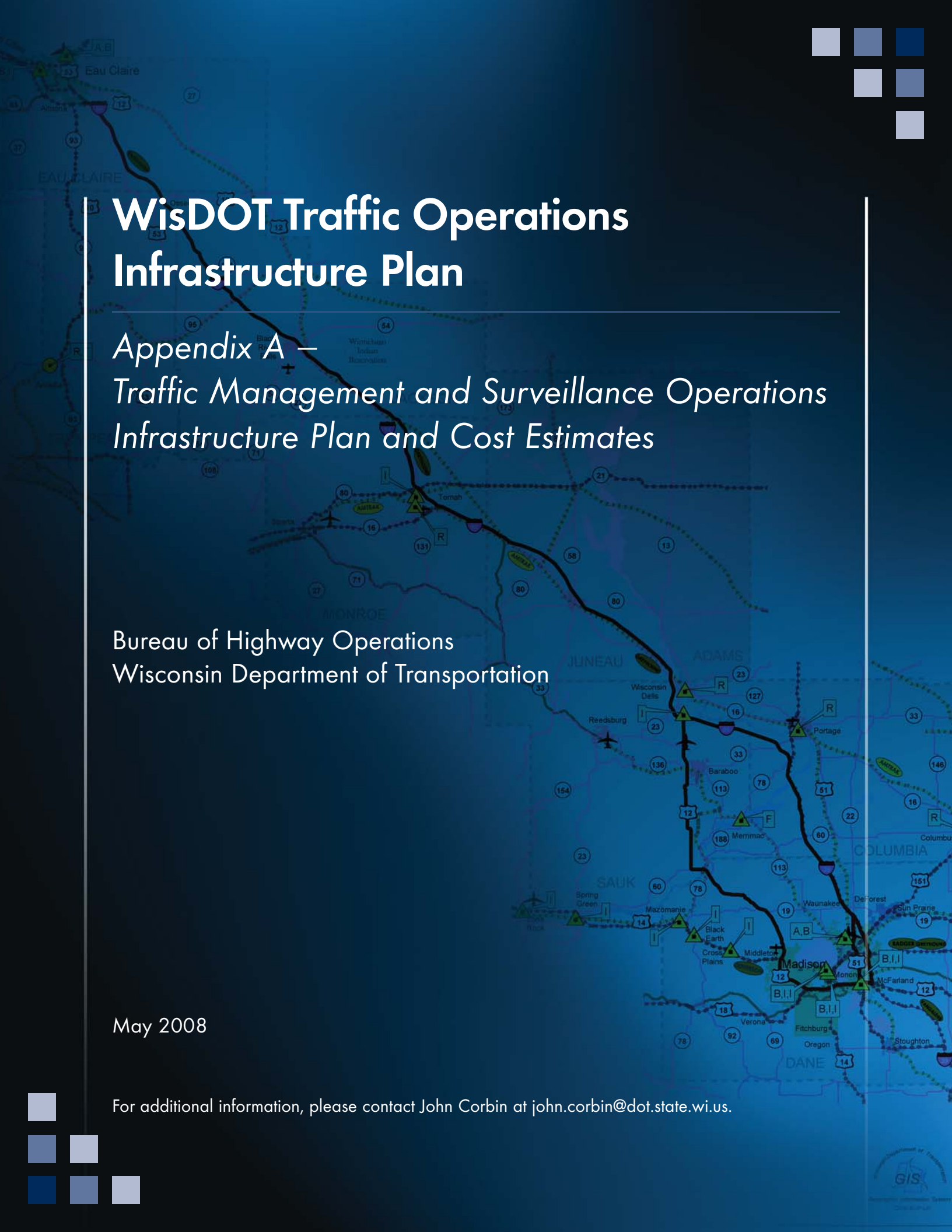




WisDOT Traffic Operations Infrastructure Plan

Appendix A — *Traffic Management and Surveillance Operations Infrastructure Plan and Cost Estimates*

Bureau of Highway Operations
Wisconsin Department of Transportation

May 2008

For additional information, please contact John Corbin at john.corbin@dot.state.wi.us.

Overview

This appendix contains the supporting information that was used to develop the signpost recommendations for detection, incident management, surveillance, and traffic flow management. The appendix is broken down by corridor in alphabetical order. Each corridor is broken down into major roadways and then further broken down into roadway segments. Each of these segments has short description and the corresponding signpost recommendation associated with it.

The description contains information that led to the signpost recommendations. The primary source for this information was the Meta Manager database. For cases where several congestion and safety factors showed a need to raise or lower the recommendation, the change was made. The other major source of the information used for developing the signpost recommendations was feedback from the Regional Meetings. At these meetings, draft corridor maps were presented for comment. The comments made by the Regions were taken and examined. In many cases, the comments were incorporated into the corridor maps and descriptions. However, there were some comments that were not substantiated by the data. For these comments, the reason why changes were not included is justified in this appendix. The items in italics show how the Regions' comments were handled.

84th Division Railsplitters

STH 33

STH 33 from Beaver Dam to STH 175

This segment has moderate levels of LOS, crash rate and crash severity index with low levels of AADT and HC ADT; however, due to the lack of other factors achieving high levels consistently, a baseline to low technology deployment density is recommended.

STH 33 from STH 175 to Townline Road

This segment has high levels of crash rate and moderate levels of LOS and crash severity index; however, with many other factors at low or baseline levels, a low technology deployment density is recommended.

STH 33 from Townline Road to USH 45

This segment has high levels of future AADT, moderate levels of AADT and LOS, and low levels of HC ADT and growth; however, no other distinguishing factors reach significant levels consistently. Therefore, this segment is recommended to have a baseline deployment density with technology intensity at baseline or low levels.

STH 33 from USH 45 through the municipality of West Bend

This segment has high levels of crash rate with moderate levels of AADT and low levels of HC ADT, LOS and weather (snow effect). Because of these factors, a low deployment density is recommended with a medium intensity of incident management to respond to crashes.

STH 33 from West Bend to CTH M

This segment has moderate levels of LOS and low levels of AADT, HC ADT and weather. It is recommended that this segment receive baseline deployment density with low or baseline technology intensity.

STH 33 from CTH M to I-43

This segment has moderate levels of future AADT and LOS, with low levels of growth, HC ADT, crash rate and weather (snow effect) along this segment. Due to a lack of higher levels of factors, a low deployment density is recommended for this segment but a medium level of detection deployment intensity will be needed.

84th DIVISION RAILSPLITTERS CORRIDOR

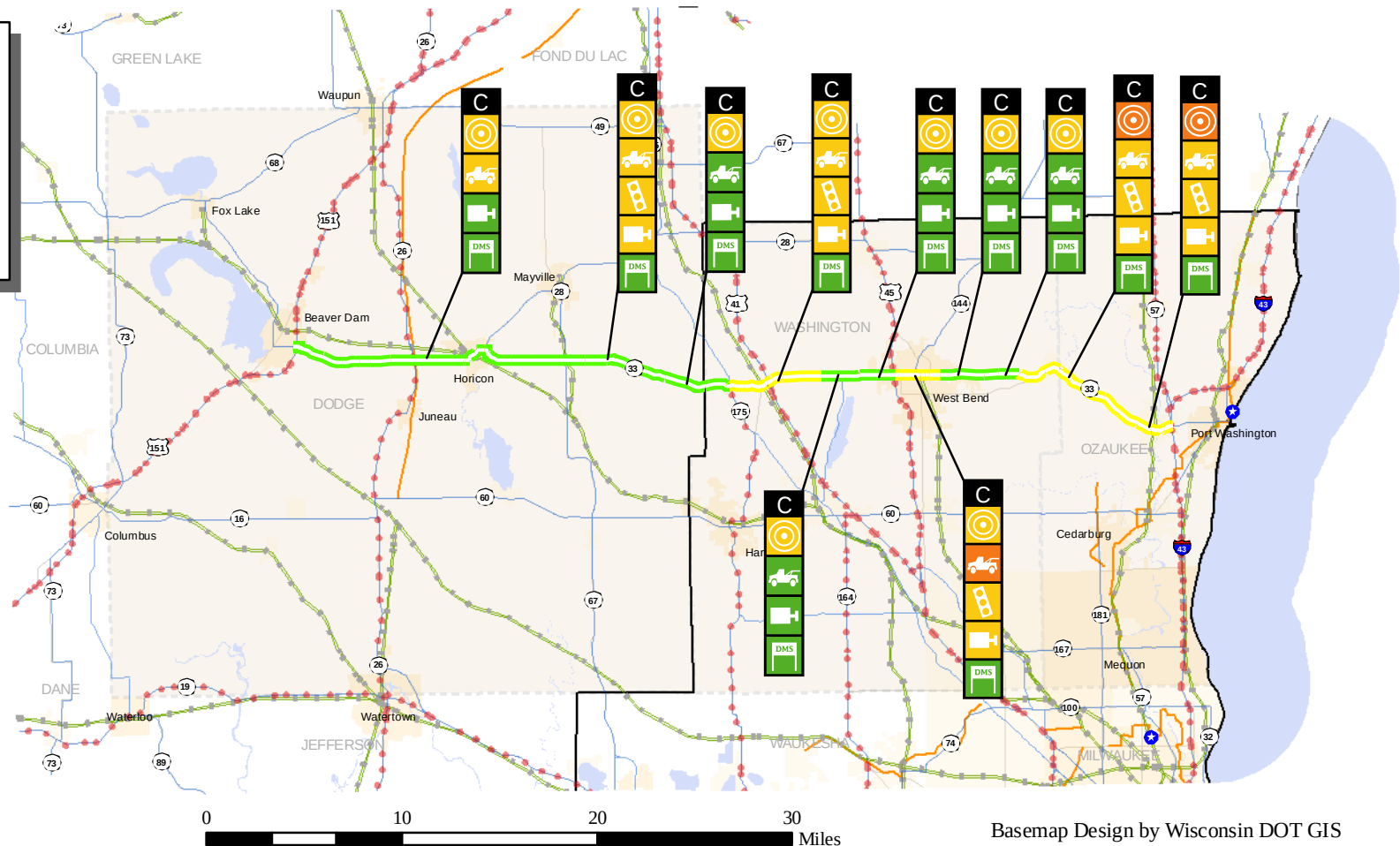
Beaver Dam - Port Washington

Technology	Deployment Intensity			
	Baseline	Low	Medium	High
Detection				
Incident Management				
Signal Improvements				
Surveillance				
Traffic Flow Management				
Traveler Information				
511 recommended for entire corridor				

Legend	
	Primary Highways in Corridor
	Principal Highways From Other Corridors
	Other Important Highway Connections
	Rail Freight
	BikeTrails
	Special Events
	MPO Boundaries



Deployment Density Classes	
	Baseline
	Low
	Medium
	High



Badger State

IH 39/90/94

IH 94 from Jct STH 312 to Jct USH 53 in the Eau Claire area

This segment has high AADT and heavy commercial ADT levels and moderate growth is forecasted. Medium detection and surveillance deployments are recommended while incident management and traffic flow management deployments should remain low.

IH 94 from Jct USH 53 to Jct STH 21 in Tomah

This segment has high AADT levels and a high crash severity index. Due to the high AADT levels, it is recommended that detection and surveillance be at medium levels while other deployments remain low.

IH 94 in the Tomah area from Jct STH 21 to the IH 90 interchange

This short segment has high AADT levels and moderate heavy commercial ADT, crash rate and growth. High levels of detection and surveillance are recommended while incident management and traffic flow management should remain at medium levels.

IH 90/94 from Jct IH 90 near Tomah to Jct USH 12 in Lake Delton

This segment has high AADT, heavy commercial ADT and crash severity index. This segment also has moderately bad LOS. High levels of detection and surveillance are recommended while other deployments should remain at a medium level.

IH 90/94 from Jct USH 12 in Lake Delton to Jct Columbia County Road CS

This segment has high AADT, heavy commercial ADT and crash severity index and moderately poor LOS. *A strictly data driven approach would recommend a slightly lower deployment intensity along this segment, however, a high deployment level was recommended for this by the Southwest WisDOT region due to eastbound congestion.*

IH 39/90/94 from Jct Columbia County Road CS to Jct USH 51 near the northern limits of Madison

This segment has a high AADT and heavy commercial ADT and a moderate LOS. *Although these factors are not high enough to recommend high deployment intensities, the Southwest WisDOT region recommended this segment have high deployment intensities.*

IH 39/90/94 from Jct USH 51 to Jct IH 94 on the east side of Madison

This segment has high AADT and heavy commercial ADT and moderate growth. High deployment intensities are recommended for this segment.

IH 39/90 from the Jct IH 94 to Jct USH 12/18

This segment has high AADT, heavy commercial ADT and LOS issues as well as a moderate growth issues. High deployment densities are recommended for this segment.

USH 12

The long-term vision for USH 12 from the IH 90/94 interchange in Lake Delton through the Baraboo and into Madison is to convert this segment from an arterial road to a freeway.

USH 12 from the IH 90/94 interchange in Lake Delton to Jct Terrytown Road in the Baraboo/West Baraboo area

This segment has poor LOS and crash rate issues and high to moderate AADT. High deployment intensities are recommended for this segment in its current state. *A new 4-lane freeway will be built parallel to this segment of USH 12 beginning in 2009. Work on this new freeway portion of USH 12 is expected to be complete in 2011. This upgrade may reduce or eliminate some of the problems on this segment and reduce the recommended deployment levels.*

USH 12 from Jct Terrytown Road to Jct Ski Hi Road south of the Baraboo/West Baraboo area

This segment has high LOS and AADT issues and moderate crash rate and crash severity index. Due to high LOS and AADT issues, high detection and surveillance levels are recommended while incident management should remain at low levels. *Beginning no earlier than 2015, a new 4-lane freeway bypass of West Baraboo will be built on this portion of USH 12. This upgrade may reduce or eliminate some of the problems on this segment and reduce recommended deployment levels.*

USH 12 from Ski Hi Road to Jct Parmenter Street near Middleton, the beginning of the current Madison Beltline

This segment has moderate AADT and crash rate issues. Medium deployment intensities are recommended for this segment.

USH 12 from Parmenter Street to Jct IH 39/90

The Madison Beltline has high AADT, moderate to poor LOS and moderate heavy commercial ADT, growth and crash rate issues. Due to the high AADT and LOS, high level deployments are recommended for this segment.

USH 51

The segments of USH 51 vary from good LOS on the north end to poor LOS on the south end. Because other factors are relatively constant, LOS is the main factor in recommending higher deployment intensities on the southern end.

USH 51 from Jct US 12/18 (Beltline Highway) to Jct Dane County Road AB (Buckeye Road)

This segment has high AADT and LOS and moderate crash rate and crash severity index. High level deployments are recommended, except for traffic flow management, which should remain at a medium level.

USH 51 from Jct Dane County Road AB (Buckeye Road) to Jct USH 151 (Washington Avenue)

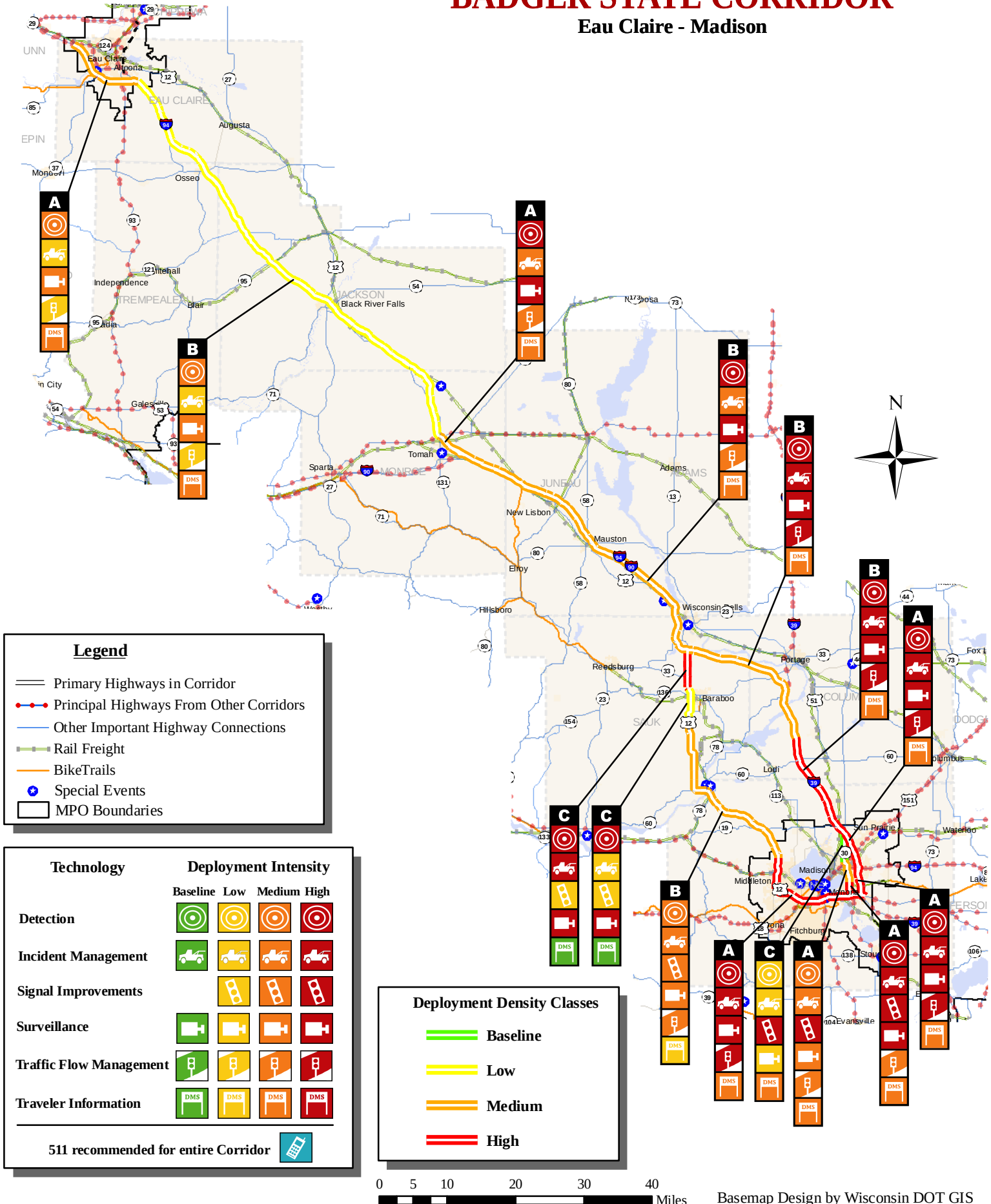
This segment has high AADT and moderate crash rate, crash severity index, growth and LOS issues. Medium level deployments are recommended for this segment.

USH 51 from Jct USH 151 (Washington Avenue) to Jct IH 39/90/94

This segment has high AADT and a few low level factors. Low deployment intensities are recommended for this segment.

BADGER STATE CORRIDOR

Eau Claire - Madison



Capitol

IH 90 / IH 39

IH 90 / IH 39 from the USH 151 interchange to the USH 12/USH 18 interchange (Madison Beltline Highway)

This segment has high levels of AADT, future AADT and HC ADT, moderate levels of growth and forecast LOS and low levels of crash rate and crash severity index. Given these factors, high levels of detection, incident management, surveillance and traffic flow management are recommended.

IH 94

IH 94 from USH 151 (via STH 30) to the CTH N interchange

This segment has high levels of AADT, future AADT, growth and HC ADT with moderate levels of forecast LOS. Medium levels of detection; incident management; surveillance, traffic flow management; and traveler information should be applied to both segments.

IH 94 from the CTH N interchange to Lake Mills

This segment has high levels of AADT, future AADT and crash severity index, moderate levels of HC ADT and low levels of growth and forecast LOS. Therefore, a low deployment density should be implemented along this segment.

IH 94 from Lake Mills to Oconomowoc

The segment has high levels of AADT and future AADT, moderate levels of HC ADT and crash severity index, low levels of growth, LOS and forecast LOS. With these factors, low levels of technology intensity are recommended.

IH 94 from Oconomowoc to the STH 16 interchange

The segment has high levels of AADT, future AADT and HC ADT, moderate levels of growth and forecast LOS and low levels of LOS. Given this criteria, medium deployment density is recommended.

IH 94 from the STH 16 interchange to downtown Milwaukee

The segment has high levels of AADT, future AADT, LOS, forecast LOS and event traffic. With numerous factors achieving high thresholds, a high deployment density is recommended to manage traffic.

USH 18 / USH 18

USH 18 / USH 12 from the USH 12 / USH 14 interchange to the IH 39 / IH 90 interchange

The segment has high levels of AADT, future AADT and forecast LOS, with moderate levels of growth, LOS and crash rate. Given these factors, a high deployment density

should be applied to this segment with high levels of technology intensity and medium levels of traveler information.

USH 18 /USH 12 from IH 39 / IH 90 to the CTH N interchange

The segment has moderate levels of AADT and future AADT and low levels of growth, HC ADT, crash rate and crash severity index. With these factors, it is recommended that medium incident management, surveillance be implemented to accommodate roadway users.

USH 18 from the CTH N interchange to Cambridge

The segment of has high levels of forecast LOS, moderate levels of LOS and crash severity index and low levels of AADT, future AADT, growth and HC ADT. Therefore, medium intensity of incident management should be implemented to accommodate traffic.

USH 18 from Cambridge to Waukesha

The segment of has low levels of AADT, future AADT, growth, HC ADT, forecast LOS, crash rate and crash severity index. With lack of factors achieving high thresholds, a baseline deployment density should be implemented along this segment with medium levels of incident management to smooth the transition into the Milwaukee metro area.

USH 18 from Waukesha to downtown Milwaukee

The segment has high levels of AADT, future AADT, crash rate and event traffic, moderate levels of forecast LOS and crash severity index, with low levels of growth, HC ADT and LOS. Therefore, this segment should receive medium levels of detection, incident management and surveillance.

USH 151

USH 151 from the USH 12 / USH 18 interchange to the IH 39 / IH 90 / IH 94 interchange

The segment has high levels of AADT, future AADT, forecast LOS and event traffic, with moderate levels of LOS and low levels of growth, HC ADT, crash rate and crash severity index. Given these factors, a high level of deployment density is recommended for this segment with medium levels of incident management.

USH 151 from the IH 39 / IH 90 / IH 94 interchange to Sun Prairie

The segment has high levels of AADT and future AADT, moderate levels of growth and forecast LOS and low levels of HC ADT. Because of this, medium deployment density should be implemented for this segment.

STH 19 from Sun Prairie to Watertown

The segment has moderate levels of crash rate and low levels of AADT, future AADT, growth, HC ADT, LOS, and forecast LOS. With the lack of factors achieving high priority, this segment should have low levels of technology intensity.

STH 16

STH 16 from Watertown to Hartland

The segment has high levels of future AADT, moderate levels of AADT and low levels of growth, HC ADT, LOS and forecast LOS. Therefore, deployment density along this segment is recommended at baseline to low levels.

STH 16 from Hartland to IH 94

The segment has high levels of AADT and future AADT, with moderate levels of crash rate and low levels of growth, HC ADT and weather. Deployment density should be applied at baseline and low levels.

STH 59

STH 59 from the east junction of STH 164 to STH 100

The segment has moderate levels of AADT, future AADT, forecast LOS and event traffic, with low levels of growth, HC ADT, LOS and crash rate. Because of these factors, this segment is recommended for baseline or low level recommendations.

STH 59 from STH 100 to the IH 43 / IH 94 interchange

The segment has high levels of forecast LOS, crash rate and event traffic, with moderate levels of AADT, future AADT and crash severity index. With the significance of these factors, a high level of deployment density should be applied with high levels of detection, incident management and surveillance.

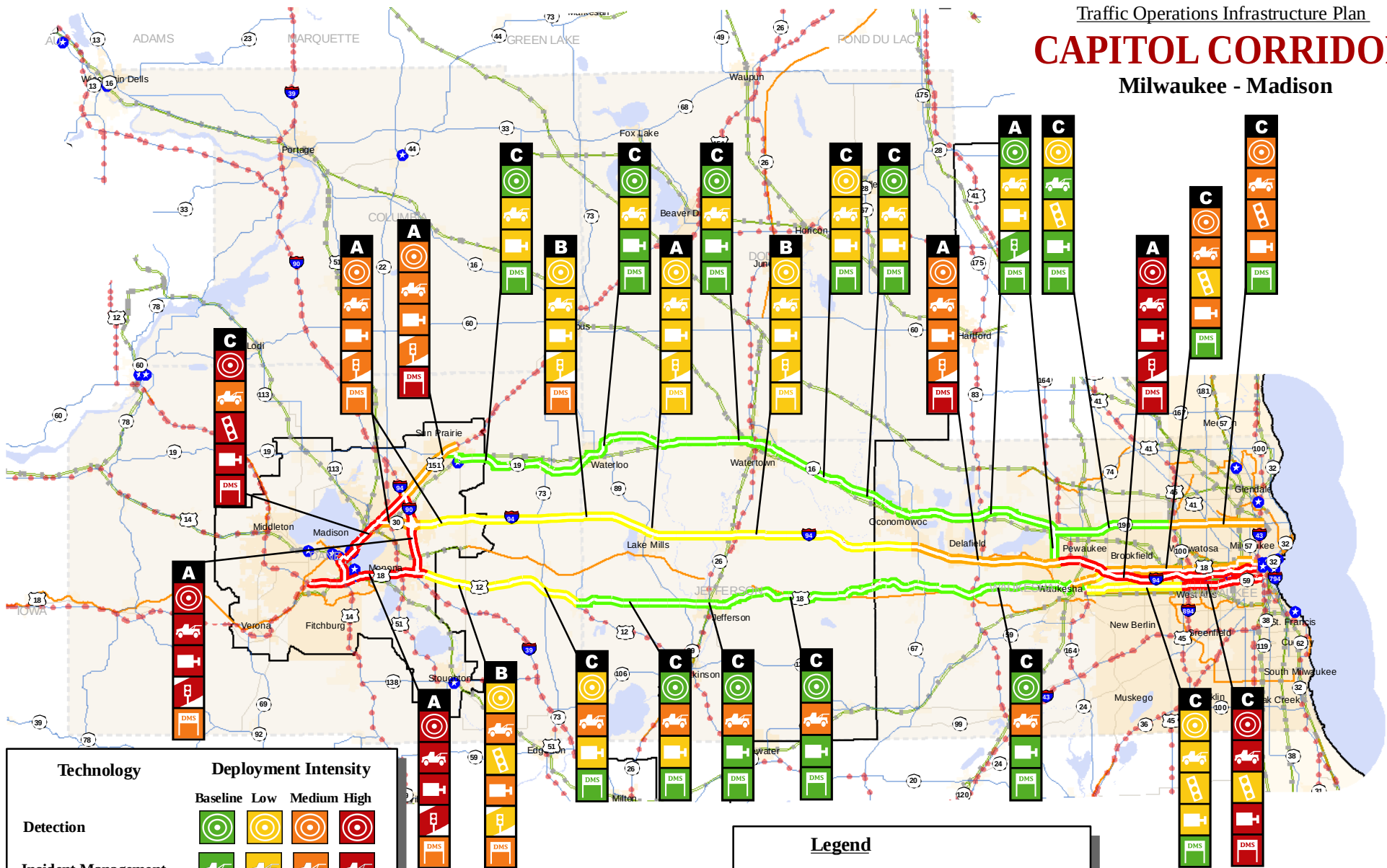
STH 190 from STH 16 to the Milwaukee county line

The segment has high levels of AADT and future AADT, moderate levels of event traffic and low levels of growth, HC ADT and forecast LOS. Baseline to low deployment density is recommended for this segment.

STH 190 from the Milwaukee county line to IH 43

The segment has high levels of AADT, future AADT, crash rate and event traffic, moderate levels of forecast LOS and low levels of HC ADT and LOS. Medium levels of detection, incident management, and surveillance should be implemented.

Traffic Operations Infrastructure Plan
CAPITOL CORRIDOR
 Milwaukee - Madison



Technology	Deployment Intensity			
	Baseline	Low	Medium	High
Detection				
Incident Management				
Signal Improvements				
Surveillance				
Traffic Flow Management				
Traveler Information				

511 recommended for entire corridor

Deployment Density Classes	
	Baseline
	Low
	Medium
	High

Legend	
	Primary Highways in Corridor
	Principal Highways From Other Corridors
	Other Important Highway Connections
	Rail Freight
	Bike Trails
	Special Events
	MPO Boundaries



Basemap Design by Wisconsin DOT GIS



Cheese Country

STH 11 from Dubuque (via USH 61/151) to Brodhead

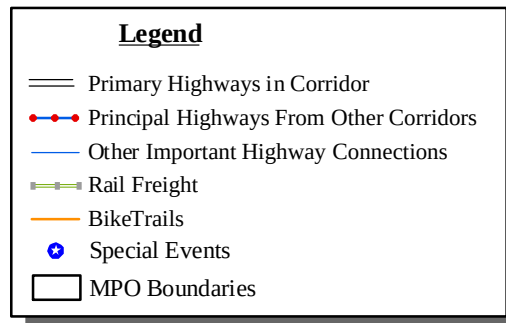
This segment has moderate levels of crash rate and crash severity index with low levels of growth, HC ADT, LOS, forecast LOS and weather (snow effect). Due to the lack of other factors achieving high levels consistently, a baseline deployment density is recommended.

STH 11 from Brodhead to CTH H in Rock County

This segment has a moderate level of crash severity index and low levels of future AADT, growth, HC ADT, LOS, forecast LOS, crash rate and weather (snow effect). Therefore, a baseline deployment density is recommended.

STH 11 from CTH H in Rock County to I-39 / 90

This segment has moderate levels of growth and low levels of HC ADT, crash rate and weather. Since no other distinguishing factors will reach significant levels consistently, this segment is recommended to have a low deployment density with technology intensity at baseline or low levels.



Deployment Density Classes

- Baseline
- Low
- Medium
- High



Chippewa Valley

IH 94

IH 94 from the Wisconsin/Minnesota state line to Jct STH 35

The segment has high AADT, heavy commercial ADT, growth issues, and a moderate forecasted LOS. This heavily traveled portion of IH 94 through Hudson ranks high in many criteria. High-level deployments are recommended for all but incident management, which should remain at medium levels.

IH 94 from Jct STH 35 to Jct USH 63

The segment has high AADT, heavy commercial ADT, severity index, and growth issues, and a moderate forecasted LOS. High deployment intensities are recommended for detection and surveillance while other deployments should remain at medium levels.

IH 94 from Jct USH 63 to Jct STH 25

The segment has high AADT, heavy commercial ADT, and severity index issues, as well as a moderate growth issue. Medium deployment intensities are recommended for incident management and surveillance while other deployments should be low.

IH 94 from Jct STH 25 to Jct Dunn County Road B

The segment has a high AADT and heavy commercial ADT, and a moderate growth issue. LOS and crash factors are low; therefore it is only recommended that surveillance have a medium deployment level while other deployments should be low.

IH 94 from Jct Dunn County Road B to Jct STH 312

The segment has high AADT, crash rate, and severity index issues, and a moderate growth issue. Due to elevated crash factors and high AADT, a high deployment intensity is recommended for surveillance. Other deployments should remain at medium levels.

IH 94 from Jct STH 312 to the USH 53 interchange in Eau Claire

The segment has high AADT, heavy commercial ADT, and crash rate issues, and a moderate growth issue. Medium deployment intensities are recommended for detection and surveillance while other deployments should remain low.

USH 12

USH 12 from Jct IH 94 east of Hudson to S Jct USH 63 in Baldwin

The segment has a moderate growth issue and various low level concerns. Baseline deployments are recommended for this segment.

USH 12 from S Jct USH 63 to W Jct STH 29 in Menomonie

The segment only has low level issues, therefore baseline deployments are recommended.

USH 12 from E Jct STH 29 near Elk Mound to W Jct STH 312

The segment has a high crash rate and a couple low level issues. The crash rate is elevated, but with a low severity index and low traffic volumes, baseline deployments are recommended.

USH 12 from W Jct STH 312 to Jct USH 53

The segment has a high AADT and severity index, and moderate crash rate and growth issues. With elevated crash factors and high traffic volumes, medium incident management and surveillance are recommended while other deployments should remain low.

USH 53**USH 53 in the Eau Claire/Chippewa Falls area from the IH 94 interchange to the STH 29 interchange**

The segment has a high AADT, and moderate LOS, crash rate, and severity index issues. High-level surveillance is recommended while other deployments should remain at medium levels. *The completed USH 53 Eau Claire freeway bypass opened to traffic in 2006. No study data was available for the new bypass. Data for this segment comes from the old portion of USH 53, which ran through Eau Claire and had many at-grade intersections. The Eau Claire freeway bypass may reduce or eliminate some of the problems of the old USH 53 segment, reducing recommended deployment levels.*

STH 29/35

The long-term vision for STH 29 is a continuous freeway from the IH 94 interchange west of the Eau Claire/Chippewa Falls area to USH 41 in the Green Bay area. Many segments in this corridor have already been constructed to freeway standards. Under this long-term plan, the remaining expressway portions in this corridor would be upgraded to freeway standards.

STH 35 from Jct IH 94 to Jct STH 65 in River Falls

The segment has a moderate forecasted AADT and heavy commercial ADT, and various low level issues. Baseline deployments are recommended for this segment.

STH 35 from Jct STH 65 to Jct STH 29 in River Falls

The segment has moderate heavy commercial ADT, crash rate, and growth issues. The crash rate on this segment is somewhat elevated, but severity index and traffic volumes are low. Baseline deployments are recommended for this segment. *STH 35 continues south from River Falls, but is not currently a part of the Gopher Connection Corridor.*

STH 29 from Jct STH 35 in River Falls to the west limits of Menomonie

The segment has a moderate severity index and a number of low level issues. A fair portion of this segment has an elevated severity index. Low level incident management is recommended while other deployments should remain at baseline levels.

STH 29 in Menomonie

The segment has a high crash rate, and moderate AADT and LOS issues. Due to a high crash rate in combination with moderate AADT and LOS, medium level surveillance and low level incident management are recommended while detection should remain at baseline levels.

STH 29 from the east limits of Menomonie to the IH 94 interchange

The segment has a moderate forecasted AADT and crash rate, and various low level issues. Baseline deployments are recommended for this segment.

STH 29 from the IH 94 interchange to the USH 53 interchange in the Eau Claire/Chippewa Falls area

The segment has a high severity index, and moderate crash rate and growth issues. Due to elevated crash rate and severity index, low deployment intensities are recommended for incident management and surveillance while other deployments should remain at baseline levels.

STH 29 from the USH 53 interchange to the Chippewa County Road K underpass near Lake Wissota

The segment has moderate AADT, heavy commercial ADT, growth, and crash rate issues. Due to elevated AADT and crash rate issues, medium deployment intensities are recommended for incident management and surveillance while other deployments should remain low.

STH 124**STH 124 from Jct USH 53 to Jct Park Avenue in Chippewa Falls**

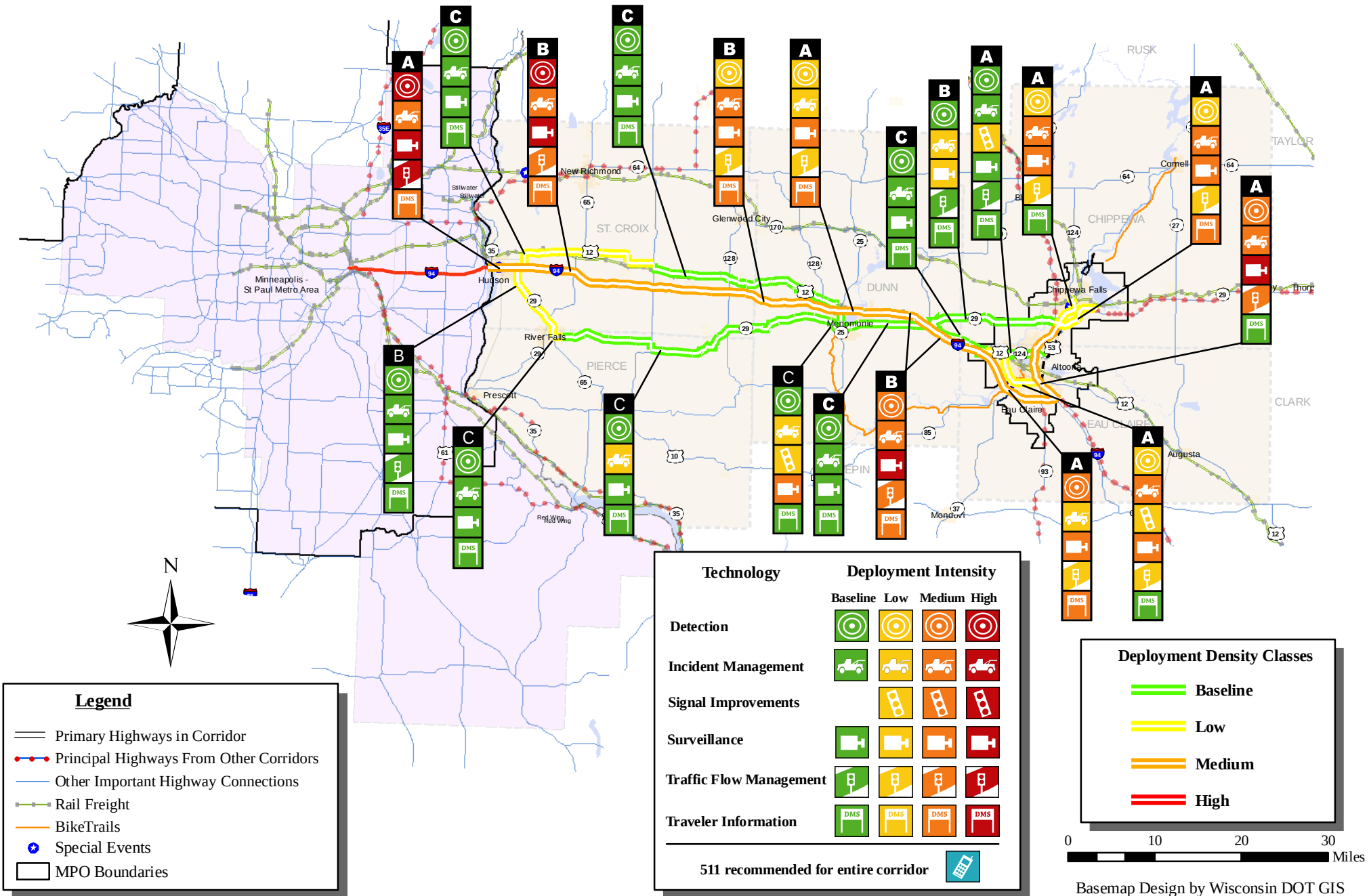
The segment has a high AADT and crash rate, and a moderate severity index. Due to elevated crash factors in combination with high traffic volumes, medium level incident management and surveillance are recommended while other deployments should remain low.

STH 312**STH 312 from E Jct USH 12 to Jct USH 53 in Eau Claire**

The segment has a high to moderate AADT, and moderate crash rate, severity index, and growth issues. Crash factors are only elevated for isolated sections while forecasted LOS remains acceptable. Baseline deployment intensities are recommended for this segment.

CHIPPEWA VALLEY CORRIDOR

Eau Claire - Twin Cities



Cornish Heritage

USH 151

The long-term vision for the Cornish Heritage Corridor (USH 151) is a continuous freeway from the Wisconsin/Iowa state line to the Madison Beltline Highway (USH 12). Many segments in this corridor have already been constructed to freeway standards. Under this long-term plan, the remaining expressway portions in this corridor would be upgraded to freeway standards.

USH 151 from the Wisconsin/Iowa border in the Dubuque, Iowa area to Jct USH 61 south of Dickeyville

This segment has a moderate forecasted AADT and various low level safety and congestion issues. These factors are at low enough levels that only baseline deployment intensities are recommended for this segment.

USH 151 from the USH 61 split to N Jct STH 23 south of Dodgeville

This segment has a high crash rate and crash severity index, moderate heavy commercial ADT and growth issues. However, AADT is low and only low level incident management and surveillance are recommended for this segment. Other deployment densities should remain at baseline levels.

USH 151 from N Jct STH 23 to W Jct USH 18 east of Dodgeville

This segment has moderate forecasted AADT and growth issues. Baseline deployment intensities are recommended for this segment.

USH 18/USH 151 from W Jct USH 18 to W Jct Verona Avenue west of Verona

This segment has a high crash severity index and moderate AADT and growth issues. Low level incident management and surveillance are recommended while other deployment levels should remain at baseline levels.

USH 18/USH 151 from W Jct Verona Avenue to Jct Dane County Road PD in Fitchburg

This segment has high to moderate AADT, and moderate crash rate and growth issues. *Although a strictly data driven approach would recommend a lower deployment intensity, a medium deployment level is recommended for this segment due to the suggestions from the Southwest region.*

USH 18/USH 151 from Jct Dane County Road PD to W Jct USH 12 (Madison Beltline Highway)

This segment has high AADT and various low level safety and congestion factors. Medium deployment intensities are recommended for this segment.

USH 151 from E Jct USH 12 (Madison Beltline Highway) to Jct IH 39/90/94

This segment has high AADT, LOS and event issues, and a moderate crash rate and crash severity index. Most factors are poor on this urban segment, therefore, high deployment intensities are recommended for detection and surveillance, except incident management should be at a medium level.

USH 151 from Jct IH 39/90/94 to Jct STH 19 in Sun Prairie

This segment has high AADT and moderate forecasted LOS and growth issues. A medium deployment density for all factors is recommended for this segment.

USH 151 from Jct STH 19 to Jct Madison Street south of Beaver Dam

This segment has a high crash severity index, moderate to high AADT, and moderate forecasted growth. In general, low level deployments are recommended for this segment. However, traffic flow management should be at baseline levels.

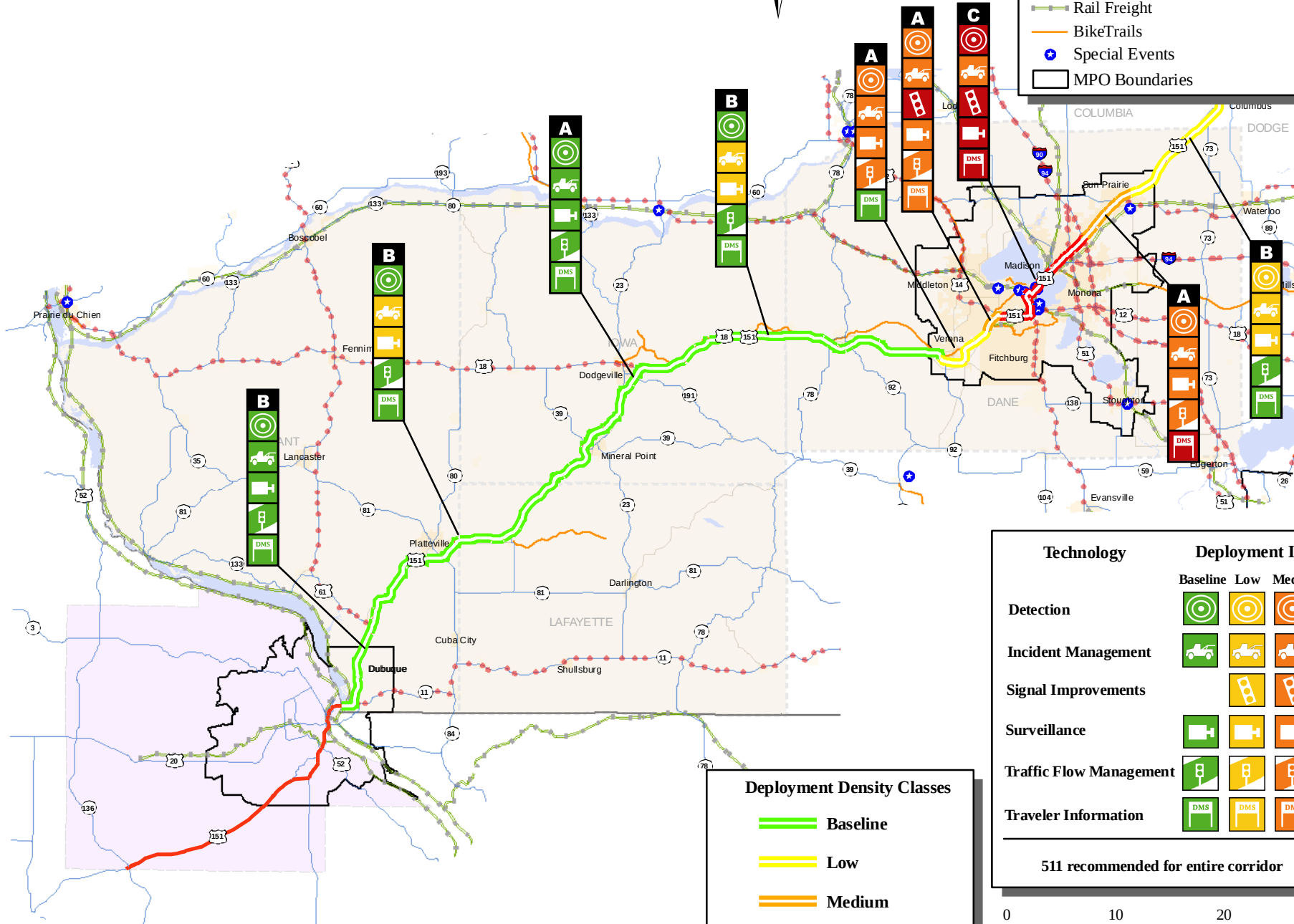
CORNISH HERITAGE CORRIDOR

Dubuque - Madison



Legend

- Primary Highways in Corridor
- Principal Highways From Other Corridors
- Other Important Highway Connections
- Rail Freight
- Bike Trails
- Special Events
- MPO Boundaries

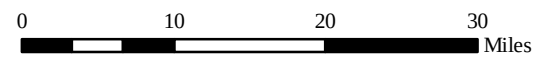


Deployment Density Classes

- Baseline
- Low
- Medium
- High

Technology	Deployment Intensity			
	Baseline	Low	Medium	High
Detection				
Incident Management				
Signal Improvements				
Surveillance				
Traffic Flow Management				
Traveler Information				

511 recommended for entire corridor



Coulee Country

IH 90

IH 90 from the Minnesota state line to STH 16

The segment has high levels of AADT, future AADT and HC ADT, with low levels of growth, crash rate, weather (snow effect) and event traffic. With these factors, it is recommended that this segment receive low deployment density with medium intensity of detection and surveillance to accommodate motorists.

