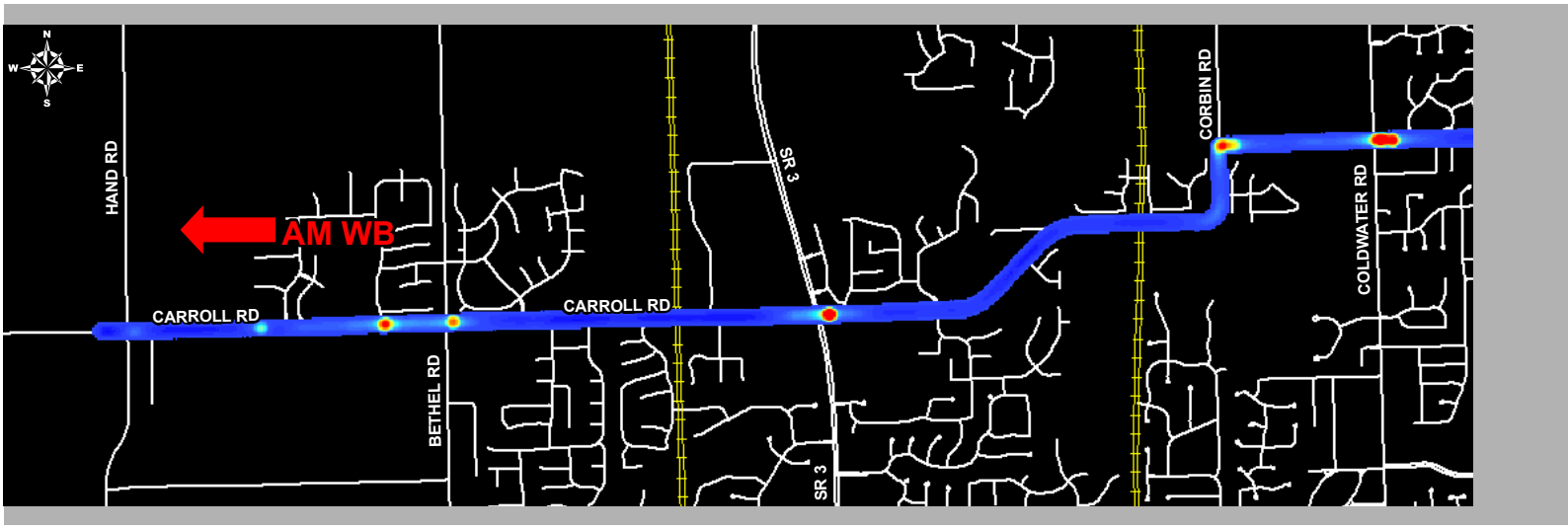
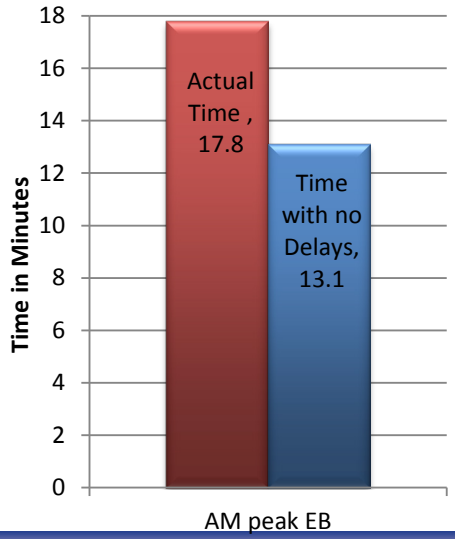


Figure 28
Carroll Road / Union Chapel Road
AM Peak Westbound



Travel Time with the Greatest Amount of delay



Travel Speed with the Greatest Amount of delay

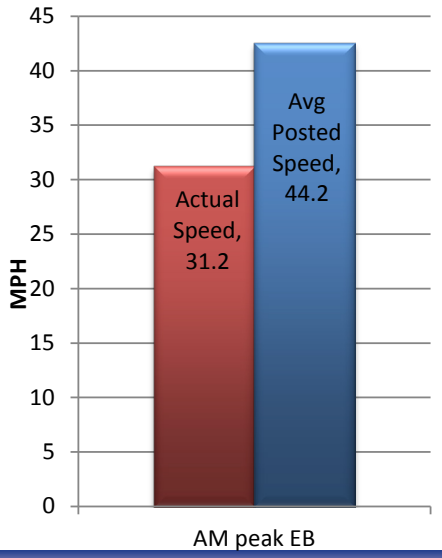


Figure 29
Carroll Road / Union Chapel Road
PM Peak Eastbound

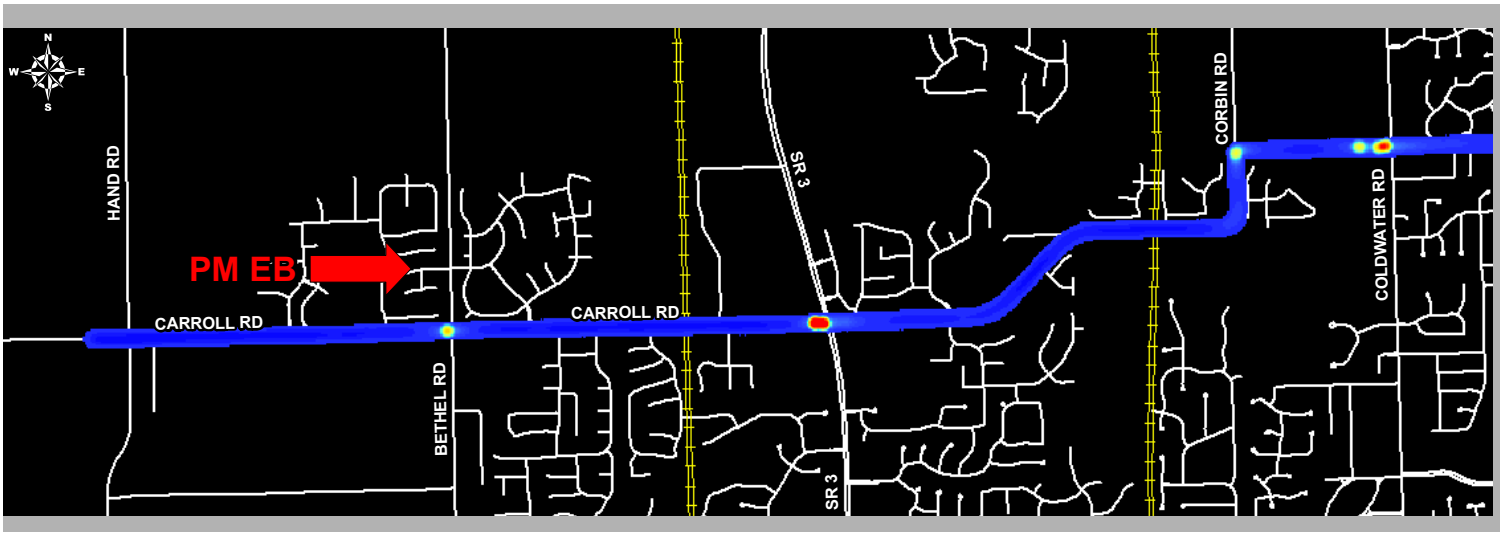
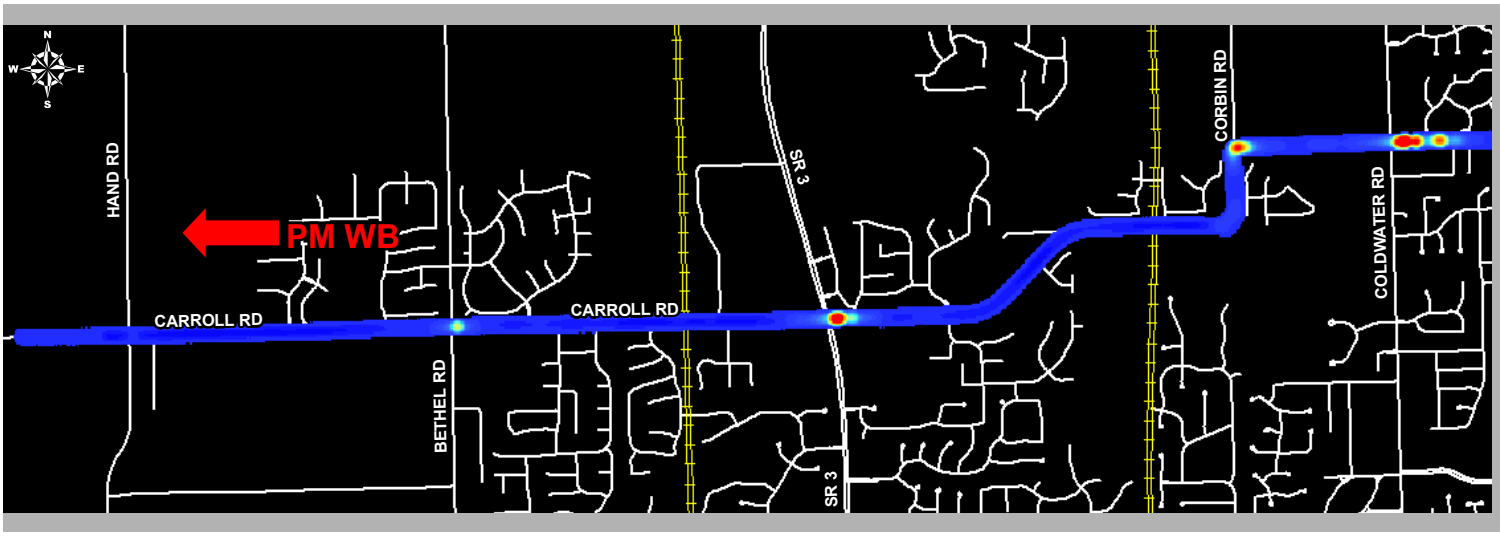
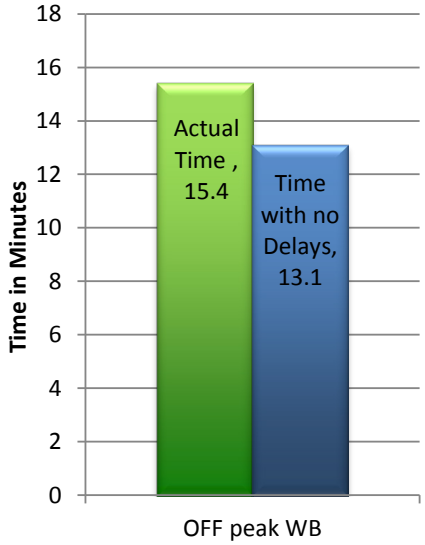


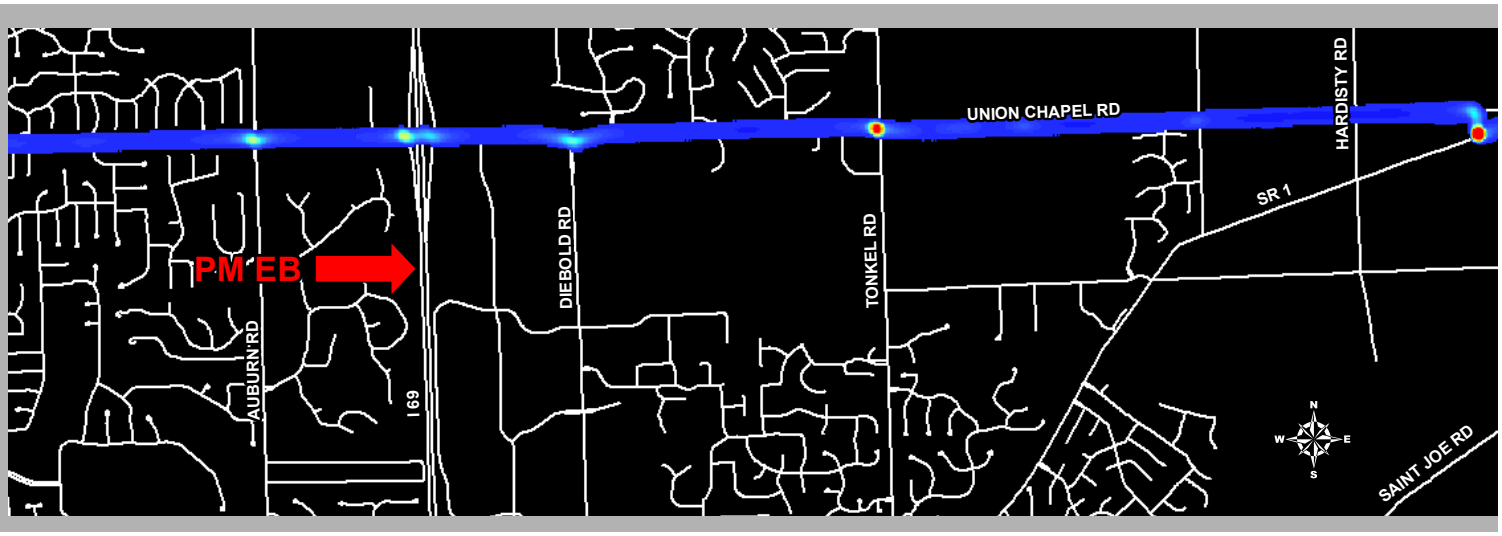
Figure 30
Carroll Road / Union Chapel Road
PM Peak Westbound

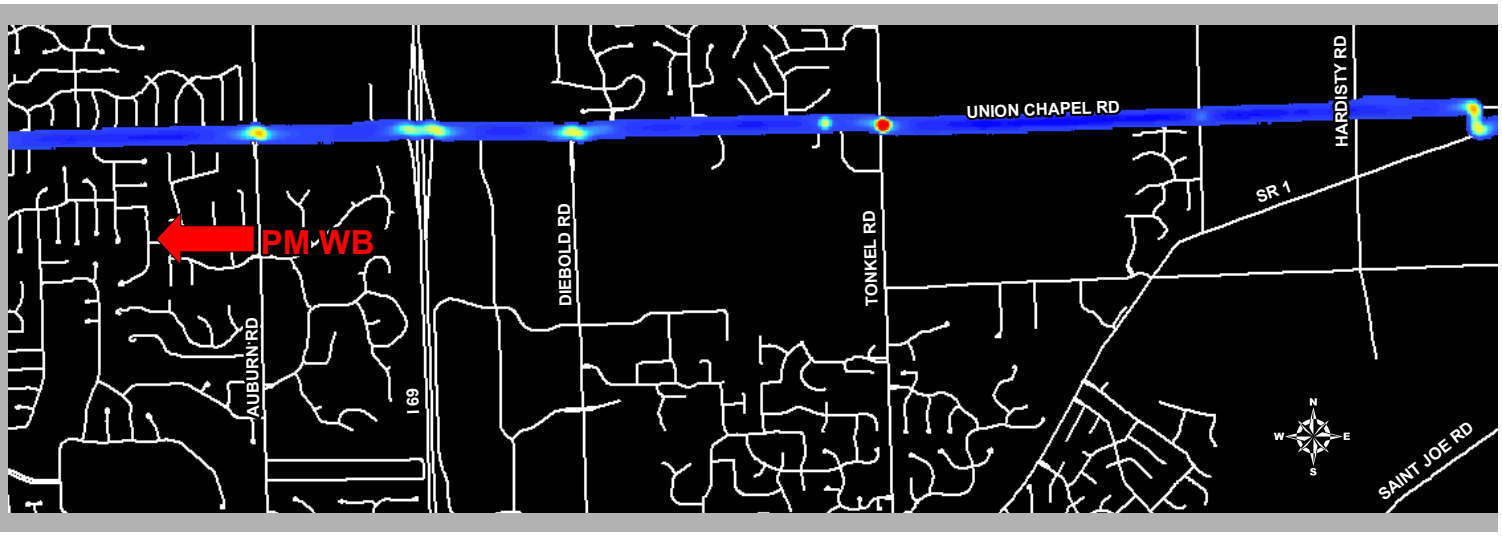


Travel Time with the Least Amount of delay

***Off Peak Travel Times are not shown graphically.**







Travel Speed with the Least Amount of delay

***Off Peak Travel Times are not shown graphically.**

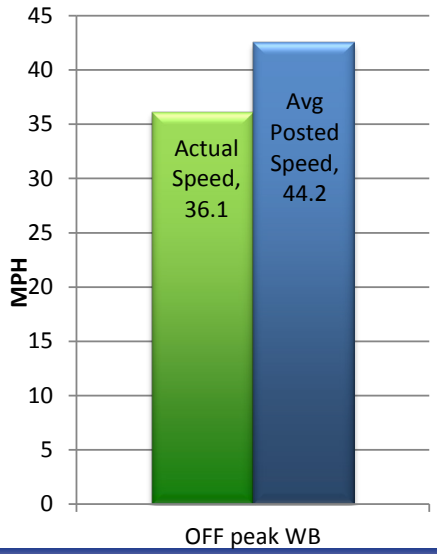
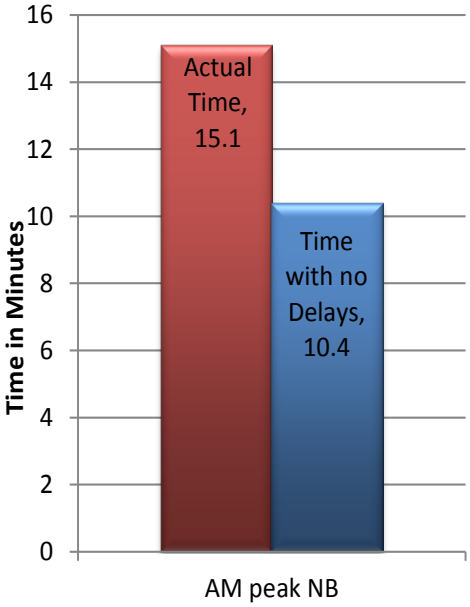


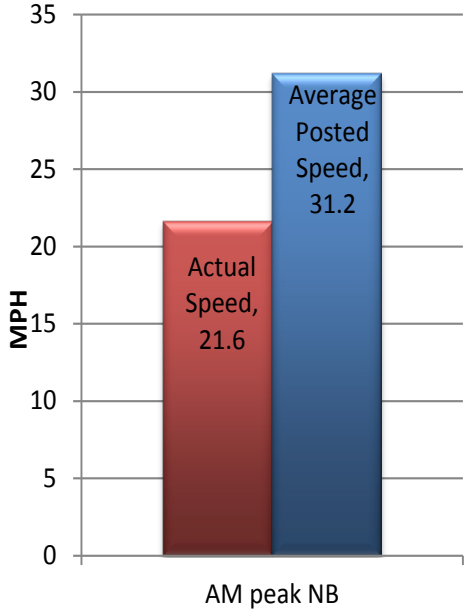
Figure 31

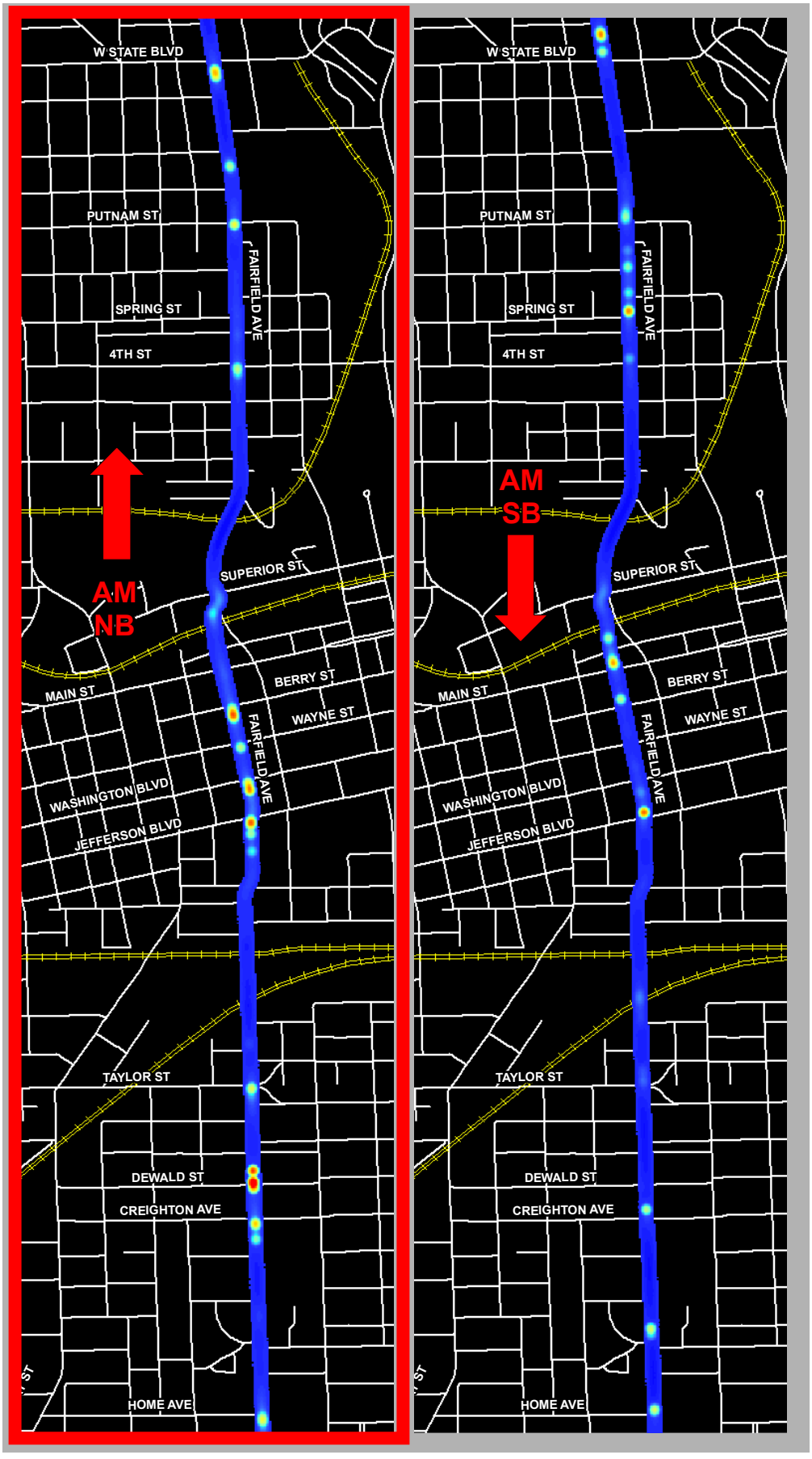
Fairfield Avenue / Wells Street
AM Peak

Travel Time with the Greatest Amount of delay



Travel Speed with the Greatest Amount of delay





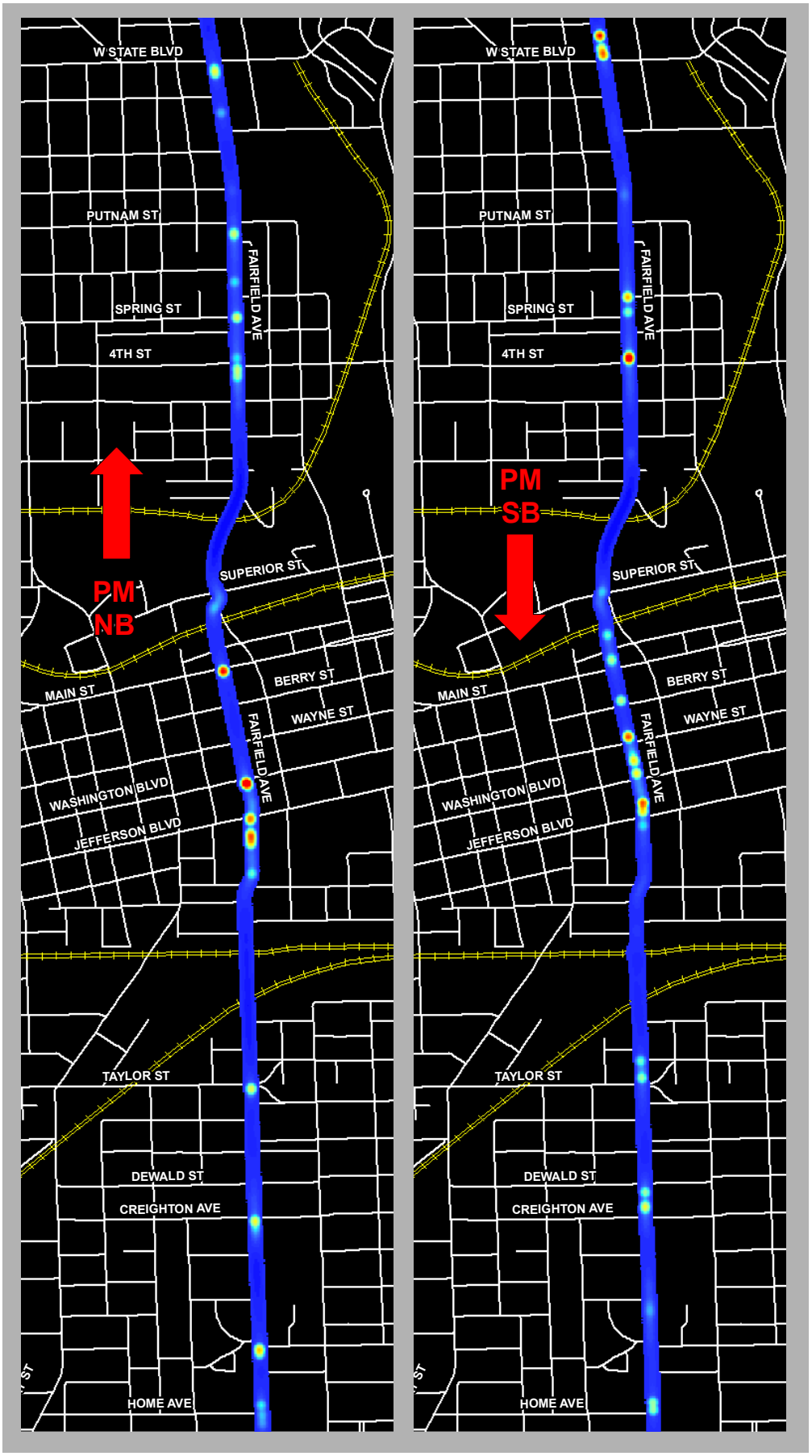
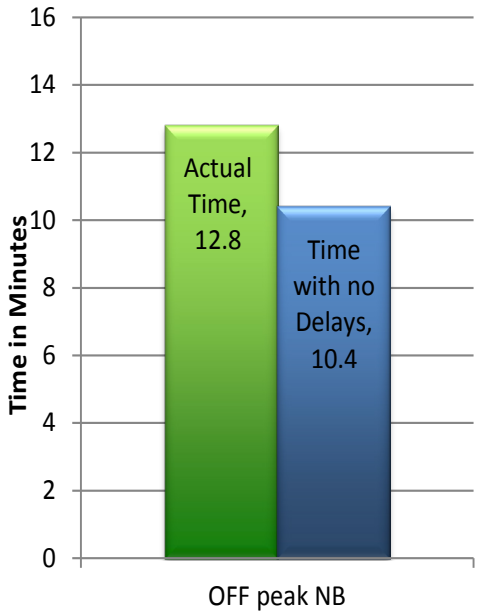


Figure 32

Fairfield Avenue / Wells Street
PM Peak

Travel Time with the Least Amount of delay



*Off Peak Travel Times are not shown graphically.

