



MOBILITY MANAGEMENT PLAN

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www.northsplit.com



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1 INTRODUCTION

1.1 Purpose of the Mobility Management Plan

As described in Chapter 503 “Maintenance of Traffic” of the Indiana Department of Transportation (INDOT) Indiana Design Manual (IDM), all INDOT projects require a Transportation Management Plan (TMP) and a Temporary Traffic Control Plan (TTCP). For projects that have significant impacts to the public, such as the North Split Interchange Rehabilitation Project (“North Split Project”), the TMP includes a Transportation Operations Plan (TOP) and a Public Information Plan (PIP).

INDOT is using a Design-Build Best-Value procurement to deliver the North Split Project. The Design-Build Contractor has primary responsibility for development of the TMP and TTCP, with INDOT’s oversight and approval. The Design-Build Contractor will develop and manage all construction phasing, traffic operations planning, and incident management activities within the work zone, and will incorporate other related components into the TMP.

As described in IDM Section 503-4.0, the TOP is to include “strategies for the operations and management of the work zone and all facilities affected by the work zone...for projects determined to have significant work zone impacts.” The Mobility Management Plan (MMP) is that part of the TOP focusing on strategies for mitigating traffic congestion in the network outside the work zone.

IDM Section 503-4.0 notes the strategies can serve transit, rail, air, and pedestrians in addition to roadway users. The MMP includes these strategies as well as actions to reduce the number of trips utilizing the transportation network and shift the timing of these trips to periods when the system is less congested.

This document presents the background and baseline strategies of the North Split MMP. The strategies are expected to evolve as the project is implemented in order to meet changing needs, conditions, and opportunities. INDOT will prepare and execute the MMP, as well as the PIP, with support of the North Split Project Team throughout the life of the project.

One important source of changing conditions that will require monitoring and adjustment of the MMP is the uncertain impact of the ongoing COVID-19 pandemic on long term travel demand and traffic congestion. Congestion mitigation needs and strategies discussed in this plan are based on historic “typical” traffic patterns observed before the COVID-19 outbreak began. In March 2020, there was a sudden and significant reduction in work commuting and corresponding increase in employees working from home. While traffic volumes are now trending upward again, it is unknown when volumes on downtown freeways might approach typical historic levels.

1.2 Project Overview

INDOT is developing a project involving the I-65/I-70 North Junction interchange (North Split) in Indianapolis, Indiana, in partnership with the Federal Highway Administration (FHWA). I-65 and I-70 are nationally significant corridors serving the Midwest and United States in four directions. The objective of this project is to meet the transportation needs at the North Split with a safe, well-functioning facility.

The North Split interchange is the most-heavily traveled interchange in Central Indiana, accommodating more than 214,000 vehicles per day. Studies have shown that most traffic on downtown Indianapolis interstates is local. They also have shown I-70 from the east (between I-65 and I-465) has the highest



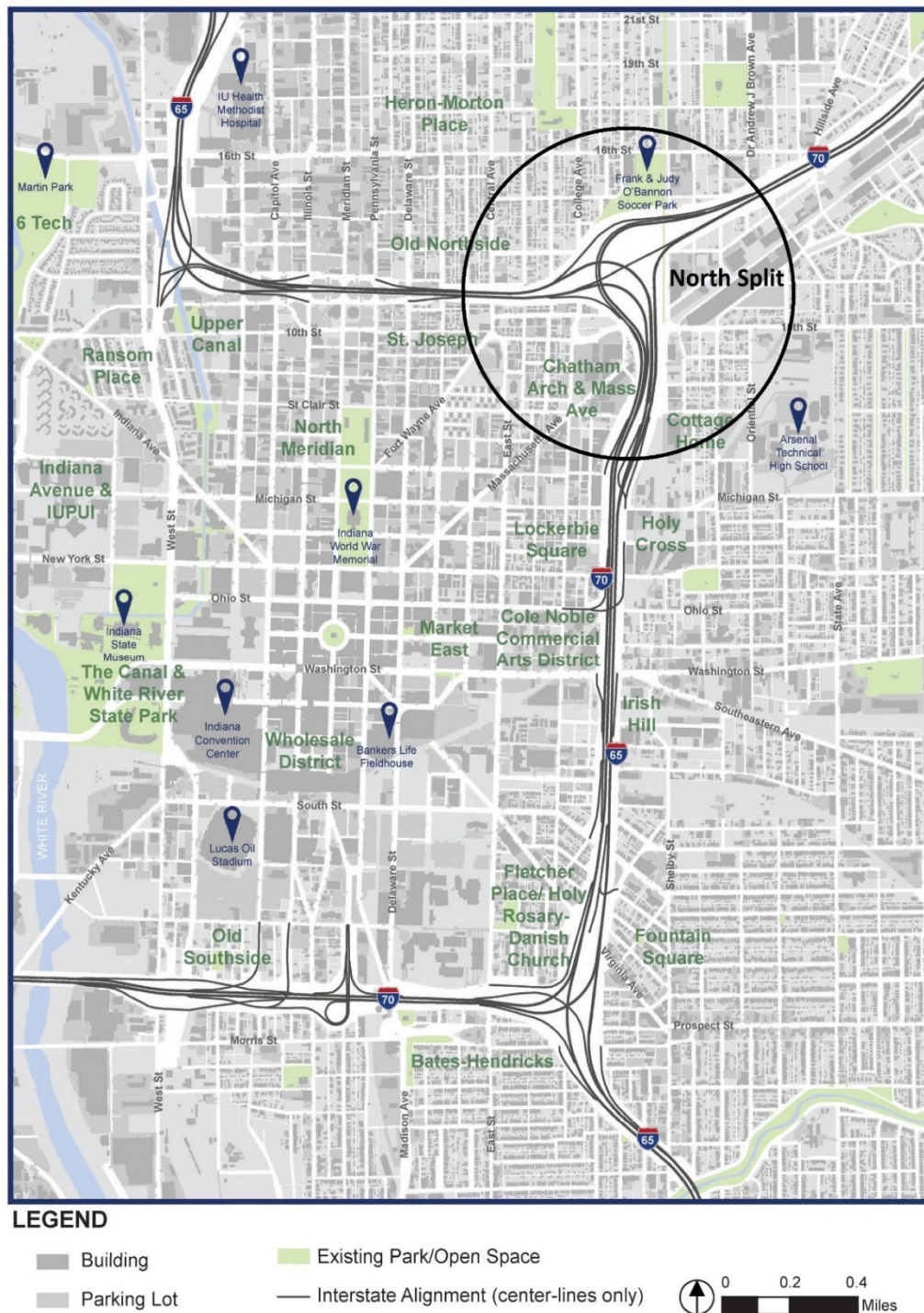
peak-hour volumes in the state. On both I-65 and I-70, twice as much traffic is headed toward downtown as away from downtown in the mornings, indicating a heavy commuter pattern.

I-65 and I-70 are unofficially known as the “inner loop” where they pass through downtown Indianapolis (see **Figure 1-1**). The inner loop is approximately 4-1/2 miles long and provides 25 entrance and exit ramps serving all sections of downtown. The downtown interstates were constructed in the late 1960s and early 1970s, with the last section opening to traffic in October 1976.

Based on the condition of existing infrastructure, INDOT determined the North Split requires repair, and the construction effort needed for this repair creates an opportunity to improve the safety and operations of the interchange. The need for repairs in and near the North Split interchange is based on the deteriorated condition of bridges and pavement. Bridges located in or near the interchange require rehabilitation or replacement due to their structural condition. The pavement also requires rehabilitation or replacement.

In addition to its poor physical condition, the interchange configuration is inefficient and poorly suited for the volumes of traffic it is serving. Reconstructing the infrastructure to correct physical deficiencies provides an opportunity to improve safety and reduce congestion by realigning ramps and merges in the interchange area and correcting and eliminating existing weaving problems.

Figure 1-1: Indianapolis Downtown Interstate System





1.3 Federal Environmental Review Process

The National Environmental Policy Act of 1969 (NEPA) requires Federal agencies to prepare an environmental analysis for projects that may significantly affect the environment. The North Split Project study area boundary identified in the NEPA documentation extends south along I-65/I-70 to the Washington Street interchange, east along I-70 to the bridge over Valley Avenue, and west along I-65 to the bridge over Alabama Street. The study area extends further west along 11th and 12th Streets to Illinois Street.

FHWA determined an Environmental Assessment (EA) to be the appropriate level of analysis for this project. The purpose of an EA is to determine if a project will have significant impacts on the environment. If not, a Finding of No Significant Impact (FONSI) is issued by FHWA, which marks the end of the NEPA process and documents the decision. If significant impacts are identified during the EA process, additional studies or an Environmental Impact Statement (EIS) may be required.

An EA describes why the transportation project is needed, the alternatives that were studied, and their potential impacts. It also provides opportunities for public and agency comments. Environmental impacts play an important role – alongside other considerations such as performance and cost – in decisions made about a project. The EA for the North Split Project was made available for the public to review and a public hearing was held on August 3, 2020. The project sponsor (INDOT) is required to consider all the comments received during this process before making final decisions about the project.

The EA was approved in July 2020, and FHWA then issued a FONSI for the North Split Project in September 2020.

1.4 Existing Roadway Network

Access to and through downtown Indianapolis is provided by a system of interstate highways and arterial streets. These major roadways link with collector and local streets to provide access to individual properties. From a system perspective, the operations of interstates and arterials are tied together. The characteristics of both components of the existing roadway network are described below.

1.4.1 Downtown Interstate System

Although the interstate system in downtown Indianapolis is often referred to as the “inner loop,” it is actually in the shape of a backward C, as shown in **Figure 1-1**. I-65 forms the north leg, I-70 forms the south leg, and I-65 and I-70 share the east leg on a common alignment. Connections between I-65 and I-70 are provided at the “corners” of the inner loop via “system interchanges,” and access to the downtown street system is provided from the legs via “service interchanges.” The North Split is one of two system interchanges downtown. The second is the referred to as the South Split.

With the exception of a segment of I-65/I-70 on the east leg of the inner loop, all interstates downtown are elevated above the local street system. Major streets pass under the north and south legs, allowing the arterial street system to operate independently of the interstates to serve traffic entering and leaving downtown on local streets.

A total of 25 entrance and exit ramps are provided downtown at the service interchanges. As a general rule, there are roughly two exit ramps and two entrance ramps in each direction on each leg, with variations on the east and south legs. The entrance and exit ramps often connect with high capacity one-way pair arterials for distribution of traffic downtown. A “collector-distributor” or C-D roadway is



provided on the east leg. This lower speed roadway operates in the southbound direction only, with closely spaced ramps or intersections with four local roadways.

1.4.2 Downtown Arterial System

The downtown arterial system is a grid network with a diagonal street in each quadrant. The center of the grid is Monument Circle, serving Meridian Street north-south and Market Street east-west. Higher capacity one-way pairs are located parallel and on each side of these streets. The Capital Avenue/Illinois Street and Pennsylvania Street/Delaware Street one-way pairs parallel Meridian Street, and the Washington Street/Maryland Street and Michigan Street/New York Street one-way pairs parallel Market Street. Most of these one-way streets connect directly with interstate ramps.

