

PRELIMINARY DRAFT

SEWRPC Memorandum Report No. 226

**STH 60 NORTHERN RELIEVER ROUTE
FEASIBILITY STUDY**

INTRODUCTION

This report documents the findings of a study conducted by the Southeastern Wisconsin Regional Planning Commission requested by Washington County on the feasibility of a northern reliever route of STH 60 between the western limits of the City of Hartford (Goodland Road) and IH 41. The study was conducted in response to a request from the Hartford Area Development Corporation (HADC) to the Washington County Board of Supervisors, which was prompted by their concerns of increasing traffic volume, congestion, and safety problems on STH 60, and in particular, the effect of increasing truck traffic on traffic congestion and safety. The Commission staff worked with staff from concerned and affected local governments in the Hartford/Slinger area, Washington County, the Wisconsin Department of Transportation (WisDOT), and the HADC, including the consideration of input provided by the public, to identify and evaluate potential STH 60 northern reliever routes and improvements to STH 60. The study was conducted by the Commission under the direction of the Washington County Administrator and Highway Commissioner, with guidance from the Washington County Board of Supervisors Public Works Committee.

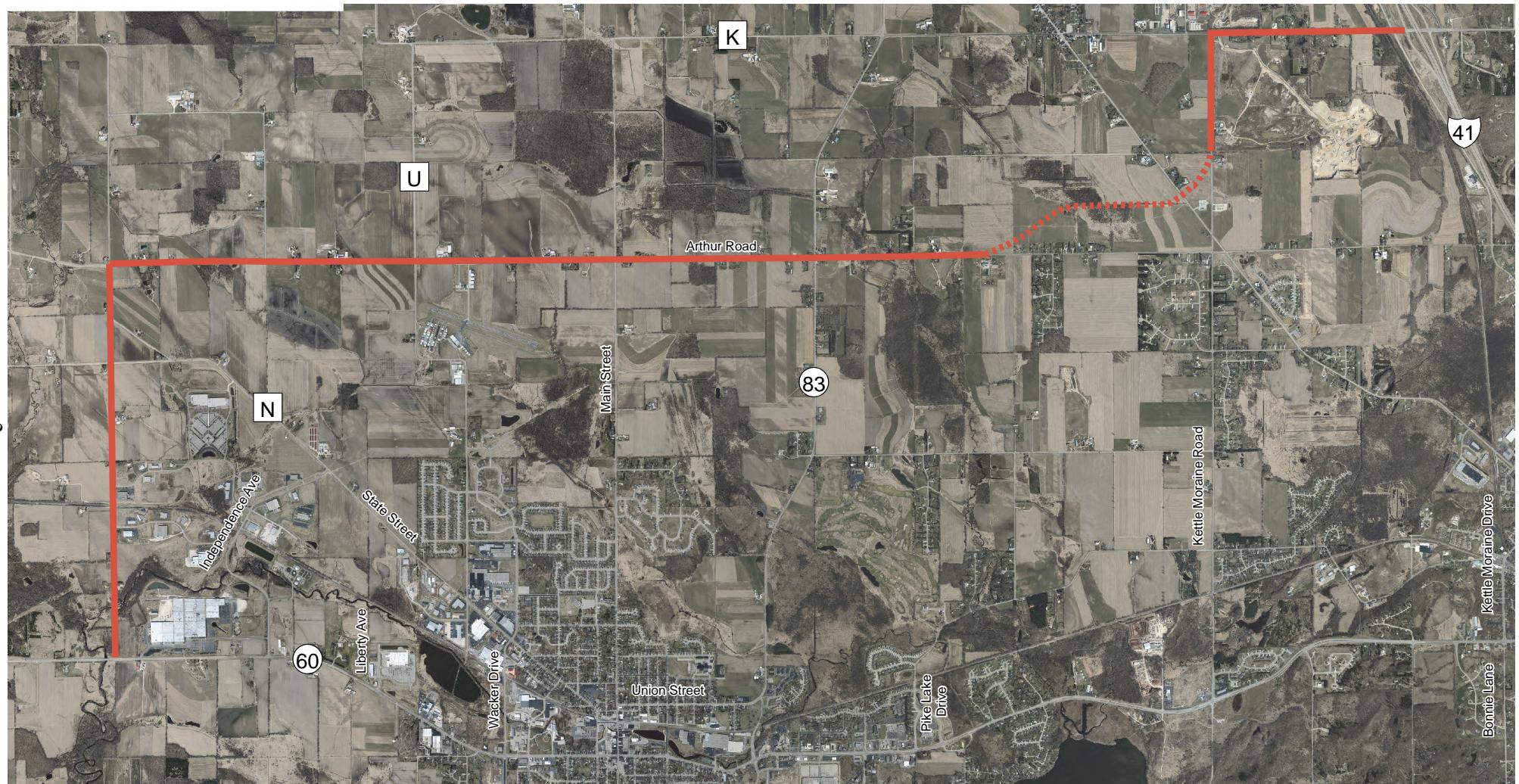
This study is an update to a Washington County study completed in 2005, which considered and evaluated alternative northern and southern reliever routes.¹ A preferred reliever route was identified (as shown on Map 1) as part of the study. However, the preferred route was not implemented by the County.

The first section of the report documents the identification of traffic movement problems and issues along STH 60 between Goodland Road and IH 41. This was accomplished through meetings with local officials, inventories and analyses of existing and probable future conditions of this segment of STH 60, and a public information meeting (PIM) held on June 29, 2016, and a public comment period of June 16, 2016, through July 15, 2016.

¹ This study is documented in a report entitled, "East-West Corridor Study, Phase 1, Final Report," dated June 21, 2005.

Map 1

PREFERRED RELIEVER ROUTE IDENTIFIED IN 2005 WASHINGTON COUNTY EAST-WEST CORRIDOR STUDY



PREFERRED ROUTE
— EXISTING ARTERIAL
- - - NEW ARTERIAL

0 0.25 0.5 0.75 1 Miles

The second section of the report documents the development of the potential STH 60 northern reliever routes and improvements to STH 60. Specifically, this section documents the goal to be achieved by a potential northern reliever route and potential improvements to STH 60, the objectives and criteria used for evaluating alternative STH 60 reliever routes, and the potential alternative STH 60 northern reliever routes and improvements to STH 60 identified for evaluation. In developing the goal, objectives, and criteria, and the alternative routes and potential improvements to STH 60, consideration was given to input (local officials, public, and private entities) provided as part of the problem identification element of the study.

The evaluation of alternative northern reliever routes with respect to their attainment of the goal, objectives, and criteria is documented in the third section of the report. The results of the evaluation documented in this section were presented to Washington County Board of Supervisors Public Works Committee at their August 24, 2016 meeting. At this meeting, Commission and Washington County staffs recommended that the Public Works Committee identify one of the reliever route alternatives that should receive further study.

The alternative reliever route recommended for further study, and recommendations with respect to improvements to STH 60, are documented in the final section of the report. This section also includes recommendations related to the appropriate level of government (local, county, or state) that would have jurisdictional responsibility for implementing the recommended reliever route and improvements to STH 60.

PROBLEM IDENTIFICATION AND INVENTORY

This section documents the traffic movement issues identified during meetings the Commission staff and Washington County staff had with officials from local concerned and affected governments (City of Hartford, Village of Slinger, and the Towns of Addison, Hartford, and Polk), WisDOT, and the HADC, and during a public information meeting (PIM) that was held on Wednesday, June 29, 2016, in the Town of Hartford, along with a formal public comment period of June 16, 2016, through July 15, 2016. The input from the local officials and from the public was considered in the development of potential STH 60 reliever routes and improvements to STH 60, along with the development of the goal and the objectives and criteria used for evaluating the potential reliever routes, which is documented in subsequent sections

of the report. Appendix A provides a summary of the comments received at the PIM and during the public comment period.

This section also documents the existing and probable future conditions of STH 60 between Goodland Road and IH 41, including pavement history, existing traffic control, current total and truck traffic volume, current traffic congestion, future traffic volume and congestion, and vehicular crashes. In addition, the travel times measured along STH 60 and for three existing alternative routes between Goodland Road and IH 41 are provided. This inventory information was used to confirm issues identified by local officials and the public, and as well, identify additional issues along STH 60 not captured through meetings with local officials and public comment.

Identified Issues Along STH 60

The following traffic movement issues were identified along STH 60 between Goodland Road and IH 41 at meetings that the Commission and Washington County staffs had with officials from affected and concerned local municipalities, WisDOT, and the HADC, and by comments received at the public information meeting held on June 29, 2016, and during the public comment period:

- Intersection of STH 60 and STH 83 (Main Street) – The intersection of STH 60 and STH 83 in the Hartford downtown area was particularly identified as having traffic movement issues. The primary issue identified for this intersection is that the proximity of buildings and the provision of parking on both sides of STH 83 does not provide enough room for large trucks travelling westbound on STH 60 to turn onto northbound STH 83 (Main Street). Southbound vehicles often need to back out of the way of the trucks turning onto STH 83 (Main Street). Similarly, the intersection of Main Street (STH 83) and State Street, to the north, also does not provide adequate space for trucks on STH 83 turning onto State Street. While there are more appropriate roads for carrying trucks, such as Wacker Drive, truck drivers utilize Main Street (STH 83) because their GPS units typically identify it as the fastest route to the businesses located along State Street. In addition, there is no dedicated left turn lane for traffic on STH 60 turning onto STH 83, which causes delays for traffic travelling on STH 60 through the intersection.
- Traffic Signals Between Liberty Avenue and IH 41 – The lack of coordination of the existing traffic signals from Liberty Avenue and IH 41 was identified as being an issue along STH 60.

- Intersections of STH 60 with STH 175 and STH 164 – It was indicated that traffic generally moves well on STH 60 between the Hartford downtown area and IH 41 during peak and midday times. However, during peak times, traffic may wait for two to three cycles to travel through the intersection of STH 60 and STH 164. In addition, it was indicated that the lack of dedicated right-turn lanes affects the movement of traffic travelling on STH 60 through its intersection with STH 175.
- Intersection of STH 60 and Independence Avenue – WisDOT staff indicated that there may be traffic movement issues at the intersection of STH 60 and Independence Avenue as trucks travelling southbound on Independence Avenue turn left onto STH 60. However, they indicated that currently traffic signals are not warranted at this intersection.

Inventory

The Commission staff inventoried the existing conditions on STH 60, including pavement history, traffic control, current total vehicle and truck traffic volumes, current traffic congestion, vehicular crashes along STH 60, and travel times. In addition, forecasts looking to the year 2050 of potential future traffic volume and congestion on STH 60 were prepared. These forecasts were prepared under the assumption that no northern—or southern—alternative reliever route is constructed.