Travel Speed with the Least Amount of delay

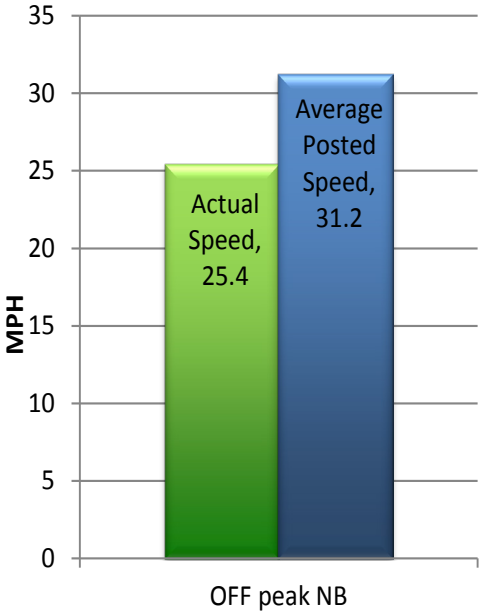
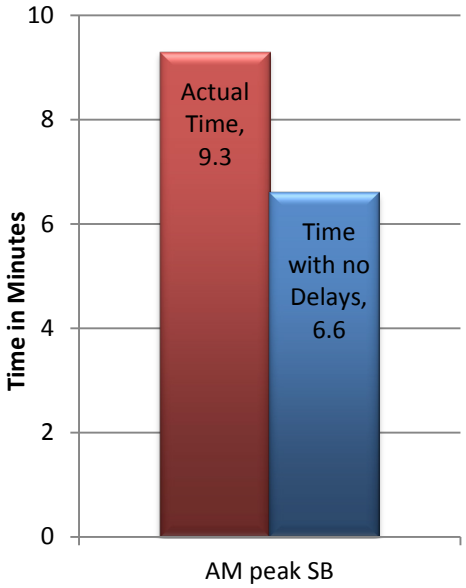


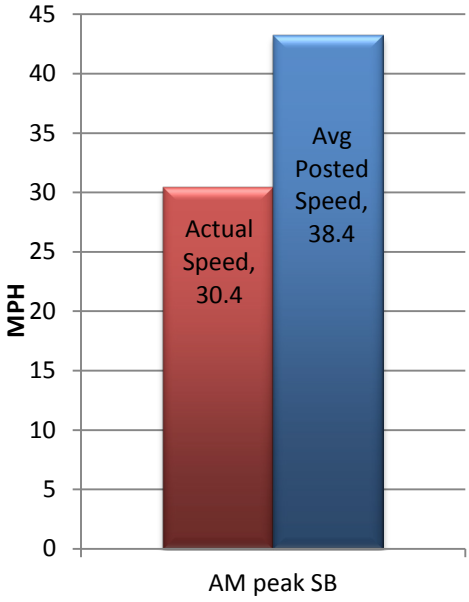
Figure 33

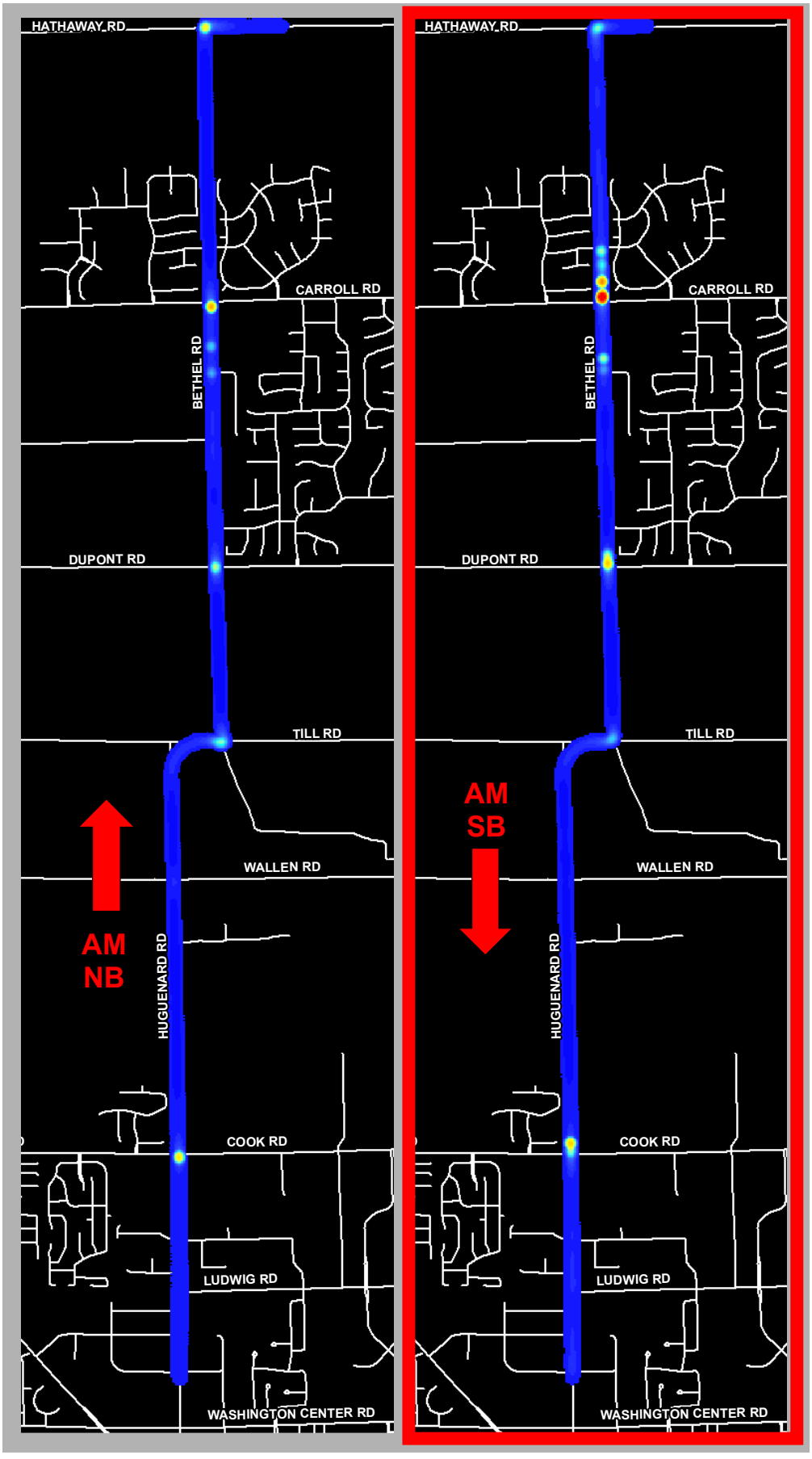
Bethel Road / Huguenard Road / Till Road AM Peak

Travel Time with the Greatest Amount of delay



Travel Speed with the Greatest Amount of delay





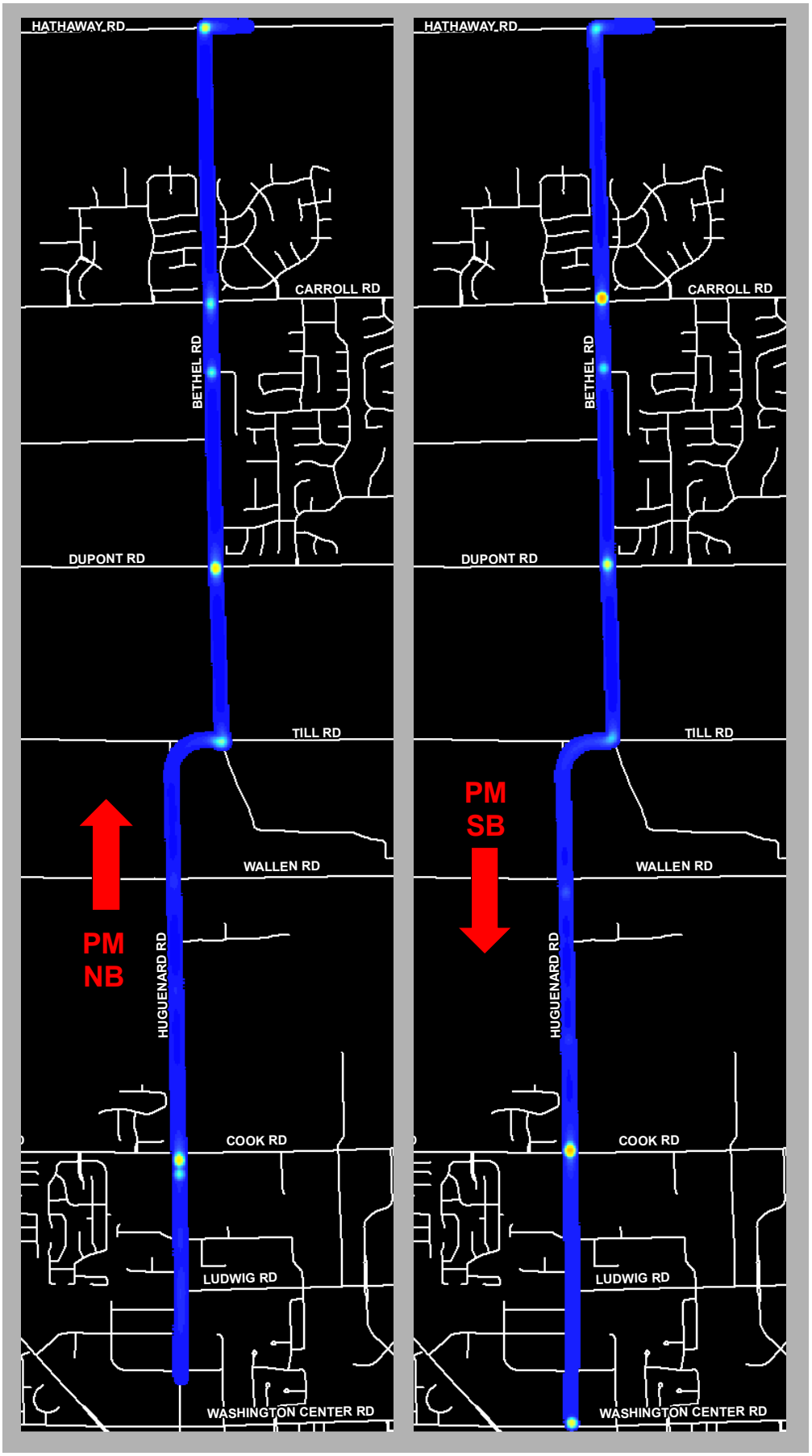
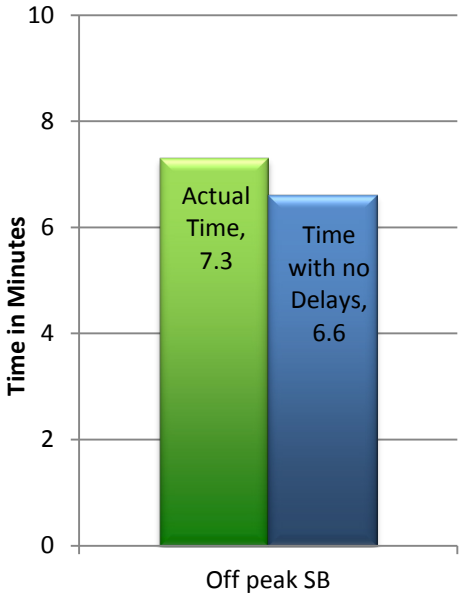


Figure 34

Bethel Road / Huguenard Road / Till Road
PM Peak

Travel Time with the Least Amount of delay



*Off Peak Travel Times are not shown graphically.

Travel Speed with the Least Amount of delay

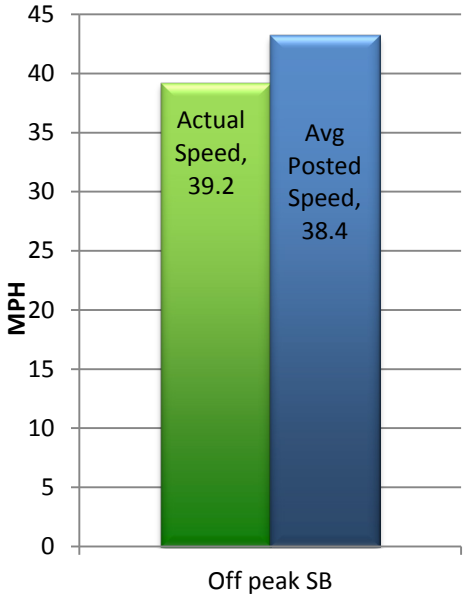
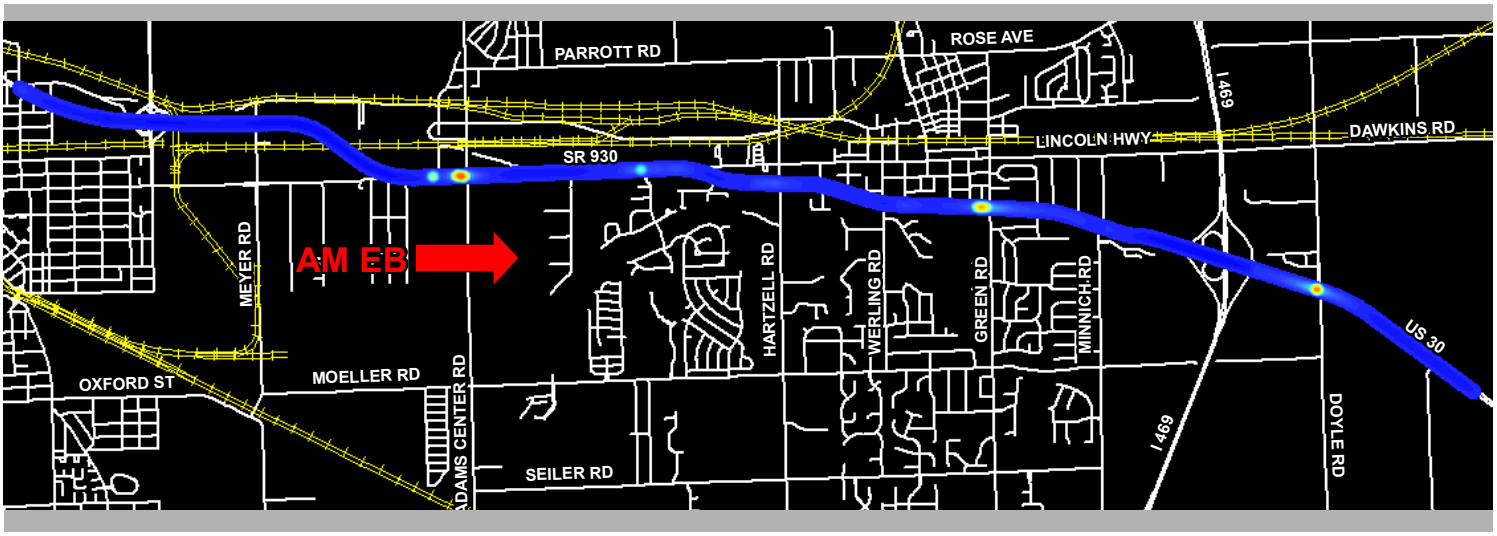
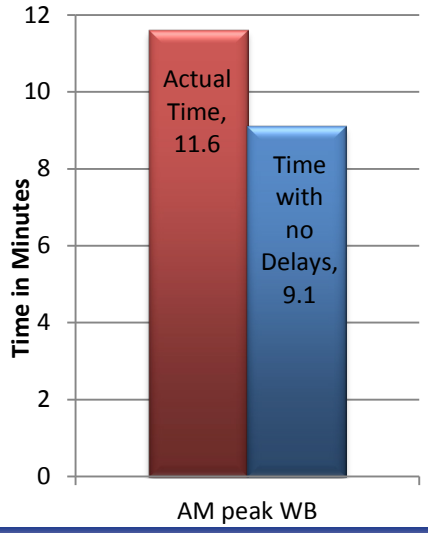


Figure 35

Washington Boulevard / SR 930 / US 30
AM Peak



Travel Time with the Greatest Amount of delay



Travel Speed with the Greatest Amount of delay

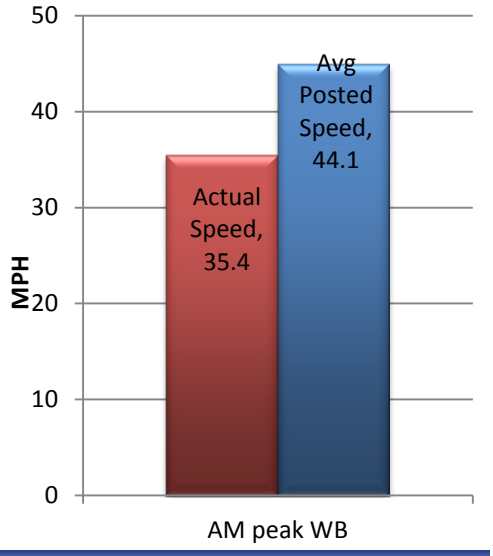
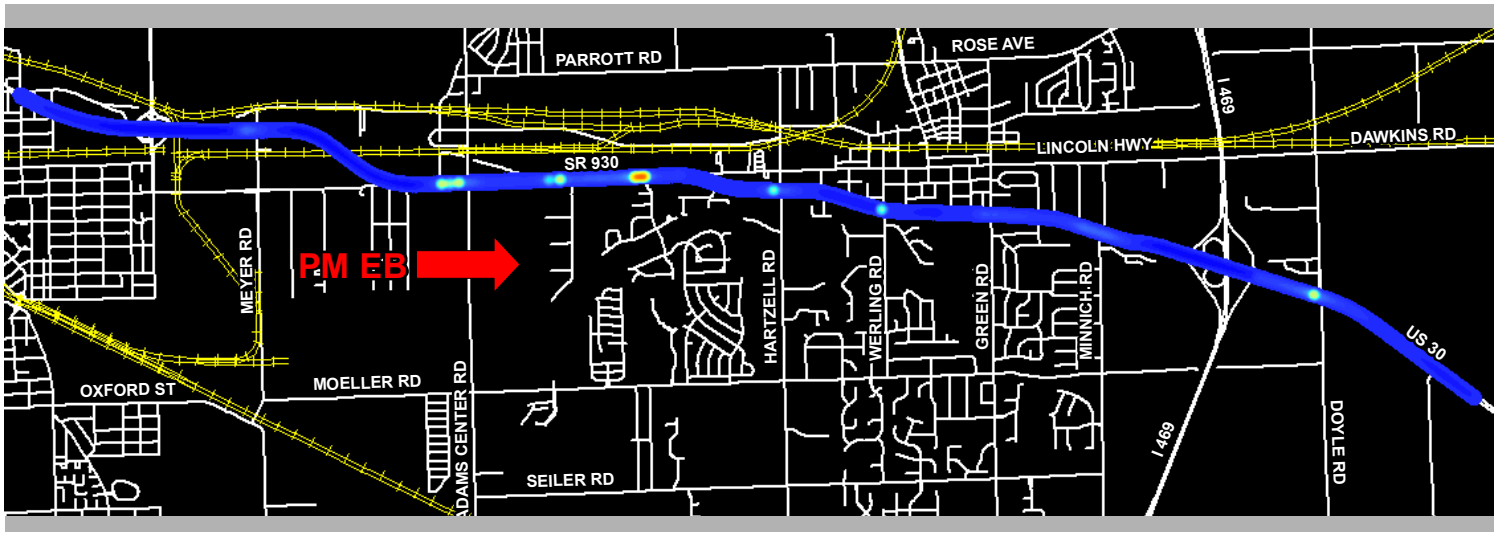
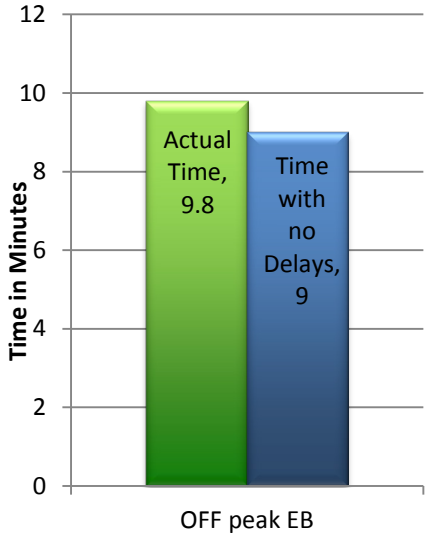


Figure 36

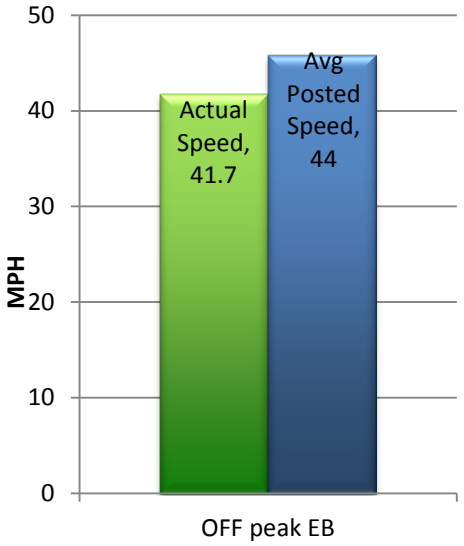
Washington Boulevard / SR 930 / US 30
PM Peak



Travel Time with the Least Amount of delay

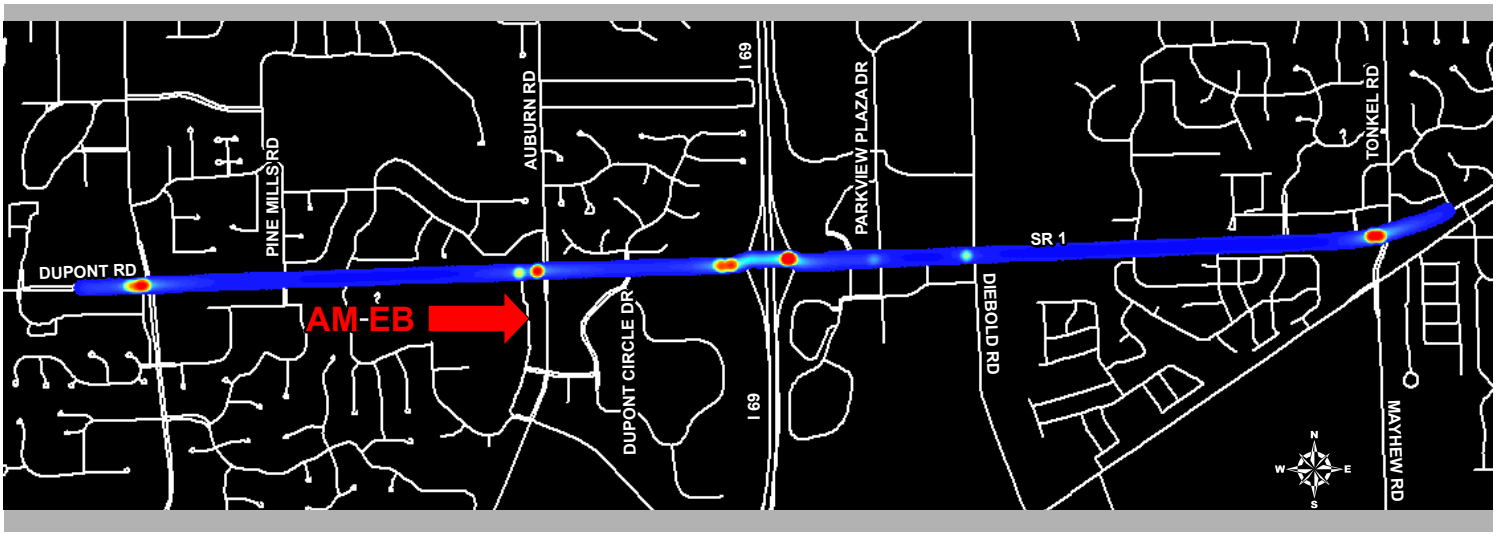


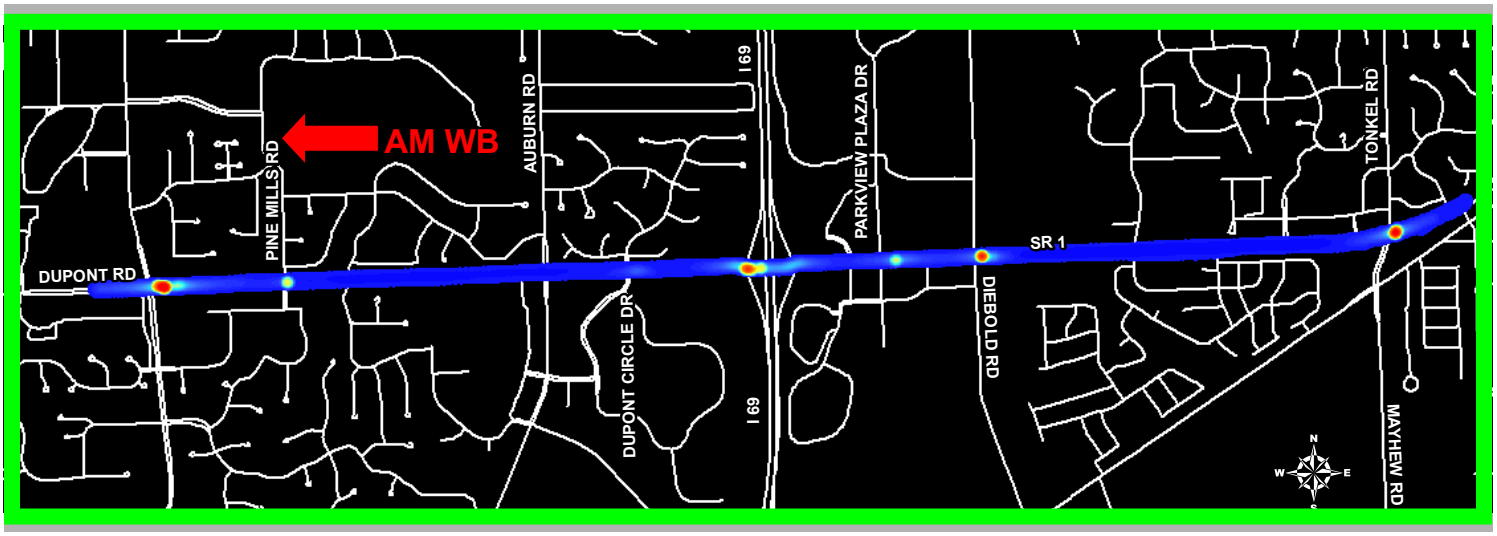
Travel Speed with the Least Amount of delay



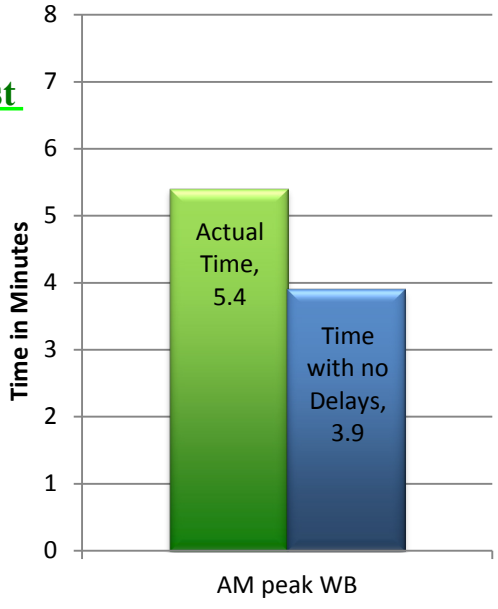
*Off Peak Travel Times are not shown graph-ically.