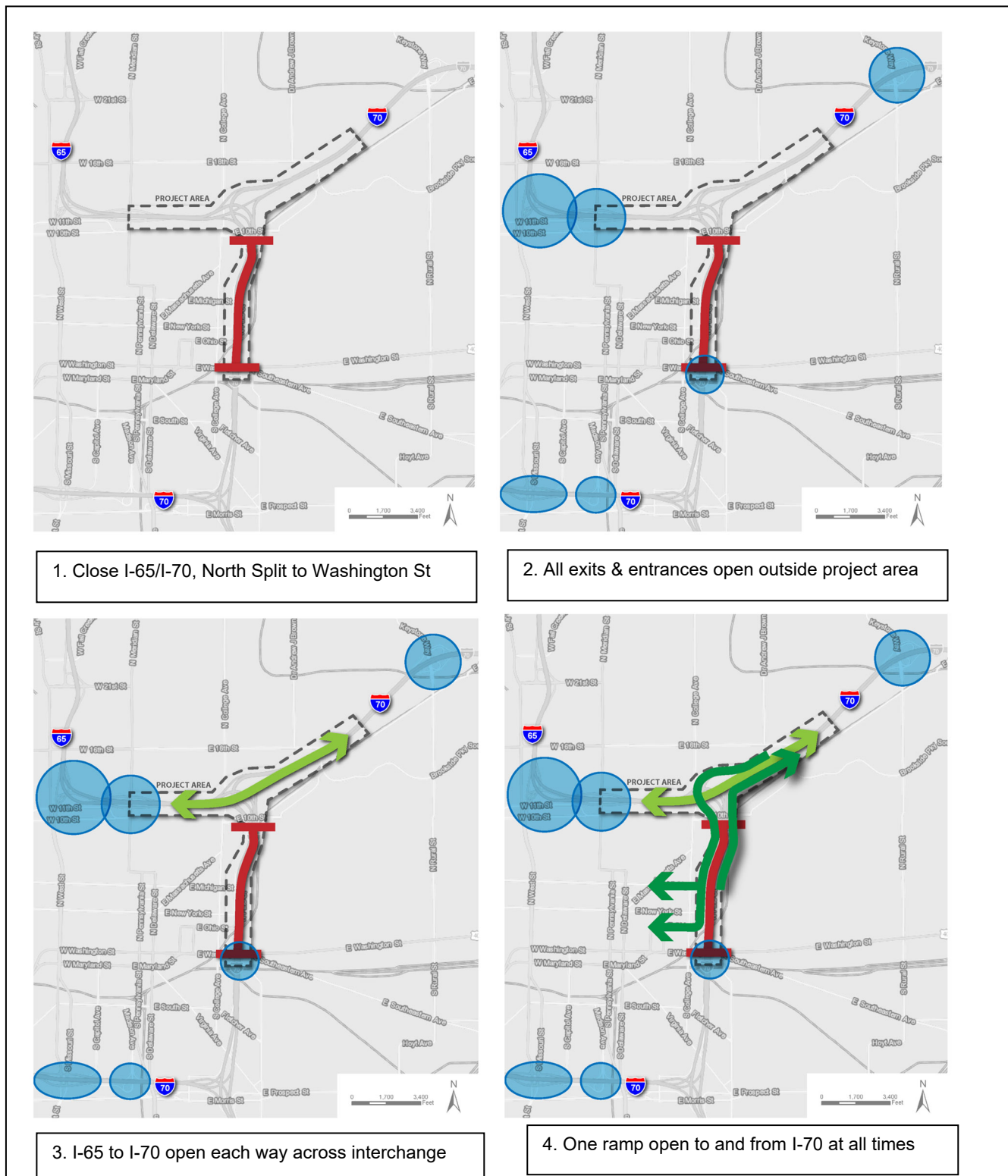
In addition to the one-way pairs, West Street plays a major role in serving traffic needs downtown. West Street is a six-lane divided arterial north of Maryland Street to the West Street/MLK interchange at I-65. South of Maryland Street, it splits into the West Street/Missouri Street one-way pair to an interchange with I-70. In terms of the downtown street grid, West Street serves as the “west leg” of the inner loop. The six-lane segment north of Maryland Street is the most heavily travelled arterial roadway in the region, serving about 55,000 vehicles per day.

1.5 Planned Road Closures and Restrictions

The sequence and timeframe of construction is defined in the maintenance of traffic (MOT) plan for the project. The MOT plan establishes what roadways and/or travel lanes will be open and closed to traffic at each stage of the work. The Design-Build Contractor is responsible for developing and implementing the MOT plan for this project. The agreement between INDOT and the Design-Build Contractor identifies baseline constraints for the MOT plan, such as which major movements may be closed at any one time, hours of the day that closures are allowed, and the maximum amount of time these movements may be closed. The Design-Build Contractor is penalized for violating these restrictions.

Interstate access during construction is illustrated in a series of four maps in **Figure 1-2**. Descriptions of the information represented in each map are provided below.

Figure 1-2: Interstate Access during Construction





1. I-65/I-70 Closure. All mainline lanes of I-65 and I-70 between the North Split interchange and Washington Street will be closed for up to two construction seasons. Ramps to and from the south on Washington Street will remain open at all times. Through traffic on I-65 will be detoured to I-70 and I-465 on the west side of Indianapolis. Through traffic on I-70 will be detoured to I-465 on the south and east sides of Indianapolis.
2. Ramps outside the Project Area. All downtown entrance and exit ramps outside the project area will be open, except for closures of the Fletcher Avenue entrance ramp to I-65/I-70 (up to 560 days) and the Fletcher Avenue exit ramp from the I-65/I-70 collector (up to 520 days).
3. I-65 to I-70 Link. The I-65 to I-70 link across the north part of the North Split will be open to traffic in each direction, except for a one-day closure of the I-65 southbound to I-70 eastbound movement for bridge construction.
4. Ramp Connections to I-70E. The Pine Street entrance ramp to eastbound I-70 will be open at all times. A westbound I-70 exit ramp will serve either Michigan Street or Ohio Street (or both) at all times via the collector-distributor road.

In addition to the restrictions noted above for interstates, most local arterials that cross under the interstates will require closure at some point for bridge reconstruction. In no case, however, will the contractor be allowed to close two adjacent roadways at the same time.

The maximum allowable closure times for traffic movements within the project limits are specified in **Table 1-1**. Shorter closure durations may be possible, depending on the final MOT plan implemented by the Design-Build Contractor.

Table 1-1: Maximum Closure Durations

Roadway Segment	Allowable Closure
I-65 Mainline (NB to WB and EB to SB through interchange)	520 days
I-70 Mainline (NB to EB and WB to SB through interchange)	430 days
I-65 SB to I-70 EB (Bridge)	1 day
12 th Street/Pennsylvania Street exit from I-65 NB	120 days
11 th Street/Delaware Street entrance to I-65 SB	60 days
Ohio St exit from I-70 collector *	260 days
Michigan St exit from I-70 collector*	260 days
Pine Street entrance to I-65 NB	560 days
Pine Street entrance to I-70 EB	Not allowed
Washington Street and Pennsylvania Street under interstate	Not allowed
Delaware Street under interstate	45 days
All other street and railroad crossings under interstate within project limits (no simultaneous adjacent street closures allowed)	90 days



*Exits to Ohio Street and Michigan Street are not allowed to be closed at the same time

1.6 Mobility Management Plan Objectives

The goals of the MMP are to minimize traffic disruption due to North Split Project construction and maintain the social, economic, and cultural vitality of the central downtown area of Indianapolis. This will be accomplished by a combination of actions designed to increase the efficiency of alternate routes, reduce peak-hour travel demand, and communicate effectively with users so they make smart choices about routes of travel, time of travel, and whether they should travel at all.

To meet the MMP goals, the strategies presented in this plan focus on three fundamental objectives:

- **Optimize traffic operations on the available transportation network;**
- **Reduce overall roadway network demand; and**
- **Provide enhanced motorist information.**

These objectives relate to the supply of transportation system capacity, the travel demand placed on the system, and the information transportation system users need to make smart travel decisions.

1.7 Report Organization

This Mobility Management Plan (MMP) focuses on the development of strategies to meet the goals of minimizing traffic disruption and maintaining the vitality of the region while the North Split Project is being constructed. The process begins with a review of anticipated system traffic operations during construction in **Chapter 2**. Issues and strategies related to the three mobility management objectives are described in the next three chapters. **Chapter 3** addresses traffic operations management, **Chapter 4** addresses transportation demand management, and **Chapter 5** describes communications and public outreach activities. Overall MMP implementation strategies are described in **Chapter 6**.



2 SYSTEM TRAFFIC OPERATIONS DURING CONSTRUCTION

During North Split Project construction, downtown access will be available at all interstate ramps outside the project area. Movements between I-65 and I-70 on the north side of the interchange will be available in each direction, and ramp connections will be available to and from I-70 east of downtown. The primary impacts to downtown traffic flow will result from the movements that will not be available due to the following closures:

- Eastbound I-70 will be closed at Washington Street for two construction seasons.
- Westbound I-70 will be closed at the North Split interchange for two construction seasons.
- Northbound I-65 will be closed at Washington Street for two construction seasons.
- Southbound I-65 will be closed at the North Split interchange for two construction seasons.
- The Michigan Street and Ohio Street ramps (alternatively) will each be closed up to one full construction season.
- The Pennsylvania Street exit ramp will be closed up to 60 days, and the Delaware Street entrance ramp will be closed up to 120 days.
- Most arterial streets crossings under the interstate in the project area will be closed up to 90 days.
- The Monon Trail crossing under the interstate will be closed for the duration of construction.

Drawing from the results of high-level traffic simulation modeling, this section reviews the anticipated impacts of the above construction restrictions on traffic operations in and near the downtown area. However, the analysis supporting this review of anticipated project traffic impacts did not consider the unprecedented global effect that the COVID-19 outbreak of 2020 has had on personal travel. According to the US Department of Transportation,¹ daily trips in Indiana were approximately 23 percent lower in mid-September 2020 than during the same time period in 2019, while the number of people staying home each day was approximately 26% higher. Although travel is expected to increase over time, as COVID-19 impacts ease, it is uncertain how quickly this will occur or whether traffic demand will ever return to pre-pandemic levels. It is therefore possible that congestion caused by North Split construction will be less severe than anticipated in this analysis.

The Indianapolis Metropolitan Planning Organization (IMPO) nine-county TransCAD model was used as the base for traffic modeling efforts. To support the review of traffic impacts on the local roadway network, a detailed TransModeler traffic simulation model was developed for an approximately 6-mile by 6-mile subarea roughly bordered by 38th Street to the north, Emerson Avenue to the east, Raymond Street to the south, and White River to the west. The dynamics of how network components interact in serving total travel demand can be quite complex, particularly when a mix of interstate highways and local roads are considered. The nine-county IMPO model was used to review large-scale system changes related to diversion of interstate traffic away from downtown to I-465 and other regional facilities, while the more detailed microsimulation model was used to capture construction effects on traffic continuing to use the downtown system.

¹ US Department of Transportation, Bureau of Transportation Statistics, *Changes in Mobility by State*. Available online at <https://www.bts.gov/content/changes-mobility-state>.

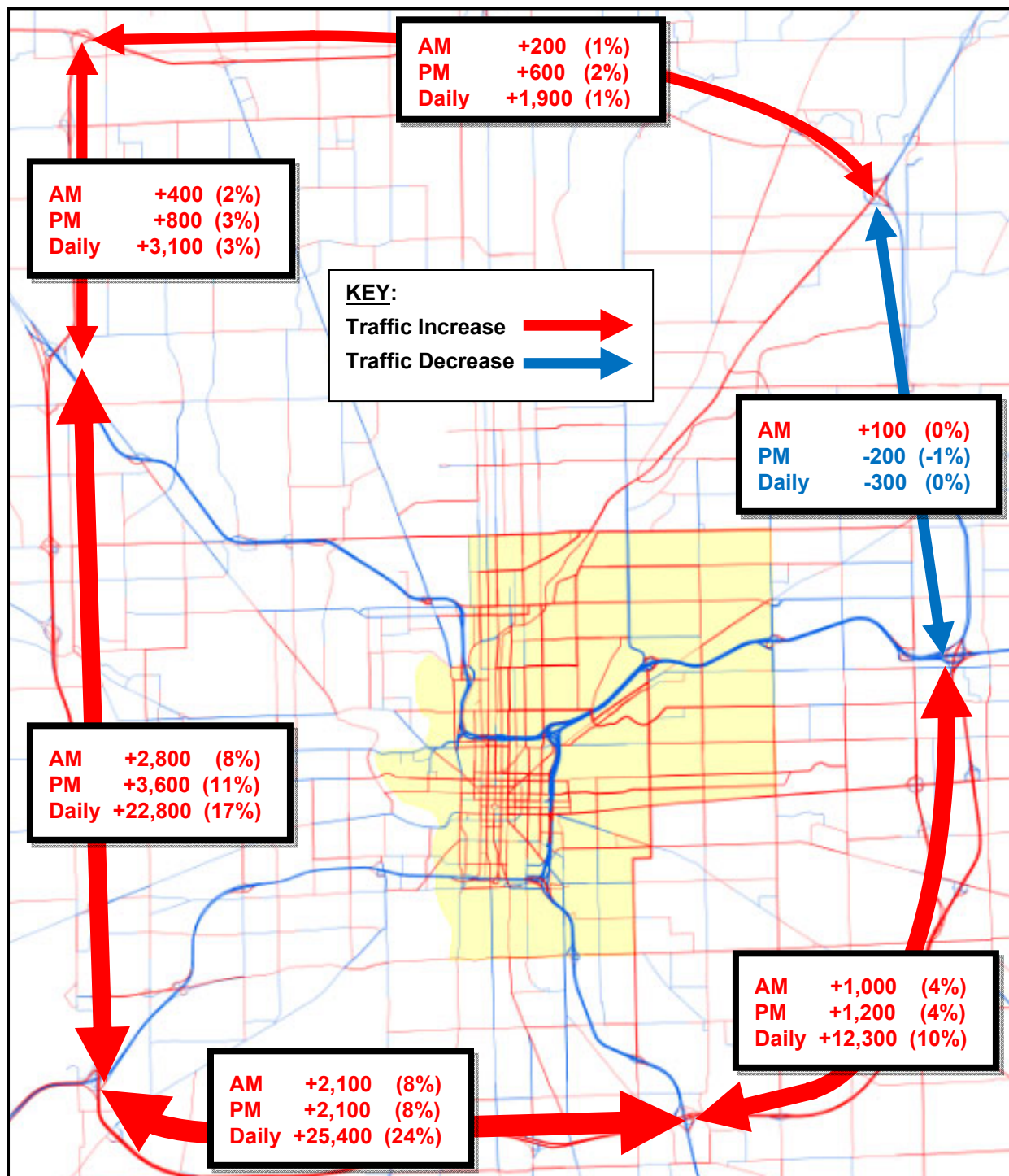


This traffic review focuses on peak period operations that occur every weekday, generally between 6:00 am and 9:00 am and between 3:00 pm and 6:00 pm. This approach is reasonable since the weekday peak period conditions are frequent, repetitive, and are the conditions for which urban roads are typically designed. To the extent peak period conditions are addressed, operations during other periods of the day and night are typically acceptable.