IH 90 from STH 16 to West Salem

The segment has high levels of AADT, future AADT and HC ADT, with low levels of growth, crash severity index and weather. Therefore, baseline and low deployment density levels are recommended.

IH 90 from West Salem to Tomah

The segment has high levels of future AADT and HC ADT, moderate levels of AADT and crash severity index and low levels of growth and weather. Because of these factors, technology intensity should be at baseline or low levels.

IH 90 from Tomah to IH 94

The segment has high levels of future AADT and HC ADT, moderate levels of AADT and crash rate, with low levels of growth, crash severity index, weather (snow effect) and event traffic. Therefore, deployment density for this segment should be at a medium level for detection, incident management and surveillance.

STH 16

STH 16 from the Minnesota state line to STH 157

The segment has high levels of crash rate, moderate levels of AADT, future AADT, LOS and forecast LOS and low levels of growth, HC ADT, weather and event traffic. With these factors, this segment is recommended for medium levels of technology intensity with a high level of detection.

STH 16 from STH 157 to CTH M in West Salem

The segment has high levels of AADT and future AADT, moderate levels of crash rate and low levels of growth, forecast LOS and weather. Due to these factors, medium levels of detection, signal improvements and surveillance should be implemented.

STH 16 from CTH M in West Salem to IH 90 in Sparta

The segment has low levels of growth, HC ADT and weather. With the lack of factors achieving high thresholds, a baseline to low deployment density should be implemented along this segment.

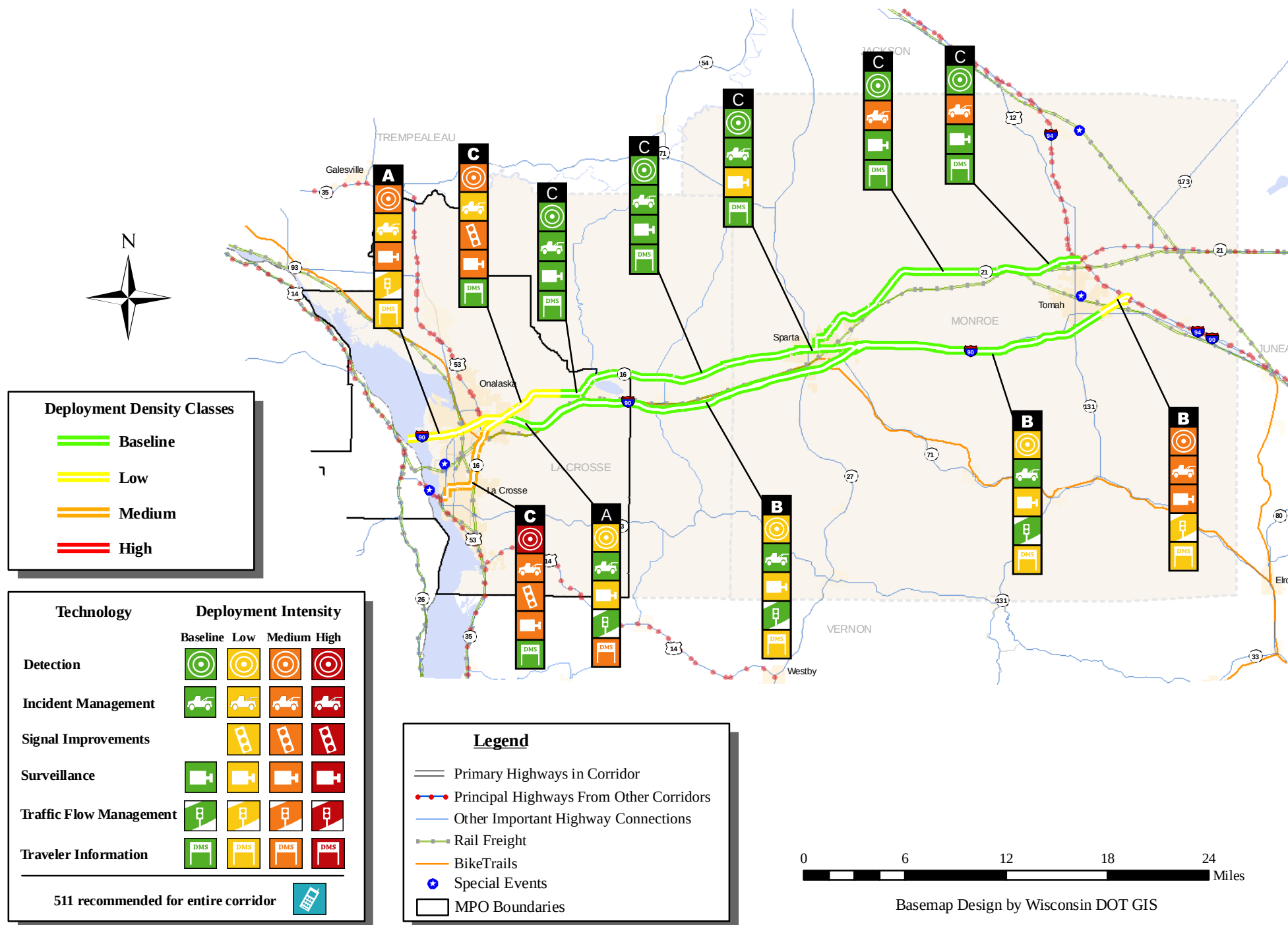
STH 21

STH 21 from Sparta to IH 94

The segment has low levels of growth, HC ADT and weather. Due to a lack of factors reaching high priority, deployment density along this segment should be at baseline and low levels, and incident management at medium levels.

COULEE COUNTRY CORRIDOR

La Crosse - Tomah



Cranberry Country

STH 21

It is planned that the portion of STH 21 from the Waushara/Winnebago county line to Oshkosh will be upgraded to a freeway.

STH 21 from the IH 94 interchange to the eastern limits of Tomah

This short segment has only low-level issues; it is recommended that all deployment intensities remain at baseline levels.

STH 21 from the eastern limits of Tomah to the western limits of Coloma (near the IH 39 interchange)

This segment has mostly low level congestion and safety factors, but a few portions of this segment have a high severity index. For this reason, low-level incident management is recommended while other deployments should remain at baseline deployment densities.

STH 21 in Coloma

This segment has a high crash rate with moderately poor LOS and some forecasted growth. Therefore, this segment should have medium level deployment densities for incident management and surveillance. *During the Regional Meetings, a comment was made that this segment does not demand an orange level of deployment. Because of the poor safety factors, it is recommended that some incident management resources should be available, such as positioning a trailer at Stevens Point. This would likely have little to no cost for this corridor.*

STH 21 from the eastern limits of Coloma to S Jct STH 22 in Wautoma

This segment has various low level factors, but a high severity index. Since AADT is so low, nothing beyond baseline deployment level is recommended.

STH 21 from S Jct STH 22 to E Jct STH 73

This segment has moderate AADT and crash rate issues. Low-level deployment densities are recommended.

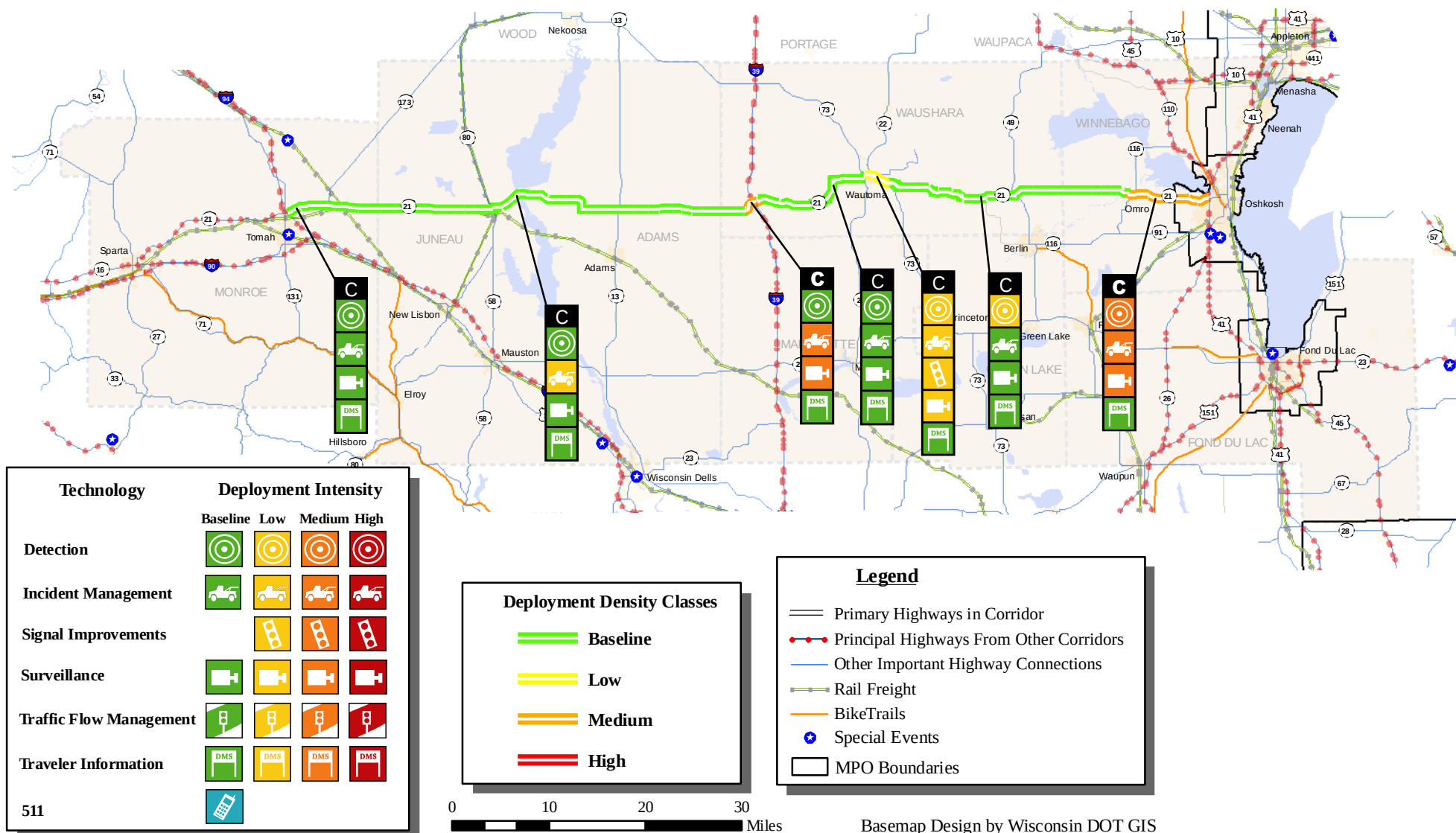
STH 21 from E Jct STH 73 to the western limits of Omro

This segment has moderate LOS issues. Low-level detection is recommended while other deployments should remain baseline.

STH 21 from the western limits of Omro to the USH 41 interchange in Oshkosh

This segment has a high crash rate, moderate to high AADT, and moderate LOS, growth, and event issues. Based on these criteria, medium deployment densities are recommended for this segment. *The Northeast Region commented that this segment is more congested near USH 41. This input was taken into account with the recommendations, but it was decided to maintain an orange deployment density throughout this segment for consistency as there is little to no difference in the recommendations for this type of facility from medium to high deployment density recommendation.*

Traffic Operations Infrastructure Plan
CRANBERRY COUNTRY CORRIDOR
Tomah - Oshkosh



Door Peninsula

STH 57

One major expansion project is funded in this corridor. In 2006, construction began on an upgrade of STH 57 to a four-lane divided expressway from Dyckesville to Sturgeon Bay. The project is currently underway, and will ultimately result in STH 57 being a four-lane divided expressway from Green Bay to Sturgeon Bay.

STH 57 in the Green Bay area beginning at IH 43 interchange and continuing to the eastern limits of Green Bay

This segment has a high level of AADT and moderate heavy commercial ADT and growth issues. However, LOS and crash factors are not severe on this segment and there is not adequate reason to recommend anything beyond low deployment intensity.

STH 57 from the eastern limits of Green Bay through Dyckesville

This segment has a moderate level of AADT and a few low level factors. Because of these low levels, baseline deployment intensities are recommended for this segment.

For the segments of STH 57 from Dyckesville to Sturgeon Bay, the ongoing upgrade to a four-lane divided expressway could reduce or eliminate the problems on this segment and reduce recommended deployment levels.

STH 57 from Dyckesville to Namur (Jct Door County Road N)

This segment has a low level of AADT, but high levels of LOS and crash severity index. Because of these factors, a medium level of surveillance level is recommended while other deployments levels should remain low.

STH 57 at Namur (Jct Door County Road N)

This segment has a very high crash rate and moderately poor LOS. A high level of surveillance is recommended at this location while other deployment levels should remain at medium levels.

STH 57 from Namur (Jct Door County Road N) to Jct STH 42

This segment has moderately poor LOS and moderate crash severity index issues. Based on these criteria, low-level surveillance is recommended while other deployment levels should remain at baseline levels.

STH 57 at its junction with STH 42 to the southwest of Sturgeon Bay

This segment has a high crash rate and moderately poor LOS. A medium surveillance level is recommended while other deployments levels should remain at low levels.

STH 57 from Jct STH 42 to the southwestern limits of Sturgeon Bay

This segment has low to moderate AADT, crash rate and crash severity index levels. A low incident management level is recommended, but the other deployment levels should remain at baseline levels.

STH 57 from the southwestern limits of Sturgeon Bay to the Sturgeon Bay Ship Canal

This segment has moderate AADT, LOS and crash rate issues. Low detection and traffic flow management deployment density levels and baseline incident management and surveillance levels are recommended.

STH 57 from the Sturgeon Bay Ship Canal to Jct Egg Harbor Road

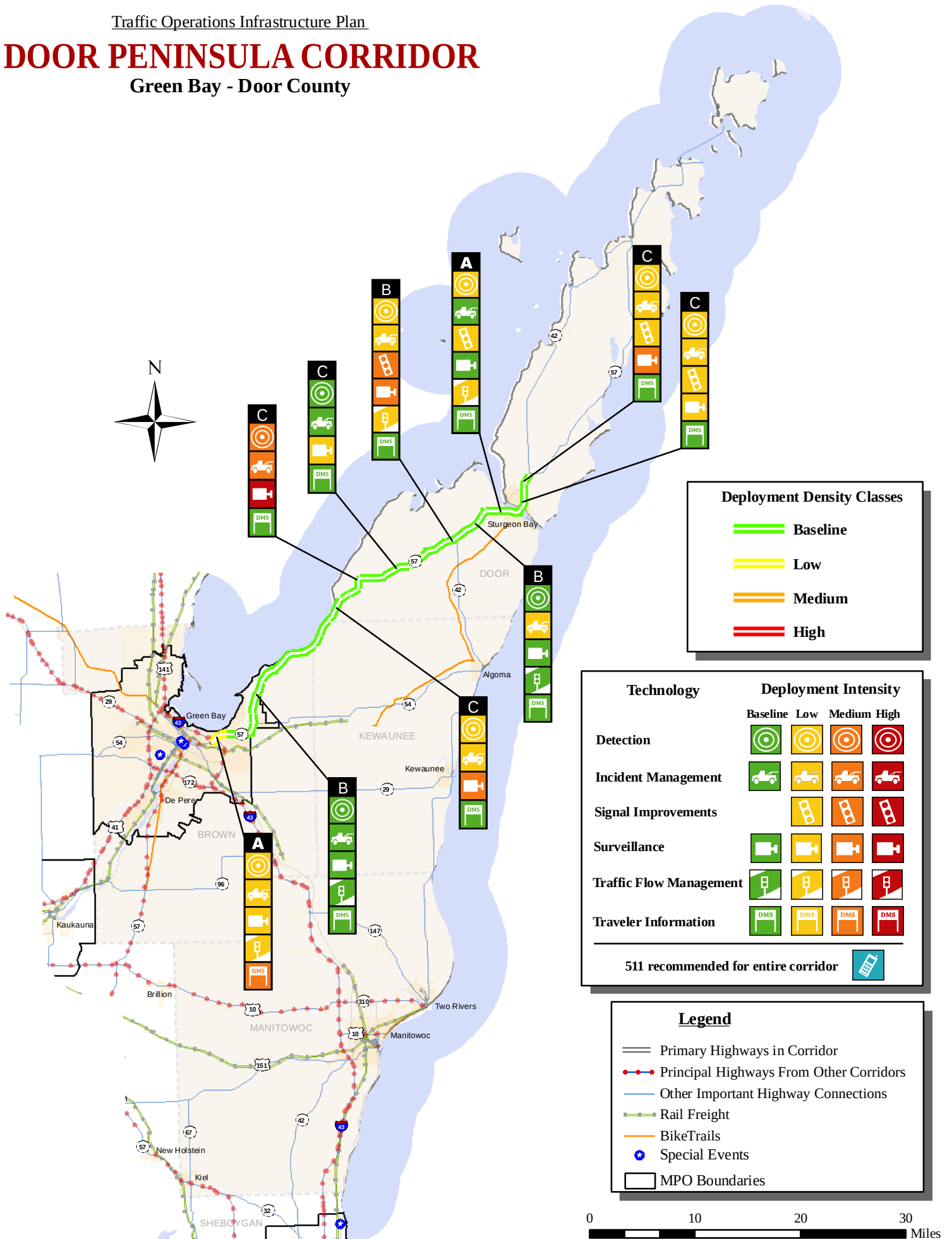
This segment has both poor LOS and high AADT relative to segments to the southwest. Low deployment densities are recommended for this segment.

STH 57 from Jct Egg Harbor Road to Jct STH 42 northeast of Sturgeon Bay

This final segment has moderate LOS and crash factor issues. A medium surveillance level is recommended while other deployments should remain at low levels. ***In the regional meetings, it was mentioned that this segment had crash problems, but some measures have been taken to reduce the problem.***

DOOR PENINSULA CORRIDOR

Green Bay - Door County



Fox Valley

USH 41

USH 41 from the STH 145 interchange in Milwaukee County to Jct STH 100 in Menomonee Falls

This segment has high AADT and severity index, moderate LOS, heavy commercial ADT, and event factors. Medium intensity surveillance is recommended while other deployments should remain at low levels.

USH 41 from Jct STH 100 to S Jct USH 151 in Fond du Lac

This segment has a high crash severity rate, moderate to high AADT, and moderate heavy commercial ADT and forecasted growth. Based on these criteria, low deployment intensities are recommended for all technologies except detection which should remain at a baseline level.

USH 41 from S Jct USH 151 to Jct Winnebago Street in North Fond du Lac

This segment has high AADT and moderately heavy commercial ADT. Low deployment intensities are recommended for all but detection, which should remain at baseline levels.

USH 41 from Jct Winnebago Street to Jct Fond du Lac County Road N

This segment has high AADT and severity index and moderate forecasted growth issues. Low deployment intensities are recommended for all deployment densities except detection, which should remain at a baseline levels.

USH 41 from Jct Fond du Lac County Road N to Jct STH 44 in Oshkosh

This segment has high to moderate AADT issues, moderate to heavy commercial ADT, growth and event issues. Low deployment intensities are recommended for all but detection, which should remain at baseline levels. *The northern-most portion of this segment (STH 26 to STH 44) will be upgraded from a 4-lane freeway to a 6-lane freeway with planned construction. This upgrade may reduce or eliminate some of the problems on this segment, thus reducing the recommended deployment levels.*

USH 41 from Jct STH 44 to the southern limits of Neenah

This segment has high AADT, moderate heavy commercial ADT, LOS, growth, and event issues. Medium level surveillance is recommended while other deployments should remain low. *This segment of USH 41 will be upgraded from a 4-lane freeway to a 6-lane freeway with planned construction. This upgrade may reduce or eliminate some of the problems on this segment, thus reducing the recommended deployment levels.*

USH 41 from the southern limits of Neenah to the southwestern STH 441 interchange

This segment has high AADT and crash rate, and moderate LOS, growth, and heavy commercial ADT. Medium levels of detection and surveillance are recommended with low levels of incident management and traffic flow management.

USH 41/STH 441 freeway loop in the Appleton area

This segment has high AADT and crash rate with moderate LOS, growth and heavy commercial ADT issues. Medium levels of detection and surveillance are recommended with low levels of incident management and traffic flow management.

USH 41 from the northeastern STH 441 interchange to the southern limits of De Pere

This segment has high AADT, moderate heavy commercial ADT and forecasted growth levels. Medium level deployment densities are recommended for all deployment densities except traffic flow management, which should remain at low levels.

USH 41 from the southern limits of De Pere to the STH 172 interchange in the Green Bay area

This segment has high AADT, moderately heavy commercial ADT, LOS and growth issues. Based on these criteria, medium deployment levels are recommended for all but traffic flow management, which should remain at low levels. ***This segment of USH 41 will be upgraded from a 4-lane freeway to a 6-lane freeway with planned construction. This upgrade may reduce or eliminate some of the problems on this segment, thus reducing recommended deployment levels.***

USH 41 from the STH 172 interchange to Jct STH 29 in the Green Bay area

This segment has high AADT, crash rate, and event issues and moderate growth, heavy commercial ADT, and LOS issues. A high deployment level is recommended for this segment. ***This segment of USH 41 will be upgraded from a 4-lane freeway to a 6-lane freeway with planned construction. This upgrade may reduce or eliminate some of the problems on this segment, thus reducing recommended deployment levels.***

USH 41 from Jct STH 29 to the IH 43 interchange in the Green Bay area

This segment has moderate to high AADT levels and moderate LOS, growth, and heavy commercial ADT levels. A high deployment level is recommended for this segment. ***This segment of USH 41 will be upgraded from a 4-lane freeway to a 6-lane freeway with planned construction. This upgrade may reduce or eliminate some of the problems on this segment, thus reducing recommended deployment levels.***

STH 23

STH 23 from Jct USH 41 to Jct USH 45 in Fond Du Lac

This short segment has a high AADT, and moderate LOS crash rate issues. Medium deployment intensities are recommended for this segment. ***The Northeast region commented on the recurring flooding near Fond du Lac. Some of these concerns should be mitigated by the DMS recommendation, although other deployment densities could be increased if this is not sufficient.***

USH 45

USH 45 from Jct STH 23 in Fond Du Lac to Jct Fond Du Lac CTH Y

This segment has a moderate crash rate and various low-level issues. Baseline deployment intensities are recommended for this segment.

USH 45 from Jct Fond Du Lac CTH Y to the northern limits of Kewaskum

This segment has a high crash rate and moderate forecasted LOS and severity index. Low deployment intensities are recommended for this segment.

USH 45 in the city of Kewaskum

This segment has high crash rate and LOS issues, and moderate AADT and severity index issues. Low intensity incident management and surveillance are recommended while detection should remain at a baseline level.

USH 45 from the southern limits of Kewaskum to Washington CTH D

This segment has a high to moderate LOS and various low-level issues. Low deployment intensities are recommended for this segment.

USH 45 from Washington CTH D to the USH 41 interchange near Germantown

This freeway segment has a high AADT and a moderate growth issue. Baseline deployment intensities are recommended for this segment.

USH 45 from the IH 94 interchange to the STH 145 interchange in Milwaukee County

This segment has high level AADT, LOS, crash rate, severity index, and event issues. High intensity surveillance is recommended while other deployments should remain at medium levels.

FOX VALLEY CORRIDOR

Milwaukee - Green Bay



Legend

- Primary Highways in Corridor
- Principal Highways From Other Corridors
- Other Important Highway Connections
- Rail Freight
- BikeTrails
- Special Events
- MPO Boundaries

Deployment Density Classes

- Baseline
- Low
- Medium
- High

Technology

Deployment Intensity

Baseline Low Medium High

Detection



Incident Management



Signal Improvements



Surveillance



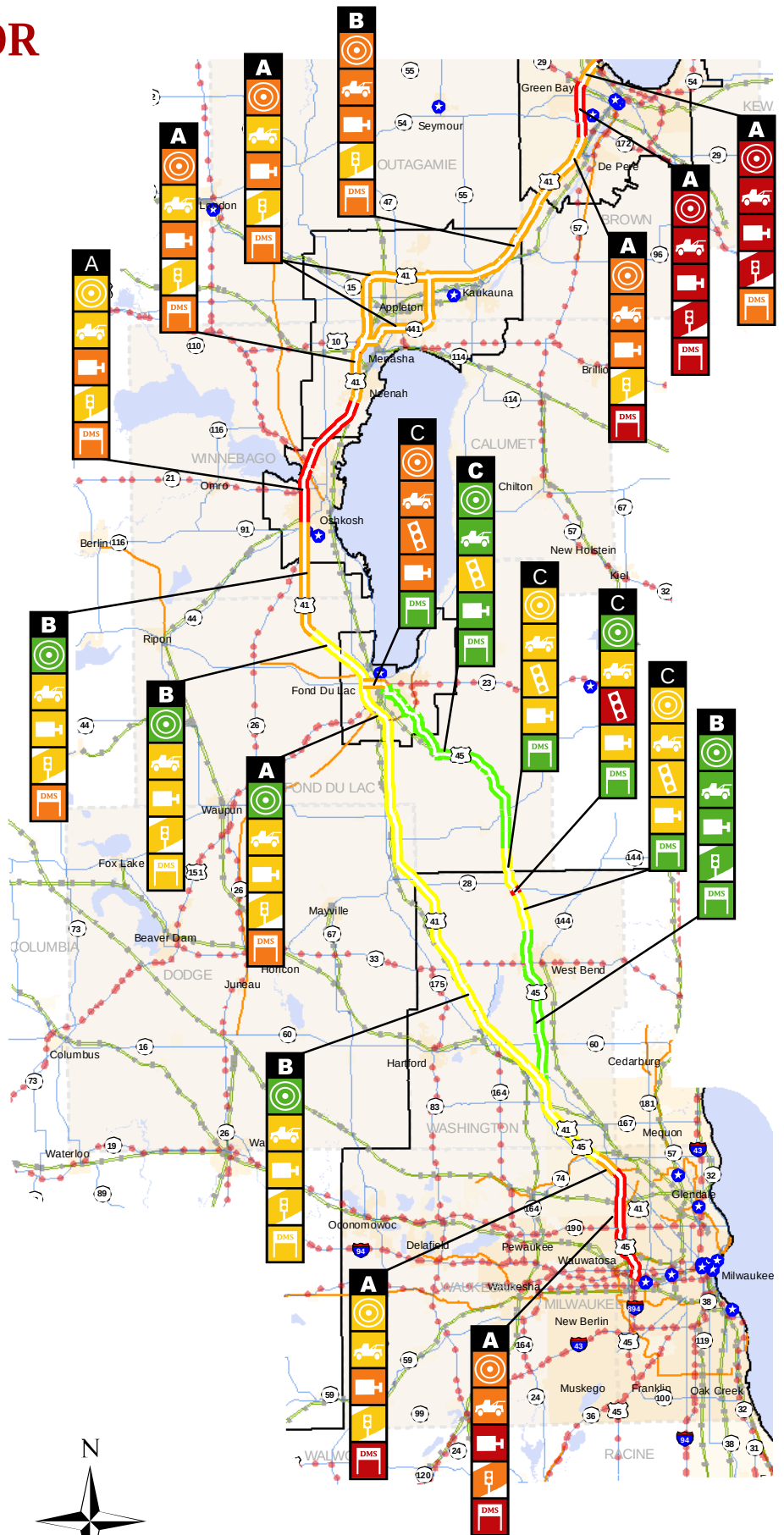
Traffic Flow Management



Traveler Information



511 recommended for entire corridor



0 6 12 18 24 Miles

Basemap Design by Wisconsin DOT GIS

Frank Lloyd Wright

USH 14 within the municipality of La Crosse (Minnesota state line to east junction of STH 35)

The segment has high levels of forecast LOS with moderate levels of AADT, future AADT and crash rate. It is recommended that a high deployment density be applied to this segment with a high intensity of detection, incident management, surveillance and signal improvements to accommodate roadway users.

USH 14 from La Crosse to Richland Center

The segment has moderate levels of AADT, future AADT and low levels of growth, forecast LOS and weather. Baseline to low deployment density is recommended for this segment.

USH 14 from Richland Center to Mazomanie

The segment has low levels of AADT, future AADT, growth, HC ADT and weather. Due to the lack of factors achieving high priority, a baseline to low levels of technology intensity should be implemented along this segment.

USH 14 from Mazomanie to Cross Plains

The segment has moderate levels of crash rate and low levels of growth, HC ADT and forecast LOS. Because of this, it is recommended that the segment receive low deployment density with medium intensity of incident management and surveillance to accommodate traffic.

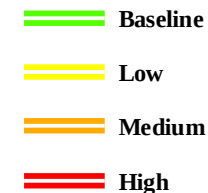
USH 14 from Cross Plains to Middleton

The segment has moderate levels of forecast LOS, crash rate and crash severity index, with low levels of AADT, future AADT, growth, HC ADT and weather (snow effect). Therefore, this segment should receive medium intensity of detection, incident management and surveillance to accommodate traffic.

FRANK LLOYD WRIGHT CORRIDOR

La Crosse - Madison

Deployment Density Classes



Technology

Deployment Intensity

Baseline Low Medium High

Detection



Incident Management



Signal Improvements



Surveillance



Traffic Flow Management



Traveler Information



511 recommended for entire corridor



Legend

- Primary Highways in Corridor
- Principal Highways From Other Corridors
- Other Important Highway Connections
- Rail Freight
- BikeTrails
- Special Events
- MPO Boundaries



French Fur Trade

USH 18

USH 18 from Prairie du Chien to Fennimore

This segment has moderate levels of crash rate with low levels of AADT, future AADT, growth, HC ADT, LOS and forecast LOS. Due to the lack of other factors achieving high levels consistently, a baseline to low deployment density is recommended for this segment.

USH 18 from Fennimore to STH 39

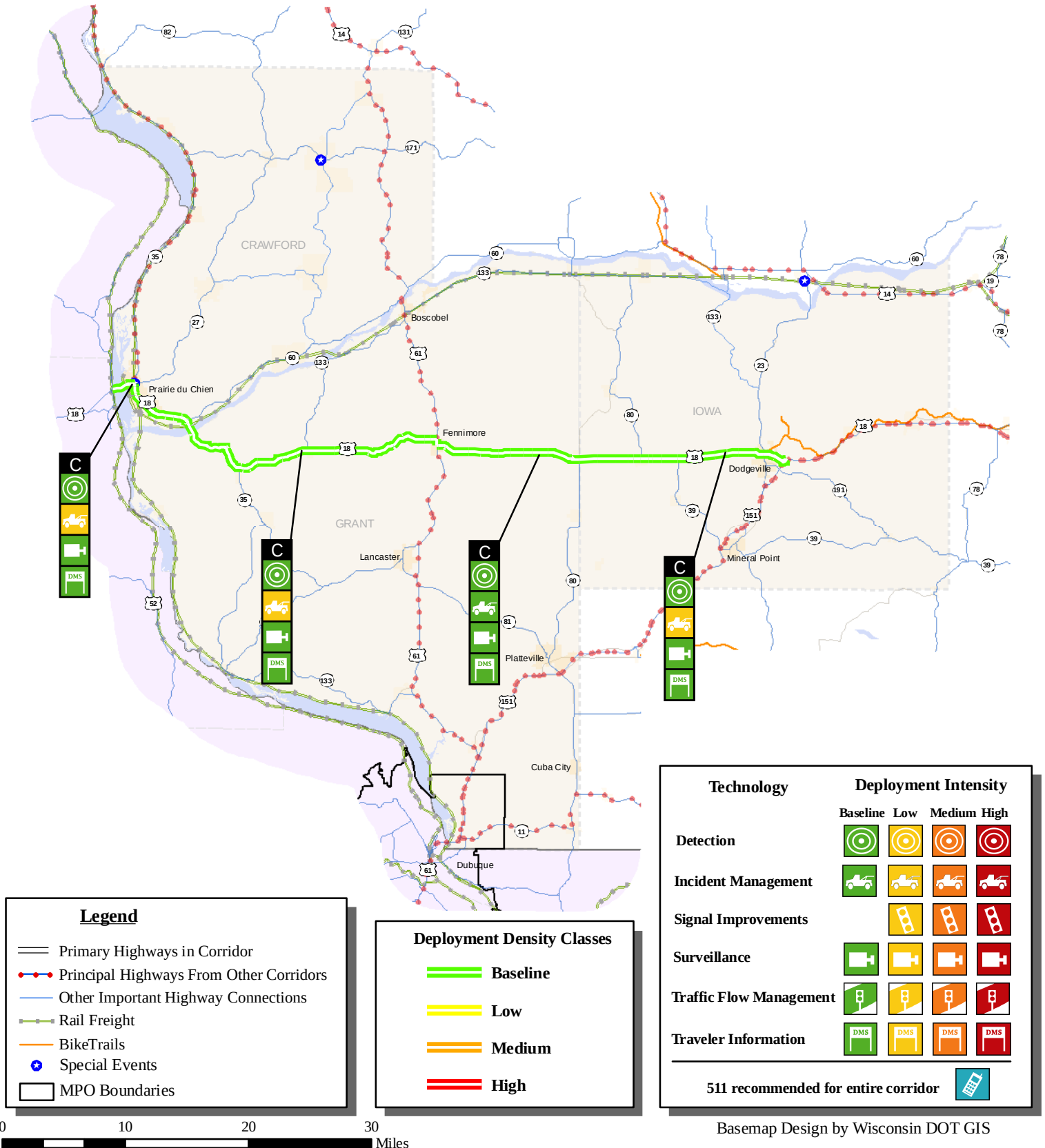
This segment has low levels of AADT, future AADT, growth, HC ADT, LOS, forecast LOS and crash severity index. Therefore, a baseline deployment density is recommended.

USH 18 from STH 39 to USH 151

This segment has moderate levels of growth and crash rate, with low levels of AADT and future AADT. Since no other distinguishing factors will reach significant levels consistently, this segment is recommended to have a baseline to low deployment density.

FRENCH FUR TRADE CORRIDOR

Prairie du Chien - Dodgeville



Geneva Lakes

USH 12 from I-39 / I-90 to the CTH N interchange

The segment has moderate levels of AADT and future AADT, and low levels of growth, HC ADT, crash rate and crash severity index. With these factors, a low deployment density is recommended for this segment with medium intensity of Incident Management and Surveillance to accommodate roadway users.

USH 12 from the CTH N interchange to Cambridge

has high levels of forecast LOS, moderate levels of LOS and crash severity index and low levels of AADT, future AADT, growth and HC ADT. Therefore, a low deployment density is recommended with a medium intensity of incident management to accommodate traffic.

USH 12 from Cambridge to Whitewater

The segment has moderate levels of forecast LOS and crash rate with low levels of AADT, future AADT, growth, HC ADT and LOS. With the lack of factors achieving high levels of priority, a baseline to low deployment density should be applied for this segment.

USH 12 within the municipality of Whitewater

The segment has moderate levels of crash rate and crash severity index and low levels of HC ADT, LOS, forecast LOS and weather. With the recent improvements to the Whitewater bypass, it is recommended that a baseline to low deployment density be implemented along this segment.

USH 12 from Whitewater to STH 20

The segment has moderate levels of crash rate and crash severity index with low levels of HC ADT, LOS, forecast LOS and weather (snow effect). It is recommended that the segment receive baseline to low deployment density.

USH 12 from STH 20 to I-43

The segment has moderate levels of forecast LOS, crash rate and crash severity index and low levels of AADT, future AADT, growth, HC ADT, LOS and weather (snow effect). Therefore, a baseline to low deployment density should be applied to this segment.

USH 12 from I-43 to Lake Geneva

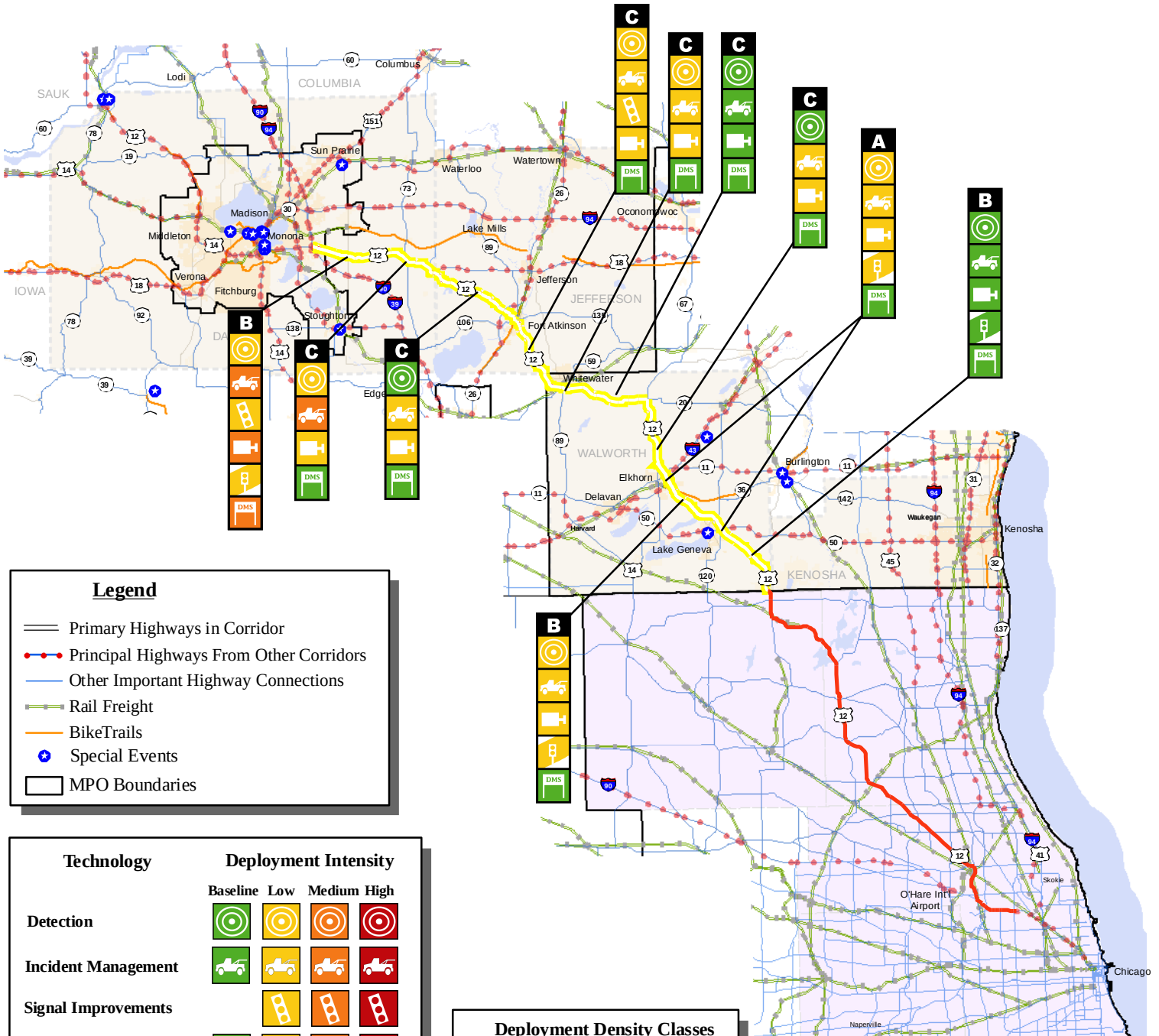
The segment has moderate levels of HC ADT and low levels of AADT, future AADT, growth, crash rate and weather (snow effect). Because of this, it is recommended that the segment receive low deployment density with baseline or low levels of technology intensity.

USH 12 from Lake Geneva to the Illinois state line

The segment has moderate levels of future AADT and low levels of AADT, growth, HC ADT and weather (snow effect). With the lack of factors achieving high levels of priority, baseline to low deployment density should be applied to this segment.

GENEVA LAKES CORRIDOR

Madison - Lake Geneva - Chicago



Legend

- Primary Highways in Corridor
- Principal Highways From Other Corridors
- Other Important Highway Connections
- Rail Freight
- Bike Trails
- Special Events
- MPO Boundaries

Technology

Deployment Intensity

Baseline Low Medium High

Detection



Incident Management



Signal Improvements



Surveillance



Traffic Flow Management



Traveler Information



511 recommended for entire corridor



Deployment Density Classes

- Baseline
- Low
- Medium
- High

0 10 20 30 Miles

Basemap Design by Wisconsin DOT GIS

Glacial Plains

IH 43

IH 43 from Beloit to the USH 14 interchange

This segment has high levels of future AADT and HC ADT, moderate levels of AADT and crash severity index and low levels of growth and weather (snow effect). Due to the lack of factors at high levels of priority, it is recommended that baseline levels of deployment density be applied on this roadway segment with baseline or low levels of technology intensity implemented.

IH 43 from the USH 14 interchange to the STH 67 interchange

This segment has high levels of future AADT and HC ADT, moderate levels of AADT and growth and low levels of weather (snow effect). It is recommended that baseline or low levels of technology intensity applied to this segment.

IH 43 from the STH 67 interchange to the USH 12 interchange

This segment has high levels of AADT, future AADT and HC ADT, moderate levels of growth and low levels of weather (snow effect) and crash rate. This segment should receive low levels of technology intensity to accommodate traffic.

IH 43 from the USH 12 interchange to the STH 164 interchange

This segment has high levels of future AADT, moderate levels of AADT, HC ADT and low levels of growth, crash rate, crash severity index and weather (snow effect). With few factors experiencing high threshold levels, this segment should receive baseline deployment density with baseline or low levels of technology intensity.

IH 43 from the STH 164 interchange to the CTH Y interchange

This segment has high levels of AADT and future AADT, moderate levels of HC ADT and low levels of growth and event traffic. A low level of deployment density should be applied to this roadway segment.

IH 43 from the CTH Y interchange to the 124th Street interchange

This segment has high levels of AADT and future AADT, moderate levels of HC ADT, future LOS and event traffic, and low levels of growth and LOS. With these factors, it is recommended that a medium level of deployment density be applied. To accommodate these factors, medium detection levels, incident management, surveillance and traffic flow management should be implemented.

IH 43 from the 124th Street interchange to the Mitchell Interchange (IH 94)

This segment has high levels of AADT, future AADT, LOS, future LOS and event traffic. Because of this, high deployment density levels are recommended with high intensity of detection, incident management, surveillance, traffic flow management to accommodate traffic.

USH 14

USH 14 from Janesville to IH 43

This segment has moderate growth and future LOS levels; however, no other factors are indicated to experience high levels. Therefore, baseline or low levels of technology intensity should be applied to this corridor.

STH 36

STH 36 from Waterford to CTH H in Franklin

This segment has moderate levels of future AADT, HC ADT and crash severity index with low levels of AADT, growth and weather (snow effect); however, no factors are anticipated to achieve high threshold levels. Therefore, baseline or low deployment density is recommended along this segment.

STH 36 from CTH H in Franklin to College Avenue

This segment has high levels of event traffic, moderate levels of future AADT and low levels of AADT, growth and HC ADT. Because of these levels, baseline technology is recommended for this roadway segment.

STH 36 from College Avenue to IH 43 / IH 894

This segment has high levels of future AADT and event traffic, moderate levels of AADT and low levels of growth, HC ADT, future LOS and crash rate. Baseline and low levels of technology intensity should be implemented.

