

Section 106 Update Memo #1

Attachment D

**Traffic Diversion & APE Expansion
Methodology & Maps**

I-65/I-70 North Split Interchange Reconstruction Project (Des. Nos. 1592385 & 1600808)
Traffic Diversion and Area of Potential Effects (APE) Expansion Methodology

Introduction

The original Section 106 Area of Potential Effects (APE) was submitted to the State Historic Preservation Officer (SHPO) and Consulting Parties for review in the early coordination letter dated September 19, 2017 and discussed at the Consulting Parties meeting on October 6, 2017.

The original APE was drawn as a 0.5-mile buffer around the entire existing North Split interchange. It is possible one of the new bridges in the interchange could be as much as 48 feet higher than the highest existing bridge. The APE along the remainder of the project area was drawn as a 0.25-mile buffer based on the assumption that the elevation along these areas is not anticipated to change significantly and that there could be some widening of the road but it would largely be within the existing right-of-way. These distances were reviewed in the field by a Qualified Professional (QP). A QP must meet the Secretary of Interior's Professional Qualification Standards and be listed on the Indiana Department of Natural Resources (IDNR) Division of Historic Preservation and Archaeology's (DHPA) Qualified Professionals Roster. If something changes in design that is contrary to the assumptions made during the development of the original APE, the APE will be examined to determine if it needs to be expanded. For example, if the project limits change along the interstate or if a noise wall is determined to be feasible and reasonable, the APE may need to be expanded.

At this time, INDOT and FHWA are proposing to expand the Section 106 APE based on anticipated temporary traffic increases on city streets during construction of the North Split project. INDOT and FHWA believe the unique circumstances of this project, including the project location in downtown Indianapolis, the density of historic properties within the original APE, and the potential duration for construction (potentially multiple construction seasons) require special consideration of the potential effects of temporary traffic increases. INDOT and FHWA do not intend to expand the APE for potential traffic diversion during construction for all projects in the future.

The North Split project is in the initial planning phase and traffic models for the existing condition and the preliminary build alternatives are currently being developed. Even though traffic modeling, preliminary design, and maintenance of traffic (MOT) plans will not be fully complete until 2019, FHWA and INDOT have enough preliminary information to recommend an expansion of the APE.

Methodology

Per 36 CFR 800.16(d), the APE is defined as "the geographic area or areas within which an undertaking may directly or indirectly cause alternations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking."

To determine if the APE should be expanded based on temporary changes in traffic patterns during construction, FHWA and INDOT first reviewed the Section 106 definition of "effect." Per 36 CFR 800.16(i), an "effect" is an alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register of Historic Places (NRHP). This evaluation focused on whether there was the possibility for an effect under Section 106. INDOT and FHWA acknowledge that traffic diversion during construction will result in temporary impacts to the community beyond the Section 106 consultation process and will work to minimize these impacts. However, Section 106 requires the focus to be on effects to historic properties.

FHWA and INDOT then reviewed the criteria of adverse effect. Per 36 CFR 800.5(a)(1), an adverse effect is found “when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property for inclusion in the National Register in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association.”

Each example of adverse effect described in 36 CFR 800.5(a)(2) is discussed below in relation to the North Split project and the factors used to determine if and where the APE should be expanded:

i. Physical destruction of or damage to all or part of the property

FHWA and INDOT assessed how traffic diverted during construction might have physical impacts to historic properties. It was determined that increases in heavy truck traffic could have physical impacts to contributing features such as brick streets, limestone curbs, or stone walls within historic districts or properties. In addition, heavy trucks could impact historic bridges if they are heavier than the load capacity or larger than the physical structure of the bridge. Heavy trucks are considered those with more than three axles. Heavy trucks could include single-unit trucks or multi-unit trucks such as semi-tractor trailers. There is a difference between vehicular passenger traffic and truck traffic when assessing potential impacts to neighborhoods and roadway infrastructure. All city streets are designed to accommodate passenger vehicle traffic. Some city streets may not be designed to accommodate heavy truck traffic.

Temporary increases in the volume of passenger vehicles are not anticipated to result in the physical destruction or damage to historic properties. The recommended APE expansion areas are based on possible increases in the volume of heavy trucks. These trucks are making local deliveries downtown or must access areas of Indianapolis near downtown. Trucks traveling through Indianapolis are anticipated to use I-465.

ii. Alternative of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary’s Standards for the Treatment of Historic Properties [36 CFR part 68] and applicable guidelines

Temporary increases in truck and passenger vehicle traffic are not anticipated to result in the restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access that are not consistent with the Secretary’s Standards for the Treatment of Historic Properties.