2.1 Diversion of Through Trips to I-465

Although most of the traffic impacts during North Split construction will occur downtown, traffic levels on I-465 will also be affected. **Figure 2-1** shows an estimate of traffic changes on I-465 with I-65 and I-70 closed at the North Split. The greatest impact will be on the segments of I-465 that provide the most logical alternate routes for through traffic on I-70 or I-65.

Figure 2-1: Estimated I-465 Traffic Changes during Construction



Note: AM peak = 6:00 – 9:00 am, PM peak = 3:00 – 6:00 pm, Daily = 24 hours
 Source: Indianapolis Metropolitan Planning Organization 2020 Regional Travel Demand Model



The most apparent impacts of closing I-65 and I-70 downtown are for through trips. Signs will be posted on all interstate highways approaching Indianapolis to inform motorists of the closure and directing them to bypass the construction using alternate routes along I-70 and the I-465 beltway for all or part of their trip through Indianapolis. The degree of likely diversion to I-465 was reviewed in the “System-Level Analysis of Downtown Interstates²,” completed in 2018. That study found fewer than 10% of interstate trips downtown during peak periods are through trips, beginning and ending outside I-465.

These estimates do not imply that 90% of peak period traffic is destined to downtown. Many trips pass through downtown to destinations inside I-465. These are not “through” trips because they do not begin and end outside I-465. They are not likely to be able to use I-465 as an alternate route and most will contribute to increases on arterial streets in or near downtown during North Split construction.

The logical diversion route for through trips on I-65 is to use the I-465 beltway around the south and west sides of Indianapolis instead of traveling through downtown and the North Split interchange. The logical diversion route for through trips on I-70 is to use the I-465 around the south and east sides of Indianapolis instead of traveling through downtown. However, the southern segment of I-465 already experiences congested conditions during daily peak travel periods, which could be exacerbated by adding diverted through trips from both I-65 and I-70. Because of this, I-65 through trips will continue to use I-65 south of downtown and will be directed to use I-70 and I-465 west of downtown to connect with I-65 northwest of downtown. I-70 through trips will be directed to follow I-465 around the south and east sides of Indianapolis. These official North Split detour routes are shown in **Figure 2-2**. The impact of these diverted through trips indicates INDOT should optimize traffic flow on the impacted segments of I-465 and I-70 through effective use of monitoring and surveillance technology, enhanced incident response, and deferred maintenance and construction where feasible.

² *System-Level Analysis of Downtown Interstates, INDOT, May 2018.*

Figure 2-2: Official North Split Detour Routes





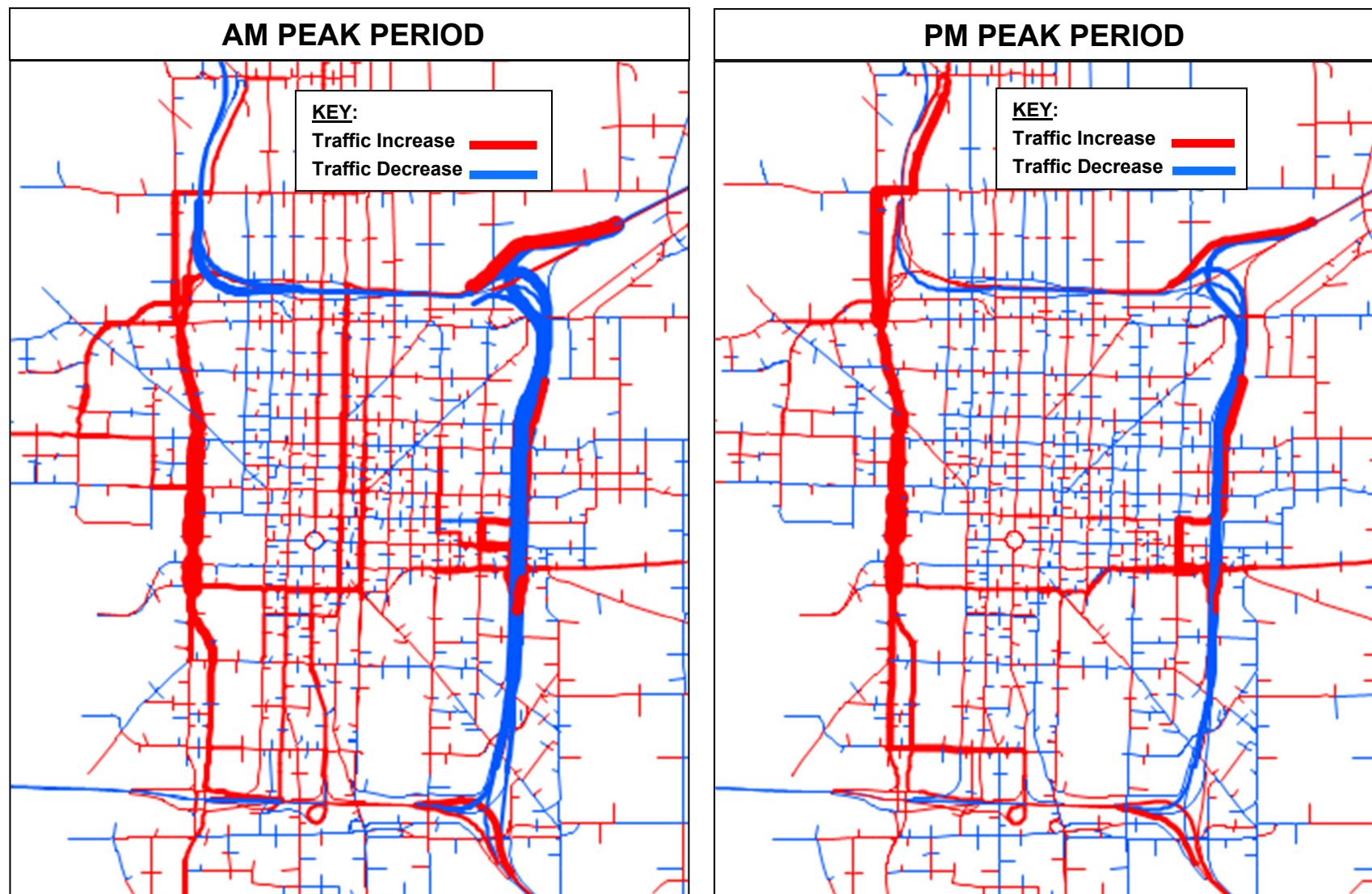
2.2 Downtown Traffic Operations

Most of the traffic impacts from North Split construction will occur on arterial streets approaching and passing through the downtown area. Traffic levels will increase on downtown streets for a number of reasons, including the following:

- Many motorists accessing downtown on interstates will have to exit “early” to finish their trips on local streets. Examples are IU Health employees living on the south side, or Eli Lilly employees living in Hamilton County or on the north side of Indianapolis.
- Motorists beginning a long interstate trip on the opposite side of downtown will have to use arterial streets to access an interstate entrance ramp, forcing them to drive through or around downtown.
- If an interstate no longer serves a motorist’s destination, they are more likely to divert to an alternate arterial route before entering the downtown area, resulting in additional neighborhood traffic.
- With fewer entrance and exit ramps available, those that remain open, such as at Washington Street and at West Street, are likely to be congested. This will cause diversion to parallel arterials.
- Closure of downtown arterials to reconstruct interstate overpasses will force diversion to alternate routes, increasing the congestion and delay on parallel arterial streets.

The last bullet illustrates the challenge of modeling traffic impacts of North Split construction closures. It is not a matter of identifying a single closure condition and developing a traffic simulation. In practice, it will be an ever-changing dynamic depending on which arterial streets are available at any point in time and which are closed. Recognizing this limitation, it is still useful to get an order of magnitude perspective of how much the arterial system might be impacted. **Figure 2-3** illustrates traffic pattern changes with closures described

Figure 2-3: Estimated Downtown Traffic Changes during Construction



in **Section 1.5**. Segments with an increase in traffic are shown in red; segments with a decrease are shown in blue. The width of the lines indicates the level of traffic volume change. Information is shown for the AM and PM peak hours.

As indicated in **Figure 2-3**, the greatest increase in arterial traffic demand due to construction closures will be on West Street during both the morning and evening peak periods. This is not surprising since West Street provides a direct link between I-65 and I-70, parallel with the segment of I-65/I-70 being closed. As a six-lane divided arterial, it also provides the highest capacity of any downtown street.

Other downtown streets showing a significant increase in traffic volumes in **Figure 2-3** connect to available interstate ramps, including Washington Street, the Pennsylvania/Delaware Street one-way pair on the north side of downtown, and the Capital/Illinois Street one-way pair on the south side of downtown. Outside of downtown, most major streets approaching downtown from the north and east show an increase in traffic volume compared to existing. The most notable increases are on Fall Creek Parkway and Washington Street.

Many other downtown streets show smaller increases in traffic volumes in **Figure 2-3**. These increases will become more pronounced as traffic shifts to parallel routes when interstate overpasses are reconstructed during the North Split Project. Since these patterns will be frequently changing, it will be especially important to implement mobility management actions to optimize the existing system, reduce demand where feasible, and keep motorists informed so they can make the best decisions based on real-time information.

2.3 Anticipated Level of Disruption to Traffic Operations

The reconstruction of the North Split will cause major disruption to traffic operations in and near the downtown area and will also exacerbate some of the existing regionally challenged traffic operations locations during peak periods. The preceding sections focus on anticipated traffic operations impacts to the interstate (**Section 2.1**) and the downtown local roadway network (**Section 2.2**) during North Split reconstruction. The interstate system will be directly affected (see **Figure 2-4**), but the interstates and local roadway network work together to serve the public's traffic needs. All system components will be affected by North Split construction.

Figure 2-4: Detour Signs for I-65 Approaching from the North





As various segments of the North Split are closed during construction, additional traffic demand will be placed on:

1. The interchanges adjacent to the North Split that will remain open,
2. I-465 which has its own traffic operations challenges during peak periods, and
3. The local roadway network with its existing constraints.

It is important to note the traffic modeling performed to assess conditions during reconstruction of the North Split does not incorporate any of the potential mitigation measures discussed in Sections 3, 4, and 5 of this report and also assumes traffic demand at pre-COVID conditions. It is intended to represent a worst-case scenario, and the goal of this MMP is to identify practical and effective mitigation measures, as well as the strategy for implementing them, to minimize the area-wide increase in delay and congestion resulting from the reconstruction of the North Split.

Even with the lower traffic volumes on the downtown interstates during construction, without the mitigation measures identified in Sections 3, 4, and 5 of this report, traffic modeling predicts that significant queuing of approximately 5 to 6 miles would occur on all of the I-65 and I-70 approaches to the North Split each weekday morning, as motorists exit at the adjacent interchanges to the North Split or work their way through non-closed segments of the North Split. This potential queuing of 5 to 6 miles would result in extensive delay, with stop and go operation on the following segments:

- Northbound I-65: Keystone Avenue to I-465
- Southbound I-65: 38th Street
- Eastbound I-70: Harding Street to Holt Road
- Westbound I-70: Shadeland Avenue to I-465

The interchanges adjacent to the North Split have limited capacity to handle the additional diverted traffic, such that mainline interstate queuing will build from these interchange locations. Queuing is not anticipated for the interstates leaving the downtown area. The bottleneck for those interstates will be the entrance ramps from the local roadway system.