STH 60 Pavement History

Pavements have a design life ranging from 50 to 60 years before the need to be reconstructed². Because of traffic use (particularly trucks) and annual temperature changes (freeze and thaw), it is necessary to periodically improve the condition of the pavement surface through rehabilitation—resurfacing³ or reconditioning⁴. The first rehabilitation of the pavement surface typically occurs 20 to 30 years following roadway construction or reconstruction, with subsequent pavement rehabilitation occurring every 8 to 18 years. Typically after two resurfacings (or reconditionings) a roadway will require reconstruction. The history of pavement reconstruction and rehabilitation of STH 60 between the Washington County line and

² Reconstruction of a roadway is the removal and replacement of the entire pavement structure—pavement and gravel base course.

³ Resurfacing of a roadway entails removing a layer of the pavement and overlaying with a new layer of pavement.

⁴ Reconditioning of a roadway entails the resurfacing of the roadway along with spot repairs of failed base course below the pavement.

IH 41 was provided by WisDOT and is shown on Maps 2 and 3. The entire segment of STH 60 between the County line and IH 41 has been either reconstructed or resurfaced in the last 10 years.

STH 60 Traffic Control

Shown on Map 4 are the existing 11 traffic signals located on STH 60 between Goodland Road and IH 41. The traffic signals at three locations on STH 60 are owned and operated by WisDOT—at Kettle Moraine Drive/Bonnie Lane, at STH 175, and at STH 164. The remaining eight traffic signals are owned and operated by the City of Hartford. There is currently no traffic signal coordination of the signals along STH 60.

The traffic control along a roadway can affect the time it takes to travel in a corridor. Traffic signal spacing of more than one mile is considered desirable. Traffic signal spacing of about one-half mile or more is considered acceptable. The traffic signals along the segment of STH 60 between Liberty Avenue and Pike Lake Drive have a spacing of 0.4 miles per traffic signal, which is less than acceptable spacing. Between Pike Lake Drive and STH 175, the traffic signals on STH 60 have a spacing of 1.3 miles, which is consistent with the desirable signal spacing of 1.0 miles. Between STH 175 and STH 164, the two traffic signals on this segment of STH 60 have a spacing of 0.6 miles, which meets the acceptable traffic signal spacing.

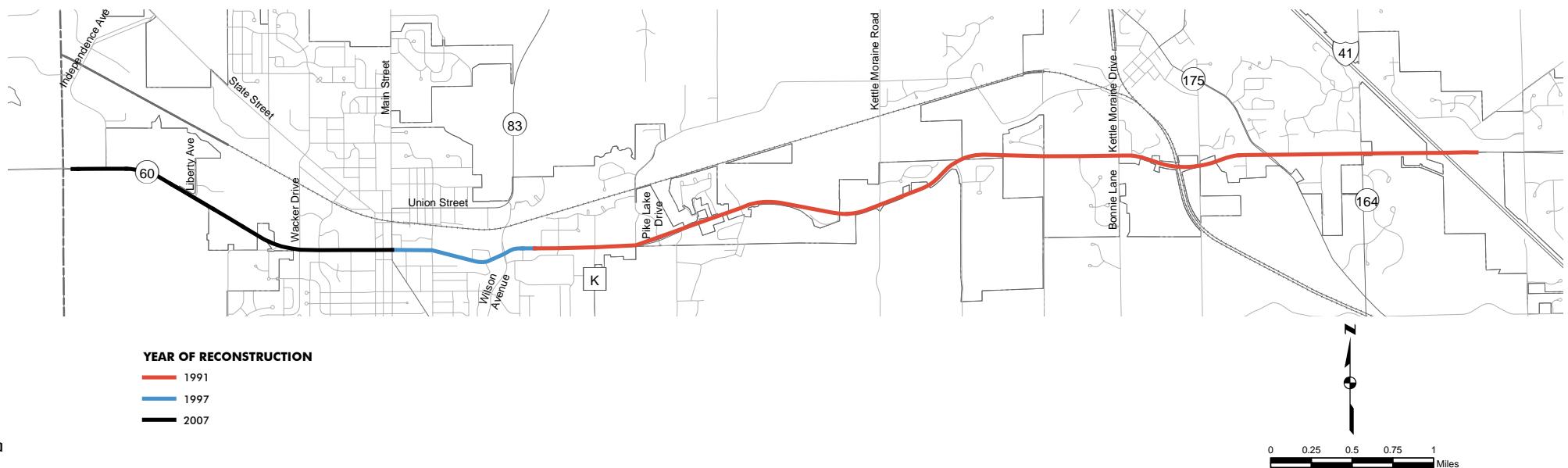
Current Total and Truck Traffic Volume along STH 60

Current traffic counts along STH 60 between Goodland Avenue and IH 41 are shown on Map 5. As this segment of STH 60 is the only east-west arterial through the Hartford-Slinger area that has access to the IH 41 freeway, it carries a large amount of vehicles on average weekdays—ranging from a low of 9,300 vehicles between Goodland Road and Independence Avenue to a high of 28,000 vehicles between STH 175 and STH 164.

With respect to truck traffic volume, Commission staff collected 24-hour volume and vehicle classification data with mechanical traffic counters located on STH 60 near Goodland Road and IH 41. Traffic volume and vehicle classification data was also hand-recorded at these locations by Commission staff over a ten-hour period (7:00 a.m. to 5:00 p.m.), which validated the data collected by the mechanical traffic counters. Based on the data collected, truck traffic represents about 9 to 10 percent of total traffic on STH 60. To determine the proportion of through truck travel, Commission staff also conducted a license plate survey where the license plates of medium- and heavy-duty trucks were recorded in 15-minute intervals at two locations on STH 60—near Goodland Road and near IH 41. Any license plate of a