Figure 37
Dupont Road / SR 1
AM Peak





Travel Time with the Least Amount of delay



Travel Speed with the Least Amount of delay

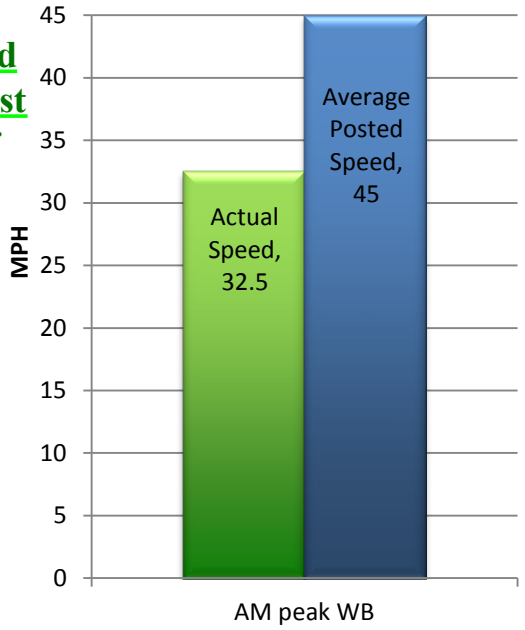
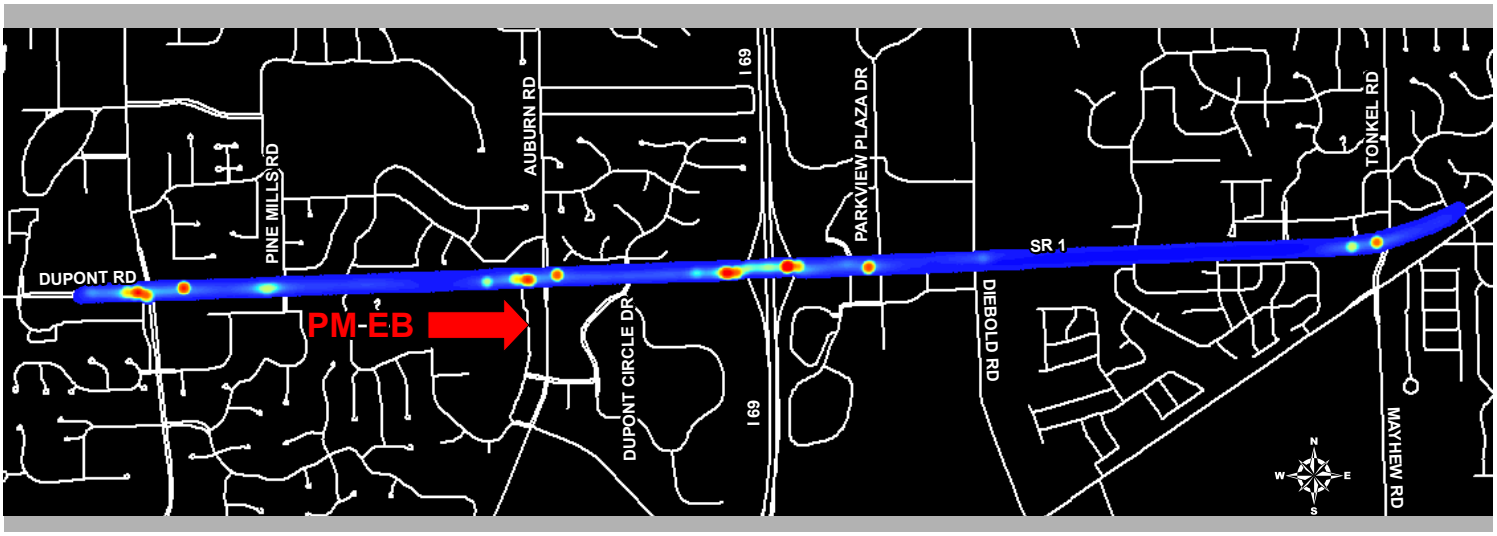
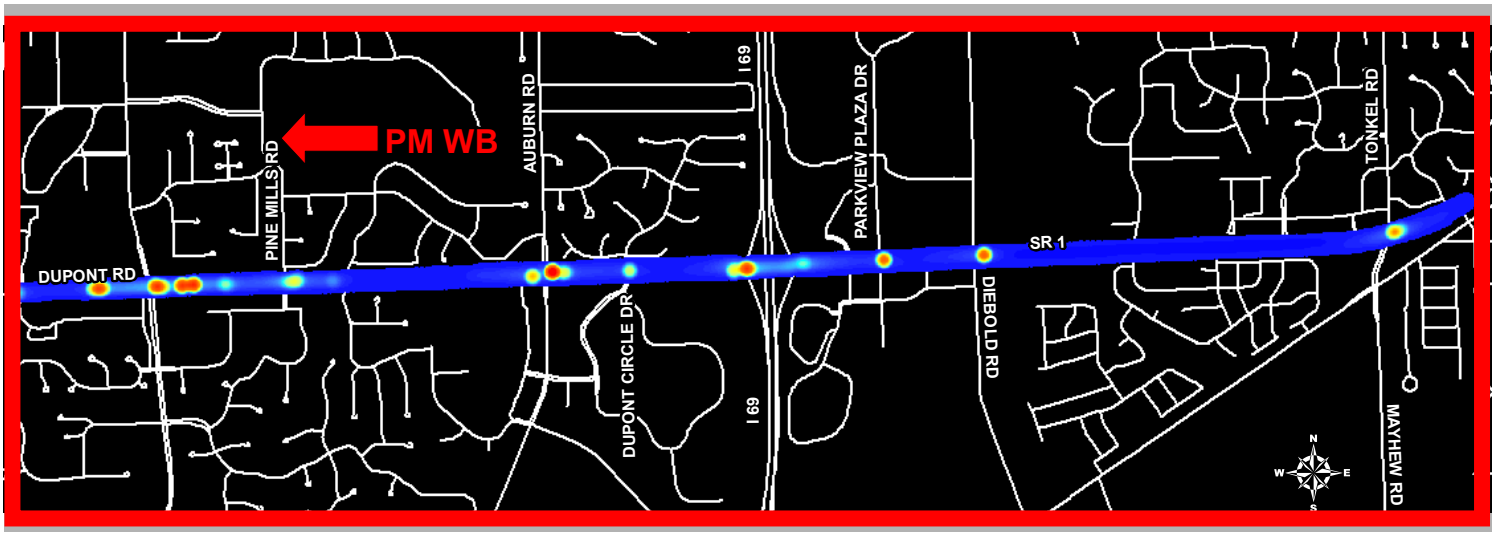
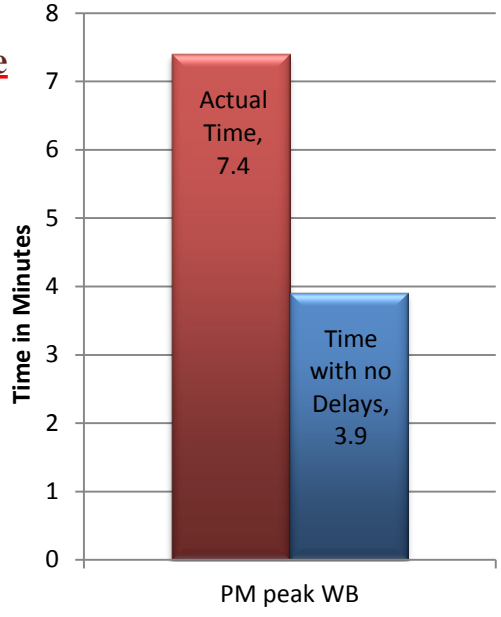


Figure 38
Dupont Road / SR 1
PM Peak





Travel Time with the Greatest Amount of delay



Travel Speed with the Greatest Amount of delay

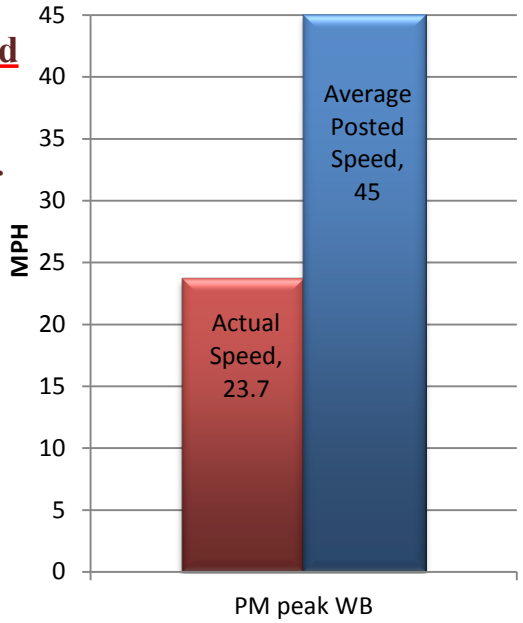
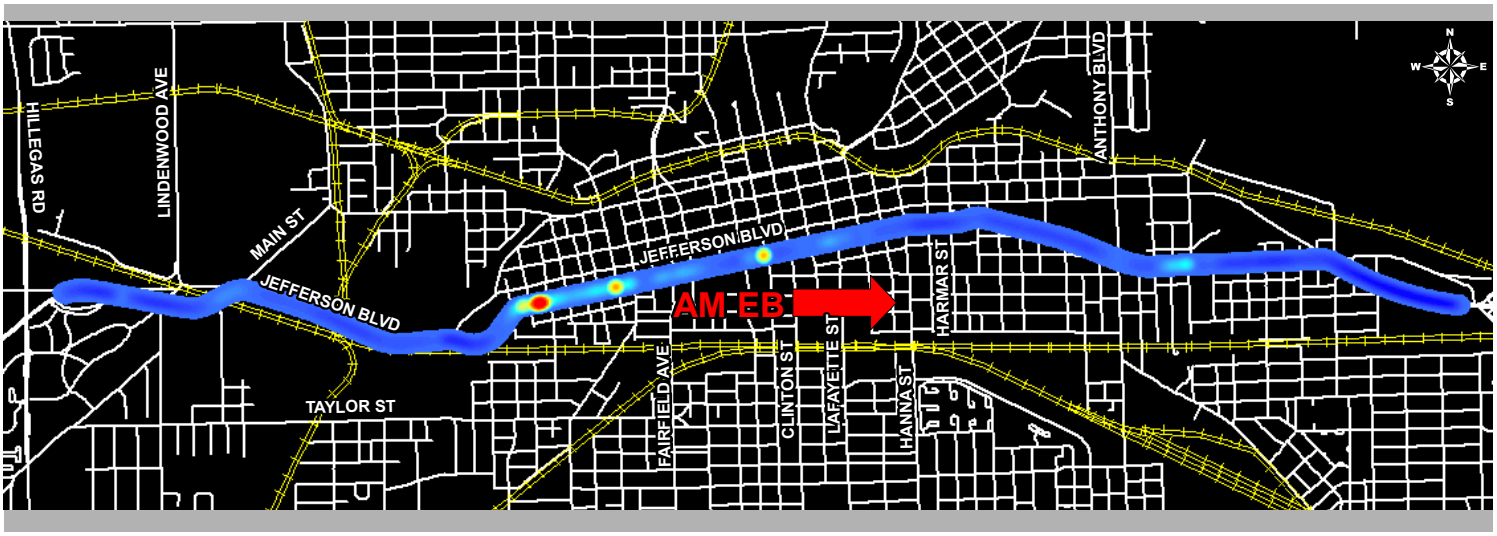
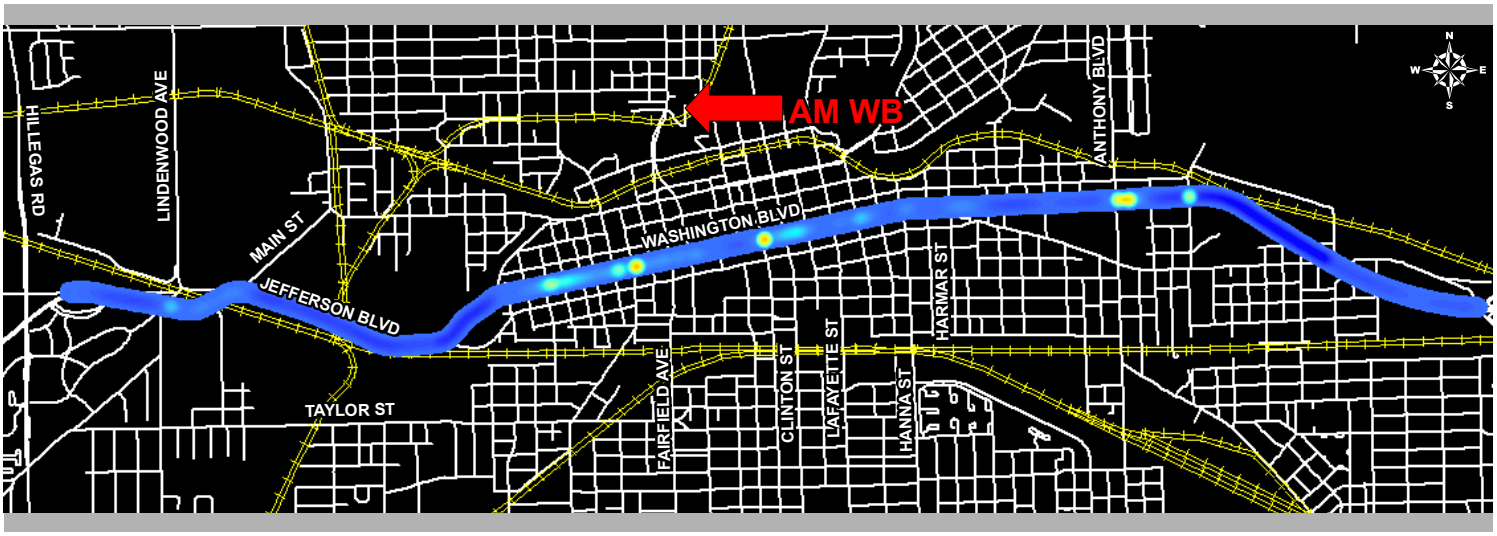


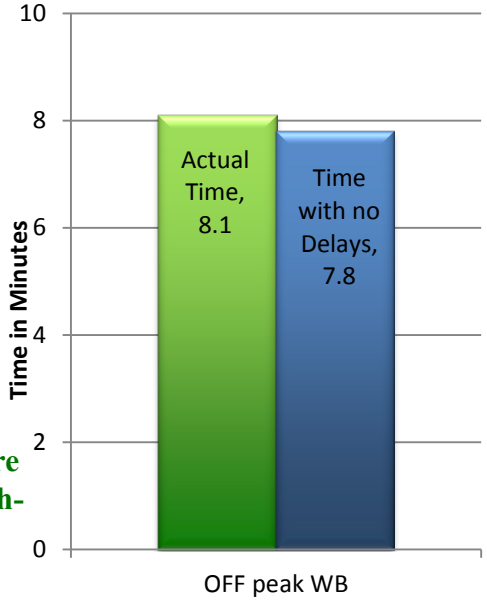
Figure 39

Jefferson Boulevard / Maumee Avenue / Washington Boulevard
AM Peak

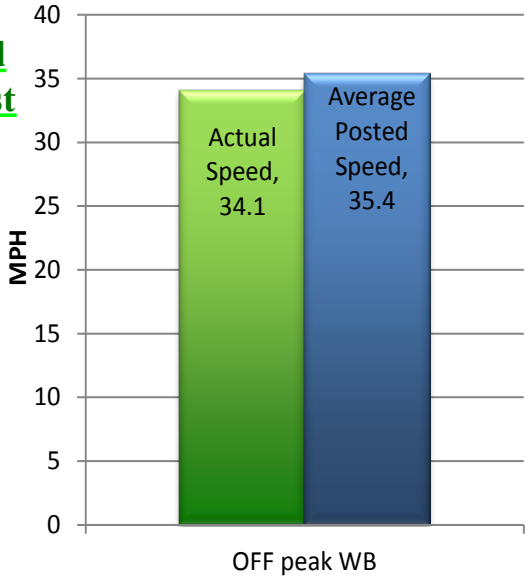




Travel Time with the Least Amount of delay



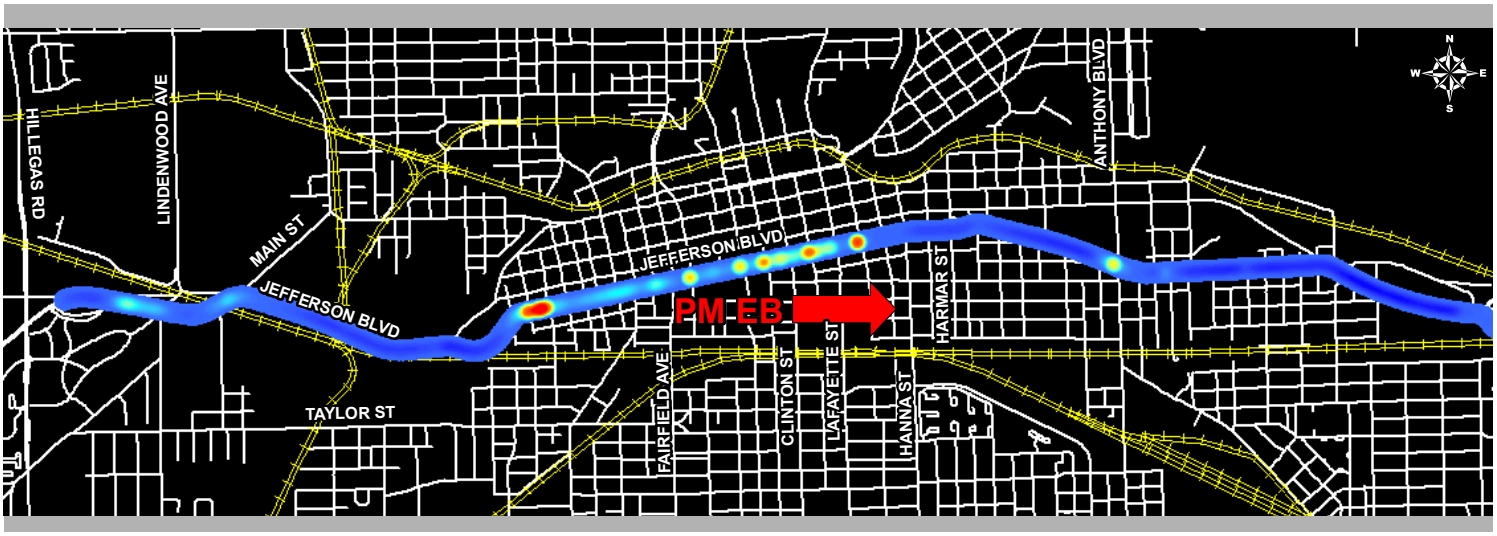
Travel Speed with the Least Amount of delay

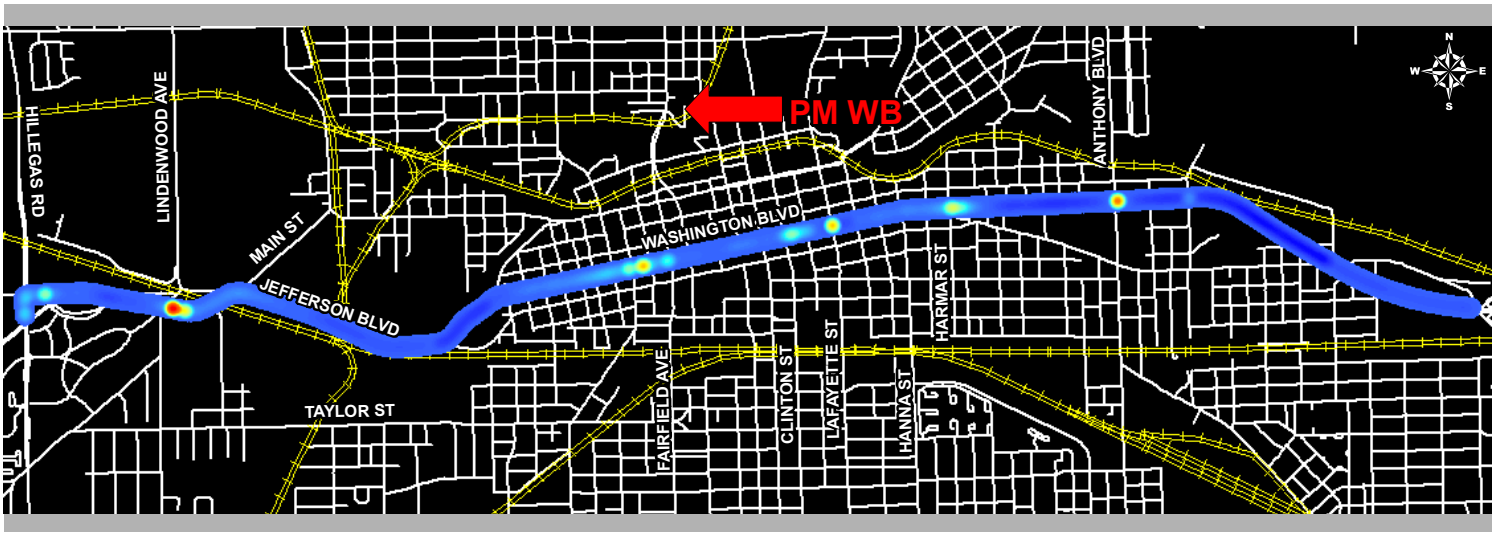


*Off Peak Travel Times are not shown graph-ically.

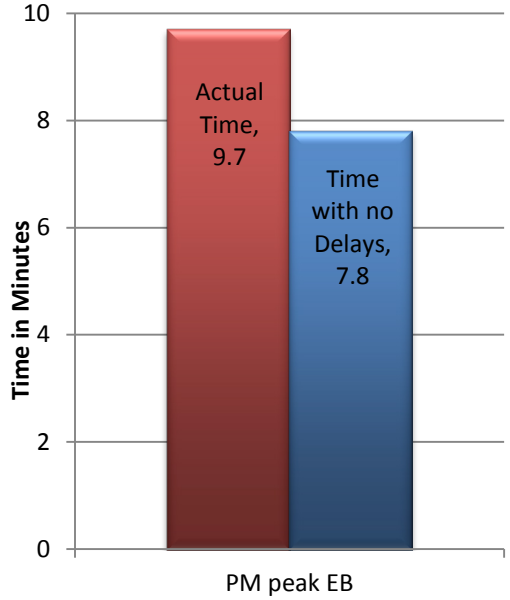
Figure 40

Jefferson Boulevard / Maumee Avenue / Washington Boulevard
PM Peak





Travel Time with the Greatest Amount of delay



Travel Speed with the Greatest Amount of delay

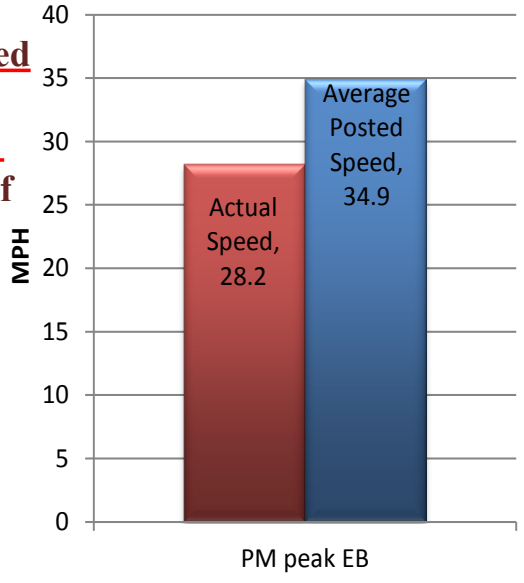
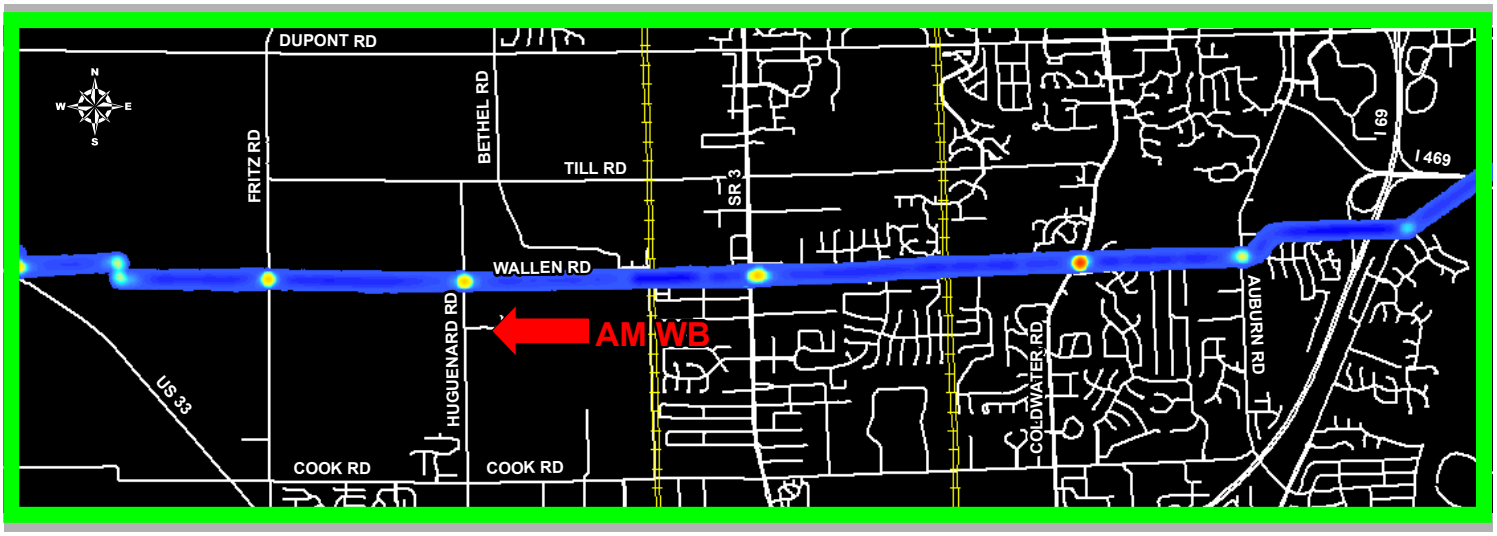
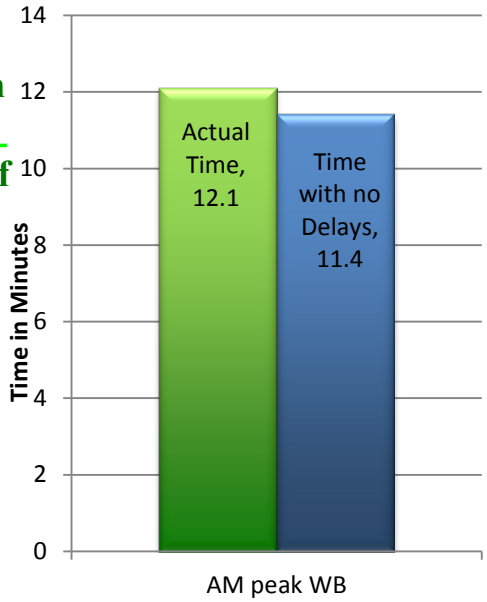


Figure 41
Wallen Road
AM Peak



Travel Time with the Least Amount of delay



Travel Speed with the Least Amount of delay

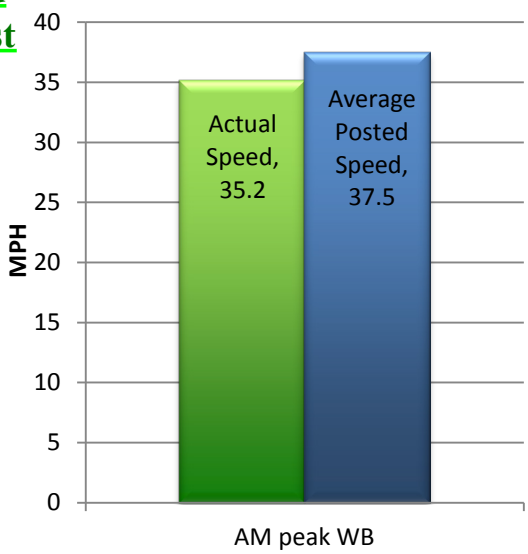
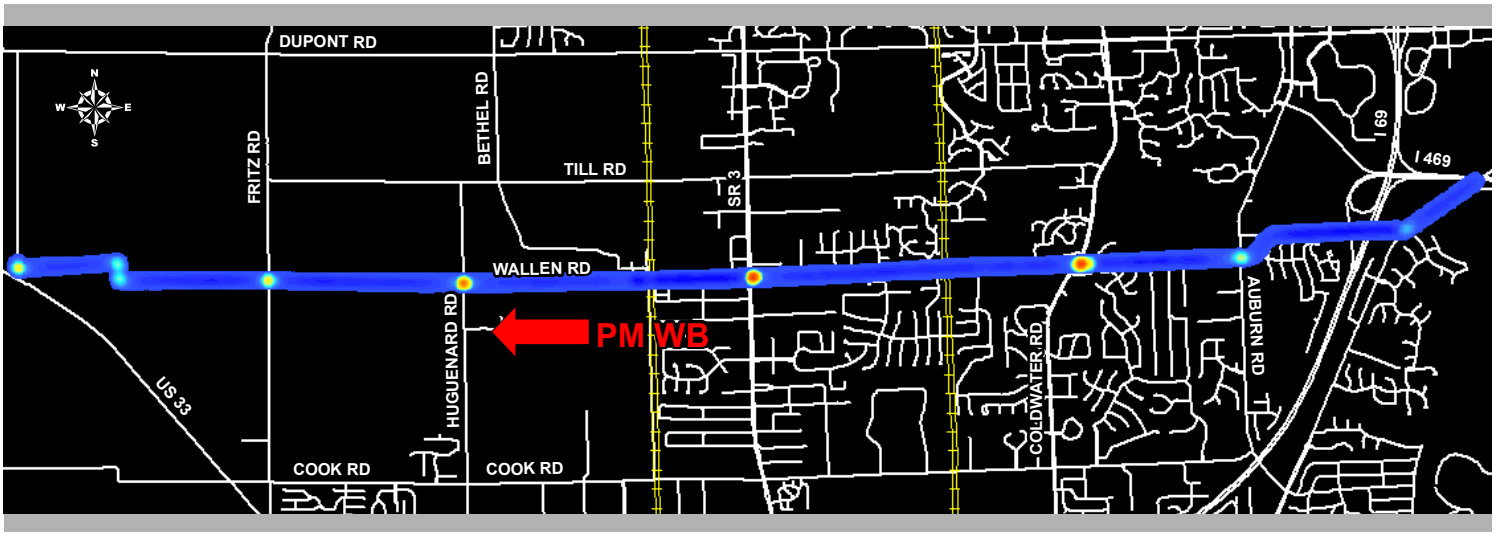
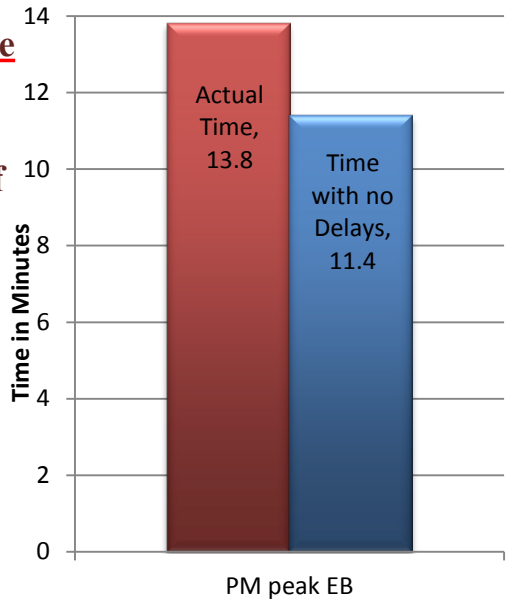