Traffic Operations Infrastructure Plan

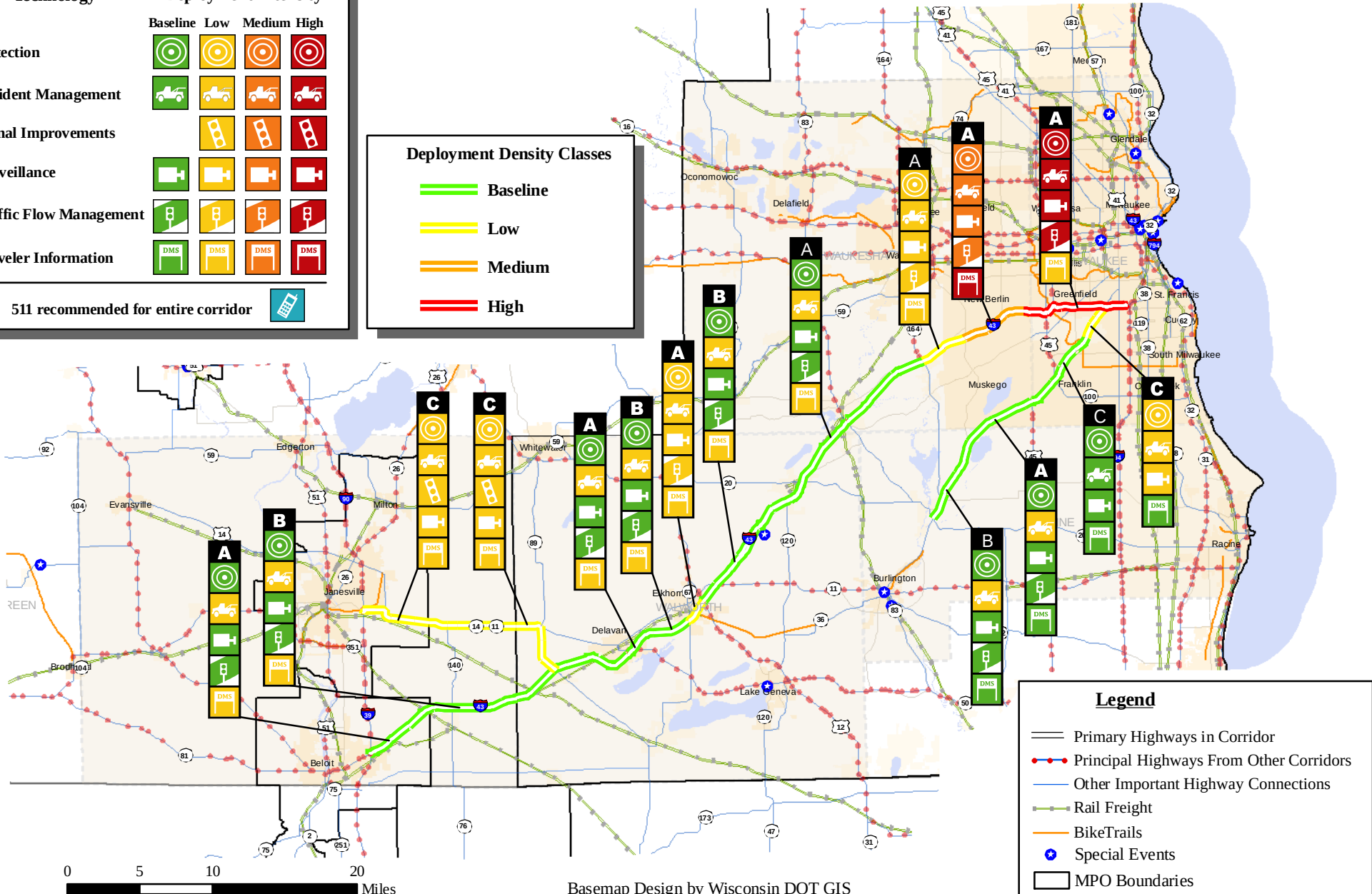
GLACIAL PLAINS CORRIDOR

Janesville/Beloit - Milwaukee



Technology	Deployment Intensity			
	Baseline	Low	Medium	High
Detection				
Incident Management				
Signal Improvements				
Surveillance				
Traffic Flow Management				
Traveler Information				
511 recommended for entire corridor				

Deployment Density Classes	
	Baseline
	Low
	Medium
	High



Legend	
	Primary Highways in Corridor
	Principal Highways From Other Corridors
	Other Important Highway Connections
	Rail Freight
	Bike Trails
	Special Events
	MPO Boundaries

Hiawatha

IH 94

IH 94 from the Illinois state line to the STH 165 interchange

This segment has high levels of AADT, future AADT, LOS forecast and crash severity index, with moderate levels of growth, HC ADT and LOS. With these factors, this segment is recommended to receive medium levels of technology intensity.

IH 94 from the STH 165 interchange to the STH 50 interchange

The segment has high levels of AADT, future AADT and HC ADT, with moderate levels of growth and forecast LOS. Because of this, the segment is recommended to receive medium levels of technology intensity.

IH 94 from the STH 50 interchange to the STH 142 interchange

The segment has high levels of AADT, future AADT and HC ADT and low levels of growth, forecast LOS, crash severity index and weather. Therefore, it is recommended that medium levels of technology intensity be applied to this segment.

IH 94 from the STH 142 interchange to the STH 241 interchange

The segment has high levels of AADT, future AADT and crash severity index, with moderate levels of HC ADT, LOS and forecast LOS. With these factors, it is recommended that this segment have medium deployment density.

IH 94 from the STH 241 interchange to the STH 100 interchange

The segment has high levels of AADT and future AADT with low levels of growth, HC ADT, LOS, forecast LOS and weather (snow effect). Due to these factors, a medium deployment density is recommended. *A new interchange has been built on this segment that will mitigate some of the safety factors.*

IH 94 from the STH 100 interchange to the Marquette interchange

The segment has high levels of AADT, future AADT, forecast LOS and event traffic, with moderate levels of LOS and crash rate. Therefore, medium deployment density should be applied to this segment.

USH 45

USH 45 from the Illinois state line to STH 50

This segment has high levels of crash rate and crash severity index with low levels of AADT, future AADT, growth, forecast LOS and weather (snow effect). Due to the lack of factors at high threshold levels, baseline or low levels of technology intensity are recommended for this corridor.

USH 45 from STH 50 to South Jct STH 36

This segment has moderate levels of crash rate and low levels of growth, HC ADT, LOS, forecast LOS, crash severity index and weather (snow effect). With this, baseline deployment densities should be implemented along this segment.

USH 45 from South Jct STH 36 to STH 24

This segment has high levels of future AADT, moderate levels of AADT and event traffic and low levels of growth, HC ADT and crash rate. Therefore, baseline or low levels of technology intensity should be applied to the segment.

USH 45 from STH 24 to I-43

The segment has high levels of AADT, future AADT and event traffic, with moderate levels of crash rate. Due to these factors, a medium deployment density is recommended for this segment with high levels of incident management and surveillance.

USH 45 (via I-894) from I-43 to I-94

This segment has high levels of AADT, future AADT, LOS, forecast LOS, crash rate and event traffic. Therefore, high deployment density should be implemented throughout this segment.

STH 31**STH 31 corridor from the Illinois state line to STH 32**

The segment has high levels of future AADT, moderate levels of AADT and low levels of growth, HC ADT, forecast LOS, crash rate and weather (snow effect). Due to a lack of factors reaching high threshold levels, a baseline deployment density and technology intensity should be applied to the corridor.

STH 32**STH 32 from the Illinois state line to STH 158 in Kenosha**

The segment has moderate levels of AADT, future AADT and crash rate, with low levels of HC ADT, crash severity index and weather (snow effect). With these factors, baseline or low technology intensities are recommended. However, a medium intensity of detection is recommended to accommodate traffic.

STH 32 from STH 158 in Kenosha to STH 11

The segment has moderate levels of crash rate and low levels of AADT, future AADT, HC ADT, crash severity index and weather (snow effect). Because no factors reach significant levels with frequency, it is recommended that baseline levels of deployment density be implemented along this segment.

STH 32 from STH 11 to the Milwaukee County line

The segment has high levels of crash rate with moderate levels of future AADT and forecast LOS. Baseline to low levels of deployment density is recommended. However, to alleviate safety issues, a medium intensity of incident management is recommended for this segment.

STH 32 from the Milwaukee County line to Drexel Boulevard in South Milwaukee

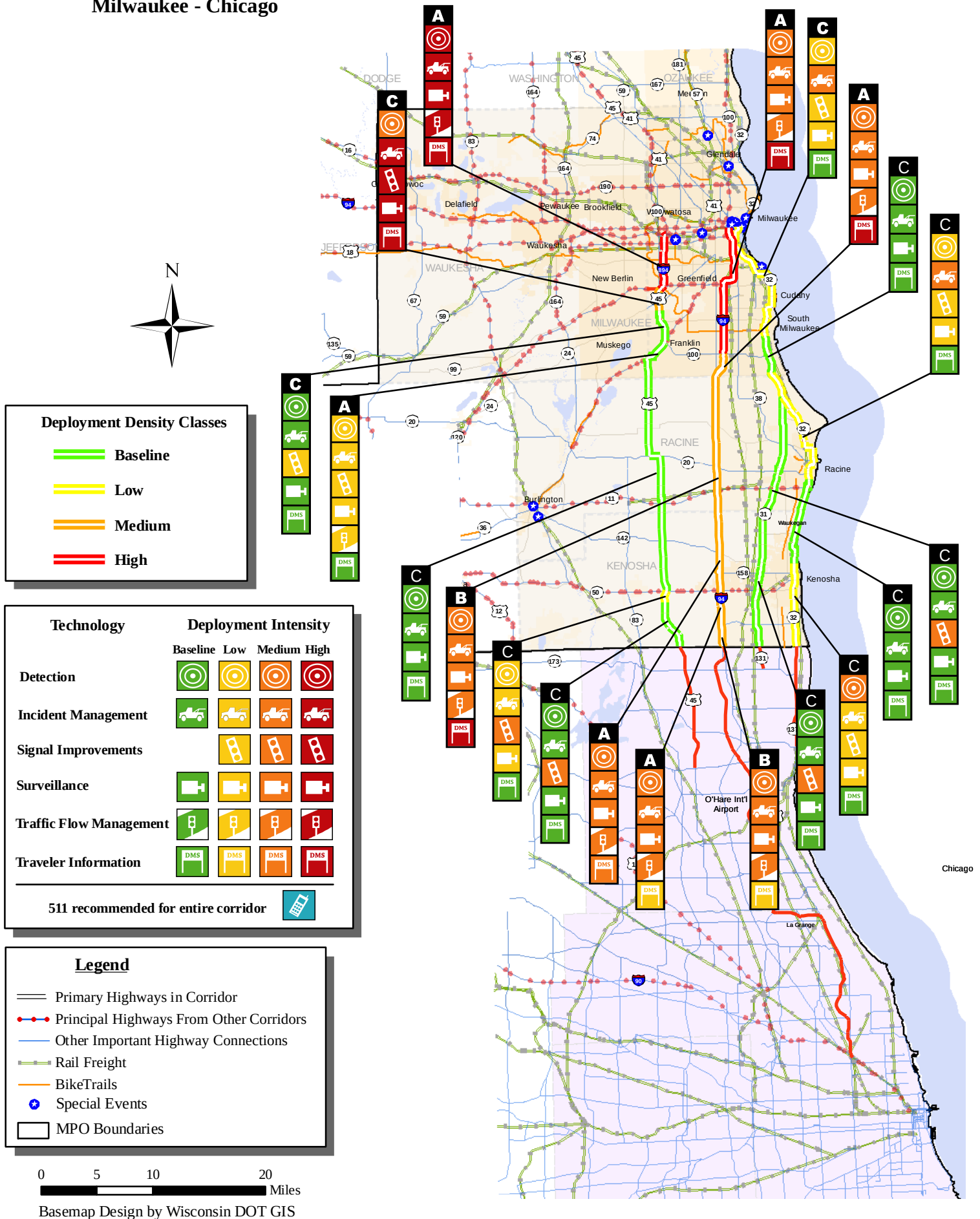
This segment has low levels of AADT, future AADT, HC ADT and weather. Due to a lack of factors achieving significant thresholds, a baseline level of deployment density is recommended.

STH 32 from Drexel Boulevard in South Milwaukee to I-794

The segment has high levels of event traffic, moderate levels of crash rate and low levels of AADT, future AADT, forecast LOS and weather (snow effect). Therefore, low technology intensity should be applied to this segment except incident management should be at medium intensity.

HIAWATHA CORRIDOR

Milwaukee - Chicago



Kettle Country

STH 23

STH 23/Johnson Street from USH 41 to National Avenue

It is recommended for the segment in Fond du Lac that the deployment densities are maintained at medium levels because the AADT, crash rates and LOS are severe enough to warrant such deployment densities. *The feedback from the Regional Meetings indicated that this segment should have a low deployment level. The data shows that this segment has problems with crash rate and crash severity and some of these factors rated very high for the priority scoring.*

STH 23/Johnson Street from National Avenue to CTH K through the interchange with USH 151

It is recommended that this segment remain at a low deployment density because the LOS and crash rates are not high enough throughout the entire segment to warrant an upgrade to a medium deployment density.

STH 23 from CTH K to CTH UU

This segment experiences LOS and crash rates that are severe enough to warrant an increase in surveillance deployment density from medium to high. While the data dictates that the segment will benefit from an increase in surveillance deployment density, the medium deployment density of the remaining technologies is sufficient to meet the future needs of the segment assuming the programmed project is built.

STH 23 from CTH UU to the town of Greenbush

On this segment, the severity index and LOS forecast are high, but other analysis factors are not as critical. *It is recommended that based on these factors, the surveillance deployment density should be increased to medium, but the other technologies should continue at the baseline deployment density. This assumes that the programmed project is built.*

STH 23 in the town of Greenbush Jct CTH 3

The LOS and severity index are high enough on this segment as to warrant that surveillance should be increased to medium deployment density while the rest of the technologies remain at a low deployment density.

STH 23 from CTH 3 to STH 57

The crash rate and AADT data dictate that incident management be increased to a high deployment density, while it is recommended that the remaining technologies continue at a medium deployment density.

STH 23 from STH 57 to STH 32

The AADT and crash rate analysis factors are moderately severe along some portions of this segment. It is therefore recommended that incident management be increased to low deployment density while the deployment densities of the remaining technologies are maintained at baseline levels.

STH 23 from STH 32 IH 43

This segment operates as a freeway. Although the high AADT volumes warrant that surveillance and detection be increased to low deployment densities, the other analysis factors indicate that deployment densities should be maintained at the baseline levels.

USH 151**USH 151 from Jct USH 41 to Jct STH 23/Johnson Street**

On this segment, the crash rates and AADT are high enough to warrant that the surveillance be increased to a medium deployment density while the remaining technologies should be maintained at a low deployment density.

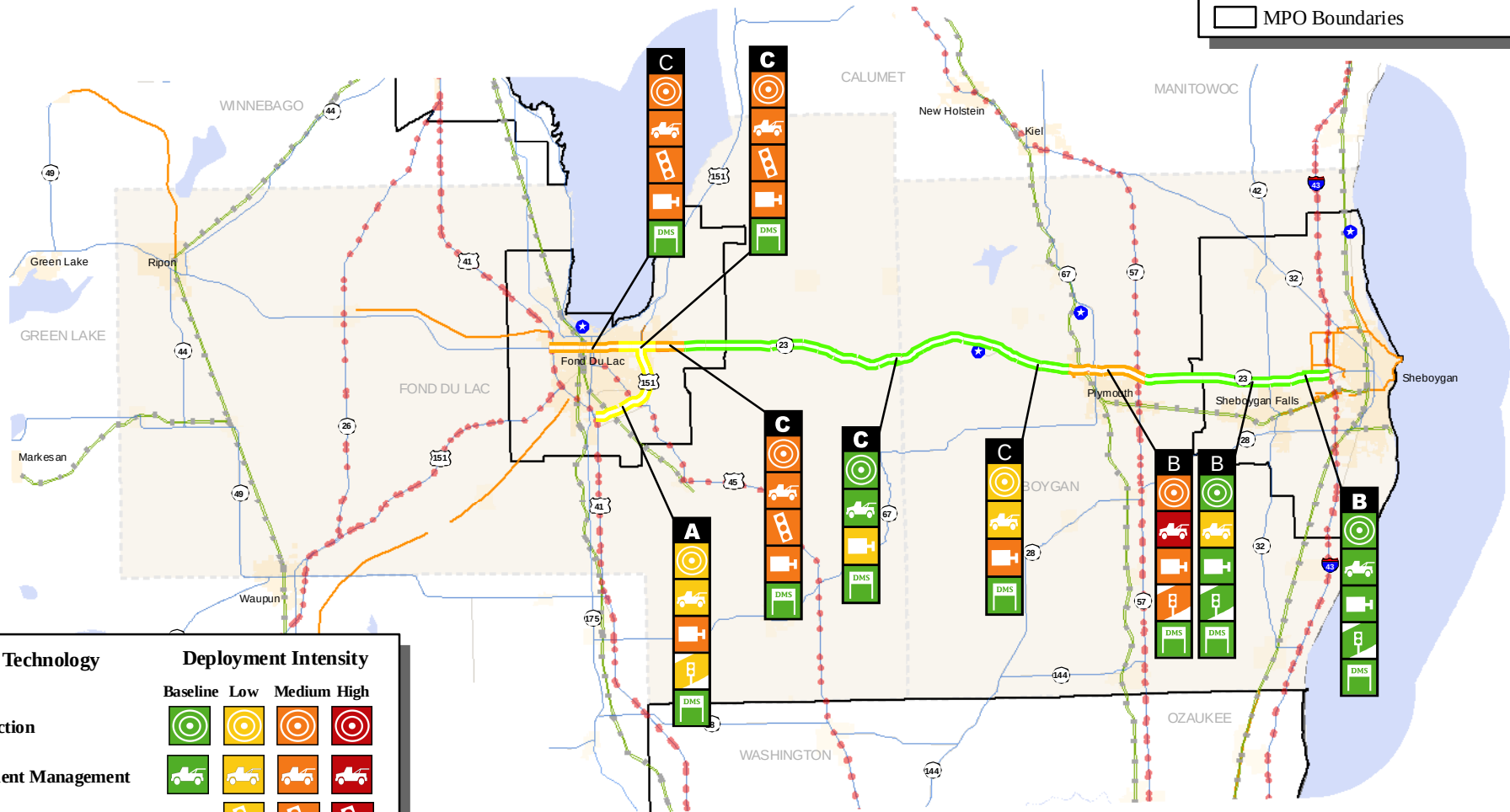
KETTLE COUNTRY CORRIDOR

Fond du Lac - Sheboygan



Legend

- Primary Highways in Corridor
- Principal Highways From Other Corridors
- Other Important Highway Connections
- Rail Freight
- BikeTrails
- Special Events
- MPO Boundaries



Technology

Deployment Intensity

Baseline Low Medium High

Detection



Incident Management



Signal Improvements



Surveillance



Traffic Flow Management



Traveler Information



511 recommended for entire corridor



Deployment Density Classes

- Baseline
- Low
- Medium
- High

0 3.75 7.5 15 Miles

Basemap Design by Wisconsin DOT GIS

Lake Superior

USH 2

USH 2 from I-535/USH 53 at the Wisconsin/Minnesota border to 39th Avenue (2nd Street)

The segment has high AADT and somewhat high crash rates at a few sections. It is recommended that surveillance be increased to low deployment density. Weather is another mitigating factor, but should not influence any further recommendations for increased deployment densities. Thus, all other deployment densities should remain at the baseline level.

USH 2 from 39th Avenue to USH 53

The segment has moderate AADT volumes and fairly low crash factors. It is recommended that the segment remain at the baseline deployment density.

USH 2 from 39th Avenue to USH 53

The segment has moderate AADT volumes and fairly low crash factors. It is recommended that the segment remain at the baseline deployment density.

USH 2 from USH 53 to CR F (Maple)

The segment has high LOS levels and moderate crash rates. It is recommended that Surveillance should be upgraded to medium deployment density. As other factors do not have such a significant impact, it is recommended to keep the deployment densities at the low level.

USH 2 from CR F (Maple) to STH 137

This segment has weather as a relatively significant factor, but this does not indicate a specific strategy for increased deployment density. It is recommended to maintain the existing baseline deployment densities.

USH 2 from STH 137 to Reykdal Road

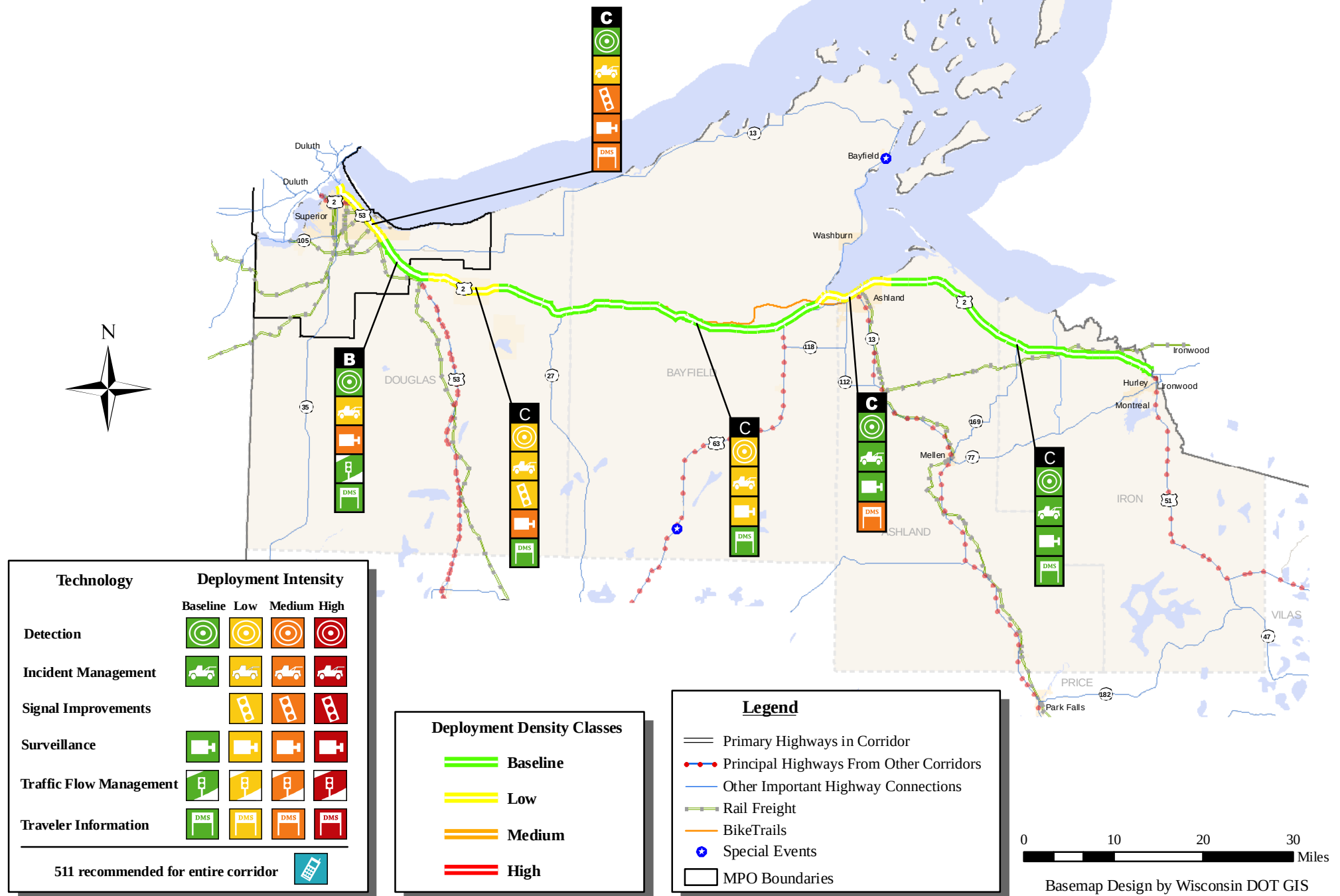
This segment has poor LOS on several sections. Other determining factors are not as pronounced except weather, and do not indicate a need to increase densities from the baseline levels. It is recommended to maintain the existing low deployment densities despite the poor LOS.

USH 2 from Reykdal Road (Ashland) to the Michigan border

This segment has a variable severity index that might lead to increasing surveillance. However, the AADT is very low and the increased surveillance might have minimal impact. It is recommended to use other safety improvements to mitigate crash severity.

LAKE SUPERIOR CORRIDOR

Duluth/Superior - Ironwood, Michigan



Lake to Lake

USH 10

USH 10/STH 441 from USH 41 Oneida Street

AADT on this segment is very high, and there are high crash rates on some sections of the segment. LOS is also poor along numerous sections of the segment. It is therefore recommended that this segment retain its existing medium deployment density.

USH 10/Oneida Street from Jct Oneida Street and STH 441 to Lake Park Road

While the AADT volumes are moderate, there are no other analysis factors that warrant an increase in deployment density. It is recommended that the deployment density of this segment remain at the baseline level.

USH 10 from Lake Park Road to STH 114

For this segment, it is recommended that the deployment density remain at the baseline level. While the AADT volumes are moderate, there are no other analysis factors that warrant an increase in deployment density. *The Northeast Region commented that net intersection improvements will mitigate crash-driven problems on this segment.*

USH 10 from Lake Park Road to Greenview Avenue

This segment has several moderately high analysis factors including LOS and crash rate. However, the LOS and crash rate are not high enough throughout the entire segment to warrant an upgrade to a medium deployment density, and it is therefore recommended that the segment retain its current low deployment density.

USH 10 from Greenview Avenue Danmar Road

For this segment, the analysis factors do not warrant an increase in deployment density, and it is recommended that the segment remain the baseline level.

USH 10 from Danmar Road to IH 43

The analysis factors indicate that the detection and traffic flow management be reduced to baseline deployment densities while the remaining technologies continue at the low deployment density level.

USH 10/IH 43 from IH 43 to CTH JJ

The AADT volumes are high, but the crash rate values are at relatively moderate levels; it is therefore recommended that incident management be increased to low deployment density to better serve the segment. The analysis factors indicate that the remaining technologies should continue at baseline deployment densities along this segment.

USH 10/STH 42 from CTH JJ to Rapids Road

Examination of the analysis factors indicates that the deployment densities remain at the baseline level.

USH 10/WIS 42 from Rapids Road to Washington Street (Downtown Manitowoc)

The AADT volumes are at moderate levels and the crash rates are high, thus indicating that surveillance should be increased to low deployment density. The remaining technologies can appropriately continue at baseline deployment densities along this segment.

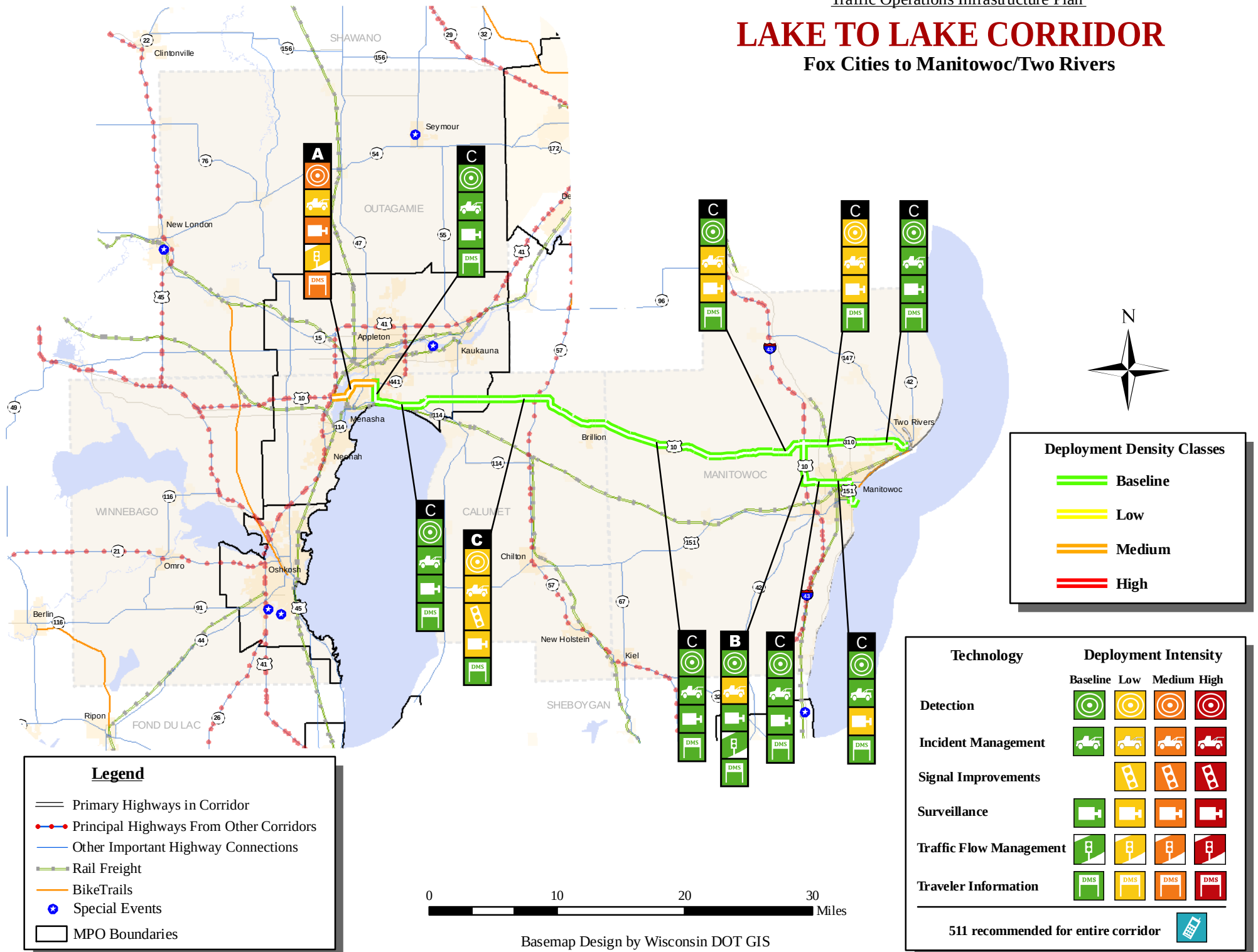
STH 310

STH 310 from USH 10/IH 43 to CTH DD

Although this segment currently has relatively low analysis factor values, future traffic volumes are forecasted to increase significantly. It is the recommendation that the surveillance deployment density be increased to medium based on the relatively high LOS forecast and crash rate analysis factors. The analysis factors dictate that the remaining technologies should continue at low deployment densities along this segment.

STH 310 from approximately CTH DD to STH 310/16th Street and STH 42/Washington Street (Downtown Two Rivers)

Examination of the analysis factors indicates that the deployment densities remain at the baseline level.



Lumber Country Heritage

USH 141

USH 41/141 in the Green Bay area beginning at its interchange with IH 43 and continuing to the Brown County/Oconto County line

The segment has a high AADT level and a moderate heavy commercial ADT level. However this segment has few other issues, and therefore, does not warrant any recommendation beyond low deployment intensity. *Feedback from the regional meetings indicated that this segment should receive medium deployment levels due to traffic from the Packers games. The analysis takes events into account, although additional resources could be deployed for these events, such as portable DMS or HAR. Roughly half of this segment will be upgraded from a four-lane freeway to a six-lane freeway with planned construction.*

USH 41/141 from the Brown County/Oconto County line to the USH 41/141 split near Abrams

The segment has a high AADT level and moderate heavy commercial ADT and severity index issues. Based on these criteria, low-level incident management is recommended while other deployments should remain baseline.

USH 41/141 at its split near Abrams

The segment has a high crash rate and moderate AADT and severity index issues. Medium surveillance deployment intensity is recommended while other deployments should remain low. *This segment has a major decision point between two expressways. The decision point coupled with merging and diverging movements likely explains the high crash rate at the USH 41/141 split.*

USH 141 from Jct US 41 near Abrams to Jct STH 64

The segment has low to moderate AADT and crash factor levels. A low surveillance level is recommended while other deployments should remain baseline. *The northern part of this segment of USH 141 was recently upgraded to a four-lane divided expressway to match the rest of this segment. This upgrade may reduce or eliminate AADT and crash factor issues, and thus, reduce the surveillance level down to baseline.*

USH 141 at Jct STH 64

The segment has moderate to high crash factor issues while LOS is of moderate concern. A low surveillance level is recommended while other deployments should remain baseline. *This segment of USH 141 was recently upgraded to a four-lane divided expressway. US 141 and STH 64 junction alterations may reduce or eliminate crash factor and LOS issues, and thus, reduce the surveillance level down to baseline.*

USH 141 from Jct STH 64 to the southern limits of Crivitz

The segment has a high severity index and moderate LOS issues. A low surveillance level is recommended while other deployments should remain baseline.

USH 141 in Crivitz

The segment has a high crash rate and moderate LOS issues. Based on these criteria, a medium surveillance level is recommended while other deployments should remain low.

USH 141 from the northern limits of Crivitz to southern limits of Wausaukee (Jct STH 180)

The segment has high severity index and moderate LOS issues. The crash rate for this segment is very low, however. These factors do not indicate a clear technology strategy, and therefore, baseline deployments are recommended.

USH 141 in Wausaukee

This segment has a high crash rate with a low severity rate and few other issues; baseline deployment intensities are recommended.

USH 141 from the northern limits of Wausaukee to the N Jct USH 8

The segment has a number of low-level issues, but does not warrant anything beyond a baseline deployment level.

USH 141 from the N Jct USH 8 to the Wisconsin/Michigan border

The segment has a number of low-level issues, but does not warrant anything beyond a baseline deployment level.

LUMBER COUNTRY HERITAGE TRAIL

Green Bay - Iron Mountain, Michigan



Legend

- Primary Highways in Corridor
- Principal Highways From Other Corridors
- Other Important Highway Connections
- Rail Freight
- BikeTrails
- Special Events
- MPO Boundaries

Technology

Deployment Intensity

Baseline Low Medium High

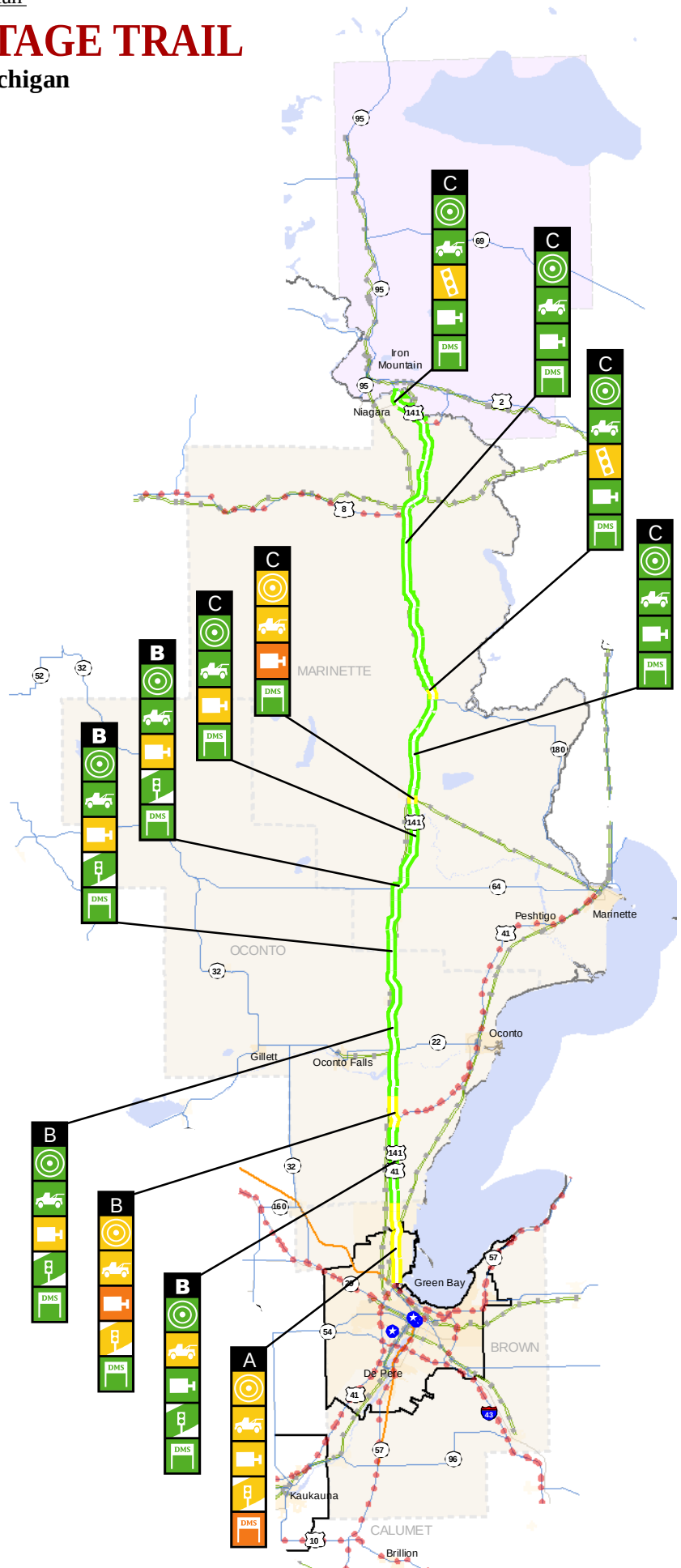
Detection				
Incident Management				
Signal Improvements				
Surveillance				
Traffic Flow Management				
Traveler Information				

511 recommended for entire corridor

Deployment Density Classes

- Baseline
- Low
- Medium
- High

0 3.5 7 14 21 28 Miles



Basemap Design by Wisconsin DOT GIS

Marshfield-Rapids Connection

STH 13

STH 13 from STH 29/Spruce Street (Downtown Abbotsford) to Mann Road (Marshfield)

On this segment, AADT volumes are currently moderate while LOS Forecast and crash rate values are significantly higher than other attributes on this segment. This indicates that incident management and detection should be increased to low deployment density.

USH 10

USH 10 from Mann Road (Marshfield) to STH 13/Maple Avenue

Relatively high future AADT volumes hint at a possible need to increase deployment density, however, the low existing and LOS Forecast values suggest that the roadway has sufficient capacity to manage the increased future volumes. It is recommended that all deployment densities remain at baseline levels.

USH 10 from STH 13 to CTH C

Mid-term plans along this segment include a new alignment and the construction of interchanges at four existing intersections, while it is planned to improve the roadway to a freeway in the long-term. While several attributes could argue an increased deployment density, the planned improvements should eliminate the need for even low deployment density for the time being.

USH 10 from CTH C to IH 39

As with the segment directly to the west, long-term plans along this segment of USH 10 include improving the roadway to a freeway. Current AADT volumes dictate that surveillance should be increased to low deployment density, while keeping the remaining technologies at baseline deployment densities should continue to meet the needs along the segment.

STH 34

STH 34 from USH 10/STH 34 to Wisconsin Rapids

AADT levels are very high on a handful of sections. Considering the high crash rate value on these sections, Surveillance should be upgraded to low deployment density. The remaining attributes do not dictate an increase in deployment density for the rest of the technologies.

STH 34 through Wisconsin Rapids

It is recommended that the segment remain at the current low deployment density.

STH 54 from Wisconsin Rapids to IH 39

This segment has high future AADT volumes. While low current LOS forecast values suggest that the AADT will not cause significant congestion issues, a high volume does dictate that incident management should be increased to low deployment density.

MARSHFIELD - RAPIDS CONNECTION CORRIDOR

Stevens Point - Abbotsford

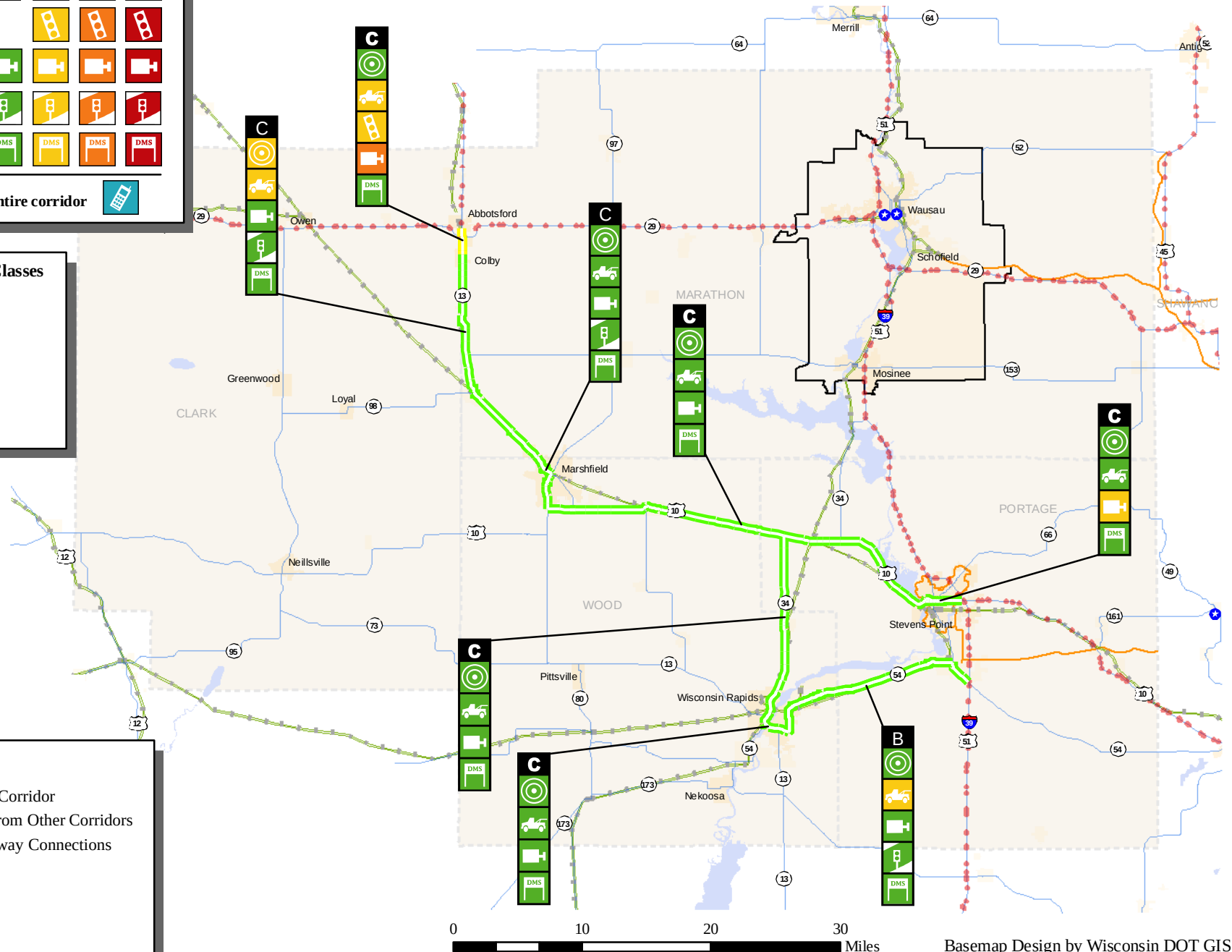


Technology	Deployment Intensity			
	Baseline	Low	Medium	High
Detection				
Incident Management				
Signal Improvements				
Surveillance				
Traffic Flow Management				
Traveler Information				

511 recommended for entire corridor

Deployment Density Classes	
	Baseline
	Low
	Medium
	High

Legend	
	Primary Highways in Corridor
	Principal Highways From Other Corridors
	Other Important Highway Connections
	Rail Freight
	BikeTrails
	Special Events
	MPO Boundaries



Mississippi River

USH 61

USH 61 from Dubuque to Dickeyville

The segment has moderate levels of future AADT and crash severity index with low levels of AADT, growth, HC ADT, crash rate and weather. Due to the lack of factors achieving high levels of priority, a baseline level of technology intensity is recommended for this segment.

USH 61 from Dickeyville to Readstown

The segment has moderate levels of crash rate and low levels of growth, HC ADT, LOS, forecast LOS, crash severity index and weather. Baseline and low levels of technology intensity should be implemented.

USH 61 from Readstown to La Crosse

The segment has moderate levels of forecast LOS with low levels of AADT, future AADT, growth, HC ADT and weather (snow effect). Therefore, deployment density is recommended at baseline or low levels.

USH 61 within the municipality of La Crosse (Minnesota state line to east junction of STH 35)

The segment has high levels of forecast LOS with moderate levels of AADT, future AADT and crash rate. It is recommended that a high intensity of detection, incident management, surveillance and signal improvements be implemented to accommodate roadway users.

STH 35

STH 35 from Prairie du Chien to La Crosse

The segment has low levels of future AADT, growth, HC ADT, LOS, forecast LOS, crash rate and crash severity index. Because of this, baseline or low levels of technology intensity utilized.

STH 35 from Onalaska (via USH 53) to the west junction of STH 54

The segment has moderate levels of AADT, future AADT and HC ADT and low levels of growth and weather (snow effect). Therefore, this segment is recommended to receive low deployment density with baseline and low levels of technology intensity.

STH 35 from the west junction of STH 54 to USH 63

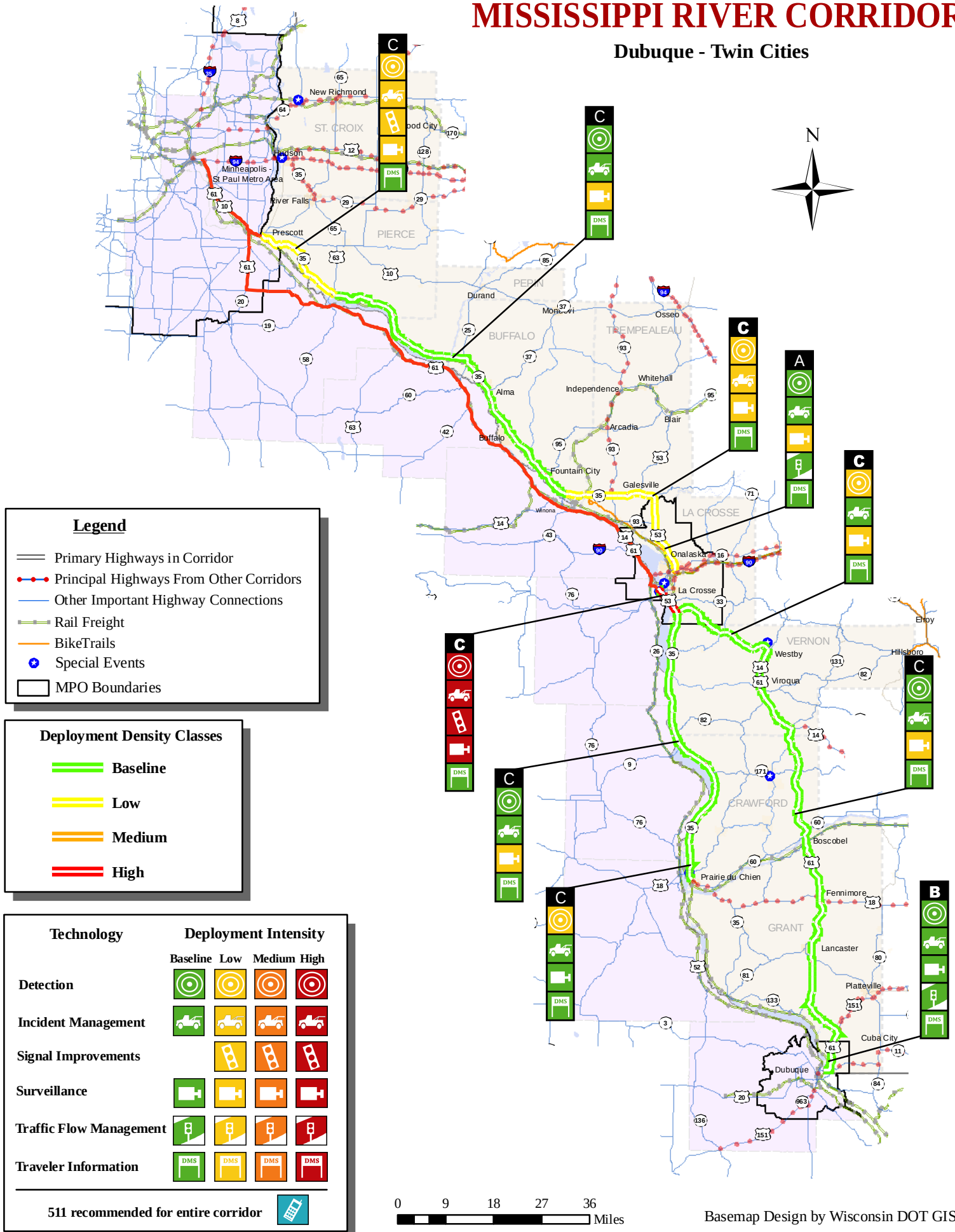
The segment has moderate levels of crash rate and crash severity index and low levels of growth, LOS, forecast LOS and weather (snow effect). With no factors achieving high thresholds, baseline or low levels are appropriate.

