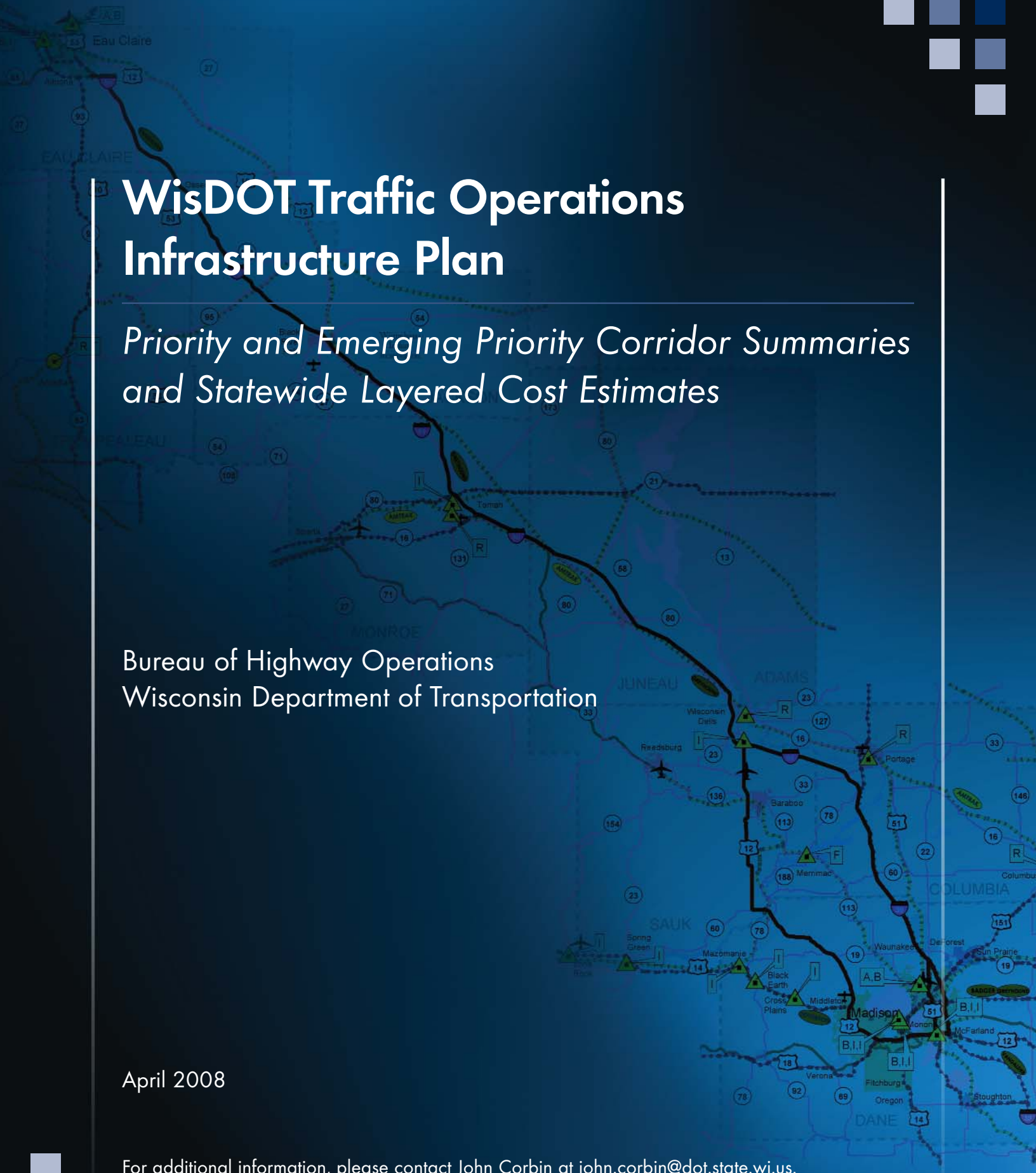
WisDOT Traffic Operations Infrastructure Plan

Priority and Emerging Priority Corridor Summaries and Statewide Layered Cost Estimates



Bureau of Highway Operations
Wisconsin Department of Transportation

April 2008

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

Document Overview

Introduction p 2-4

This document provides a first look at the summary results of the *Wisconsin Traffic Operations Infrastructure Plan*. The *Wisconsin Traffic Operations Infrastructure Plan*, a long-range planning effort undertaken by the Bureau of Highway Operations, outlines Wisconsin's statewide traffic operations infrastructure needs and opportunities, culminating in a series of sketch technology recommendations and associated costs.