An expansion of the APE based on this type of adverse effect is not recommended because these types of effects are not anticipated as a result of temporary traffic increases.

iii. Removal of the property from its historic location

Temporary increases in truck and passenger vehicle traffic are not anticipated to remove historic properties from their historic location.

An expansion of the APE based this type of adverse effect is not recommended because this type of effect is not anticipated as a result of temporary traffic increases.

iv. Change of the character of the property’s use or of the physical features within the property’s setting that contribute to its historic significance

Temporary increases in truck and passenger vehicle traffic are not anticipated to change the character of a property’s use or of the physical features within the property’s setting that contribute to its historic significance.

The project is not anticipated to change land use patterns in the area. In addition, the current APE, and the surrounding area for many miles in each direction, is comprised of densely developed urban areas. The existing NRHP-listed and NRHP-eligible districts and individual properties within the APE are in an urban setting reliant on access to public roadway networks. The setting of these properties is not dependent upon a serene atmosphere or open landscape such as a historic farmstead.

An expansion of the APE based this type of adverse effect is not recommended because this type of effect is not anticipated as a result of temporary traffic increases.

v. Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features

The temporary closure of the North Split interchange will result in the temporary increase in trucks and cars on city streets within historic districts and adjacent to historic properties. This will result in temporary increases in the introduction of visual (in the form of the cars and trucks), atmospheric (from vehicle exhaust), and audible (noise from traffic) elements within and near these historic properties. The North Split project is in the core of downtown Indianapolis. The current APE, and the surrounding area for many miles in each direction, is comprised of densely developed urban areas. The existing NRHP-listed and NRHP-eligible districts and individual properties within the APE are in an urban setting reliant on access to public roadway networks. The setting of these properties is not dependent upon a serene atmosphere or open landscape such as a historic farmstead. A temporary increase in traffic is not anticipated to diminish the integrity of the property's significant historic features.

Because the project is in an urban setting where vehicular traffic is already present and because increases in traffic will be temporary, an expansion of the APE based on this type of adverse effect is not recommended.

vi. Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized as qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization

Temporary increases in truck and passenger vehicle traffic are not anticipated to cause the neglect of historic properties.

An expansion of the APE based on this type of adverse effect is not recommended because this type of effect is not anticipated as a result of temporary traffic increases.

vii. Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

Temporary increases in truck and passenger vehicle traffic are not anticipated to cause the transfer, lease, or sale of historic properties out of Federal ownership or control.

An expansion of the APE based this type of adverse effect is not recommended because this type of effect is not anticipated as a result of temporary traffic increases.

Conclusion

Based on the review of the criteria and examples of adverse effects found in 36 CFR 800.5, INDOT and FHWA recommend expanding the North Split project APE based on the temporary increases in heavy truck traffic

along city streets during construction. Increases in heavy truck traffic have the potential to physically damage contributing features of historic properties.

For the purposes of this assessment, it is assumed the entire North Split interchange will be closed during construction. Full closure represents a worst-case scenario for additional temporary traffic to the city roadway network. It may be possible to close only portions of the interchange while keeping some traffic movements open (i.e. maintaining some traffic on the interstates or some ramp systems). Final MOT decisions will be made later in project development.

As part of the final MOT planning and the development of the project's overall traffic management plan (TMP), INDOT will assign official detour routes for the North Split closure option being utilized. INDOT's official detour routes will utilize I-465, I-65, and I-70, all of which are interstate highways suitable for handling truck traffic. I-465 will be signed for use by all non-local trucks. Through truck traffic is more likely to adhere to the official detour routes than passenger vehicle traffic because trucks need suitable routes with adequate turning radii at intersections and adequate vertical clearances under overhead structures.

Enforcement would be used to further induce heavy truck traffic to use the official detour routes. Like the enforcement program for the Super 70 project (6-mile reconstruction of I-70 on the east side of Indianapolis in 2007), INDOT will team with state and local law enforcement agencies to aggressively pull over and fine violators.

INDOT intends to keep the following existing interchanges operational during the North Split closure:

- a. I-65 (North Leg) – southbound I-65 access to 11th Street and access from 12th Street to northbound I-65.
- b. I-65/I-70 (South Leg) – northbound I-65/I-70 access to Washington Street and Washington Street access to southbound I-65/I-70.
- c. I-70 (East Leg) – westbound I-70 access to Keystone Avenue and Rural Street access to eastbound I-70.