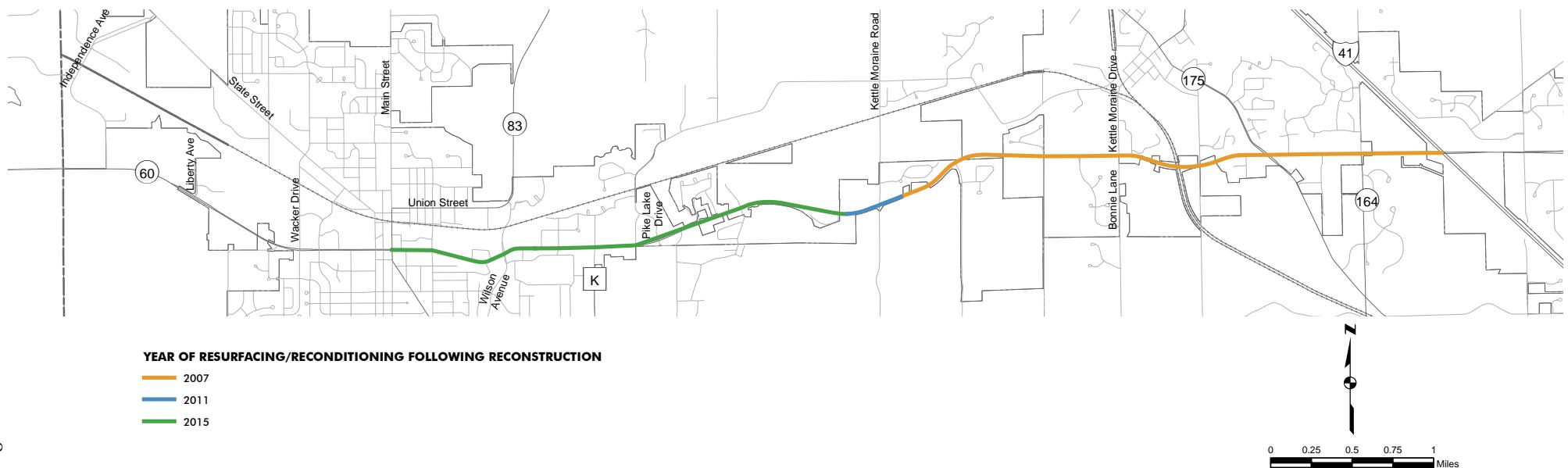
Map 2

DATE OF RECONSTRUCTION OF STH 60 BETWEEN THE WASHINGTON COUNTY LINE AND IH 41



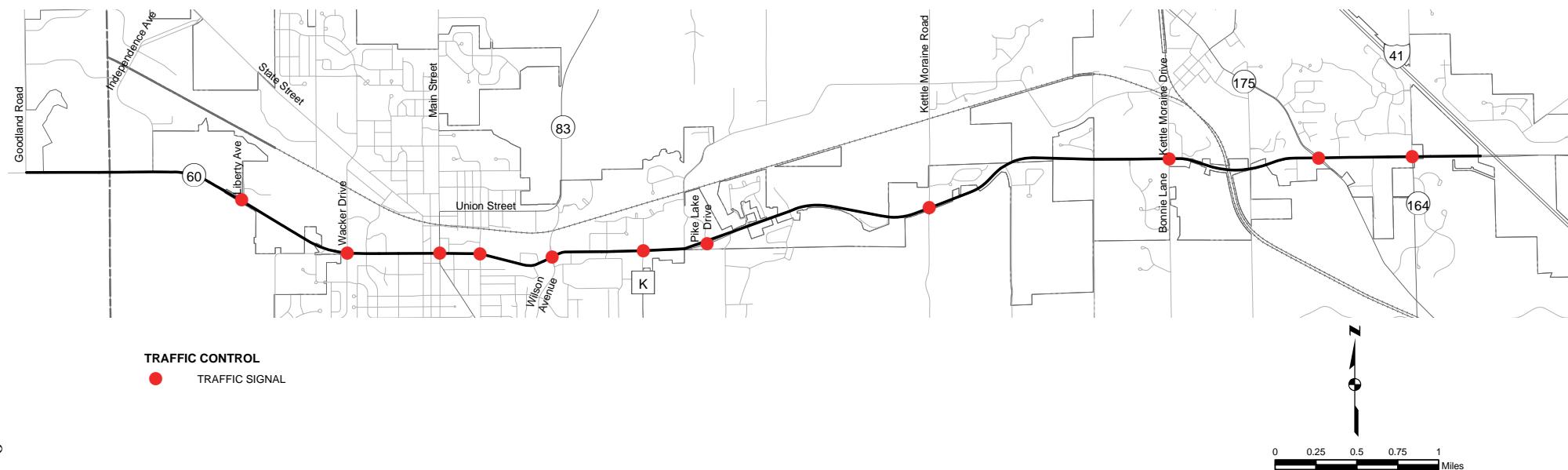
Map 3

DATE OF LATEST RESURFACING OR RECONDITIONING OF STH 60 BETWEEN THE WASHINGTON COUNTY LINE AND IH 41



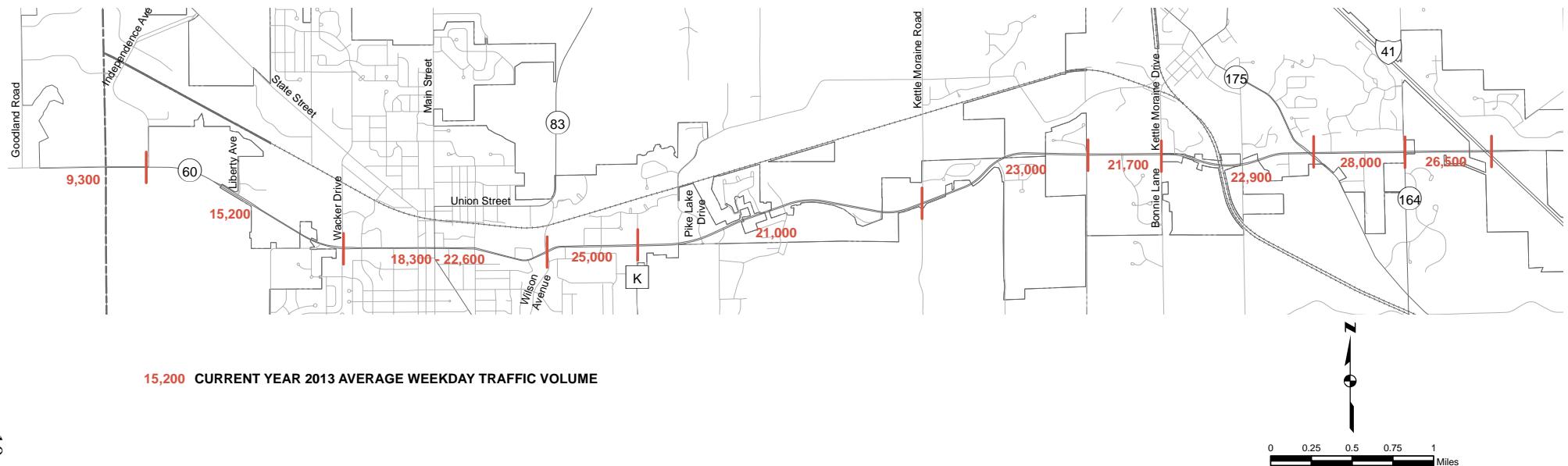
Map 4

TRAFFIC SIGNAL LOCATION ON STH 60 BETWEEN GOODLAND ROAD AND IH 41



Map 5

CURRENT YEAR 2013 AVERAGE WEEKDAY TOTAL TRAFFIC VOLUME ALONG STH 60 BETWEEN GOODLAND ROAD AND IH 41



truck observed at the two locations within 30 minutes was considered to be a truck traveling on STH 60 through the Hartford-Slinger area. The results of the license plate survey concluded that, only about 7 percent of, or about 100 to 200, medium- and heavy-duty trucks traveling on STH 60 are travelling through the Hartford-Slinger area on an average weekday.

In addition, Commission staff was provided a survey conducted by HADC of seven large companies located in the Hartford Industrial Park on the west side of the City of Hartford, which indicated that these companies generate about 1,300 truck trips per day. Additionally, two of the largest freight generators in the Hartford Industrial Park indicated that approximately 75 to 85 percent of the truck trips generated travel on STH 60 to/from destinations south of the Hartford area utilizing IH 41. Thus, in order for a northern reliever route to divert truck traffic from STH 60, it would need to have a comparable travel time to STH 60.

Current Traffic Congestion along STH 60

When traffic volume exceeds the design capacity of a roadway, it experiences congestion. Typically, congestion occurs during the peak traffic times of an average weekday. Congestion can result in slower traffic speeds between controlled intersections and longer delays and queues at controlled intersections. The traffic congestion on STH 60 between Goodland Road and IH 41 can be assessed by comparing the average weekday traffic (AWDT) volume (shown on Map 5) for each segment of STH 60 to its design capacity. Table 1 presents the design capacities along STH 60 between Goodland Road and IH 41. Map 6 shows the segments of STH 60 between Goodland Road and IH 41 that experience congestion during peak travel times of an average weekday. Also shown on Map 6 is the location of two intersections identified during meetings with local officials as experiencing congestion, or delay—the intersection of STH 60 and STH 83 and the intersection of STH 60 and STH 164. The location of these two intersections coincides with the segments of STH 60 that experience congestion based on current traffic volumes.

Future Total Traffic Volume and Congestion along STH 60

Commission staff utilized the Commission's fifth-generation travel simulation models⁵ to prepare forecast year 2050 AWDT volume for STH 60 between Goodland Road and IH 41. Forecast year 2050 AWDT

⁵ *The Commission has, for over 50 years, maintained and refined traffic forecasting and simulation models, similar to ones used by other metropolitan transportation planning organizations across the country. The forecasting and simulation of existing and future travel demand through travel simulation models is a complex procedure requiring development and application of a variety of mathematical models. The simulation of travel and traffic is based upon the premise that the magnitude and pattern of travel is a stable function of the characteristics of the land use pattern and of the transportation system, with the term land use referring to not only land use type and intensity, but also to*

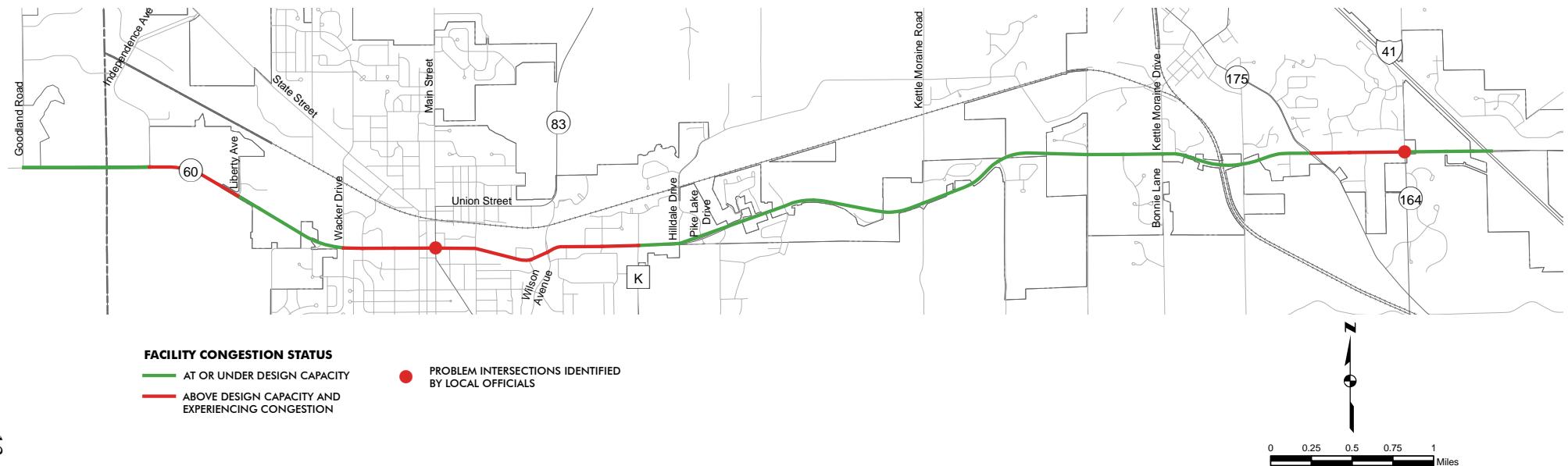
Table 1
ESTIMATED DESIGN CAPACITY ON STH 60
BETWEEN GOODLAND ROAD AND IH 41

Segment	Facility Type	Design Capacity (Average Weekday Traffic Volume)
Goodland Road to Liberty Avenue	Two-lane	14,000
Liberty Avenue to Wilson Avenue	Four-lane Undivided	18,000
Wilson Avenue to Hilldale Drive	Four-lane with Two-Way Left Turn Lane (TWTL)	21,000
Hilldale Drive to IH 41	Four-Lane Divided/TWTL ^a	27,000

^a While portions of this segment have a four-lane TWTL cross-section, development and/or direct access by abutting properties is limited. Therefore a design capacity of 27,000 was assigned to the full segment.

Map 6

CURRENT YEAR 2013 TRAFFIC CONGESTION ALONG STH 60 BETWEEN GOODLAND ROAD AND IH 41



volumes for STH 60, as shown on Map 7, were prepared under the assumption that no northern—or southern—alternative reliever route is constructed. Map 8 identifies those segments of STH 60 where the forecast year 2050 AWDT volumes are expected to exceed current design capacity and experience congestion. Under forecast year 2050 AWDT volumes, three additional segments of STH 60 may be expected to exceed their design capacity and experience congestion during peak traffic times of an average weekday—between CTH K and Hilldale Drive, between Kettle Moraine Road and CTH CC, and between STH 164 and IH 41.

Vehicular Crashes along STH 60

The location of the total vehicular crashes⁶ and crashes involving trucks⁷ that occurred along STH 60 over the five-year period is shown on Map 9. Table 2 shows the number and rate of total vehicular crashes and crashes involving trucks that occurred over a five-year period (2010 through 2014) on STH 60 between Goodland Road and IH 41. In addition, Table 2 shows the number and rate of total crashes and truck crashes involving pedestrians, bicyclists, and a fatality or observed injury⁸. Over the five-year period, 692 reported vehicular crashes (about 138 crashes annually) occurred on STH 60 between Goodland Road and IH 41. Of these crashes, 21 crashes (about four crashes annually) involved a bicycle or a pedestrian, representing about three percent of total crashes. Additionally, there were 94 crashes (about 19 crashes annually) that involved either a fatality or an observed injury, representing about 14 percent of total crashes.

As compared to statewide averages for state highways (shown on Table 2), the total crash rates on the segments of STH 60 between Goodland Road and Liberty Avenue (Segment A), between Wacker Drive

population, household, and employment levels and characteristics. The fifth-generation travel simulation and forecasting models used in the development of the recently completed year 2050 regional transportation plan (VISION 2050) were validated by comparing the model-estimated travel and traffic—based on inventoried 2010 demographic, economic, and land use data and 2011/2012 transportation survey data—to estimated existing year 2011 traffic volumes.