The local roadway network will experience increased traffic volumes during construction, as well as additional traffic operations challenges at the interchanges adjacent to the North Split. Without implementation of mitigation measures, traffic modeling predicts significant queuing on the local roadway network in and near the downtown area. Sitting through multiple traffic signal cycles before travelling through a signalized intersection is anticipated for many locations, especially those near an entrance to, or exit from, interchanges adjacent to the North Split.

The mitigation measures discussed in Sections 3, 4, and 5 of this report are critical for minimizing the unavoidable disruption caused by the North Split construction. Some measures focus on infrastructure improvements, such as 1) geometric or lane assignment improvements at the critical interchanges adjacent to the North Split and 2) improved traffic signal performance and efficiency throughout the local roadway network in and near the downtown area. Other mitigation measures focus on peak period travel demand reduction and more efficient travel through opportunities such as transit and ride-share initiatives. Traffic patterns and volumes will be monitored throughout construction to assess the effectiveness of mitigation measures and whether conditions warrant revising mitigation measures or adding new mitigation measures. The goal of the MMP is to make the disruption during the reconstruction of the North Split manageable. It will not be possible to eliminate it completely.



3 TRAFFIC OPERATIONS MANAGEMENT

Traffic operations management begins in the construction zone and extends throughout the local street network and the interstate highway system. Some changes have been or are being made to increase capacity at key locations. Other traffic operations management actions are more dynamic, to respond to evolving system conditions as the work is underway. Effective incident management will be important throughout the construction period to ensure the system is functioning at its full potential. All these topics are explored in this section.

3.1 Contractor's Traffic Management Plan (TMP)

As described in **Section 1.1**, the Design-Build Contractor is required to develop a Traffic Management Plan (TMP) in accordance with the requirements defined in Chapter 503 of the Indiana Design Manual. This plan will support the maintenance of traffic plan to meet construction objectives, provide a safe environment for workers, and minimize adverse traffic impacts in the work zone. Proposed mitigation measures in the TMP will include traffic incident management plans, planned special events, Intelligent Traffic System (ITS) components, maintenance or enhancement of other modes of transportation, emergency service provider access and communication, work zone law enforcement, and related strategies.

The TMP will identify the Design-Build Contractor's proposed methodology for monitoring and measuring mobility during the active work zone phase. Lane restriction information will be transmitted by the INDOT traffic management center to dynamic message signs on approaching interstates to notify motorists of the work well in advance of the closure.

Other components of the TMP will include the closure strategy as part of the MOT plan and support of INDOT public involvement and communications activities. Major elements of the project MOT plan are described in **Section 1.5** and INDOT's planned programs for communications and public outreach are described in **Section 5**.

3.2 Traffic Network Changes

A review was conducted of network operations to identify existing and anticipated sources of traffic delay that might be improved prior to initiation of North Split construction. Removing or improving these bottlenecks and restrictions will make the whole system operate more effectively. These opportunities are described below, for the interstate system and for the local street network.

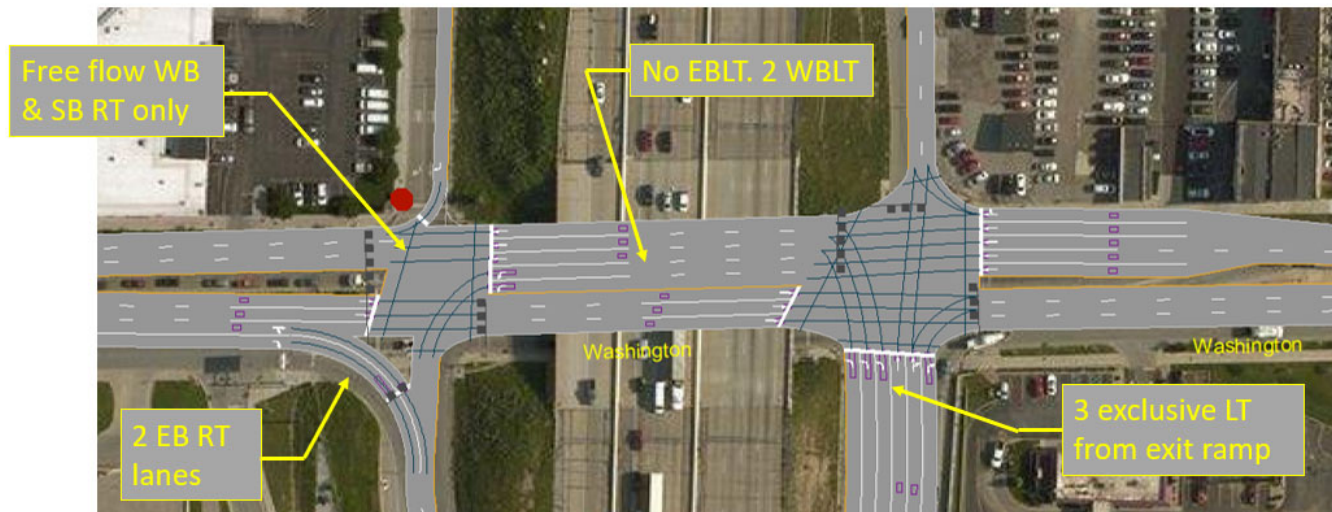
3.2.1 Interstates and Interchanges

Adjustments to the configuration of two adjacent interchanges will improve traffic operations during North Split construction. The Washington Street interchange will be the ending point for I-65/I-70 coming from the south. All interstate traffic will enter or exit at this location. Changes will be made as part of the North Split Project to improve the flow of the interchange so it will function more effectively as a terminus.

The changes at the Washington street interchange are shown in **Figure 3-1**. They will provide an additional lane on the approach to Washington Street from the northbound exit ramp, provide an additional turn lane on Washington Street at the southbound entrance ramp, and adjust the approach

lanes to provide free flow for westbound Washington street traffic after passing under the bridge by temporarily removing the traffic signal from service.

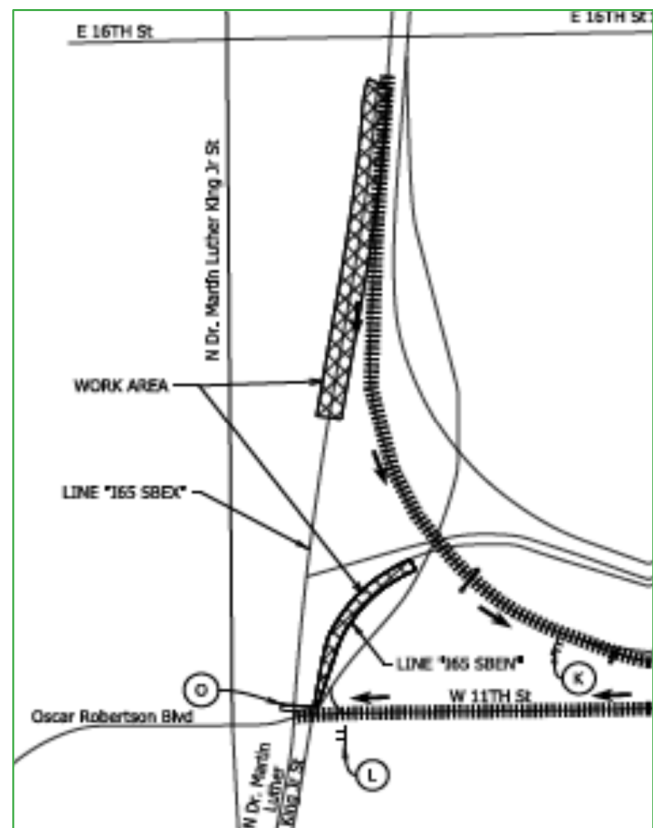
Figure 3-1: Washington Street Interchange Adjustments



A second key interchange location during North Split Project construction will be the interchange of I-65 with West Street/Dr. Martin Luther King Jr. (MLK) Street. This interchange is outside the North Split Project area, but it will serve as a key southern junction point for southbound I-65 and will continue to serve as an access point for I-70 to and from the east. The important role of West Street in the overall traffic operations of the downtown Indianapolis arterial street network is described in **Section 2.2**.

Potential improvements to the interchange at I-65 and West Street/MLK Street were analyzed by INDOT in a separate study.³ Among the changes recommended in that study were added lanes on the southbound exit ramp from I-65 and at the easternmost entrance ramp to the interchange from 11th Street. INDOT expedited these changes since they could be constructed in existing right-of-way, would provide immediate benefits to motorists, and would be supportive of other projects downtown, including the North Split Project.

Figure 3-2: Widened West Street Ramps



³ Indiana Statewide Interchange Study, INDOT, October 30, 2019



These changes to the West Street/MLK Street interchange are scheduled to be completed prior to most of the construction work on the North Split interchange – in the spring of 2021 or before. As shown in **Figure 3-2**, the current project includes the following items of work:

- Modify the southbound I-65 exit ramp to West Street to allow traffic to exit from two lanes.
- Modify the southbound I-65 entrance ramp from West Street so that vehicles traveling in the center lane of West Street as they cross 11th Street will be able to enter either northbound I-65 or southbound I-65.

3.2.2 Local Street Network Improvements

INDOT has recently installed cellular telephone modems at over 120 traffic signals that it operates on state roads and at freeway ramps within Marion County. These modems will allow INDOT to improve traffic signal synchronization and better monitor signal operations from its traffic management center on the east side of Indianapolis.

In 2019, INDOT also began working with the Indianapolis Department of Public Works to improve traffic flow on the local city street system as part of INDOT's Advanced Maintenance of Traffic (Advanced MOT) program. The purpose of the Advanced MOT program is to make traffic engineering and spot improvements on major local arterials throughout the area in support of INDOT's regional program. Many of these improvements will enhance traffic operations in and near the downtown area or on local routes used to access downtown. The planned improvements are described below:

Advanced MOT Signals Project (INDOT Contract T-42659)

Construction of this project commenced in August 2020 and is scheduled to be complete in the spring of 2021. The project includes the following upgrades at approximately 500 traffic signals within Marion County:

- Repair or replace malfunctioning vehicle detection and pedestrian actuation equipment.
- Install GPS time synchronization equipment at approximately 280 signals.
- Install cellular modems for time synchronization and monitoring of 208 signals along the following arterial routes:
 - East Washington Street;
 - East New York Street;
 - East Michigan Street;
 - West Washington Street;
 - Raymond Street;
 - Kentucky Avenue;
 - Madison Avenue;
 - Bluff Road;
 - Harding Street;
 - 16th Street / Crawfordsville Road;
 - North Meridian Street;



- Fall Creek Parkway /Binford Boulevard; and
- North Keystone Avenue.
- Install traffic monitoring cameras at 17 arterial intersections.
- Replace traffic signal controllers and cabinets as needed.

The GPS time synchronization equipment and cellular modems will allow traffic signals to be better synchronized and monitored. The entire system will operate more efficiently than it does today, with coordination maintained at all times in the downtown grid and in major corridors leading to downtown. Traffic signal systems and traffic cameras will be monitored at INDOT's traffic management center.

Advanced MOT Spot Improvements Project (INDOT Contract T-42856)

This project was let for construction in August 2020, with construction to be completed in the spring of 2021. This project includes the following spot improvements:

- Pennsylvania Street at Ohio Street - Restripe the southbound right lane from bus only to mixed flow right turn lane due to bus route changes.
- Raymond Street at Kentucky Avenue - Install left turn signals on Raymond Street.
- Raymond Street at Southeastern Avenue - Alter median curb on Southeastern Avenue to reduce queue blockage of through lanes.
- Southport Road at Bluff Road - Provide railroad preemption of existing traffic signal to safely accommodate increased traffic.
- County Line Road at Railroad Road - Install warranted traffic signal with preemption for adjacent railroad grade crossing.
- Washington Street at New Jersey Street - Repair damaged conduit and side street detection.
- Washington Street at East Street - Install pedestrian actuation for crossing the east leg of Washington Street.
- Fall Creek Parkway - Restore lane control system between 30th Street and College Avenue to increase corridor capacity.
- I-70 at Harding Street - Reassign northbound through lane as a second left turn lane at both ramp terminal intersections.
- I-65 at Keystone Avenue - Add a second left turn lane to the northbound exit ramp.
- Washington Street at Southeastern Avenue - Remove center curb island to allow an added westbound lane through the intersection and prohibit left turns from Washington Street.
- Illinois Street at 12th Street/I-65 entrance – Modify the northbound left turn signal to provide better operation for vehicles entering I-65.

Many of the spot improvements are located outside the downtown area. However, all the improvements will benefit overall traffic flow in the region. The Fall Creek Parkway project and the Washington Street/Southeastern Avenue project will improve traffic flow on two of the most important primary arterial access routes leading to downtown.