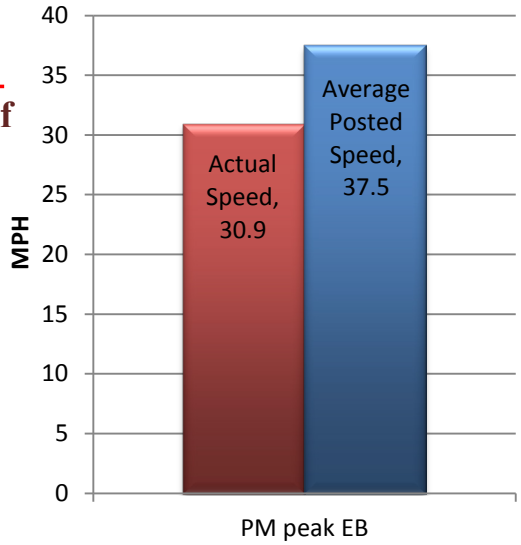
Figure 42
Wallen Road
PM Peak



Travel Time with the Greatest Amount of delay



Travel Speed with the Greatest Amount of delay



Transportation Improvement Program

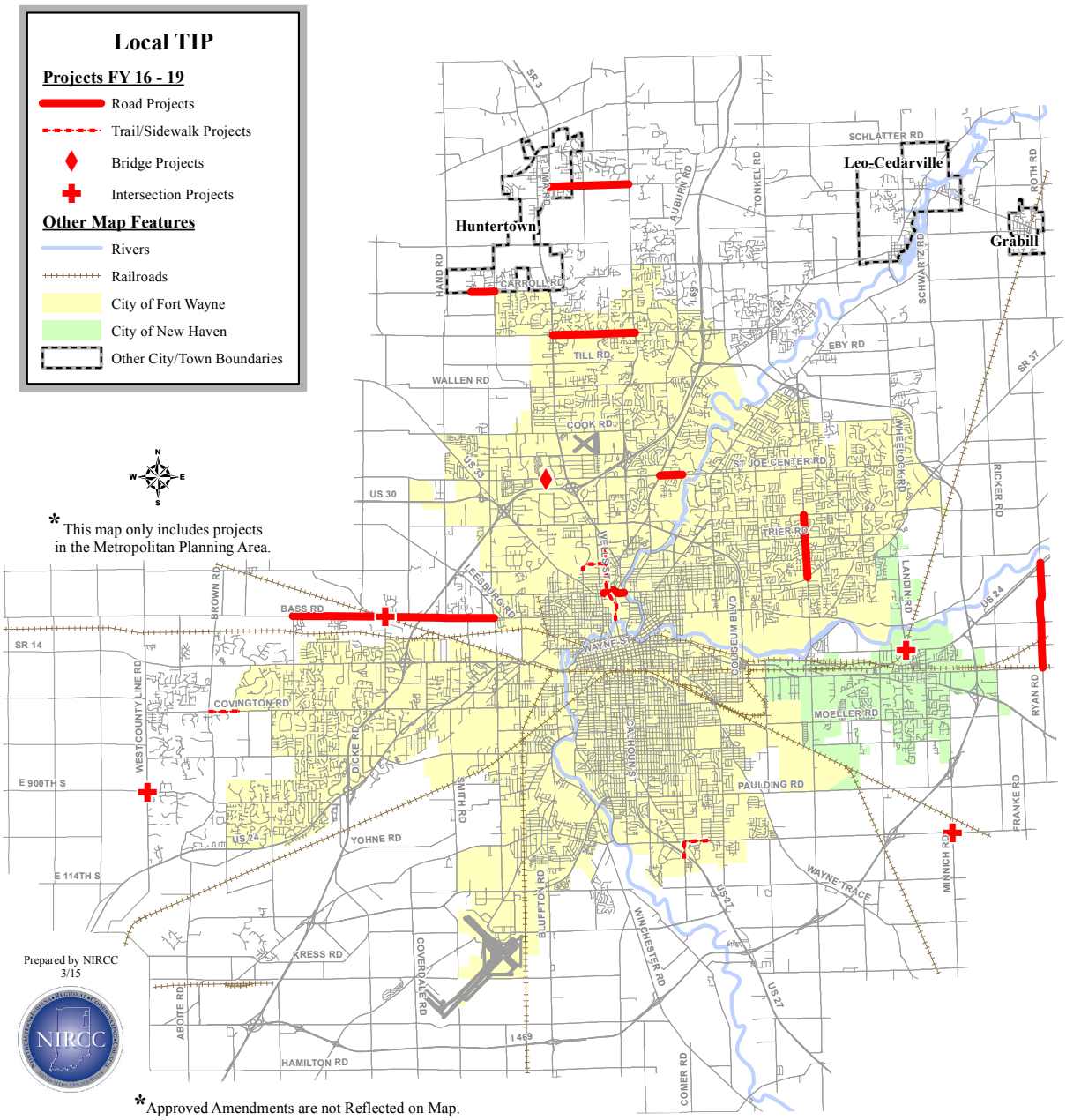
Studies completed by the Northeastern Indiana Regional Coordinating Council

Transportation Summary Report Fiscal Year 2016

TRANSPORTATION IMPROVEMENT PROGRAM (TIP) PROJECTS

During Fiscal Year 2016, NIRCC updated the Transportation Improvement Program. NIRCC had published a Transportation Improvement Program (TIP) each year since 1977, however now it is being produced every other year to align with the INDOT State Transportation Improvement Program (STIP). The TIP is a multi-year capital improvements program documenting highway and transit projects, which will serve the needs of the Fort Wayne-New Haven-Allen County Metropolitan Planning Area. The TIP is used to guide the expenditure of federal funds in our area. Short range and long range (2035) transportation plans including the Indiana Department of Transportation's Capital Improvements

Figure 43



Program are used to formulate the TIP. The TIP includes commitments of the City of Fort Wayne, Fort Wayne Public Transportation Corporation, City of New Haven, Town of Huntertown, and Allen County to utilize and match federal funds. The Indiana Department of Transportation projects listed in the TIP represents commitments that the State of Indiana makes to improve the transportation system in the Metropolitan Planning Area.

Figure 44

Each project typically goes through three different phases before construction completion. These phases include preliminary engineering (PE), right-of-way engineering and acquisition (RW), and construction (CN). The preliminary engineering includes development of construction plans. Right-of-way engineering and acquisition includes the determination and actual purchase of the right-of-way needed for the project. The construction stage is the actual construction of the project. Each of the projects listed will go through one or more of the phases during the four-year period.

Figure 45

Figure 43 shows the locations of local TIP projects throughout the Metropolitan Planning Area. The local TIP map identifies projects that utilize federal aid funds with matching local funds whether it is City of Fort Wayne, City of New Haven, or Allen County. Figures 44 and 45 provide aerial views to show detailed examples of projects shown in Figure 43. The following pages provide a listing of projects for each fiscal year and the phase for each project. Highway and trail projects are listed on pages 63 through 65 and transit funding is listed on page 66.

TRANSPORTATION IMPROVEMENT PROGRAM (TIP) PROJECTS LISTED

PHASE CLASSIFICATIONS

PE - Preliminary Engineering
RW - Right of Way
CN - Construction

FY 2016 TIP Federally and Locally Funded Projects

Project	Phase	Improvement Type
Allen County Bridges	PE	Bridge Inspections
Bass Rd - Clifty Pkwy to Thomas Rd	RW	Road Reconstruction
Broadway, Landin Rd and Rose Ave Intersection	PE	Intersection Realignment
Closed Circuit TV Cameras (CCTV)-16 locations Ft Wayne	CN	Traffic Management
Covington Rd Trail - West Hamilton Rd to Beal-Taylor Ditch	CN	New Trail Construction
Dupont Rd - Lima Rd (SR 3) to Coldwater Rd	RW	Added Travel Lanes/Ped Underpass
Gump Rd - SR 3 to Coldwater Rd	CN	Road Reconstruction
Liberty Mills Rd and County Line Rd Intersection	RW	Intersection Improvement/Realign
Maplecrest Rd - State Blvd to Stellhorn Rd	PE	Road Reconstruction
Minnich Rd and Tillman Rd	PE	Intersection Improvements
Pedestrian Countdown Indicators - Various locations Ft Wayne	CN	Signal Modernization
St Joe Center Rd - Clinton St to Campus Ct	PE	Center-Left Turn Lane
Signal Interconnections - 91 intersection locations Ft Wayne	CN	Signal Modernization
State Blvd - Spy Run Ave to Cass St	RW	Added Travel Lanes
Traffic Signal Upgrade	CN	Signal Visibility Improvements
UPWP CMAQ Funds - Element 223	PE	Work Program Activities

FY 2017 TIP Federally and Locally Funded Projects

Project	Phase	Improvement Type
Bass Rd and Hadley Rd Intersection	CN	Intersection Improvements
Bass Rd - Shakespeare Blvd to Clifty Pkwy (& Bridge)	CN	Road Reconstruction
Bass Rd - Thomas Rd to Hillegas Rd	RW	Road Reconstruction
Carroll Rd (Huntertown) - Preserve Blvd to Bethel Rd	CN	Road Reconstruction
Maplecrest Rd - State Blvd to Stellhorn Rd	RW	Road Reconstruction
Minnich Rd and Tillman Rd	RW	Intersection Improvements
Pufferbelly Trail - Fourth St to Fernhill Ave	CN	New Trail Construction
Six Mile Creek Trail	CN	New Trail Construction
St Joseph Ctr Rd - Clinton St to Campus Ct	RW	Center-Left Turn Lane
UPWP - Planning (PL) Funds	PE	Work Program Activities
UPWP - Highway Safety Improvement Program (HSIP) Funds	PE	Work Program Activities
Washington Center Rd - Bridge over Spy Run Creek	RW	Bridge Reconstruction

FY 2018 TIP Federally and Locally Funded Projects

Project	Phase	Improvement Type
Broadway, Landin Rd and Rose Ave Intersection	RW	Intersection Improvements
Dupont Rd - Lima Rd (SR 3) to Coldwater Rd	CN	Added Travel Lanes/Ped Underpass
Liberty Mills Rd and County Line Rd Intersection	CN	Intersection Improvement/Realign
Minnich Rd and Tillman Rd Intersection	CN	Intersection Improvements
Ryan Rd/Bruick Rd - Dawkins Rd to Harper Rd	CN	Road Reconstruction
Ryan Rd/Bruick Rd - Harper Rd to US 24	CN	Road Reconstruction
St Joe Center Rd - Clinton St to Campus Ct	CN	Center-Left Turn Lane
State Blvd - Spy Run Ave to Clinton St	CN	Added Travel Lanes
UPWP - Planning (PL) Funds	PE	Work Program Activities
UPWP - Highway Safety Improvement Program (HSIP) Funds	PE	Work Program Activities
Washington Center Rd over Spy Run Creek	CN	Bridge Reconstruction

FY 2019 TIP Federally and Locally Funded Projects

Project	Phase	Improvement Type
Bass Rd - Hadley Rd to Scott Rd	RW	Road Reconstruction
Maplecrest Rd - State Blvd to Stellhorn Rd	CN	Road Reconstruction
State Blvd - Clinton St to Cass St	CN	Added Travel Ln/Bridge/Ped Bridge

*The following are Locally Funded Projects only.

FY 2016 TIP Locally Funded Projects

Project	Phase	Improvement Type
Auburn Rd & Wallen Rd	CN	Intersection Improvements
Diebold Road - Clinton Street to Dupont Road/SR 1	PE	Road Widening
Ellison Rd: Bridge #228 over McCulloch Ditch	RW	New Bridge Construction
Landin Rd/Maysville Rd/Trier Rd	CN	Roundabout
Maysville Rd - Stellhorn Rd to Meijer Dr	RW	Road Widening
Maysville Rd: Bridge #528 over the Bullerman	CN	Bridge Rehabilitation & Widening
Melbourne Drive - Kirkmore Drive to Sherbrook Drive	CN	Replacement of asphalt
South Street - West Street to State Street	CN	Road Reconstruction
West Hamilton Rd: Bridge #221 over Beal-Taylor Ditch	CN	New Bridge Construction
N. West Street & Hoff Court	CN	Road Reconstruction

FY 2017 TIP Locally Funded Projects

Project	Phase	Improvement Type
Diebold Rd - Clinton St to Dupont Rd/SR 1	RW/CN	Road Widening
State St - Bridge over Bullerman Ditch	CN	Bridge Rehabilitation

FY 2018 TIP Locally Funded Projects

Project	Phase	Improvement Type
Goshen Ave - State Blvd to Coliseum Blvd	CN	Road Reconstruction/Roundabout

FY (TBD) TIP Locally Funded Projects

Project	Phase	Improvement Type
Ellison Rd - Bridge over Graham-McCulloch Ditch	CN	New Bridge Construction
Hathaway Rd at Corbin Rd	CN	Intersection Improvements
Leesburg Rd - Main St to West Jefferson Blvd	CN	New Road Construction
Ludwig Rd at Coldwater Rd	CN	Intersection Improvements

*The following are Locally Funded Trail Projects only.

FY 2016 - 2017 TIP Locally Funded Projects (Trail Projects)

Project	Phase	Improvement Type
Bluffton Road - Lower Huntington Road to West Foster Park	CN	Trail Project
Cougar Trail - Swinney Park to University of Saint Francis	CN	Trail Project
Hanna Street - Burns Boulevard to US 27	CN	Trail Project
Hanna Street - Wallace Street to Pontiac Street	CN	Trail Project
Illinois Road - Rockhill Park to Magnavox Way	CN	Trail Project
Johnny Appleseed Trail - California Rd to St Joe Center Rd	CN	Trail Project
Lake Ave & Pemberton Levee - Randalia Dr to Coliseum Blvd	CN	Trail Project
Liberty Mills Road - Homestead Road to Middle Grove Road	CN	Trail Project
Pufferbelly Trail - Wallen Road to Washington Center Road	CN	Trail Project
St Joe Center Road Trail - Meijer Drive to Chiswell Run & Wheelock Road to Mill Ridge Run	CN	Trail Project
Summit Park Project - Washington Center Road to Ludwig Road to Lima Road	CN	Trail Project

FY 2016 Fort Wayne Public Transportation Corporation

One (1) Heavy Duty Replacement Hybrid Buses
One (1) Replacement Minibus (Body on Chassis) FLEX Route
Computer/Office Equipment
AVL/Communication Hardware/Subscription Cost
Other Maintenance Equipment

CMAQ - Transit Awareness
Capitalization of Maintenance Costs
Complimentary Paratransit Costs
5307 Special Rule Operations
Transit Enhancements

FY 2017 Fort Wayne Public Transportation Corporation

Three (3) replacement light-duty transit vehicles
Four (4) Replacement Minibus (Body on Chassis) ACCESS
Two (2) Heavy Duty Replacement Hybrid Buses
One (1) Replacement Minibus (Body on Chassis) FLEX Route

CMAQ - Transit Awareness
Capitalization of Maintenance Costs
Complimentary Paratransit Costs
5307 Special Rule Operations

FY 2018 Fort Wayne Public Transportation Corporation

Four (4) Replacement Minibus (Body on Chassis) ACCESS
Computer/Office Equipment
AVL/Communication Hardware/Subscription Cost

Other Maintenance Equipment
Capitalization of Maintenance Costs
Complimentary Paratransit Costs
5307 Special Rule Operations

FY 2019 Fort Wayne Public Transportation Corporation

Two (2) Heavy Duty Replacement Hybrid Buses
Computer/Office Equipment
AVL/Communication Hardware/Subscription Cost
Other Maintenance Equipment

Transit Enhancements
Capitalization of Maintenance Costs
Complimentary Paratransit Costs
5307 Special Rule Operations

FY 2016 Human Services Agencies (2014 Funding Cycle)

Community Transportation Network
2 medium transit vehicle w/lift
Small transit vehicle w/lift
Large transit vehicle w/lift
Operating Funds

Easter Seals
Medium transit vehicle w/lift

Pathfinders
2 low floor minivan s/ramp

Byron Health Center
Low Floor minivan w/ramp

Quarterly Review Meetings

Studies completed by the Northeastern Indiana Regional Coordinating Council

Transportation Summary Report Fiscal Year 2016

QUARTERLY REVIEW MEETINGS

Each quarter the Northeastern Indiana Regional Coordinating Council (NIRCC) schedules a quarterly review meeting for all federally funded Local Public Agency (LPA) projects in our Transportation Improvement Program (TIP). The Indiana Department of Transportation's (INDOT) quarterly report is due the 20th of the month following the end of the quarter. NIRCC's quarterly review meeting is scheduled typically 2 weeks after the INDOT date.

The INDOT quarterly report is filled out by the LPA. Once the LPA submits the report it is then sent to NIRCC for approval. After NIRCC approves the report it is sent back to the LPA, who then submits it to INDOT. The entire process is completed through INDOT's Technical Applications Pathway (ITAP).

Information from the INDOT quarterly report is reviewed by NIRCC staff and then entered into the NIRCC quarterly review sheet. NIRCC's review sheet is a condensed version of the INDOT report. Some additional information is also included on NIRCC's review sheet, most notably being the funding information from the TIP. See an example of NIRCC's quarterly review sheet in figure 46 on the next page.

At the quarterly review meeting each project is allotted 15 minutes for review. The LPA and consultant are requested to attend the meeting. If the consultant is located outside of Fort Wayne they are able to call into the meeting rather than attending.

In addition to the LPA and consultant attending the meeting, others invited include INDOT representatives with Planning and Programming, Right of Way representatives from INDOT, and Federal Highway Administration (FHWA) representatives. We have an excellent turnout and feel this really increases communication and understanding of the project.

Important information to review at the meetings include cost totals, federal funding and LPA match funds, permits needed, right of way parcels needed, schedule updates, items completed and any potential problems. Many issues are resolved at the quarterly review meeting thus saving time and money.

The information received at the quarterly review meetings allows staff to determine if projects are progressing on schedule and on budget. This information is then used to help program the projects in the Transportation Improvement Program.

Figure 46

St Joe Ctr Rd/Washington Ctr Rd: Clinton St to Campus Ct

DES #0710322

TIP	Project Phase	Estimated Cost	Year	Federal Share	State Share	Local Share
2016-2019	PE*	493,310	2016	394,648	0	98,662
	RW	250,000	2017	200,000	0	50,000
CMAQ	CN	3,337,500	2019	2,670,000	0	667,500
	Total	4,080,810		3,264,648	0	816,162

*includes modification increase

	Initial Report	*Previous Report*	*Current Report*
Project Cost	**Jan-14**	**Oct-16**	**Jan-17**
a. Preliminary Engineering	$300,000	$493,310	$493,310
b. Right of Way Acq cost	$250,000	$250,000	$250,000
c. Reimbursable Utility cost	n/a	n/a	n/a
d. Construction cost	$1,700,000	$2,773,100	$2,773,100
e. Constr. Eng & Inspect. cost	$300,000	$489,390	$489,390
f. Total cost	**$2,550,000**	**$4,005,800**	**$4,005,800**
Schedule	**Jan-14**	**Oct-16**	**Jan-17**
Ready for contracts date	6/25/2016	11/8/2017	11/8/2017

Environmental document

Type: **Statewide CE** completion date: 3/28/2016

		8/25/17		**Oct-16**	**Jan-17**
Land acquisition	Total #	# secured		# secured	# secured
parcels	**23**	0		0	0

Permits	**401**	**404**	**DNR**	**Rule 5**	**drainage**
Needed:				yes	
Approved:					

ERC LPA: *Shan Gunawardena* Certified date: *3/9/2016*
Consultant: *John Nelson* Certified date:

Milestones	Actual Start Date	Actual Completion Date	Actual Days	LPA Initiative Days	Percent Complete/Comment
Project Authorized	7/1/13	7/15/13		180	100%
Start Plan Develop	7/17/13	6/3/14		30	100%
Stage 1 Design	6/3/14	12/10/14		5/6/2015	100%
Prelim Field Check	6/3/14	5/6/15		30	100%
Environmental Doc.	6/3/14	3/28/16		365	100%
Pavement Design App					
CE Agreement					
RW Clear	12/16/14	2/16/18		180	
Stage 3 Design	10/21/14	2/16/18		180	
Final Tracings Due		4/2/18			
Ready for Contracts	9/16/16	5/2/18		60	
Letting		7/11/18			

TITLE VI & ADA (Americans with Disabilities Act)

Studies completed by the Northeastern Indiana Regional Coordinating Council

Transportation Summary Report Fiscal Year 2016

TITLE VI & ADA (AMERICANS WITH DISABILITIES ACT)

The Federal Highway Administration (FHWA) Division Offices are responsible for ensuring that all Recipients (State Transportation Agencies) have an approved Title VI/Nondiscrimination Plan and submit Annual Update Reports. Additionally, the Division Offices are responsible for ensuring that the State Transportation Agencies are implementing an effective Monitoring Program of their Subrecipients' (Local Public Agencies) efforts to effectively implement Title VI and the additional Nondiscrimination requirements.

The Indiana Department of Transportation (INDOT) has made LPAs aware that they must have a Title VI Implementation Plan and an ADA Transition Plan in place (or working towards this) to remain eligible for Federal funding.
During FY 2013 the Northeastern Indiana Regional Coordinating Council (NIRCC) reached out to help LPAs (Local Public Agencies) become familiar with ADA requirements and assisted them with creating ADA Transition Plans. To remain eligible for federal transportation funding, LPAs were reminded that they need to be in compliance and have updated their transition plans. The goal was to ensure that LPAs had a specific plan of action and had reviewed and completed their updated ADA Transition Plans. NIRCC continues to assist LPAs with their ADA Transition Plans to remain compliant.

In FY 2015 NIRCC began assisting LPAs with their Title VI Implementation Plan. Most LPAs were practicing nondiscrimination, however, they did not have all the information and documents compiled into an Implementation Plan. Similar to the process taken in FY 2013 with the ADA requirements, NIRCC reached out to the LPAs to offer assistance.

A Title VI Implementation Plan consists of the following items:

- Policy Statement
- Organization and Staffing
- Title VI Coordinator Contact Information and Responsibilities
- Department Head (Liaisons) Responsibilities
- Department Head Reporting
- Title VI Training
- Complaint Process
- Complaint Investigation Procedures
- Public Participation and Outreach
- Limited English Proficiency (LEP) Plan

- Title VI Goals
- Title VI Reporting and Accomplishments
- Standard US DOT Title VI Assurances
- Title VI Compliance Review Form
- Training Log
- Complaint Log
- Voluntary Public Involvement Survey
- LEP Report
- Language Identification Flashcards

During FY 2016 NIRCC assisted with the development of the DeKalb County Title VI Implementation Plan. In addition to working closely with the Title VI Coordinator for DeKalb County on the development of their Plan, NIRCC also created document templates to assist in the production of future Implementation Plans.

Safety Management System

Studies completed by the Northeastern Indiana Regional Coordinating Council

Transportation Summary Report Fiscal Year 2016

SAFETY MANAGEMENT SYSTEM

NIRCC maintains a Safety Management System (SMS) for the entire Allen County Area. A SMS is a systematic process that has the goal of reducing the number and severity of traffic accidents by ensuring that all opportunities to improve safety (i.e. highway planning, design, construction, maintenance, and operation) are identified, considered, implemented where appropriate, and evaluated.

Safety in transportation planning and project development is a high priority. The increase in available funds for safety improvements supports the importance of safety projects. Improved crash information sources and new analytical tools have created better evaluation tools to identify problematic areas. NIRCC is responding to these changes with additional resources applied to crash data analysis and GIS applications. The goal for transportation planners is to find where the problems exist, make recommendations for improvements and seek funding to implement projects. The first step is often the most difficult, which is to identify what locations are most hazardous within the community.

In Fiscal Year 2016 NIRCC obtained all crash records that occurred in Allen County during 2015. The data was extracted from the Indiana State Police database ARIES (Automated Reporting Information Exchange System). Staff worked to "code" each crash location with like descriptions to ensure that all crashes occurring at a specific site were grouped together. Crash descriptions were reviewed for spelling and alphabetical order resulting in a listing of crashes that could be summarized to identify a total number of crashes at various geographical points. All crash information is included in the database to aid in various types of analysis. The final summary for each year is provided to local technical representatives to aid in review of locations and to respond to citizen requests for improvements at a location for safety reasons. Officials can review the data provided to determine the crash experience and other variables that may be present.

Once staff completed the "coding" process for the 2015 crash data and included it in the crash database, NIRCC combined the 2015 crash data with the 2013 and 2014 crash data to create a three year comparison. These crashes were also input into mapping software to be used with GIS (Geographical Information Systems). Figures 47, 48, and 49 display the densities of crash frequencies for the Fort Wayne, New Haven, and the Allen County area.

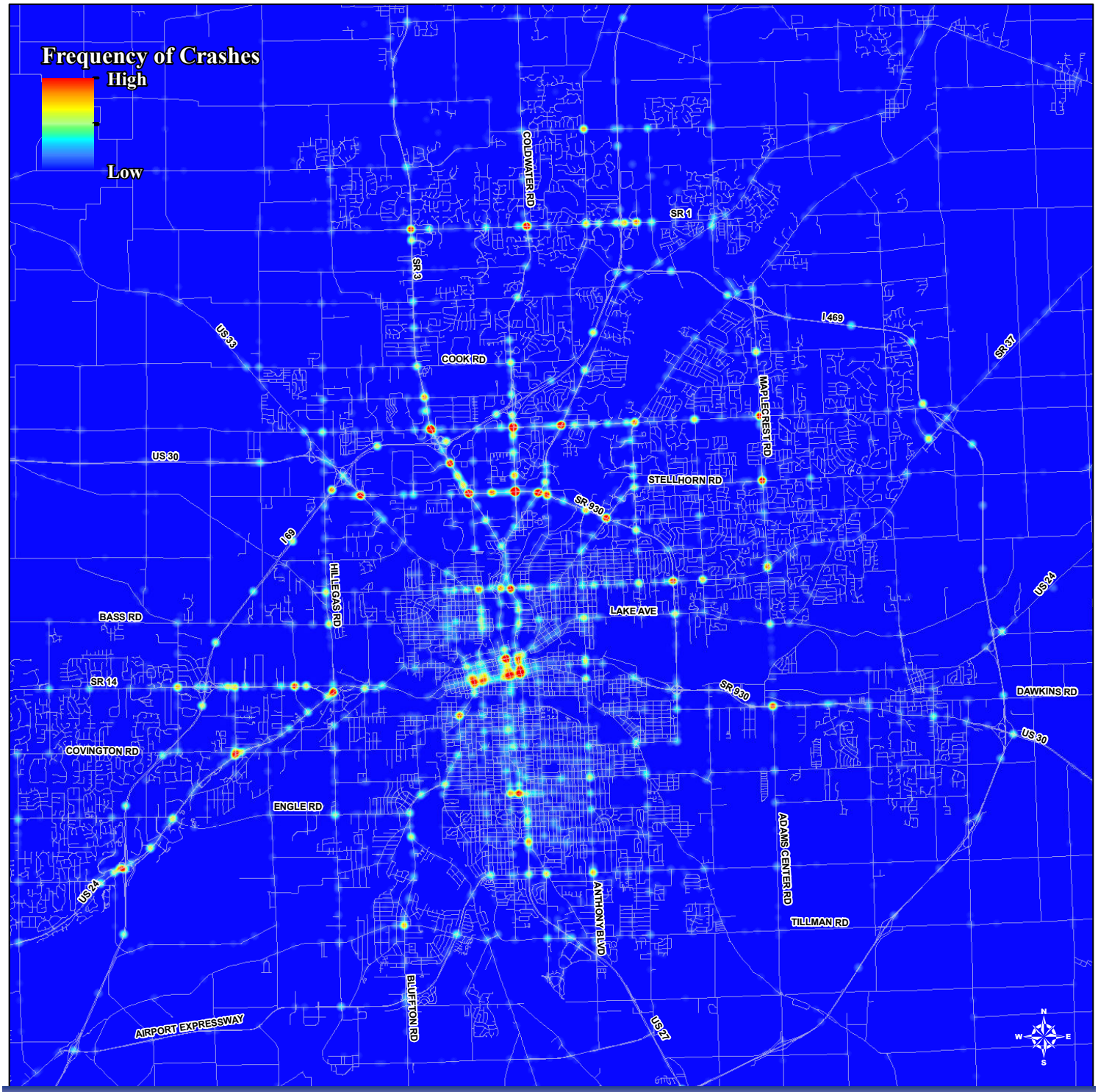
Annual Summary and Listing of Crash Locations

The annual crash record database is first used to provide an annual crash summary report for local jurisdictions (Allen County - all cities and towns, Fort Wayne, and Allen County - outside incorporated areas). The summaries include statistical data that focuses on detailed crash information from the crash reports. The information provides engineers,

planners and law enforcement with a summary of information from the crash reports. The information includes specific data about the circumstances involved with crashes including environmental circumstances, driver information, vehicle information and other important data for all the annual crashes.