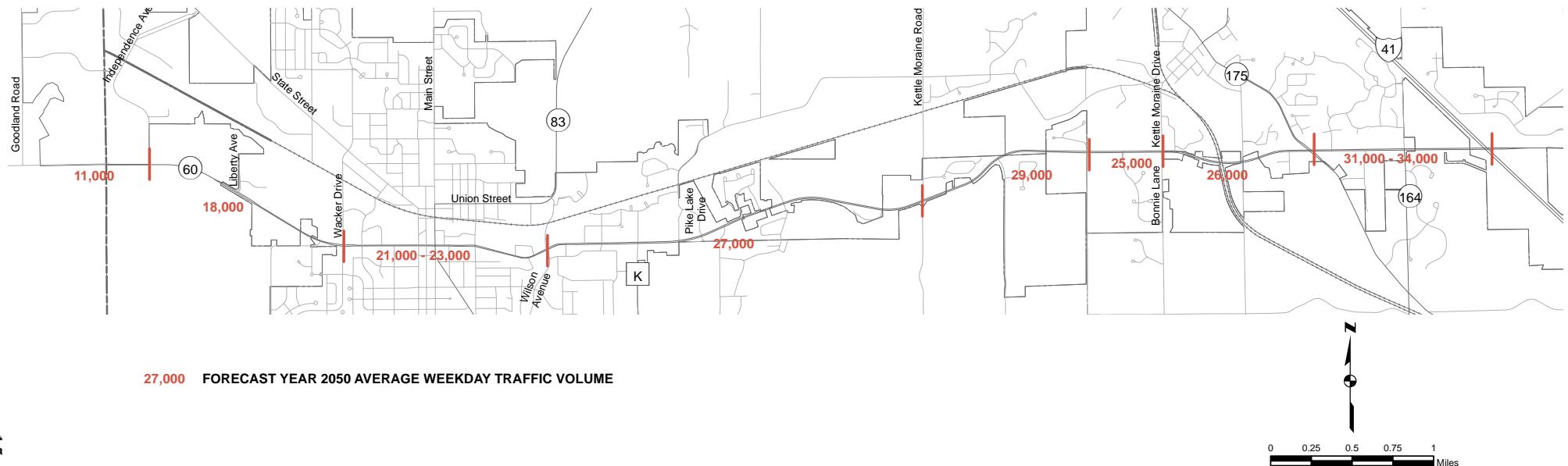
⁶ A reportable crash is any crash resulting in: 1) an injury to or death of any person; 2) damage to government-owned non-vehicle property to an apparent extent of \$200 or more; 3) damage to a government-owned vehicle to an apparent extent of \$1,000 or more; 4) or total damage to property owned by any one person to an apparent extent of \$1,000 or more. The number of vehicle crashes shown for STH 60 between Goodland Road and IH 41 includes reported vehicle crashes within 250 feet of STH 60 at intersection with public roadways to be consistent with the methodology used by WisDOT for calculating crash rates of a roadway. The number vehicle crashes shown does not include crashes involving deer.

⁷ Truck crashes include incidents where any vehicle involved in the crash was a single unit truck, multi-trailer truck, multi-trailer truck, or non-attached truck.

⁸ A crash that resulted in an observed injury includes crashes that an injury was observed by the law enforcement personnel presiding over the crash.

Map 7

FORECAST YEAR 2050 AVERAGE WEEKDAY TOTAL TRAFFIC VOLUME ALONG STH 60 BETWEEN GOODLAND ROAD AND IH 41



Map 8

FORECAST YEAR 2050 TRAFFIC CONGESTION ALONG STH 60 BETWEEN GOODLAND ROAD AND IH 41

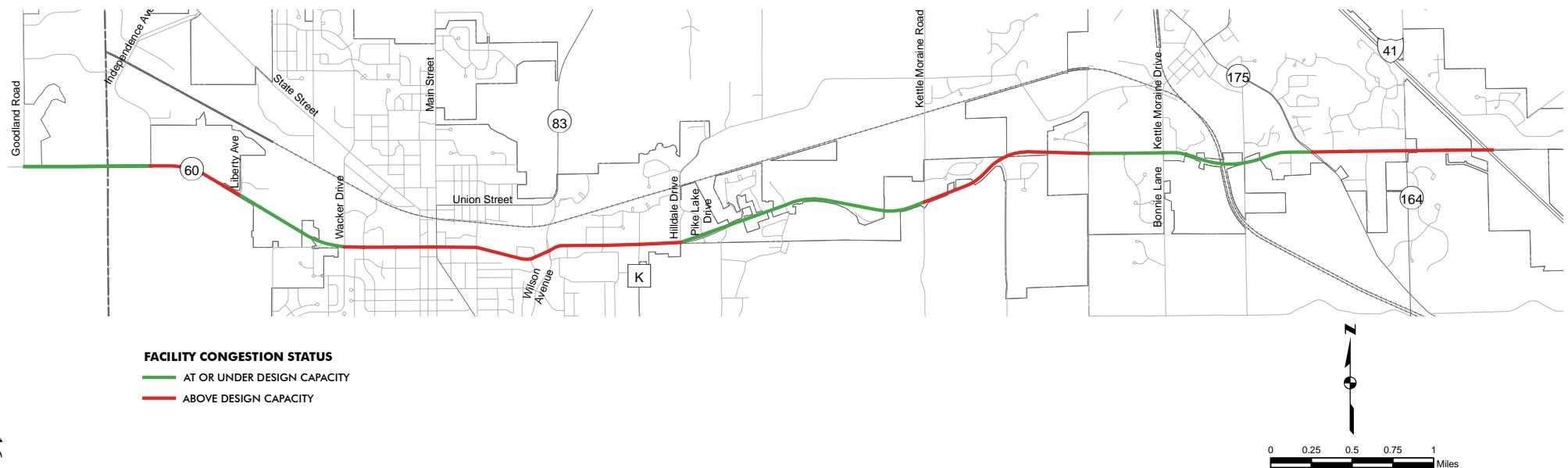


Table 2
TOTAL VEHICULAR CRASHES (ALL VEHICLES) – 2010-2014

Segment	Total Vehicular Crashes (All Vehicles)							
	Total Crashes		Crashes Involving Pedestrians		Crashes Involving Bicyclists		Crashes Involving a Fatality or Observed Injury	
	Total Number	Crash Rate per 100 Million Vehicle Miles ^a	Total Number	Crash Rate per 100 Million Vehicle Miles	Total Number	Crash Rate per 100 Million Vehicle Miles	Total Number	Crash Rate per 100 Million Vehicle Miles ^b
A	35	125.6 ^c	0	0.0	1	3.6	6	21.5 ^c
B	36	239.5	0	0.0	0	0.0	2	13.3
C	194	443.0 ^c	9	20.6	2	4.6	16	36.5
D	107	284.5	2	5.3	4	10.6	12	31.9
E	60	106.1	1	1.8	1	1.8	13	23.0 ^c
F	53	119.5	1	2.3	0	0.0	11	24.8 ^c
G	67	123.5	0	0.0	0	0.0	9	16.6
H	140	281.0 ^c	0	0.0	0	0.0	25	50.2 ^c
Total	692	210.2	13	3.9	8	2.4	94	28.6

Segment	Crashes Involving Trucks							
	Total Crashes		Crashes Involving Pedestrians		Crashes Involving Bicyclists		Crashes Involving a Fatality or Observed Injury	
	Total Number	Crash Rate per 100 Million Vehicle Miles	Total Number	Crash Rate per 100 Million Vehicle Miles	Total Number	Crash Rate per 100 Million Vehicle Miles	Total Number	Crash Rate per 100 Million Vehicle Miles
A	4	7.4	0	0.0	0	0.0	1	1.8
B	2	4.0	0	0.0	0	0.0	0	0.0
C	25	57.1	0	0.0	1	2.3	2	4.6
D	11	29.2	0	0.0	0	0.0	2	5.3
E	3	5.3	0	0.0	0	0.0	1	1.8
F	4	9.0	0	0.0	0	0.0	0	0.0
G	3	5.5	0	0.0	0	0.0	0	0.0
H	15	30.1	0	0.0	0	0.0	1	2.0
Total	67	20.4	0	0.0	1	0.3	7	2.1

^a The statewide average roadway crash rate is 88.47 per 100 million vehicle miles of travel for rural two-lane highways with annual average daily traffic volumes greater than 7,000 (Segment A), 417.98 per 100 million vehicle miles of travel for multilane undivided and one-way highways (Segments B and C), 378.88 per 100 million vehicle miles of travel for multilane divided State Trunk Highways with posted speed limits 40 mph or lower (Segment D), and 181.72 per 100 million vehicle miles of travel for multilane divided State Trunk Highways with posted speed limits 45 mph or higher (Segments E, F, G, and H).

^b The statewide average roadway crash rate involving a fatality or observed injury is 17.75 per 100 million vehicle miles of travel for rural two-lane highways with annual average daily traffic volumes greater than 7,000 (Segment A), 52.77 per 100 million vehicle miles of travel for multilane undivided and one-way highways (Segments B and C), 46.13 per 100 million vehicle miles of travel for multilane divided State Trunk Highways with posted speed limits 40 mph or lower (Segment D), and 22.58 per 100 million vehicle miles of travel for multilane divided State Trunk Highways with posted speed limits 45 mph or higher (Segments E, F, G, and H).

^c Exceeds statewide average.