STH 35 from USH 63 to the Minnesota state line

The segment has high levels of crash rate, moderate levels of growth and crash severity index and low levels of weather. Therefore, it is recommended that this segment receive baseline or low levels of technology intensity.

MISSISSIPPI RIVER CORRIDOR

Dubuque - Twin Cities



North Country

USH 8

USH 8 from the STH 35 to USH 53

This segment has poor LOS and/or LOS forecast levels along several relatively short sections. It is therefore recommended that the existing baseline deployment densities be maintained as the short length of these sections with poor LOS levels do not warrant increased deployment densities. Incident management should be implemented at a low level.

USH 8 from USH 53 to USH 51

This segment has relatively low analysis factors, including AADT volumes and existing and future LOS levels, and threshold scores for each section are well within the range for baseline deployment densities. It is recommended that the existing baseline deployment densities be maintained.

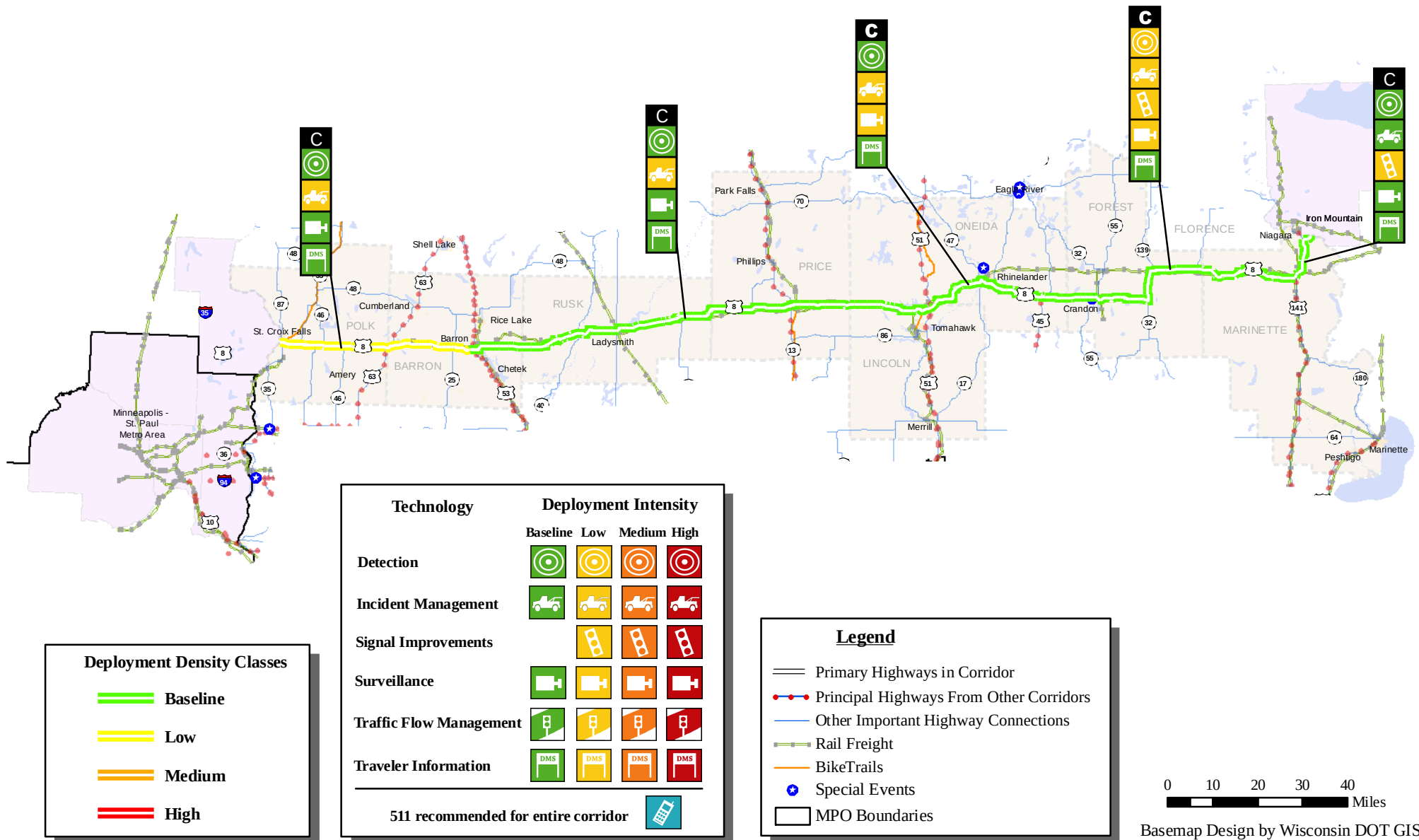
USH 8 Rhineland from USH 51 to the Michigan border

This segment is classified as rural arterial, but does contain a few urban sections in or near Rhineland. The orange and yellow segments are very short in length, so no change from green is recommended. This segment has several relatively short sections that have threshold scores dictating low to medium deployment densities and do not warrant increased deployment densities. It is recommended that the existing baseline deployment densities be maintained. *The region gave feedback that there is a one-week event in Crandon, but this was not enough criteria to cause a higher rank.*



NORTH COUNTY CORRIDOR

Iron Mountain, Michigan - Minneapolis/St. Paul



Northern Lakes

USH 2

USH 2 from WIS 64 to USH 63 at the intersection of WIS 13(Ashland)

This corridor is part of a major passenger and freight corridor linking the Twin Cities and northern Wisconsin. The corridor is critical in connecting the tourism/recreation areas of northwestern Wisconsin to the Twin Cities market.

USH 2 from WIS 64 to 105th Street (New Richmond)

This segment has considerable forecasted LOS levels and AADT volumes, but improvements are planned for this segment to provide additional capacity (Environmental Assessment completed in 2006). It is recommended that surveillance, incident management, and traffic flow management remain at medium deployment densities.

USH 2 from WIS 64 to USH 63 to the intersection of WIS 253

This segment has an elevated crash rate and severity index for several sections; it is recommended that incident management be increased to low deployment density. There is a short section in Cumberland that experiences high crash rates and has a poor LOS forecast. However, the accident issues and poor LOS forecast may be mitigated by the planned installation of traffic signals in Cumberland in 2008. The recommendation is that the remaining deployment densities should remain at baseline levels.

USH 63

USH 63 from WIS 253 (Spooner) to the intersection of US 53 (Trego)

This segment has a high crash rate and severity index where weather plays a significant role. There is also poor LOS near the interchange with US 53 just north of Spooner. It is recommended that incident management be upgraded to medium deployment density and surveillance be maintained at low deployment density.

USH 63 from US 53 (Trego) to the intersection with Greenwood Lane (Hayward)

This segment has a high crash rate and severity index where weather plays a significant role. Given these indicators, it is recommended that incident management be increased to medium deployment density and surveillance increased to low deployment density. The remaining technologies can remain at baseline deployment densities.

USH 63 from Greenwood Lane (Hayward) to Phipps Road

The segment has a high crash rate along a small section due to a problem at an isolated intersection. The severity index and weather score relatively high overall for this segment, and it is therefore recommended that the incident management be increased to low deployment density. The remaining technologies can remain at baseline deployment densities.

USH 63 from Phipps Road to the intersection with USH 2 (Ashland)

This segment has relatively high weather scores and the remainder of the indicators is at moderate levels. It is recommended that incident management be increased to low deployment density. The remaining technologies can remain at baseline deployment densities.

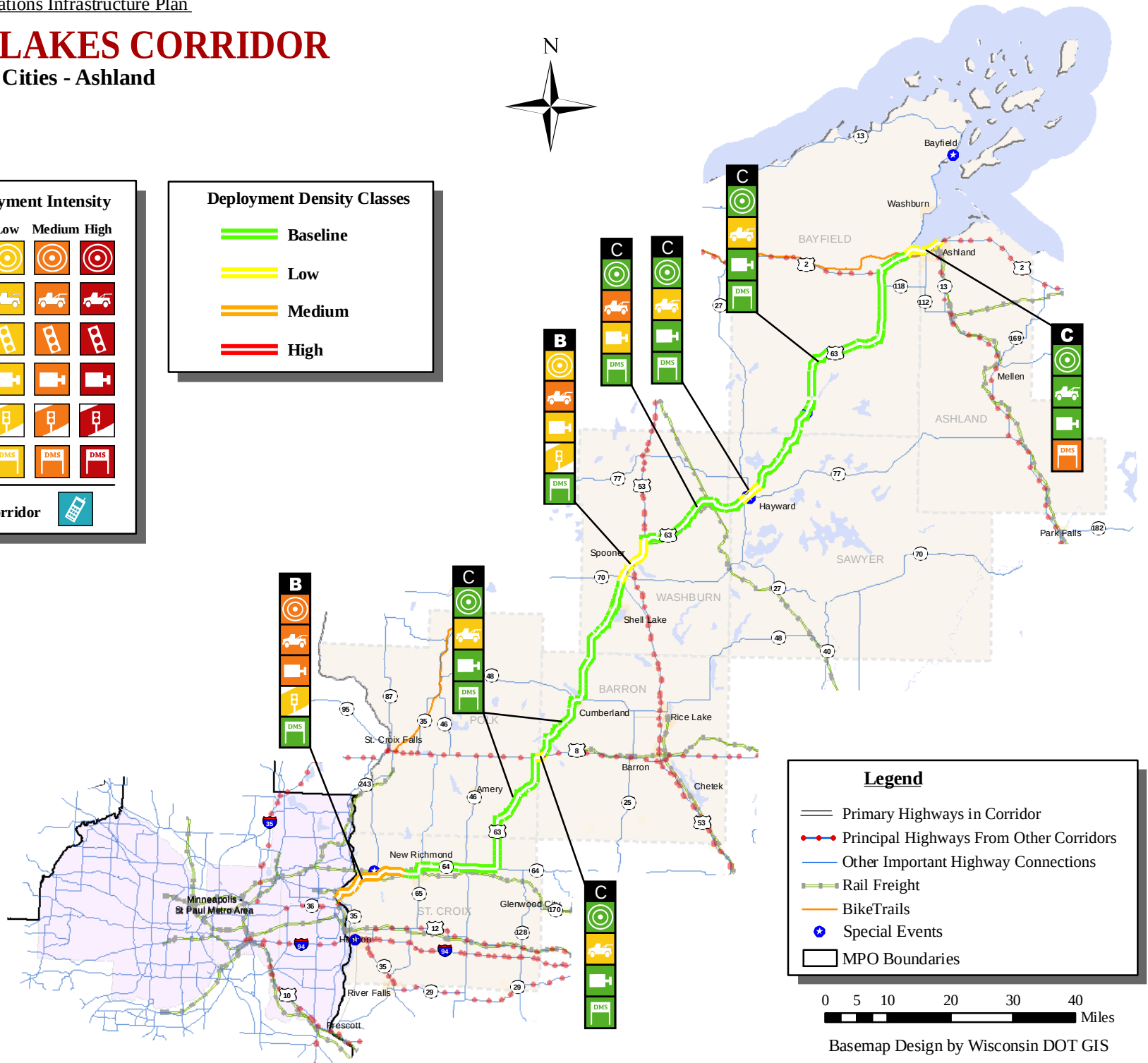
NORTHERN LAKES CORRIDOR

Twin Cities - Ashland



Technology	Deployment Intensity			
	Baseline	Low	Medium	High
Detection				
Incident Management				
Signal Improvements				
Surveillance				
Traffic Flow Management				
Traveler Information				
511 recommended for entire corridor				

Deployment Density Classes	
	Baseline
	Low
	Medium
	High



Northwoods Connection

USH 45

USH 45 from USH 8 to the interchange with STH 29 (Wittenberg)

This segment has generally low AADT volumes and LOS, high crash rate and severity index factors are along a number of sections, especially around where the corridor joins with STH 29 near Eland and Ho-Chunk. It is recommended that surveillance should be increased to low deployment density. The remaining technologies should remain at their baseline deployment densities. Future additional passing lanes are planned on this segment south of STH 29 in the short term as recognized in the 2030 corridor map.

USH 45 from STH 64 to County Road (CR) Y/Forrest Street (Antigo)

The Region commented that this segment should be yellow for about four miles, but the weighting criteria that determined the segment color was only a quarter of what it would need to be to be upgraded from green to yellow.

USH 45 from STH 29 (Wittenberg) to the interchange with STH 187/Pit Road (Shawano)

This segment has a high crash rate and severity index on some sections. It is recommended that incident management be upgraded to medium deployment density. The other deployment densities should remain at low deployment densities.

USH 45 from STH 29 (Wittenberg) to the intersection with CTH 3/Waupaca Street (Clintonville)

This segment has low AADT volumes and LOS levels and a high crash rate and severity index. It is recommended that incident management be upgraded from baseline to low deployment density for this segment. The other deployment densities should remain at baseline deployment densities.

USH 45 from CTH 3/Waupaca Street in Clintonville to USH 10

This segment has moderate to high AADT volumes and LOS factors. It is recommended that surveillance be upgraded to medium deployment density. The remaining technologies should remain at their existing low deployment densities. ***A short section of this segment in Clintonville (less than one mile) is planned to be converted to four-lane freeway in the short term as recognized in the 2030 corridor map.***

USH 45 from USH 10 near Larsen and Winchester to USH 41 in Oshkosh

This segment has relatively high AADT volumes and LOS levels. It is recommended that surveillance and detection be upgraded to medium deployment densities. Other deployment densities should remain at their existing low deployment levels.



Peace Memorial

USH 53

USH 53 in the Eau Claire/Chippewa Falls area from the IH 94 interchange to the STH 29 interchange

This segment has high AADT, and moderate LOS, crash rate, and severity index issues. High-level surveillance is recommended while other deployments should remain medium. *The completed USH 53 Eau Claire freeway bypass opened to traffic in 2006. No study data was available for the new bypass. Data for this segment comes from the old portion of USH 53, which ran through Eau Claire and had many at-grade intersections. The Eau Claire freeway bypass may reduce or eliminate some of the problems of the old USH 53 segment, reducing recommended deployment levels.*

USH 53 from the STH 29 interchange to Jct Chippewa County Road S northwest of Chippewa Falls

This segment has moderate forecasted AADT, heavy commercial ADT, and severity index issues. With moderate AADT and crash rate factors, low level incident management and surveillance are recommended while other deployments should remain at baseline levels.

USH 53 from Jct Chippewa County Road S to Jct Barron County Road V near Haugen

This segment has moderate forecasted AADT, heavy commercial ADT, severity index, and growth issues. Low level incident management is recommended for this long rural segment while other deployments should remain at baseline levels.

USH 53 from Jct Barron County Road V to Jct Douglas County Road B

This segment has high, heavy commercial ADT, and a moderate crash rate, severity index, and snow effect issues. Due to elevated crash factors and heavy commercial traffic volumes, medium deployment intensities are recommended for incident management and surveillance while other deployments should remain low.

USH 53 from Jct Douglas County Road B to the southern limits of Superior

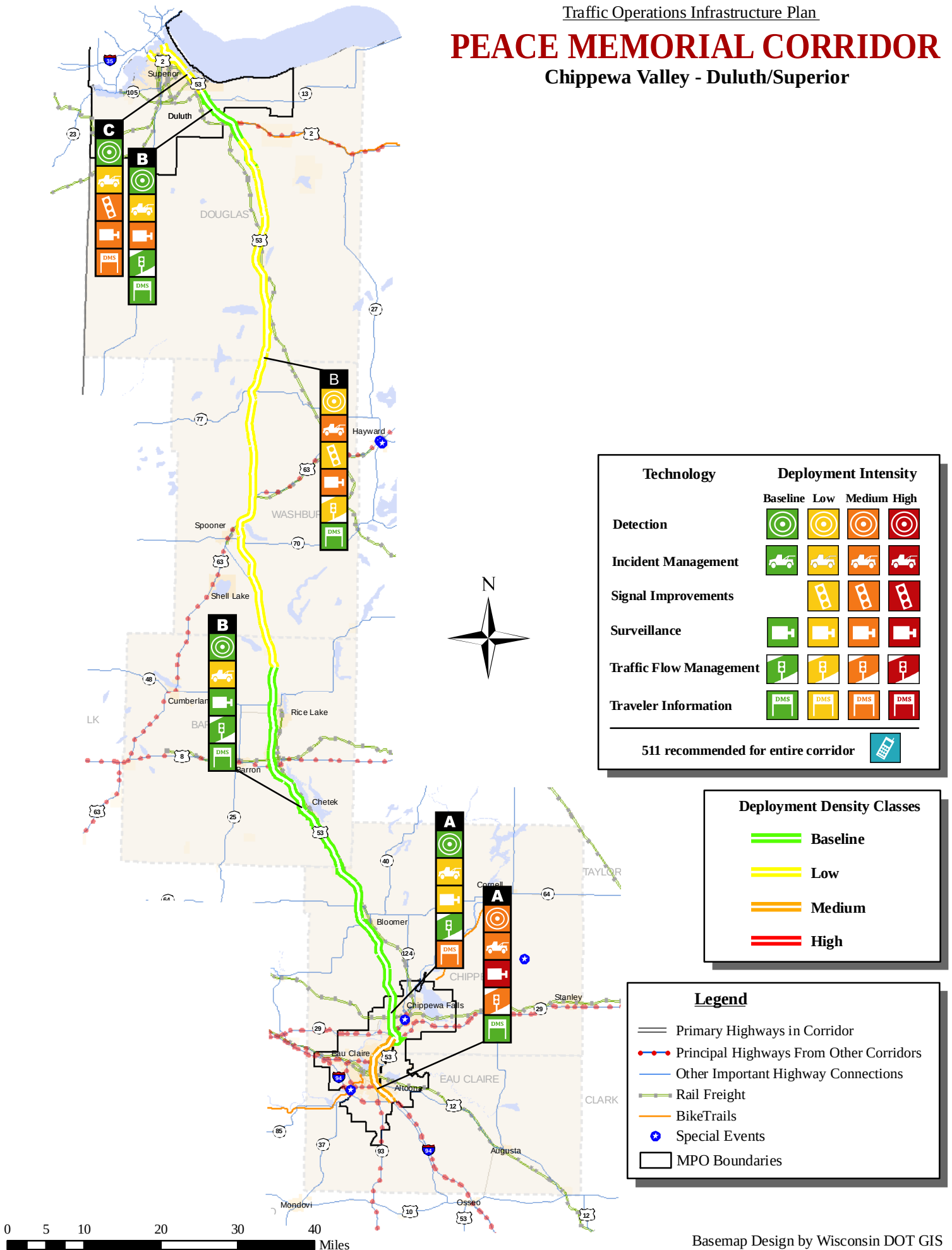
The segment has moderate forecasted AADT, heavy commercial ADT, crash rate, and snow effect issues. Medium deployment intensity is recommended for surveillance, low deployment intensity is recommended for incident management, and detection and traffic flow management should remain at baseline levels.

USH 53 from the southern limits of Superior to the Wisconsin/Minnesota state line

The segment has a moderate to high AADT and various low level issues. Medium deployment intensity is recommended for surveillance, low deployment intensity is recommended for incident management, and detection should remain at baseline levels.

PEACE MEMORIAL CORRIDOR

Chippewa Valley - Duluth/Superior



Peshtigo Fire Memorial

USH 41

USH 41/141 in the Green Bay area beginning at its interchange with IH 43 and continuing to the Brown County/Oconto County line

The segment has a high AADT level and a moderate heavy commercial ADT level. However this segment has few other issues, and therefore, does not warrant any recommendation beyond low deployment intensity. *The regional meetings suggested that this segment should be orange due to traffic impacts due to Packers games. The data takes events into account, but additional technology could be implemented to mitigate the effects of these events, such as a portable DMS or HAR system. Roughly half of this segment will be upgraded from a four-lane freeway to a six-lane freeway with planned construction.*

USH 41/141 from the Brown County/Oconto County line to Jct USH 41/141 near Abrams

The segment has a high AADT level and moderate heavy commercial ADT and severity index issues. Based on these criteria, low-level incident management is recommended while other deployments should remain baseline.

USH 41/141 at Jct USH 41 near Abrams

The segment has high crash rate and moderate AADT and severity index issues. Medium surveillance deployment intensity is recommended while other deployments should remain low. *A decision point coupled with merging and diverging movements likely explains the high crash rate at the USH 41/141 split.*

USH 41 from its Jct US 141 near Abrams to the southern limits of Oconto

The segment has a high severity index, but few other issues exist. A low incident management level is recommended while other deployments should remain baseline.

The planned upgrade of USH 41 to a four-lane divided expressway bypass of Oconto may reduce or eliminate the problems on this segment, and thus, reduce recommended deployment levels.

USH 41 in Oconto

The segment has a high crash rate and severity index and moderate AADT and LOS issues. Low detection and surveillance levels are recommended while incident management should remain baseline. *The planned upgrade of USH 41 to a four-lane divided expressway bypass of Oconto may reduce or eliminate the problems on this segment, and thus, reduce recommended deployment levels.*

USH 41 from the northern limits of Oconto to the western limits of Peshtigo

The segment has a high severity index, moderate to high LOS issues, and moderate AADT. Low deployment intensities are recommended.

USH 41 in Peshtigo

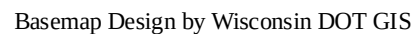
The segment has moderate AADT and LOS issues. Low deployment intensities are recommended.

USH 41 from the eastern limits of Peshtigo to the western limits of Marinette

The segment has a moderate severity index and moderate AADT levels. This segment, along with the other rural segments in this corridor, has a very low crash rate. But, with an elevated severity index on certain sections of this segment, a low incident management level is recommended. Other deployments should remain baseline.

USH 41 in Marinette

The segment has a high Crash Rate, a moderate severity index, and a moderate AADT level. Based on these criteria, a medium detection level is recommended while incident management and surveillance should remain low.



POW/MIA Remembrance

STH 13

STH 13/STH 441 from USH 2 Old Airport Road (Ashland)

Crash rates are high on several sections in this segment, but these sections comprise only about one-quarter of the segment, so the recommendation is to maintain the current low deployment density.

STH 13 from Old Airport Road (Ashland) to STH 182

It is recommended that the deployment density of this segment remain at the baseline level. The high crash rate in the portion of the segment through Mellen may warrant further analysis and require appropriate action for remediation.

STH 13 from STH 182 STH 70

The 2030 corridor plan calls for passing lanes to be added along this segment, but it not expected that such lanes would be constructed for some 10 or more years. Periodic future examination of the analysis factors will help determine if increased deployment density is required as time goes on, but it is currently recommended that the low deployment density be maintained along the segment.

STH 13 from STH 70 to Allman Avenue (Medford)

The 2030 corridor plan calls for passing lanes to be added along this segment north of STH 102, but it not expected that such lanes would be constructed for some 10 or more years. Periodic future examination of the analysis factors will help determine if increased deployment density is required as time goes, but it is currently recommended that the baseline deployment density be maintained along the segment.

STH 13 from STH 70 to Allman Avenue (Medford) CTH O (Medford)

It is recommended that the low deployment density be maintained along the segment. The combination of the high crash rate and severity index in Medford may warrant further analysis and require appropriate action for remediation at this particular location.

STH 13 from CTH O to CTH A (Dorchester)

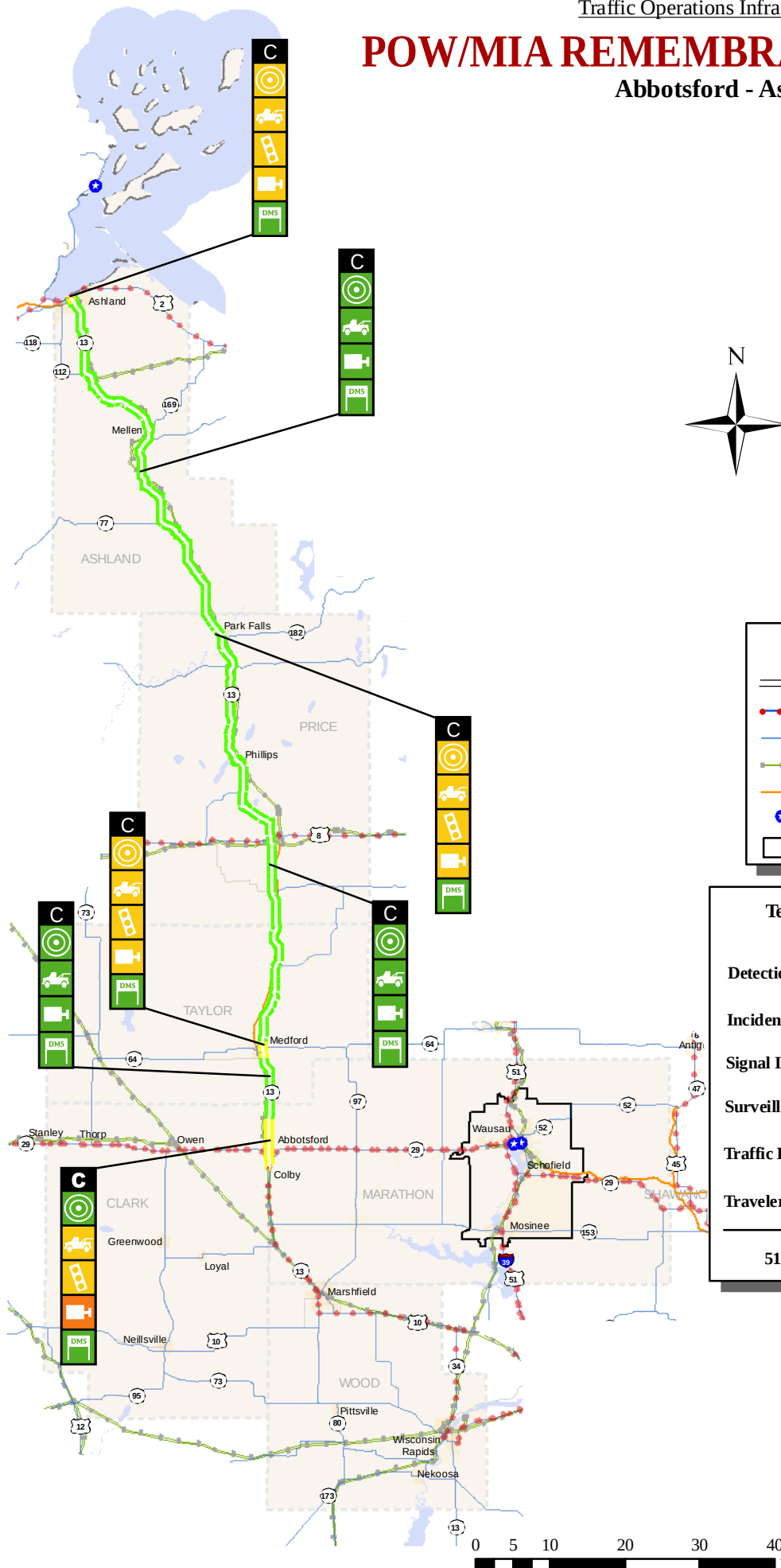
It is recommended that the deployment density of this segment remain at the baseline level.

STH 13 from CTH A (Dorchester) to STH 29/Spruce Street

The LOS and crash rate values are high along this segment, thus indicating that surveillance should be increased to medium deployment density. The remaining technologies can continue satisfactorily at low deployment densities along this segment. *The Region questioned why this segment is yellow. The high crash rate and severity index on this segment account for this.*

POW/MIA REMEMBRANCE CORRIDOR

Abbotsford - Ashland



Legend

- Primary Highways in Corridor
- Principal Highways From Other Corridors
- Other Important Highway Connections
- Rail Freight
- Bike Trails
- Special Events
- MPO Boundaries

Technology

Deployment Intensity

	Baseline	Low	Medium	High
Detection				
Incident Management				
Signal Improvements				
Surveillance				
Traffic Flow Management				
Traveler Information				

511 recommended for entire corridor



Deployment Density Classes

- Baseline
- Low
- Medium
- High

0 5 10 20 30 40 Miles

Rock River

STH 26

STH 26 from Janesville to Milton

The segment has moderate levels of future AADT and growth, with low levels of AADT, LOS, forecast LOS, weather, and event traffic. Given these criteria, a low deployment density is recommended for this segment.

STH 26 from Milton to Jefferson

The segment has moderate levels of forecast LOS and low levels of AADT, future AADT, growth, HC ADT, LOS, and crash severity index. Therefore, deployment density should be at low levels along this segment.

STH 26 within the municipality of Jefferson

The segment has high levels of future AADT and crash rate, moderate levels of AADT and forecast LOS, and low levels of growth, HC ADT and LOS. It should be noted that this segment of STH 26 is planned for realignment to bypass Jefferson. A low deployment density is recommended.

STH 26 from Jefferson to Watertown

The segment has high levels of forecast LOS, moderate levels of AADT, future AADT, growth, LOS and crash rate, and low levels of HC ADT and crash severity index. It should be noted that this segment is planned for realignment to bypass Watertown. Therefore, low levels of technology should be implemented.

STH 26 from Watertown to Waupun

The segment has moderate levels of crash rate, with low levels of AADT, future AADT, growth, HC ADT, LOS, and forecast LOS. Due to the lack of factors achieving high thresholds, a baseline of low deployment density should be applied to this segment.

STH 26/USH 151 that travels through the municipality of Waupun

The segment has a high level of crash rate with low levels of AADT, future AADT, growth and HC ADT. Therefore, a medium intensity of incident management and surveillance should be implemented.

STH 26 from Waupun to Rosendale

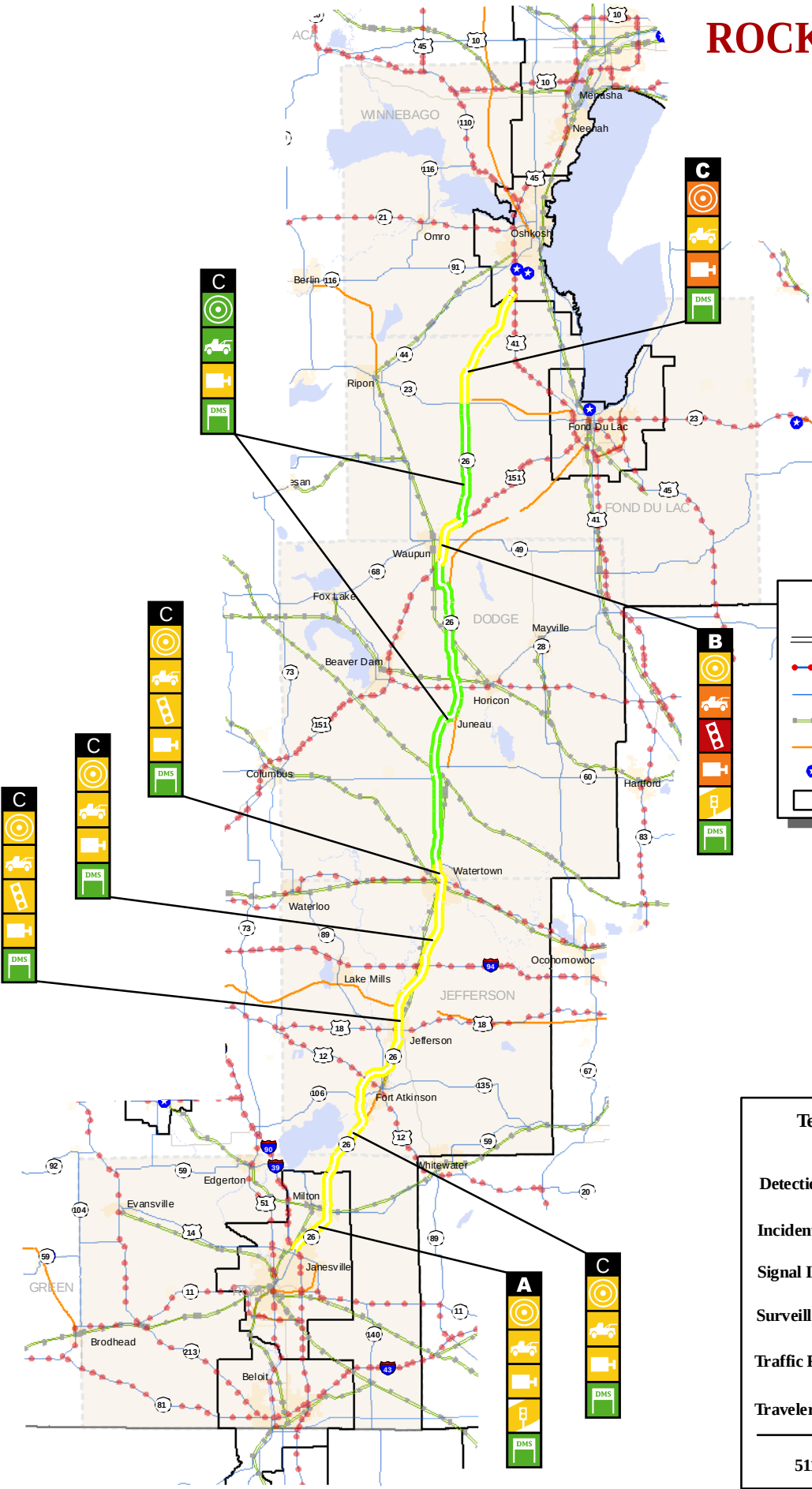
The segment has a moderate level of Crash Severity Index with low levels of AADT, future AADT, growth, HC ADT, LOS, and forecast LOS. With a lack of factors achieving high thresholds, it is recommended that baseline and low levels of technology intensity be implemented.

STH 26 from Rosendale to USH 41

The segment has high levels of crash rate and event traffic, moderate levels of forecast LOS, and low levels of AADT, future AADT, growth, HC ADT, and weather. Because of this, a generally low deployment density should be applied with medium levels of detection and surveillance implemented.

ROCK RIVER CORRIDOR

Janesville/Beloit - Oshkosh



Legend

- Primary Highways in Corridor
- Principal Highways From Other Corridors
- Other Important Highway Connections
- Rail Freight
- Bike Trails
- Special Events
- MPO Boundaries

Deployment Density Classes

- Baseline
- Low
- Medium
- High

Technology	Deployment Intensity			
	Baseline	Low	Medium	High
Detection				
Incident Management				
Signal Improvements				
Surveillance				
Traffic Flow Management				
Traveler Information				

511 recommended for entire corridor



South Central Connection

IH 39/90

Under short-term planning, an environmental impact statement would be prepared for the IH 39/90 corridor between the Jct USH 12/18 (Madison Beltline Highway) and the Wisconsin/Illinois border. Under long-term planning, the environmental impact statement would be implemented, which may include the expansion of IH 39/90 to 6 lanes.

IH 39/90/94 from Jct STH 19 to Jct IH 94 (east side of Madison)

This segment has a high AADT, heavy commercial ADT, and a moderate growth issue. *Due to the high AADT levels and the proximity of this segment to Madison, high deployment intensities are recommended for this segment by the Southwest WisDOT region.*

IH 39/90 from Jct IH to reference post 145

This segment has high AADT, heavy commercial ADT, and LOS issues as well as a moderate growth issue. *High deployment intensities are recommended for this segment by the Southwest WisDOT region.*

IH 39/90 from reference post 145 to Jct USH 14 in Janesville

This segment has high AADT, heavy commercial ADT, and severity index issues, and a moderate to high LOS issue. Since many criteria on this segment rank very high, high-level deployment intensities are recommended.

IH 39/90 from Jct USH 14 to S Jct STH 11 to the south of Janesville

This segment has high AADT, heavy commercial ADT, and severity index issues, and a moderate to high LOS issue. High deployment intensities are recommended for this corridor.

IH 39/90 from S Jct STH 11 to the IH 43 interchange in Beloit

This segment has high AADT, heavy commercial ADT, and severity index issues, and a moderate to high LOS issue. High deployment intensities are recommended for this segment.

IH 39/90 from the IH 43 interchange to the Wisconsin/Illinois state line

This segment has a high AADT, heavy commercial ADT, and a moderate LOS forecast issue. *Although a strictly data driven approach would recommend a lower deployment intensity, a high deployment level is recommended for this segment because of the proximity to the Illinois DOT toll facilities and the Southwest WisDOT regions recommendations for high deployment intensities.*

USH 51

These segments of USH 51 in the Madison area from the IH 39/90/94 interchange to the USH 12/18 (Madison Beltline Highway) interchange vary from good LOS (low level) on the north end of this segment to poor LOS (high level) on the south end. Because other factors are relatively constant, LOS is the main factor in recommending higher deployment intensities on the southern end.

USH 51 from Jct IH 39/90/94 to Jct USH 151 (Washington Avenue)

This segment has a high AADT and a few low level concerns. Low deployment intensities are recommended for this segment.

USH 51 from Jct USH 151 (Washington Avenue) to Jct Dane County Road AB (Buckeye Road)

This segment has a high AADT, a moderate crash rate, severity index, growth, and LOS issues. Medium level deployments are recommended for this segment.

USH 51 from Jct Dane County Road AB (Buckeye Road) to Jct USH 12/18 (Madison Beltline Highway)

This segment has high AADT and LOS issues, and moderate crash rate and severity index issues. High-level deployments are recommended for this segment, except for traffic flow management, which should remain at medium levels.

USH 51 from Jct USH 12/18 to Jct Mahoney Road to the south of McFarland

This segment has a high AADT and a few low level issues. *A strictly data driven approach would recommend a lower deployment intensity, a medium deployment level is recommended by the Southwest WisDOT region to smooth the transition in technology recommendations between the north and south areas of this segment.*

USH 51 from Jct Mahoney Road to N Jct Dane County Road B

This segment has moderate to high LOS issues and moderate AADT, crash rate, and severity index issues. Medium deployment intensities are recommended for this segment.

USH 51 from N Jct Dane County Road B to Jct Page Street in Stoughton

This segment has a moderate forecasted AADT/LOS issue as well as a few low level issues. It is recommended that detection and surveillance be low intensity while incident management remains at baseline levels.

USH 51 from Jct Page Street to the north IH 39/90 interchange

This segment has a moderate crash rate and forecasted AADT and various low level issues. The moderate crash rates and AADT indicate that surveillance should be at a low intensity while other deployments remain at baseline levels.

USH 51 from the south IH 39/90 interchange to Jct USH 14 at the northern limits of Janesville

This segment has a moderate AADT issue and various low level issues. Nothing beyond baseline deployment is recommended for this segment.

USH 51 from Jct USH 14 to the southern limits of Janesville

This segment has no distinguishing factors. Baseline deployment intensities are recommended for this segment.

USH 51 from the southern limits of Janesville to Inman Parkway in Beloit

This segment has no distinguishing factors. Baseline deployment intensities are recommended for this segment.

USH 51 from Inman Parkway to the Wisconsin/Illinois state line

This segment has a moderate severity index and a number of low level issues. Baseline deployments are recommended for this segment.

USH 14 / STH 213

USH 14 from Jct USH 12/18 (Madison Beltline Highway) to Jct STH 138 near Oregon

This segment has moderate to high AADT and a moderate severity index issue. Low deployment intensities are recommended for this segment.

USH 14 from Jct STH 138 to Jct STH 213 (Madison Street/Union Street intersection) in Evansville

This segment has moderate LOS and severity index issues as well as a number of low level concerns. Low deployment intensities are recommended for this segment.

STH 213 from the Madison Street/Union Street intersection to the Wisconsin/Illinois state line

This segment has a moderate crash rate, but no other issues beyond low level. Given the low AADT on this segment, nothing beyond baseline deployment is warranted.



Southern Tier

IH 43

IH 43 from Beloit to the USH 14 interchange

This segment has high levels of future AADT and HC ADT, moderate levels of AADT and crash severity index, and low levels of growth and weather. Due to the lack of factors at high levels, it is recommended that baseline or low levels of technology intensity be implemented.

IH 43 from the USH 14 interchange to the STH 67 interchange

This segment has high levels of future AADT and HC ADT, moderate levels of AADT and growth and low levels of weather. It is recommended that baseline or low levels of technology intensity be applied to this segment.

IH 43 from the STH 67 interchange to the USH 12 interchange

The segment has high levels of AADT, future AADT and HC ADT, moderate levels of growth and low levels of weather and crash rate. Because of this, the segment should receive low levels of deployment to accommodate traffic.

USH 14

USH 14 from Janesville to IH 43

The segment has moderate growth and future LOS levels; however, no other factors are indicated to experience high levels with frequency. Therefore, baseline or low levels of technology intensity should be applied to this segment.

STH 11

STH 11 from IH 43 to Burlington

The segment has high levels of future AADT, moderate levels of AADT, growth and crash severity index and low levels of HC ADT and weather. Due to a lack of more factors at high levels, baseline and low levels of technology intensity should be implemented.

STH 11 traveling through the municipality of Burlington

This segment has high levels of future AADT and moderate levels of AADT, growth and crash severity index. ***With the completion of a bypass around Burlington, this segment should implement baseline or low technology intensity. Incident management along this segment should be applied at medium intensity.***

STH 11 from Burlington to USH 45

This segment has low levels of growth, HC ADT, LOS, forecast LOS, crash rate, crash severity index, and weather. With the lack of any factors achieving high levels, a baseline deployment density should be applied to this segment.

STH 11 from USH 45 to IH 94

The segment has moderate levels of future AADT with low levels of AADT, growth, HC ADT, crash rate, crash severity index and weather (snow effect). Because of this, baseline to low levels of technology intensity should be implemented.

STH 11 from IH 94 to STH 32

This segment has high levels of AADT and future AADT, moderate levels of forecast LOS and crash rate, with low levels of growth, HC ADT and weather. Therefore, baseline deployment density is recommended along this segment along with medium intensities of detection and incident management.

STH 50**STH 50 from IH 43 to STH 67**

This segment has moderate levels of future AADT, LOS and forecast LOS, with low levels of AADT, growth, HC ADT, crash rate, and weather (snow effect). Because of this, a low level of deployment density with baseline or low levels of technology intensity are recommended. A medium intensity of detection should be applied along this segment to accommodate traffic.

STH 50 from STH 67 to Lake Geneva

The segment has low levels of AADT, future AADT, growth, HC ADT, crash rate, and weather. With no factors achieving high levels of priority, a low deployment density with baseline technology intensity is recommended for this segment.

STH 50 within the municipality of Lake Geneva

The segment has high levels of future AADT, moderate levels of AADT and crash rate, with low levels of growth, HC ADT, LOS, forecast LOS and weather (snow effect). It is recommended that this segment receive low deployment density with medium intensity of incident management, signal improvement and surveillance.

STH 50 from USH 12 to CTH P

The segment has moderate levels of future AADT and growth with low levels of AADT, HC ADT and weather. Due to a lack of distinguishing factors achieving a high level of priority, a baseline deployment density should be applied to the segment.

STH 50 from CTH P to STH 75

The segment has high levels of future AADT and crash severity index, moderate levels of AADT, growth and crash rate, with low levels of HC ADT and weather. Therefore, a low deployment density is recommended with medium intensity of incident management along this segment.

STH 50 from STH 75 to IH 94

The segment has high levels of future AADT, moderate levels of AADT, growth and crash severity index, with low levels of HC ADT and weather. Baseline levels of technology intensity are recommended for this segment.

STH 50 from IH 94 to CTH H in Pleasant Prairie

This segment has high levels of AADT and future AADT, moderate levels of growth, forecast LOS and crash rate, with low levels of HC ADT and weather. Due to these factors, a medium deployment density should be applied to this segment.