3.3 Traffic Management and Intelligent Transportation Systems (ITS)

Roadway conditions on Indiana's interstate system are continuously monitored by INDOT traffic management centers in Indianapolis and Gary. At these two centers, INDOT assembles information from in-pavement traffic and weather sensors, automated traffic speed data, freeway service patrols, 911 operators, INDOT construction staff, and a series of closed-circuit television cameras to provide a real-time picture of conditions on the interstates. INDOT uses this information to alert emergency responders to incidents, adjust traffic control and construction activities as needed, and inform the public of travel conditions. **Section 5.4** provides additional details about real-time travel information content and methods.

INDOT currently provides 24/7 staffing of the Indianapolis traffic management center, with additional staffing during weekday morning and evening peak travel periods. More staff will be added as needed to monitor and manage traffic conditions during North Split construction. This could be especially beneficial immediately after new construction traffic patterns are implemented, as drivers adjust to different restrictions and routes.

The North Split Design-Build Contractor will provide advance signing to notify travelers of construction zone restrictions and official detour routes. The TMP will identify this signing for each phase of project construction and define how the Design-Build Contractor will work with staff at the Indianapolis traffic management center to also convey this information using INDOT's dynamic message signs and other traveler information resources.

Indiana State Police and INDOT "Hoosier Helpers" regularly patrol Indianapolis area freeways and monitor for crashes, broken down vehicles, or other unusual conditions. During the North Split closure, patrol zones and frequency will be adjusted as necessary to provide additional coverage in areas with increased traffic. For instance, additional monitoring may be necessary along the segments of I-70 and I-465 that experience added traffic diverted from I-65 and I-70. Patrols of key arterials could also be implemented if needed, in coordination with the Indianapolis Metropolitan Police Department.

As new construction traffic patterns are implemented, INDOT will deploy additional traffic operations staff to monitor conditions along alternate routes and make traffic signal changes as necessary to improve flow. Traffic management center staff will use existing freeway surveillance cameras and new arterial cameras installed with the Advanced MOT project (see **Section 3.2.2**) to monitor for traffic congestion and bottlenecks. Field observation of traffic conditions will be conducted along arterial routes where cameras are not available or to confirm potential issues identified from the traffic management center.

Where traffic signal changes are required to alleviate congestion on diversion routes, these changes will be implemented quickly by traffic operations staff in the field or at the traffic management center. As with previous major construction projects, INDOT and the City of Indianapolis will partner to monitor local street and address signal operation issues quickly.

INDOT, the City of Indianapolis, IndyGo, and other organizations have been working together to minimize and prepare for traffic diversion during the North Split closure. Construction project schedules are being coordinated to help minimize road capacity restrictions on anticipated diversion routes while the closure is in place. The city is considering implementing a construction permit review process to assure that unnecessary street blockages are not approved along key diversion routes. Actions to minimize downtown street blockage due to deliveries are also being discussed.



3.4 Incident Management and Response

Incident management and response is an important element of the traffic operations component of the MMP because of the significant impact incidents have on the function of the transportation system. The Traffic Management Data Dictionary (TMDD), as published by the Institute of Transportation engineers (ITE) and the American Association of State Highway Transportation Officials (AASHTO), defines an incident as "an unplanned randomly occurring traffic event that adversely affects normal traffic operations."⁴

Traffic incidents have been identified as a major contributor to increased congestion. The National Traffic Incident Management Coalition (NTIMC) estimates that traffic incidents are the cause of about one-quarter of the congestion on US roadways, and every minute a freeway lane is blocked due to an incident results in 4 minutes of travel delay time.⁵

The Design-Build Contractor for the North Split Project is required to establish and manage a traffic incident management plan (TIMP) as a component of the TMP. The focus of that plan is the project work zone, approaches to the work zone, and official detours. The incident management focus of The MMP focuses on the surrounding transportation network, outside the work zone but still influenced by north split construction.

In practice, the incident management strategies and execution of the MMP and the TIMP are mostly seamless. INDOT already operates a robust freeway incident management program from its Indianapolis traffic management center, in close coordination with the Indiana State Police and local emergency response agencies. The TIMP developed by the Design-Build Contractor will focus on how the presence of construction will impact site access, response coordination, and established procedures for incident management. The emergency responders are mostly the same and conditions within and outside the work zone are affected by the same closures and construction operations. The requirements of the Design-Build Contractor with respect to incident management and control are described below.

The Design-Build Contractor is required to facilitate establishment of policies and procedures that specifically address the detection, verification, response, management, and clearance of incidents within or adjacent to the work zone. This will be led by the Design-Build Contractor's Incident Management Liaison, who will manage the preparation of the TIMP and attend regular TMP meetings and present reports on incidents.

Prior to the start of construction work, the Incident Management Liaison will conduct a one- to two-hour, Incident management training session for the Design-Build Contractor's key personnel, superintendents, and lead foremen, with an invitation to INDOT. This training will familiarize the Design-Build Contractor's personnel with the Incident management procedures developed by the TIMP.

The Incident Management Liaison will prepare Incident management maps as part of its TIMP submission to be reviewed by INDOT and distributed to governmental entities identified in the TMP. The Incident Management Liaison will update maps at a minimum of once per change of phase in MOT Plan or at the request of INDOT. The maps will show which travel lanes and ramps are open or closed

⁴ *Traffic Management Data Dictionary (TMDD) and Message Sets for External traffic management center Communications (MS/ETMCC) Website. Institute of Transportation Engineers*

⁵ *NTIMC: Benefits of Traffic Incident Management, available online: <http://www.transportation.org/sites/ntimc/docs/Benefits11-07-06.pdf>.*



to general traffic and to emergency vehicles. Rally points, control points, emergency road closure diversion points, and available diversion equipment locations will be identified.

The Incident Management Liaison will meet with local emergency responder representatives at least 10 days prior to each major change in the MOT traffic patterns to describe the upcoming changes and to review the incident management strategies. The Incident Management Liaison will also coordinate with the INDOT traffic management center to provide the same information.

The objectives of the MMP will also be reviewed in the meetings with local emergency responder representatives and the INDOT traffic Management Center. The objective will be to review potential impacts of MOT traffic patterns and closures on emergency response in the larger transportation network surrounding the project. By reviewing these issues in conjunction with the TIMP meeting, coordination can be enhanced, and the time devoted by emergency responders can be used most effectively.



4 TRAVEL DEMAND MANAGEMENT

Travel demand management (TDM) strategies have been advocated by transportation planning professionals for many years to reduce congestion, increase system efficiency, and improve air quality. Commuter ridesharing and mode shift to transit have been the most common TDM strategies. In the context of optimizing mobility during an extended construction project such as reconstruction of the North Split, a broader definition is appropriate. The following definition of demand management is taken from a 2004 FHWA report:

Managing demand is about providing travelers, regardless of whether they drive alone, with travel choices, such as work location, route, time of travel and mode. In the broadest sense, demand management is defined as providing travelers with effective choices to improve travel reliability.⁶

Based on this definition, TDM is about improving travel reliability by providing effective choices. These choices include shifting modes, shifting the time of travel, and eliminating travel all together. Initiatives are provided in this section to advance each of these strategies during North Split construction. To the extent these strategies are successful, benefits will accrue for the individual traveler and for all system users.

4.1 Mode Shift and Ridesharing

Traffic demand during peak periods can be reduced directly by travelers shifting to a non-auto mode or sharing a ride with another driver. Transit is the most common opportunity for mode shift. Ridesharing is typically in the form of carpools or vanpools. Non-vehicular options such as walking, biking, or jogging are also available to some travelers. Strategies related to each of these options are reviewed in this section. Both transit ridership and carpool/vanpool participation have decreased significantly since the beginning of the COVID-19 pandemic in early 2020. These decreases have been due to an overall reduction in work commuting, as well as concern about virus exposure during shared-ride trips. Ridership for these alternative modes is expected to return as COVID-19 vaccines begin to ease the pandemic.

4.1.1 Transit

The best opportunity for a mode shift from automobile during North Split construction is to transit. Transit service is provided in Marion County by the Indianapolis Public Transit Corporation, also known as IndyGo. The IndyGo system includes 30 fixed routes providing frequent stops throughout the region and one bus rapid transit (BRT) line, known as the Red Line. Two additional BRT lines are planned, but they are not scheduled to be in service until after the North Split construction is complete.

An early meeting was held with senior IndyGo staff in January 2020 to discuss anticipated IndyGo priorities during construction and potential opportunities to encourage mode shift to transit during the two-year construction period of the North Split. Maintaining regular IndyGo operations in service to the Julia M. Carson Downtown Transit Center and other downtown destinations was emphasized as the overriding priority by IndyGo staff. The dedicated BRT lanes recently established downtown will be

⁶ FHWA, *Mitigating Traffic Congestion-The Role of Demand-Side Strategies*, prepared by ACT, Report No. FHWA-HOP-05-001, October 2004.

particularly helpful in mitigating the impacts of anticipated street congestion on BRT schedules. (See **Figure 4-1**).

IndyGo staff suggested a need for special attention to the following priorities for maintaining existing fixed route service during construction:

1. Minimize disruption of regular IndyGo operations into, through, and out of downtown, with no interruption or reduction of access to the Julia M. Carson Downtown Transit Center.
2. Improve enforcement of traffic regulations downtown, to enhance on-street operations and to reduce encroachments onto IndyGo facilities such as exclusive BRT lanes.
3. Coordinate with IndyGo schedulers well in advance of detours/closures on streets used by IndyGo routes so that schedules can be adjusted and prior notice can be provided to system users.

Since all routes but the Red Line operate in mixed traffic on the existing downtown arterial street system, maintaining IndyGo operations is consistent with the overall MMP objective of reducing congestion through effective traffic operations management and travel demand management. As suggested by IndyGo staff, a high level of enforcement will be important to ensure that both mixed travel lanes and dedicated BRT lanes are available for transit without incurring unnecessary delays, even where lanes will not be directly impacted by North Split construction

North Split construction will directly impact several local IndyGo routes as new interstate bridges are constructed over arterial streets. About a third of the local routes in the current IndyGo system will need to make temporary adjustments at some point during construction to bypass street closures. In the planned future IndyGo route system (after June 2022), six routes will be affected. Route adjustments will be needed at six crossing locations due to underpass construction. Impacted routes are shown in **Table 4-1**.

IndyGo will be provided a schedule of planned closure or restrictions due to construction at the undercrossing locations shown in **Table 4-1**. This schedule will be regularly updated while the work is underway so IndyGo can preplan and execute temporary route changes and provide ample notice for IndyGo users to make adjustments to planned trips.

The closure schedule for construction of underpasses will be determined by the Design-Build Contractor. INDOT specifications require the Design-Build Contractor to provide an overall baseline schedule at the outset of construction, then to provide 45 days written notice to IndyGo for closure of bridge underpasses. As the work is underway, the Design-Build Contractor will provide weekly updates of construction plans and progress, including unanticipated delays and future closures.

The North Split Project team held a series of meetings with IndyGo staff starting in May 2020 to support preplanning of temporary route changes by IndyGo schedulers. Overall maintenance of traffic plans

Figure 4-1: Dedicated BRT Lane





were described and the information shown in **Table 4-1** was presented and discussed. Preliminary draft detour routes proposed by the Design-Build Contractor were provided to IndyGo staff for consideration in early planning. IndyGo will identify detours for IndyGo routes that may or may not coincide with the construction detours proposed by the Design-Build Contractor.

Table 4-1: IndyGo Routes that will be Impacted by Bridge Construction

Route	Route Name	Bridge Construction Location
Existing IndyGo Route System		
Route 2	East 34 th Street	Alabama Street
Route 3	Michigan Street	Michigan Street, New York Street
Route 4	Fort Harrison	Central Avenue
Route 5	East 25 th Street	Central Avenue
Route 8	Washington	Washington Street
Route 10	10 th Street	10 th Street
Route 11	East 16 th Street	10 th Street
Route 19	Castleton	Central Avenue
Route 21	21 st Street	10 th Street
Route 38	West 38 th Street	College Avenue
Future IndyGo Route System (after June 2022)		
Route 2	East 34 th Street	College Avenue
Route 7	Michigan Street	Michigan Street, New York Street
Route 8	Washington	Washington Street
Route 10	10 th Street	10 th Street
Route 19	Castleton	Central Avenue
Route 28	St. Vincent	Central Avenue

The potential for supplementing IndyGo service to increase the mode shift to transit during construction was also discussed in meetings with IndyGo staff. The following points were made at the initial meeting with senior staff in January 2020:

1. Additional IndyGo service could be provided on existing routes during construction if funding assistance is available.
2. If existing fixed route service is supplemented with express and/or park and ride services, these services would likely need to be contracted. IndyGo does not have excess vehicles or staffing to provide these services.