There will be many trucks that must access downtown Indianapolis to make deliveries or access current downtown area commercial/industrial properties. Trucks currently access downtown Indianapolis from the interstate system using existing interchanges. Trucks also currently access downtown Indianapolis from the existing southbound I-65 and westbound I-70 collector-distributor (CD) system that parallels existing southbound I-65/I-70 to the west.

Based on the above assumptions, the possible locations of increased heavy truck traffic during construction were determined by reviewing the regional freight system, by applying the preliminary traffic model used for this project, and by reviewing the interstate access points that will remain open during the North Split interchange closure. A regional system of freight roadways was identified by the Indianapolis Metropolitan Planning Organization (MPO) in the Regional Freight Plan published in January 2016.¹ All interstate highways are included in Tier 1 or Tier 2 of the plan. Principal arterials, minor highways, and major collectors are included in Tier 3 of the plan if they have a daily truck volume over 1,000 or if they provide regional connectivity to major freight facilities. Attachment D shows the arterial roadway components of the freight plan that would likely be used if Tier 1 components (i.e. portions of I-65 and I-70) are unavailable.

Potential routes for truck diversion were also reviewed using preliminary traffic model information.² Traffic simulations were prepared to review roadway trip patterns for non-through truck trips, with the North Split

¹ *Regional Freight Plan for the Indianapolis Metropolitan Planning Area*, Final Report, CDM Smith for the Indianapolis Metropolitan Planning Organization, January 2016.

² Preliminary model output for heavy trucks as of December 12, 2017

portions of I-65 and I-70 removed from the network. The resulting truck movements predicted by the traffic model are shown on the maps in Attachment D.

Together, the regional freight system and the traffic model results provide a reasonable basis for identifying probable routes of increased heavy truck usage during construction. Probable patterns of heavy truck use along city streets were identified by reviewing the preliminary traffic data forecasts for both the AM and PM peak hours (rush hour in the morning and evening). Additions to the APE are recommended to include the existing right-of-way along these city streets (currently outside of the original APE).

Based on the above methodology, the routes listed below are included in the proposed expansion of the APE. Roadways in the Regional Freight Network are shown with an asterisk (*). The routes listed below and a map of the Regional Freight Network are included in Attachment D.

- Rural Street, from the I-70 interchange south to Washington Street – Rural Street/Keystone Avenue is the last open exit for I-70 heading westbound. Trucks can exit at Rural Street, head south and turn west on Washington Street. The Washington Street ramp to I-65 south and I-70 west will remain open and trucks can access the interstates at this location.
- Washington Street, from Rural Street west to original APE* – Rural Street/Keystone Avenue is the last open exit for I-70 heading westbound. Trucks can exit at Rural Street, head south and turn west on Washington Street. The Washington Street ramp to I-65 south and I-70 west will remain open and trucks can access the interstates at this location.
- Massachusetts Avenue, from original APE east to Rural Street* – Trucks will be able to exit I-70 to Rural Street and head southwest on Massachusetts Avenue to downtown. Massachusetts Avenue parallels I-70 and is primarily an industrial corridor.
- West Street, from the I-65 interchange south to the I-70 interchange* – The I-65/West Street interchange will remain open during construction. Trucks will be able to exit and head south on West Street to the I-70 interchange.
- Missouri Street, from West Street south to the I-70 interchange – The I-70/West and Missouri Streets interchange will remain open during construction. Trucks will be able to exit and head north on Missouri Street, then north on West Street to the I-65 north interchange.
- Fall Creek Parkway, from 38th Street south to College Avenue – Trucks coming downtown from the northeast side of the city can use Binford Boulevard and Fall Creek Parkway to link with north-south arterials to downtown. The first available route is College Avenue.
- College Avenue, from Fall Creek Parkway south to original APE – Trucks using Fall Creek Parkway can take College Avenue south into the downtown area.
- Fort Wayne Avenue, from original APE south to St. Clair Street – Trucks can take Massachusetts Avenue southwest to 10th Street, then turn southwest onto Fort Wayne Avenue. From Fort Wayne Avenue, they can head west on St. Clair Street to West Street. Trucks can access I-65 north or I-70 west from West Street.
- St. Clair Street, from original APE west to West Street – Trucks heading south on College Avenue or southwest on Fort Wayne Avenue can turn west onto St. Clair Street to West Street. Trucks can access I-65 north or I-70 west from West Street.
- East Street, from original APE south to original APE – Trucks may also head south on East Street from 10th Street to the Washington Street interchange. Most of East Street is already within the original APE; however, this expansion would add the portion from approximately Vermont Street to North Street.
- Pennsylvania Street, south from original APE to Madison Avenue* – Trucks could take Pennsylvania Street south to Madison Avenue to the I-70 interchange.
- Madison Avenue, from Pennsylvania Street to I-70 – Trucks could take Pennsylvania Street south to Madison Avenue to the I-70 interchange.