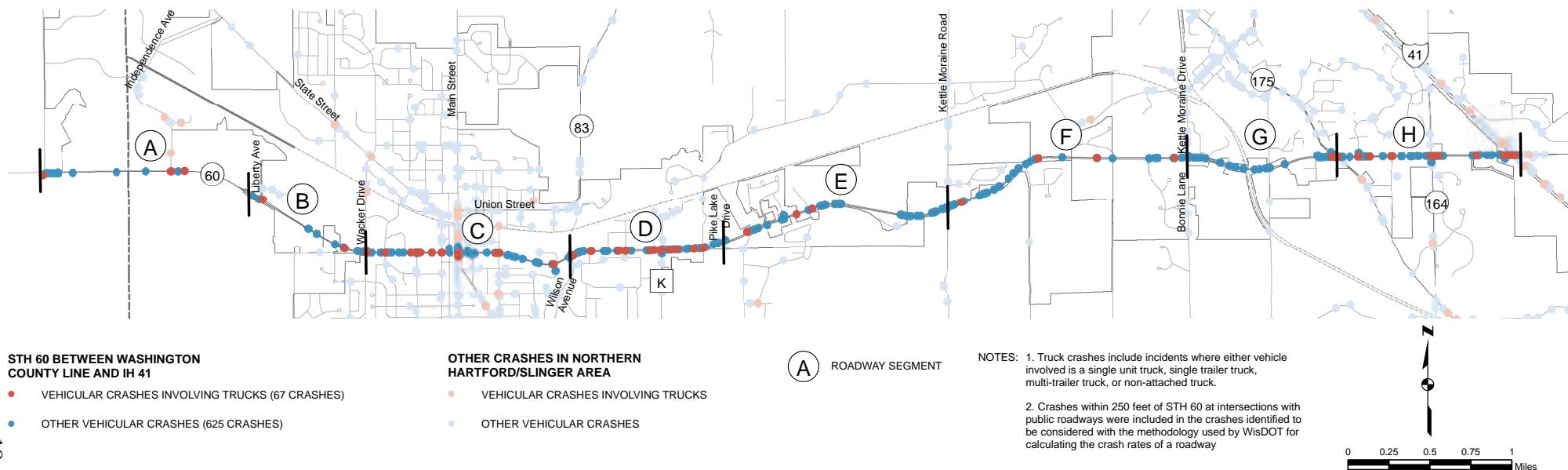
NOTES: 1. Truck crashes include incidents where either vehicle involved is a single unit truck, single trailer truck, multi-trailer truck, or non-attached truck.

2. Crashes within 250 feet of STH 60 at intersections with public roadways were included in the crashes identified to be considered with the methodology used by WisDOT for calculating the crash rates of a roadway.

3. Crash rates are in crashes per 100 million vehicle miles

Map 9

TOTAL VEHICULAR CRASHES AND CRASHES INVOLVING TRUCKS ALONG STH 60 BETWEEN THE GOODLAND ROAD AND IH 41: 2010-2014



and Wilson Avenue (Segment C), and between STH 175 and IH 41 (Segment H) exceed the statewide crash rates for similar roadway types. These segments of STH 60 coincide with the segments of STH 60 that currently experience congestion. With respect to crashes involving fatalities and observed injuries, the rates of such crashes exceed the State average for similar roadway types on STH 60 between Goodland Road and Liberty Avenue (Segment A), between Pike Lake Drive and Kettle Moraine Drive (Segments E and F), and between STH 175 and IH 41 (Segment H).

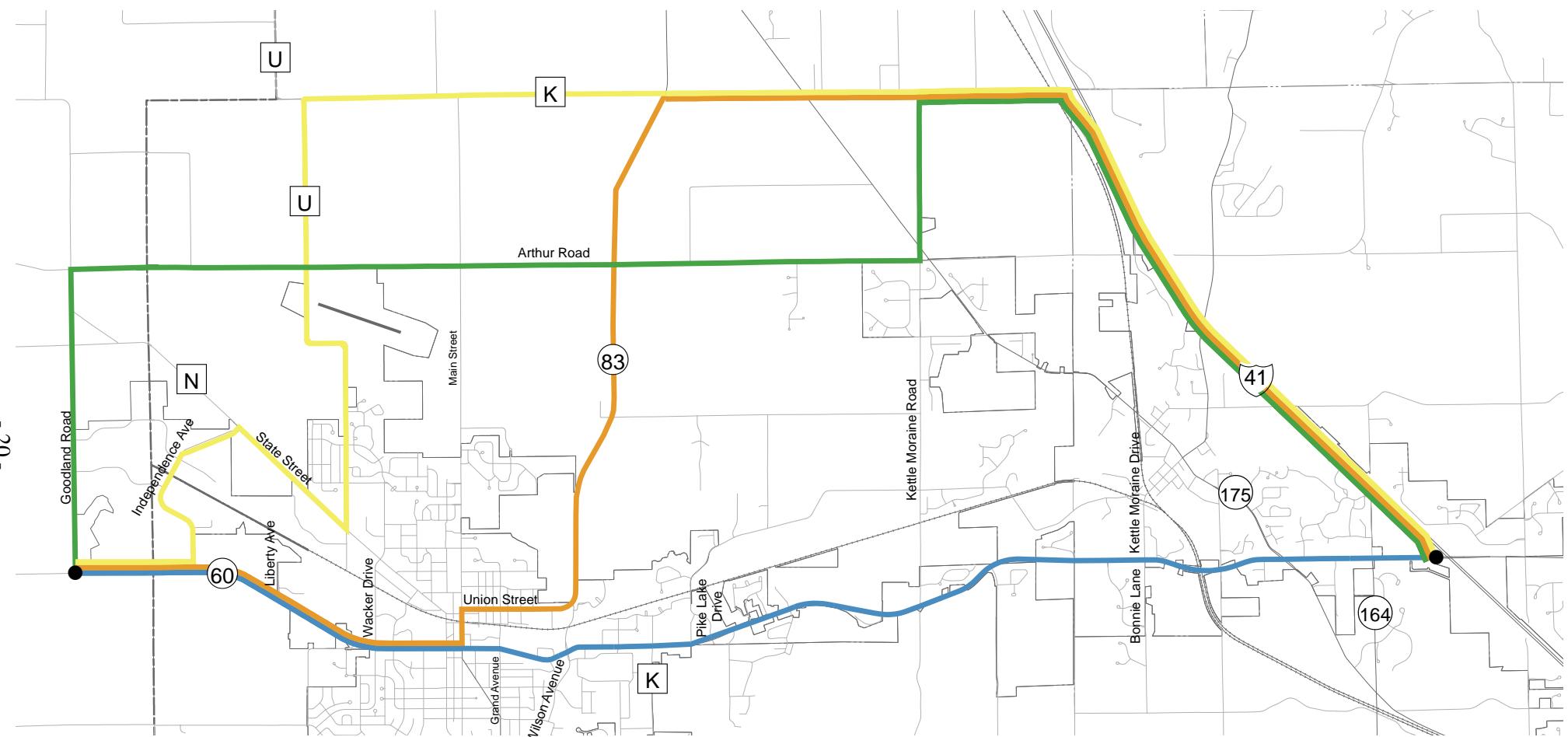
With respect to crashes involving trucks, there were 67 reported truck crashes (about 14 crashes annually) over the five-year time period, representing about 10 percent of the total 692 reported vehicular crashes. Of the crashes involving a truck, only one crash involved either a bicycle or a pedestrian, representing about one percent of the total crashes involving trucks. Over the same time period, there were seven truck crashes (about one crash annually) that involved either a fatality or an observed injury, representing about 10 percent of the total crashes involving trucks. The proportion of truck crashes along STH 60 between Wacker Drive and Wilson Avenue (13 percent) and between STH 175 and IH 41 (11 percent) exceeds the proportion of trucks traveling on these segments of STH 60 (about 9-10 percent).

Comparison of Existing Travel Times

Travel time is affected by the speed limit of a roadway, the type and spacing of traffic control, and the level of traffic volume and congestion, which can result in reduced speeds and increased delay. The Commission staff measured travel times⁹ for STH 60 and three other existing routes between the intersections of STH 60/Goodland Road and STH 60/IH 41. These routes are shown on Map 10 and Table 3 provides a comparison of the travel times collected by Commission staff. The travel times for two of the routes—the Goodland Road/Arthur Road/Kettle Moraine Road/CTH K/IH 41 route and the STH 60/STH 83/CTH K/IH 41 route—were comparable (within 3 to 4 minutes) to STH 60 even without any alignment or operational improvements to the routes.

⁹ Travel times were recorded utilizing the “floating car” method where the measuring vehicle “floats” with traffic by passing as many vehicles that pass the measuring vehicle. When there are no vehicles on the roadway, the monitoring vehicle drove at the posted speed limit.

Map 10
SELECTED EXISTING ROUTES USED FOR MEASURING TRAVEL TIMES



TIME TRAVEL ROUTES

- STH 60
- Goodland Road/Arthur Road/Kettle Moraine Road/CTH K/IH 41
- STH 60/STH 83/CTH K/IH 41
- STH 60/Independence Avenue/State Street/CTH U/Turtle Road/CTH K/IH 41
- Start Point/End Point

0 0.25 0.5 0.75 1 Miles

Table 3

**AVERAGE TRAVEL TIMES (IN MINUTES) FOR SELECTED EXISTING ROUTES
BETWEEN GOODLAND ROAD AND THE IH 41 INTERCHANGE WITH STH 60**

Route	Length (Miles)	Direction	Mid Day Travel Times
STH 60 (Blue)	9.2	Eastbound	14
		Westbound	13
Goodland Road/Arthur Road//Kettle Moraine Road/CTH K/IH 41 (Green)	13.5	Eastbound	17
		Westbound	17
STH 60/STH 83/CTH K/IH 41 (Orange)	13.7	Eastbound	16
		Westbound	16
STH 60/Independence Avenue/State Street/CTH U/Turtle Road/CTH K/IH 41 (Yellow)	15.0	Eastbound	19
		Westbound	19

STH 60 RELIEVER ROUTE GOAL, OBJECTIVES, AND CRITERIA

Based on the discussions between Commission and Washington County staffs and officials from affected and concerned local municipalities, WisDOT, and the HADC, it was recognized that since STH 60 is the only direct and continuous route between the Hartford and Slinger areas and that it currently experiences heavy truck and total traffic volumes and traffic congestion, failure to alleviate the traffic congestion and heavy truck volumes can be expected to affect livability and safety in the Hartford and Slinger areas, and hinder economic development and expansion. Thus, the overall goal which a northern reliever route would attempt to address was identified as:

“Enhance the livability and safety of the Hartford and Slinger areas, and thereby encourage continued economic development and expansion.”

Based on this goal, a number of objectives were developed to measure the extent to which potential northern reliever routes may achieve this overall goal, as shown on Table 4. These objectives were used to design, evaluate, and compare northern reliever route alternatives. Under each objective, specific criteria were identified, as shown on Table 4, which would measure the achievement of each proposed objective. It is unlikely that any one proposed reliever route would best meet each of the objectives and criteria. Certain objectives and criteria may be complementary; however, other objectives and criteria may be conflicting. Consideration was given to a comparison of how well each proposed route achieves each objective, followed by resolution through balancing competing objectives.

ALTERNATIVE NORTHERN RELIEVER ROUTES

Map 11 shows the eleven alternative northern reliever routes that were identified for evaluation. Alternatives 1 through 6 were developed based on meetings with the local affected and concerned municipalities and the HADC. These alternatives were presented at a public information meeting held on June 29, 2016. Following the public information meeting, Alternatives 7 through 10 were added and Alternatives 1 through 10 were presented to the Washington County Public Works Committee on July 27, 2016. Alternative 11 was added in August 2016, and was presented to the Washington County Public Works Committee on August 24, 2016.