STH 50 from CTH H in Pleasant Prairie to STH 32

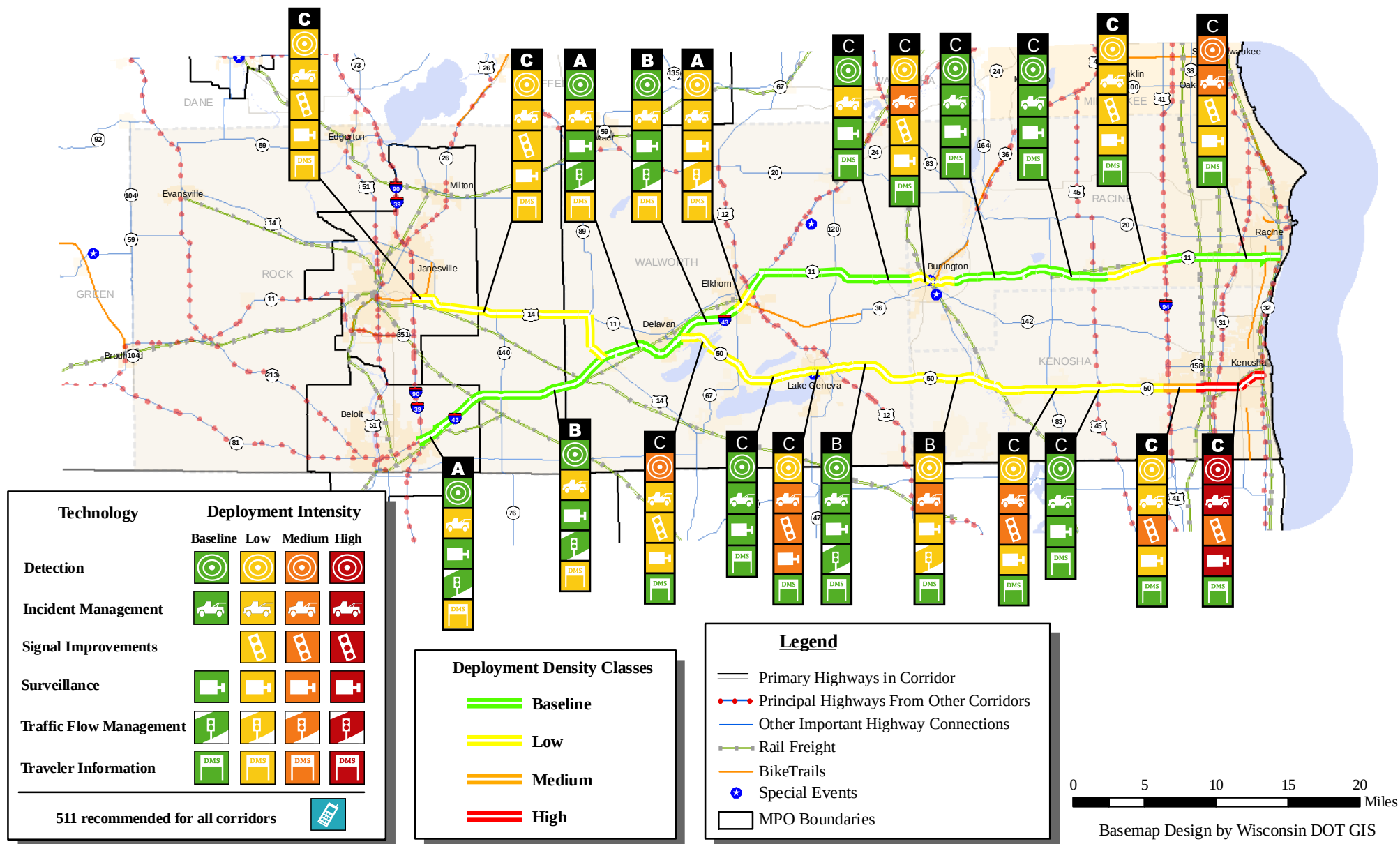
The segment has high levels of AADT, future AADT, forecast LOS and crash rate, with moderate levels of LOS and crash severity index. Therefore, this segment is recommended for high deployment density.



Traffic Operations Infrastructure Plan

SOUTHERN TIER CORRIDOR

Janesville/Beloit - Racine/Kenosha



Titletown

IH 43

IH 43 from the Marquette interchange (N I-94 interchange) to Jct STH 167

The segment has high AADT, LOS, crash rate, and event issues. This urban interstate segment is covered fairly well by traffic operation devices. Given the location of this segment, its heavy use, and analysis issues, high deployment intensities are recommended.

IH 43 from Jct STH 167 to Jct STH 60

The segment has high AADT and heavy/moderate commercial ADT issues. Based on these criteria, low detection and surveillance intensities are recommended while other deployments should remain at baseline levels.

IH 43 from Jct STH 60 to the STH 57 split near Saukville

The segment has high AADT and heavy commercial ADT levels, but few other issues. Due to the high AADT levels it is recommended that detection and surveillance intensities be low while other deployments should remain at baseline levels.

IH 43 from the STH 57 split to S Jct STH 32 near Port Washington

The short segment has high AADT, heavy commercial ADT levels, and a moderate severity index. All deployments except traffic flow management should be low. Traffic flow management should remain at a baseline level.

IH 43 from S Jct STH 32 to Jct STH 28 in Sheboygan

The segment has high AADT and heavy commercial ADT levels, and a high severity index. The crash rate on this segment is very low, but due to a high severity index, a low incident management level is recommended while other deployments should remain at baseline levels.

IH 43 from Jct STH 28 to Jct STH 42 in Sheboygan

The segment has high AADT and heavy commercial ADT levels, and a moderate growth issue, as well as various other low level issues. Low deployment intensities are recommended for this segment.

IH 43 from Jct STH 42 to the STH 172 interchange in the Green Bay area

The segment has high AADT and heavy commercial ADT levels, and a high severity index, as well as a few low level issues. Low incident management intensity is recommended while other deployments should remain at baseline levels.

IH 43 from the STH 172 interchange to Jct STH 57 in Green Bay

The segment has high AADT levels, moderate growth and heavy commercial ADT issues. Medium deployment intensities are recommended for this segment.

IH 43 from Jct STH 57 to the USH 41 interchange in the Green Bay area

The segment has high AADT levels, moderate growth and heavy commercial ADT issues. High deployment intensities are recommended for this segment.

STH 172

STH 172 from the IH 43 interchange to Jct STH 57 in the Green Bay area

This segment has high AADT and heavy commercial ADT levels, and a moderate severity index. High deployment intensities are recommended for this segment.

STH 172 from Jct STH 57 to the USH 41 interchange in the Green Bay area

This segment has high AADT, crash rate, and event issues as well as moderate growth, heavy commercial ADT, LOS, and severity index issues. Considering these criteria, high deployment intensities are recommended for this segment.

STH 57

STH 57 from Jct IH 43 near Saukville to the southern limits of Plymouth

This segment has a high crash rate and severity index as well as moderate AADT and heavy commercial ADT issues. Due to crash factors being high, low level incident management is recommended while other deployments should remain at baseline levels.

STH 57 in the City of Plymouth

This segment has only low level issues, therefore baseline deployment intensities are recommended for this segment.

STH 57 from Jct STH 23 to Jct STH 172 in the Green Bay area

This segment has moderate severity index and various low level issues, therefore, baseline deployment intensities are recommended for this segment.

STH 57 from Jct STH 172 to Jct IH 43 (within Green Bay area IH 43/STH 172/USH 41 freeway loop)

This segment has moderate AADT and event issues, as well as various low level issues, therefore, low deployment intensities are recommended for this segment.

TITLETOWN CORRIDOR

Milwaukee - Green Bay



Deployment Density Classes

- Baseline
- Low
- Medium
- High

Technology

Deployment Intensity

	Baseline	Low	Medium	High
Detection				
Incident Management				
Signal Improvements				
Surveillance				
Traffic Flow Management				
Traveler Information				

511 recommended for entire corridor

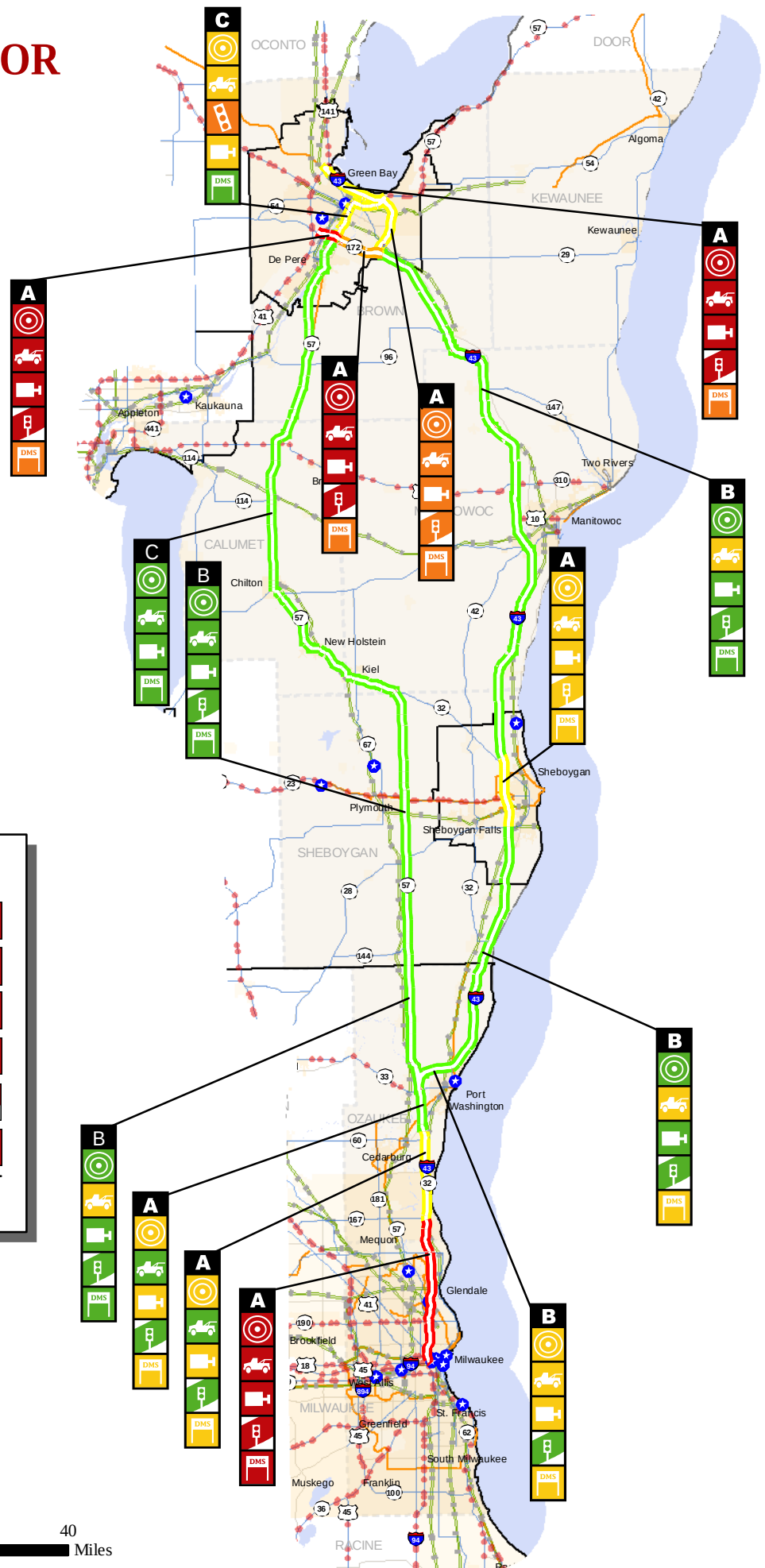


Legend

- Primary Highways in Corridor
- Principal Highways From Other Corridors
- Other Important Highway Connections
- Rail Freight
- BikeTrails
- + Special Events
- MPO Boundaries

0 5 10 20 30 40 Miles

Basemap Design by Wisconsin DOT GIS



Trempealeau River

STH 93 from IH 94 to Walnut Road

The recommendation for this segment is to maintain the current baseline deployment density as none of the analysis factors currently warrant an increase in deployment density.

STH 93 from Walnut Road to STH 121

The high severity index values along this segment indicate that incident management should be increased to low deployment density, while it is recommended that the remaining technologies continue at baseline deployment densities.

STH 93 from STH 121 to STH 54/STH 35/Great River Road

While the high crash rate and severity index values along this segment warrant that incident management be increased to low deployment density, it is recommended that the remaining technologies continue at baseline deployment densities. ***There is approximately 1,300 feet of elevation change along the north end of this segment. This section of the segment may warrant further analysis to determine if the elevation change may be producing the elevated crash rate and/or severity index values and whether it is appropriate to steps to mitigate the situation.***

STH 93/STH 54/US 53 from Jct STH 54/STH 35/Great River Road to STH 35

The LOS forecast and severity index values along this segment indicate that surveillance and incident management be increased to low deployment densities, while it is recommended that the remaining technologies continue at baseline deployment densities.

USH 53 from STH 35 to IH 90

The future AADT volumes are high, however the existing capacity appears to be sufficient to meet the future traffic volumes as evidenced by the acceptable LOS forecast values. However, the existing percentage of heavy vehicle traffic (HC ADT Base Year) is also elevated, and therefore it is recommended that surveillance be increased to low deployment density.

TREMPEALEAU RIVER CORRIDOR

La Crosse - Eau Claire



Legend

- Primary Highways in Corridor
- Principal Highways From Other Corridors
- Other Important Highway Connections
- Rail Freight
- Bike Trails
- Special Events
- MPO Boundaries

Deployment Density Classes

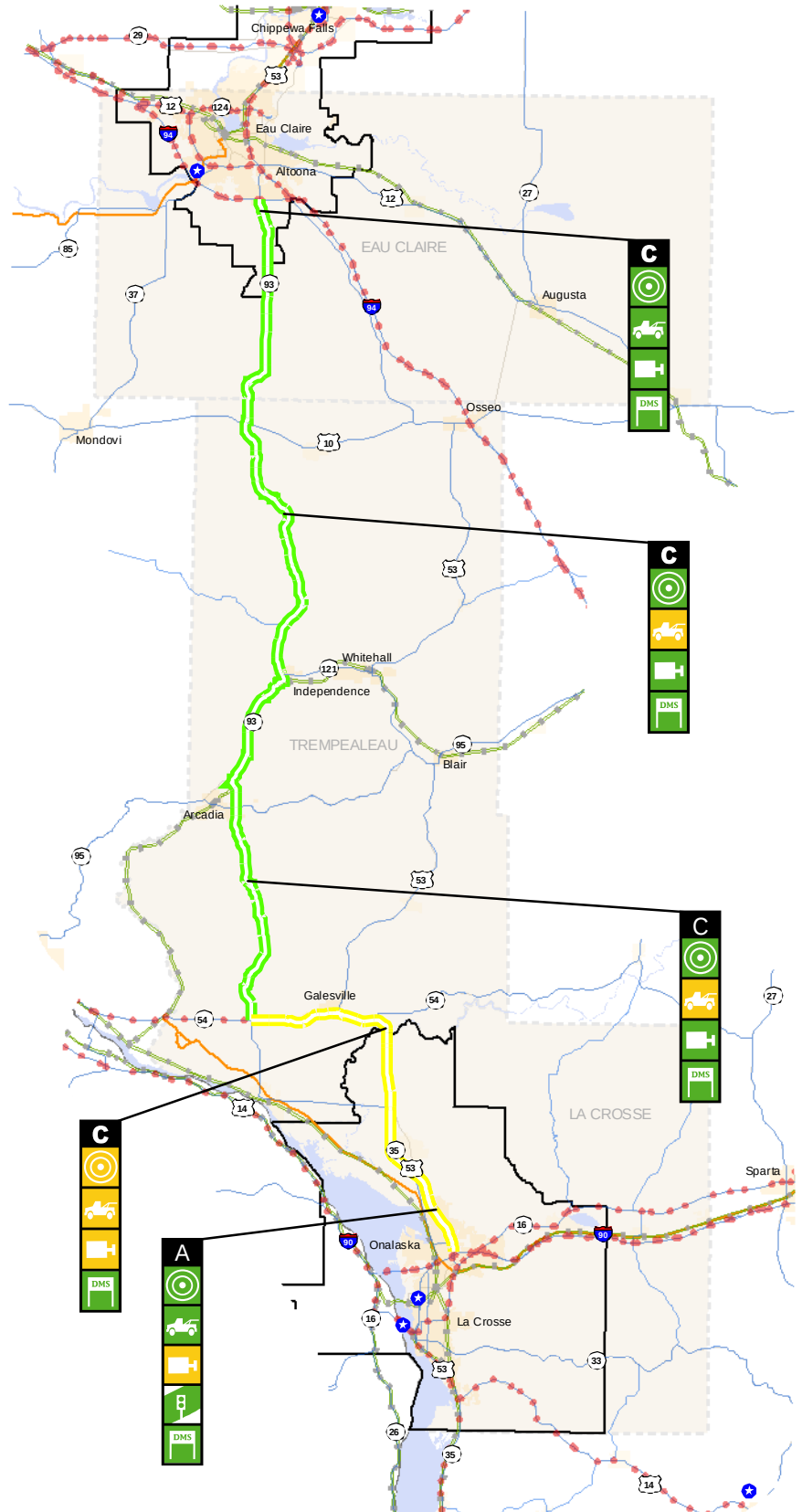
- Baseline
- Low
- Medium
- High

Technology

Deployment Intensity

	Baseline	Low	Medium	High
Detection				
Incident Management				
Signal Improvements				
Surveillance				
Traffic Flow Management				
Traveler Information				

511 recommended for entire corridor



0 10 20 30 Miles

Basemap Design by Wisconsin DOT GIS

Waukesha Connection

Note that a segment is missing from this corridor because the route of the corridor has changed and data was not available for the segment in Metamanager.

STH 83

STH 83 from I-43 to CTH NN in Mukwonago

The segment has a high level of future AADT, moderate levels of AADT, growth and forecast LOS and low levels of HC ADT, LOS, crash rate and weather. Due to these factors, the technology intensity should be at low or baseline levels.

STH 83 from CTH NN in Mukwonago to CTH D in Genesee Depot

The segment has a moderate level of growth with low levels of AADT, future AADT, HC ADT, LOS, forecast LOS and weather. Since no factors reach high levels of priority, the segment is recommended for baseline deployment density.

STH 83 from CTH D in Genesee Depot to CTH VV in North Lake

The segment has a high level of future AADT, with moderate levels of AADT, growth and forecast LOS and low levels of HC ADT, LOS and crash rate. Therefore, baseline or low technology intensity should be applied to the segment.

STH 83 from CTH VV in North Lake to Wilson Avenue in Hartford

The segment has a moderate level of crash rate with low levels of growth, HC ADT, LOS and forecast LOS. Due to a lack of factors achieving significant thresholds, it is recommended that this segment receive baseline deployment density with baseline or low technology intensity.

STH 83 from Wilson Avenue in Hartford to STH 33 (via STH 175)

The segment has a high level of crash rate with low levels of AADT, future AADT, growth and HC ADT. Due to a lack of factors achieving significant thresholds, it is recommended that this segment receive baseline or low technology intensity.

STH 164

STH 164 from I-43 to STH 59

The segment has a high level of future AADT, moderate levels of AADT, crash rate and event traffic and low levels of growth, HC ADT and forecast LOS. A low baseline to low technology intensity is recommended for this segment.

STH 164 from I-94 to CTH VV in Sussex

The segment has moderate levels of AADT, future AADT, growth and forecast LOS, with low levels of HC ADT. Due to these factors, deployment density is recommended to be at a baseline level with a medium level of detection along this segment.

STH 164 from CTH VV in Sussex to Plainview Road

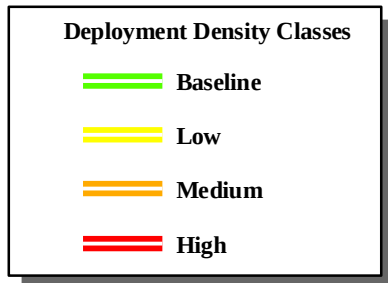
The segment has moderate levels of AADT, future AADT, growth, LOS and forecast LOS. Therefore, a low deployment density should be applied to this segment with a medium intensity of detection.

STH 164 from Plainview Road to USH 41 (via STH 60)

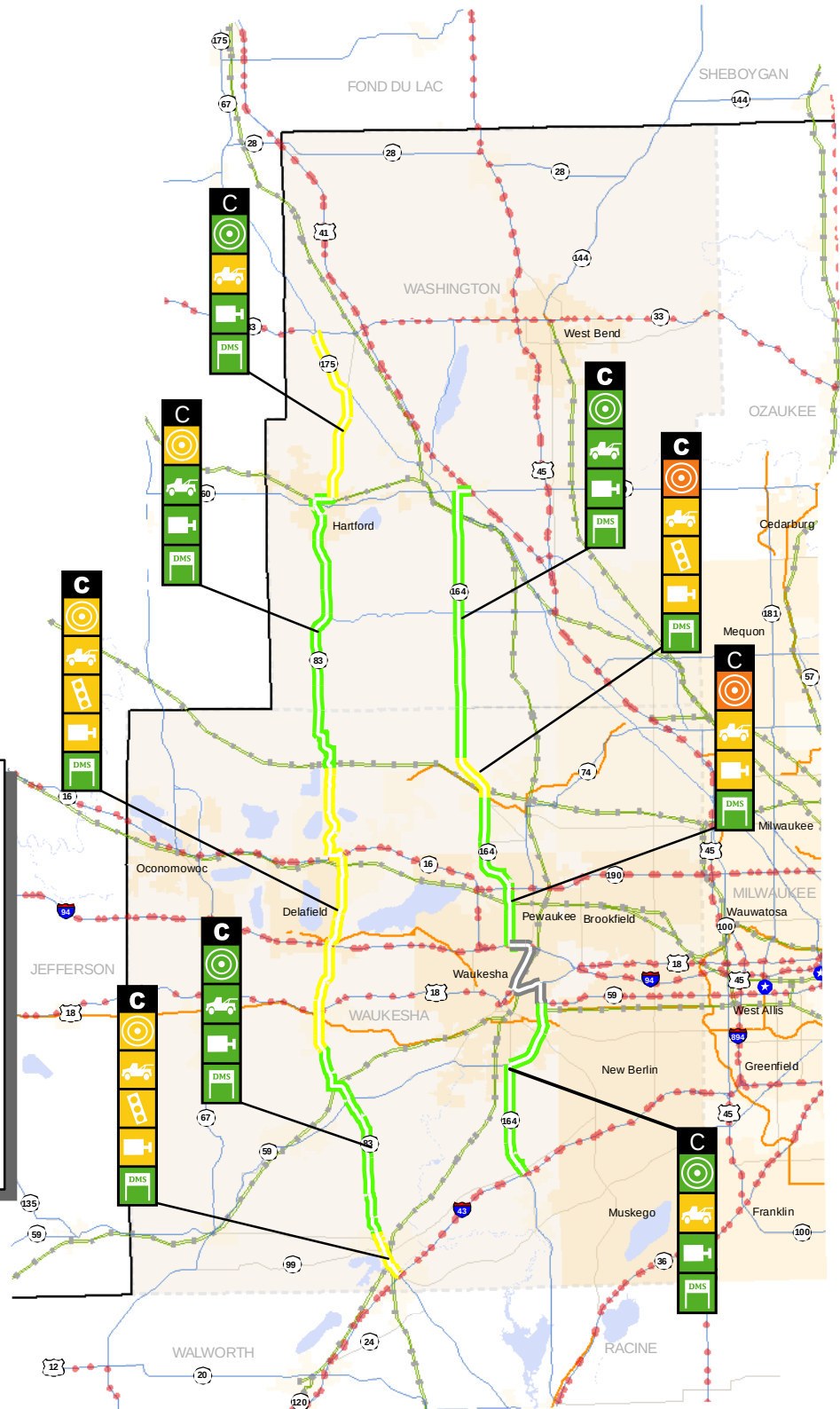
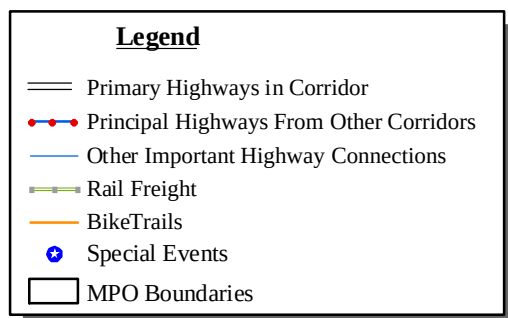
The segment has low levels of AADT, future AADT, growth and HC ADT. With this, baseline levels of deployment density and technology intensity are recommended.

WAUKESHA CONNECTION CORRIDOR

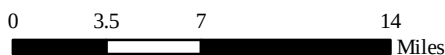
Waukesha - Washington County



Technology	Deployment Intensity			
	Baseline	Low	Medium	High
Detection				
Incident Management				
Signal Improvements				
Surveillance				
Traffic Flow Management				
Traveler Information				
511 recommended for entire corridor				



Note: No recommendation is made for the segment of 164 shown in grey (—) as data were not available.



Wild Goose

USH 151

The long-term vision for USH 151 is a continuous freeway from the IH 39/90/94 interchange in Madison to Fond du Lac. A number of segments in this corridor have already been constructed to freeway standards. Under this long-term plan, the remaining expressway portions in this corridor would be upgraded to freeway standards.

USH 151 from E Jct USH 12 (Madison Beltline Highway) to Jct IH 39/90/94

The segment has high AADT, LOS, event issues, and a moderate crash rate and severity index. Most factors rank high on this urban Madison segment, therefore, high deployment intensities are recommended for detection and surveillance while incident management should be at medium levels.

USH 151 from Jct IH 39/90/94 to Jct STH 19 in Sun Prairie

The segment has high AADT and moderate forecasted LOS and growth issues. Medium deployment intensities are recommended for this segment.

USH 151 from Jct STH 19 to Jct Madison Street south of Beaver Dam

The segment has a high severity index, moderate to high AADT, and moderate growth issues. Low level deployments are recommended for this segment, except for traffic flow management, which should be at baseline levels.

USH 151 from Jct Madison Street to Dodge County Road B north of Beaver Dam

The segment has a high crash rate, moderate to high AADT, and moderate severity index and growth issues. Due to elevated crash factors in combination with higher traffic volumes, it is recommended that detection, incident management, and surveillance be at medium deployment intensities while traffic flow management should remain low.

USH 151 from Dodge County Road B to Jct STH 26 at reference post 144

The segment has moderate forecasted AADT, crash rate, and severity index issues. Low deployment intensities are recommended, except for traffic flow management, which should be at baseline levels.

USH 151 from Jct STH 26 at reference post 144 to Jct STH 26 at reference post 148

The segment has a high crash rate, and a low to moderate AADT. Based on these criteria, medium level incident management and surveillance are recommended while other deployments should remain low.

USH 151 from Jct STH 26 at reference post 148 to Fond du Lac County Road D

The segment has a high crash rate and severity index, and a low to moderate AADT. Medium deployment intensities are recommended for incident management and surveillance while other deployments should be at baseline levels.

USH 151 from Jct Fond du Lac County Road D to N Jct USH 41 in Fond du Lac

The segment has a high crash rate, high to moderate LOS issue, and low to moderate AADT. Medium deployment intensities are recommended for this segment. *This segment of USH 151 will be realigned and upgraded to a four-lane divided roadway. The construction, expected to be complete in 2008, is the final portion of the USH 151 Fond du Lac bypass. This upgrade may reduce or eliminate some of the problems on this segment, reducing recommended deployment levels.*

STH 26

STH 26 from Jct USH 151 (USH 151 reference post 148) to Jct STH 23 in Rosendale

The segment has a moderate severity index and various low level issues. Low level surveillance is recommended while other deployments should remain at baseline levels.

STH 26 from Jct STH 23 to Jct USH 41 south of Oshkosh

The segment has a high crash rate and event issues, and moderate forecasted AADT and LOS, severity index, and growth issues. Due to elevated crash rate and event concerns, medium deployment intensities are recommended for detection and surveillance. Incident management should remain low. *Based on suggestions at the Regional Meetings, this segment should receive higher recommendations because of the number of congestion and safety factors in this segment.*

USH 41

USH 41 from S Jct USH 151 to Jct Winnebago Street in North Fond du Lac

The segment has high AADT and a moderate heavy commercial ADT. Low deployment intensities are recommended for all but detection, which should remain at baseline levels.

USH 41 from Jct Winnebago Street to Jct Fond du Lac County Road N

The segment has a high AADT and severity index and a moderate growth issue. Low deployment intensities are recommended for all but detection, which should remain at baseline levels.

USH 41 from Jct Fond du Lac County Road N to Jct STH 44 in Oshkosh

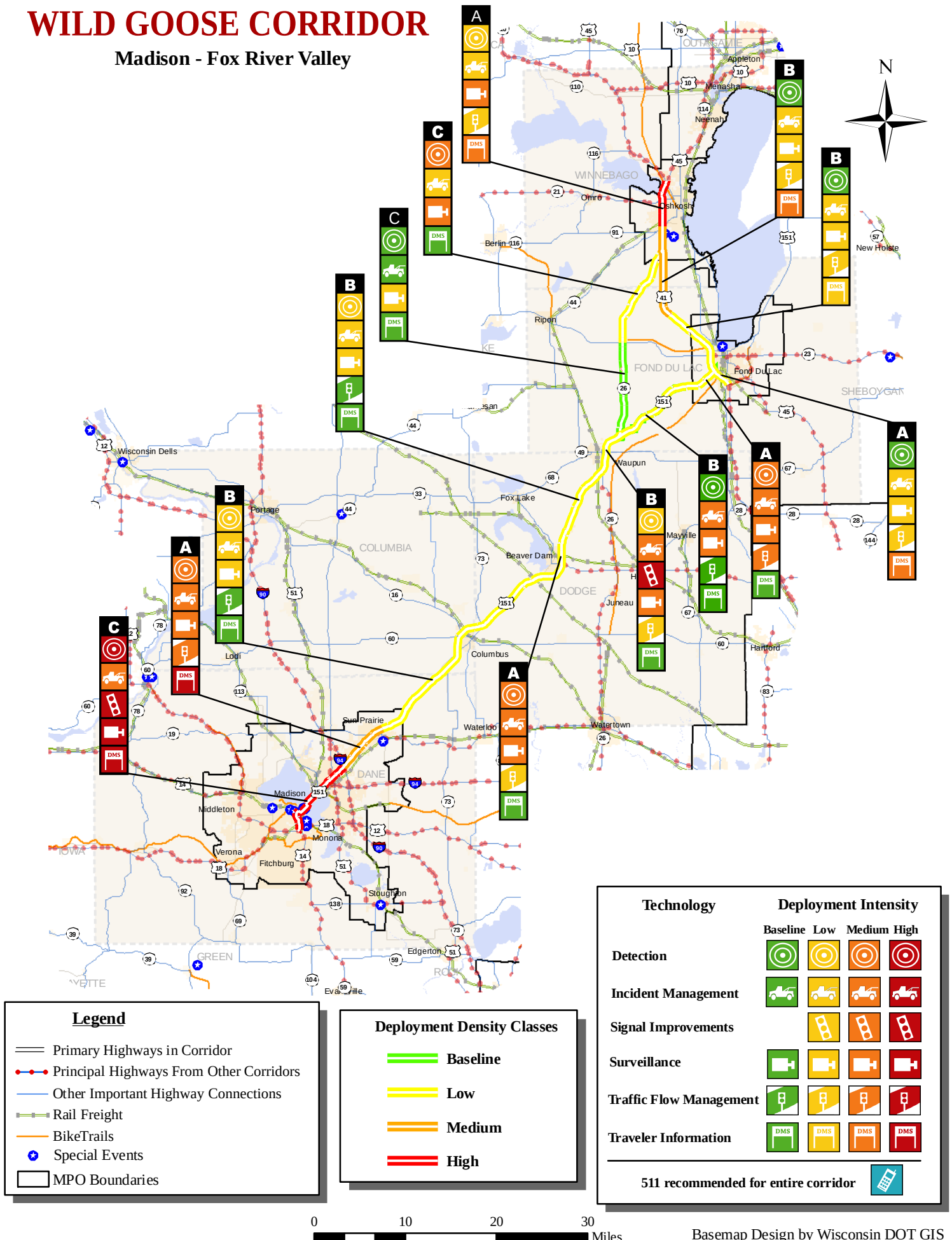
The segment has high to moderate AADT issues, and moderate heavy commercial ADT, growth, and event issues. Low deployment intensities are recommended for all but detection, which should remain at baseline levels. *This northernmost portion (STH 26 to STH 44) of this segment will be upgraded from a four-lane freeway to a six-lane freeway with planned construction. This upgrade may reduce or eliminate some of the problems on this segment, reducing recommended deployment levels.*

USH 41 from Jct STH 44 to the southern limits of Neenah

The segment has a high AADT and moderate heavy commercial ADT, LOS, growth, and event issues. Medium level surveillance is recommended while other deployments should remain low. *This segment of USH 41 will be upgraded from a four-lane freeway to a six-lane freeway with planned construction. This upgrade may reduce or eliminate some of the problems on this segment, reducing recommended deployment levels.*

WILD GOOSE CORRIDOR

Madison - Fox River Valley



Wisconsin Heartland

STH 29

The long-term vision for the Wisconsin Heartland Corridor (STH 29) is a continuous freeway from the IH 94 interchange west of the Eau Claire/Chippewa Falls area to USH 41 in the Green Bay area. Many segments in this corridor have already been constructed to freeway standards. Under this long-term plan, the remaining expressway portions in this corridor would be upgraded to freeway standards.

STH 29 from the IH 94 interchange near Elk Mound to the USH 53 interchange in the Eau Claire/Chippewa Falls area

The segment has a high severity index, and moderate crash rate and growth issues. Due to elevated crash rate and severity index, low deployment intensities are recommended for incident management and surveillance while other deployments should remain baseline.

STH 29 from the USH 53 interchange to the Chippewa County Road K underpass near Lake Wissota

The segment has moderate AADT, heavy commercial ADT, growth, and crash rate issues. Due to elevated AADT and crash rate issues, medium deployment intensities are recommended for incident management and surveillance while other deployments should remain low.

STH 29 from the Chippewa County Road K underpass to Jct STH 27 in Cadott

The segment has a moderate growth issue and a moderate to low AADT. Baseline deployments are recommended for this segment.

STH 29 from Jct STH 27 to the western limits of Wausau

The segment has a moderate crash rate and severity index; and moderate to low heavy commercial ADT, forecasted AADT and growth issues. Low-level incident management is recommended while other deployments should remain baseline.

STH 29 from the western limits of Wausau to N Jct USH 51

The segment has a high to moderate AADT and moderate severity index and growth issues. Low-level surveillance is recommended while other deployments should remain baseline.

STH 29 / USH 51 in the Wausau area

The segment has a high AADT, heavy commercial ADT and moderate LOS and crash rate issues. High-level detection and surveillance are recommended while Incident Management and traffic flow management should remain medium. *STH 29 shares a common corridor with USH 51 in the Wausau area for approximately 5 miles. The Wausau area is not as large as the Milwaukee or Madison metropolitan areas. It is unlikely that strategies such as ramp metering and freeway service patrol will be realized.*

STH 29 from S Jct USH 51 to Jct Marathon County Road J in Weston

The segment has a high to moderate AADT, and moderate heavy commercial ADT and growth issues. Low-level surveillance is recommended while other deployments should remain baseline.

STH 29 from Jct Marathon County Road J to Jct STH 22 in Shawano

The segment has a high to moderate severity index, and moderate heavy commercial ADT, forecasted AADT and growth issues. Due to an elevated severity index and fairly high traffic volume factors, low deployment intensities are recommended for incident management and surveillance. Other deployments should remain baseline.

STH 29 from Jct STH 22 to Jct Shawano County Road BE east of Bonduel

The segment has a high severity index, and moderate forecasted AADT and growth issues. As with the previous segment, severity index and traffic volumes are elevated. Therefore, low deployment intensities are recommended for incident management and surveillance while other deployments should remain baseline.

STH 29 from Jct Shawano County Road BE to Jct STH 32 near the Shawano/Brown County line

The segment has a high to moderate AADT and moderate severity index and growth issues. As with the previous two segments, severity index and traffic volumes are elevated. Again, low deployment intensities are recommended for incident management and surveillance while other deployments should remain baseline.

STH 29 from Jct STH 32 to the USH 41 interchange in the Green Bay area

The segment has a high AADT, and moderate severity index and growth issues. Low deployment intensities are recommended for incident management and surveillance while other deployments should remain baseline.

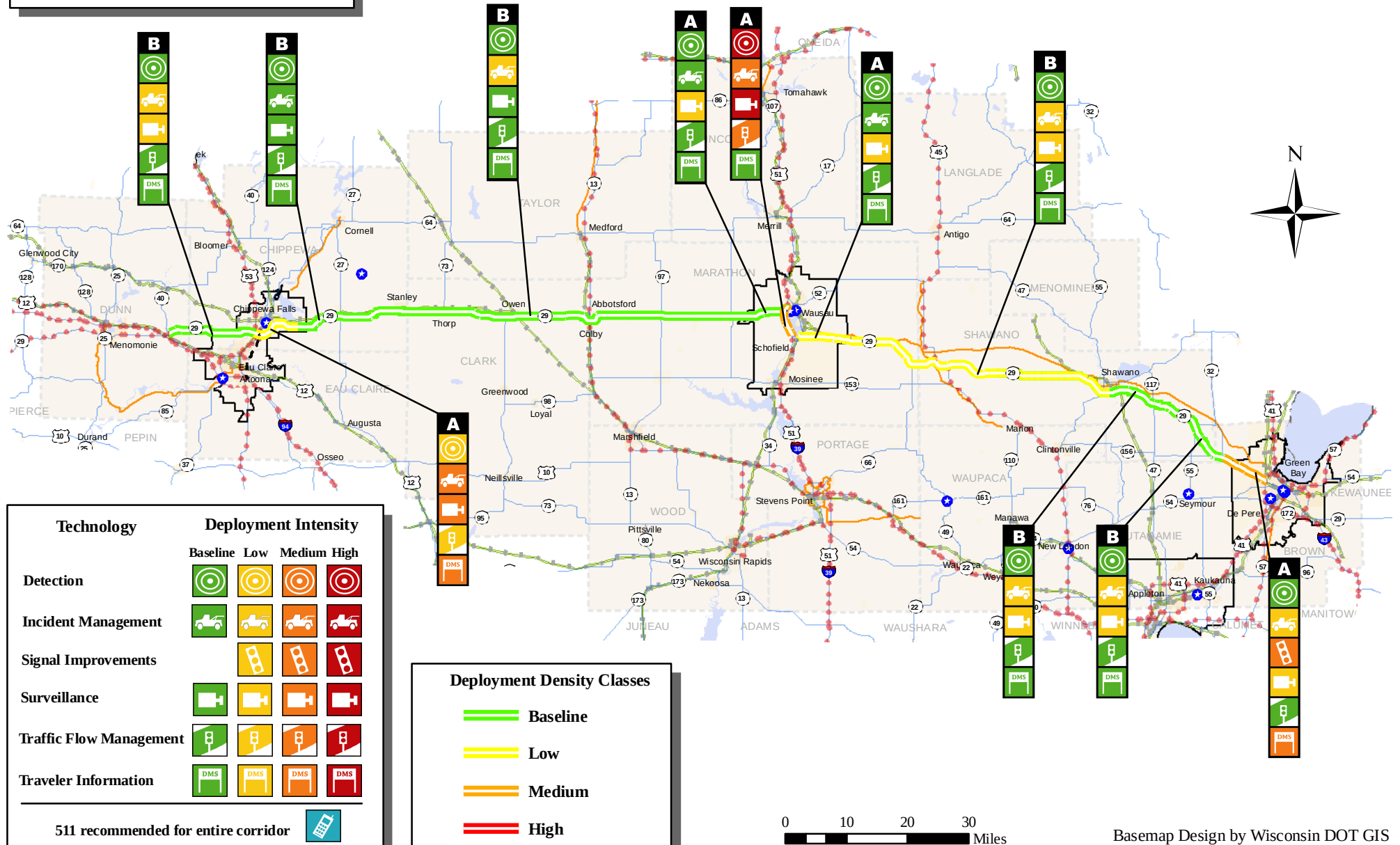
Legend

-  Primary Highways in Corridor
-  Principal Highways From Other Corridors
-  Other Important Highway Connections
-  Rail Freight
-  BikeTrails
-  Special Events
-  MPO Boundaries

Traffic Operations Infrastructure Plan

WISCONSIN HEARTLAND CORRIDOR

Green Bay - Twin Cities



Wisconsin River

IH 39 / USH 51

The Southwest region recommended this segment have high deployment intensities. Based on traffic congestion and safety factors, this segment should have high deployment densities. This applies to the next two segments.

IH 39/90/94 from the Jct IH 94 on the east side of Madison to Jct USH 51 north of Madison and IH 39/90/94 from Jct USH 51 to Jct Columbia County Road CS (MM 115)

This segment has high AADT and heavy commercial ADT, and moderate forecasted growth. High deployment intensities are recommended for this segment.

IH 39/90/94 from Jct Columbia County Road CS (MM 115) to the Jct IH 39 south of Portage

This segment has high AADT, heavy commercial ADT, and severity index issues, as well as moderate LOS concerns. *Although a strictly data driven approach would recommend a lower deployment intensity, comments made at the regional meetings indicate this segment should have high deployment densities.*

IH 39 from Jct IH 90/94 to Jct STH 16 in Portage

This segment has high, heavy commercial ADT and forecasted AADT, moderate AADT and forecasted growth issues. Low deployment density levels are recommended for this segment.

IH 39 from Jct STH 16 to the USH 51 interchange north of Portage

This segment has high, heavy commercial ADT and forecasted AADT, moderate present AADT and growth issues. In general, baseline deployment levels are recommended for this segment, although due to the AADT factors, incident management should be at a low level.

IH 39 / USH 51 from the USH 51 interchange to Jct USH 10 in the Stevens Point area

This segment has a high, heavy commercial ADT and moderate AADT. As with the previous segment, the deployment density levels should be at baseline levels, except incident management should be at a low level.

IH 39 / USH 51 from Jct USH 10 to N Jct Business 51 on the north side of Stevens Point

This segment has high AADT and severity index, moderate growth and heavy commercial ADT issues. Again, deployment intensities should be at baseline levels, except that incident management should be at low levels.

IH 39 / USH 51 from N Jct Business 51 to S Jct STH 29 in the Wausau area

This segment has high AADT, heavy commercial ADT and a moderate crash severity index. Baseline deployment intensities are recommended for this segment, except for incident management, which should be at low levels.

USH 51**USH 51 from S Jct STH 29 to Jct Marathon County Road K (Badger Avenue) / County Road U (Merrill Avenue) in the Wausau area**

This segment has high AADT, heavy commercial ADT and moderate LOS and crash rate issues. High level detection and surveillance are recommended while incident management and traffic flow management should remain medium. *The Wausau area is not as large as the Milwaukee or Madison metropolitan areas. It is unlikely that strategies such as ramp metering and freeway service patrol will be fully realized. The portion of this segment from S Jct STH 29 to N Jct STH 29 is currently undergoing expansion to a 6-lane freeway. This upgrade may reduce some of the problems on this roadway portion, thus reducing recommended deployment intensities.*

USH 51 from Jct Marathon County Road K (Badger Avenue) / County Road U (Merrill Avenue) in the Wausau area to Jct STH 86 on the east side of Tomahawk

This segment has moderate to high AADT and a number of low level issues. Due to the high AADT and spot sections of higher crash rates and severity index, it is recommended that incident management be raised to low while other deployments remain baseline. *The long-term vision for this corridor is to convert the remaining expressway portion of USH 51 between Merrill and Tomahawk to freeway.*

USH 51 from Jct STH 86 to Jct USH 8

This segment has a moderate snow effect issue and a number of low level factors. Low deployment intensities are recommended for incident management and surveillance while other deployments should remain at baseline levels.

USH 51 from Jct USH 8 to Jct STH 47 in Woodruff

This segment has moderate snow effect and forecasted LOS issues, but also has a number of low level issues. Low deployment intensities are recommended for incident management and surveillance, while detection should remain at a baseline level.

USH 51 from Jct STH 47 to Jct Vilas County Road N

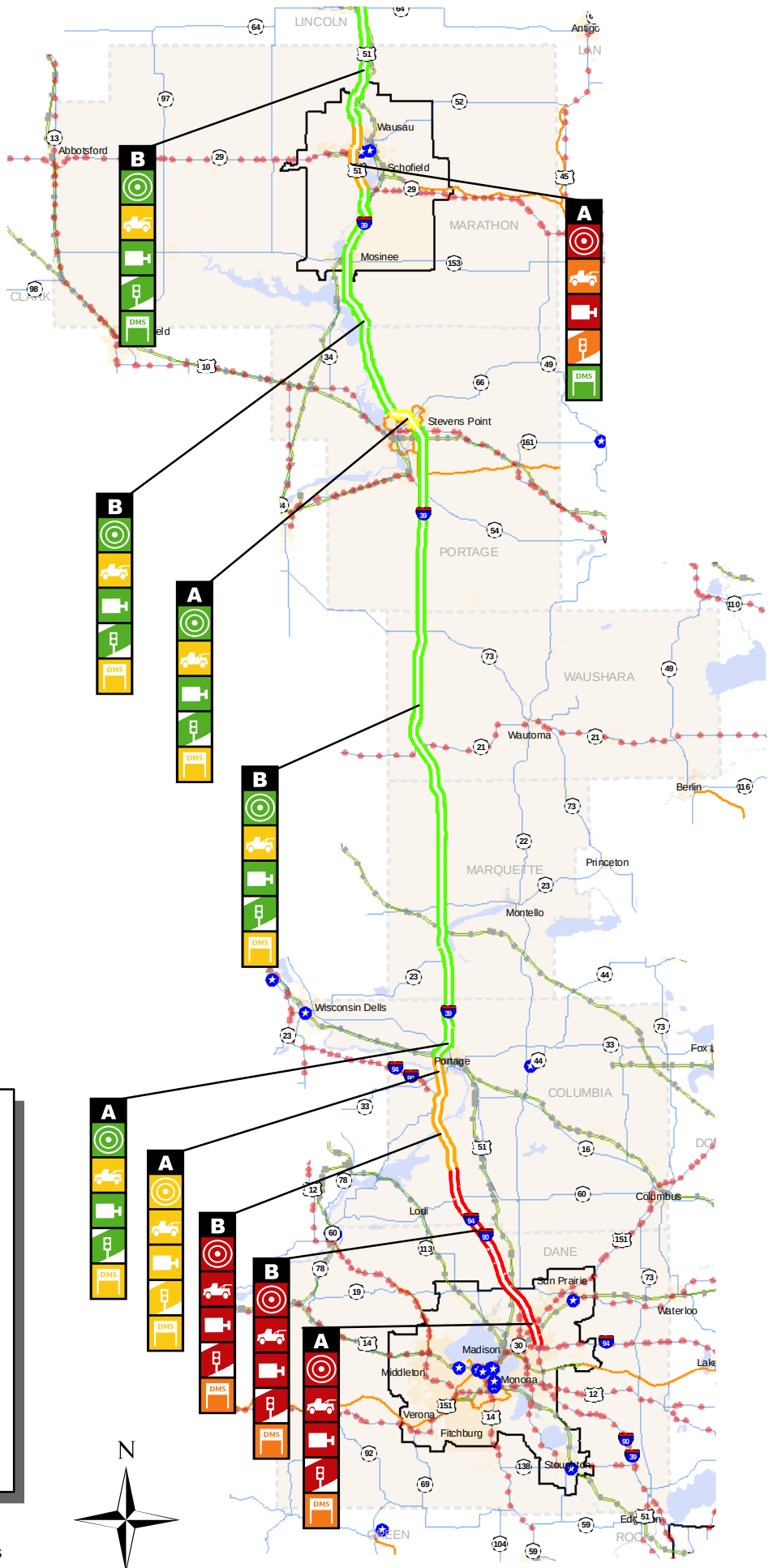
This segment has high snow effect levels and crash severity index and a number of moderate to low level factors. Low deployment intensities are recommended for incident management and surveillance while detection should remain baseline.