Meetings were also held with IndyGo staff beginning in May 2020 to discuss opportunities for travel demand management education and motorist communication processes. Potential mode shift to transit is one of the areas of emphasis in the Mobility Management Education Program described in **Section 5.5** and the motorist information process described in **Section 5.4**.

4.1.2 Carpools/Vanpools

Carpool and vanpool programs are administered in the Indianapolis region by the Central Indiana Regional Transportation Authority (CIRTA). The service, called Commuter Connect, is a regional TDM program serving the nine-county Central Indiana region. The program offers carpool matching through a commuter database, vanpools, a guaranteed ride home benefit, and outreach services to assist employers in promoting alternative commute options to the workforce. Commuter Connect provides free online matchmaking for carpools, vanpools and bike buddies based on their home, work or school address and their commuting hours.

In addition to providing the matchmaking service, the program provides low cost vanpool vehicles for groups of commuters. The subsidized fares vary but include insurance and maintenance costs. A vanpool (see **Figure 4-2**) consists of five to 15 people commuting from similar origins to similar destinations each workday. In the Commuter Connect program, CIRTA provides the van, and passengers pay a monthly fare which secures their seat in the van. CIRTA provides subsidies to partially offset the monthly passenger fares. Riders can leave the vanpool by giving a 30-day notice.

Figure 4-2: Commuter Connect Van



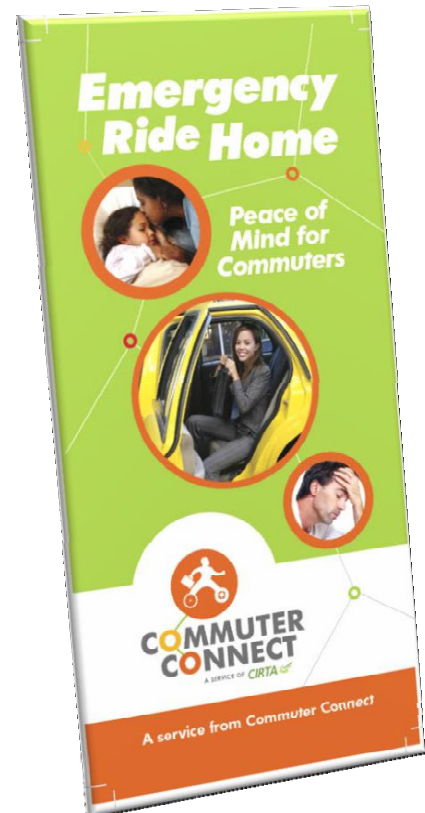
Any commuter can register with Commuter Connect to find carpool or vanpool opportunities, regardless of whether their employer participates in the program. However, participation in the program provides employers with outreach services and access to the guaranteed ride home benefit for their employees. The Emergency Ride Home program offers free taxi service from the workplace to the employee's home in the event the employee must leave work unexpectedly or stay late. See **Figure 4-3**.

To participate in the program, employers need to register with CIRTA, allow CIRTA on site at least once a year to tell employees about free benefits available, and assign a staff contact person. Some employers designate preferential parking for carpools and vanpools. CIRTA provides signs and hangtags. Employers can also encourage participation by allowing employees to set up transportation

flexible spending accounts to use pre-tax money to pay vanpool fees or to use for public transit. Employers can also subsidize these costs directly as a deductible business expense.

A carpool is defined as two or more persons riding together to work, even if they are family members. Carpool riders that register with Commuter Connect and work for participating employers qualify for the Emergency Ride Home program provided by CIRTa.

Figure 4-3: Emergency Ride Home Brochure



4.1.3 Non-Motorized Travel

Accessing downtown destinations by walking or riding a bicycle is a good option for some, even if it is only feasible part of the time. The downtown area, particularly inside the inner loop, includes the most connected infrastructure system in the region for non-motorized travel. The bicycle and pedestrian system near downtown is also relatively contiguous compared to the rest of the region, particularly to and from the dense residential neighborhoods north of downtown.⁷

To encourage non-motorized commuting, CIRTa makes the Emergency Ride Home program available for those that bike or walk to work on a regular basis (see **Section 4.1.2**). Potential users simply must register in advance on the Commuter Connect website in order to be eligible for the service.

Recent changes to the transportation system have made commuting to downtown destinations by bicycle or walking easier and safer. Dedicated bicycle lanes are available on several key arterials, including facilities near the North Split construction area. These dedicated bicycle lanes will be maintained during most of the construction period or detours will be provided.

The safety and mobility of bicycle and pedestrian movements in the downtown area and in the immediate area of the North Split Project will be enhanced by INDOT's Advanced MOT program, as described in **Section 3.2.2**. As traffic signals are upgraded with new components, pedestrian push buttons and walk/don't walk indications will be repaired or replaced. This work will be completed before North Split construction begins.

The most prominent and most used trail in Central Indiana is the Monon Trail, which starts at 10th Street and extends northward more than 25 miles through Carmel, Westfield, Sheridan, and beyond. Two other trails are linked with the Monon Trail at 10th Street – the Pogues Run Trail, which extends east into nearby neighborhoods, and the Cultural Trail, which extends southwest through the downtown area.

Due to its location directly next to I-65/I-70 and under multiple I-70 mainline and ramp bridges, the southern end of the Monon Trail will be closed for virtually the full two-year construction period of the North Split. A detour will be constructed to link the open portion of the Monon Trail with the downtown

⁷ Indianapolis Metropolitan Planning Organization, *Regional Pedestrian Plan, Figure 3-6 - Existing Pedestrian Network & Gaps*, February 2020, p. 25

bike and pedestrian grid and with other trails converging in the area. This trail – to be called the Monon Loop – will remain when North Split construction is complete as a permanent connectivity improvement

for surrounding neighborhoods. The location of the Monon Trail detour and alignments of the Pogues Run Trail and Cultural Trail are shown in **Figure 4-4**.

The Cultural Trail will not be directly impacted during North Split construction, but it will connect with the Monon Trail in a different way. The Pogues Run Trail will be impacted temporarily when the 10th Street bridge is reconstructed, with users diverted to nearby streets and sidewalks.

Other existing sidewalks and bike lanes will be impacted by the North Split Project for short periods as interstate bridges are reconstructed over local roadways. Generally, these temporary closures will not exceed 90 days, as shown in **Table 1-1**, and in no case will bridges adjacent to each other be closed at the same time. In other words, if bike and pedestrian facilities are unavailable at one bridge location, the bridge crossings on either side will be open.

As bridge work is completed across local streets in the project area, opportunities for bicycle and pedestrian commuting will be improved. At most locations the existing bridges will be replaced by structures with larger openings, allowing the provision of new and wider sidewalks under the bridges. Enhanced lighting will also be installed.

Materials to be used for pedestrian facilities in bridge areas will be a mix of concrete and asphalt pavers. Concrete sidewalks at new bridge locations will be a up to 12 feet wide, with a three-foot buffer of asphalt pavers between the sidewalk and the curb, and a two-foot buffer of asphalt pavers between the sidewalk and the abutment wall.

Table 4-2 shows the existing sidewalk width and the planned width for bicycles and pedestrians (concrete sidewalk and asphalt pavers) through each bridge in the North Split Project area. All bicycle and pedestrian crossings will be widened except at Alabama Street and Commerce Avenue, since these existing bridges will not be replaced. Sidewalks at Alabama Street and Commerce Avenue will be reconstructed at the existing widths with a new surface, and enhanced lighting and landscaping will be provided.

Figure 4-4: Monon Trail Construction Detour

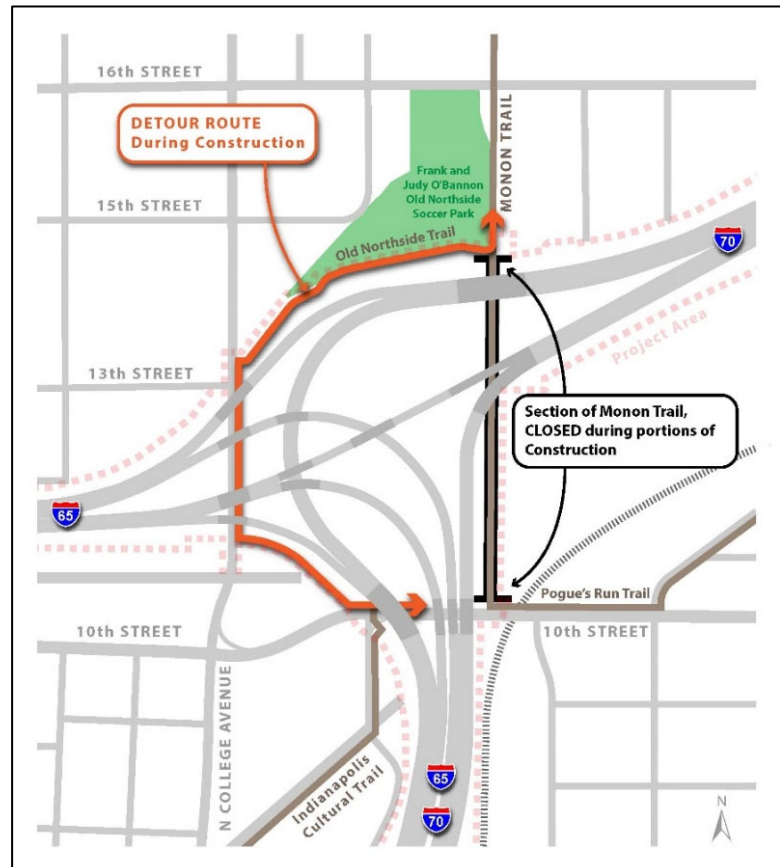




Table 4-2: Improved Bicycle/Pedestrian Widths at Bridges

Bridge Location	Existing Sidewalk Paved Width	New Bike/Pedestrian Paved Width
Washington Street	10 feet	17 feet
Market Street	10 feet	15 feet
New York Street	6 feet	15 feet
Vermont Street	14 feet	15 feet
Michigan Street	6 feet	15 feet
St. Clair Street	16 feet	20 feet
10 th Street (westbound)	14 feet -16 feet	22 feet
10 th Street (eastbound)	13 feet -18 feet	22 feet
College Avenue	6 feet (W) – 14 feet (E)	22 feet
Central Avenue	14 feet	17 feet
Alabama Street*	18 feet	18 feet
Commerce Avenue*	6 feet – 8 feet	6 feet – 8 feet
*Alabama and Commerce bridges will not be replaced; resurfaced sidewalk width same as existing		

4.2 Work Rescheduling and Work Trip Reduction

Both work rescheduling and work trip reduction have the potential to benefit the employee while they also improve traffic operations. Each of these options is reviewed below. Work rescheduling is typically accomplished with flextime or alternative work schedules, while work trip reduction is typically accomplished by telecommuting. These options can be especially effective during times the system is stressed, such as during a major transportation project like the reconstruction of the North Split. The potential effectiveness of work trip reduction in particular has been clearly displayed since the beginning of the COVID-19 pandemic in March 2020.

4.2.1 Work Rescheduling

When given the choice, many commuters already shift their workplace arrival and departure times to avoid congestion and delay during peak traffic conditions. Although this does not reduce total trips, it reduces the number of trips that occur during peak travel demand hours, improving the commute experience for those who shift their trip and improving the operational efficiency of the transportation system for all other travelers. Employers play a role by allowing and even encouraging this option for their employees.

Typical options for work rescheduling include flextime, alternative work schedules, or a combination of the two. Flextime provides workers the opportunity to choose their own working hours, often within certain limits to allow the opportunity for interaction with fellow workers during a pre-established core



period during the day. Alternative work schedules typically provide the opportunity to work a 40-hour week with a schedule other than five 8-hour days. Examples would be four 10-hour days, or four 9-hour days and one 4-hour day.

Another variant of trip rescheduling is staggered work hours, whereby workers arrive and leave at predetermined times that vary within a time window at each end of the day. Arrivals could be spread over a one- to two-hour period, with a similar pattern for departures. This option reduces congestion at entries and exits to large parking areas at the workplace but may have minimal effect on the transportation system unless arrival and departure times are outside peak traffic periods.

All the trip rescheduling options can benefit employees by reducing stress and providing opportunities to balance commitments at work and home. When applied effectively and/or in combination, they reduce peak period demand in the traffic network as they provide options for employees.

4.2.2 Work from Home Programs

An approach even more effective than work rescheduling is telecommuting, or as it is commonly known now, working from home. This option provides increased worker flexibility and reduces demand on the transportation system. Technology improvements and enhanced access to worksite systems has made this a more viable alternative in recent years. In fact, many workers and employers have now adapted to working from home due to the ongoing COVID-19 pandemic. They have realized that this arrangement can benefit both the employee and the employer.