Table 4

**OBJECTIVES AND CRITERIA FOR THE EVALUATION OF ALTERNATIVE
NORTHERN RELIEVER ROUTES**

Objective	Criteria
Provide Alternative Route with Comparable Travel Time to STH 60	<ul style="list-style-type: none">- Ratio of Alternative Route Travel Time to STH 60 Travel Time
Reduce STH 60 Traffic Volume and Alleviate STH 60 Traffic Congestion	<ul style="list-style-type: none">- STH 60 Average Weekday Traffic Volume- STH 60 Traffic Congestion--Average weekday traffic volume compared to design capacity- Potential to divert truck traffic from STH 60
Minimize Construction Cost	<ul style="list-style-type: none">- Estimated Construction Cost
Minimize Impact of Alternative Route	<ul style="list-style-type: none">- Right-of-way Acquisitions<ul style="list-style-type: none">▪ Number of Residences▪ Number of Businesses▪ Acres of Farmland▪ Total Acres- Number of Farms Divided by Alternative Routes- Residences Located Along Alternative Route- Environmental Sensitive Lands^a<ul style="list-style-type: none">▪ Primary Environmental Corridor▪ Secondary Environmental Corridor▪ Isolated Natural Resource Areas▪ Wetlands

^a These criteria were added based on comment received during the public information meeting held on June 29, 2016, and during a formal public comment period of June 16, 2016, through July 15, 2016.

The alignment of the alternative routes which include the City of Hartford's long-planned extension of Independence Avenue between CTH N and Arthur Road are consistent with the City of Hartford Airport runway realignment and extension project (from 3,000 to 3,400 feet).¹⁰ The airport's master plan includes a further ultimate extension concept to 5,000 feet, with the extension occurring to the west. This would require the reliever route alignments utilizing the planned Independence Avenue extension to be relocated about a quarter-mile to the west. As an alternative, the runway extension could be shifted about a quarter-mile to the east, and Main Street could either become discontinuous or be rerouted a quarter-mile to the east. A third option could be to split the difference, shifting the 5,000-foot runway from its location in the master plan about an eighth-mile to the east. This would require shifting the alignment of the alternatives about an eighth-mile to the west and shifting Main Street about an eighth-mile to the east. The effect of the airport expansion proposed in the master plan on the northern reliever route would be addressed in preliminary engineering, should Washington County decide to further study the implementation of the reliever route.

EVALUATION OF POTENTIAL NORTHERN RELIEVER ROUTES

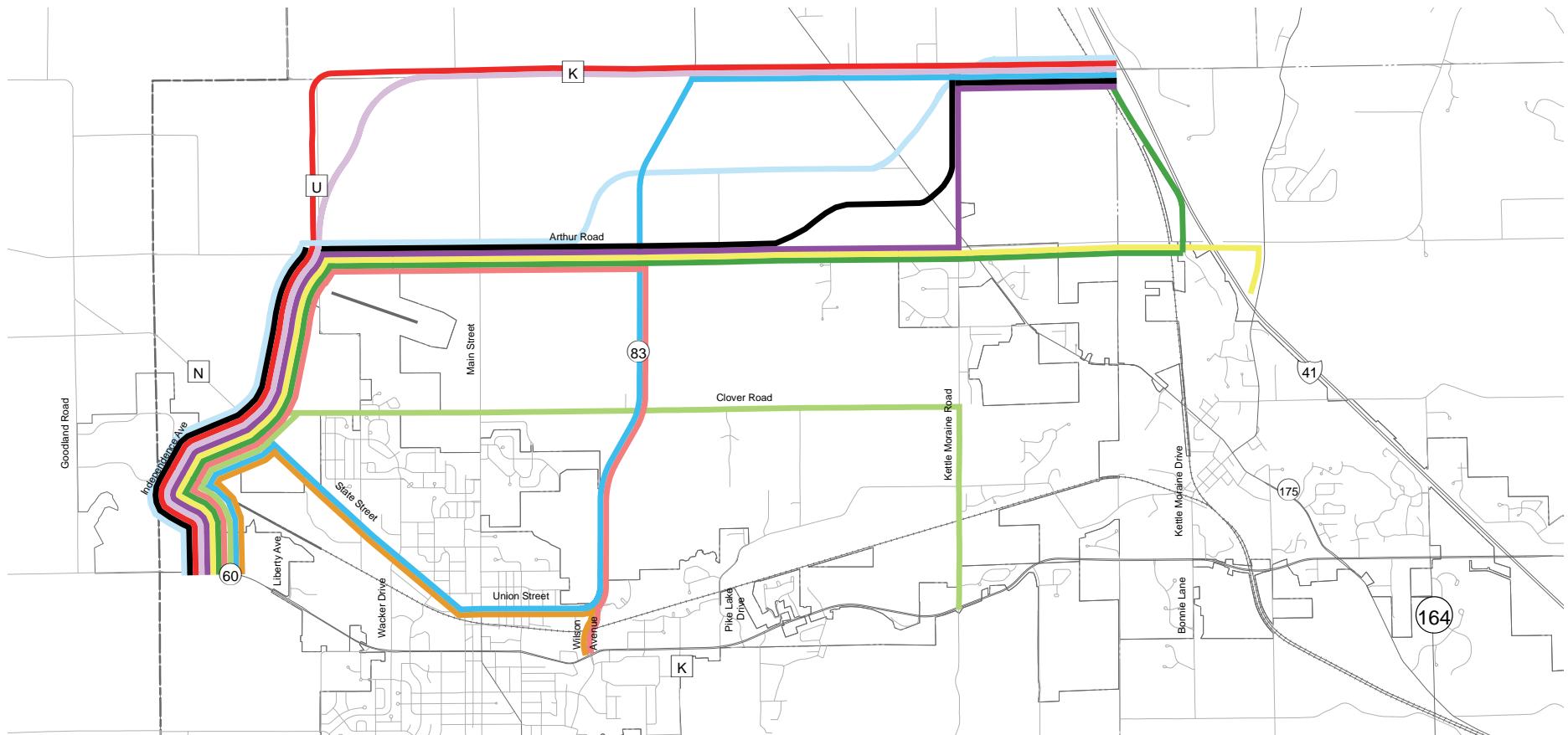
As areas urbanize, there is a need to develop a grid of arterial streets and highways¹¹ at the appropriate spacing to serve the existing and planned urban development of the area. STH 60 has long served as the only east-west arterial roadway through the Hartford/Slinger area. However, as this area has developed and will continue to develop, STH 60 can no longer be relied upon as the sole east-west arterial through the Hartford/Slinger area, and there is a need for additional east-west arterial roadways. In addition, a parallel east-west arterial to STH 60 could provide an alternative route for vehicles travelling during times of construction or a major accident. Implementation of the STH 60 northern reliever route would begin the development of the grid of arterial streets and highways to serve existing and planned urban development in the Hartford/Slinger area, and to potentially reduce the amount of total and truck traffic and vehicle congestion on STH 60.

¹⁰ The City of Hartford has long planned the extension of Independence Avenue from CTH N to Arthur Road. The City of Hartford's comprehensive plan, entitled, "City of Hartford 2030 Smart Growth Plan", includes this extension of Independence Avenue.

¹¹ Arterial streets and highways are those roadways that are principally intended to provide travel mobility, serving through movement of traffic and providing transportation service to subareas of the Region. Access to abutting property may be a secondary function of some types of arterial streets and highways, but the primary function of arterial streets and highways are traffic movement.

Map 11

ALTERNATIVE RELIEVER ROUTES EVALUATED AS PART OF THE STH 60 RELIEVER ROUTE FEASIBILITY STUDY



POTENTIAL ALTERNATIVE ROUTES^a

- ALTERNATIVE 1 (CTH U/CTH K)
- ALTERNATIVE 2 (INNER HARTFORD/STH 83)
- ALTERNATIVE 3 (ARTHUR RD/FRONTAGE RD)
- ALTERNATIVE 4 (INNER HARTFORD/STH 60)
- ALTERNATIVE 5 (ARTHUR RD/NEW ALIGNMENT A)
- ALTERNATIVE 6 (ARTHUR RD/KETTLE MORaine RD)
- ALTERNATIVE 7 (ARTHUR RD/IH 41 BRIDGE)
- ALTERNATIVE 8 (ARTHUR RD/STH 83/STH 60)
- ALTERNATIVE 9 (ARTHUR RD/NEW ALIGNMENT B)
- ALTERNATIVE 10 (CLOVER RD/KETTLE MORaine RD/STH 60)
- ALTERNATIVE 11 (NEW ALIGNMENT C/CTH K)

^aAlternatives 7 through 10 were added following the public meeting on June 29, 2016 and were presented to the Washington County Public Works Committee on July 27, 2016. Alternative 11 was added in August 2016, and was presented to the Washington County Public Works Committee on August 24, 2016.

The alignment of Alternative 11, and as well the other alternative routes which include the City of Hartford long-planned extension of Independence Avenue between CTH N and Arthur Road, are consistent with the City of Hartford Airport runway realignment and extension project (from 3,000 to 3,400 feet). The airport's master plan includes a further ultimate extension concept to 5,000 feet, with the extension occurring to the west. This would require the reliever route alignments for an extended Independence Avenue to be relocated about a quarter-mile to the west. In the alternative, to accommodate the ultimate runway extension concept, Main Street between Clover Road and Arthur Road could be relocated about a quarter-mile to the east. This would be addressed in preliminary engineering.

0 0.25 0.5 0.75 1 Miles



The evaluation of the eleven STH 60 reliever route alternatives with the criteria is presented in Table 5. It is anticipated that the northern reliever route would predominately be a rural cross-section having two 12-foot traffic lanes with 10-foot shoulders (5 feet of paved shoulder and 5 feet of gravel shoulder), along with a 100-foot right-of-way (as shown on Figure 1). Figure 2 shows an example of how the reliever route with such a cross-section could look. The photo was taken along a section of CTH N northwest of CTH U, which was recently reconstructed with the same cross-section that is being assumed for the reliever route.