USH 51 from Jct Vilas County Road N to Jct USH 2

This segment has high snow effect and moderate severity index issues as well as a number of low level concerns. However, the snow effect and severity index issues are not enough to warrant any recommendation beyond baseline deployment.

WISCONSIN RIVER CORRIDOR

Madison - Ironwood, Michigan
(Part 1)



Legend

- Primary Highways in Corridor
- Principal Highways From Other Corridors
- Other Important Highway Connections
- Rail Freight
- Bike Trails
- Special Events
- MPO Boundaries

Deployment Density Classes

- Baseline
- Low
- Medium
- High

Technology

Deployment Intensity

Baseline Low Medium High

Detection



Incident Management



Signal Improvements



Surveillance



Traffic Flow Management



Traveler Information



511 recommended for entire corridor



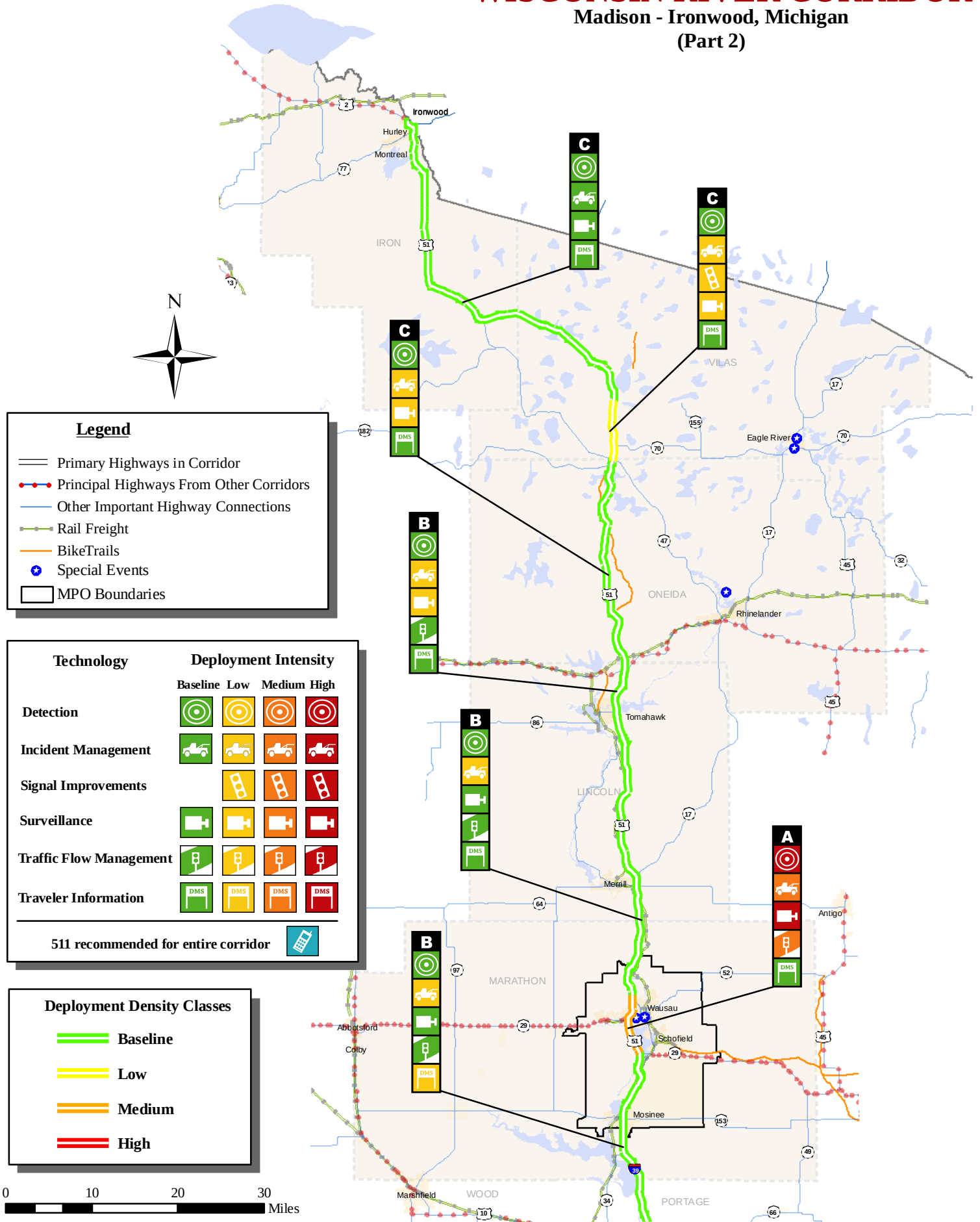
0 5 10 20 30 40 Miles



WISCONSIN RIVER CORRIDOR

Madison - Ironwood, Michigan

(Part 2)



Wolf Waupaca

USH 10

USH 10 from US 93 (Stevens Point) to Lake Drive (Amherst Junction)

This segment has high AADT volumes and poor LOS within urban areas (majority of this segment is located in rural areas). It is recommended that surveillance and detection should be increased from baseline to low deployment density and that the remaining deployment densities remain at the baseline level. *The data indicates that the deployment densities should be much higher, but the Region indicated that this highway is being converted to four lanes and should have lower recommendations to reflect this.*

USH 10 from Lake Drive (Amherst Junction) to Erickson Road (Waupaca)

This segment has analysis factor values for AADT volume, LOS and weather that recommend that surveillance and incident management should be increased from baseline to low deployment densities. The remaining technologies can continue at baseline deployment densities.

USH 10 from Erickson Road (Waupaca) to Holiday Road (Weyauwega)

This segment has high AADT volumes and crash rate values. It is recommended that the deployment densities remain at the baseline level except for incident management, which should be increased to low deployment density

USH 10 from Holiday Road (Weyauwega) to STH 76 (Clayton)

This segment has high AADT volumes. It is recommended that the deployment densities remain at the baseline level except for incident management, which should be increased to low deployment density.

USH 10 from STH 76 (Clayton) to US 41

The segment is classified as an urban freeway with a section that has AADT volumes and crash rate values that are more than three times higher than the adjacent section of the segment. It is therefore recommended that the entire segment have a low deployment density.

USH 10 from USH 45 to USH 41 northwest of Oshkosh

This segment has high AADT volumes and LOS that warrants incident management to have a medium deployment density while the remaining technologies have a low deployment density.

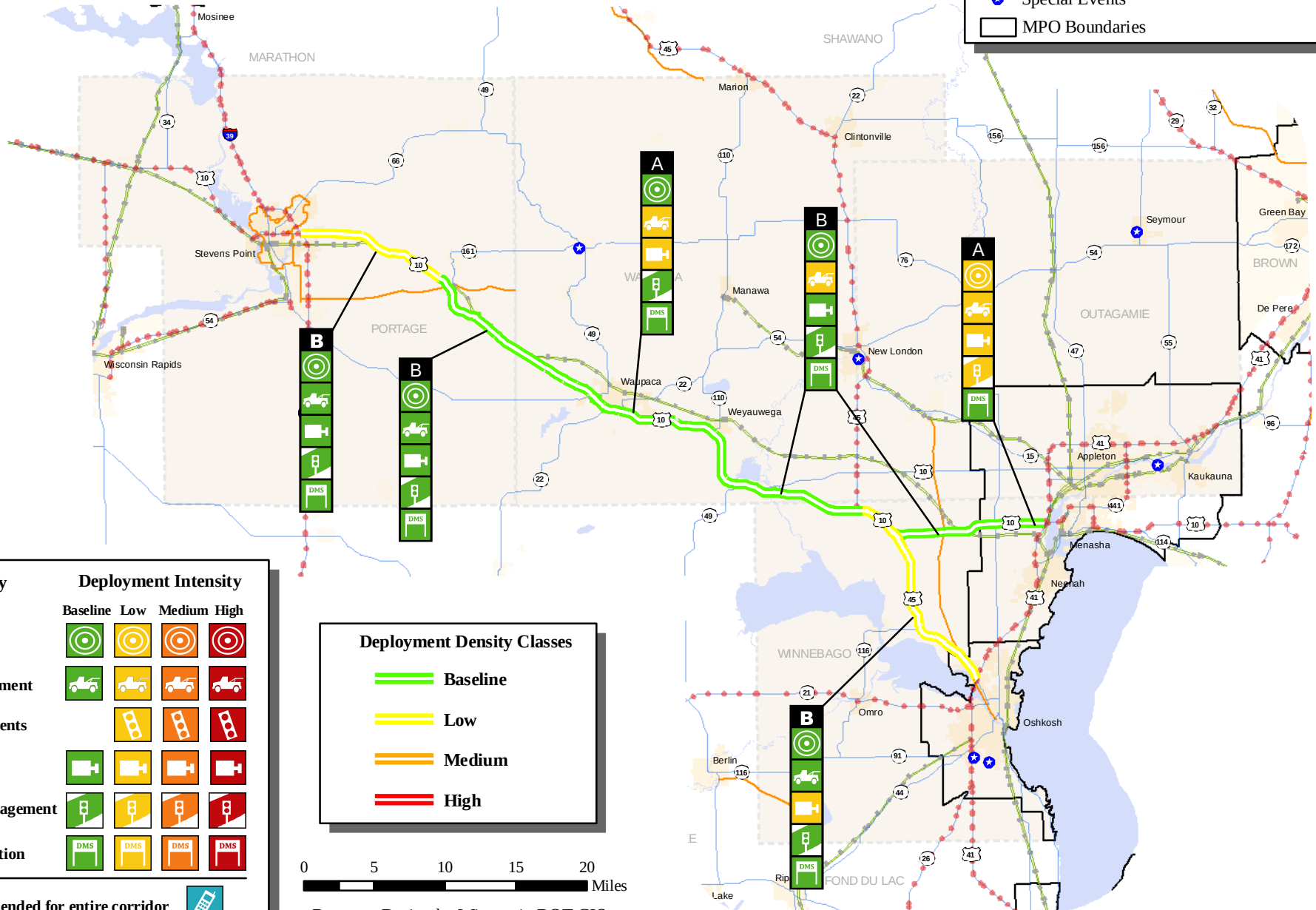
WOLF/WAUPACA RIVERS CORRIDOR

Stevens Point - Fox Cities



Legend

- Primary Highways in Corridor
- Principal Highways From Other Corridors
- Other Important Highway Connections
- Rail Freight
- BikeTrails
- Special Events
- MPO Boundaries



Technology

Deployment Intensity

Baseline Low Medium High

Detection



Incident Management



Signal Improvements



Surveillance



Traffic Flow Management



Traveler Information



511 recommended for entire corridor



Deployment Density Classes

- Baseline
- Low
- Medium
- High

0 5 10 15 20 Miles

Basemap Design by Wisconsin DOT GIS

Cost Estimate Summary

	Total Capital	Total Operations & Maintenance	Capital Subtotals		Operations & Maintenance Subtotals		Maintenance		Operations				
	Total Estimated Capital Cost	Total O&M Cost (Per Year)	Estimated Cost (Hardware)	Estimated Cost (Installation)	Total Maintenance Cost (Per Year)	Total Operations Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operations Staffing Cost (Per Year)	Estimated Direct Operations Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Direct Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)
1. Badger State	\$6,980,000	\$1,240,000	\$3,820,000	\$3,160,000	\$260,000	\$980,000	\$150,000	\$110,000	\$260,000	\$220,000	\$30,000	\$70,000	\$400,000
2. Capitol	\$6,120,000	\$1,490,000	\$3,460,000	\$2,660,000	\$250,000	\$1,240,000	\$150,000	\$100,000	\$280,000	\$400,000	\$40,000	\$80,000	\$440,000
3. Fox Valley	\$4,260,000	\$620,000	\$2,470,000	\$1,790,000	\$160,000	\$460,000	\$100,000	\$60,000	\$80,000	\$160,000	\$20,000	\$120,000	\$80,000
4. South Central Connection	\$5,540,000	\$1,030,000	\$2,560,000	\$2,980,000	\$150,000	\$880,000	\$90,000	\$60,000	\$200,000	\$270,000	\$20,000	\$50,000	\$340,000
5. Hiawatha	\$2,380,000	\$600,000	\$1,480,000	\$900,000	\$110,000	\$490,000	\$70,000	\$40,000	\$60,000	\$130,000	\$20,000	\$210,000	\$70,000
Total for Top 5 Corridors	\$25,280,000	\$4,980,000	\$13,790,000	\$11,490,000	\$930,000	\$4,050,000	\$560,000	\$370,000	\$880,000	\$1,180,000	\$130,000	\$530,000	\$1,330,000
Subtract Duplicate Technologies	-\$4,330,000	-\$980,000	-\$2,430,000	-\$1,900,000	-\$120,000	-\$860,000	-\$70,000	-\$50,000	-\$230,000	-\$200,000	-\$20,000	-\$30,000	-\$380,000
Top 5 - Grand Total	\$20,950,000	\$4,000,000	\$11,360,000	\$9,590,000	\$810,000	\$3,190,000	\$490,000	\$320,000	\$650,000	\$980,000	\$110,000	\$500,000	\$950,000

	Total Capital	Total Operations & Maintenance	Capital Subtotals		Operations & Maintenance Subtotals		Maintenance		Operations				
	Estimated Total Capital Cost	Total O&M Cost (Per Year)	Estimated Cost (Hardware)	Estimated Cost (Installation)	Maintenance Cost (Per Year)	Operations Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operations Staffing Cost (Per Year)	Estimated Direct Operations Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)
6. Wisconsin River	\$2,150,000	\$540,000	\$1,150,000	\$1,000,000	\$120,000	\$420,000	\$70,000	\$50,000	\$60,000	\$260,000	\$10,000	\$10,000	\$80,000
7. Chippewa Valley	\$2,710,000	\$450,000	\$1,480,000	\$1,230,000	\$120,000	\$330,000	\$80,000	\$40,000	\$30,000	\$170,000	\$10,000	\$120,000	\$0
8. Wild Goose	\$1,280,000	\$200,000	\$800,000	\$480,000	\$200,000	\$70,000	\$130,000	\$40,000	\$30,000	\$20,000	\$90,000	\$10,000	\$0
9. Peace Memorial	\$1,070,000	\$340,000	\$650,000	\$420,000	\$90,000	\$250,000	\$50,000	\$40,000	\$20,000	\$140,000	\$10,000	\$80,000	\$0
10. Cornish Heritage	\$1,470,000	\$180,000	\$790,000	\$680,000	\$70,000	\$110,000	\$40,000	\$30,000	\$10,000	\$80,000	\$10,000	\$10,000	\$0
11. Tiletown	\$3,780,000	\$1,130,000	\$2,140,000	\$1,640,000	\$170,000	\$960,000	\$100,000	\$70,000	\$210,000	\$360,000	\$30,000	\$10,000	\$350,000
12. Southern Tier	\$690,000	\$180,000	\$330,000	\$360,000	\$30,000	\$150,000	\$20,000	\$10,000	\$10,000	\$110,000	\$10,000	\$20,000	\$0
13. Glacial Plains	\$1,680,000	\$410,000	\$880,000	\$800,000	\$70,000	\$340,000	\$40,000	\$30,000	\$60,000	\$140,000	\$10,000	\$30,000	\$100,000
Total for Top 8 Emerging Corridors	\$14,830,000	\$3,430,000	\$8,220,000	\$6,610,000	\$740,000	\$2,690,000	\$440,000	\$300,000	\$420,000	\$1,350,000	\$100,000	\$290,000	\$530,000
Subtract Duplicate Technologies	-\$3,100,000	-\$260,000	-\$1,770,000	-\$1,330,000	-\$60,000	-\$200,000	-\$40,000	-\$20,000	-\$70,000	-\$40,000	-\$10,000	-\$10,000	-\$70,000
Top 8 Emerging - Grand Total	\$11,730,000	\$3,170,000	\$6,450,000	\$5,280,000	\$680,000	\$2,490,000	\$400,000	\$280,000	\$350,000	\$1,310,000	\$90,000	\$280,000	\$460,000
Top 13 - Grand Total	\$32,680,000	\$7,170,000	\$17,810,000	\$14,870,000	\$1,490,000	\$5,680,000	\$890,000	\$600,000	\$1,000,000	\$2,290,000	\$200,000	\$780,000	\$1,410,000

Duplicate Technologies

Segments with Duplicate Technologies (Total for 5 priority corridors)

			Capital Subtotals		Operations & Maintenance Subtotals		Maintenance		Operations				
	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)
Cameras	Per camera	43	\$1,075,000	\$645,000	\$55,900	\$43,000	\$34,400	\$21,500	\$23,650	\$0	\$6,450	\$12,900	\$0
Ramp Metered Interchanges	Per metered interchange	25	\$525,000	\$550,000	\$35,000	\$25,000	\$17,500	\$17,500	\$12,500	\$0	\$12,500	\$0	\$0
Ramp Gates	Per gate	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fiber Optic Cable	Per mile	12	\$192,000	\$444,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fiber Optic Cable (Operations & Maintenance Only)	Per mile	23	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Service Patrol	Per mile	29	\$275,500	\$63,800	\$29,000	\$783,000	\$17,400	\$11,600	\$193,343	\$203,000	\$0	\$0	\$386,657
Detectors	Per detector	40	\$360,000	\$200,000	\$8,000	\$8,000	\$5,600	\$2,400	\$4,000	\$0	\$4,000	\$0	\$0
T1 Lines	Each	3	\$3,300	\$300	\$600	\$24,000	\$600	\$0	\$0	\$0	\$0	\$24,000	\$0
Cellular Modems	Each	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total			\$2,430,800	\$1,903,100	\$128,500	\$883,000	\$75,500	\$53,000	\$233,493	\$203,000	\$22,950	\$36,900	\$386,657

Segments with Duplicate Technologies (Total for 8 emerging priority corridors)

			Capital Subtotals		Operations & Maintenance Subtotals		Maintenance		Operations				
	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)
Cameras	Per camera	48	\$1,200,000	\$720,000	\$62,400	\$48,000	\$38,400	\$24,000	\$26,400	\$0	\$7,200	\$14,400	\$0
Ramp Metered Interchanges	Per metered interchange	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ramp Gates	Per gate	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fiber Optic Cable	Per mile	11	\$176,000	\$407,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fiber Optic Cable (Operations & Maintenance Only)	Per mile	115	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Service Patrol	Per mile	6	\$57,000	\$13,200	\$6,000	\$162,000	\$3,600	\$2,400	\$40,002	\$42,000	\$0	\$0	\$79,998
Detectors	Per detector	38	\$342,000	\$190,000	\$7,600	\$7,600	\$5,320	\$2,280	\$3,800	\$0	\$3,800	\$0	\$0
T1 Lines	Each	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cellular Modems	Each	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total			\$1,775,000	\$1,330,200	\$76,000	\$217,600	\$47,320	\$28,680	\$70,202	\$42,000	\$11,000	\$14,400	\$79,998

Badger State Corridor - Cost Summary Table

Region	Highway	Segment Start	Segment End	Segment Length (miles)	Facility Type	Device Type	Deployment Level	Assumptions	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)
NW	IH 94	MM 59 (STH 312)	MM 70 (USH 53)	11	A	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	4	\$36,000	\$20,000	\$56,000	\$800	\$800	\$1,600	\$560	\$240	\$400	\$0	\$400	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	11	\$12,100	\$5,500	\$17,600	\$1,760	\$0	\$1,760	\$1,100	\$660	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	4	\$100,000	\$60,000	\$160,000	\$5,200	\$4,000	\$9,200	\$3,200	\$2,000	\$2,200	\$0	\$600	\$1,200	\$0
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	11	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NW, SW	IH 94	MM 70 (USH 53)	MM 143 (STH 21)	76	B	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	3	\$27,000	\$15,000	\$42,000	\$600	\$600	\$1,200	\$420	\$180	\$300	\$0	\$300	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	76	\$83,600	\$38,000	\$121,600	\$15,200	\$0	\$15,200	\$7,600	\$7,600	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	8	\$200,000	\$120,000	\$320,000	\$10,400	\$8,000	\$18,400	\$6,400	\$4,000	\$4,400	\$0	\$1,200	\$2,400	\$0
						Traffic Flow Management	Low	Ramp gates	Per gate	2	\$18,000	\$18,000	\$36,000	\$4,000	\$0	\$4,000	\$1,600	\$2,400	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	76	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW	IH 94	MM 143 (STH 21)	MM 45 (IH 90)	3	A	Detection	High	Mobile probes, Detectors at site-specific locations	Per detector	2	\$18,000	\$10,000	\$28,000	\$400	\$400	\$800	\$280	\$120	\$200	\$0	\$200	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	3	\$4,800	\$1,500	\$6,300	\$900	\$0	\$900	\$1,200	\$540	\$0	\$0	\$0	\$0	
						Surveillance	High	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	2	\$50,000	\$30,000	\$80,000	\$2,600	\$2,000	\$4,600	\$1,600	\$1,000	\$1,100	\$0	\$300	\$600	\$0
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW	IH 90/94	MM 45 (IH 90)	MM 92 (USH 12 in Lake Delton)	47	B	Detection	High	Mobile probes, Detectors at site-specific locations	Per detector	2	\$18,000	\$10,000	\$28,000	\$400	\$400	\$800	\$280	\$120	\$200	\$0	\$200	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	47	\$75,200	\$23,500	\$98,700	\$14,100	\$0	\$14,100	\$7,050	\$7,050	\$0	\$0	\$0	\$0	
						Surveillance	High	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	6	\$150,000	\$90,000	\$240,000	\$7,800	\$6,000	\$13,800	\$4,800	\$3,000	\$3,300	\$0	\$900	\$1,800	\$0
						Traffic Flow Management	Medium	Ramp gates	Per gate	2	\$18,000	\$18,000	\$36,000	\$4,000	\$0	\$4,000	\$1,600	\$2,400	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	47	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW	IH 90/94	MM 92 (USH 12 in Lake Delton)	MM 115 (Columbia CTH CS)	23	B	Detection	High	Mobile probes, Detectors at site-specific locations	Per detector	2	\$27,000	\$15,000	\$42,000	\$600	\$600	\$1,200	\$420	\$180	\$300	\$0	\$300	\$0	\$0
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	23	\$52,900	\$20,700	\$73,600	\$9,430	\$0	\$9,430	\$5,520	\$3,910	\$0	\$0	\$0	\$0	
						Surveillance	High	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	6	\$150,000	\$90,000	\$240,000	\$7,800	\$6,000	\$13,800	\$4,800	\$3,000	\$3,300	\$0	\$900	\$1,800	\$0
						Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	23	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW	IH 90/39/94	MM 115 (Columbia CTH CS)	MM 132 (USH 51)	17	B	Detection	High	Mobile probes, Detectors at site-specific locations	Per detector	2	\$18,000	\$10,000	\$28,000	\$400	\$400	\$800	\$280	\$120	\$200	\$0	\$200	\$0	\$0
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	17	\$39,100	\$15,300	\$54,400	\$6,970	\$0	\$6,970	\$4,080	\$2,890	\$0	\$0	\$0	\$0	
						Surveillance	High	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	4	\$100,000	\$60,000	\$160,000	\$5,200	\$4,000	\$9,200	\$3,200	\$2,000	\$2,200	\$0	\$600	\$1,200	\$0
						Traffic Flow Management	High	Ramp gates	Per gate	2	\$18,000	\$18,000	\$36,000	\$4,000	\$0	\$4,000	\$1,600	\$2,400	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	17	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW	IH 90/39/94	MM 132 (USH 51)	MM 138 (IH 94)	6	A	Detection	High	No more than 1/2 mile coverage	Per detector	5	\$45,000	\$25,000	\$70,000	\$1,000	\$1,000	\$2,000	\$700	\$300	\$500	\$0	\$500	\$0	\$0
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	6	\$78,000	\$21,000	\$99,000	\$9,480	\$162,000	\$171,480	\$6,000	\$3,480	\$40,002	\$42,000	\$0	\$0	\$79,998
						Surveillance	High	100% camera coverage	Per camera	5	\$125,000	\$75,000	\$200,000	\$6,500	\$5,000	\$11,500	\$4,000	\$2,500	\$2,750	\$0	\$750	\$1,500	\$0
						Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	3	\$63,000	\$66,000	\$129,000	\$4,200	\$3,000	\$7,200	\$2,100	\$1,500	\$0	\$1,500	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW	IH 90/39	MM 138 (IH 94)	MM 142 (USH 12/18)	4	A	Detection	High	No more than 1/2 mile coverage	Per detector	2	\$18,000	\$10,000	\$28,000	\$400	\$400	\$800	\$280	\$120	\$200	\$0	\$200	\$0	\$0
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	4	\$52,000	\$14,000	\$66,000	\$6,320	\$108,000	\$114,320	\$4,000	\$2,320	\$26,668	\$28,000	\$0	\$0	\$53,332
						Surveillance	High	100% camera coverage	Per camera	2	\$50,000	\$30,000	\$80,000	\$2,600	\$2,000	\$4,600	\$1,600	\$1,000	\$1,100	\$0	\$300	\$600	\$0
						Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	4	\$84,000	\$88,000	\$172,000	\$5,600	\$4,000	\$9,600	\$2,800	\$2,800	\$2,000	\$0	\$2,000	\$0	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW	USH 12	IH 90/94	Terrytown Rd.	6	C	Detection	High	Mobile probes, Detectors at site-specific locations	Per detector	2	\$18,000	\$10,000	\$28,000	\$400	\$400	\$800	\$280	\$120	\$200	\$0	\$200	\$0	\$0
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	6	\$7,680	\$2,880	\$10,560	\$2,040	\$0	\$2,040	\$1,596	\$444	\$0	\$0	\$0	\$0	
						Surveillance	High	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	4	\$100,000	\$60,000	\$160,000	\$5,200	\$4,000	\$9,200	\$3,200	\$2,000	\$2,200	\$0	\$600	\$1,200	\$0
						Communications	High	Fiber optic cable	Per mile	6	\$96,000	\$222,000	\$318,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW	USH 12	Terrytown Rd	Ski Hi Road	5	C	Detection	High	Mobile probes, Detectors at site-specific locations	Per detector	4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	5	\$400	\$400	\$800	\$100	\$0	\$100	\$80	\$20	\$0	\$0	\$0	\$0	\$0
						Surveillance	High	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	3	\$75,000	\$45,000	\$120,000	\$3,900	\$3,000	\$6,900	\$2,400	\$1,500	\$1,650	\$0	\$450	\$900	\$0
						Communications	High	Fiber optic cable	Per mile	5	\$80,000	\$185,000	\$265,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW	USH 12	Ski Hi Road	MM 249 (Parmenter St)	29	B	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	1	\$9,000	\$5,000	\$14,000	\$200	\$200	\$400	\$140	\$60	\$100	\$0	\$100	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	29	\$46,400	\$14,500	\$60,900	\$6,700	\$0	\$6,700	\$4,350	\$4,350	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	3	\$75,000	\$45,000	\$120,000	\$3,900	\$3,000	\$6,900	\$2,400	\$1,500	\$1,650	\$0	\$450	\$900	\$0
						Traffic Flow Management	Medium	Ramp gates	Per gate	2	\$18,000	\$18,000	\$36,000	\$4,000	\$0	\$4,000	\$1,600	\$2,400	\$0	\$0	\$0	\$0	
						Communications	Medium	T1 Line	Per unit	3	\$3,300	\$300	\$3,600	\$600	\$24,000	\$24,600	\$600	\$0	\$0	\$0	\$24,000	\$0	
SW	USH 12	MM 249 (Parmenter St)	MM 267 (IH 39/90)	17	A	Detection	High	No more than 1/2 mile coverage	Per detector	16	\$144,000	\$80,000	\$224,000	\$3,200	\$3,200	\$6,400	\$2,240	\$960	\$1,600	\$0	\$1,600	\$0	\$0
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	17	\$221,000	\$59,500	\$280,500	\$26,860	\$459,000	\$485,860	\$17,000	\$9,860	\$113,339	\$119,000	\$0	\$0	\$226,661
						Surveillance	High	100% camera coverage	Per camera	16	\$400,000	\$240,000	\$640,000	\$20,800	\$16,000	\$36,800	\$12,800	\$8,000	\$8,800	\$0	\$2,400	\$4,800	\$0
						Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	15.5	\$325,500	\$341,000	\$666,500	\$21,700	\$15,500	\$37,200	\$10,850	\$7,750	\$0	\$7,750	\$0	\$0	
						Communications	High	Fiber optic cable	Per mile	17	\$272,000	\$629,000	\$901,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW	USH 51	IH 39/90/94	USH 151	4	C	Detection	Low	Mobile probes, Detectors at site-specific locations	Per mile	4	\$0	\$1,600	\$1,600	\$200	\$3,800	\$4,000	\$200	\$0	\$3,800	\$0	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	4	\$320	\$320	\$640	\$80	\$0	\$80	\$64	\$16	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera	N/A	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Baseline	None			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW	USH 51	USH 151	CTH BB	3	A	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	1	\$9,000	\$5,000	\$14,000	\$200	\$200	\$400	\$140	\$60	\$100	\$0	\$100	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	3	\$10,500	\$3,900	\$14,400	\$1,740	\$0	\$1,740	\$1,200	\$540	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	2	\$50,000	\$30,000	\$80,000	\$2,600	\$2,000	\$4,600	\$1,600	\$1,000	\$1,100	\$0	\$300	\$600	\$0
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0</								

Capitol Corridor - Cost Summary Table

Region	Highway	Segment Start	Segment End	Segment Length (miles)	Facility Type	Device Type	Deployment Level	Assumptions	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)		
SW	STH 30	USH 151	IH 39/90	3	A	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	3	\$10,500	\$3,900	\$14,400	\$1,740	\$0	\$1,740	\$1,200	\$540	\$0	\$0	\$0	\$0	\$0		
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0	\$0	
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW	IH 94	MM 240 (IH 39/90)	MM 244 (CTH N)	4	A	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	1	\$9,000	\$5,000	\$14,000	\$200	\$200	\$400	\$140	\$60	\$100	\$0	\$100	\$0	\$0	\$0	
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	4	\$14,000	\$5,200	\$19,200	\$2,320	\$0	\$2,320	\$1,600	\$720	\$0	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0	\$0	
						Traffic Flow Management	Medium	Ramp gates	Per gate	2	\$18,000	\$18,000	\$36,000	\$4,000	\$0	\$4,000	\$1,600	\$2,400	\$0	\$0	\$0	\$0	\$0	\$0	
SW	IH 39/90/94	MM 135 (USH 151)	MM 138 (IH 94)	3	A	Detection	High	Mobile probes, No more than 1/2 mile coverage	Per detector	2	\$18,000	\$10,000	\$28,000	\$400	\$400	\$800	\$280	\$120	\$200	\$0	\$200	\$0	\$0	\$0	
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	3	\$39,000	\$10,500	\$49,500	\$4,740	\$81,000	\$85,740	\$3,000	\$1,740	\$20,001	\$21,000	\$0	\$0	\$0	\$39,999	
						Surveillance	High	100% camera coverage	Per camera	2	\$50,000	\$30,000	\$80,000	\$2,600	\$2,000	\$4,600	\$1,600	\$1,000	\$1,100	\$0	\$300	\$600	\$0	\$0	
						Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	3	\$63,000	\$66,000	\$129,000	\$4,200	\$3,000	\$7,200	\$2,100	\$2,100	\$1,500	\$0	\$1,500	\$0	\$0	\$0	
SW	IH 39/90	MM 138 (IH 94)	MM 142 (USH 12)	4	A	Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	High	Mobile probes, No more than 1/2 mile coverage	Per detector	3	\$27,000	\$15,000	\$42,000	\$600	\$600	\$1,200	\$420	\$180	\$300	\$0	\$300	\$0	\$0	\$0	
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	4	\$52,000	\$14,000	\$66,000	\$6,320	\$108,000	\$114,320	\$4,000	\$2,320	\$26,668	\$28,000	\$0	\$0	\$0	\$53,332	
						Surveillance	High	100% camera coverage	Per camera	3	\$75,000	\$45,000	\$120,000	\$3,900	\$3,000	\$6,900	\$2,400	\$1,500	\$1,650	\$0	\$450	\$900	\$0	\$0	
SW	IH 94	MM 244	MM 254	12	B	Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	4	\$84,000	\$88,000	\$172,000	\$5,600	\$4,000	\$9,600	\$2,800	\$2,800	\$2,000	\$0	\$2,000	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Detection	Low	Mobile probes	Per mile	12	\$0	\$4,800	\$4,800	\$600	\$11,400	\$12,000	\$600	\$0	\$0	\$11,400	\$0	\$0	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	12	\$13,200	\$6,000	\$19,200	\$2,400	\$0	\$2,400	\$1,200	\$1,200	\$0	\$0	\$0	\$0	\$0	\$0	
SW	IH 94	MM 254	MM 259	4	A	Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Medium	T1 Line	Per unit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Detection	Low	Mobile probes	Per mile	4	\$0	\$1,600	\$1,600	\$200	\$3,800	\$4,000	\$200	\$0	\$0	\$3,800	\$0	\$0	\$0	\$0	\$0
SW, SE	IH 94	MM 259 (STH 67)	MM 282 (STH 67)	21	B	Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	4	\$4,400	\$2,000	\$6,400	\$640	\$0	\$640	\$400	\$240	\$0	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Medium	T1 Line	Per unit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SE	IH 94	MM-282 (STH 67)	MM 293 (STH 16)	12	A	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	5	\$45,000	\$25,000	\$70,000	\$1,000	\$1,000	\$2,000	\$700	\$300	\$500	\$0	\$500	\$0	\$0	\$0	
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	12	\$42,000	\$15,600	\$57,600	\$6,960	\$0	\$6,960	\$4,800	\$2,160	\$0	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	5	\$125,000	\$75,000	\$200,000	\$6,500	\$5,000	\$11,500	\$4,000	\$2,500	\$2,750	\$0	\$750	\$1,500	\$0	\$0	
						Traffic Flow Management	Medium	Ramp gates	Per gate	2	\$18,000	\$18,000	\$36,000	\$4,000	\$0	\$4,000	\$1,600	\$2,400	\$0	\$0	\$0	\$0	\$0	\$0	
SE	IH 94	MM 293 (STH 16)	MM 310 (IH 43)	17	A	Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	12	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	High	No more than 1/2 mile coverage	Per detector	14	\$126,000	\$70,000	\$196,000	\$2,800	\$2,800	\$5,600	\$1,960	\$840	\$1,400	\$0	\$1,400	\$0	\$0	\$0	\$0
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	17	\$221,000	\$59,500	\$280,500	\$26,860	\$459,000	\$485,860	\$17,000	\$9,860	\$113,339	\$119,000	\$0	\$0	\$0	\$226,661	
						Surveillance	High	100% camera coverage	Per camera	14	\$350,000	\$210,000	\$560,000	\$18,200	\$14,000	\$32,200	\$11,200	\$7,000	\$7,700	\$0	\$2,100	\$4,200	\$0	\$0	
SW	USH 151	Madison Beltline	IH 39/90/94	10	C	Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	17	\$357,000	\$374,000	\$731,000	\$23,800	\$17,000	\$40,800	\$11,900	\$11,900	\$8,500	\$0	\$8,500	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	17	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Detection	High	Mobile probes, Detectors at site-specific locations	Per detector	2	\$18,000	\$10,000	\$28,000	\$400	\$400	\$800	\$280	\$120	\$200	\$0	\$200	\$0	\$0	\$0	\$0
						Incident Management	Medium	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents	Per mile	10	\$5,800	\$800	\$6,600	\$1,200	\$0	\$1,200	\$660	\$540	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW	USH 151	IH 39/90/94 (Madison)	N. Bristol St (Sun Prairie)	6	A	Surveillance	High	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	2	\$50,000	\$30,000	\$80,000	\$2,600	\$2,000	\$4,600	\$1,600	\$1,000	\$1,100	\$0	\$300	\$600	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	5	\$45,000	\$25,000	\$70,000	\$1,000	\$1,000	\$2,000	\$700	\$300	\$500	\$0	\$500	\$0	\$0	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	6	\$21,000	\$7,800	\$28,800	\$3,480	\$0	\$3,480	\$2,400	\$1,080	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW	STH 19	USH 151	CTH VV	4	C	Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	5	\$125,000	\$75,000	\$200,000	\$6,500	\$5,000	\$11,500	\$4,000	\$2,500	\$2,750	\$0	\$750	\$1,500	\$0	\$0	
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Detection	Low	Mobile probes	Per mile	4	\$0	\$1,600	\$1,600	\$200	\$3,800	\$4,000	\$200	\$0	\$0	\$3,800	\$0	\$0	\$0	\$0	\$0
SW	STH 19	CTH VV	Watertown Municipal Limits	22	C	Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	4	\$320	\$320	\$640	\$80	\$0	\$80	\$64	\$16	\$0	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW	STH 19	Watertown Municipal Limit (East)	STH 16	4	C	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Baseline	Mobile probes	Per mile	4	\$0	\$1,600	\$1,600	\$200	\$3,800	\$4,000	\$200	\$0	\$0	\$3,800	\$0	\$0	\$0	\$0	\$0
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	4	\$320	\$320	\$640	\$80	\$0	\$80	\$64	\$16	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW	STH 16	JCT STH 16 & STH 19	W Wisconsin Ave	8	C	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Low	Mobile probes	Per mile	8	\$0	\$3,200	\$3,200	\$400	\$7,600	\$8,000	\$400	\$0	\$0	\$7,600	\$0	\$0	\$0	\$0	\$0
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	8	\$640	\$640	\$1,280	\$160	\$0	\$160	\$128	\$32	\$0	\$0	\$0	\$			

Region	Highway	Segment Start	Segment End	Segment Length (miles)	Facility Type	Device Type	Deployment Level	Assumptions	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)	
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	5	\$400	\$400	\$800	\$100	\$0	\$100	\$80	\$20	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	STH 16	STH 67	IH 94	15	A	Detection	Baseline	Mobile probes	Per mile	15	\$0	\$6,000	\$6,000	\$750	\$14,250	\$15,000	\$750	\$0	\$0	\$14,250	\$0	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	15	\$16,500	\$7,500	\$24,000	\$2,400	\$0	\$2,400	\$1,500	\$900	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Traffic Flow Management	Baseline	Portable DMS/HAR for major incidents		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Medium	T1 Line	Per unit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	Capitol Dr (STH 190)	STH 16	USH 45	13	C	Detection	Low	Mobile probes	Per mile	13	\$0	\$5,200	\$5,200	\$650	\$12,350	\$13,000	\$650	\$0	\$0	\$12,350	\$0	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	13	\$1,040	\$1,040	\$2,080	\$260	\$0	\$260	\$208	\$52	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	Capitol Dr (STH 190)	USH 45	IH 43	4	C	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	4	\$36,000	\$20,000	\$56,000	\$800	\$800	\$1,600	\$560	\$240	\$400	\$0	\$400	\$0	\$0	
						Incident Management	Medium	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents	Per mile	4	\$2,320	\$320	\$2,640	\$480	\$0	\$480	\$264	\$216	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	4	\$100,000	\$60,000	\$160,000	\$5,200	\$4,000	\$9,200	\$3,200	\$2,000	\$2,200	\$0	\$600	\$1,200	\$0	
						Communications	Medium	T1 Line	Per unit	4	\$4,400	\$400	\$4,800	\$800	\$32,000	\$32,800	\$800	\$0	\$0	\$0	\$0	\$32,000	\$0	
SW	Madison Beltline (USH 18)	MM 258	MM 267	9	A	Detection	High	No more than 1/2 mile coverage	Per detector	8	\$112,000	\$40,000	\$112,000	\$1,600	\$1,600	\$3,200	\$1,120	\$480	\$800	\$0	\$800	\$0	\$0	
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	9	\$117,000	\$31,500	\$148,500	\$14,220	\$243,000	\$257,220	\$9,000	\$5,220	\$60,003	\$63,000	\$0	\$0	\$119,997	
						Surveillance	High	100% camera coverage	Per camera	8	\$200,000	\$120,000	\$320,000	\$10,400	\$8,000	\$18,400	\$6,400	\$4,000	\$4,400	\$0	\$1,200	\$2,400	\$0	
						Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	9	\$189,000	\$198,000	\$387,000	\$12,600	\$9,000	\$21,600	\$6,300	\$6,300	\$4,500	\$0	\$4,500	\$0	\$0	
						Communications	High	Fiber optic cable	Per mile	9	\$144,000	\$333,000	\$477,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW	USH 18	MM 267	MM 272	5	B	Detection	Low	Mobile probes	Per mile	5	\$0	\$2,000	\$2,000	\$250	\$4,750	\$5,000	\$250	\$0	\$0	\$4,750	\$0	\$0	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours	Per mile	5	\$8,000	\$2,500	\$10,500	\$1,500	\$0	\$1,500	\$750	\$750	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0	
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Medium	T1 Line	Per unit	1	\$1,100	\$100	\$1,200	\$200	\$8,000	\$8,200	\$200	\$0	\$0	\$0	\$0	\$8,000	\$0	
SW	USH 18	MM 272	USH 12 & USH 18 (Cambridge)	9	C	Detection	Low	Mobile probes	Per mile	9	\$0	\$3,600	\$3,600	\$450	\$8,550	\$9,000	\$450	\$0	\$0	\$8,550	\$0	\$0	\$0	\$0
						Incident Management	Medium	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents	Per mile	9	\$5,220	\$720	\$5,940	\$1,080	\$0	\$1,080	\$594	\$486	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW	USH 18	USH 12 & USH 18 (Cambridge)	Jefferson Municipal Limits (East)	10	C	Detection	Baseline	Mobile probes	Per mile	10	\$0	\$4,000	\$4,000	\$500	\$9,500	\$10,000	\$500	\$0	\$0	\$9,500	\$0	\$0	\$0	\$0
						Incident Management	Medium	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents	Per mile	10	\$5,800	\$800	\$6,600	\$1,200	\$0	\$1,200	\$660	\$540	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW	USH 18	Jefferson Municipal Limits (West)	Jefferson Municipal Limits (East)	2	C	Detection	Baseline	Mobile probes	Per mile	2	\$0	\$800	\$800	\$100	\$1,900	\$2,000	\$100	\$0	\$0	\$1,900	\$0	\$0	\$0	\$0
						Incident Management	Medium	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents	Per mile	2	\$1,160	\$160	\$1,320	\$240	\$0	\$240	\$132	\$108	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW, SE	USH 18	Jefferson Municipal Limits (East)	CTH BB	14	C	Detection	Baseline	Mobile probes	Per mile	14	\$0	\$5,600	\$5,600	\$700	\$13,300	\$14,000	\$700	\$0	\$0	\$13,300	\$0	\$0	\$0	\$0
						Incident Management	Medium	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents	Per mile	14	\$8,120	\$1,120	\$9,240	\$1,680	\$0	\$1,680	\$924	\$756	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	USH 18	CTH BB	Madison St. (Waukesha)	16	C	Detection	Baseline	Mobile probes	Per mile	16	\$0	\$6,400	\$6,400	\$800	\$15,200	\$16,000	\$800	\$0	\$0	\$15,200	\$0	\$0	\$0	\$0
						Incident Management	Medium	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents	Per mile	16	\$9,280	\$1,280	\$10,560	\$1,920	\$0	\$1,920	\$1,056	\$864	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	USH 18	Madison St. (Waukesha)	IH 43/94	17	C	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	6	\$54,000	\$30,000	\$84,000	\$1,200	\$1,200	\$2,400	\$840	\$360	\$600	\$0	\$600	\$0	\$0	
						Incident Management	Medium	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents	Per mile	17	\$9,860	\$1,360	\$11,220	\$2,040	\$0	\$2,040	\$1,122	\$918	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0	
						Communications	Low	Cellular Modem	Per unit	6	\$6,000	\$600	\$6,600	\$360	\$2,880	\$3,240	\$360	\$0	\$0	\$0	\$0	\$2,880	\$0	
SE	STH 59	Madison St. (Waukesha)	I-894 (USH 45)	10	C	Detection	Low	Mobile probes	Per mile	10	\$0	\$4,000	\$4,000	\$500	\$9,500	\$10,000	\$500	\$0	\$0	\$9,500	\$0	\$0	\$0	\$0
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	10	\$800	\$800	\$1,600	\$200	\$0	\$200	\$160	\$40	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	STH 59	I-894 (USH 45)	IH 43	6	C	Detection	High	Mobile probes, Detectors at site-specific locations	Per detector	6	\$54,000	\$30,000	\$84,000	\$1,200	\$1,200	\$2,400	\$840	\$360	\$600	\$0	\$600	\$0	\$0	
						Incident Management	High	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	6	\$7,680	\$2,880	\$10,560	\$2,040	\$0	\$2,040	\$1,596	\$444	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	High	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	6	\$150,000	\$90,000	\$240,000	\$7,800	\$6,000	\$13,800	\$4,800	\$3,000	\$3,300	\$0	\$900	\$1,800	\$0	
						Communications	High	Fiber optic cable	Per mile	6	\$96,000	\$222,000	\$318,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