The second product from annual crash data is a summary or listing of the hazardous crash locations from the previous year. Every year staff utilizes two procedures to identify crash locations with a higher frequency of crashes and another

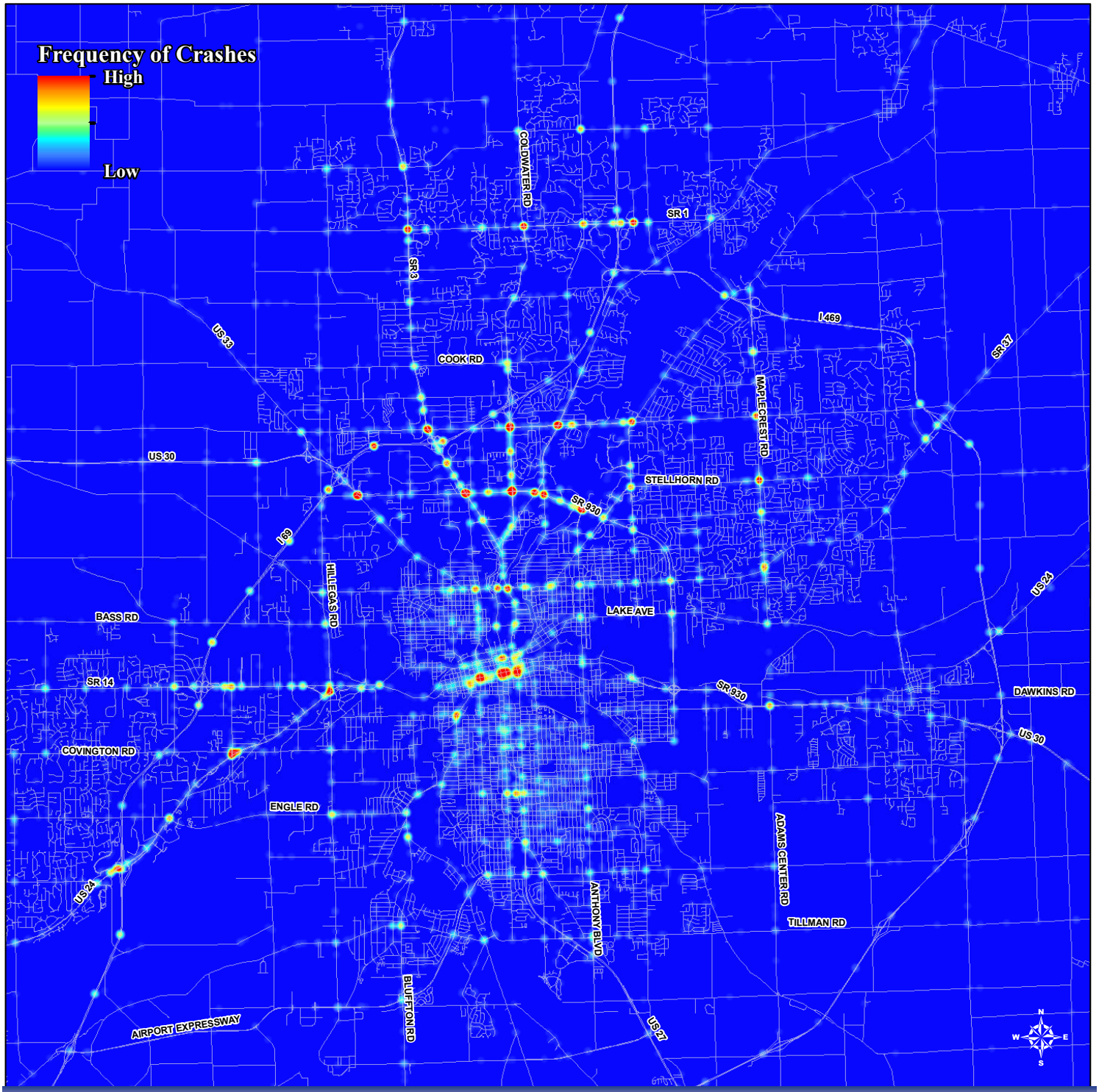
Figure 47 - 2015 Crash Data



for locations with a lower crash frequency. Identification of crash frequency is provided through use of GIS software that creates buffers around intersection crash locations. The buffers are created using a 250 foot radius around each crash location and grouping all crashes within itself. This process resulted in crash locations that reflect crashes that occurred at approaches to intersections in addition to crashes within an intersection.

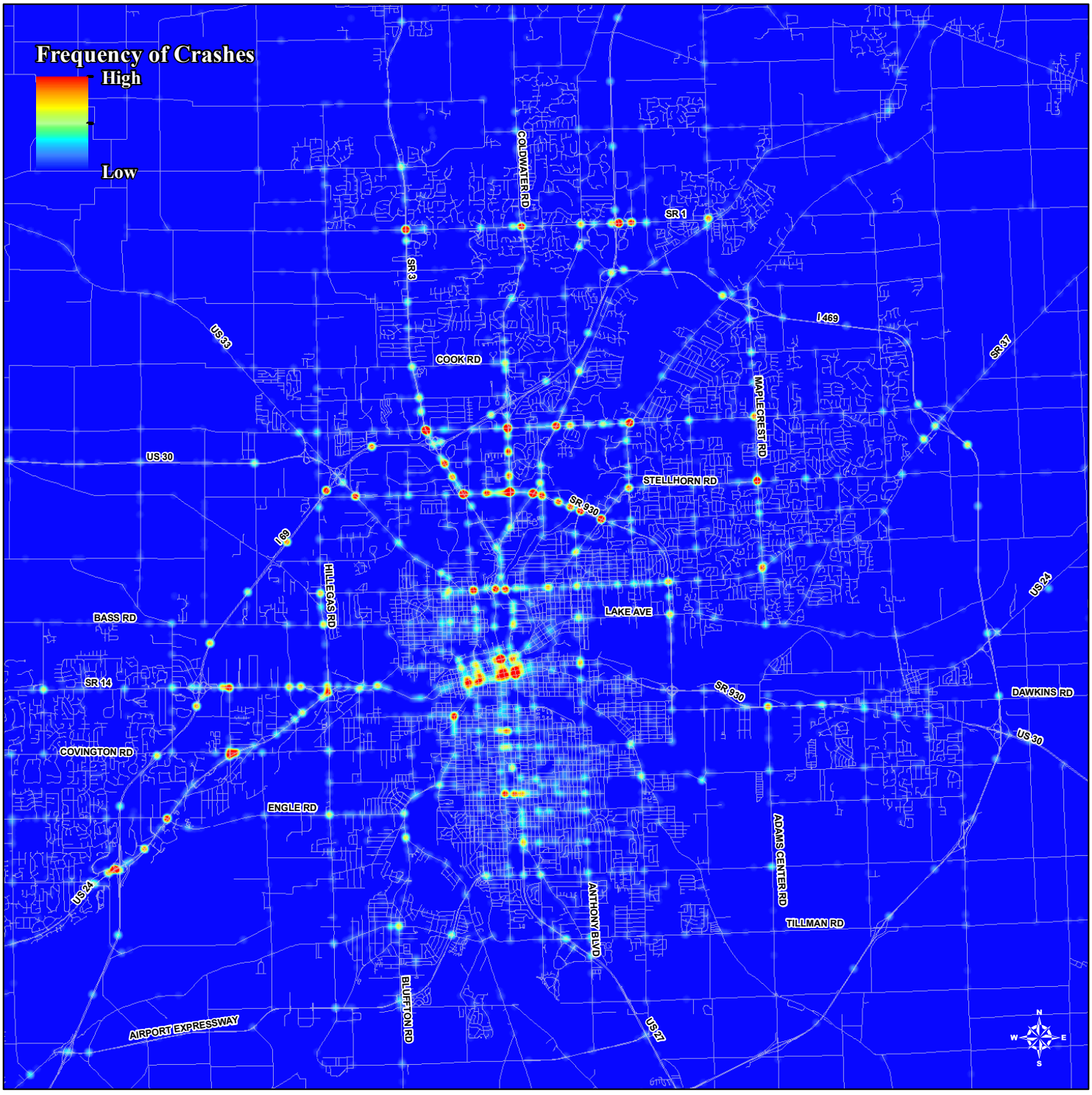
High frequency crash locations were defined as those with an annual crash frequency greater than or equal to seven (7).

Figure 48 - 2014 Crash Data



Locations identified with this frequency are listed and traffic volumes are applied to each of the locations to determine the RMV (rate per million entering vehicles). The RMV value is then used to sort locations. Locations that have a RMV greater than or equal to 2.00 for one year remain in the listing for further review. Additional locations are also added to the listing of crashes with a frequency greater than or equal to seven (7) if they are locations with a high crash severity or result in a high percentage of injuries or fatalities.

Figure 49 - 2013 Crash Data



Staff reviewed crash locations and recorded the total number of crashes that resulted in injury or fatality. This information was used to determine the percentage of total crashes at each location that were property damage only and the percentage that resulted in injury or fatality. Staff and the Transportation Technical Committee agreed to include any location that experienced an injury or fatality percentage greater than 66% in the annual list for further review.

A process to review crash locations with a lower crash frequency was also established to ensure that locations with a low volume of traffic are not experiencing a consistently high percentage of crashes based on the number of vehicles using a location. The lower crash frequency crashes were also included where the percentage of injury or fatal crashes was higher. Crash locations with an annual crash frequency of 6, 5, 4, or 3 were included in the annual listing of locations for further review if the rate per million entering vehicles was greater than or equal to 1.00 and the percentage of injuries and fatalities exceeded the following thresholds;

Frequency	Percentage of I/F
6	100% to 33 %
5	100% to 40%
4	100% to 50%
3	100 % to 66%

Hazardous Location Identification

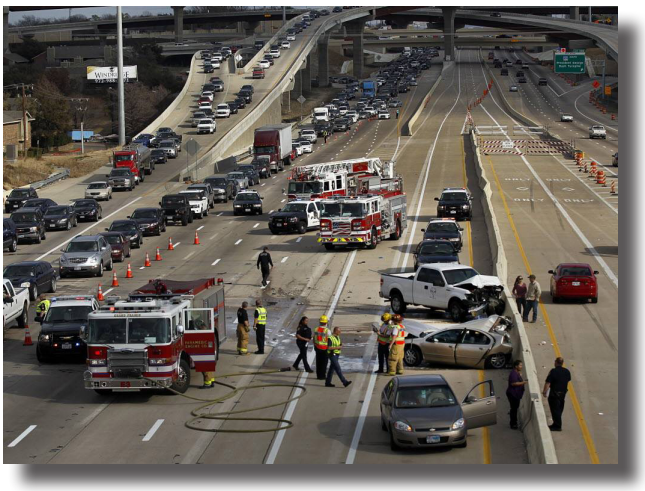
In Fiscal Year 2016 staff reviewed all the crash location listings created for 2013, 2014, and 2015 based on the approved process described above. In the past, staff worked with TTC to determine the most accurate manner to identify hazardous locations from data collected for a three year period. TTC members and staff agreed that crash locations identified annually were not necessarily hazardous unless the location experienced similar patterns over the previous two years. Staff created a listing of locations that met the hazardous criteria for 2013, 2014, and 2015. These locations were then reviewed using crash rates and HAT (Hazard Analysis Tool) software developed by the Indiana Department of Transportation and Purdue University.

HAT software considers the total number of crashes, traffic volume, total number of injury/fatal crashes, facility type and location type (US Route, State Route, Rural or Urban). The software was developed to compare the number of crashes and severity of the crashes at a location being reviewed to other locations that are similar throughout the state. A crash frequency index and crash cost index is determined with the software to determine if a location is operating above or below what is anticipated. Locations with an index greater than or equal to 1.00 are considered to be operating below an acceptable level.

The final step in identifying the hazardous locations was to determine how to select locations from the listing for further review. Representatives from TTC provided input to staff on methods to screen the final listing of the three years.

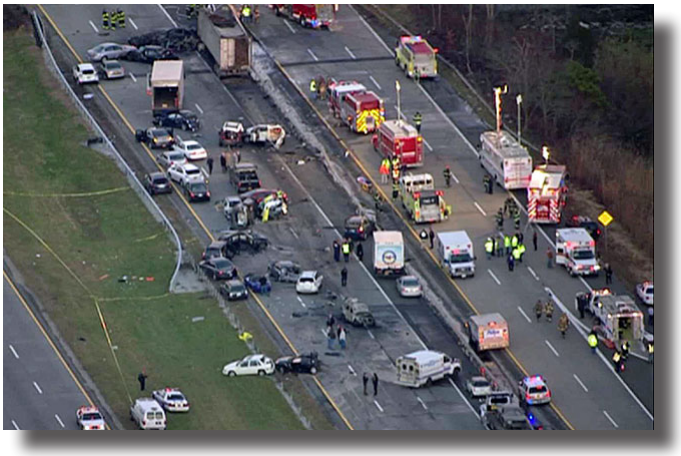
Staff will review the locations selected to determine the cause of all the crashes and provide collision diagrams to TTC to determine what course of action to take to mitigate crashes at each location. The listing of locations will continue to be updated annually to review trends and previously identified hazardous locations. Additional locations that meet the approved criteria will also be added.

Traffic Incident Management (TIM)



In 2007 the Indiana Quick Clearance Working Group was created to research and develop Quick Clearance practices in the State of Indiana. In 2008 the In-TIME initiative was implemented and in 2009 the Indiana Quick Clearance Working Group was changed to IN-TIME (Indiana Traffic Incident Management Effort). The purpose of the INdiana-Traffic Incident Management Effort (IN-TIME) is to have first responders, from all disciplines follow agreed upon multi-lateral policies and procedures focusing on an "Open Roads Philosophy". The Open Roads Philosophy is "Having all First Responders, after ensuring their own personal safety and the safety and security of any incident victims, to have as their top priority reducing congestion and the increased risks of secondary incidents for public/motorist safety". The IN-TIME group also works to provide a common framework for development of traffic incident management (TIM) policies and training programs for the various responder disciplines. TIM is a planned and coordinated program process to detect, respond to, and remove traffic incidents and restore traffic capacity as safety and quickly as possible.

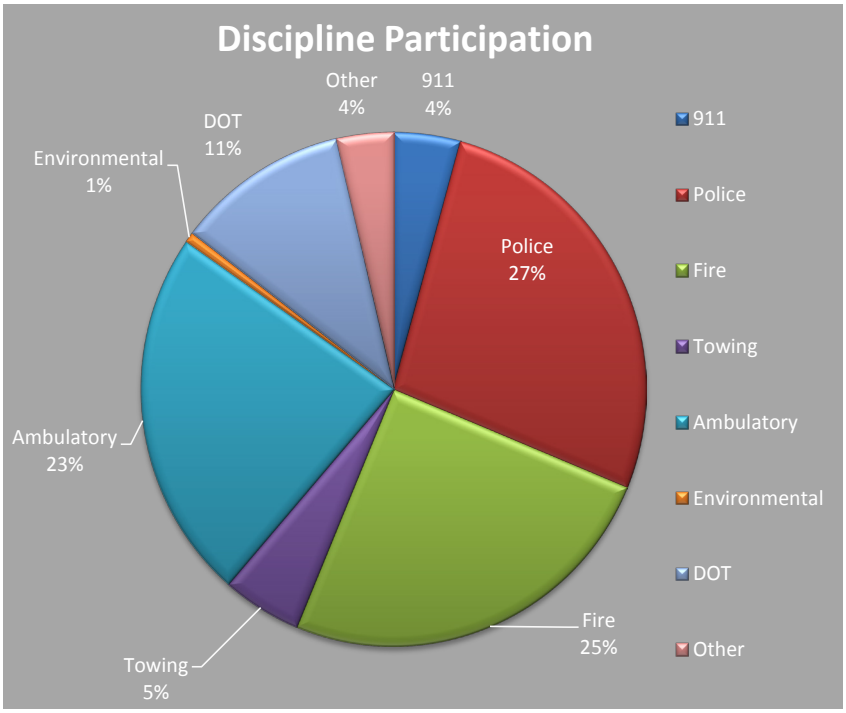
In 2013 the Northeastern Indiana Regional Coordinating Council (NIRCC) assisted in forming a committee of local representatives to implement Traffic Incident Management (TIM) strategies in Northeast Indiana called the Northeast Indiana Traffic Incident Management Committee (NE IN TIM). NIRCC identified local public and private sector stakeholders that were interested in the concepts and fundamental mission of the initiative. The purpose of the committee is to develop and recommend policy and operational protocols for the safe and efficient mitigation of traffic incidents through training and education of all first responders.



The committee is currently comprised of 41 representatives from multiple disciplines that include both public and private agencies. Disciplines represented on the committee include:

- 911 Communications/Dispatch
- Law Enforcement
- Safety & Environmental Affairs
- Fire Departments
- Coroner's Office
- Environmental Clean Up
- Health Department
- Tow Operator
- Homeland Security
- Paramedic / Medical Transport
- Prosecutors Office
- Department of Transportation
- Transportation Planning

Figure 50



The NE IN TIM Committee has 33 local representatives certified to conduct training to first responders. 21 responders became trainers in 2016 to assist in future training efforts. NIRCC has assisted in organizing 20 four hour TIM training sessions since December 2013. The graph above provides a summary of the 608 responders by disciplines that have attended TIM training sessions.

Congestion Management Process

Studies completed by the Northeastern Indiana Regional Coordinating Council

Transportation Summary Report Fiscal Year 2016

CONGESTION MANAGEMENT PROCESS

In December 1993, final interim guidelines were developed which established general requirements for the Congestion Management Process - CMP (previously known as the Congestion Management System - CMS) and identified deadlines for work plan submission and for the CMP to become operational. In August 1994, Purdue University, INDOT and FHWA published the draft final report for development of a prototype congestion management system for the State of Indiana as a Joint Highway Research Project. The study delineated a comprehensive set of guidelines and a nine-element work plan to be undertaken in developing the CMP in a consistent manner statewide.

NIRCC developed the initial CMP by following the guidelines provided by the Congestion Management Process Work Plan developed for the State of Indiana. That plan specified that each CMP include the following elements:

- Define CMP Network
- Establish Performance Measures
- Establish System Performance Standards
- Establish Data Collection and Monitoring Program
- Identify Roadway and Transit System Deficiencies
- Analyze and Evaluate Congestion Mitigation Strategies
- Implement Strategies
- Evaluate the Effectiveness of Implemented Strategies
- Establish CMP Update Process

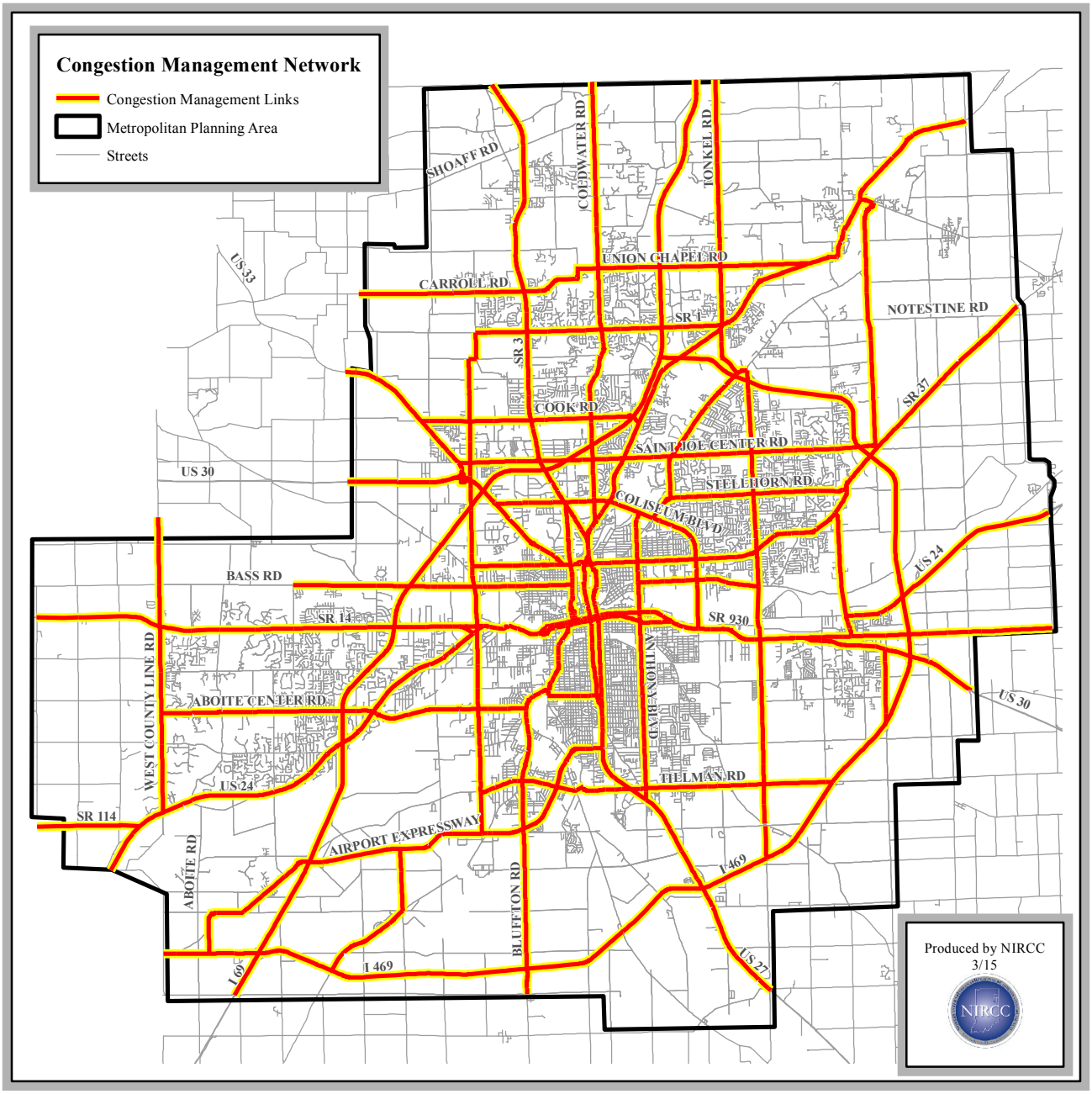
NIRCC's original Congestion Management Process Work Plan was completed in May 1995 and adopted by the Urban Transportation Advisory Board at its June 6, 1995 meeting. The work plan was submitted to the Indiana Department of Transportation, and an updated work plan was submitted at the conclusion of Fiscal Year 1996 and adopted in Fiscal Year 1997. The Fiscal Year 2016 CMP continues to utilize the work plan elements listed above to ensure all federal requirements are met.

The Fort Wayne / New Haven / Allen County Metropolitan Planning Area or Transportation Management Area boundaries were established as the geographic study area for the Congestion Management Process. Urban areas with populations over 200,000 have been directed to use the Metropolitan Planning Area boundaries for the Congestion Management Network. The current congestion management network is displayed in figure 51.

The CMP is designed to be a dynamic process. As new information on the transportation system is collected, analyzed, and reviewed, strategies are developed and evaluated for mitigating congestion. Implemented strategies are evaluated providing feedback on their success at reducing congestion. This information is documented in annual updates to the CMP report. Comprehensive reviews of the CMP takes place in conjunction with the scheduled update of the Transportation Plan.

The implementation of congestion mitigation strategies occurs within the TMA through a number of different agencies and programs. NIRCC attempts to include all projects and policies involved with congestion mitigation strategies in the transportation planning process. These projects and policies are, and will continue to be documented in the

Figure 51



Transportation Plan. These projects and policies will continue to be included in future Transportation Plan updates.

The transportation planning process has routinely reviewed existing congestion and projected travel demands to assess the potential for future congestion on the transportation system. Strategies, including both transit and highway projects and policies, have been developed, implemented, and evaluated. These strategies have been identified and documented in Transportation Plans and Transportation System Management Programs.

Additional projects and policies implemented to help mitigate congestion and improve overall mobility on the transportation system include Access Management, Transit Improvements, ITS/Signalization Improvements, Incident Management, Safety Management, and Pedestrian/Bicycle Access Improvements. Many of these items are described throughout the Transportation Summary Report as many of the elements summarized are used in conjunction with the CMP and utilize these elements.

NIRCC also has an extensive traffic monitoring program which collects: traffic volume and vehicle classification information; intersection turning movements and geometrics; signal phasing and timing information; travel time and delay data; crash data; and other types of traffic characteristic data. NIRCC also maintains a roadway characteristic database, which includes traffic volumes, length, number of lanes, indicates transit routes, facility classifications, and much more for specified road segments within the TMA. Data is collected annually for these programs in accordance with the Overall Work Program (OWP).

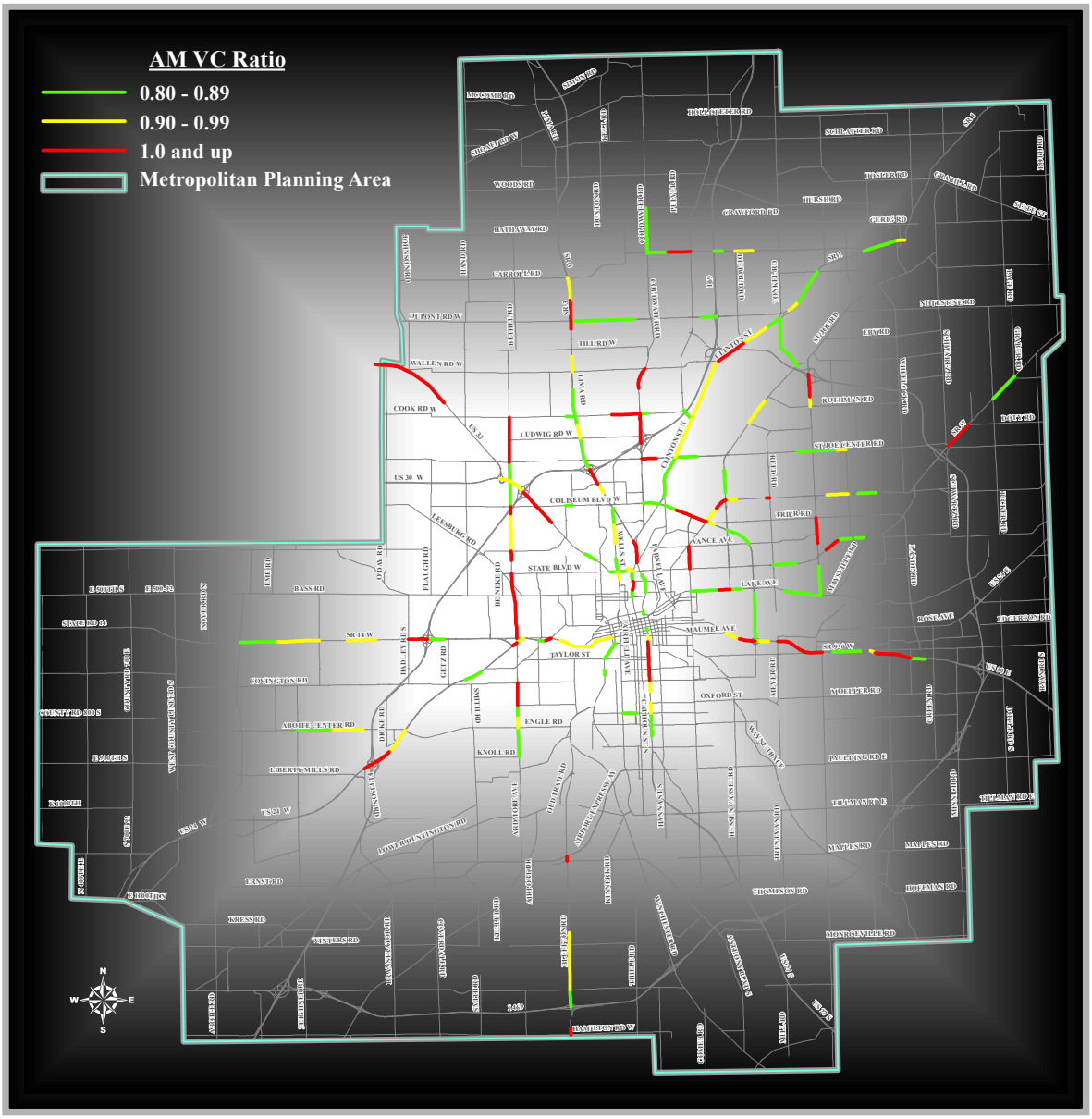
When analyzing the highway system for roads classified as collector or higher, the traffic monitoring program provides the majority of the data needed for a macro analysis. Existing traffic count data for all links within the study area is analyzed according to lane capacities. Roadway volume to capacity (V/C) ratios were calculated using morning and evening peak hour volumes. Actual directional peak hour volumes were used if available. When directional data was not available, average daily traffic (ADT) volumes, and default “D” and “K” factors were used to determine volume to capacity ratios for peak periods. Based upon the recommended benchmark V/C ratios, staff identified which road segments exhibited V/C ratios above the acceptable limits.

The volume to capacity ratio is a key indicator of the degree to which the highway system is being utilized, and is somewhat sensitive to demand responsive strategies. The vehicle miles of travel (VMT) estimate is used primarily as a weighting factor across hours and geographic areas. Total VMT is primarily a base to which changes in the percent VMT can be referenced. If the total VMT increases significantly, but the percent VMT at a given V/C ratio remains constant, the system is accommodating increases in travel demand without increased congestion.

All road segments in the TMA with V/C ratios greater than 0.80 (the most restrictive ratio) were identified, mapped, and color-coded according to levels of congestion (0.80 - 0.89; 0.90 - 0 .99; 1.0 +). The macro-level analysis identified some road segments not included on the congestion management network. As a result of the analysis, all roadways in the TMA exhibiting V/C ratios exceeding 0.80 were considered as additional components of the congestion management network. The roadways with AM and PM V/C ratios exceeding 0.80 of their respective lane capacities based upon the macro analysis are displayed in figures 52 and 53. Segments that have V/C ratios greater than 0.80; 0.90; and 1.0 have been separated by color.

In evaluating changes in congestion over time, it is important that each hour be evaluated, not just the peak hour. In locations where the V/C threshold has been exceeded, congestion generally worsens through the spreading of the peak. If hourly information is not provided, the ability to evaluate changes in congestion over time is lost. An analysis was

Figure 52



completed to identify the duration of the congestion beyond the peak hours. Several corridors within the congestion management network were identified for experiencing high levels of congestion (V/C ratios greater than 0.90) an extended number of hours (figures 54 and 55). Corridors where V/C ratios were found for multiple hours were reviewed to determine the number of continuous hours. These corridors have been designated as "high risk" for congestion issues and will be monitored closely. Micro-level analysis will be performed on these corridors when warranted.