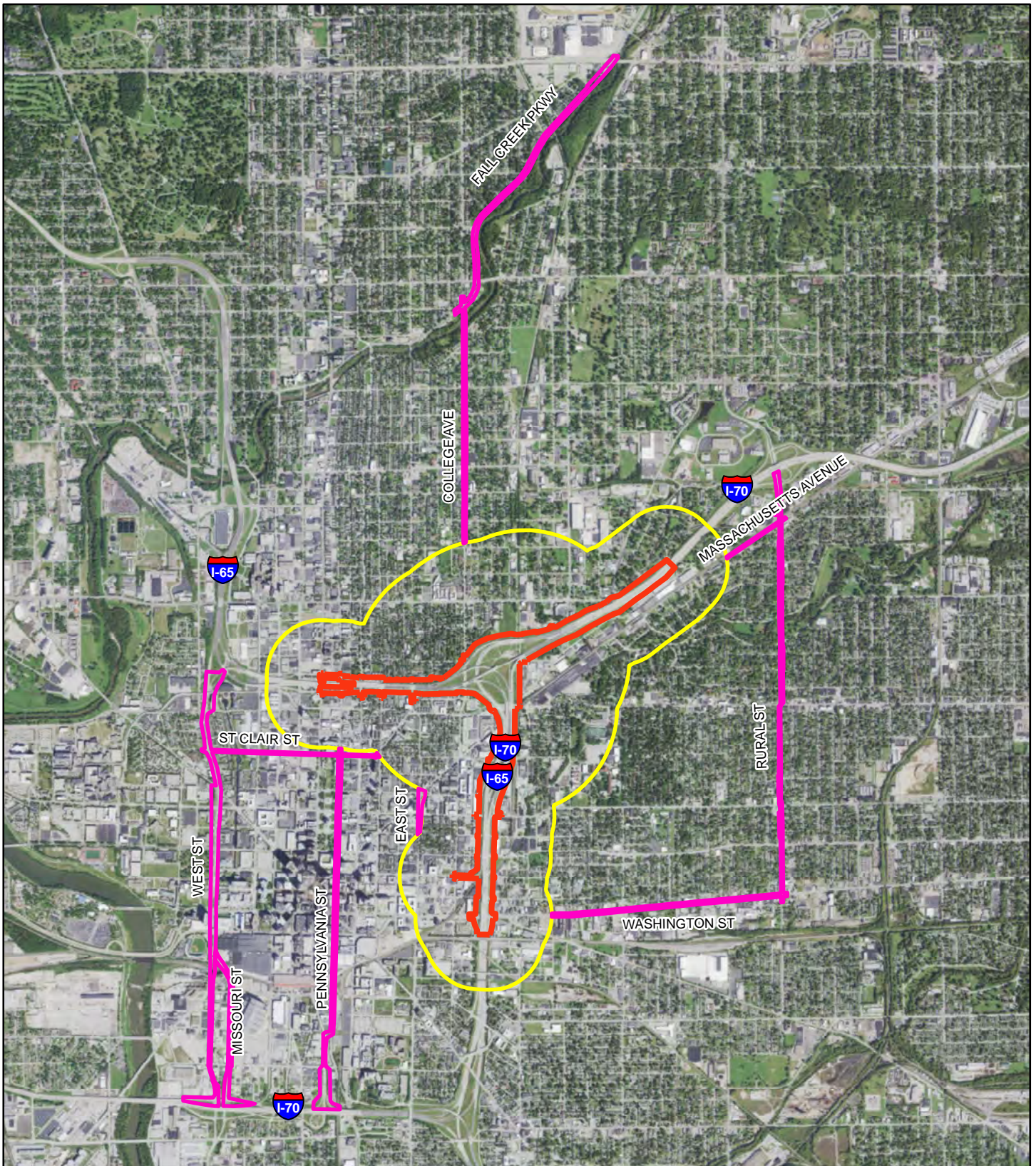
Historic Property Identification



Identification of historic properties within the expanded APE is proposed to occur in a two-tiered approach.