\$3,453,920	\$2,654,120	\$6,108,040	\$235,740	\$1,212,380	\$1,448,120	\$144,014	\$91,726	\$271,261	\$396,300	\$30,050	\$74,780	\$439,989
Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)

Chippewa Valley Corridor - Cost Summary Table

Region	Highway	Segment Start	Segment End	Segment Length (miles)	Facility Type	Device Type	Deployment Level	Assumptions	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)
NW	IH 94	MM 0 Minnesota State Line	MM 3 (STH 35)	3	A	Detection	High	No more than 1/2 mile coverage	Per detector	3	\$27,000	\$15,000	\$42,000	\$600	\$600	\$1,200	\$420	\$180	\$300	\$0	\$300	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	3	\$10,500	\$3,900	\$14,400	\$1,740	\$0	\$1,740	\$1,200	\$540	\$0	\$0	\$0	\$0	\$0
						Surveillance	High	100% camera coverage	Per camera	3	\$75,000	\$45,000	\$120,000	\$3,900	\$3,000	\$6,900	\$2,400	\$1,500	\$1,650	\$0	\$450	\$900	\$0
						Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	3	\$63,000	\$66,000	\$129,000	\$4,200	\$3,000	\$7,200	\$2,100	\$2,100	\$1,500	\$0	\$1,500	\$0	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NW	IH 94	MM 3 (STH 35)	MM 19 (USH 63)	16	B	Detection	High	Mobile probes, Detectors at site-specific locations	Per detector	4	\$36,000	\$20,000	\$56,000	\$800	\$800	\$1,600	\$560	\$240	\$400	\$0	\$400	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	16	\$25,600	\$8,000	\$33,600	\$4,800	\$0	\$4,800	\$2,400	\$2,400	\$0	\$0	\$0	\$0	\$0
						Surveillance	High	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	4	\$100,000	\$60,000	\$160,000	\$5,200	\$4,000	\$9,200	\$3,200	\$2,000	\$2,200	\$0	\$600	\$1,200	\$0
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	16	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NW	IH 94	MM 19 (USH 63)	MM 41 (STH 25)	22	B	Detection	Low	Mobile probes	Per mile	22	\$0	\$8,800	\$8,800	\$1,100	\$20,900	\$22,000	\$1,100	\$0	\$0	\$20,900	\$0	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	22	\$35,200	\$11,000	\$46,200	\$6,600	\$0	\$6,600	\$3,300	\$3,300	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	4	\$100,000	\$60,000	\$160,000	\$5,200	\$4,000	\$9,200	\$3,200	\$2,000	\$2,200	\$0	\$600	\$1,200	\$0
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	22	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NW	IH 94	MM 41 (STH 25)	MM 45 (Dunn CTH B)	4	A	Detection	Low	Mobile probes	Per mile	4	\$0	\$1,600	\$1,600	\$200	\$3,800	\$4,000	\$200	\$0	\$0	\$3,800	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	4	\$4,400	\$2,000	\$6,400	\$640	\$0	\$640	\$400	\$240	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NW	IH 94	MM 45 (Dunn CTH B)	MM 59 (STH 312)	14	B	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	1	\$9,000	\$5,000	\$14,000	\$200	\$200	\$400	\$140	\$60	\$100	\$0	\$100	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	14	\$22,400	\$7,000	\$29,400	\$4,200	\$0	\$4,200	\$2,100	\$2,100	\$0	\$0	\$0	\$0	\$0
						Surveillance	High	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0
						Traffic Flow Management	Medium	Ramp gates	Per gate	2	\$18,000	\$18,000	\$36,000	\$4,000	\$0	\$4,000	\$1,600	\$2,400	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	14	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NW	IH 94	MM 59 (STH 312)	MM 70 (USH 53)	11	A	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	4	\$36,000	\$20,000	\$56,000	\$800	\$800	\$1,600	\$560	\$240	\$400	\$0	\$400	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	11	\$12,100	\$5,500	\$17,600	\$1,760	\$0	\$1,760	\$1,100	\$660	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	4	\$100,000	\$60,000	\$160,000	\$5,200	\$4,000	\$9,200	\$3,200	\$2,000	\$2,200	\$0	\$600	\$1,200	\$0
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	11	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NW	USH 12	IH 94	S Jct USH 63 (Baldwin)	18	C	Detection	Baseline	Mobile probes	Per mile	18	\$0	\$7,200	\$7,200	\$900	\$17,100	\$18,000	\$900	\$0	\$0	\$17,100	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	18	\$1,440	\$1,440	\$2,880	\$360	\$0	\$360	\$288	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NW	USH 12	S Jct USH 63 (Baldwin)	W Jct STH 29 (Menomonie)	25	C	Detection	Baseline	Mobile probes	Per mile	25	\$0	\$10,000	\$10,000	\$1,250	\$23,750	\$25,000	\$1,250	\$0	\$0	\$23,750	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	25	\$2,000	\$2,000	\$4,000	\$500	\$0	\$500	\$400	\$100	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NW	USH 12	E Jct STH 29 (Near Elk Mound)	W Jct STH 312 (Eau Claire)	7	C	Detection	Baseline	Mobile probes	Per mile	7	\$0	\$2,800	\$2,800	\$350	\$6,650	\$7,000	\$350	\$0	\$0	\$6,650	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	7	\$560	\$560	\$1,120	\$140	\$0	\$140	\$112	\$28	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NW	USH 12	W Jct STH 312 (Eau Claire)	USH 53 (Eau Claire / Altoona)	10	A	Detection	Low	Mobile probes	Per mile	10	\$0	\$4,000	\$4,000	\$500	\$9,500	\$10,000	\$500	\$0	\$0	\$9,500	\$0	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	10	\$35,000	\$13,000	\$48,000	\$5,800	\$0	\$5,800	\$4,000	\$1,800	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	3	\$75,000	\$45,000	\$120,000	\$3,900	\$3,000	\$6,900	\$2,400	\$1,500	\$1,650	\$0	\$450	\$900	\$0
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Medium	T1 Line	Per unit	3	\$3,300	\$300	\$3,600	\$600	\$24,000	\$24,600	\$600	\$0	\$0	\$0	\$0	\$24,000	\$0
NW	STH 35	IH 94	STH 65 (River Falls)	7	B	Detection	Baseline	Mobile probes	Per mile	7	\$0	\$2,800	\$2,800	\$350	\$6,650	\$7,000	\$350	\$0	\$0	\$6,650	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	7	\$560	\$560	\$1,120	\$140	\$0	\$140	\$112	\$28	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Traffic Flow Management	Baseline	Portable DMS/HAR for major incidents		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NW	STH 35	STH 65 (River Falls)	STH 29 (River Falls)	2	C	Detection	Baseline	Mobile probes	Per mile	2	\$0	\$800	\$800	\$100	\$1,900	\$2,000	\$100	\$0	\$0	\$1,900	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	2	\$160	\$160	\$320	\$40	\$0	\$40	\$32	\$8	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NW	STH 29	STH 35 (River Falls)	West city limits of Menomonie	35	C	Detection	Baseline	Mobile probes	Per mile	35	\$0	\$14,000	\$14,000	\$1,750	\$33,250	\$35,000	\$1,750	\$0	\$0	\$33,250	\$0	\$0	\$0
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	35	\$2,800	\$2,800	\$5,600	\$700	\$0	\$700	\$560	\$140	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NW	STH 29	West city limits of Menomonie	East city limits of Menomonie	6	C	Detection	Baseline	Mobile probes	Per mile	6	\$0	\$2,400	\$2,400	\$300	\$5,700	\$6,000	\$300	\$0	\$0	\$5,700	\$0	\$0	\$0
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	6	\$480	\$480	\$960	\$120	\$0	\$120	\$96	\$24	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Medium	T1 Line	Per unit	6	\$6,600	\$600	\$7,200	\$1,200	\$48,000	\$49,200	\$1,200	\$0	\$0	\$0	\$0	\$48,000	\$0
NW	STH 29	East city limits of Menomonie	IH 94 (Near Elk Mound)	6	C	Detection	Baseline	Mobile probes	Per mile	6	\$0	\$2,400	\$2,400	\$300	\$5,700	\$6,000	\$300	\$0	\$0	\$5,700	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	6	\$480	\$480	\$960	\$120	\$0	\$120	\$96	\$24	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NW	STH 29	IH 94 (Near Elk Mound)	USH 53 (Eau Claire / Chippewa Falls)	16	B	Detection	Baseline	Mobile probes	Per mile	16	\$0	\$6,400	\$6,400	\$800	\$15,200	\$16,000	\$800	\$0	\$0	\$15,200	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	16	\$17,600	\$8,000	\$25,600	\$3,200	\$0	\$3,200	\$1,600	\$1,600	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific															

Region	Highway	Segment Start	Segment End	Segment Length (miles)	Facility Type	Device Type	Deployment Level	Assumptions	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)
		(Eau Claire / Chippewa Falls)	(Near Lake Wissota)			Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	9	\$31,500	\$11,700	\$43,200	\$5,220	\$0	\$5,220	\$3,600	\$1,620	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	3	\$75,000	\$45,000	\$120,000	\$3,900	\$3,000	\$6,900	\$2,400	\$1,500	\$1,650	\$0	\$450	\$900	\$0
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Medium	T1 Line	Per unit	3	\$3,300	\$300	\$3,600	\$600	\$24,000	\$24,600	\$600	\$0	\$0	\$0	\$0	\$24,000	\$0
NW	STH 312	E Jct USH 12 (Eau Claire)	USH 53 (Eau Claire)	5	A	Detection	Baseline	Mobile probes	Per mile	5	\$0	\$2,000	\$2,000	\$250	\$4,750	\$5,000	\$250	\$0	\$0	\$4,750	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	5	\$400	\$400	\$800	\$100	\$0	\$100	\$80	\$20	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Traffic Flow Management	Baseline	Portable DMS/HAR for major incidents		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NW	STH 124	USH 53 (Eau Claire / Chippewa Falls)	Park Avenue (Chippewa Falls)	4	A	Detection	Low	Mobile probes	Per mile	4	\$0	\$1,600	\$1,600	\$200	\$3,800	\$4,000	\$200	\$0	\$0	\$3,800	\$0	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	4	\$14,000	\$5,200	\$19,200	\$2,320	\$0	\$2,320	\$1,600	\$720	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Medium	T1 Line	Per unit	1	\$1,100	\$100	\$1,200	\$200	\$8,000	\$8,200	\$200	\$0	\$0	\$0	\$0	\$8,000	\$0
NW	USH 53	IH 94 (Eau Claire)	STH 29 (Eau Claire / Chippewa Falls)	11	A	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	7	\$63,000	\$35,000	\$98,000	\$1,400	\$1,400	\$2,800	\$980	\$420	\$700	\$0	\$700	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	11	\$38,500	\$14,300	\$52,800	\$6,380	\$0	\$6,380	\$4,400	\$1,980	\$0	\$0	\$0	\$0	\$0
						Surveillance	High	100% camera coverage	Per camera	7	\$175,000	\$105,000	\$280,000	\$9,100	\$7,000	\$16,100	\$5,600	\$3,500	\$3,850	\$0	\$1,050	\$2,100	\$0
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable	Per mile	11	\$176,000	\$407,000	\$583,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

\$1,472,980	\$1,221,180	\$2,694,160	\$108,580	\$309,000	\$417,580	\$70,036	\$38,544	\$20,450	\$167,200	\$8,050	\$113,300	\$0
Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)

Cornish Heritage Corridor - Cost Summary Table

Region	Highway	Segment Start	Segment End	Segment Length (miles)	Facility Type	Device Type	Deployment Level	Assumptions	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)	
SW	USH 151	Iowa state line	N Jct USH 61 (South of Dickeyville)	8	B	Detection	Baseline	Mobile probes	Per mile	8	\$0	\$3,200	\$3,200	\$400	\$7,600	\$8,000	\$400	\$0	\$0	\$7,600	\$0	\$0	\$0	
						Incident Management	Baseline	Reference markers	Per mile	8	\$640	\$640	\$1,280	\$160	\$0	\$160	\$128	\$32	\$0	\$0	\$0	\$0		
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Traffic Flow Management	Baseline	Portable DMS/HAR for major incidents		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
SW	USH 151	N Jct USH 61 (South of Dickeyville)	N Jct STH 23 (South of Dodgeville)	36	B	Detection	Baseline	Mobile probes	Per mile	36	\$0	\$14,400	\$14,400	\$1,800	\$34,200	\$36,000	\$1,800	\$0	\$0	\$34,200	\$0	\$0	\$0	
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	36	\$39,600	\$18,000	\$57,600	\$7,200	\$0	\$7,200	\$3,600	\$3,600	\$0	\$0	\$0	\$0		
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Traffic Flow Management	Baseline	Portable DMS/HAR for major incidents		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
SW	USH 151	N Jct STH 23 (South of Dodgeville)	W Jct USH 18 (East of Dodgeville)	3	A	Detection	Baseline	Mobile probes	Per mile	3	\$0	\$1,200	\$1,200	\$150	\$2,850	\$3,000	\$150	\$0	\$0	\$2,850	\$0	\$0	\$0	
						Incident Management	Baseline	Reference markers	Per mile	3	\$240	\$240	\$480	\$60	\$0	\$60	\$48	\$12	\$0	\$0	\$0	\$0		
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Traffic Flow Management	Baseline	Portable DMS/HAR for major incidents		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
SW	USH 151	W Jct USH 18 (East of Dodgeville)	W Jct Verona Avenue (West of Verona)	29	B	Detection	Baseline	Mobile probes	Per mile	29	\$0	\$11,600	\$11,600	\$1,450	\$27,550	\$29,000	\$1,450	\$0	\$0	\$27,550	\$0	\$0	\$0	
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	29	\$31,900	\$14,500	\$46,400	\$5,800	\$0	\$5,800	\$2,900	\$2,900	\$0	\$0	\$0	\$0		
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Traffic Flow Management	Baseline	Ramp gates	Per gate	2	\$18,000	\$18,000	\$36,000	\$4,000	\$0	\$4,000	\$1,600	\$2,400	\$0	\$0	\$0	\$0		
SW	USH 151	W Jct Verona Avenue (West of Verona)	Dane CTH PD (Fitchburg)	7	A	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	4	\$36,000	\$20,000	\$56,000	\$800	\$800	\$1,600	\$560	\$240	\$400	\$0	\$400	\$0	\$0	
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	7	\$24,500	\$9,100	\$33,600	\$4,060	\$0	\$4,060	\$2,800	\$1,260	\$0	\$0	\$0	\$0		
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	4	\$100,000	\$60,000	\$160,000	\$5,200	\$4,000	\$9,200	\$3,200	\$2,000	\$2,200	\$0	\$600	\$1,200	\$0	
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
SW	USH 151	Dane CTH PD (Beltline Highway) (Fitchburg)	W Jct USH 12 (Beltline Highway) (Madison)	2	A	Communications	High	Fiber optic cable	Per mile	7	\$112,000	\$259,000	\$371,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	1	\$9,000	\$5,000	\$14,000	\$200	\$200	\$400	\$140	\$60	\$100	\$0	\$100	\$0	\$0	
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	2	\$7,000	\$2,600	\$9,600	\$1,160	\$0	\$1,160	\$800	\$360	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0	
SW	USH 151	E Jct USH 12 (Beltline Highway) (Madison)	IH 39/90/94 (Madison)	10	C	Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Detection	High	Mobile probes, Detectors at site-specific locations	Per detector	4	\$36,000	\$20,000	\$56,000	\$800	\$800	\$1,600	\$560	\$240	\$400	\$0	\$400	\$0	\$0	
						Incident Management	Medium	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents	Per mile	10	\$5,800	\$800	\$6,600	\$1,200	\$0	\$1,200	\$660	\$540	\$0	\$0	\$0	\$0	\$0	
SW	USH 151	IH 39/90/94 (Madison)	N Bristol St (Sun Prairie)	6	A	Surveillance	High	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	4	\$100,000	\$60,000	\$160,000	\$5,200	\$4,000	\$9,200	\$3,200	\$2,000	\$2,200	\$0	\$600	\$1,200	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	5	\$45,000	\$25,000	\$70,000	\$1,000	\$1,000	\$2,000	\$700	\$300	\$500	\$0	\$500	\$0	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	6	\$21,000	\$7,800	\$28,800	\$3,480	\$0	\$3,480	\$2,400	\$1,080	\$0	\$0	\$0	\$0	\$0	
SW	USH 151	N Bristol St (Sun Prairie)	Madison Street (South of Beaver Dam)	26	B	Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	5	\$125,000	\$75,000	\$200,000	\$6,500	\$5,000	\$11,500	\$4,000	\$2,500	\$2,750	\$0	\$750	\$1,500	\$0	
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Detection	Low	Mobile probes	Per mile		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW	USH 151	N Bristol St (Sun Prairie)	Madison Street (South of Beaver Dam)	26	B	Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	26	\$28,600	\$13,000	\$41,600	\$5,200	\$0	\$5,200	\$2,600	\$2,600	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Traffic Flow Management	Baseline	Ramp gates	Per gate	2	\$18,000	\$18,000	\$36,000	\$4,000	\$0	\$4,000	\$1,600	\$2,400	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	26	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
											\$783,280	\$672,080	\$1,455,360	\$61,120	\$89,000	\$150,120	\$36,096	\$25,024	\$9,100	\$72,200	\$3,500	\$4,200	\$0	
											Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)	

Fox Valley Corridor - Cost Summary Table

Region	Highway	Segment Start	Segment End	Segment Length (miles)	Facility Type	Device Type	Deployment Level	Assumptions	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)	
NE	USH 41	IH 43 (Howard)	STH 29 (Howard)	2	A	Detection	High	No more than 1/2 mile coverage	Per detector	3	\$27,000	\$15,000	\$42,000	\$600	\$600	\$1,200	\$420	\$180	\$300	\$0	\$300	\$0	\$0	
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	2	\$26,000	\$7,000	\$33,000	\$3,160	\$54,000	\$57,160	\$2,000	\$1,160	\$13,334	\$14,000	\$0	\$0	\$26,666	
						Surveillance	High	100% camera coverage	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0	
						Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	2	\$42,000	\$44,000	\$86,000	\$2,800	\$2,000	\$4,800	\$1,400	\$1,400	\$1,000	\$0	\$1,000	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
NE	USH 41	STH 29 (Howard)	STH 172 (Ashwaubenon)	4	A	Detection	High	No more than 1/2 mile coverage	Per detector	5	\$45,000	\$25,000	\$70,000	\$1,000	\$1,000	\$2,000	\$700	\$300	\$500	\$0	\$500	\$0	\$0	
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	4	\$52,000	\$14,000	\$66,000	\$6,320	\$108,000	\$114,320	\$4,000	\$2,320	\$26,668	\$28,000	\$0	\$0	\$53,332	
						Surveillance	High	100% camera coverage	Per camera	4	\$100,000	\$60,000	\$160,000	\$5,200	\$4,000	\$9,200	\$3,200	\$2,000	\$2,200	\$0	\$600	\$1,200	\$0	
						Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	4	\$84,000	\$88,000	\$172,000	\$5,600	\$4,000	\$9,600	\$2,800	\$2,800	\$2,000	\$0	\$2,000	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NE	USH 41	STH 172 (Ashwaubenon)	Southern limits of De Pere	5	A	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	5	\$45,000	\$25,000	\$70,000	\$1,000	\$1,000	\$2,000	\$700	\$300	\$500	\$0	\$500	\$0	\$0	
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	5	\$17,500	\$6,500	\$24,000	\$2,900	\$0	\$2,900	\$2,000	\$900	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	3	\$75,000	\$45,000	\$120,000	\$3,900	\$3,000	\$6,900	\$2,400	\$1,500	\$1,650	\$0	\$450	\$900	\$0	
						Traffic Flow Management	Low	Ramp gates	Per gate	2	\$18,000	\$18,000	\$36,000	\$4,000	\$0	\$4,000	\$1,600	\$2,400	\$0	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NE	USH 41	Southern limits of De Pere	NE Jct STH 441 (Appleton)	15	B	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	8	\$72,000	\$40,000	\$112,000	\$1,600	\$1,600	\$3,200	\$1,120	\$480	\$800	\$0	\$800	\$0	\$0	
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	15	\$24,000	\$7,500	\$31,500	\$4,500	\$0	\$4,500	\$2,250	\$2,250	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	5	\$125,000	\$75,000	\$200,000	\$6,500	\$5,000	\$11,500	\$4,000	\$2,500	\$2,750	\$0	\$750	\$1,500	\$0	
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable	Per gate	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	15	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NE	USH 41	NE Jct STH 441 (Appleton)	SW Jct STH 441	11	A	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	10	\$90,000	\$50,000	\$140,000	\$2,000	\$2,000	\$4,000	\$1,400	\$600	\$1,000	\$0	\$1,000	\$0	\$0	
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	11	\$12,100	\$5,500	\$17,600	\$1,760	\$0	\$1,760	\$1,100	\$660	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	9	\$225,000	\$135,000	\$360,000	\$11,700	\$9,000	\$20,700	\$7,200	\$4,500	\$4,950	\$0	\$1,350	\$2,700	\$0	
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective	Per gate	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	11	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NE	STH 441	NE Jct USH 41 (Appleton)	SW Jct USH 41	10	A	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	7	\$63,000	\$35,000	\$98,000	\$1,400	\$1,400	\$2,800	\$980	\$420	\$700	\$0	\$700	\$0	\$0	
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	10	\$11,000	\$5,000	\$16,000	\$1,600	\$0	\$1,600	\$1,000	\$600	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	7	\$175,000	\$105,000	\$280,000	\$9,100	\$7,000	\$16,100	\$5,600	\$3,500	\$3,850	\$0	\$1,050	\$2,100	\$0	
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective	Per gate	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Medium	T1 Line	Per unit	7	\$7,700	\$700	\$8,400	\$1,400	\$56,000	\$57,400	\$1,400	\$0	\$0	\$0	\$0	\$56,000	\$0	
NE	USH 41	SW Jct STH 441 (Oshkosh)	Southern limits of Neenah	6	A	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	4	\$36,000	\$20,000	\$56,000	\$800	\$800	\$1,600	\$560	\$240	\$400	\$0	\$400	\$0	\$0	
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	6	\$6,600	\$3,000	\$9,600	\$960	\$0	\$960	\$600	\$360	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	4	\$100,000	\$60,000	\$160,000	\$5,200	\$4,000	\$9,200	\$3,200	\$2,000	\$2,200	\$0	\$600	\$1,200	\$0	
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective	Per gate	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NE	USH 41	Southern limits of Neenah	STH 44 (Oshkosh)	12	A	Detection	Low	Mobile probes	Per mile	12	\$0	\$4,800	\$4,800	\$600	\$11,400	\$12,000	\$600	\$0	\$0	\$11,400	\$0	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	12	\$13,200	\$6,000	\$19,200	\$1,920	\$0	\$1,920	\$1,200	\$720	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	6	\$150,000	\$90,000	\$240,000	\$7,800	\$6,000	\$13,800	\$4,800	\$3,000	\$3,300	\$0	\$900	\$1,800	\$0	
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective	Per gate	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	12	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NE	USH 41	STH 44 (Oshkosh)	Fond Du Lac CTH N (North Fond Du Lac)	10	B	Detection	Baseline	Mobile probes	Per mile	10	\$0	\$4,000	\$4,000	\$500	\$9,500	\$10,000	\$500	\$0	\$9,500	\$0	\$0	\$0	\$0	
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	10	\$11,000	\$5,000	\$16,000	\$2,000	\$0	\$2,000	\$1,000	\$1,000	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0	
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable	Per gate	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Medium	T1 Line	Per unit	1	\$1,100	\$100	\$1,200	\$200	\$8,000	\$8,200	\$200	\$0	\$0	\$0	\$8,000	\$0	\$0	
NE	USH 41	Fond Du Lac CTH N (North Fond Du Lac)	Winnebago St. (Fond Du Lac)	5	B	Detection	Baseline	Mobile probes	Per mile	5	\$0	\$2,000	\$2,000	\$250	\$4,750	\$5,000	\$250	\$0	\$0	\$4,750	\$0	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	5	\$5,500	\$2,500	\$8,000	\$1,000	\$0	\$1,000	\$500	\$500	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable	Per gate	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Medium	T1 Line	Per unit	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NE	USH 41	Winnebago St. (North Fond Du Lac)	S Jct USH 151 (Fond Du Lac)	6	A	Detection	Baseline	Mobile probes	Per mile	6	\$0	\$2,400	\$2,400	\$300	\$5,700	\$6,000	\$300	\$0	\$0	\$5,700	\$0	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	6	\$6,600	\$3,000	\$9,600	\$960	\$0	\$960	\$600	\$360	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera	2	\$50,000	\$30,000	\$80,000	\$2,600	\$2,000	\$4,600	\$1,600	\$1,000	\$1,100	\$0	\$300	\$600	\$0	
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective	Per gate	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Medium	T1 Line	Per unit	2	\$2,200	\$200	\$2,400	\$400	\$16,000	\$16,400	\$400	\$0	\$0	\$0	\$0	\$16,000	\$0	
NE, SW, SE	USH 41	S Jct USH 151 (Fond Du Lac)	STH 100 (Menomonee Falls)	45	B	Detection	Baseline	Mobile probes	Per mile	45	\$0	\$18,000	\$18,000	\$2,250	\$42,750	\$45,000	\$2,250	\$0	\$42,750	\$0	\$0	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	45	\$49,500	\$22,500	\$72,000	\$9,000	\$0	\$9,000	\$4,500	\$4,500	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0	
						Traffic Flow Management	Low	Ramp gates	Per gate	2	\$18,000	\$18,000	\$36,000	\$4,000	\$0	\$4,000	\$1,600	\$2,400	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Medium	T1 Line	Per unit	1	\$1,100	\$100	\$1,200	\$200	\$8,000	\$8,200	\$200	\$0	\$0	\$0	\$8,000	\$0	\$0	\$0
SE	USH 41/45	STH 100 (Milwaukee Metro Area)	STH 145 (Menomonee Falls)	2	A	Detection	Low																	

Region	Highway	Segment Start	Segment End	Segment Length (miles)	Facility Type	Device Type	Deployment Level	Assumptions	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)
		(Milwaukee Metro Area)	(Milwaukee Metro Area)			Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	10	\$35,000	\$13,000	\$48,000	\$5,800	\$0	\$5,800	\$4,000	\$1,800	\$0	\$0	\$0	\$0	\$0
						Surveillance	High	100% camera coverage	Per camera	11	\$275,000	\$165,000	\$440,000	\$14,300	\$11,000	\$25,300	\$8,800	\$5,500	\$6,050	\$0	\$1,650	\$3,300	\$0
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable	Per mile	10	\$160,000	\$370,000	\$530,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NE	STH 23	USH 41 (Fond Du Lac)	USH 45 (Fond Du Lac)	2	C	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Incident Management	Medium	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents	Per mile	2	\$1,160	\$160	\$1,320	\$240	\$0	\$240	\$132	\$108	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Medium	T1 Line	Per unit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NE	USH 45	STH 23	Fond Du Lac CTH Y (East of Campbellsport)	20	C	Detection	Baseline	Mobile probes	Per mile	20	\$0	\$8,000	\$8,000	\$1,000	\$19,000	\$20,000	\$1,000	\$0	\$0	\$19,000	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	20	\$1,600	\$1,600	\$3,200	\$400	\$0	\$400	\$320	\$80	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NE, SE	USH 45	Fond Du Lac CTH Y (East of Campbellsport)	Northern limits of Kewaskum	4	C	Detection	Low	Mobile probes	Per mile	4	\$0	\$1,600	\$1,600	\$200	\$3,800	\$4,000	\$200	\$0	\$0	\$3,800	\$0	\$0	\$0
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	4	\$320	\$320	\$640	\$80	\$0	\$80	\$64	\$16	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Medium	T1 Line	Per unit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SE	USH 45	Northern limits of Kewaskum	Southern limits of Kewaskum	2	C	Detection	Baseline	Mobile probes	Per mile	2	\$0	\$800	\$800	\$100	\$1,900	\$2,000	\$100	\$0	\$0	\$1,900	\$0	\$0	\$0
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	2	\$160	\$160	\$320	\$40	\$0	\$40	\$32	\$8	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Medium	T1 Line	Per unit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SE	USH 45	Southern limits of Kewaskum	Washington CTH D (Near West Bend)	4	C	Detection	Low	Mobile probes	Per mile	4	\$0	\$1,600	\$1,600	\$200	\$3,800	\$4,000	\$200	\$0	\$0	\$3,800	\$0	\$0	\$0
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	4	\$320	\$320	\$640	\$80	\$0	\$80	\$64	\$16	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Medium	T1 Line	Per unit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SE	USH 45	Washington CTH D (Near West Bend)	USH 41 (Near Germantown)	14	B	Detection	Baseline	Mobile probes	Per mile	14	\$0	\$5,600	\$5,600	\$700	\$13,300	\$14,000	\$700	\$0	\$0	\$13,300	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	14	\$1,120	\$1,120	\$2,240	\$280	\$0	\$280	\$224	\$56	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Traffic Flow Management	Baseline	Portable DMS/HAR for major incidents	N/A	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

\$2,464,080	\$1,783,980	\$4,248,060	\$150,420	\$447,400	\$597,820	\$93,206	\$57,214	\$78,552	\$159,800	\$16,550	\$112,500	\$79,998
Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)

Glacial Plains Corridor - Cost Summary Table

Region	Highway	Segment Start	Segment End	Segment Length (miles)	Facility Type	Device Type	Deployment Level	Assumptions	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)		
SW	IH 43	IH 39/90	S Schroeder Rd	3	A	Detection	Baseline	Mobile probes	Per mile	3	\$0	\$1,200	\$1,200	\$150	\$2,850	\$3,000	\$150	\$0	\$0	\$2,850	\$0	\$0	\$0		
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	3	\$3,300	\$1,500	\$4,800	\$480	\$0	\$480	\$300	\$180	\$0	\$0	\$0	\$0			
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0			
						Traffic Flow Management	Baseline	Ramp gates	Per gate	2	\$18,000	\$0	\$0	\$0	\$0	\$0	\$1,600	\$2,400	\$0	\$0	\$0	\$0			
SW, SE	IH 43	S Schroeder Rd	USH 14	11	B	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Baseline	Mobile probes	Per mile	11	\$0	\$4,400	\$4,400	\$550	\$10,450	\$11,000	\$550	\$0	\$0	\$10,450	\$0	\$0	\$0		
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	11	\$12,100	\$5,500	\$17,600	\$2,200	\$0	\$2,200	\$1,100	\$1,100	\$1,100	\$0	\$0	\$0	\$0		
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
SE	IH 43	USH 14	MM 21 (STH 50)	7	A	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Baseline	Mobile probes	Per mile	7	\$0	\$2,800	\$2,800	\$350	\$6,650	\$7,000	\$350	\$0	\$0	\$6,650	\$0	\$0	\$0		
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	7	\$7,700	\$3,500	\$11,200	\$1,120	\$0	\$1,120	\$700	\$420	\$420	\$0	\$0	\$0	\$0		
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
SE	IH 43	MM 21 (STH 50)	STH 67	3	B	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Baseline	Mobile probes	Per mile	3	\$0	\$1,200	\$1,200	\$150	\$2,850	\$3,000	\$150	\$0	\$0	\$2,850	\$0	\$0	\$0		
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
SE	IH 43	STH 67	USH 12	2	A	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Low	Mobile probes	Per mile	2	\$0	\$800	\$800	\$100	\$1,900	\$2,000	\$100	\$0	\$0	\$1,900	\$0	\$0	\$0		
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	2	\$2,200	\$1,000	\$3,200	\$320	\$0	\$320	\$200	\$120	\$120	\$0	\$0	\$0	\$0		
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
SE	IH 43	USH 12	STH 120	9	B	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Baseline	Mobile probes	Per mile	9	\$0	\$3,600	\$3,600	\$450	\$8,550	\$9,000	\$450	\$0	\$0	\$8,550	\$0	\$0	\$0		
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	9	\$9,900	\$4,500	\$14,400	\$1,800	\$0	\$1,800	\$900	\$900	\$900	\$0	\$0	\$0	\$0		
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
SE	IH 43	STH 120	STH 164	14	A	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Baseline	Mobile probes	Per mile	14	\$0	\$5,600	\$5,600	\$700	\$13,300	\$14,000	\$700	\$0	\$0	\$13,300	\$0	\$0	\$0		
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	14	\$15,400	\$7,000	\$22,400	\$2,240	\$0	\$2,240	\$1,400	\$840	\$840	\$0	\$0	\$0	\$0		
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
SE	IH 43	STH 164	CTH Y	4	A	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Low	Mobile probes	Per mile	4	\$0	\$1,600	\$1,600	\$200	\$3,800	\$4,000	\$200	\$0	\$0	\$3,800	\$0	\$0	\$0		
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	4	\$4,400	\$2,000	\$6,400	\$640	\$0	\$640	\$400	\$240	\$240	\$0	\$0	\$0	\$0		
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0		
SE	IH 43	CTH Y	MM 59 Milwaukee / Waukeshaw County Line	5	A	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	2	\$18,000	\$10,000	\$28,000	\$400	\$400	\$800	\$280	\$120	\$200	\$0	\$200	\$0	\$0		
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	5	\$17,500	\$6,500	\$24,000	\$2,900	\$0	\$2,900	\$2,000	\$900	\$0	\$0	\$0	\$0	\$0		
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	2	\$50,000	\$30,000	\$80,000	\$2,600	\$2,000	\$4,600	\$1,600	\$1,000	\$1,100	\$0	\$300	\$600	\$0		
SE	IH 43	MM 59 Milwaukee / Waukeshaw County Line	S Jct IH 94	7	A	Communications	Medium	T1 Line	Per unit	2	\$2,200	\$200	\$2,400	\$400	\$16,000	\$16,400	\$400	\$0	\$0	\$0	\$0	\$16,000	\$0		
						Detection	High	No more than 1/2 mile coverage	Per detector	8	\$72,000	\$40,000	\$112,000	\$1,600	\$1,600	\$3,200	\$1,120	\$480	\$800	\$0	\$800	\$0	\$0		
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	7	\$91,000	\$24,500	\$115,500	\$11,060	\$189,000	\$200,060	\$7,000	\$4,060	\$46,669	\$48,000	\$0	\$0	\$93,331		
						Surveillance	High	100% camera coverage	Per camera	8	\$200,000	\$120,000	\$320,000	\$10,400	\$8,000	\$18,400	\$6,400	\$4,000	\$4,400	\$0	\$1,200	\$2,400	\$0		
SW	USH 14	IH 39/90	Henke Rd / Van Allen Rd	3	C	Communications	High	Fiber optic cable	Per mile	7	\$112,000	\$259,000	\$371,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Detection	Low	Mobile probes	Per mile	3	\$0	\$1,200	\$1,200	\$150	\$2,850	\$3,000	\$150	\$0	\$0	\$2,850	\$0	\$0	\$0	\$0	
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	3	\$240	\$240	\$480	\$60	\$0	\$60	\$48	\$12	\$0	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW, SE	USH 14	Henke Rd / Van Allen Rd	IH 43	13	C	Communications	Medium	T1 Line	Per unit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Low	Mobile probes	Per mile	13	\$0	\$5,200	\$5,200	\$650	\$12,350	\$13,000	\$650	\$0	\$0	\$12,350	\$0	\$0	\$0	\$0	
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	13	\$1,040	\$1,040	\$2,080	\$260	\$0	\$260	\$208	\$52	\$0	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	STH 36	STH 20	S Wind Lake Rd	5	B	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Baseline	Mobile probes	Per mile	5	\$0	\$2,000	\$2,000	\$250	\$4,750	\$5,000	\$250	\$0	\$0	\$4,750	\$0	\$0	\$0		
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	5	\$5,500	\$2,500	\$8,000	\$1,000	\$0	\$1,000	\$500	\$500	\$500	\$0	\$0	\$0	\$0		
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	STH 36	S Wind Lake Rd	CTH H	8	A	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Baseline	Mobile probes	Per mile	8	\$0	\$3,200	\$3,200	\$400	\$7,600	\$8,000	\$400	\$0	\$0	\$7,600	\$0	\$0	\$0		
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	8	\$8,800	\$4,000	\$12,800	\$1,280	\$0	\$1,280	\$800	\$480	\$0	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	STH 36	CTH H	CTH ZZ	4	C	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Baseline	Mobile probes	Per mile	4	\$0	\$1,600	\$1,600	\$200	\$3,800	\$4,000	\$200	\$0	\$0	\$3,800	\$0	\$0	\$0		
						Incident Management	Baseline	Reference markers	Per mile	4	\$320	\$320	\$640	\$80	\$0	\$80	\$64	\$16	\$0	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	STH 36	CTH ZZ	IH 43	2	C	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Low	Mobile probes	Per mile		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	2	\$160	\$160	\$320	\$40	\$0	\$40	\$32	\$8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0			
											\$ 874,360.00	\$ 795,960.00	\$ 1,670,320.00	\$ 66,580.00	\$ 316,200.00	\$ 382,780.00	\$ 39,902.00	\$ 26,678.00	\$ 57,969.00	\$ 130,700.00	\$ 6,900.00	\$ 27,300.00	\$ 93,331.00		
											Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)		

Hiawatha Corridor - Cost Summary Table

Region	Highway	Segment Start	Segment End	Segment Length (miles)	Facility Type	Device Type	Deployment Level	Assumptions	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)	
SE	IH 94	N Jct IH 43 (Marquette Interchange)	STH 100	12	A	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	11	\$99,000	\$55,000	\$154,000	\$2,200	\$2,200	\$4,400	\$1,540	\$660	\$1,100	\$0	\$1,100	\$0	\$0	
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	12	\$42,000	\$15,600	\$57,600	\$6,960	\$0	\$6,960	\$4,800	\$2,160	\$0	\$0	\$0	\$0		
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	10	\$250,000	\$150,000	\$400,000	\$13,000	\$10,000	\$23,000	\$8,000	\$5,000	\$5,500	\$0	\$1,500	\$3,000	\$0	
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	IH 94	STH 100	STH 241	3	A	Communications	Medium	T1 Line	Per unit	10	\$11,000	\$1,000	\$12,000	\$2,000	\$80,000	\$82,000	\$2,000	\$0	\$0	\$0	\$0	\$80,000	\$0	
						Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	1	\$9,000	\$5,000	\$14,000	\$200	\$200	\$400	\$140	\$60	\$100	\$0	\$100	\$0	\$0	
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	3	\$10,500	\$3,900	\$14,400	\$1,740	\$0	\$1,740	\$1,200	\$540	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0	
						Traffic Flow Management	Medium	Ramp gates	Per gate	2	\$18,000	\$18,000	\$36,000	\$4,000	\$0	\$4,000	\$1,600	\$2,400	\$0	\$0	\$0	\$0	\$0	
						Communications	Medium	T1 Line	Per unit	1	\$1,100	\$100	\$1,200	\$200	\$8,000	\$8,200	\$200	\$0	\$0	\$0	\$0	\$8,000	\$0	
						Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	8	\$72,000	\$40,000	\$112,000	\$1,600	\$1,600	\$3,200	\$1,120	\$480	\$800	\$0	\$800	\$0	\$0	
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	15	\$24,000	\$7,500	\$31,500	\$4,500	\$0	\$4,500	\$2,250	\$2,250	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	8	\$200,000	\$120,000	\$320,000	\$10,400	\$8,000	\$18,400	\$6,400	\$4,000	\$4,400	\$0	\$1,200	\$2,400	\$0	
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Medium	T1 Line	Per unit	8	\$8,800	\$800	\$9,600	\$1,600	\$64,000	\$65,600	\$1,600	\$0	\$0	\$0	\$0	\$64,000	\$0	
						Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	2	\$18,000	\$10,000	\$28,000	\$400	\$400	\$800	\$280	\$120	\$200	\$0	\$200	\$0	\$0	
SE	IH 94	STH 142	STH 50	4	A	Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	4	\$14,000	\$5,200	\$19,200	\$2,320	\$0	\$2,320	\$1,600	\$720	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	2	\$50,000	\$30,000	\$80,000	\$2,600	\$2,000	\$4,600	\$1,600	\$1,000	\$1,100	\$0	\$300	\$600	\$0	
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Medium	T1 Line	Per unit	2	\$2,200	\$200	\$2,400	\$400	\$16,000	\$16,400	\$400	\$0	\$0	\$0	\$0	\$16,000	\$0	
SE	IH 94	STH 50	STH 165	3	A	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	2	\$18,000	\$10,000	\$28,000	\$400	\$400	\$800	\$280	\$120	\$200	\$0	\$200	\$0	\$0	
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	3	\$10,500	\$3,900	\$14,400	\$1,740	\$0	\$1,740	\$1,200	\$540	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	2	\$50,000	\$30,000	\$80,000	\$2,600	\$2,000	\$4,600	\$1,600	\$1,000	\$1,100	\$0	\$300	\$600	\$0	
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Medium	T1 Line	Per unit	2	\$2,200	\$200	\$2,400	\$400	\$16,000	\$16,400	\$400	\$0	\$0	\$0	\$0	\$16,000	\$0	
						Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	2	\$18,000	\$10,000	\$28,000	\$400	\$400	\$800	\$280	\$120	\$200	\$0	\$200	\$0	\$0	
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	2	\$3,200	\$1,000	\$4,200	\$600	\$0	\$600	\$300	\$300	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	2	\$50,000	\$30,000	\$80,000	\$2,600	\$2,000	\$4,600	\$1,600	\$1,000	\$1,100	\$0	\$300	\$600	\$0	
SE	IH 94	STH 165	Illinois state line	2	B	Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Communications	Medium	T1 Line	Per unit	2	\$2,200	\$200	\$2,400	\$400	\$16,000	\$16,400	\$400	\$0	\$0	\$0	\$0	\$16,000	\$0	
						Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	2	\$18,000	\$10,000	\$28,000	\$400	\$400	\$800	\$280	\$120	\$200	\$0	\$200	\$0	\$0	
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	2	\$3,200	\$1,000	\$4,200	\$600	\$0	\$600	\$300	\$300	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	2	\$50,000	\$30,000	\$80,000	\$2,600	\$2,000	\$4,600	\$1,600	\$1,000	\$1,100	\$0	\$300	\$600	\$0	
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Medium	T1 Line	Per unit	2	\$2,200	\$200	\$2,400	\$400	\$16,000	\$16,400	\$400	\$0	\$0	\$0	\$0	\$16,000	\$0	
						Detection	High	No more than 1/2 mile coverage	Per detector	7	\$63,000	\$35,000	\$98,000	\$1,400	\$1,400	\$2,800	\$980	\$420	\$700	\$0	\$700	\$0	\$0	
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	5	\$65,000	\$17,500	\$82,500	\$7,900	\$135,000	\$142,900	\$5,000	\$2,900	\$33,335	\$35,000	\$0	\$0	\$66,665	
						Surveillance	High	100% camera coverage	Per camera	7	\$175,000	\$105,000	\$280,000	\$9,100	\$7,000	\$16,100	\$5,600	\$3,500	\$3,850	\$0	\$1,050	\$2,100	\$0	
						Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	5	\$105,000	\$110,000	\$215,000	\$7,000	\$5,000	\$12,000	\$3,500	\$3,500	\$2,500	\$0	\$2,500	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SE	USH 45 (IH 894)	IH 94	IH 43	5	A	Detection	High	Mobile probes, Detectors at site-specific locations	Per detector	7	\$63,000	\$35,000	\$98,000	\$1,400	\$1,400	\$2,800	\$980	\$420	\$700	\$0	\$700	\$0	\$0	
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	5	\$65,000	\$17,500	\$82,500	\$7,900	\$135,000	\$142,900	\$5,000	\$2,900	\$33,335	\$35,000	\$0	\$0	\$66,665	
						Surveillance	High	100% camera coverage	Per camera	7	\$175,000	\$105,000	\$280,000	\$9,100	\$7,000	\$16,100	\$5,600	\$3,500	\$3,850	\$0	\$1,050	\$2,100	\$0	
						Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	5	\$105,000	\$110,000	\$215,000	\$7,000	\$5,000	\$12,000	\$3,500	\$3,500	\$2,500	\$0	\$2,500	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	1	\$9,000	\$5,000	\$14,000	\$200	\$200	\$400	\$140	\$60	\$100	\$0	\$100	\$0	\$0	
						Incident Management	High	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	2	\$2,560	\$960	\$3,520	\$680	\$0	\$680	\$532	\$148	\$0	\$0	\$0	\$0	\$0	
						Surveillance	High	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Detection	Baseline	Mobile probes	Per mile		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	3	\$240	\$240	\$480	\$60	\$0	\$60	\$48	\$12	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SE	USH 45	N Jct STH 36	S Jct STH 36	2	A	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Low	Mobile probes	Per mile	2	\$0	\$800	\$800	\$100	\$1,900	\$2,000	\$100	\$0	\$0	\$1,900	\$0	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	2	\$2,200	\$1,000	\$3,200	\$320	\$0	\$320	\$200	\$120	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Communications	Medium	T1 Line	Per unit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Detection	Baseline	Mobile probes	Per unit	23	\$0	\$9,200	\$9,200	\$1,150	\$21,850	\$23,000	\$1,150	\$0	\$0	\$21,850	\$0	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	23	\$1,840	\$1,840	\$3,680	\$460	\$0	\$460	\$368	\$92	\$0	\$0	\$0	\$0	\$0	\$0
SE	USH 45	STH 50	CTH AH	1	C	Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0			