Intelligent Transportation Systems

Another part of the Congestion Management Process is updating Allen County's Regional ITS (Intelligent Transportation Systems) architecture. ITS is the use of communications, electronics and information processing to help improve the efficiency and safety of surface transportation systems. Due to the nature of information technology being most effective when systems are integrated and interoperable the USDOT developed the National ITS Architecture. When

Figure 53

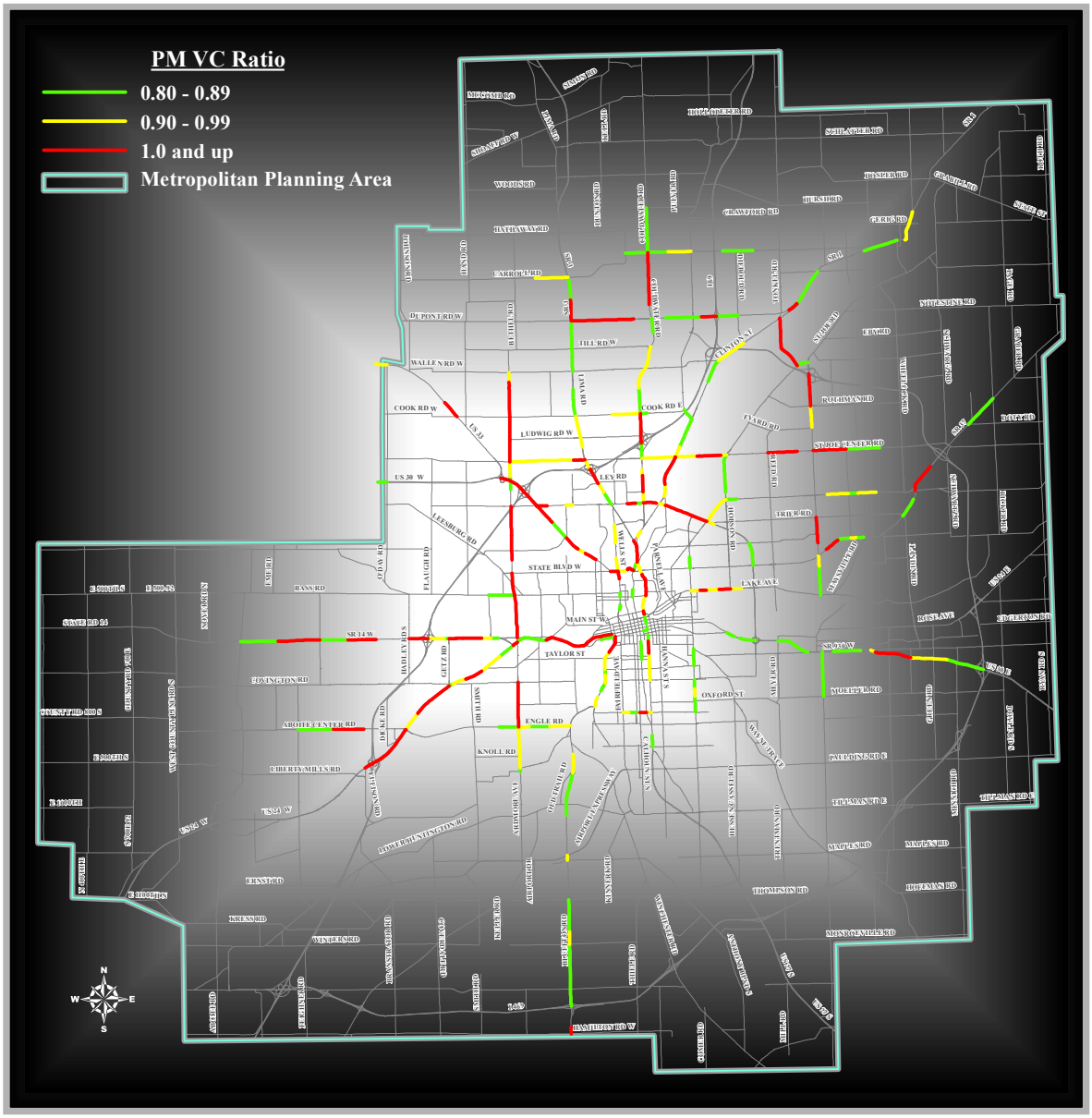
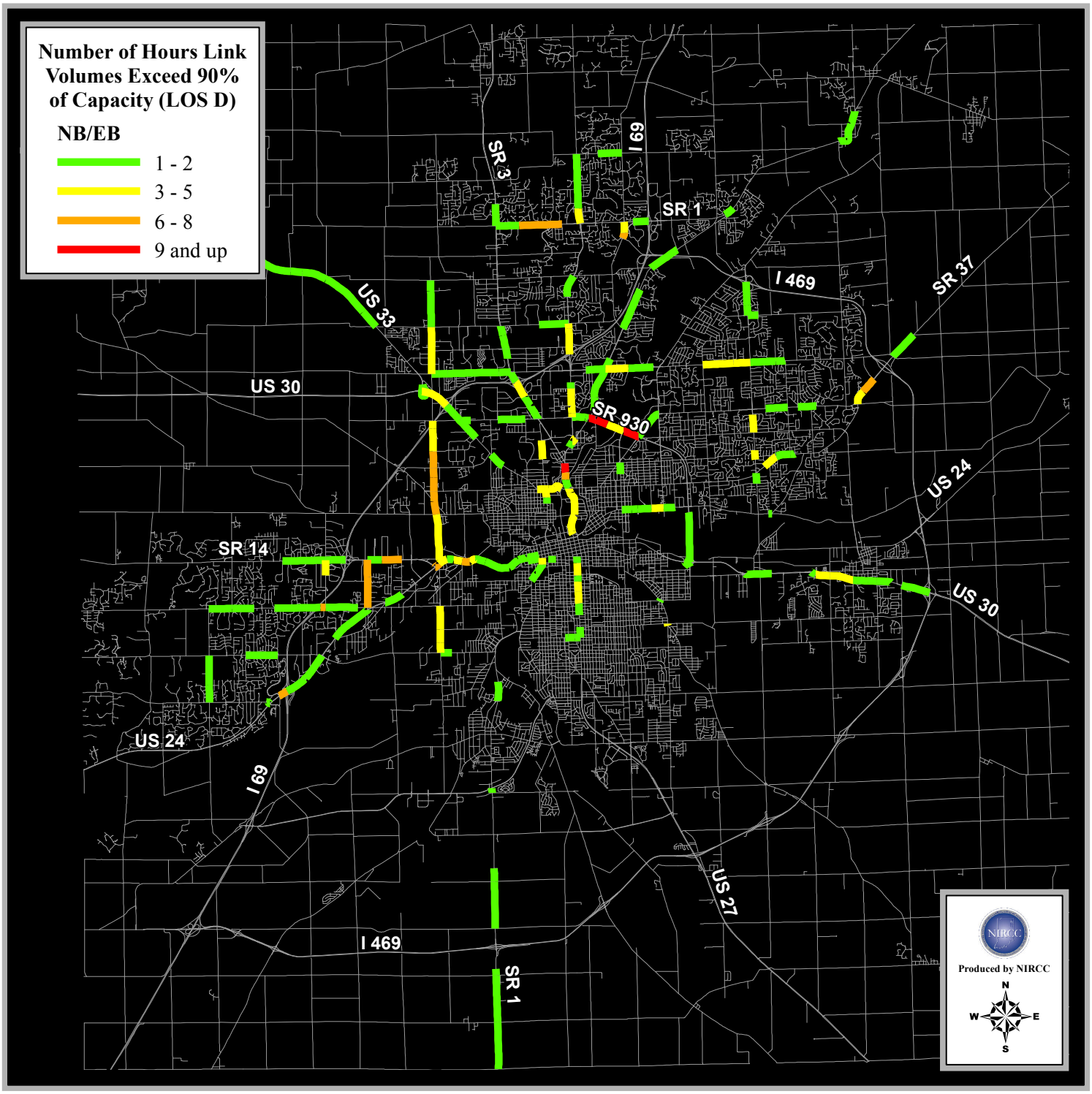


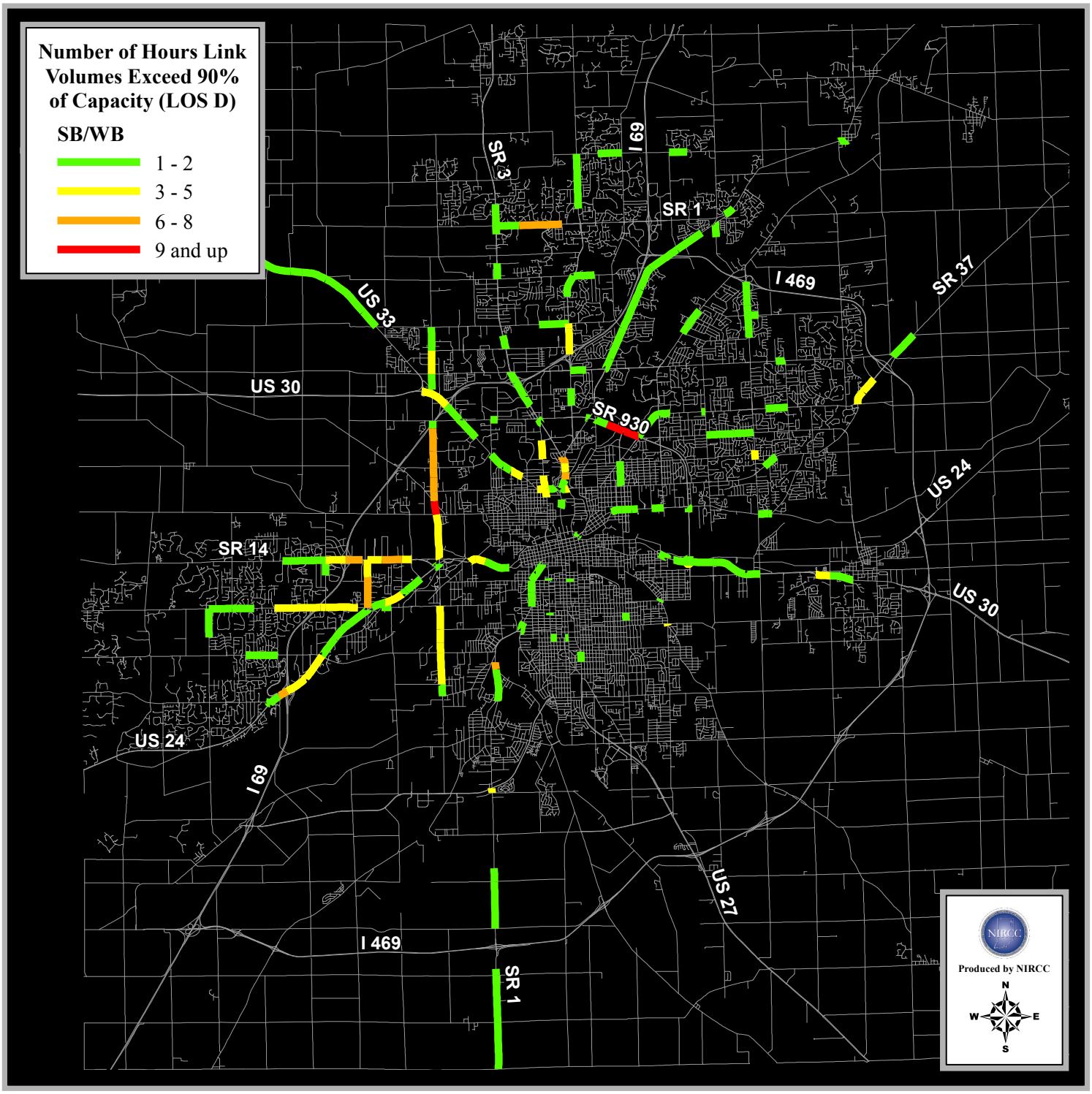
Figure 54



referring to architecture, it is best described as a tool that assists in organizing complex entities and relationships. It helps identify system functions and informational flows, and guides development of functional requirements for new systems and improvements.

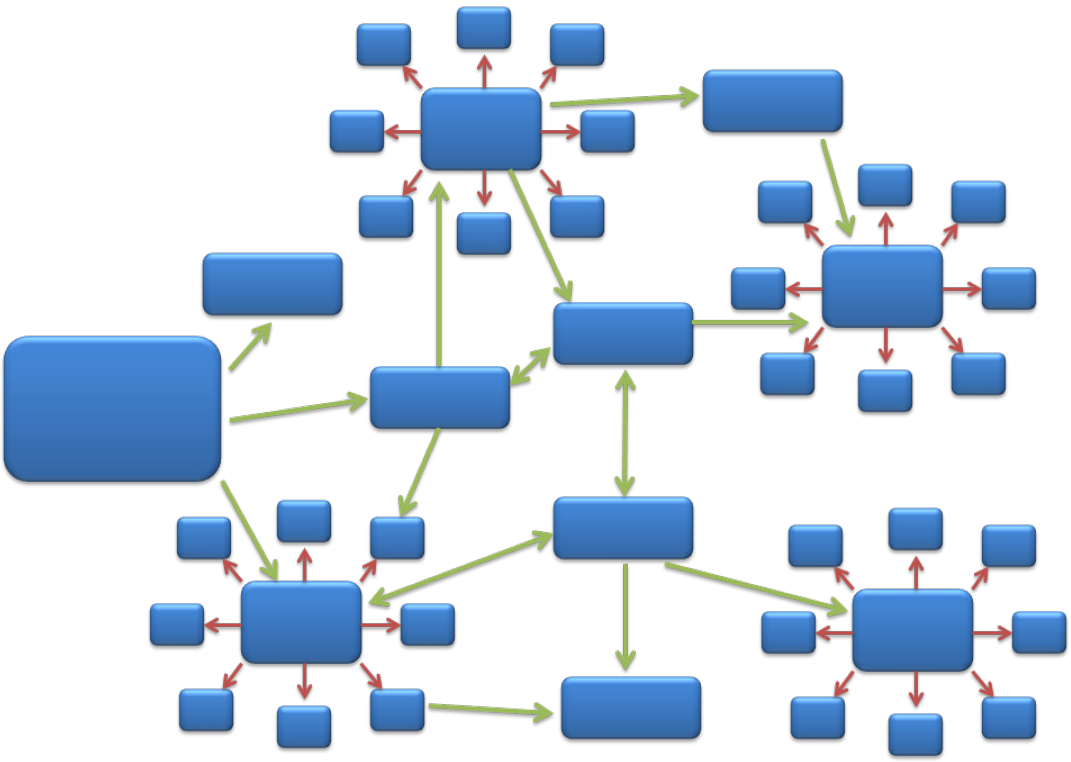
The National ITS Architecture is designed to provide a common structure for which ITS projects could be based on.

Figure 55



The National Architecture specifies what type of interface could exist between the many different components of ITS and also to show the different types of information exchanged. Processes and data flows are grouped to form particular transportation management functions and are represented graphically by data flow diagrams, or bubble charts, which decompose into several levels of detail. In these diagrams, processes are represented as bubbles and data flows as arrows.

The Allen County Regional ITS Architecture details the communications and interactions between 10 primary systems (centers) over a 10-year period (2012-2022). These systems are associated with traffic management, emergency management, maintenance and construction management, transit management, or data management. Each system is associated with a specific stakeholder (anyone with a vested interest or "stake" in the regional ITS architecture) or group of stakeholders



The original Allen County Regional ITS architecture was completed in March 2005 to meet the requirements of TEA-21. There was an update to the architecture 2008 so that it would meet the requirements outlined in SAFETEA-LU, as well as changes in technologies that had occurred in those three years.

In 2012 the architecture was once again updated to the most current version of the national architecture. This update saw the removal of all elements which involved personnel at all agencies. FHWA did not see a reason to have them in the architecture anymore because they were the users of the technology and the architecture represents only technology. NIRCC staff updated any flows that changed between 2008 and 2012.

The ITS architecture is continually monitored for updates by NIRCC Staff. In FY 2016 input data was collected and noted for future updates ITS architecture.

Bicycle and Pedestian Planning

Studies completed by the Northeastern Indiana Regional Coordinating Council

Transportation Summary Report Fiscal Year 2016

BICYCLE AND PEDESTRIAN PLANNING

NIRCC has a significant involvement in area bicycle and pedestrian planning activities. The need and desire for bicycle and pedestrian facilities has dramatically increased over recent years. The four county region represented by NIRCC has many individuals and organizations advocating improvements to the existing bicycle and pedestrian transportation system as well as expanding the system in the future. The Fort Wayne, New Haven, and Allen County area has been at the forefront for local advocacy groups to begin their planning efforts. Local government has began taking a more active role in their planning efforts to include bicycle and pedestrian amenities.

To better coordinate local efforts, NIRCC began sponsoring the Northeastern Indiana Regional Bicycle and Pedestrian Forum which met from 2002 to 2007. This forum represented a task force comprised of governmental parks, planning and highway agencies, advocacy groups, and special project organizations. The forum increased the communication and coordination between these groups. In addition, the forum played an integral part in developing and completing the Allen County Comprehensive Bicycle-Pedestrian Transportation Plan in 2006. Since 2007 NIRCC has relied on the Greenway Coalition for guidance as well as governmental and public input towards bicycle and pedestrian planning. The coalition is also made up of governmental parks, planning and highway agencies, advocacy groups, and special project organizations. The coalition has been meeting since April of 2005.

Since the adoption of the Comprehensive Bicycle and Pedestrian Plan in 2006, NIRCC has continued to update and improve the plan as needed. In 2007 NIRCC incorporated the "Regional Bicycle and Pedestrian Plan for Northeast Indiana" (figure 56). Through the years following 2007, recommendations were incorporated into the plan which included the needs expressed by public input and local advocacy groups such as Aboite New Trails, the Greenway Consortium, Little River Wetlands, Northwest Allen Trails, and Fort Wayne Trails Inc. Other plans and recommendations from Allen County, Fort Wayne, New Haven, Leo-Cedarville, and Woodburn have provided input or have been included in the plan as well.

Throughout the year NIRCC periodically updates the Comprehensive Bicycle and Pedestrian Transportation Plan for Allen County as well as the Northeast Indiana Regional Bicycle and Pedestrian Plan. Local government and local trail groups are continually planning and completing their trail projects. Also, new opportunities develop and some corridors may need to slightly shift their priorities to create the most practical options for developing a realistic and cost effective bicycle and pedestrian system.

In fiscal year 2013 NIRCC spent a significant amount of time updating the bicycle and pedestrian plan as part of the

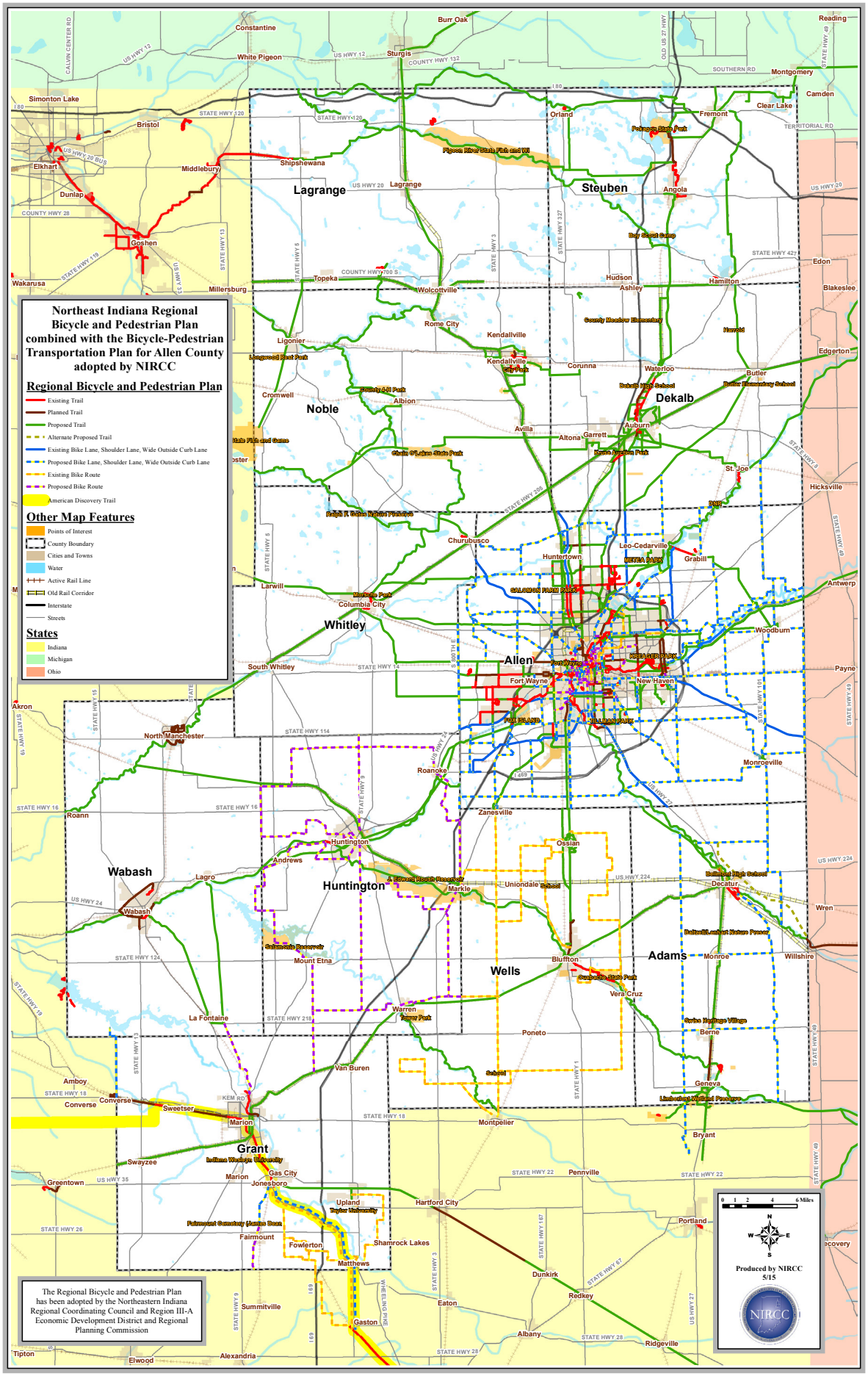


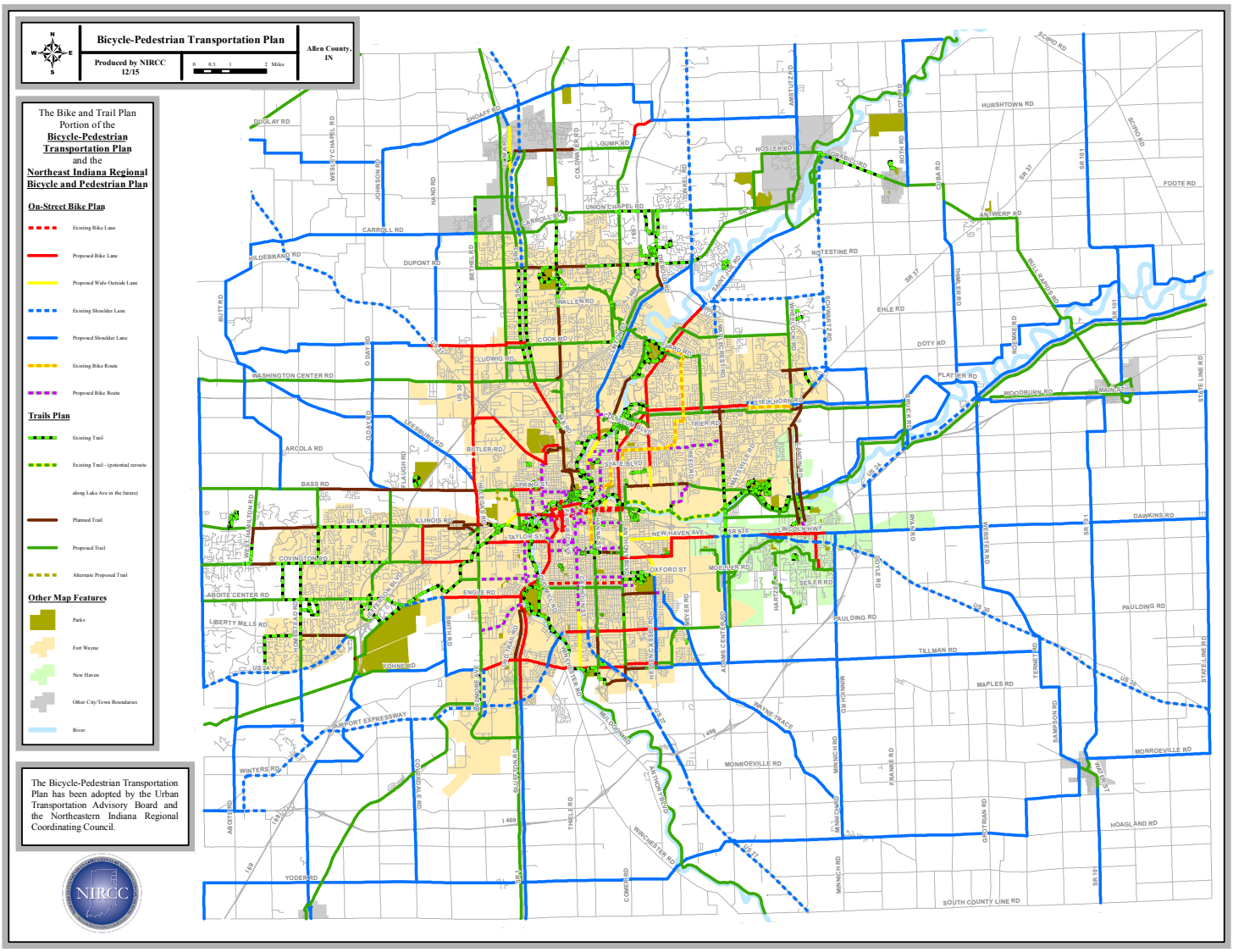
Figure 56

Regional Bicycle and Pedestrian Plan

2035 Long Range Transportation Plan update. To create a more usable and detailed plan this latest update to the Comprehensive Bicycle-Pedestrian Transportation Plan took what used to be one map, which included all bicycle and pedestrian infrastructure, and separated it into three individual maps. These three maps consist of a bike plan (figure 57) which includes trails and on-street bike infrastructure, a trail plan (figure 58), and a sidewalk plan (figure 59). The combination of these three maps must be used to find out what is planned, proposed, or already exists for each corridor or alignment identified. For example, some corridors may only include proposed sidewalks while others may propose bike lanes in the street, a sidewalk on one side, and a trail on the other. Some corridors in the plan also identify which side of the street sidewalks and/or trails are proposed for.

Figure 57

Bicycle-Pedestrian Transportation Plan: Bike and Trail Plan

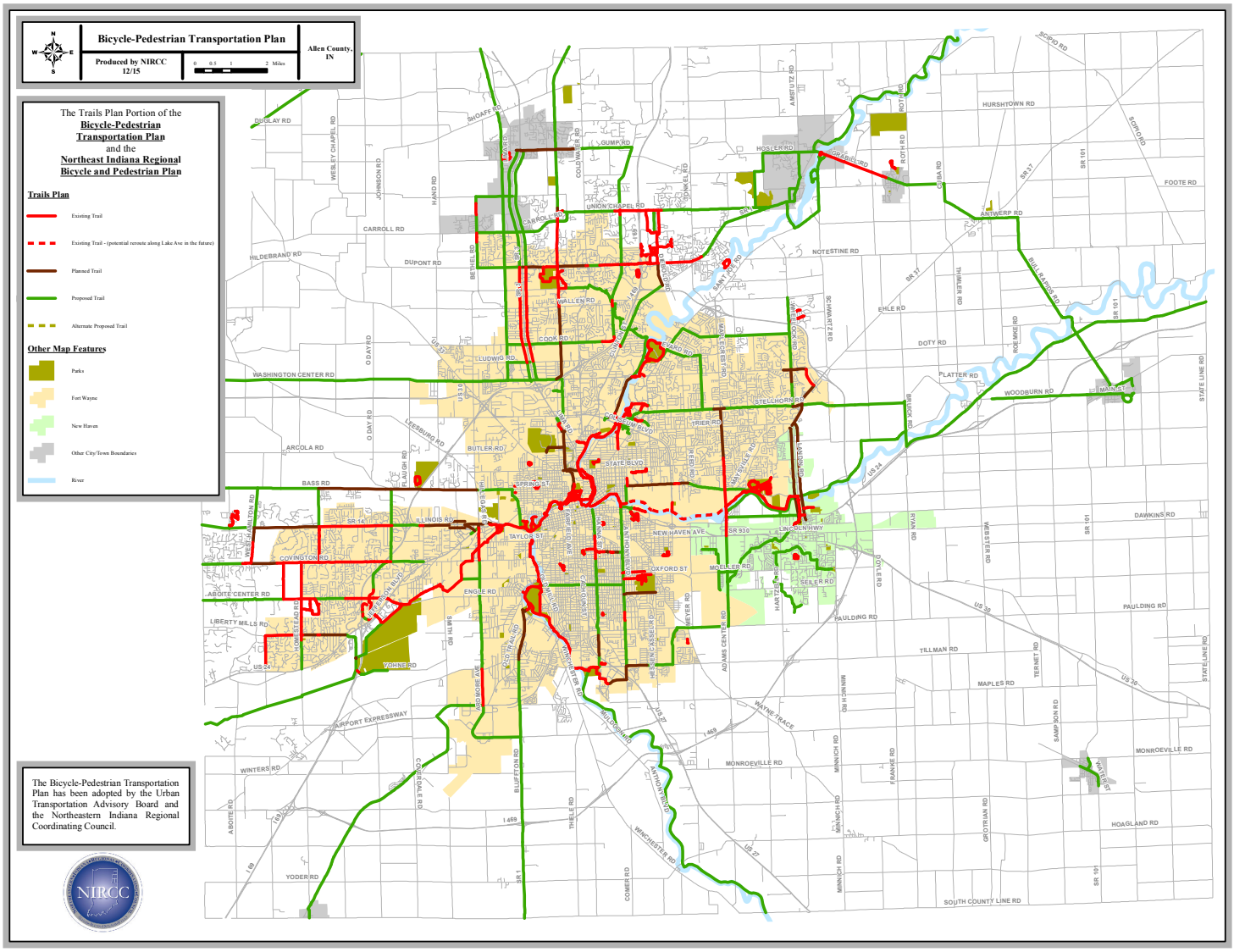


The Bike and Trail Plan (figure 57) is really intended to show an overall bike network along with the trails plan. Since bicyclists use a combination of on-street infrastructure and trails this map includes both to show how the entire network works together. This map displays a wide range of proposed and existing infrastructure for bicycling. The

proposed and existing facilities displayed include bike lanes, widened outside curb lanes, shoulder lanes, sharrows, bike routes, and trails.