Tier 1 - Identification efforts would involve a survey of the existing right-of-way for historic or unique features such as brick or stone streets, limestone curbs, stone walls or other potentially contributing features that could be affected by increased truck traffic. If any of these unusual features are identified within the APE, the identification would move to Tier 2. Historic bridges within the existing right-of-way would also be identified.

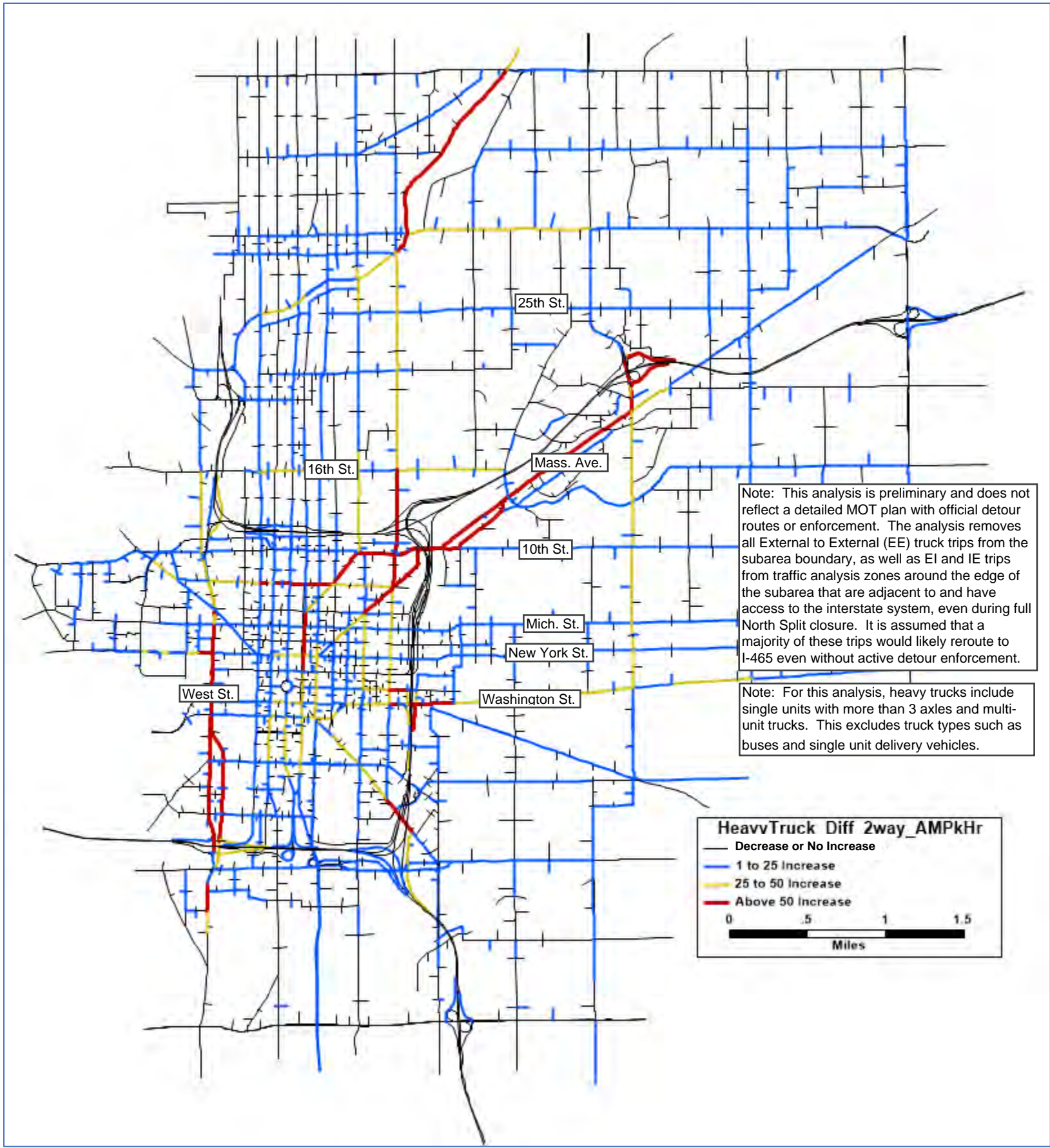
Tier 2 – If historic or unique features are identified in Tier 1, then a QP will determine if these features are contributing to an NRHP-listed or NRHP-eligible historic district or property. Typically, these transportation-related features are not individually NRHP-listed or NRHP-eligible unless they contribute to a NRHP-listed or NRHP-eligible historic district or property.