Although travel on Indiana's highways has increased since the end of government stay-at-home orders enacted during the Spring of 2020, daily vehicle trips in Marion County were still approximately 28 percent lower in November 2020 than during November 2019.⁸ Recent INDOT traffic counts show that daily traffic volumes on many radial interstate highways in and around Indianapolis are still 17% to 25% below 2019 volumes. Traffic on portions of I-465 appears to be approximately equal to 2019 volumes though, likely due to the lower proportion of commuting trips in the traffic stream. In fact, INDOT traffic trends at several sites throughout the state show the greatest volume decreases from the COVID-19 pandemic have occurred during the morning and afternoon peak work commute hours.

It is anticipated that many employees who continue to work at home because of COVID-19 will eventually revert to their previous commuting patterns. However, it is expected that some may make working at home—either full-time or part-time—a permanent part of their schedule. Many large U.S. companies have extended work from home opportunities to their employees through at least the middle of 2021, and permanently in some cases. This includes Salesforce, a company with a large workforce in downtown Indianapolis.⁹

Working from home reduces traffic demand every day it is implemented, meaning the transportation system benefits even if an employee only works from home one or two days each week. To the extent that employers continue to allow and encourage this option during North Split construction, benefits will accrue for the individual employees, the employers, and for the remaining users of the transportation

⁸ US Department of Transportation, Bureau of Transportation Statistics, *Changes in Mobility by State*. Available online at <https://www.bts.gov/content/changes-mobility-state>.

⁹ <https://www.forbes.com/sites/jackkelly/2020/08/21/salesforce-joins-google-and-facebook-in-extending-work-from-home-to-next-summer/#31f2c187377d>. Accessed October 2, 2020.



network. Widespread use of work from home programs, potentially coupled with flextime and work rescheduling could significantly reduce overall peak period traffic demand in downtown Indianapolis. This is a fundamental objective of the North Split MMP.

4.3 Special Event Planning

Although major events are currently being modified or canceled due to COVID-19 concerns, INDOT will continue to plan for the possibility that events will occur as conceived. Event planners and special event venue managers will be notified of pending construction activities and roadway restrictions and closures as part of the project communications and public outreach program described in **Section 5**. North Split communications team members will provide weekly construction updates by email, and current information will be posted on the project website. Graphics, news posts and maintenance of traffic plans will be updated and posted on the site as needed. Notification of closures and other system changes will be critical for event planners and managers to be able to effectively plan their events.

The INDOT contract documents require the Design-Build Contractor to suspend work associated with deliveries and off-site hauling operations during major holidays and local event days. The local event days identified for restrictions in the contract specifications are shown in **Table 4-3**. In addition to the local event days identified in **Table 4-3**, the Design-Build Contractor is required to identify any additional local events and submit these dates and times to INDOT for concurrence.

Table 4-3: Major Local Event Days

Event	Date	From	To
NBA All Star Game	Feb 14, 2021	Saturday, Feb 13 at 7 am	Monday, Feb 15 at 5 am
NCAA Final Four	Apr 3-5, 2021	Friday, Apr 2 at 10am	Tuesday, Apr 6 at 5am
OneAmerica 500 Festival Mini Marathon	May 8, 2021	Friday, May 7 at 11pm	Saturday, May 8 at 11 pm
Indianapolis 500	May 30, 2021	Saturday, May 29 at 11 pm	Monday, May 31 at 5am
Big Ten Football Championship	Dec 4, 2021	Friday, Dec 3 at 10am	Sunday, Dec 5 at 5am
College Football Championship	Jan 10, 2022	Saturday, Jan 8 at 12 pm	Tuesday, Jan 11 at 5am
NCAA Men's Basketball First and Second Round	Mar 17-19, 2022	Wednesday, Mar 16 at 10am	Sunday, Mar 20 at 5am
OneAmerica 500 Festival Mini Marathon	May 7, 2022	Friday, May 6 at 11 pm	Saturday, May 7 at 5am
Indianapolis 500	May 29, 2022	Saturday, May 28 at 11 pm	Monday, May 30 at 5am



5 COMMUNICATIONS AND PUBLIC OUTREACH

INDOT is investing in a proactive and creative effort to communicate project impacts and opportunities through implementation of this MMP. The communication strategies described herein are closely coordinated with the North Split Construction-Phase Public Involvement Plan (PIP). The goals and objectives defined in the PIP aim to ensure that INDOT and the project team provide relevant and timely project information to the public and communicate project benefits efficiently and accurately. Providing relevant and timely project information is key to meeting the objectives of the MMP and the documents are structured to be mutually supportive.

5.1 North Split Public Involvement Plan

From the inception of the North Split Project, as the environmental studies were being initiated, INDOT and the project team have followed the guidelines of a formal PIP. The original PIP for the environmental study had the goal to proactively educate key stakeholders about the existing conditions of the bridges and pavement, the current concerns with the North Split interchange, the proposed solutions to improve traffic flow and safety, the environmental review process, and the maintenance of traffic plans.¹⁰

As the environmental study was nearing completion, the original PIP began to be referred to as the NEPA¹¹ PIP since a new PIP was prepared to guide public involvement activities during the construction phase. The term PIP in this MMP refers to the construction phase PIP, in contrast with the NEPA PIP used in environmental studies for the project.

During the construction phase, the PIP will not only guide the actions of INDOT and the North Split Project team, it will also link directly with the actions of the Design-Build Contractor. Technical Provisions defining the responsibilities of the Design-Build Contractor specifically require “the support of INDOT in administering its public involvement plan, which addresses all public involvement tasks defined in the Public Involvement section and elsewhere in the contract documents.”

Communications team members will prepare weekly construction updates for email distribution to subscribers and posting on the project website. Graphics, news posts and maintenance of traffic plans will be updated and posted on the site as needed. In addition to project information, the online comment form, text messaging information and e-newsletter sign-in form will remain available to keep readers connected with the project.

5.2 Communication Tools

With the demand for instant access to current information, residents expect the project website, e-newsletter, text messaging, and social media to be updated frequently with the information they need to travel through the project area and throughout the region. INDOT and the Design-Build Contractor will utilize these communications tools and others to relay up-to-date information about construction and key project milestones.

¹⁰ North Split Public Involvement Plan, INDOT, April 2020 (current edition)

¹¹ NEPA – National Environmental Policy Act of 1969

5.2.1 Project Website

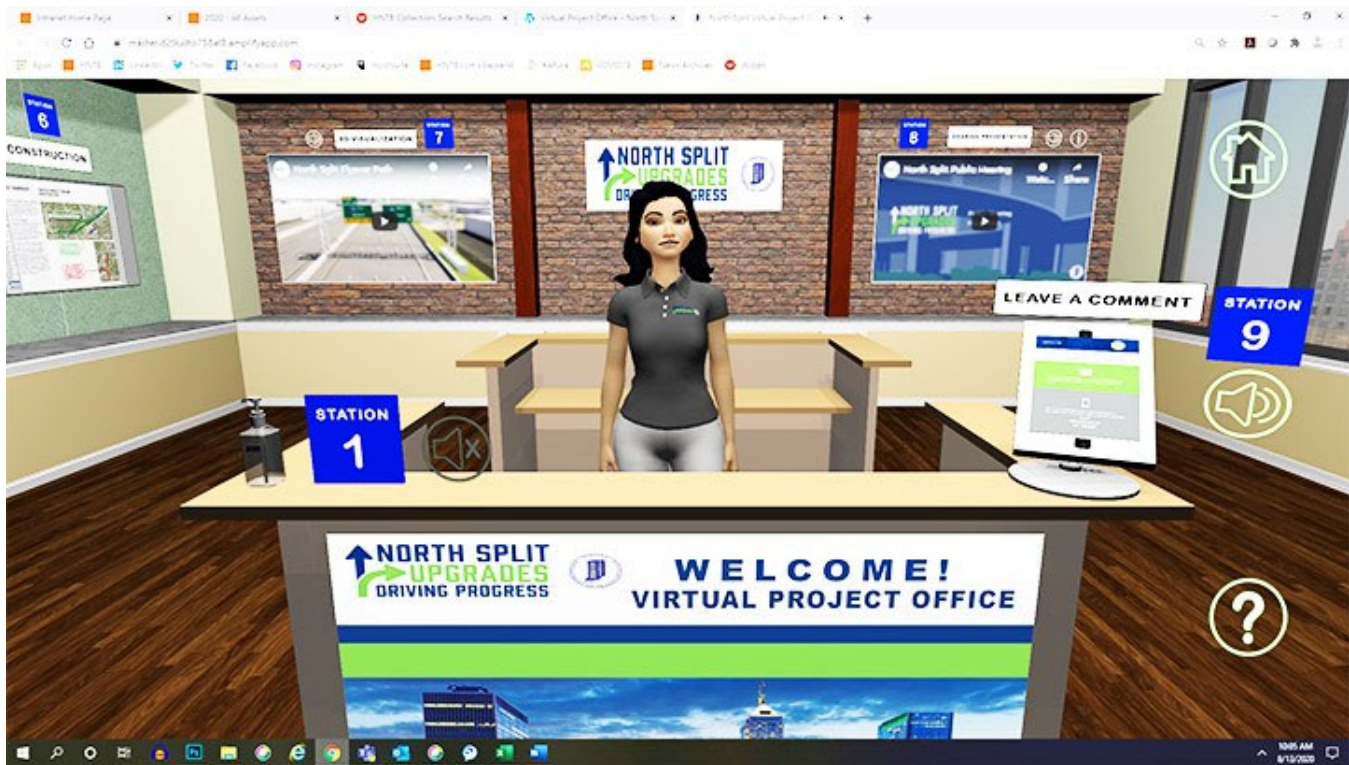
The website NorthSplit.com will continue to be the hub for all project information. As the project moves into construction, all environmental study information will be archived on the site and construction information will move to the top of the navigation bar. For the purposes of the MMP, the website will be used to provide information about alternative travel options and telework incentives, as developed by the TDM team.

A three-week look-ahead calendar will be posted to the project website each week. Graphics, news posts, and maintenance of traffic plans will be updated as new information becomes available. In addition to project information, an online comment form, text messaging information, and an e-newsletter sign-in form will remain available on the project website to keep readers connected with the project.

5.2.2 Virtual Project Office

The North Split Virtual Project Office is designed to provide a digital office visit experience for learning more about the project and providing feedback to INDOT and the North Split Project team. It was developed during the environmental study process to engage project stakeholders and solicit their feedback safely as COVID-19 drove new mechanisms to seek public involvement and communicate project updates. The Virtual Project Office will continue to be “open” with frequent updates during construction.

Figure 5-1: Virtual Project Office





A digital avatar, “Christine,” greets visitors to the virtual project office and guides them through several stations. During the environmental phase, visitors could review and comment on the project’s EA, ask questions, watch the most recent public hearing presentation, and learn about the project’s preliminary design, construction timeline, and traffic planning. Visitors also can view a 3D flyover visualization to understand how the North Split interchange will operate when complete.

The blend of online interactivity with virtual reality proved effective during the final phases of the environmental process. It will continue to evolve as a virtual “public construction office” as the North Split Project advances.

5.2.3 Social Media

Social media engages key stakeholder groups and provides messaging that is fast and easy for them to share with their followers. As the project moves through construction, the INDOT expects the number of followers to grow significantly. Facebook, Twitter, and Instagram handles are shown below:

- Facebook - @NorthSplit
- Twitter - @NorthSplit
- Instagram - @IndyNorthSplit

Social media has proven effective in driving awareness, consideration, and conversations. Of social media sites, Facebook has the highest number of active users. Facebook will help to make drivers aware of road closures and to encourage them to make plans for alternate routes. They may also share road closure information with their network.

Posts will include short videos of construction activity. Instagram may be added as construction advances and visual storytelling will be used. Social media channels are carefully monitored, with approved responses posted in a timely fashion and tracked in the public inquiry log.

5.2.4 E-Newsletters and SMS Text Messaging

More the 1,400 individuals signed up to receive the North Split Project e-newsletter during the environmental study phase of the project. The e-newsletter will be distributed at the beginning of each major change in maintenance of traffic as construction progresses and in a weekly format posted to social media.

Approximately 300 individuals were enrolled in the SMS text messaging program during the environmental study phase. Users will continue to sign up for project texts by texting NORTHSPLIT to 468311. Text messages will be sent at least weekly, more if needed.