Figure 58

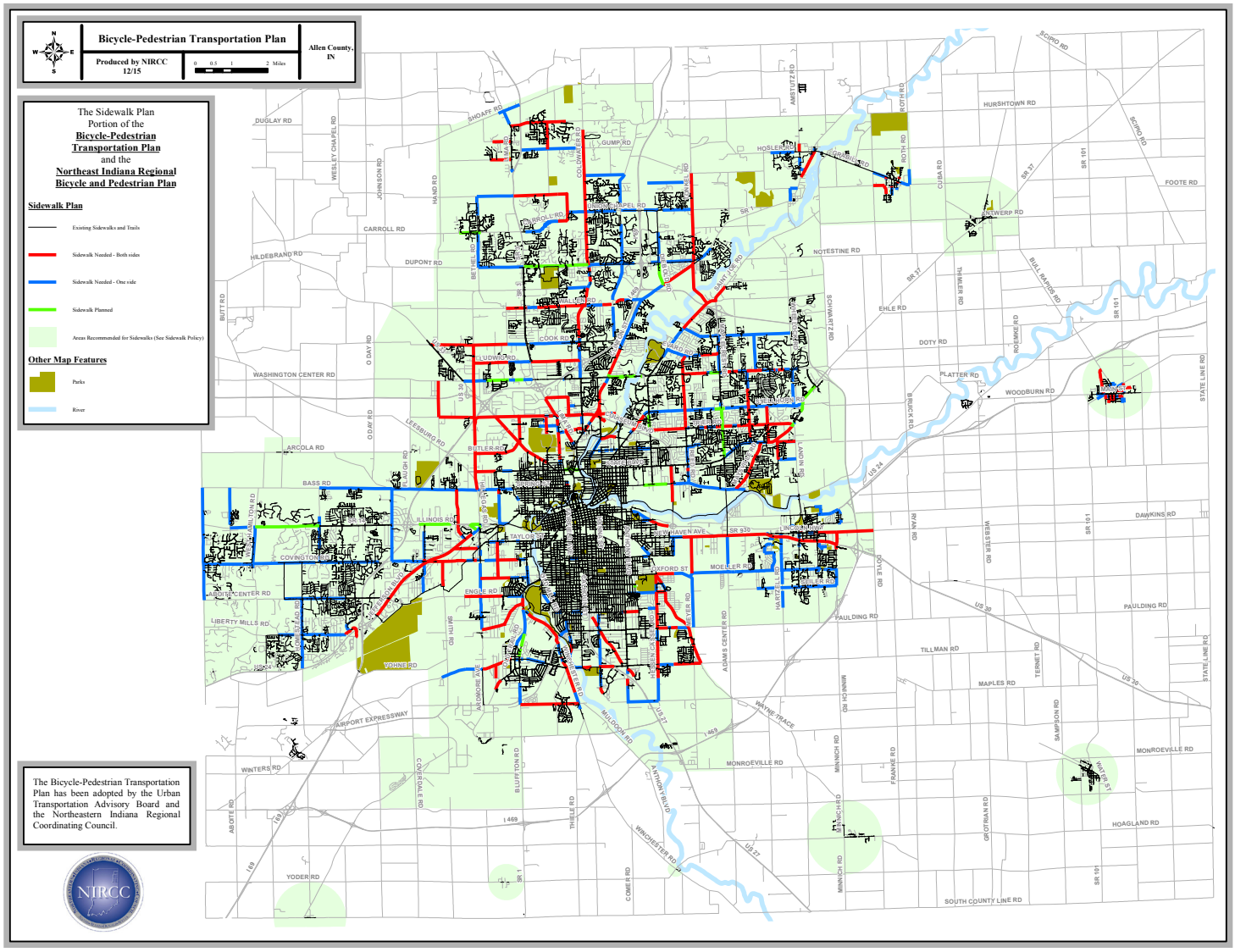
Bicycle-Pedestrian Transportation Plan: Trail Plan



The Trails Plan (figure 58) shows the entire existing trail system for Allen County as well as how it will tie in with what is planned to occur over the next several years and into the future. The trails identified as "Planned" are facilities that are being built along with road projects or are standalone projects that have all or most of their funding and we are confident they will be constructed in the near future. The trails identified as "Proposed" vary in their stages of development. These trails may be very conceptual or may currently be in some stage of development but lack the funds to really push them forward to construction.

Figure 59

Bicycle-Pedestrian Transportation Plan: Sidewalk Plan



The Sidewalk Plan (figure 59) identifies sidewalk needs along all major roadways in the urban area and some outside the urban area. This map displays all existing sidewalks and trails within Allen County and specifically identifies corridors or sections of roadways that need sidewalks on one side or both sides depending on existing features and proposed trails that parallel. The sidewalk needs identified on the map will be used to prioritize sidewalk improvements and identify the need for sidewalks as development spreads throughout the urban area. The map also includes a green shaded area that refers to the sidewalk and bicycle parking recommendations policy included in the 2035 Transportation Plan. Other than what is specifically identified on the map, these areas should always consider sidewalks and bicycle parking amenities as needed depending on development patterns and opportunities that arise.

This past fiscal year NIRCC participated in a variety of bicycle and pedestrian planning activities. Some of the

common tasks NIRCC participated in or completed for bicycle and pedestrian planning include but are not limited to the following:

- Making updates to the Allen County Bicycle and Pedestrian transportation Plan.
- Making updates to the Allen County Sidewalk Inventory.
- Meeting or talking with citizens about bicycle and pedestrian planning issues.
- Working with local advocacy groups.
- Creating maps and supporting documents or reports for bicycle and pedestrian planning.
- Working with other governmental departments and providing ideas, facts, recommendations or any other information related to bicycle and pedestrian planning upon request.
- Researching bicycle and pedestrian facility design, funding types and availability, educational information, safety information, laws and ordinances concerning bicycle and pedestrian subjects.
- Following local progress on existing bicycle and/or pedestrian projects.
- Tracking progress on bicycle and pedestrian projects throughout the area.
- Reviewing development plans and transportation projects that are underway or in some stage of design to ensure bicycle and pedestrian connectivity and coordination with the Bicycle-Pedestrian Transportation Plan.
- Checking potential trail and sidewalk projects for environmental conflicts.
- Extracting and analyzing bicycle and pedestrian crash data from NIRCC's crash database.
- Making updates to various bicycle and pedestrian related plans.
- Attending meetings for bicycle and pedestrian issues.
- Creating planning documents, reports, or maps for meetings and governmental agencies.
- Assist in planning safe facilities for school children to walk and bike to school.

In Fiscal Year 2016 NIRCC facilitated another trail planning charrette (the last one was held 11/17/06). In 2015 NIRCC recognized the need for the Northeast Indiana region to come together and discuss trail plans as well as regional priorities. With help from NIRCC's partners, which included Region 3A Development and Regional Planning Commission, East Central Indiana Regional Planning District (ECIRPD), Michiana Area Council of Governments (MACOG), and the National Park Service, an event was planned to bring together 12 counties for a one-day trail planning event. The event titled "Connecting Communities – The Northeast Indiana Trail Plan" was held on November 6, 2015 at the Eagle Glen Event Center in Columbia City, IN.

This one day planning event included several guest speakers, free food, and trail planning exercises to identify regional priorities and help update the Northeast Indiana Bicycle and Pedestrian Plan. Over 100 people from 12 counties

and representatives from state, federal, and regional planning agencies participated in the event. Participating counties included Adams, Allen, DeKalb, Grant, Huntington, Kosciusko, LaGrange, Noble, Steuben, Wabash, Wells, & Whitley. With the help of our dedicated moderator, Rory Robinson from the National Park Service, the event went smoothly and was a success.

Presentations ranged from "A Millennial's Perspective on the Importance of Trails in the Region" by Adam Garland, to "The Road to One Million and Regional Trails", by Alan Tio (Senior VP of Northeast Indiana Regional Partnership) who talked about the importance of trails to the economy of Northeast Indiana. Lori Rose (former Executive Director of Fort Wayne Trails, Inc) gave an impressive presentation titled "Trails, A Catalyst for Community Transformation" and we heard some real examples of how regional trail development has impacted business development in a positive way from prominent figures of the business community who have witnessed firsthand the benefits of trails and connectivity on economic development and community transformation. These testimonials were given by Jill Ostrem (Senior Vice President, Health and Well-Being at Parkview Health), Brad Bishop (Ortho Worx), and Darren Reese (SESCO Group). We also heard an update on the State Visionary Plan from Dale Brier (Section Chief for the Streams and Trails Section, Indiana DNR) and a presentation of how much progress Northeast Indiana has made in trail development since 2006 by Dan Avery (Executive Director of NIRCC) and Rory Robinson (National Park Service).

With The Regional Cities Initiative (RCI) on the horizon NIRCC and its partners realized the importance of updating the current plan and prioritizing regional corridors to create another tool for continuing the momentum that Northeast Indiana has generated over the past 10 years. To see the products generated from this charrette visit our website and go to the "Bicycle and

Pedestrian Planning" link under the "Maps" tab (http://www.nircc.com/bicycle-pedestrian-planning.htm). The number of trail miles more than doubled between 2006 and 2015. With Northeast Indiana being selected as one of the winners of the RCI and receiving up to $42 million in state matching funds trail development should continue to expand across the region. If you would like to see more information on the RCI for Northeast Indiana visit http://www.neindiana.com/vision/the-vision/regionalcities.

In fiscal year 2015 NIRCC facilitated a planning effort to assist the City of Fort Wayne and Fort Wayne Community Schools (FWCS) with a "No Transportation Zone" (NTZ) analysis to determine deficiencies in pedestrian infrastructure and help prioritize improvements or needs based on potential student usage and safety concerns. FWCS created NTZs for the 2015-2016 school year which would eliminate bus transportation in designated areas around elementary, middle, and high schools. FWCS estimated that 9,600 students would not be receiving bus service beginning August 11, 2015. NIRCC focused on the NTZs that surrounded elementary and middle schools to help determine where students, who may now have to walk to school, will encounter hazardous conditions due to unsafe or non-existent pedestrian infrastructure.

NIRCC analyzed, based on student enrollment data, where the most likely walking route would be for each residential area within each NTZ. Using this data, NIRCC identified the following needs for each NTZ:

- Overhead illumination (street lighting),
- Sidewalks/Trails (gaps in the infrastructure),
- School zone signage / speed limit signage / school zone flashers,
- Crossing improvements (piano key crosswalks, designated school crossing signs, and LED flashing school crossing signs),
- Pedestrian Indicators at signalized intersections, and
- Crossing guards.

NIRCC also identified areas within each NTZ that should be considered a critical area and receive bus transportation based on the lack of infrastructure or the lack of any safe alternative for walking to school from that critical area. NIRCC considered the overall lack of any pedestrian infrastructure, roadways that are deemed unsafe for crossing (even with appropriate crossing improvements), intersections with high numbers of entering vehicles, and at-grade railroad crossings. Based on NIRCC's recommendations and critical area identifications, FWCS made alterations to 11 elementary school NTZs by reinstating bus service to approximately 50% of the students that were located within a critical area.

The NTZ analysis continued in FY 16 as NIRCC assisted the City of Fort Wayne in prioritizing improvements needed within NTZs. Also, NIRCC continued working with FWCS to communicate additional needs and made further recommendations and plans to ensure a safer environment for students to walk to school.

A significant amount of time during the latter half of FY 2016 was spent on the Northeast Indiana Trail Branding and Wayfinding Initiative. There are miles of paved paths existing within Northeastern Indiana which have the goal of one day becoming a connected regional network for families, health advocates, and commuters to utilize and take them to various regional destinations. Still evolving, this Regional Trail System requires an identity that captures all of its assets, character, uses and potential. The Trail System is used in many ways by many people, but at its core, CONNECTIVITY to different areas of the Northeastern Indiana Region is what makes the trail special and a huge asset to the Region.

NIRCC contracted with the consultant firm Merje to provide services that assist in preparing a comprehensive branding initiative for the regional trail system in Northeast Indiana. Merje has experience in market research, strategic planning, corporate identity/branding (including logo development and graphic standards), creative, interactive marketing, promotions and wayfinding. The services they provide will result in a regional trail system name, logo and signage design/sign templates for trail identification, trail gateways, trail information and other wayfinding signs. A number of logos for specific trail sections within the regional trail network will also be created. The regional trail system covers Adams, Allen, DeKalb, Huntington, Kosciusko, LaGrange, Noble, Steuben, Wabash, Wells and Whitley Counties, and the communities within.

The Regional Trail System needs a name, it needs a brand. We need something to call our system that speaks to residents of and visitors to Northeast Indiana, and logos to capture visually the message of our trails. It should be unique, and allude to Northeast Indiana's history and fit with other community attractions and branding efforts. The dynamics are many as different existing trails with different "owners" need to maintain their identities, new trails taking various routes will require consistent signage and information regarding directions and destinations, and naming must take into account history, culture and community identities. A named and branded system will simplify the marketing of our trail system to users and potential funding partners, thereby playing a crucial role in the development of our trail system and soliciting private investment.

Merje made their initial visit to northeast Indiana in January. NIRCC and Region 3A Development and Regional Planning Commission helped facilitate several meetings throughout our region to engage all participating stakeholders and the public from January 13-15, 2016. Merje toured many of the trails throughout Northeast Indiana while they

were here as well. They used the information they gathered and tours to gain an understanding of our trail system and amenities associated with it while they were here. Merje came back to our region once again at the end of May to present their first design concepts for our regional branding initiative. They met with stakeholders and the public once again to present their findings and find out what people like the most before moving on to the next step in their process.

The Northeast Indiana Trail Branding and Wayfinding initiative is expected to be complete in the fall of 2016. Once complete we will be provided with a Branding Master Plan, Graphics Sign Standards Manual, Regional Trail System Brand, Visionary Trail Brand (trail connecting Pokagon State Park to Ouabache State Park), and various trail logos from sections throughout the region.

Red Flag Environmental Investigations

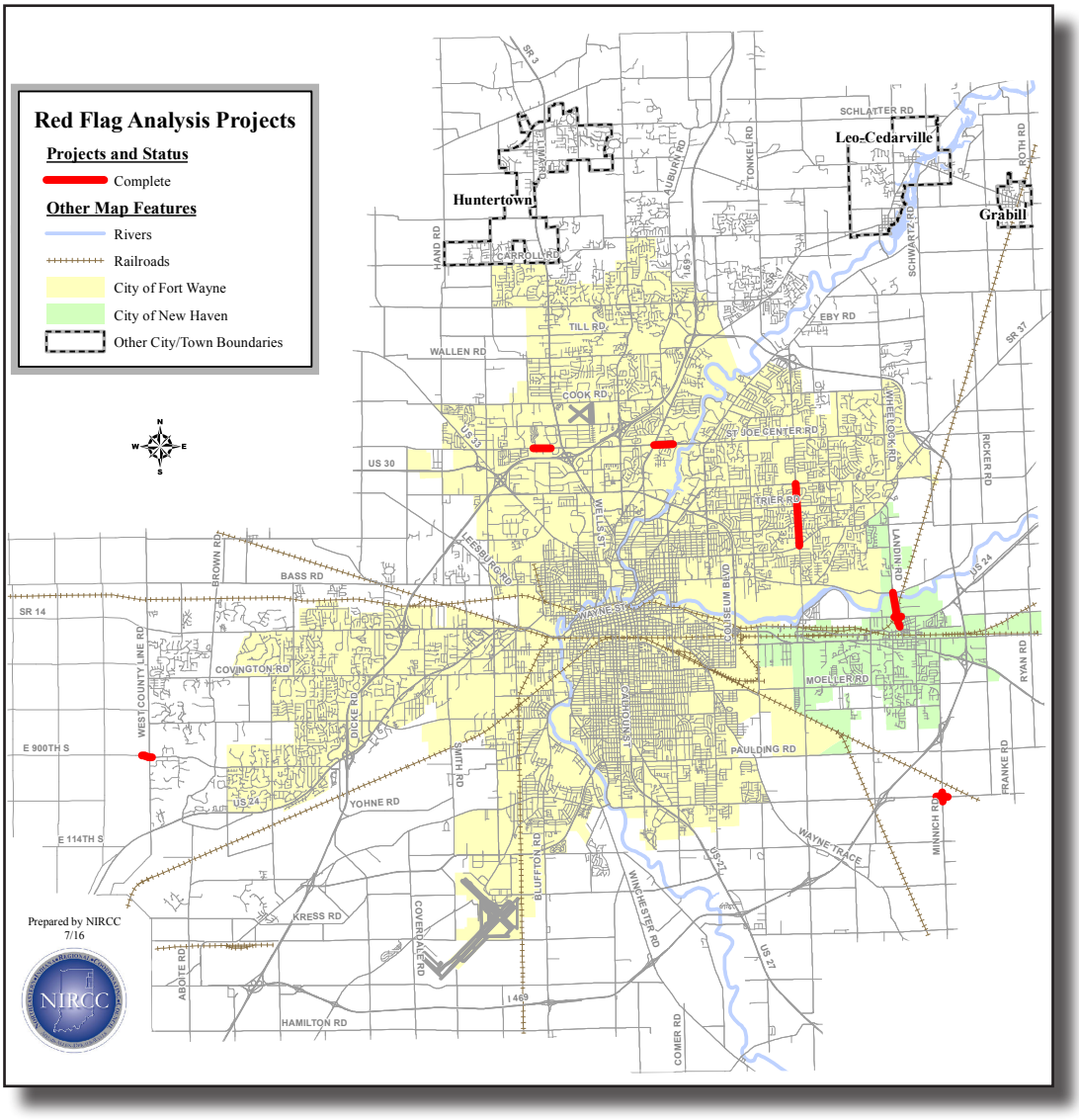
Studies completed by the Northeastern Indiana Regional Coordinating Council

Transportation Summary Report Fiscal Year 2016

RED FLAG ENVIRONMENTAL INVESTIGATIONS

When federal funds are used for projects, agencies are responsible for complying with certain guidelines and requirements throughout the project process. One of the requirements when there is a federal undertaking is that, by all practicable means, the action taking place will identify and either mitigate or avoid any adverse harm to the natural or cultural environment. The National Environmental Policy Act (NEPA) is what establishes these national environmental policies and goals for the protection, maintenance, and enhancement of the environment and provides a process for implementing these goals.

Figure 60



As part of this process agencies conduct investigations during or before the project development phase to see what kinds of environmental effects may be caused as a result. In order to identify locations and issues of concern, or "red flags", an initial report is completed and referred to as a Red Flag Investigation (RFI). The report identifies these red flags that may require additional study coordination in future steps of the project development process. They may also prompt creative management or design approaches which may increase right of way and construction costs. The report also identifies any "fatal flaws" in the study area which are locations that must be avoided all together.

In FY 16 NIRCC did not complete any Red Flag Investigations (RFIs) within Fort Wayne, New Haven, and Allen County. The RFIs NIRCC has completed to date are shown in figure 60. Throughout the Fiscal Year NIRCC did comment on a number of projects for Early Coordination which requires referencing the same data used to complete

Red Flag Investigations. Also, NIRCC continued to update analysis data for future Red Flag Investigations and Early Coordination efforts.

Red Flag Investigations analyze projects to find out what types of environmental red flags may be present. To do this NIRCC utilized GIS (Geographical Information Systems) to search areas within half a mile of the project limits to identify any items that may fall within any of the six main sections of the report. Here is a list of the six sections in the report with examples of what is being identified within each:

1. Infrastructure – Examples include airports, cemeteries, schools, hospitals, parks, utilities, religious facilities, etc.

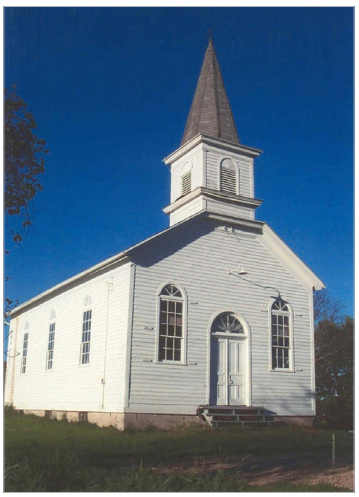
2. Water Resources – Examples include rivers, streams, special interest waterways, wetlands, floodplain, etc.

3. Mining/Mineral Exploration – Examples include mines, petroleum wells, and petroleum fields.

4. Hazmat Concerns – Examples include underground storage tanks, different types of waste sites, cleanup sites, remediation sites, dumps, etc.

5. Ecological Information – Identifies endangered, threatened, or rare species.

6. Cultural Resources – Examples include historic sites and districts, potential historical sites and districts, select and non-select bridges, and properties identified in interim reports.

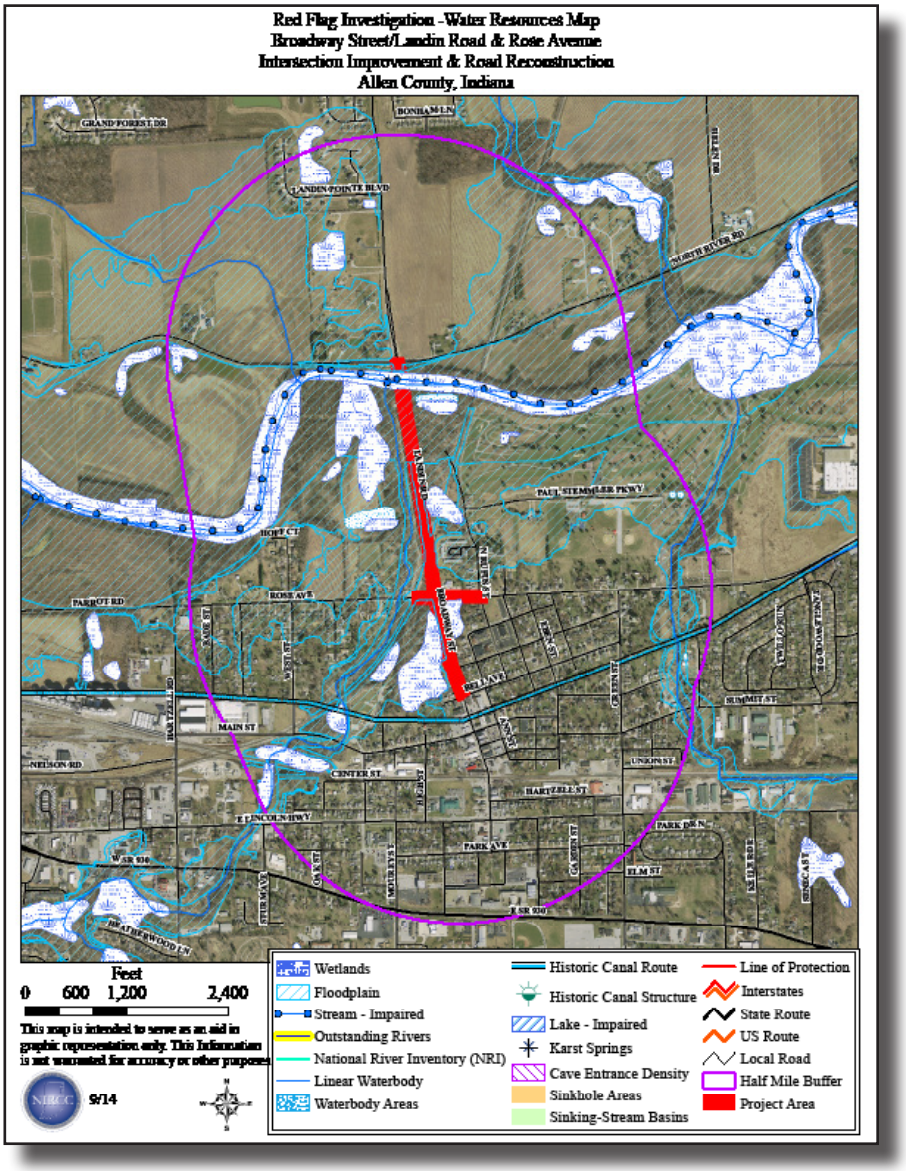


Besides the sections listed above, NIRCC also completes a section identifying bicycle and pedestrian facilities, existing and proposed, throughout the project area and specific locations that may need special consideration for ADA compliance. For each RFI there are also maps providing visuals of each project's location and individual maps for each section listed above identifying all red flags within the half mile radius.

Figures 61 - 63 give you examples of three maps previously completed in FY 15 which are included in a Red Flag Investigation report. Figure 61 is the map which identifies "Water Resources" near the project area, figure 62 displays "Infrastrucure" items identified in the red flag analysis, and figure 63 shows an example of areas that may need special consideration for protecting bicycle and pedestrian connectivity as well as create better access for transit stops.

Along with the maps NIRCC also creates a table for each of the six sections. These tables show everything that is considered when conducting the red flag analysis and how many items of each are found within a half mile radius of the

Figure 61



project. You will see an example of the "Water Resources" table and "Infrastructure" table from the Saint Joe Center Rd project, which was completed in FY15, in figures 64 and 65. Once the tables are complete NIRCC includes a summary of findings for each item with a description in the report that also states whether or not each item will be affected by the project. To find out further information about Red Flag Analysis or detailed information about a specific Red Flag Analysis already completed please contact NIRCC for assistance.

Figure 62

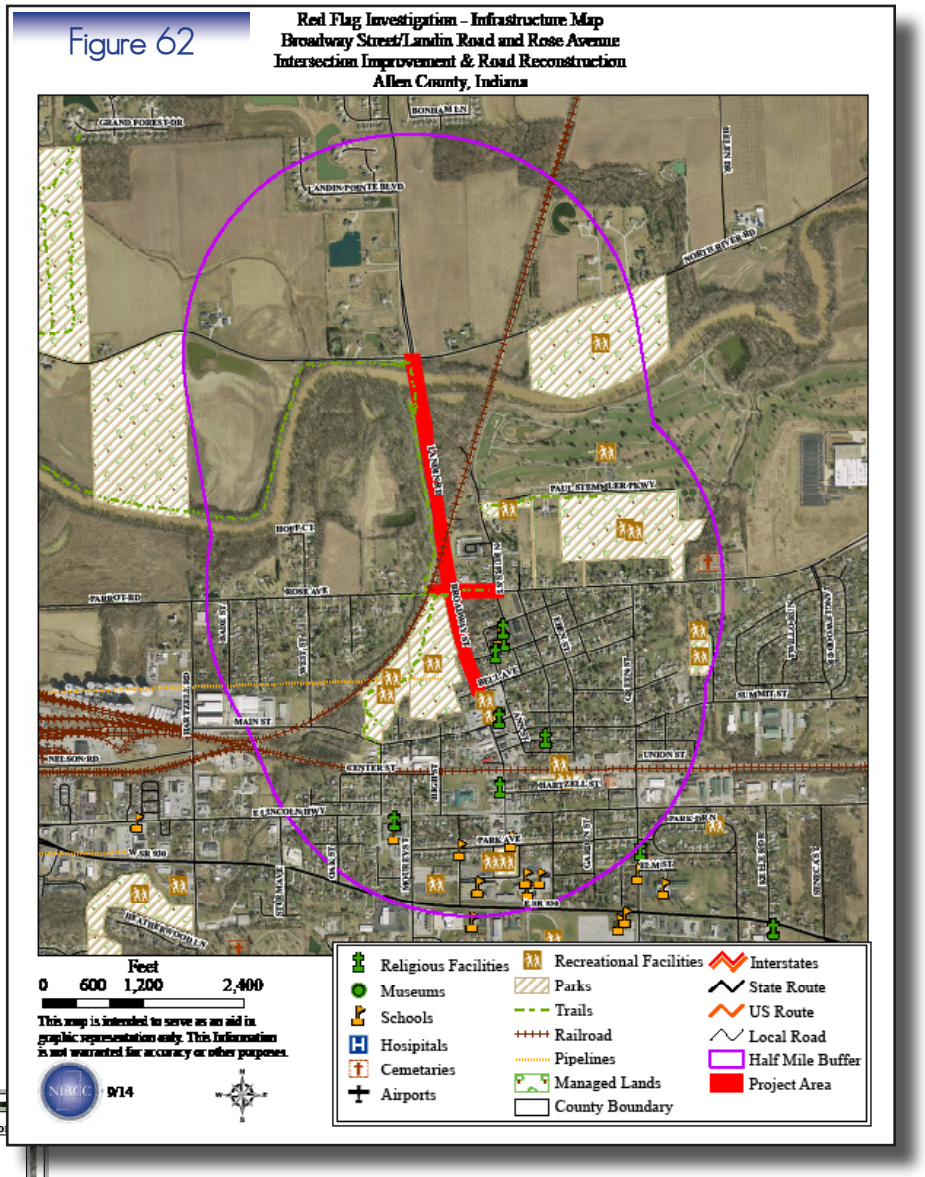


Figure 63

Figure 64

Water Resources
Indicate the number of items of concern found within ½ mile, including an explanation why each item within the ½ mile radius will/will not impact the project. If there are no items, please indicate N/A:

NWI - Wetlands	**24**	IDEM 303d Listed Lakes	**N/A**
Karst Springs	**N/A**	Lakes	**7**
Canal Structures – Historic	**N/A**	Floodplain - DFIRM	**Yes**
IDEM 303d Listed Rivers and Streams (Impaired)	**5**	Cave Entrance Density	**N/A**
Rivers and Streams	**6**	Sinkhole Areas	**N/A**
Canal Routes - Historic	**1**	Sinking-Stream Basins	**N/A**
Outstanding Rivers (Special Interest Waterways)	**N/A**	Line of Protection	**N/A**
*High Capacity Wells (Wellhead Protection Areas)	**2**	National River Inventory (NRI)	**N/A**

Figure 65

Infrastructure
Indicate the number of items of concern found within ½ mile, including an explanation why each item within the ½ mile radius will/will not impact the project. If there are no items, please indicate N/A:

Religious Facilities	**5**	Recreational Facilities	**13**
Airports	**N/A**	Pipelines	**1**
Cemeteries	**1**	Railroads	**2**
Hospitals	**N/A**	Trails	**3**
Schools	**4**	Managed Lands	**10**
Museums	**N/A**		

Transit Planning Activities

Studies completed by the Northeastern Indiana Regional Coordinating Council

Transportation Summary Report Fiscal Year 2016

TRANSIT PLANNING ACTIVITIES

NIRCC has an integral role in the transit planning activities that occur within Allen County. NIRCC has a working relationship with most of the areas transit providers. These providers, along with representatives from local government, social service agencies, and consumers, serve on committees overseen by NIRCC that focus on transit related activities within Allen County.