The results of the historic property identification efforts following the two-tiered methodology will be provided to the SHPO and consulting parties for review and comment.

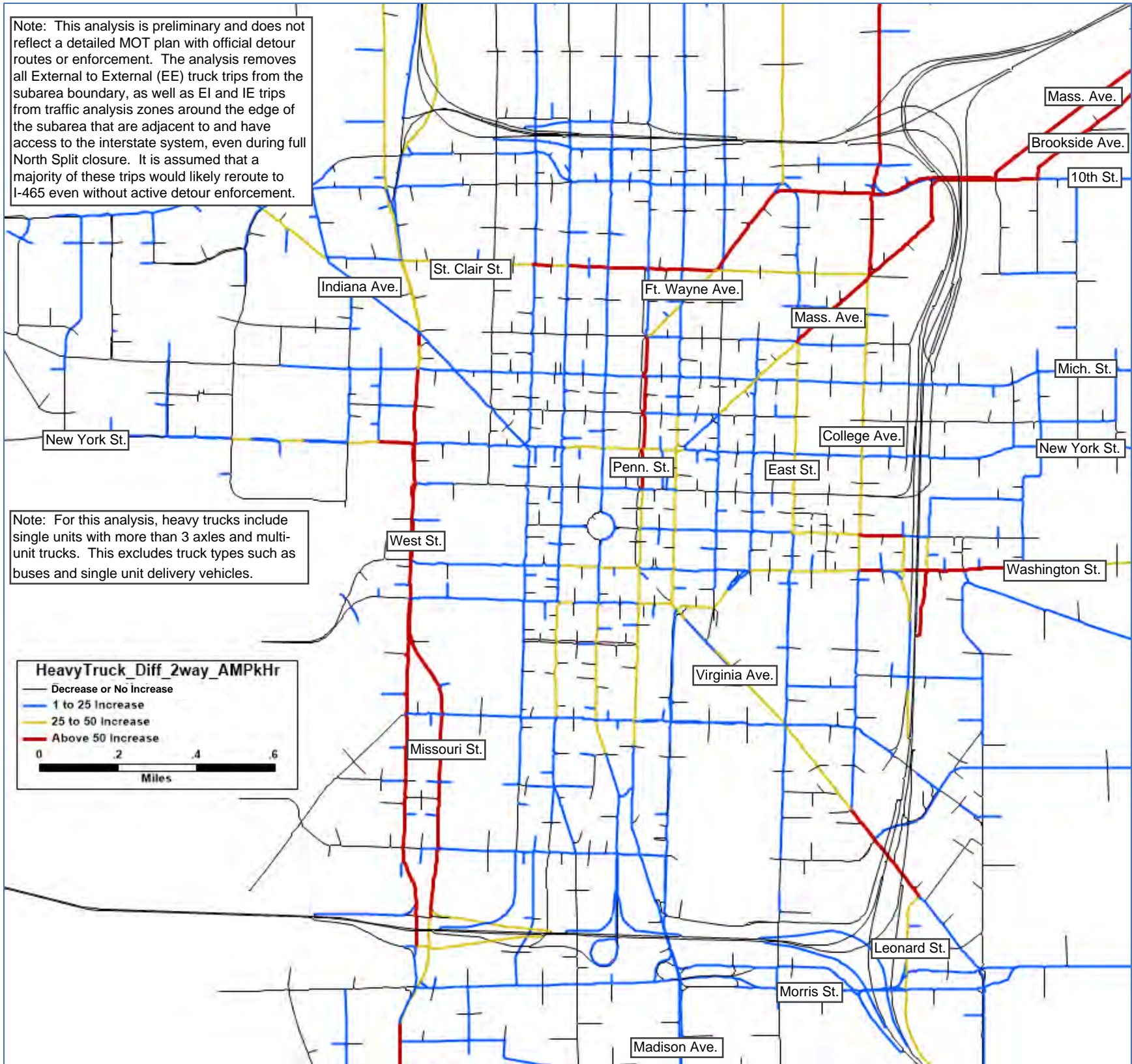


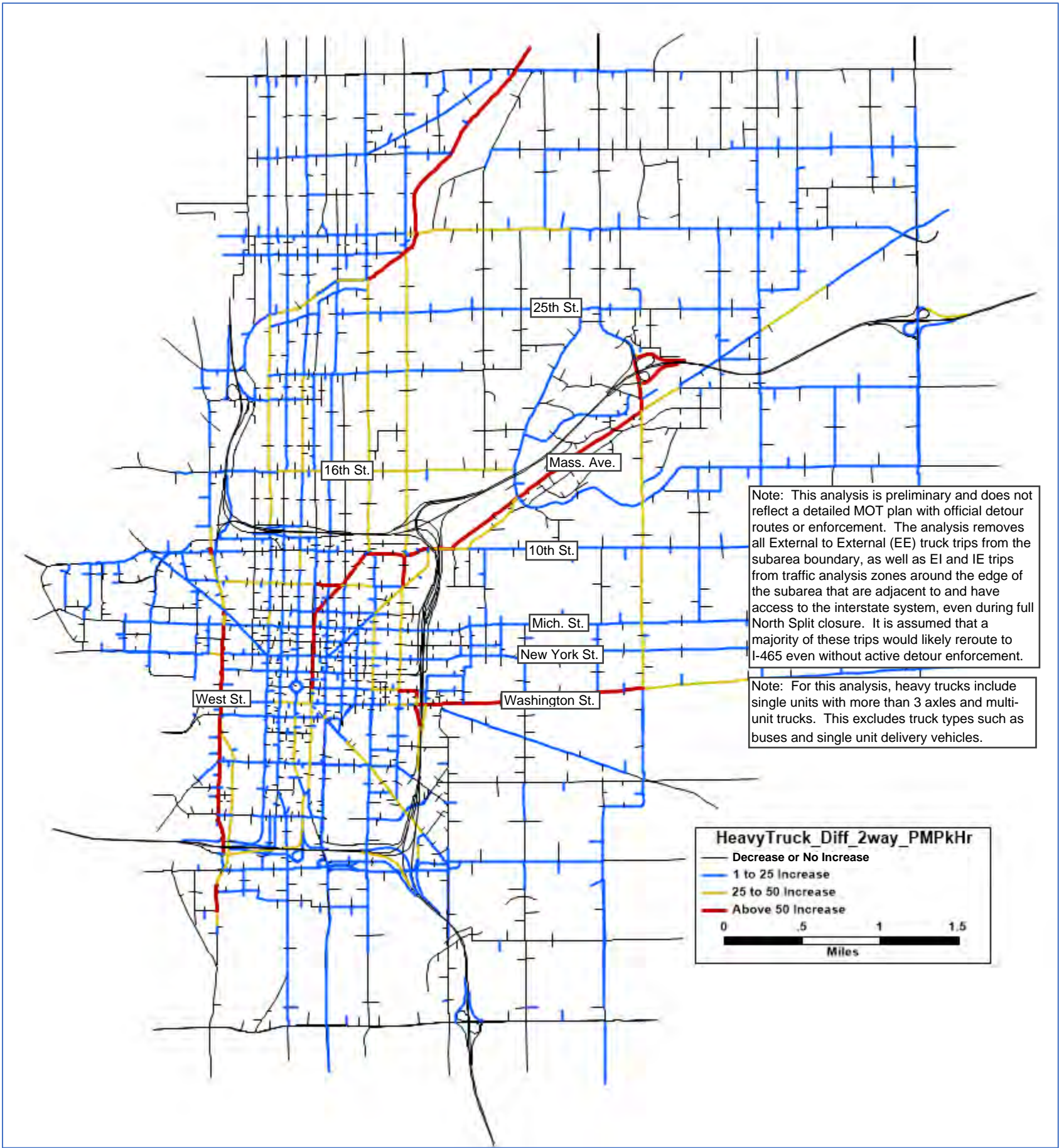
<p>Legend</p> <ul style="list-style-type: none"> Proposed APE Expansion Original APE Project Area <div style="text-align: center;"> <p>N</p>  <p>0 2,250 4,500 Feet</p>  </div>	<div style="border-bottom: 1px solid black; padding-bottom: 5px;"> <p>I-65/I-70 North Split Interchange Reconstruction Project</p> </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> <p>Des. Nos. 1592385 & 1600808</p> </td> <td style="width: 50%; padding: 5px; text-align: center;"> <p>HNTB</p> <p><small>Graphics created by HNTB Corporation (2017)</small></p> </td> </tr> <tr> <td colspan="2" style="padding: 5px;"> <p>1 inch = 4,458 feet</p> </td> </tr> </table>	<p>Des. Nos. 1592385 & 1600808</p>	<p>HNTB</p> <p><small>Graphics created by HNTB Corporation (2017)</small></p>	<p>1 inch = 4,458 feet</p>	
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<p>1 inch = 4,458 feet</p>					