5.2.5 Paid Media Communications

A specific paid media schedule – based on project milestones – will be developed for the North Split Project. In most cases, the intent of paid media communications will be to raise awareness directly with drivers to assist them in seeking alternate routes during the North Split ramp and lane closures. Reaching such a broad audience will require a comprehensive media strategy consisting of both traditional and digital media. This will allow for tight targeting to reach those who use the North Split to get to work downtown. It will also reach those planning a trip to Indianapolis or traveling through the downtown area.



Outdoor Media

Digital billboard placements give excellent potential to raise awareness in a targeted geographical area. These will be considered for placement outside I-465 on major arteries and in the commuter counties north of Indianapolis. These will be most effective in the months leading up to and the first weeks of construction to create awareness among those who would be affected daily.

Audio

With enough frequency, audio will reach the audience repeatedly and is the perfect medium to build awareness. Audio will help to reinforce the road closure message. A combination of local radio and streaming audio such as Pandora, will be used. Other streaming services to be considered are Spotify, Tune In, and Triton Digital. A partnership with TTWN (Total Traffic and Weather Network) is being considered to help spread word on alternate routes and upcoming changes to the closures.

Digital Display

Mobile phones provide a unique view into user behaviors, frequently visited locations, home and work habits, interests and much more. Every mobile phone has a unique device ID number that is anonymously associated with the carrier of the device. Device ID Targeting and Geo-Fencing take advantage of that by monitoring the location information associated with each device. This information is compiled by third parties, stored in the cloud, and made available for marketers to leverage by targeting consumers through their devices. Data collected prior to construction will guide the placement of ads to alert drivers of the road closure and how it will change their commute.

Programmatic display allows targeting of messages with a large number of users at a low cost per impression. Using the data collected from the Device IDs allows these drivers to be served programmatic display ads. An ad can run on any site that the user searches for instead of specifically seeking out certain sites. Targeting can also be directed to anyone who has searched for hotels, events, or conventions in downtown Indianapolis and they can be sent messages about road closures. Using a list of keywords, a predictive custom segment can contextually target anyone looking at traveling or visiting Indianapolis.

Paid Search

Search will serve as a supporting medium to reach drivers who are interested in gathering information on the North Split Project. Instead of generating awareness, search captures consumers who are already interested in this topic by serving a search ad when they use a relevant search term. Search simply ensures that the person finds the proper website for more detailed information on the North Split lane and ramp closures.

5.3 Advance Closure Notifications

Notification of closures and other system changes will be critical for motorists to be able to effectively plan their routes. The Maintenance of Traffic Manager for the Design-Build Contractor is required to notify INDOT at least 28 days before the start of any construction work that would affect traffic operations, including placement or relocation of work zone signs.



More specifically, the Design-Build Contractor is required to submit written notification of movement closures in accordance with **Table 5-1** prior to implementation of the closure. The information must include all construction and maintenance activities that impact or interfere with traffic, listing the specific location, type of work, type of Movement Closure (e.g., temporary, off-peak, overnight local street, etc.), date and time of the closure, duration, number of lanes maintained, detour routes if applicable, and any other information as requested by INDOT. A summary of the notification time and requirements for Movement Closures is provided in **Table 5-1**.

Table 5-1: Movement Closure Notification Periods

Movement Closure	Duration	Notification Period
Interstate, Ramp and Local Street	Greater than 2 weeks	28 days before Movement Closure
	Greater than 12 hours and less than 2 weeks	7 days before Movement Closure
	Less than 12 hours	4 days before Movement Closure
Interstate, Ramp and Local Street impacting school access and/or bus route or transit system operations	All Movement Closures	28 days before Movement Closure
Lane Closure/Restrictions	Greater or equal to 2 weeks	7 days before Movement Closure
	Less than 2 weeks	4 days before Movement Closure
Temporary Traffic Stoppages under Section 801.16(c) of the Standard Specifications	All Movement Closures	14 days before Movement Closure
Overnight Local Street Closures	All Movement Closures	14 days before Movement Closure

INDOT will use the information from **Table 5-1** to inform motorists and stakeholders, using the means described in the Construction PIP.

In addition to the public notifications required in **Table 5-1**, the Design-Build Contractor will be required to notify transit operators and schools well in advance of changes to allow schedules to be adjusted and communicated to users. For routes with transit system operations, written notice shall be sent to the transit system operator 28 days prior to when a route will be affected.

Changes in roads used by school bus routes will be discussed with the school systems a minimum of 28 days prior to when the changes actually take place so the school systems can adjust routes in a timely manner. Where roads are severed, provisions for school bus turnarounds will be included during the final design phase of the project.

5.4 Real-Time Traveler Information

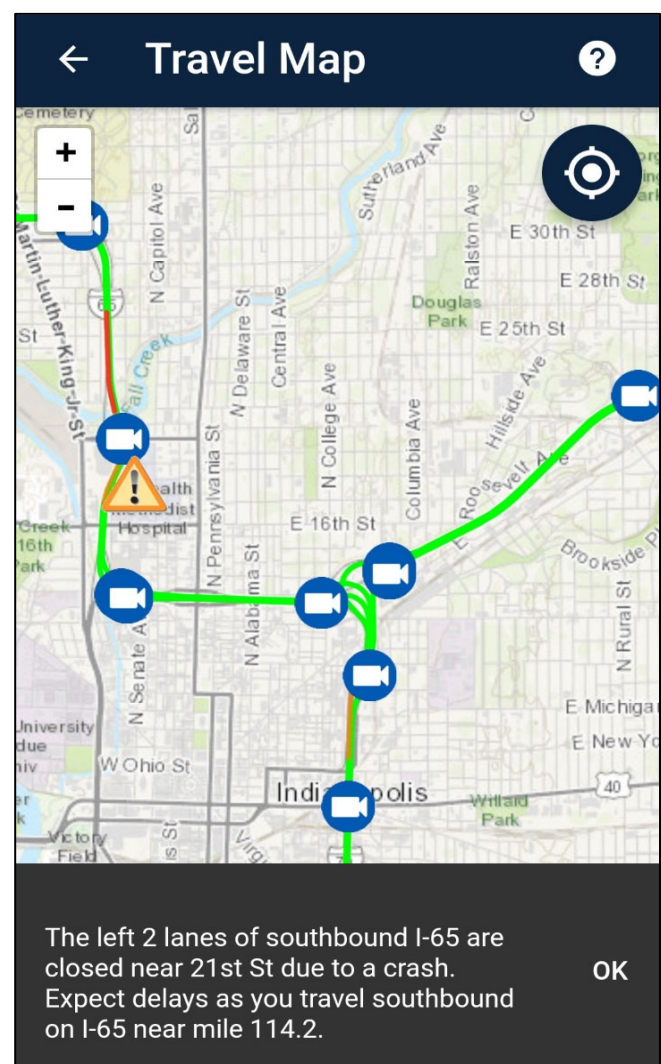
In addition to providing project construction information to motorists in advance, it will be essential to provide them with information as the work is going on. Current information about construction activities

and real-time traffic patterns will allow drivers to not only make informed choices in planning their trips but can provide an opportunity to make changes while the trip is underway. Providing as much information ahead of the project and during the project is crucial to help travelers plan ahead and maneuver around congestion related to the construction.

As discussed in **Section 3.3**, INDOT actively manages the interstate system in the Indianapolis area and will actively manage additional arterial streets during North Split construction. INDOT has several tools in place that will be used to provide travelers with real-time information about traffic conditions, incidents, weather conditions, and construction activities during the North Split Project.

- Over 40 dynamic message signs provide information about traffic conditions, construction, and incidents to interstate travelers within or approaching Marion County. Additional portable changeable message signs will be deployed by the contractor during construction.
- Approximately 40 signs mounted along interstates within and approaching Marion County provide current travel times between major junctions.
- INDOT provides local news media with access to current travel speed data, incident and construction information, traffic camera video feeds, and sign messages.
- INDOT provides current traffic condition information to real-time mapping services such as Google Maps, Waze, and others.
- Multiple websites and smart phone applications provide access to real-time travel speeds, incident and construction information, messages displayed on dynamic message signs and travel time signs, and traffic camera view snapshots. This information is available from INDOT's TrafficWise website (pws.trafficwise.org), its Cars Program 511 website (indot.carsprogram.org), or by using the INDOT Mobile application that is available for Android and Apple IOS smartphones. **Figure 5-2** shows an example screenshot from the INDOT Mobile app.
- Through the INDOT Cars program website, users can sign up to receive free email and text message travel advisory alerts. The alerts can be limited by severity level or by locations, routes or roadways of interest.
- Travel advisory information is also available by phone by dialing 511 or 1-800-261-ROAD (7623).

Figure 5-2. INDOT Mobile Smartphone App





5.5 Mobility Management Education Program

As part of the communications and public information outreach program, TDM team members will meet with major businesses, stakeholders, and event planners throughout the region as part of the Mobility Management Education Program. The purpose of the program is to provide information regarding what can be done to maintain access in and out of the downtown area, with a focus on mode shift, non-motorized travel, and trip reduction, particularly during peak periods.

During these meetings, project staff will provide general project information, construction updates, and information regarding what employers, individuals and others can do to help in reducing traffic demand and congestion while construction is underway. This information will also be available on the project website and at the virtual project office. The focus and approach of discussions regarding congestion and trip reduction will account for the changing impacts of COVID-19 on travel patterns in Indianapolis.

5.5.1 Transit and TDM Promotion

The TDM team will require targeted and proactive communication to support its objective of reducing single-occupant vehicle trips through the construction zone. The TDM and communications teams will work collaboratively to plan and launch marketing efforts to bring awareness to transit alternatives and increase the attractiveness and incentive of using transit as an option for travel. This may involve promoting specific strategies, such as additional bus service, procuring media such as bus advertising, or planning promotional activities at park and ride locations or local events and festivals.

5.5.2 Communication Tools

Communications methods may include:

- Employer outreach;
- Earned media;
- Paid media;
- Social media;
- Email blasts;
- Interactive website; and
- Direct mail.



6 MOBILITY MANAGEMENT PLAN IMPLEMENTATION

6.1 Summary of Mobility Management Plan Components

The North Split Mobility Management Plan is comprised of a number of actions to improve the “supply” of mobility options available from the transportation network and to reduce the “demand” of roadway capacity during peak periods of travel. A summary of Mobility Management Plan Components is provided in **Table 6-1**.

6.2 Mobility Management Plan Toolbox

A set of strategies has been assembled to provide information to help employers, event planners, and citizens to do their part in improving transportation system function and reducing demand during the construction period of the North Split Project. These strategies are compiled into the Mobility Management Plan Toolbox. This toolbox will be distributed during the Mobility Management Education Program and will be available for reference on the project website.

MMP Toolbox strategies provide an introduction and description of the topic, a summary of what INDOT is doing, suggestions of what employers and citizens can do, and references for further information. The Mobility Management Plan Toolbox includes strategies related to the following topics:

- Biking and Walking;
- Carpools/Vanpools;
- Work Rescheduling/Work from Home;
- Transit; and
- Motorist Information



Table 6-1: North Split MMP Component Matrix

MMP Report Section	MMP Activity or Program	North Split Design-Build Contractor	INDOT Projects or Programs	Partner Projects or Programs	INDOT Motorist Information Systems (ITS)	Public Information and Education	Employer and Agency Outreach	Partnering Agency
3	Traffic Operations Management							
3.1	Traffic Mgt Plan (TMP)	X	X					
3.2	Traffic Network Changes		X	X				Indianapolis DPW
3.3	Traffic Management and ITS	X			X	X		Indianapolis DPW
3.4	Incident Response	X			X	X		Emergency Responders
4	Travel Demand Management							
4.1	Mode Shift and Ridesharing			X		X	X	CIRTA, Indianapolis MPO
4.1.1	Transit Ridership Promotion			X	X	X	X	IndyGo, CIRTA
4.1.1	Transit Service Enhancements		TBD		X	X	X	IndyGo
4.1.2	Ridesharing - Carpools/Vanpools			X	X	X	X	CIRTA
4.1.2	Employer Shuttles						X	
4.1.3	Bike/Ped Improvements			X		X	X	Pacer Bikeshare, Indianapolis Parks
4.1.3	Bike/Ped Promotion			X		X	X	CIRTA, Possibly bike advocacy groups
4.2.2	Work Rescheduling Programs					X	X	Indy Chamber
4.2.2	Work from Home Programs					X	X	Indy Chamber
4.3	Special Event Planning					X	X	Downtown Indy, Indianapolis DPW
5	Communications / Public Outreach							
5.1	North Split PI Plan		X			X	X	
5.2	North Split Communication Tools		X		X	X	X	
5.3	Advanced Closure Notifications	X	X		X	X	X	
5.4	Real-Time Traveler Information		X		X	X	X	
5.5	MMP Education Program		X		X	X	X	