There are two committees that deal with transit related activities in Allen County, the Transit Planning Committee (TPC) and the Transportation Advisory Committee (TAC). The TPC meets monthly and the TAC meets quarterly. The TPC was established in 1993 as a working committee of the Urban Transportation Advisory Board (UTAB). The main focus of the TPC is to assist in coordinating and facilitating local public transit and para-transit services. The TAC serves as a sub-committee of the TPC focusing mainly on the local transportation issues faced by persons with disabilities and low income individuals. The TPC has been integral in projects such as the Coordinating Development and Transportation Services Guide, the Citilink Transit Development Plan, and the Coordinated Public Transit-Human Services Transportation Plan for Allen County. TPC also takes the lead role in the facilitation and evaluation of the local Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities Operational Funding Program. The TAC takes the lead role in the facilitation and evaluation of the local Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities Capital Funding Program and is responsible for the maintaining the local Transportation Resource Guide.

In Fiscal Year 2016, Transit Planning Activities completed by NIRCC staff included the Section 5310 Local Capital and Operational Funding programs. A summary of each of these activities is provided below.

Federal Transit Administration's Section 5310 Program – Capital Funding

The Federal Transit Administration's (FTA) Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities Program provides capital and operating funding to support the provision of transportation services to meet the specific needs of seniors and individuals with disabilities. Transportation providers within the Fort Wayne Allen County Urbanized Area serving the senior and disabled populations utilize Section 5310 funding to purchase vehicles and operate services. The current Federal legislation which authorizes funding for transportation is Fixing America's Surface Transportation Act, known as the FAST Act. The FAST Act requires the establishment of a locally developed, coordinated public transit-human services transportation plan for the Section 5310 program. NIRCC has developed a Coordinated Public Transit-Human Services Transportation Plan for Allen County. All projects selected for funding

from this FTA program must be derived from this coordinated plan and be competitively selected.

NIRCC, in coordination with Citilink (designated recipient of the Section 5310 funds for the Fort Wayne Allen County Urbanized Area), has established an application process to select projects to receive capital and operational funding from the Section 5310 Program. Capital and Operational funding rounds are held separately. A Section 5310 Capital funding round is held on an annual basis. While the Section 5310 Operational funding round is held on a semi-annual basis. Any project(s) selected for funding requires the responsible agency / party to enter into a contractual agreement with Citilink (designated recipient).

The annual Section 5310 Capital program awards vehicles to area non-profit agencies providing transportation to seniors and individuals with disabilities. A call for projects was issued in February 2016 with awards announced in May 2016. The capital program provides 80% of the total vehicle cost, requiring a 20% local match from the applicant. In Fiscal Year 2016, approximately $300,000 in Section 5310 funding was awarded to Byron Health Center, the Community Transportation Network, Easter Seals ARC, and Pathfinders Services to purchase a total of 8 vehicles. All of the awarded vehicles were lift or ramp equipped and had wheelchair tie-downs.

The semi-annual Section 5310 Operational program provides operating support for eligible two (2) year (24 month) operating projects targeted toward meeting the transportation needs of seniors and individuals with disabilities. A list of eligible activities and eligible recipients can be found at www.nircc.com. A call for projects is issued every other July with awards announced every other October. The operational program provides 50% of the total project cost, requiring a 50% local match from the applicant. In Fiscal Year 2016, no operational awards were made. However, staff prepared program materials in Fiscal Year 2016 in anticipation of the July 18, 2016 Call for Projects to fund eligible operational projects initiating in 2017 and running through 2018.

Creating Livable Communities and Ladders of Opportunity

Studies completed by the Northeastern Indiana Regional Coordinating Council

Transportation Summary Report Fiscal Year 2016

CREATING LIVABLE COMMUNITIES AND LADDERS OF OPPORTUNITY

The purpose of this program is to encourage community-based transportation and land use projects that support infill development in the urban area and revitalization efforts of downtown areas, neighborhoods, commercial cores and transit corridors. The primary intent is to advance community sustainability and overall access to essential services such as employment, healthcare, education and recreation.

The program will concentrate on energy conservation, climate change and lowering infrastructure operating costs with a goal of more efficiently using existing infrastructure to reduce emissions, energy use and personal transportation costs. The process will focus on transit and non-motorized transportation in Northeast Indiana. Advancing the objectives of the Transit and Bicycle-Pedestrian components of the Transportation Plan will be a primary objective.

NIRCC will develop and implement analytical methods to identify connectivity gaps of the transportation system between residential neighborhoods and essential services. Strategies will be developed to improve connectivity within the region to these services utilizing transit, bicycle, pedestrian and other non-traditional infrastructure and programs. Activities will also include reviewing development plans to recommend access control, transit friendly designs and opportunities for pedestrian and bicycle facilities. A blueway system will be defined in collaboration with the regional trail system to promote improved water quality through the use of local waterways for transportation and recreational purposes.

Transit Accessibility for Environmental Justice Areas

The Northeastern Indiana Regional Coordinating Council (NIRCC) began this study as part of our Performance Measures to fulfill the MAP-21 Ladders of Opportunity (Connect, Work, Revitalize) goals. Transportation plays a critical role in connecting American communities to economic opportunity. Transportation Officials can help more Americans reach opportunity by ensuring our transportation system provides reliable, safe, and affordable ways to reach jobs, education and other essential services. The choices we make regarding transportation infrastructure at the Federal, State, and local levels can revitalize communities, create pathways to work, and connect hardworking Americans to a better quality of life.

> **Work:** Transportation projects create pathways to jobs. Through thoughtful workforce programs— built in partnership with industry, and with a focus on disadvantaged businesses— we can help more under-served people find and keep good jobs in the transportation sector.
>
> **Connect:** Connectivity, or accessibility, is the degree to which the transportation system provides access to

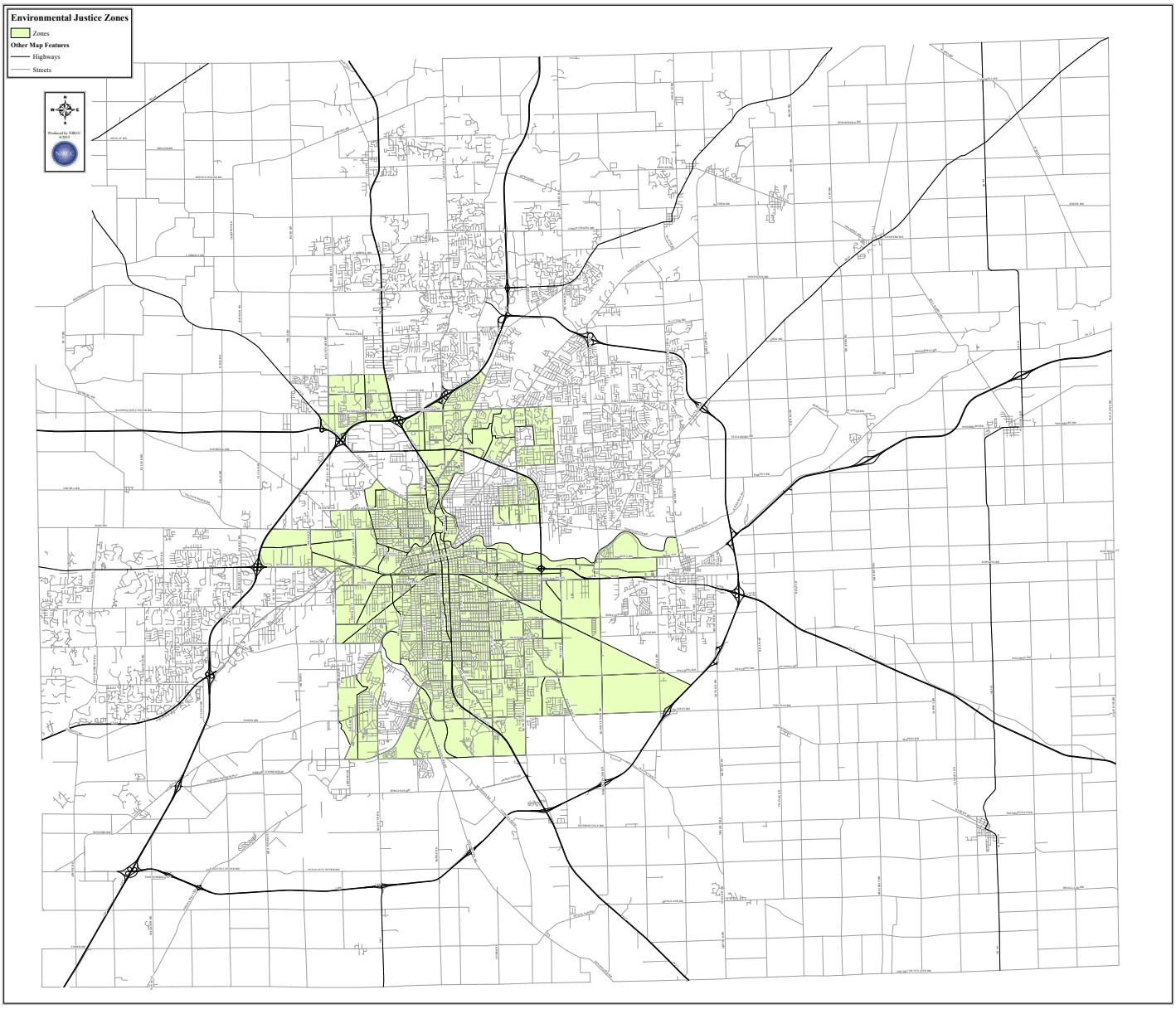
essential services and other destinations. In other words, how easily can people connect to the places they need to go. A number of factors affect accessibility including mobility (physical travel), land use patterns (the geographic distribution of services and activities), and mobility substitutes such as telecommunications and delivery services.

Revitalize: Transportation infrastructure can have a dramatic impact on neighborhoods and regions. Thoughtful transportation planning can provide support for healthy main street centers and direct more equitable business and residential developments designed to bring everyone closer to opportunities.

See; https://www.transportation.gov/opportunity

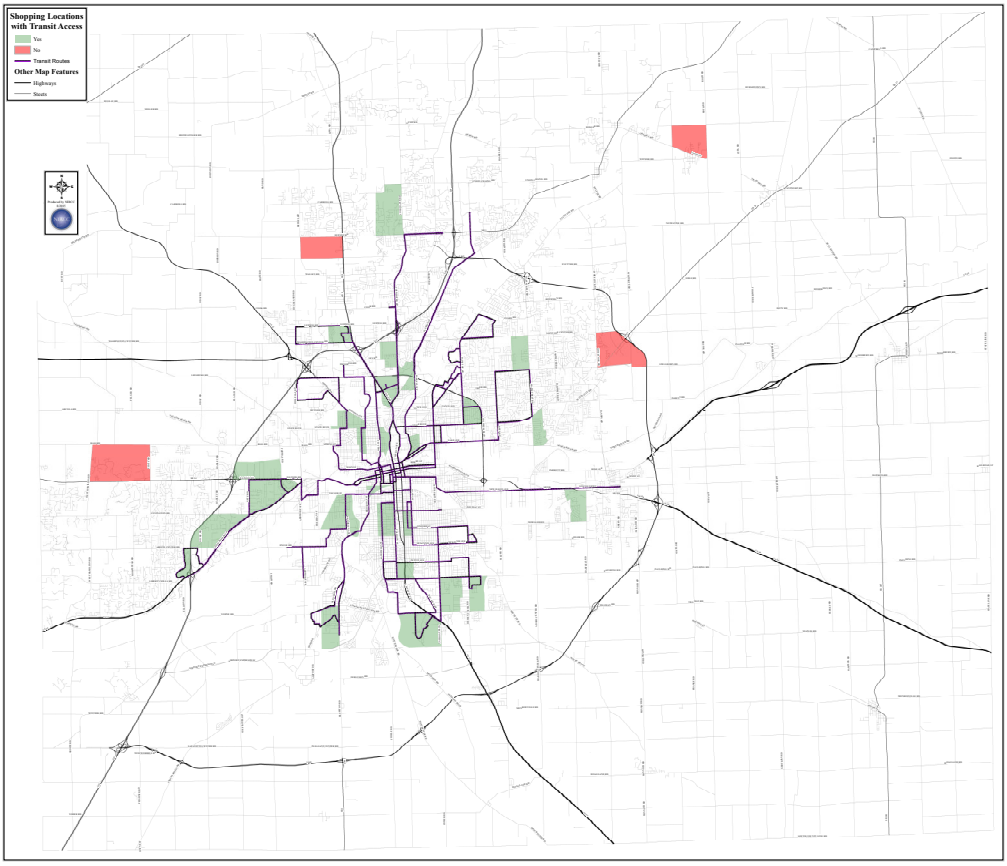
The first step in this study was identifying the "Environmental Justice (EJ) traffic analysis zones (TAZ)" based on 2010 Census information. The concentration of low-income and minority groups as listed in NIRCC's "2035 Long Range Transportation Plan" was used for this study. These flagged TAZ zones are the foundation of the analysis (See figure 66).

Figure 66



The next step was to identify the destinations and locations of the EJ zones residents; employment centers, government facilities, medical, park and recreation areas, universities, shopping and hospitals (See figure 67 for example of Shopping Destinations with Transit Access). Once this was complete NIRCC's Travel Demand Model was utilized to analyze transit accessibility and transit network coverage. All analyses were based on NIRCC's 2010 base model for the roadway and transit networks, and the 2010 Census Data for the demographics. The following analyses were completed:

Figure 67

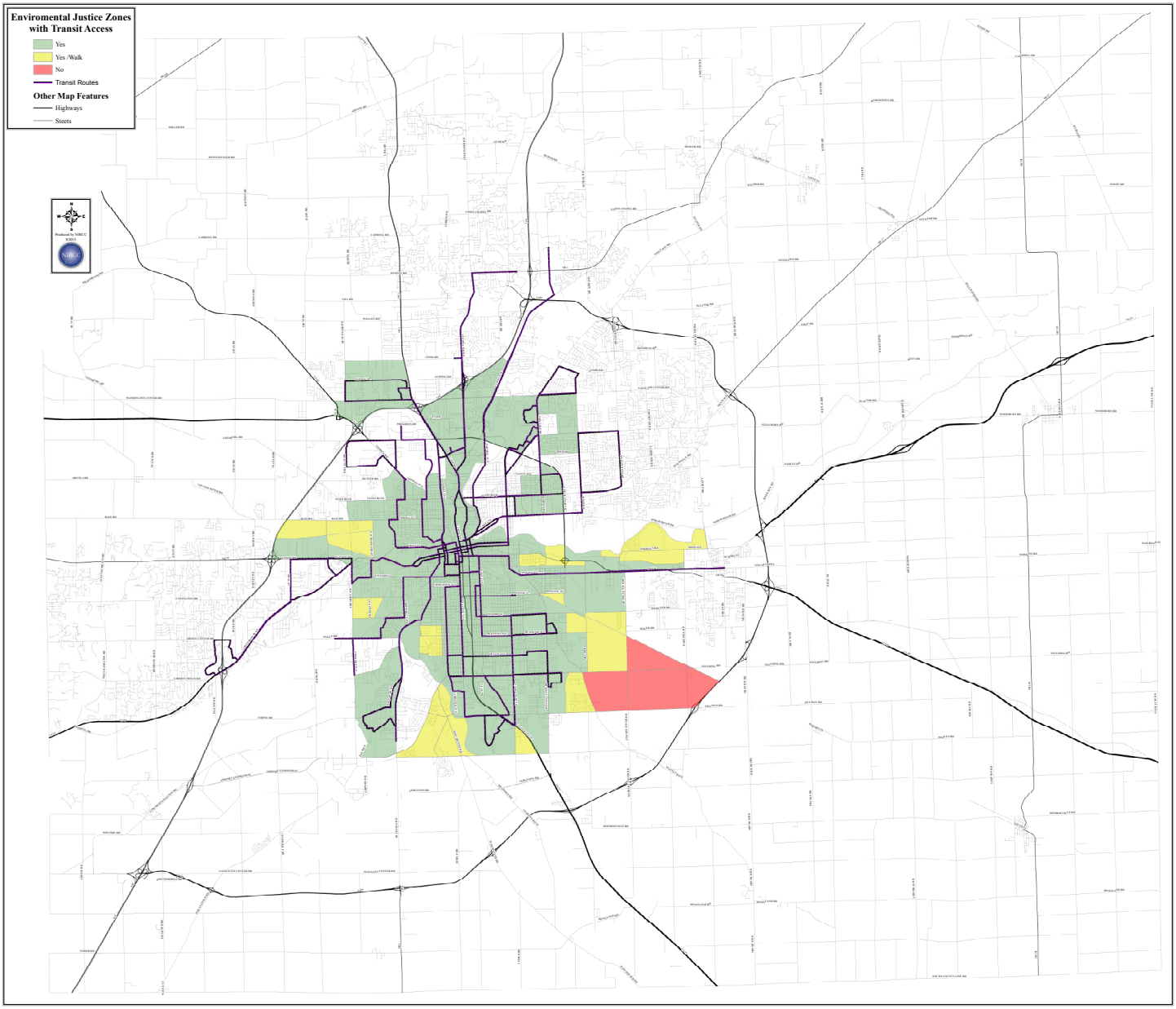


- The vehicle/transit travel times for the EJ zones to employment centers, medical, government facilities, park and recreation areas, hospitals, universities and shopping at the current 60/30 minute headways.
- What impacts reducing all headways to 30 minutes would have on the average travel times and accessibilities.
- The vehicle travel times compared to the overall transit travel times, which includes; out of vehicle time (wait time, transfer time, access/egress walk times) and in vehicle times, for the current and adjusted headways.
- The transit accessibility was reviewed to see if transit routes needed to be adjusted for the identified EJ zones that are outside the reasonable walking time (> 10 minutes) to a bus route.
- The transit accessibility was reviewed to see if transit routes needed to be adjusted in the identified destination zones that are outside the reasonable walking time (> 10 minutes) from a bus route.

These analyses found that the average vehicle travel time for all EJ trips to all destinations is 17.95 minutes, while it took 41.26 minutes on average using transit. Of the 41.26 minutes, 17.56 minutes is in vehicle time and 23.71 minutes is out-of-vehicle time, which includes bus stop wait time, transfer time, access/egress walk times. The analyses also found that overall, the transit system provides good service to the EJ zones (Figure 68). Of the 182 identified zones, 157 have direct access, 23 are within a 10 minute walk, and only 2 have more than a 10 minute walk to a transit route.

The 10 minute walk time is from the center of the zone and only follows the modeled roadway network, therefore some riders might still have a walk time greater than the 10 minutes. If you would like more details on the analyses and what they produced contact NIRCC for further information.

Figure 68



Northeast Indiana Water Trails Initiative

As Regional decision makers and residents are beginning to put more focus on our waterways NIRCC began exploring how it could facilitate opening the waterways up for more recreation. In early 2015, NIRCC convened a group of river advocates, outdoor recreationists, and local outfitters to learn what the interest is in increasing boat access to the waterways in the eleven county Northeast Indiana Region. That meeting led to the creation of the Northeast Indiana Water Trails Initiative (NEIWTs), a regional partnership working to increase recreation opportunities on our waterways

by promoting boat access, water safety and stewardship, and the development of regional water trails that will empower our citizens to become more active and unified.

The NEIWTs is currently managed by NIRCC and the advisory board is comprised of volunteers representing business, government, and river advocacy groups. All products of the NEIWTs are funded solely by donations.

The NEIWTs had several accomplishments in 2016 including coordination of the eventual construction of a new concrete boat ramp and parking lot at the Mayhew Road bridge on the Saint Joseph River between the Allen County Highway Department and the Indiana Department of Natural Resources Boat Access Program (slated for fall 2017), development of a waterproof Water Trail map of the 29 boat access sites on rivers and streams located within Indiana in the Western Lake Erie Basin, and hosting the first annual Pedal, Paddle, and Play, a community event created to encourage people to get out on the water and land trails in Downtown Fort Wayne to see the city from a new perspective and raise funds for the NEIWTs.

On October 28th, a representative from the National Park Service's Rivers, Trails, and Conservation Assistance Program facilitated a Strategic Planning retreat for the NEIWTs where goals for the next three years were set including;

- Develop a website that will include water trail maps, water quality information and links, safe water recreation and etiquette strategies, and links to NEIWTs social media and partner organization websites.
- Assist with river access development
- Develop uniform river access signage
- Create a Funding and Development Plan
- Make the NEIWTs a standalone not-for-profit with the state of Indiana
- Build a formal Board of Directors

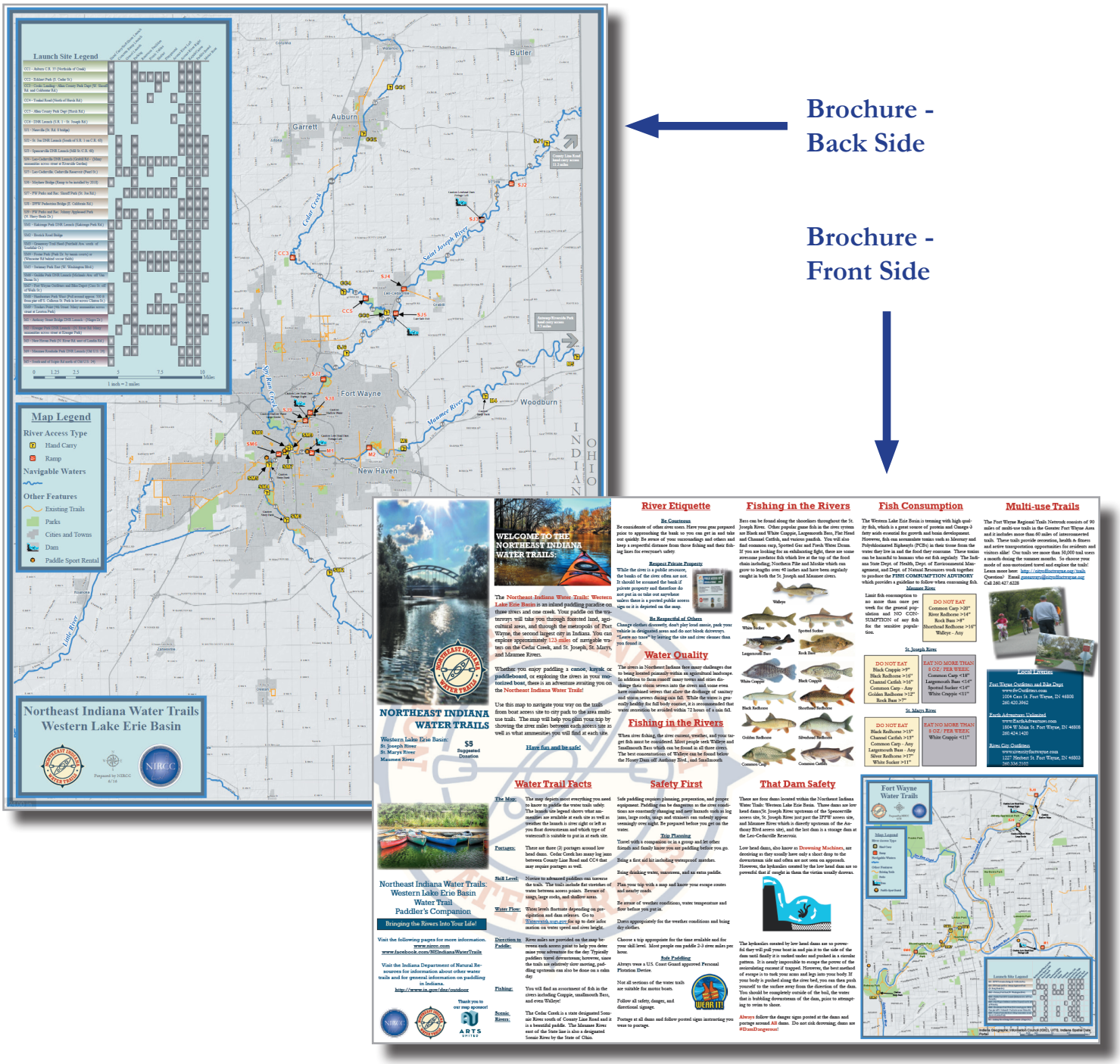
The NEIWTs will continue to work toward its mission and accomplishing its goals as well as host the second annual Pedal, Paddle, and Play.

Northeast Indiana Water Trails: Western Lake Erie Basin Map

The waterproof water trail map produced by NIRCC for the Northeast Indiana Water Trails Initiative (see Figure 69) is a valuable resource for water recreationists, virtually indestructible, and provides important information to water trail users including safety information, river etiquette guidance, information about fishing, the dangers of low head dams, and lists local outfitters. The 24' x 18' map folds down to 4' x 9' to easily fit into a back pocket and is made of

Yupo, a durable plastic material that is tear resistant and water proof. The maps are available at Fort Wayne Outfitters and Bike Depot, Earth Adventures Unlimited, Visit Fort Wayne, and the NIRCC office, all located in Fort Wayne.

Figure 69



SUMMARY

The Transportation Summary Report provides an overview of some of the transportation planning activities performed by the Northeastern Indiana Regional Coordinating Council (NIRCC) during Fiscal Year 2016. The Summary Report highlights a majority of the transportation planning activities conducted and the products produced by NIRCC during Fiscal Year 2016. The document provides a basic overview of the transportation planning activities, data and products produced as part of the transportation planning process. Various types of traffic data integral to the planning process are collected and processed. Traffic volume and classification data are two examples of this basic information. The vehicle miles of travel provides a mechanism for assessing travel demand growth within the region.

Traffic studies help monitor the transportation system, identify problem areas and assist in the development of viable solutions. Crash analyses, intersection analyses, and different types of corridor studies serve to improve safety and efficiency. Through a cooperative and coordinated process the cities of Fort Wayne and New Haven, Allen County, Citilink, and the State of Indiana review the information and recommend improvements. The multimodal nature of the planning process includes public transit, para-transit, bicycle and pedestrian travel. The projects listed in the Fiscal Year 2016-2019 Transportation Improvement Program (TIP) represent the improvements selected for implementation. The Fiscal Year 2016-2019 TIP can be found on NIRCC's website.

The staff of the Northeastern Indiana Regional Coordinating Council will continue to monitor the transportation system striving to provide a complete transportation system. A system that enhances efficiency, promotes safety, and maintains a conscious regard for the quality of life. For this goal to become a reality, constant monitoring of the existing system must occur. Staff is continually collecting data on the existing system to support the short-range planning process and to identify the challenges and opportunities of the future.

The primary purpose of this report is to familiarize the readers with the techniques used by NIRCC and the resulting products to promote a more functional transportation process in our community. However, this report only provides a summary of the wide variety of activities conducted by NIRCC and its staff. NIRCC is constantly striving to provide relevant information to the public and communities it serves to support a decision-making process that improves the transportation system.

If you would like additional information concerning the studies and reports referenced in this document or have questions regarding the transportation planning process, please contact NIRCC staff at (260) 449-7309. NIRCC also maintains a website that contains many of the transportation planning documents and products at www.nircc.com. The site also contains an amended Transportation Improvement Program (TIP), 2035 Transportation Plan, and many other documents and staff contact information.

Transportation Summary Report Fiscal Year 2016

Studies completed by the Northeastern Indiana Regional Coordinating Council

Transportation Summary Report Fiscal Year 2016

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