Based on the evaluation shown on Table 5, Alternatives 7, 9, and 11 were the only alternative STH 60 reliever routes that would be expected to divert enough total and truck traffic from STH 60 to reduce forecast year 2050 traffic congestion on STH 60. These three alternatives would have similar impacts to homes, businesses, and farmland and are estimated to have similar construction costs. While Alternative 7 is estimated to divert the most total traffic (ranging from 3,000 to 3,500 vehicles) from STH 60 and alleviate the most congestion along STH 60 (reducing the miles of congestion from 4.75 miles to 3.08 miles) than the other alternatives, it would have the highest construction cost (ranging between \$22.2 and \$23.7 million) mostly due to this alternative proposing the construction of a new bridge over IH 41. Alternatives 9 and 11 are expected to divert a similar number of vehicles (2,500 total vehicles) and trucks (1,000 trucks) from STH 60 in the Hartford downtown area on an average weekday. These two alternatives would be expected to alleviate a similar amount of forecast year 2050 traffic congestion from STH 60 (reducing the miles of congestion from 4.75 miles to 3.66 miles), and would have similar impacts to residences, businesses, farmland, and environmentally sensitive lands. However, as much of the existing portion of Alternative 11 is on a county trunk highway, this alternative would have the least impact on the number of residences that currently reside along an existing local roadway.

With respect to jurisdictional transfers, much of the existing roadway that would be utilized for Alternatives 7 and 9 would require the transfer of roadway from local to county jurisdiction. Specifically, Alternative 7 would require the jurisdictional transfer of about 5.8 miles of Arthur Road to county jurisdiction, and Alternative 9 would require the jurisdictional transfer of 3.8 miles of portions of two roadways—Arthur Road and St. Lawrence Lane—to county jurisdiction. With respect to Alternative 11, much of the existing roadway that would be utilized for the reliever route—CTH K—is already under county jurisdiction. The exception would be that a small portion of Turtle Road may potentially need to be transferred from local to county jurisdiction to avoid existing wetlands south of Turtle Road.

Table 5
EVALUATION OF ALTERNATIVE STH 60 RELIEVER ROUTES (REVISED TO INCLUDE ALTERNATIVE 11)

Alternative Reliever Route ^a	Route Length Between STH 60/Goodland Road and STH 60/IH 41 (miles)	Travel Time Between STH 60/Goodland Road and STH 60/IH 41		Change in Year 2050 Average Weekday Traffic Volume on STH 60 ^b	Year 2050 Forecast STH 60 Traffic Congestion ^c		Number of Trucks Diverted from STH 60 Through Hartford Downtown on an Average Weekday	Right-of-way Acquisition			
		Route Travel Time (minutes)	Ratio of Travel Time to STH 60		Miles of STH 60 Under Congestion	Percent of STH 60 Under Congestion		Number of Residences ^d	Number of Businesses ^d	Acres of Farmland	Total Acres
1 - CTH U/CTH K (red)	13.3	15.3	1.13	-1,500 to -2,000	4.75	52	650	1 to 3	3 to 4	33.0	38.3
2 - Inner Hartford/STH 83 (blue)	14.8	19	1.41	0	4.75	52	0	21 to 22 ^e	3 to 5 (including a church) ^e	2.4	4.5
3 - Arthur Rd/Frontage Rd (green)	14.0	16.9	1.25	-1,100 to -1,500	4.75	52	500	2 to 8	1	33.8	42.6
4 - Inner Hartford/STH 60 (orange)	10.9	16.7	1.24	0	4.75	52	0	18-19 ^e	2 (including a church) ^e	0.0	1.4
5 - Arthur Rd/New Alignment A (black)	13.1	15.1	1.12	-1,500 to -2,000	4.75	52	700	1 to 6	1	41.7	53.8
6 - Arthur Rd/Kettle Moraine Rd (purple)	13.4	15.8	1.17	-1,100 to -1,500	4.75	52	500	1 to 7	1	33.4	44.0
7 - Arthur Rd/IH 41 Bridge (Yellow)	11.9	14.8	1.10	-3,000 to -3,500	3.08	33	800	4 to 12	1	33.8	43.9
8 - Arthur Rd/STH 83/STH 60 (pink)	13.8	18	1.33	-1,100 to -1,500	4.75	52	500	0 to 3	0	23.9	27.2
9 - Arthur Rd/New Alignment B (light blue)	12.9	14.8	1.10	-2,500	3.66	40	1,000	0 to 4	0	52.5	58.2
10 - Clover Rd/Kettle Moraine Rd/STH 60 (light green)	11.3	14.2	1.05	-3,500 to +2,000	5.68	62	1,050	4 to 11	0	21.7	42.1
11 - New Alignment C/CTH K (light purple)	12.9	14.8	1.10	-2,500	3.66	40	1,000	1 to 3	3 to 4	38.9	43.7

Alternative Reliever Route ^a	Number of Farm Fields Divided By Alternative Routes	Residences Located Along Alternatives		Impacts to Environmentally Sensitive Lands				Estimated Cost (\$ in millions)		
		Number of Residences Located Along an Existing Local Roadway	Number of Residences Located Along an Existing County/State Trunk Highway	Primary Environmental Corridor (Acres)	Secondary Environmental Corridor (Acres)	Isolated Natural Resource Areas (Acres)	Wetlands (Acres)	Construction ^f	Right-of-Way ^g	Total
1 - CTH U/CTH K (red)	5	2	47	0	1.9	1.4	2.7	\$16.2	\$1.2 to \$1.7	\$17.4 to \$17.9
2 - Inner Hartford/STH 83 (blue)	0	66	161	0	0.2	0.1	0.4	\$6.0	\$2.5 to \$2.8	\$8.5 to \$8.8
3 - Arthur Rd/Frontage Rd (green)	3	66	1	1.7	0	0.4	2.1	\$18.5	\$1.1 to \$2.1	\$19.6 to \$20.6
4 - Inner Hartford/STH 60 (orange)	0	67	91	0	0	0	0	\$0.7	\$1.6	\$2.3
5 - Arthur Rd/New Alignment A (black)	7	27	12	1.7	4.1	0.4	6.3	\$19.6	\$0.8 to \$1.5	\$20.5 to \$21.1
6 - Arthur Rd/Kettle Moraine Rd (purple)	3	53	11	1.7	0	0.4	2.1	\$16.7	\$0.8 to \$1.8	\$17.5 to \$18.5
7 - Arthur Rd/IH 41 Bridge (Yellow)	3	72	2	1.7	0	0.4	2.1	\$20.8	\$1.4 to \$2.9	\$22.2 to \$23.7
8 - Arthur Rd/STH 83/STH 60 (pink)	3	21	28	0	0	0.4	0.3	\$8.8	\$0.3 to \$0.8	\$9.2 to \$9.6
9 - Arthur Rd/New Alignment B (light blue)	9	17	12	0	1.7	0.9	0.9	\$21.1	\$0.6 to \$1.3	\$21.8 to \$22.4
10 - Clover Rd/Kettle Moraine Rd/STH 60 (light green)	2	56	1	10.1	0	1	10.2	\$15.2	\$1.2 to \$2.9	\$16.4 to \$18.1
11 - New Alignment C/CTH K (light purple)	8	1	43	0	1.8	1.4	2.9	\$18.5	\$1.2 to \$1.7	\$19.7 to \$20.2

Note: The routes highlighted in yellow are the three best performing routes in terms of their ability to divert total and truck traffic from and reducing traffic congestion on STH 60.

^a Alternatives 7 through 10 were added following the public meeting on June 29, 2016 and were presented to the Washington County Public Works Committee on July 27, 2016. Alternative 11 was added in August 2016, and was presented to the Washington County Public Works Committee on August 24, 2016.

The alignment of Alternative 11, and as well the other alternative routes which include the City of Hartford long-planned extension of Independence Avenue between CTH N and Arthur Road, are consistent with the City of Hartford Airport runway realignment and extension project (from 3,000 to 3,400 feet). The airport's master plan includes a further ultimate extension concept to 5,000 feet, with the extension occurring to the west. This would require the reliever route alignments for an extended Independence Avenue to be relocated about a quarter-mile to the west. In the alternative, to accommodate the ultimate runway extension concept, Main Street between Clover Road and Arthur Road could be relocated about a quarter-mile to the east. This would be addressed in preliminary engineering.

^b The year 2050 forecast average weekday traffic volume on STH 60 is 18,000 to 23,000 vehicles between Independence Avenue and Wilson Avenue, 25,000 to 29,000 vehicles between Wilson Avenue and STH 175, and 31,000 to 34,000 between STH 175 to STH 164

^c About 4.75 miles of the 9.20 miles of STH 60 between Goodland Road and IH 41, or about 52 percent, would be under congestion based on year 2050 average weekday traffic volumes without a STH 60 northern (or southern) reliever route.

^d The lower end of the range of the acquisition of residences and businesses would be located within the right-of-way of the alternative reliever route, and the upper end of the range includes residences and businesses located within 15 feet of the right-of-way of the alternative route.

^e Assumes aligning State Street with Union Street west of Main Street. Another option would be to align State Street with Union Street east of Main Street, which would reduce the number of residences that would be acquired by eight residences, eliminate the need to acquire a church, and would add the acquisition of a business.

^f Construction costs include costs for preliminary and final engineering.

^g The range of estimated right-of-way cost is a result of the range of residences and businesses estimated for each alternative reliever route.

Figure 1
TYPICAL RURAL CROSS-SECTION FOR STH 60 NORTHERN RELIEVER ROUTE

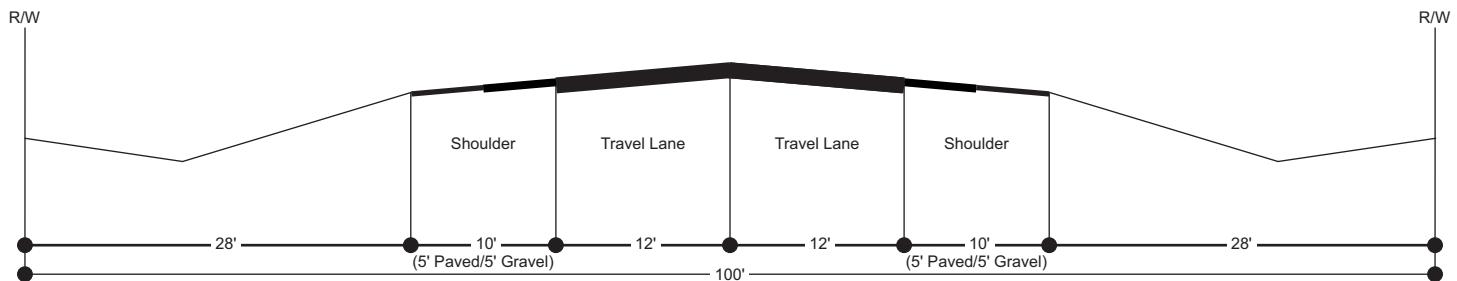


Figure 2
CTH N NORTHWEST OF CTH U



At the August 24, 2016 Washington County Public Works Committee meeting, the Commission and Washington County staffs recommended that the Public Works Committee identify Alternative 11 as the reliever route alternative which the County should receive further study through a preliminary engineering and environmental impact study. As compared to Alternatives 7 and 9, Alternative 11 would have similar impacts on STH 60 traffic, right-of-way impacts, and construction costs, and would be located primarily on existing county trunk highway or new alignment. Like the other two alternatives, Alternative 11 includes the City of Hartford's long planned extension of Independence Avenue from CTH N to Arthur Road. Additionally, most of the remaining portions of Alternative 11 are on CTH K. The proposed cross-section for the rural portions of the northern reliever route are consistent with how Washington County would likely reconstruct CTH K, regardless of whether it is utilized as part of the reliever route. The Public Works Committee indicated general agreement with this recommendation, and Commission and Washington County staffs were directed to prepare the study planning report with this recommendation for consideration at the subsequent Public Works Committee meeting held on September 28, 2016.