AM Peak Hour - Preliminary Truck Diversion assuming Full North Split Closure



AM Peak Hour - Preliminary Truck Diversion (downtown) assuming Full North Split Closure





PM Peak Hour - Preliminary Truck Diversion (downtown) assuming Full North Split Closure

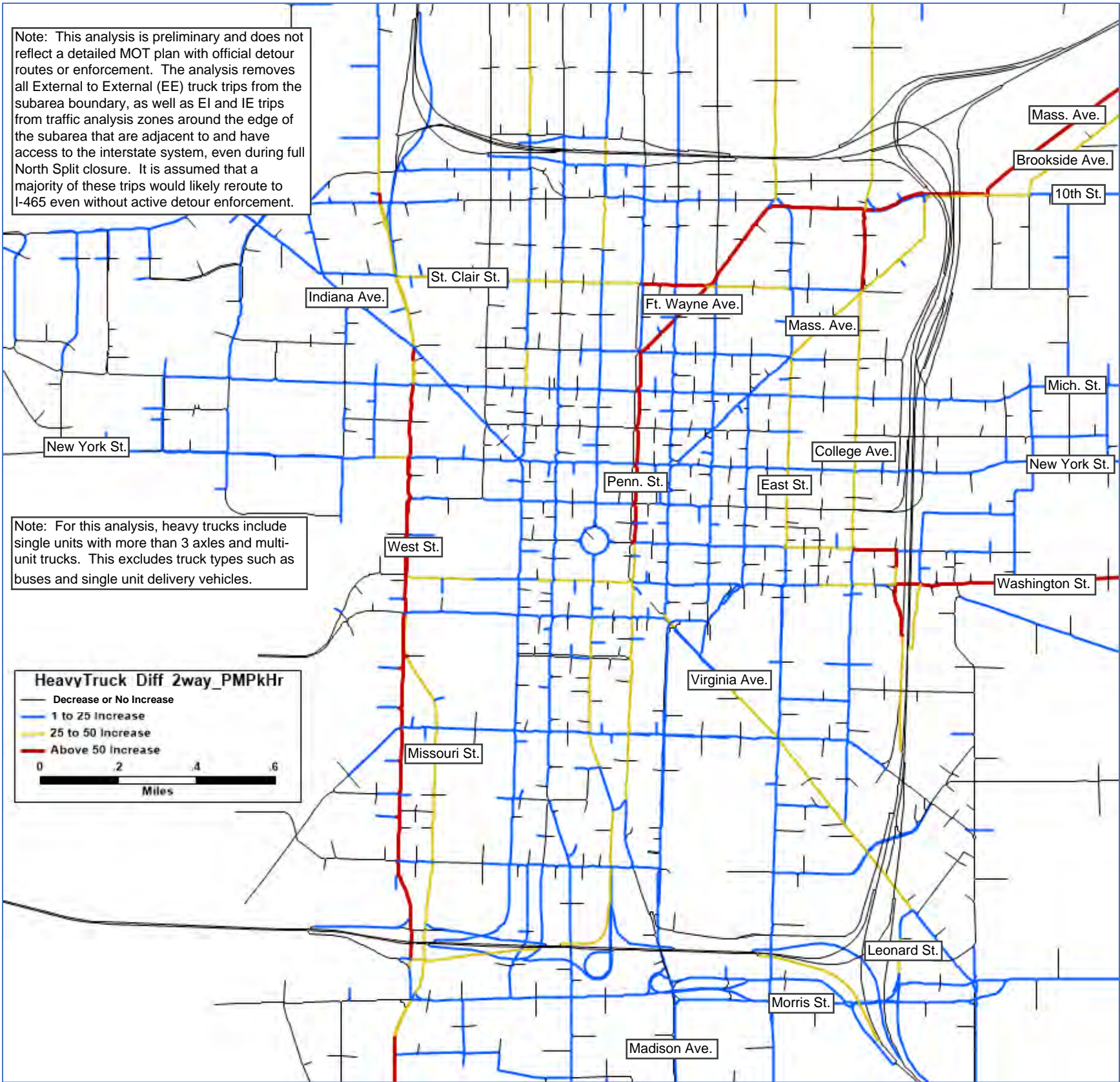


Figure 3-3
Tier 3 – Regional Freight Corridors