Region	Highway	Segment Start	Segment End	Segment Length (miles)	Facility Type	Device Type	Deployment Level	Assumptions	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)
						Incident Management	Medium	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents	Per mile	13	\$7,540	\$1,040	\$8,580	\$1,560	\$0	\$1,560	\$858	\$702	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Medium	T1 Line	Per unit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SE	STH 32	STH 11	STH 158	8	C	Detection	Baseline	Mobile probes	Per mile	8	\$0	\$3,200	\$3,200	\$400	\$7,600	\$8,000	\$400	\$0	\$0	\$7,600	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	8	\$640	\$640	\$1,280	\$160	\$0	\$160	\$128	\$32	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	STH 32	STH 158	Illinois state line	7	C	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	7	\$560	\$560	\$1,120	\$140	\$0	\$140	\$112	\$28	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Medium	T1 Line	Per unit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SE	STH 31	STH 32	Racine / Kenosha county line	11	C	Detection	Baseline	Mobile probes	Per mile	11	\$0	\$4,400	\$4,400	\$550	\$10,450	\$11,000	\$550	\$0	\$0	\$10,450	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	11	\$880	\$880	\$1,760	\$220	\$0	\$220	\$176	\$44	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	STH 31	Racine / Kenosha county line	Illinois state line	12	C	Detection	Baseline	Mobile probes	Per mile	12	\$0	\$4,800	\$4,800	\$600	\$11,400	\$12,000	\$600	\$0	\$0	\$11,400	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	12	\$960	\$960	\$1,920	\$240	\$0	\$240	\$192	\$48	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	

\$1,475,800	\$895,900	\$2,371,700	\$101,420	\$465,300	\$566,720	\$65,660	\$35,760	\$57,385	\$120,500	\$10,850	\$209,900	\$66,665
Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)

Peace Memorial Corridor - Cost Summary Table

Region	Highway	Segment Start	Segment End	Segment Length (miles)	Facility Type	Device Type	Deployment Level	Assumptions	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)
NW	USH 53	Minnesota state line (Superior)	Southern limits of Superior	8	C	Detection	Baseline	Mobile probes	Per mile	8	\$0	\$3,200	\$3,200	\$400	\$7,600	\$8,000	\$400	\$0	\$0	\$7,600	\$0	\$0	\$0
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	8	\$640	\$640	\$1,280	\$160	\$0	\$160	\$128	\$32	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	2	\$50,000	\$30,000	\$80,000	\$2,600	\$2,000	\$4,600	\$1,600	\$1,000	\$1,100	\$0	\$300	\$600	\$0
						Communications	Medium	T1 Line	Per unit	2	\$2,200	\$200	\$2,400	\$400	\$16,000	\$16,400	\$400	\$0	\$0	\$0	\$16,000	\$0	
NW	USH 53	Southern limits of Superior	Douglas CTH B	15	B	Detection	Baseline	Mobile probes	Per mile	15	\$0	\$6,000	\$6,000	\$750	\$14,250	\$15,000	\$750	\$0	\$0	\$14,250	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	15	\$16,500	\$7,500	\$24,000	\$3,000	\$0	\$3,000	\$1,500	\$1,500	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	2	\$50,000	\$30,000	\$80,000	\$2,600	\$2,000	\$4,600	\$1,600	\$1,000	\$1,100	\$0	\$300	\$600	\$0
						Traffic Flow Management	Baseline	Ramp gates	Per gate	2	\$18,000	\$18,000	\$36,000	\$4,000	\$0	\$4,000	\$1,600	\$2,400	\$0	\$0	\$0	\$0	\$0
						Communications	Medium	T1 Line	Per unit	2	\$2,200	\$200	\$2,400	\$400	\$16,000	\$16,400	\$400	\$0	\$0	\$0	\$0	\$16,000	\$0
						Detection	Low	Mobile probes	Per mile	65	\$0	\$26,000	\$26,000	\$3,250	\$61,750	\$65,000	\$3,250	\$0	\$0	\$61,750	\$0	\$0	\$0
NW	USH 53	Douglas CTH B	Barron CTH V (Near Haugen)	65	B	Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	65	\$104,000	\$32,500	\$136,500	\$19,500	\$0	\$19,500	\$9,750	\$9,750	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	4	\$100,000	\$60,000	\$160,000	\$5,200	\$4,000	\$9,200	\$3,200	\$2,000	\$2,200	\$0	\$600	\$1,200	\$0
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Medium	T1 Line	Per unit	4	\$4,400	\$400	\$4,800	\$800	\$32,000	\$32,800	\$800	\$0	\$0	\$0	\$0	\$32,000	\$0
						Detection	Baseline	Mobile probes	Per mile	49	\$0	\$19,600	\$19,600	\$2,450	\$46,550	\$49,000	\$2,450	\$0	\$0	\$46,550	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	49	\$53,900	\$24,500	\$78,400	\$9,800	\$0	\$9,800	\$4,900	\$4,900	\$0	\$0	\$0	\$0	\$0
NW	USH 53	Chippewa CTH S (Near Chippewa Falls)				Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Traffic Flow Management	Baseline	Portable DMS/HAR for major incidents		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Detection	Baseline	Mobile probes	Per mile	6	\$0	\$0	\$0	\$0	\$0	\$0	\$300	\$0	\$0	\$5,700	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	6	\$0	\$0	\$0	\$0	\$0	\$0	\$600	\$360	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0
NW	USH 53	Chippewa CTH S (Near Chippewa Falls)	STH 29	6	A	Traffic Flow Management	Baseline	Ramp gates	Per gate	2	\$18,000	\$18,000	\$36,000	\$4,000	\$0	\$4,000	\$1,600	\$2,400	\$0	\$0	\$0	\$0	
						Communications	Medium	T1 Line	Per unit	1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,000	\$0	
						Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	8	\$0	\$0	\$0	\$0	\$0	\$0	\$1,120	\$480	\$0	\$0	\$800	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	11	\$0	\$0	\$0	\$0	\$0	\$0	\$4,400	\$1,980	\$0	\$0	\$0	\$0	\$0
						Surveillance	High	100% camera coverage	Per camera	8	\$200,000	\$120,000	\$320,000	\$10,400	\$8,000	\$18,400	\$6,400	\$4,000	\$4,400	\$0	\$1,200	\$2,400	\$0
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable	Per mile	11	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
											\$644,840	\$411,740	\$1,056,580	\$71,010	\$211,150	\$282,160	\$48,148	\$32,302	\$10,150	\$135,850	\$3,350	\$77,100	\$0
											Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)

South Central Connection Corridor - Cost Summary Table

Region	Highway	Segment Start	Segment End	Segment Length (miles)	Facility Type	Device Type	Deployment Level	Assumptions	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)
SW	IH 39/90/94	MM 131	MM 138	7	A	Detection	High	No more than 1/2 mile coverage	Per detector	6	\$54,000	\$30,000	\$84,000	\$1,200	\$1,200	\$2,400	\$840	\$360	\$600	\$0	\$600	\$0	\$0
		(STH 19)	(IH 94)			Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	7	\$91,000	\$24,500	\$115,500	\$11,060	\$189,000	\$200,060	\$7,000	\$4,060	\$46,669	\$49,000	\$0	\$0	\$93,331
						Surveillance	High	100% camera coverage	Per camera	6	\$150,000	\$90,000	\$240,000	\$7,800	\$6,000	\$13,800	\$4,800	\$3,000	\$3,300	\$0	\$900	\$1,800	\$0
						Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	7	\$147,000	\$154,000	\$301,000	\$9,800	\$7,000	\$16,800	\$4,900	\$4,900	\$3,500	\$0	\$3,500	\$0	\$0
						Communications	High	None (operations & maintenance only - costs covered elsewhere)	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW	IH 39/90	MM 138	MM 145	7	A	Detection	High	No more than 1/2 mile coverage	Per detector	3	\$27,000	\$15,000	\$42,000	\$600	\$600	\$1,200	\$420	\$180	\$300	\$0	\$300	\$0	\$0
		(IH 94)				Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	7	\$91,000	\$24,500	\$115,500	\$11,060	\$189,000	\$200,060	\$7,000	\$4,060	\$46,669	\$49,000	\$0	\$0	\$93,331
						Surveillance	High	100% camera coverage	Per camera	3	\$75,000	\$45,000	\$120,000	\$3,900	\$3,000	\$6,900	\$2,400	\$1,500	\$1,650	\$0	\$450	\$900	\$0
						Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	7	\$147,000	\$154,000	\$301,000	\$9,800	\$7,000	\$16,800	\$4,900	\$4,900	\$3,500	\$0	\$3,500	\$0	\$0
						Communications	High	Fiber optic cable (a portion of this segment already has fiber, meaning operations & maintenance only - costs covered elsewhere)	Per mile	3	\$48,000	\$111,000	\$159,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW	IH 39/90	MM 145	MM 171 (USH 14)	27	B	Detection	High	Mobile probes, Detectors at site-specific locations	Per detector	5	\$45,000	\$25,000	\$70,000	\$1,000	\$1,000	\$2,000	\$700	\$300	\$500	\$0	\$500	\$0	\$0
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	27	\$62,100	\$24,300	\$86,400	\$11,070	\$0	\$11,070	\$6,480	\$4,590	\$0	\$0	\$0	\$0	
						Surveillance	High	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	6	\$150,000	\$90,000	\$240,000	\$7,800	\$6,000	\$13,800	\$4,800	\$3,000	\$3,300	\$0	\$900	\$1,800	\$0
						Traffic Flow Management	High	Ramp gates	Per gate	2	\$18,000	\$18,000	\$36,000	\$4,000	\$0	\$4,000	\$1,600	\$2,400	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable	Per mile	27	\$432,000	\$999,000	\$1,431,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW	IH 39/90	MM 171	MM 177	6	A	Detection	High	No more than 1/2 mile coverage	Per detector	3	\$27,000	\$15,000	\$42,000	\$600	\$600	\$1,200	\$420	\$180	\$300	\$0	\$300	\$0	\$0
		(USH 14)	(S Jct STH 11)			Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	6	\$78,000	\$21,000	\$99,000	\$9,480	\$162,000	\$171,480	\$6,000	\$3,480	\$40,002	\$42,000	\$0	\$0	\$79,998
						Surveillance	High	100% camera coverage	Per camera	3	\$75,000	\$45,000	\$120,000	\$3,900	\$3,000	\$6,900	\$2,400	\$1,500	\$1,650	\$0	\$450	\$900	\$0
						Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	3	\$63,000	\$66,000	\$129,000	\$4,200	\$3,000	\$7,200	\$2,100	\$2,100	\$1,500	\$0	\$1,500	\$0	\$0
						Communications	High	Fiber optic cable	Per mile	6	\$96,000	\$222,000	\$318,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW	IH 39/90	MM 177	MM 185	8	B	Detection	High	Mobile probes, Detectors at site-specific locations	Per detector	2	\$18,000	\$10,000	\$28,000	\$400	\$400	\$800	\$280	\$120	\$200	\$0	\$200	\$0	\$0
		(S Jct STH 11)	(IH 43)			Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	8	\$18,400	\$7,200	\$25,600	\$3,280	\$0	\$3,280	\$1,920	\$1,360	\$0	\$0	\$0	\$0	
						Surveillance	High	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	2	\$50,000	\$30,000	\$80,000	\$2,600	\$2,000	\$4,600	\$1,600	\$1,000	\$1,100	\$0	\$300	\$600	\$0
						Traffic Flow Management	High	Ramp gates	Per gate	2	\$18,000	\$18,000	\$36,000	\$4,000	\$0	\$4,000	\$1,600	\$2,400	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable	Per mile	8	\$128,000	\$296,000	\$424,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW	IH 39/90	MM 185	Illinois State Line	2	A	Detection	High	No more than 1/2 mile coverage	Per detector	1	\$9,000	\$5,000	\$14,000	\$200	\$200	\$400	\$140	\$60	\$100	\$0	\$100	\$0	\$0
		(IH 43)				Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	2	\$26,000	\$7,000	\$33,000	\$3,160	\$54,000	\$57,160	\$2,000	\$1,160	\$13,334	\$14,000	\$0	\$0	\$26,666
						Surveillance	High	100% camera coverage	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0
						Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	2	\$42,000	\$44,000	\$86,000	\$2,800	\$2,000	\$4,800	\$1,400	\$1,400	\$1,000	\$0	\$1,000	\$0	\$0
						Communications	High	Fiber optic cable	Per mile	2	\$32,000	\$74,000	\$106,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW	USH 51	IH 39/90/94	USH 151	4	C	Detection	Low	Mobile probes	Per mile	4	\$0	\$1,600	\$1,600	\$200	\$3,800	\$4,000	\$200	\$0	\$0	\$3,800	\$0	\$0	\$0
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	4	\$320	\$320	\$640	\$80	\$0	\$80	\$64	\$16	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW	USH 51	USH 151	CTH BB	3	A	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	1	\$9,000	\$5,000	\$14,000	\$200	\$200	\$400	\$140	\$60	\$100	\$0	\$100	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	3	\$10,500	\$3,900	\$14,400	\$1,740	\$0	\$1,740	\$1,200	\$540	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	2	\$50,000	\$30,000	\$80,000	\$2,600	\$2,000	\$4,600	\$1,600	\$1,000	\$1,100	\$0	\$300	\$600	\$0
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Medium	T1 Line	Per unit	2	\$2,200	\$200	\$2,400	\$400	\$16,000	\$16,400	\$400	\$0	\$0	\$0	\$0	\$16,000	\$0
SW	USH 51	CTH BB	Madison Beltline (USH 12)	3	A	Detection	High	No more than 1/2 mile coverage	Per detector	2	\$18,000	\$10,000	\$28,000	\$400	\$400	\$800	\$280	\$120	\$200	\$0	\$200	\$0	\$0
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	3	\$39,000	\$10,500	\$49,500	\$4,740	\$81,000	\$85,740	\$3,000	\$1,740	\$20,001	\$21,000	\$0	\$0	\$39,999
						Surveillance	High	100% camera coverage	Per camera	2	\$50,000	\$30,000	\$80,000	\$2,600	\$2,000	\$4,600	\$1,600	\$1,000	\$1,100	\$0	\$300	\$600	\$0
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable	Per mile	3	\$48,000	\$111,000	\$159,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW	USH 51	Madison Beltline (USH 12)	Mahoney Rd (Dunn)	4	C	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Incident Management	Medium	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents	Per mile	4	\$2,320	\$320	\$2,640	\$480	\$0	\$480	\$264	\$216	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0
						Communications	Medium	T1 Line	Per unit	1	\$1,100	\$100	\$1,200	\$200	\$8,000	\$8,200	\$200	\$0	\$0	\$0	\$0	\$8,000	\$0
SW	USH 51	Mahoney Rd (Dunn)	CTH B	2	C	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector		\$0	\$0											

Region	Highway	Segment Start	Segment End	Segment Length (miles)	Facility Type	Device Type	Deployment Level	Assumptions	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)	
SW	USH 51	Janesville City Limits (South)	E Inman Pkwy (Beloit)	10	C	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Detection	Baseline	Mobile probes	Per mile	10	\$0	\$4,000	\$4,000	\$500	\$9,500	\$10,000	\$500	\$0	\$0	\$9,500	\$0	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	10	\$800	\$800	\$1,600	\$200	\$0	\$200	\$160	\$40	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW	USH 51	E Inman Pkwy (Beloit)	Illinois State Line	5	C	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Detection	Baseline	Mobile probes	Per mile	5	\$0	\$2,000	\$2,000	\$250	\$4,750	\$5,000	\$250	\$0	\$0	\$4,750	\$0	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	5	\$400	\$400	\$800	\$100	\$0	\$100	\$80	\$20	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW	USH 14	Madison Beltline (USH 12)	STH 138	9	A	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Detection	Low	Mobile probes	Per mile	9	\$0	\$3,600	\$3,600	\$450	\$8,550	\$9,000	\$450	\$0	\$0	\$8,550	\$0	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	9	\$720	\$720	\$1,440	\$180	\$0	\$180	\$900	\$540	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera	2	\$50,000	\$30,000	\$80,000	\$2,600	\$2,000	\$4,600	\$1,600	\$1,000	\$1,100	\$0	\$300	\$600	\$0	
SW	USH 14	STH 138	N Madison St (Evansville)	11	C	Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Communications	Medium	T1 Line	Per unit	2	\$2,200	\$200	\$2,400	\$400	\$16,000	\$16,400	\$400	\$0	\$0	\$0	\$0	\$16,000	\$0	
						Detection	Low	Mobile probes	Per mile	11	\$0	\$4,400	\$4,400	\$550	\$10,450	\$11,000	\$550	\$0	\$0	\$10,450	\$0	\$0	\$0	\$0
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	11	\$880	\$880	\$1,760	\$220	\$0	\$220	\$176	\$44	\$0	\$0	\$0	\$0	\$0	\$0
SW	STH 213	N Madison St (Evansville)	Illinois State Line	29	C	Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Detection	Baseline	Mobile probes	Per mile	29	\$0	\$11,600	\$11,600	\$1,450	\$27,550	\$29,000	\$1,450	\$0	\$0	\$27,550	\$0	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	29	\$2,320	\$2,320	\$4,640	\$580	\$0	\$580	\$464	\$116	\$0	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

\$2,558,820	\$2,972,920	\$5,531,740	\$139,770	\$859,700	\$999,470	\$85,340	\$55,690	\$193,875	\$268,100	\$16,000	\$48,400	\$333,325
Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)

Southern Tier Corridor - Cost Summary Table

Region	Highway	Segment Start	Segment End	Segment Length (miles)	Facility Type	Device Type	Deployment Level	Assumptions	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)	
SW	IH 43	IH 39/90	S Schroeder Rd	3	A	Detection	Baseline	Mobile probes	Per mile	3	\$0	\$1,200	\$1,200	\$150	\$2,850	\$3,000	\$150	\$0	\$2,850	\$0	\$0	\$0	\$0	
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	3	\$3,300	\$1,500	\$4,800	\$480	\$0	\$480	\$300	\$180	\$0	\$0	\$0	\$0		
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Traffic Flow Management Communications	Baseline	Portable DMS/HAR for major incidents	Baseline	None	N/A	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW, SE	IH 43	S Schroeder Rd	USH 14	11	B	Detection	Baseline	Mobile probes	Per mile	11	\$0	\$4,400	\$4,400	\$550	\$10,450	\$11,000	\$550	\$0	\$10,450	\$0	\$0	\$0	\$0	
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	11	\$12,100	\$5,500	\$17,600	\$2,200	\$0	\$2,200	\$1,100	\$1,100	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Traffic Flow Management Communications	Baseline	Portable DMS/HAR for major incidents	Baseline	None	N/A	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	IH 43	USH 14	MM 21 (STH 50)	7	A	Detection	Baseline	Mobile probes	Per mile	7	\$0	\$2,800	\$2,800	\$350	\$6,650	\$7,000	\$350	\$0	\$6,650	\$0	\$0	\$0	\$0	
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	7	\$7,700	\$3,500	\$11,200	\$1,120	\$0	\$1,120	\$700	\$420	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Traffic Flow Management Communications	Baseline	Portable DMS/HAR for major incidents	Baseline	None	N/A	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	IH 43	MM 21 (STH 50)	STH 67	3	B	Detection	Baseline	Mobile probes	Per mile	3	\$0	\$1,200	\$1,200	\$150	\$2,850	\$3,000	\$150	\$0	\$2,850	\$0	\$0	\$0	\$0	
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Traffic Flow Management Communications	Baseline	Portable DMS/HAR for major incidents	Baseline	None	N/A	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	IH 43	STH 67	USH 12	2	A	Detection	Low	Mobile probes	Per mile	2	\$0	\$800	\$800	\$100	\$1,900	\$2,000	\$100	\$0	\$1,900	\$0	\$0	\$0	\$0	
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	2	\$2,200	\$1,000	\$3,200	\$320	\$0	\$320	\$200	\$120	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
SE	STH 11	IH 43	Western limits of Burlington	11	C	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Baseline	Mobile probes	Per mile	11	\$0	\$4,400	\$4,400	\$550	\$10,450	\$11,000	\$550	\$0	\$10,450	\$0	\$0	\$0	\$0	
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	11	\$880	\$880	\$1,760	\$220	\$0	\$220	\$176	\$44	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
SE	STH 11	Western limits of Burlington	Eastern limits of Burlington	3	C	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Low	Mobile probes	Per mile	3	\$0	\$1,200	\$1,200	\$150	\$2,850	\$3,000	\$150	\$0	\$2,850	\$0	\$0	\$0	\$0	
						Incident Management	Medium	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents	Per mile	3	\$1,740	\$240	\$1,980	\$360	\$0	\$360	\$198	\$162	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
SE	STH 11	Eastern limits of Burlington	STH 75	8	C	Communications	Medium	T1 Line	Per unit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Baseline	Mobile probes	Per mile	8	\$0	\$3,200	\$3,200	\$400	\$7,600	\$8,000	\$400	\$0	\$7,600	\$0	\$0	\$0	\$0	
						Incident Management	Baseline	Reference markers	Per mile	8	\$640	\$640	\$1,280	\$160	\$0	\$160	\$128	\$32	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
SE	STH 11	STH 75	USH 45	3	C	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Baseline	Mobile probes	Per mile	3	\$0	\$1,200	\$1,200	\$150	\$2,850	\$3,000	\$150	\$0	\$2,850	\$0	\$0	\$0	\$0	
						Incident Management	Baseline	Reference markers	Per mile	3	\$240	\$240	\$480	\$60	\$0	\$60	\$48	\$12	\$0	\$0	\$0	\$0		
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
SE	STH 11	USH 45	IH 94	5	C	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Low	Mobile probes	Per mile	5	\$0	\$2,000	\$2,000	\$250	\$4,750	\$5,000	\$250	\$0	\$4,750	\$0	\$0	\$0	\$0	
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	5	\$400	\$400	\$800	\$100	\$0	\$100	\$80	\$20	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
SE	STH 11	IH 94	STH 32	8	C	Communications	Medium	T1 Line	Per unit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	2	\$18,000	\$10,000	\$28,000	\$400	\$400	\$800	\$280	\$120	\$200	\$0	\$200	\$0	\$0	\$0
						Incident Management	Medium	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents	Per mile	8	\$4,640	\$640	\$5,280	\$960	\$0	\$960	\$528	\$432	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW	USH 14	IH 39/90	Henke Rd / Van Allen Rd	3	C	Communications	Low	Cellular Modem	Per unit	2	\$2,000	\$200	\$2,200	\$120	\$960	\$1,080	\$120	\$0	\$0	\$0	\$960	\$0	\$0	
						Detection	Low	Mobile probes	Per mile	3	\$0	\$1,200	\$1,200	\$150	\$2,850	\$3,000	\$150	\$0	\$2,850	\$0	\$0	\$0	\$0	
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	3	\$240	\$240	\$480	\$60	\$0	\$60	\$48	\$12	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SW, SE	USH 14	Henke Rd / Van Allen Rd	IH 43	13	C	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Low	Mobile probes	Per mile	13	\$0	\$5,200	\$5,200	\$650	\$12,350	\$13,000	\$650	\$0	\$12,350	\$0	\$0	\$0	\$0	
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	13	\$1,040	\$1,040	\$2,080	\$260	\$0	\$260	\$208	\$52	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	STH 50	IH 43	STH 67	5	C	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	5	\$400	\$400	\$800	\$100	\$0	\$100	\$80	\$20	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	STH 50	STH 67	Western limits of Lake Geneva	5	C	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Baseline	Mobile probes	Per mile	5	\$0	\$2,000	\$2,000	\$250	\$4,750	\$5,000	\$250	\$0	\$4,750	\$0	\$0	\$0	\$0	
						Incident Management	Baseline	Reference markers	Per mile	5	\$400	\$400	\$800	\$100	\$0	\$100	\$80	\$20	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	STH 50	Western limits of Lake Geneva	USH 12	2	C	Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Low	Mobile probes	Per mile	2	\$0	\$800	\$800	\$100	\$1,900	\$2,000	\$100	\$0	\$1,900	\$0	\$0	\$0	\$0	
						Incident Management	Medium	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents	Per mile	2	\$1,160	\$160	\$1,320	\$240	\$0	\$240	\$132	\$108	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0	
SE	STH 50	USH 12	CTH P	6	B	Communications	Medium	T1 Line	Per unit	1	\$1,100	\$100	\$1,200	\$200	\$8,000	\$8,200	\$200	\$0	\$0	\$0	\$8,000	\$0	\$0	
						Detection	Baseline	Mobile probes	Per mile	6	\$0	\$2,400	\$2,400	\$300	\$5,700	\$6,000	\$300	\$0	\$5,700	\$0	\$0	\$0	\$0	
						Incident Management	Baseline	Reference markers	Per mile	6	\$480	\$480	\$960	\$120	\$0	\$120	\$96	\$24	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	STH 50	CTH P	STH 75	10	B	Traffic Flow Management	Baseline	Portable DMS/HAR for major incidents		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Detection	Low	Mobile probes	Per mile	10	\$0	\$4,000	\$4,000	\$500	\$9,500	\$10,000	\$500	\$0	\$9,500	\$0	\$0	\$0	\$0	
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	10	\$16,000	\$5,000	\$21,000	\$3,000	\$0	\$3,000	\$1,500	\$1,500	\$0	\$0	\$0	\$0</		

Region	Highway	Segment Start	Segment End	Segment Length (miles)	Facility Type	Device Type	Deployment Level	Assumptions	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SE	STH 50	Eastern limits of Paddock Lake	IH 94	7	C	Detection	Baseline	Mobile probes	Per mile	7	\$0	\$2,800	\$2,800	\$350	\$6,650	\$7,000	\$350	\$0	\$0	\$6,650	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	7	\$560	\$560	\$1,120	\$140	\$0	\$140	\$112	\$28	\$0	\$0	\$0	\$0	\$0
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SE	STH 50	IH 94	CTH H	2	C	Detection	Low	Mobile probes	Per mile	2	\$0	\$800	\$800	\$100	\$1,900	\$2,000	\$100	\$0	\$0	\$1,900	\$0	\$0	\$0
						Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	2	\$160	\$160	\$320	\$40	\$0	\$40	\$32	\$8	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SE	STH 50	CTH H	STH 32	5	C	Detection	High	Mobile probes, Detectors at site-specific locations	Per detector	4	\$36,000	\$20,000	\$56,000	\$800	\$800	\$1,600	\$560	\$240	\$400	\$0	\$400	\$0	\$0
						Incident Management	High	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	5	\$6,400	\$2,400	\$8,800	\$1,700	\$0	\$1,700	\$1,330	\$370	\$0	\$0	\$0	\$0	\$0
						Surveillance	High	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	4	\$100,000	\$60,000	\$160,000	\$5,200	\$4,000	\$9,200	\$3,200	\$2,000	\$2,200	\$0	\$600	\$1,200	\$0
						Communications	High	Fiber optic cable	Per mile	5	\$80,000	\$185,000	\$265,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
											\$323,940	\$358,240	\$682,180	\$25,300	\$115,860	\$141,160	\$17,668	\$7,632	\$3,350	\$100,700	\$1,350	\$10,460	\$0
											Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)

Titletown Corridor - Cost Summary Table

Region	Highway	Segment Start	Segment End	Segment Length (miles)	Facility Type	Device Type	Deployment Level	Assumptions	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)		
NE	IH 43	MM 192 (USH 41)	MM 185 (STH 57)	7	A	Detection	High	No more than 1/2 mile coverage	Per detector	5	\$45,000	\$25,000	\$70,000	\$1,000	\$1,000	\$2,000	\$700	\$300	\$500	\$500	\$0	\$0	\$0		
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	7	\$91,000	\$24,500	\$115,500	\$11,060	\$189,000	\$200,060	\$7,000	\$4,060	\$46,669	\$49,000	\$0	\$0	\$93,331		
						Surveillance	High	100% camera coverage	Per camera	5	\$125,000	\$75,000	\$200,000	\$6,500	\$5,000	\$11,500	\$4,000	\$2,500	\$2,750	\$0	\$750	\$1,500	\$0		
						Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	7	\$147,000	\$154,000	\$301,000	\$9,800	\$7,000	\$16,800	\$4,900	\$4,900	\$3,500	\$0	\$3,500	\$0	\$0		
NE	IH 43	MM 185 (STH 57)	MM 180 (STH 172)	5	A	Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	3	\$27,000	\$15,000	\$42,000	\$600	\$600	\$1,200	\$420	\$180	\$300	\$0	\$300	\$0	\$0	\$0	
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	5	\$17,500	\$6,500	\$24,000	\$2,900	\$0	\$2,900	\$2,000	\$900	\$0	\$0	\$0	\$0	\$0		
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	3	\$75,000	\$45,000	\$120,000	\$3,900	\$3,000	\$6,900	\$2,400	\$1,500	\$1,650	\$0	\$450	\$900	\$0		
NE	IH 43	MM 180 (STH 172)	MM 128 (STH 42)	52	B	Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective	Per mile	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Detection	Baseline	Mobile probes	Per mile	52	\$0	\$20,800	\$20,800	\$2,600	\$49,400	\$52,000	\$2,600	\$0	\$0	\$0	\$49,400	\$0	\$0	\$0	
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	52	\$57,200	\$26,000	\$83,200	\$10,400	\$0	\$10,400	\$5,200	\$5,200	\$0	\$0	\$0	\$0	\$0	\$0	
NE	IH 43	MM 128 (STH 42)	MM 123 (STH 28)	5	A	Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Traffic Flow Management	Baseline	Ramp gates	Per gate	2	\$18,000	\$18,000	\$36,000	\$4,000	\$0	\$4,000	\$1,600	\$2,400	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	52	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Detection	Low	Mobile probes	Per mile	5	\$0	\$2,000	\$2,000	\$250	\$4,750	\$5,000	\$250	\$0	\$0	\$4,750	\$0	\$0	\$0	\$0	
NE	IH 43	MM 128 (STH 42)	MM 123 (STH 28)	5	A	Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	5	\$5,500	\$2,500	\$8,000	\$800	\$0	\$800	\$500	\$300	\$0	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
NE, SE	IH 43	MM 123 (STH 28)	MM 100 (S Jct STH 32)	23	B	Detection	Baseline	Mobile probes	Per mile	23	\$0	\$9,200	\$9,200	\$1,150	\$21,850	\$23,000	\$1,150	\$0	\$0	\$21,850	\$0	\$0	\$0	\$0	
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	23	\$25,300	\$11,500	\$36,800	\$4,600	\$0	\$4,600	\$2,300	\$2,300	\$0	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Baseline	Negotiate for use of cameras	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Traffic Flow Management	Baseline	Portable DMS/HAR for major incidents	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	IH 43	MM 100 (S Jct STH 32)	MM 97 (STH 57)	3	B	Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	23	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	Low	Mobile probes	Per mile	3	\$0	\$1,200	\$1,200	\$150	\$2,850	\$3,000	\$150	\$0	\$0	\$2,850	\$0	\$0	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	IH 43	MM 97 (STH 57)	MM 92 (STH 60)	5	A	Traffic Flow Management	Baseline	Portable DMS/HAR for major incidents	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Detection	Low	Mobile probes	Per mile	5	\$0	\$2,000	\$2,000	\$250	\$4,750	\$5,000	\$250	\$0	\$0	\$4,750	\$0	\$0	\$0	\$0	
						Incident Management	Baseline	Reference markers	Per mile	5	\$400	\$400	\$800	\$100	\$0	\$100	\$80	\$20	\$0	\$0	\$0	\$0	\$0	\$0	
SE	IH 43	MM 92 (STH 60)	MM 85 (STH 167)	7	A	Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0		
						Traffic Flow Management	Baseline	Portable DMS/HAR for major incidents	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Detection	Low	Mobile probes	Per mile	7	\$0	\$2,800	\$2,800	\$350	\$6,650	\$7,000	\$350	\$0	\$0	\$6,650	\$0	\$0	\$0	\$0	
SE	IH 43	MM 85 (STH 167)	MM 72 (IH 94)	13	A	Incident Management	Baseline	Reference markers	Per mile	7	\$560	\$560	\$1,120	\$140	\$0	\$140	\$112	\$28	\$0	\$0	\$0	\$0	\$0		
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera	7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Traffic Flow Management	Baseline	Ramp gates	Per gate	2	\$18,000	\$18,000	\$36,000	\$4,000	\$0	\$4,000	\$1,600	\$2,400	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SE	IH 43	MM 85 (STH 167)	MM 72 (IH 94)	13	A	Detection	High	No more than 1/2 mile coverage	Per detector	15	\$135,000	\$75,000	\$210,000	\$3,000	\$3,000	\$6,000	\$2,100	\$900	\$1,500	\$0	\$1,500	\$0	\$0	\$0	
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	13	\$169,000	\$45,500	\$214,500	\$20,540	\$351,000	\$371,540	\$13,000	\$7,540	\$86,671	\$91,000	\$0	\$0	\$173,329		
						Surveillance	High	100% camera coverage	Per camera	15	\$375,000	\$225,000	\$600,000	\$19,500	\$15,000	\$34,500	\$12,000	\$7,500	\$8,250	\$0	\$2,250	\$4,500	\$0	\$0	
						Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	13	\$273,000	\$286,000	\$559,000	\$18,200	\$13,000	\$31,200	\$9,100	\$9,100	\$6,500	\$0	\$6,500	\$0	\$0	\$0	
NE	STH 172	IH 43 (Bellevue)	STH 57 (Allouez)	4	A	Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	13	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
						Detection	High	No more than 1/2 mile coverage	Per detector	3	\$27,000	\$15,000	\$42,000	\$600	\$600	\$1,200	\$420	\$180	\$300	\$0	\$300	\$0	\$0	\$0	\$0
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	4	\$52,000	\$14,000	\$66,000	\$6,320	\$108,000	\$114,320	\$4,000	\$2,320	\$26,668	\$28,000	\$0	\$0	\$53,332		
						Surveillance	High	100% camera coverage	Per camera	3	\$75,000	\$45,000	\$120,000	\$3,900	\$3,000	\$6,900	\$2,400	\$1,500	\$1,650	\$0	\$450	\$900	\$0	\$0	
NE	STH 172	STH 57 (Allouez)	USH 41 (Ashwaubenon)	2	A	Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	4	\$84,000	\$88,000	\$172,000	\$5,600	\$4,000	\$9,600	\$2,800	\$2,800	\$2,000	\$0	\$2,000	\$0	\$0	\$0	
						Communications	High	Fiber optic cable	Per mile	4	\$64,000	\$148,000	\$212,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Detection	High	No more than 1/2 mile coverage	Per detector	2	\$18,000	\$10,000	\$28,000	\$400	\$400	\$800	\$280	\$120	\$200	\$0	\$200	\$0	\$0	\$0	
						Incident Management	High	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Trailblazer signs for emergency detours, Dedicated weekly service patrols	Per mile	2	\$26,000	\$7,000	\$33,000	\$3,160	\$54,000	\$57,160	\$2,000	\$1,160	\$13,334	\$14,000	\$0	\$0	\$26,666		
NE	STH 172	STH 57 (Allouez)	STH 23	58	C	Surveillance	High	100% camera coverage	Per camera	2	\$50,000	\$30,000	\$80,000	\$2,600	\$2,000	\$4,600	\$1,600	\$1,000	\$1,100	\$0	\$300	\$600	\$0	\$0	
						Traffic Flow Management	High	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering	Per metered interchange	2	\$42,000	\$44,000	\$86,000	\$2,800	\$2,000	\$4,800	\$1,400	\$1,400	\$1,000	\$0	\$1,000	\$0	\$0	\$0	
						Communications	High	Fiber optic cable	Per mile	2	\$32,000	\$74,000	\$106,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Detection	Low	Mobile probes	Per mile	6	\$0	\$2,400	\$2,400	\$300	\$5,700	\$6,000	\$300	\$0	\$0	\$5,700	\$0	\$0	\$0	\$0	
NE	STH 57	IH 43 (Green Bay)	STH 172 (Allouez)	6	C	Incident Management	Low	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	6	\$480	\$480	\$960	\$120	\$0	\$120	\$96	\$24	\$0	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Communications	Baseline	None	N/A		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Detection	Baseline	Mobile probes	Per mile	58	\$0	\$23,200	\$23,200	\$2,900	\$55,000	\$58,000	\$2,900	\$0	\$55,100	\$0	\$0	\$0	\$0	\$0	
NE	STH 57	STH 172 (Allouez)	STH 23	58	C	Incident Management	Baseline	Reference markers	Per mile	58	\$4,640	\$9,280	\$13,920	\$1,160	\$0	\$1,160	\$928	\$232	\$0	\$0	\$0	\$0	\$0	\$0	
						Surveillance	Baseline	Negotiate for use of cameras	N/A																

Wild Goose Corridor - Cost Summary Table

Region	Highway	Segment Start	Segment End	Segment Length (miles)	Facility Type	Device Type	Deployment Level	Assumptions	Unit	Estimated Quantity	Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)
SW	USH 151	E Jct USH 12 (Bellline Highway)	IH 39/90/94 (Madison)	10	C	Detection	High	Mobile probes, Detectors at site-specific locations	Per detector	4	\$36,000	\$20,000	\$56,000	\$800	\$800	\$1,600	\$560	\$240	\$400	\$0	\$400	\$0	\$0
						Incident Management	Medium	Reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents	Per mile	10	\$5,800	\$800	\$6,600	\$1,200	\$0	\$1,200	\$660	\$540	\$0	\$0	\$0	\$0	\$0
						Surveillance	High	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	4	\$100,000	\$60,000	\$160,000	\$5,200	\$4,000	\$9,200	\$3,200	\$2,000	\$2,200	\$0	\$600	\$1,200	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW	USH 151	IH 39/90/94 (Madison)	N Bristol St (Sun Prairie)	6	A	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	5	\$45,000	\$25,000	\$70,000	\$1,000	\$1,000	\$2,000	\$700	\$300	\$500	\$0	\$500	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	6	\$21,000	\$7,800	\$28,800	\$3,480	\$0	\$3,480	\$2,400	\$1,080	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	5	\$125,000	\$75,000	\$200,000	\$6,500	\$5,000	\$11,500	\$4,000	\$2,500	\$2,750	\$0	\$750	\$1,500	\$0
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective	Per mile	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW	USH 151	STH 19 (Sun Prairie)	Madison Street (South of Beaver Dam)	26	B	Detection	Low	Mobile probes	Per mile	26	\$0	\$10,400	\$10,400	\$1,300	\$24,700	\$26,000	\$1,300	\$0	\$0	\$24,700	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	26	\$28,600	\$13,000	\$41,600	\$5,200	\$0	\$5,200	\$2,600	\$2,600	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Traffic Flow Management	Baseline	Portable DMS/HAR for major incidents	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	26	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW	USH 151	Madison Street (South of Beaver Dam)	Dodge CTH B (North of Beaver Dam)	6	A	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	1	\$9,000	\$5,000	\$14,000	\$200	\$200	\$400	\$140	\$60	\$100	\$0	\$100	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	6	\$21,000	\$7,800	\$28,800	\$3,480	\$0	\$3,480	\$2,400	\$1,080	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	3	\$75,000	\$45,000	\$120,000	\$3,900	\$3,000	\$6,900	\$2,400	\$1,500	\$1,650	\$0	\$450	\$900	\$0
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective	Per mile	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW	USH 151	Dodge CTH B (North of Beaver Dam)	STH 26 (MM 144)	9	B	Detection	Low	Mobile probes	Per mile	9	\$0	\$3,600	\$3,600	\$450	\$8,550	\$9,000	\$450	\$0	\$0	\$8,550	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	9	\$9,900	\$4,500	\$14,400	\$1,800	\$0	\$1,800	\$900	\$900	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Traffic Flow Management	Baseline	Portable DMS/HAR for major incidents	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	9	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SW, NE	USH 151	STH 26 (MM 144)	STH 26 (MM 148)	4	B	Detection	Low	Mobile probes	Per mile	4	\$0	\$1,600	\$1,600	\$200	\$3,800	\$4,000	\$200	\$0	\$0	\$3,800	\$0	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	4	\$6,400	\$2,000	\$8,400	\$1,200	\$0	\$1,200	\$600	\$600	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NE	USH 151	STH 26 (MM 148)	Fond Du Lac CTH D (Southwest of Fond Du Lac)	11	B	Detection	Baseline	Mobile probes	Per mile	11	\$0	\$4,400	\$4,400	\$550	\$10,450	\$11,000	\$550	\$0	\$0	\$10,450	\$0	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	11	\$17,600	\$5,500	\$23,100	\$3,300	\$0	\$3,300	\$1,650	\$1,650	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Traffic Flow Management	Baseline	Portable DMS/HAR for major incidents	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	11	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NE	USH 151	Fond Du Lac CTH D (Southwest of Fond Du Lac)	N Jct USH 41 (Fond Du Lac)	2	A	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Incident Management	Medium	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans, Incident management resources on demand for major incidents, Trailblazer signs for emergency detours	Per mile	2	\$7,000	\$2,600	\$9,600	\$1,160	\$0	\$1,160	\$800	\$360	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0
						Traffic Flow Management	Medium	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NE	USH 41	S Jct USH 151 (Fond Du Lac)	Winneshago St (North Fond Du Lac)	6	A	Detection	Baseline	Mobile probes	Per mile	6	\$0	\$2,400	\$2,400	\$300	\$5,700	\$6,000	\$300	\$0	\$0	\$5,700	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	6	\$6,600	\$3,000	\$9,600	\$960	\$0	\$960	\$600	\$360	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NE	USH 41	Winneshago St (North Fond Du Lac)	Fond Du Lac CTH N	5	B	Detection	Baseline	Mobile probes	Per mile	5	\$0	\$2,000	\$2,000	\$250	\$4,750	\$5,000	\$250	\$0	\$0	\$4,750	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	5	\$5,500	\$2,500	\$8,000	\$1,000	\$0	\$1,000	\$500	\$500	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NE	USH 41	Fond Du Lac CTH N	STH 44 (Oshkosh)	10	B	Detection	Baseline	Mobile probes	Per mile	10	\$0	\$4,000	\$4,000	\$500	\$9,500	\$10,000	\$500	\$0	\$0	\$9,500	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	10	\$11,000	\$5,000	\$16,000	\$2,000	\$0	\$2,000	\$1,000	\$1,000	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera	1	\$25,000	\$15,000	\$40,000	\$1,300	\$1,000	\$2,300	\$800	\$500	\$550	\$0	\$150	\$300	\$0
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NE	USH 41	STH 44 (Oshkosh)	Southern limits of Neenah	12	A	Detection	Low	Mobile probes	Per mile	12	\$0	\$4,800	\$4,800	\$600	\$11,400	\$12,000	\$600	\$0	\$0	\$11,400	\$0	\$0	\$0
						Incident Management	Low	Enhanced reference markers, Coordination with PSAPs, Preplanned closure and detour plans	Per mile	12	\$13,200	\$6,000	\$19,200	\$1,920	\$0	\$1,920	\$1,200	\$720	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	6	\$150,000	\$90,000	\$240,000	\$7,800	\$6,000	\$13,800	\$4,800	\$3,000	\$3,300	\$0	\$900	\$1,800	\$0
						Traffic Flow Management	Low	Portable DMS/HAR for major incidents, Ramp closure gate where applicable, Ramp Metering where cost effective	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	12	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NE	STH 26	USH 151 (USH 151 MM 148)	STH 23 (Rosendale)	10	C	Detection	Baseline	Mobile probes	Per mile	10	\$0	\$4,000	\$4,000	\$500	\$9,500	\$10,000	\$500	\$0	\$0	\$9,500	\$0	\$0	\$0
						Incident Management	Baseline	Reference markers	Per mile	10	\$800	\$800	\$1,600	\$200	\$0	\$200	\$160	\$40	\$0	\$0	\$0	\$0	\$0
						Surveillance	Low	Negotiate for use of cameras, Cameras at site-specific locations based on data	Per camera	10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
NE	STH 26	STH 23 (Rosendale)	USH 41 (South of Oshkosh)	11	C	Detection	Medium	Mobile probes, Detectors at site-specific locations	Per detector	11	\$880	\$880	\$1,760	\$220	\$0	\$220	\$176	\$44	\$0	\$0	\$0	\$0	\$0
						Surveillance	Medium	Negotiate for use of cameras, Cameras at interchanges and site-specific locations based on data	Per camera	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						Communications	High	Fiber optic cable (operations & maintenance only)	Per mile	11	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

\$795,280	\$479,380	\$1,274,660	\$62,370	\$112,350	\$174,720	\$39,296	\$23,074	\$13,100	\$88,350	\$4,300	\$6,600	\$0
Estimated Cost (Hardware)	Estimated Cost (Installation)	Estimated Total Capital Cost	Maintenance Cost (Per Year)	Operation Cost (Per Year)	Total O&M Cost (Per Year)	Estimated Maintenance Staffing Cost (Per Year)	Estimated Direct Maintenance Cost (Per Year)	Estimated Operation Staffing Cost (Per Year)	Estimated Direct Operation Cost (Per Year)	Estimated Power Cost (Per Year)	Estimated Communications Cost (Per Year)	Estimated Service Patrol Staffing Cost (Per Year)