POTENTIAL STH 60 IMPROVEMENTS

As indicated in the previous section, implementation of the STH 60 northern reliever route would begin the development of the grid of arterial streets and highways to serve existing and planned urban development in the Hartford/Slinger area, and to potentially reduce the amount of total and truck traffic and vehicle congestion on STH 60. However, it is not expected that implementation of a northern reliever route would eliminate all of the existing and forecast future congestion on this segment of STH 60.

The year 2050 regional transportation plan recommends that the portion of STH 60 between Independence Avenue and Liberty Avenue be widened from two to four traffic lanes to address existing and forecast future traffic congestion along that segment. However, addressing the existing and forecast future traffic congestion along STH 60 between Goodland Road and IH 41 by widening the roadway from four to six traffic lanes, along with providing adequate turn lanes at all intersections, would require significant acquisition of residences and businesses, particularly within the Hartford downtown area. The cost of providing the six travel lanes, along with turn lanes, and property acquisition may be expected to far exceed the cost of beginning the development of the grid of arterials to serve the Hartford/Slinger areas by constructing a STH 60 northern reliever route.

A number of lower-cost traffic engineering measures were suggested by local and State officials and the public that could be implemented along STH 60 between Goodland Road and IH 41 for improving traffic movement within the corridor, including signal coordination, improving traffic flow at intersections, and increasing the speed limit in the downtown area. These traffic engineering measures would be expected to have limited impact on improving STH 60 traffic flow, and would not be a long-term solution, particularly as development and traffic increases along the STH 60 corridor in the future. The following is an evaluation of the various lower-cost traffic engineering measures that were suggested for improving traffic flow on STH 60 through the Hartford/Slinger area:

- Signal Coordination – Traffic signal coordination along STH 60 could be considered at the following locations with less than desirable signal spacing:
 - Seven traffic signals from Liberty Avenue to Pike Lake Drive
 - Two traffic signals from STH 175 to STH 164

It can be expected that during the times of the day that portions of STH 60 experience congestion, signal coordination may breakdown and not operate as desired. In any case, if traffic signal coordination were to permit a vehicle to effectively travel at the speed limit along STH 60 between Goodland Road and IH 41 without any stopping, the travel time is estimated to be about 13.5 minutes, which is about the same travel time that was observed along this segment of STH 60 during the midday period. Thus, traffic signal coordination may have the potential to reduce the variability of STH 60 travel times, but may not be expected to significantly improve travel time on STH 60.

- Intersection Improvements – The following intersection improvements could be considered to improve traffic flow movement in the STH 60 corridor:
 - Add right turn lanes on STH 60 at its intersection with STH 175 – Currently, there is a through/right lane, a through lane, and a dedicated left turn lane in both directions of STH 60 at its intersection with STH 175. Adding a dedicated right turn lane on STH 60 at this intersection would improve traffic flow through the intersection by potentially decreasing the queuing of traffic in the existing through/right lane.

- Add additional lanes on STH 164/Lovers Lane at their intersection with STH 60 – Currently, there are no dedicated left turn lanes on STH 164 (to the south) and Lovers Lane (to the north) at their intersection with STH 60. Adding dedicated left turn lanes has the potential to reduce the queuing on STH 164 and Lovers Lane at the intersection for through and left turning vehicles; however, any impact on STH 60 operation would be expected to be minimal.
- Increasing Speed Limits – The speed limits along STH 60 between Independence Avenue and IH 41¹² are generally appropriate for the density of development and the number of driveways along STH 60, particularly between Wacker Drive and Wilson Avenue in the Hartford downtown area. As, increasing the speed limits higher than what is appropriate for the level of adjacent development and the number of driveways present may increase the number and severity of crashes along the STH 60 corridor, the number of segments of STH 60 for which an increase in the speed limit is possible may be limited.
- Installation of Signage in Hartford Downtown Area – Since, the Commission and Washington County staffs had met with officials from the City of Hartford in April of 2016, the City has installed signage along STH 60 near the Hartford downtown area directing trucks travelling to the industrial area along State Street to use Wacker Drive rather than Main Street (STH 83). As the signs were recently installed, it may be too early to determine their effectiveness of diverting trucks from STH 83 (Main Street). However, the City of Hartford and WisDOT could monitor over time whether the signage is effective in diverting trucks from utilizing STH 83 (Main Street). In addition to the signage already installed in the Hartford downtown area, signage could also be installed on State Street directing eastbound truck traffic to Wacker Drive.
- Providing a Traffic Signal at the Intersection of STH 60 and Independence Avenue – WisDOT staff indicated that southbound trucks on Independence Avenue turning onto eastbound STH 60 causes traffic movement issues at the intersection. However, it was also indicated that traffic signals are not warranted, based on the current traffic levels utilizing the intersection. The traffic

¹² The current speed limits along STH 60 are 55 miles per hour (mph) between Goodland Road and Independence Avenue, 35 mph to 45 mph between Independence Avenue and Wacker Drive, 25 mph to 30 mph between Wacker Drive and Sell Drive/Plaza Drive, 35 to 40 mph between Sell Drive and Pike Lake Road, and 45 mph to 50 mph between Pike Lake Road and IH 41.

at this intersection could be monitored over time, particularly if a northern reliever route is implemented, to determine whether traffic signals are warranted.

RECOMMENDATION OF NORTHERN RELIEVER ROUTE AND STH 60 IMPROVEMENTS

[This section of the report will be written based on the final recommendations of the Washington County Public Works Committee at their September 28, 2016, meeting.]

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Appendix A

PUBLIC INFORMATION MEETING

A public information meeting (PIM) was held on Wednesday, June 29, 2016, in the Town of Hartford, along with a formal public comment period of June 16, 2016, through July 15, 2016, to gather information from the public regarding issues on STH 60 and to receive comment on alternative reliever routes and STH 60 improvements. The PIM was held in an open house format with boards displaying the inventory information on the STH 60 corridor (including pavement history, traffic control, existing total/truck traffic volumes, traffic congestion, forecast future year 2050 traffic volume and congestion, vehicle crashes, and travel times), the goal, objectives, and criteria identified for evaluating the alternative reliever routes (as shown on Table 4 of this report), and the six reliever routes that were identified prior to the PIM (as shown on Map 11 of this report). The comment received at the PIM and during the comment period were considered by Commission staff and Washington County officials as alternative reliever routes and improvements were developed and evaluated and as a final recommendations were prepared. A document entitled, *Record of Public Comment Received at Public Information Meeting for the STH 60 Northern Reliever Route Feasibility Study*, was prepared that documents the comments received during the formal public comment period of June 16, 2016 through July 15, 2016, along with the materials announcing the PIM, the sign-in sheets from the June 29, 2016, PIM, and the information displayed at the June 29, 2016, PIM.

Summary of Public Comment Received

The following is a summary of the public comments received via comment form and email during the public comment period and during the June 29, 2016, PIM at the Town of Hartford Hall.

A total of 64 persons provided comments regarding issues related to STH 60 between Goodland Road and IH 41. Comment was provided on forms available at the PIM on June 29, 2016, via electronic mail or U.S. mail, or through the Commission's website (www.sewrpc.org/STH60Study).

Opposition to Alternatives

A total of 53 persons expressed opposition to a potential STH 60 northern reliever route. Of the people who opposed a reliever route, 13 persons specifically opposed the use of Arthur Road, and four persons specifically opposed the use of CTH K. Some of the comments made by those opposing to a STH 60 reliever route include the following:

- 13 persons indicated that they would support Reliever Route Alternative 4, a reliever route which would be located within the City of Hartford.
- One person indicated that they would support a route using Clover Road, Kettle Moraine Road, STH 60, and new alignment.
- Three persons suggested the use of Goodland Road as part of a STH 60 northern reliever route.
- One person indicated opposition to any alternative reliever route that utilized Kettle Moraine Road.
- Seven persons indicated a concern that farming equipment traffic would disrupt traffic on the reliever routes.

Support of Alternatives

A total of 11 persons indicated their support for a northern STH 60 reliever route. Of the people who supported a reliever route:

- One person indicated that they particularly supported Reliever Route Alternative 1 and 2.
- One person indicated their support only for Reliever Route Alternative 3.
- Five persons indicated their support for only Reliever Route Alternative 1.
- One person indicated their support for any alternative reliever route using Arthur Road.
- One person indicated their support for an alternative reliever route using Arthur Road, a new bridge over IH 41, and STH 144.

Other Suggestions

In addition, a number of additional suggestions were made either at the PIM or during the public comment period:

- Eight persons suggested that a southern STH 60 reliever route be considered rather than a northern route.
- Nine persons suggested coordination of the traffic signals along STH 60.
- Two persons suggested the widening of STH 60 through the City of Hartford downtown area.
- Eight persons suggested prohibiting left turns from STH 60 onto STH 83.
- One person suggested rerouting STH 83 to utilize Wilson Avenue.
- One person suggested adding a right turn lane on westbound STH 60 to northbound STH 175.
- Three persons suggested the use of signage to encourage trucks to stay on STH 60 to the Hartford Industrial Park, rather than utilizing STH 83.

- One person suggested increasing the speed limit on STH 60 from 25 mph to 35 mph through the City of Hartford downtown area.
- One person suggested widening the STH 60/STH 83 Intersection.
- One person expressed concerns with the current amount of truck traffic on Arthur Road.
- One person suggested improving the STH 175/CTH K Intersection.
- One person suggested improving the STH 60/STH 164 Intersection.