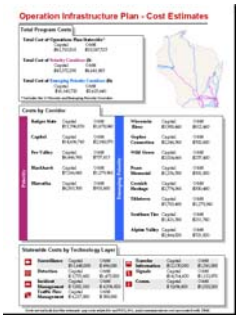
The information in this document will eventually be presented in the final report. The work is still in a draft format and modification may still be made to the traffic operations infrastructure recommendations. Recommendations are broken out into the four subsections described below.

SUMMARY COST ESTIMATES p 6

Planning level cost estimates were developed for all thirteen Priority and Emerging Priority Corridors. There were developed by SRF, SEH and Jacobs in three functional areas: Traffic Management and Surveillance, Traveler Information and Signal Systems. This section provides summary cost estimates for recommended operations infrastructure investment. Costs are presented in three distinct ways as requested by WisDOT:

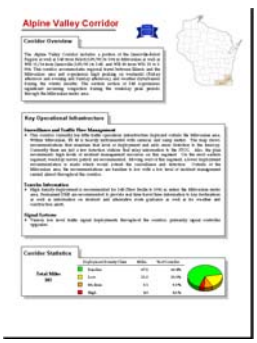
- *Total Costs*
- *Total Costs of Priority and Emerging Priority Corridors*
- *Total Cost by Technology layer*

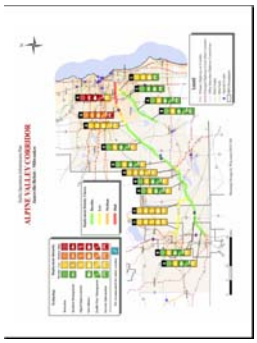
Detailed breakouts of each functional area's costs, along with assumptions and detailed maps, are presented in a series of three appendices provided to WisDOT under separate cover.



PRIORITY AND EMERGING PRIORITY CORRIDOR SUMMARIES p 9-36

This section presents traffic operations infrastructure deployment recommendations for Wisconsin's thirteen Priority and Emerging Priority Corridors. Corridor maps with roadway segment technology recommendations are displayed, along with accompanying text and key summary statistics. Only Priority and Emerging Priority Corridors are presented in this document. The final report will feature recommendations for all 37 statewide multimodal corridors.





METRO-NODE SUMMARIES AND RECOMMENDATIONS p 38-44

This section presents traffic operations infrastructure recommendations by MPO regions around the state. These maps contain the same deployment recommendations as the corridors maps. They have, however, been summarized at the MPO level for most metro regions in Wisconsin.

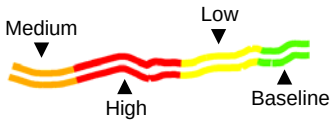
How to Read the Maps in this Report

Overview

This synopsis of the Wisconsin Department of Transportation's *Traffic Operations Infrastructure Plan* is intended to summarize the *Plan*'s recommendations in a format that is intuitive and understandable. For each of the 13 highest priority corridors in Wisconsin (corridor limits are based on the 2030 Long-Range Plan corridor definitions), one left-hand page of text explains the high-level operations technology recommendations. The right-hand page for each of the 13 corridors is a corridor map that displays Deployment Density Classes and Signposts with specific technology recommendations for each roadway segment, both explained in greater detail below.

Deployment Density Classes

Deployment Density Classes (DDC) are a recommendation for the level of operations technology deployment that should be considered for a given segment of roadway. These recommendations are intended to allow for flexibility in the more detailed corridor-level studies that are likely to precede deployment. Color coded links on the corridor maps illustrate where High, Medium, Low, and Baseline DDCs are recommended, shown as red, orange, yellow, and green respectively. DDC is calculated based on a variety of operational performance measures including traffic volumes and patterns, safety, and the impacts of weather and special events.



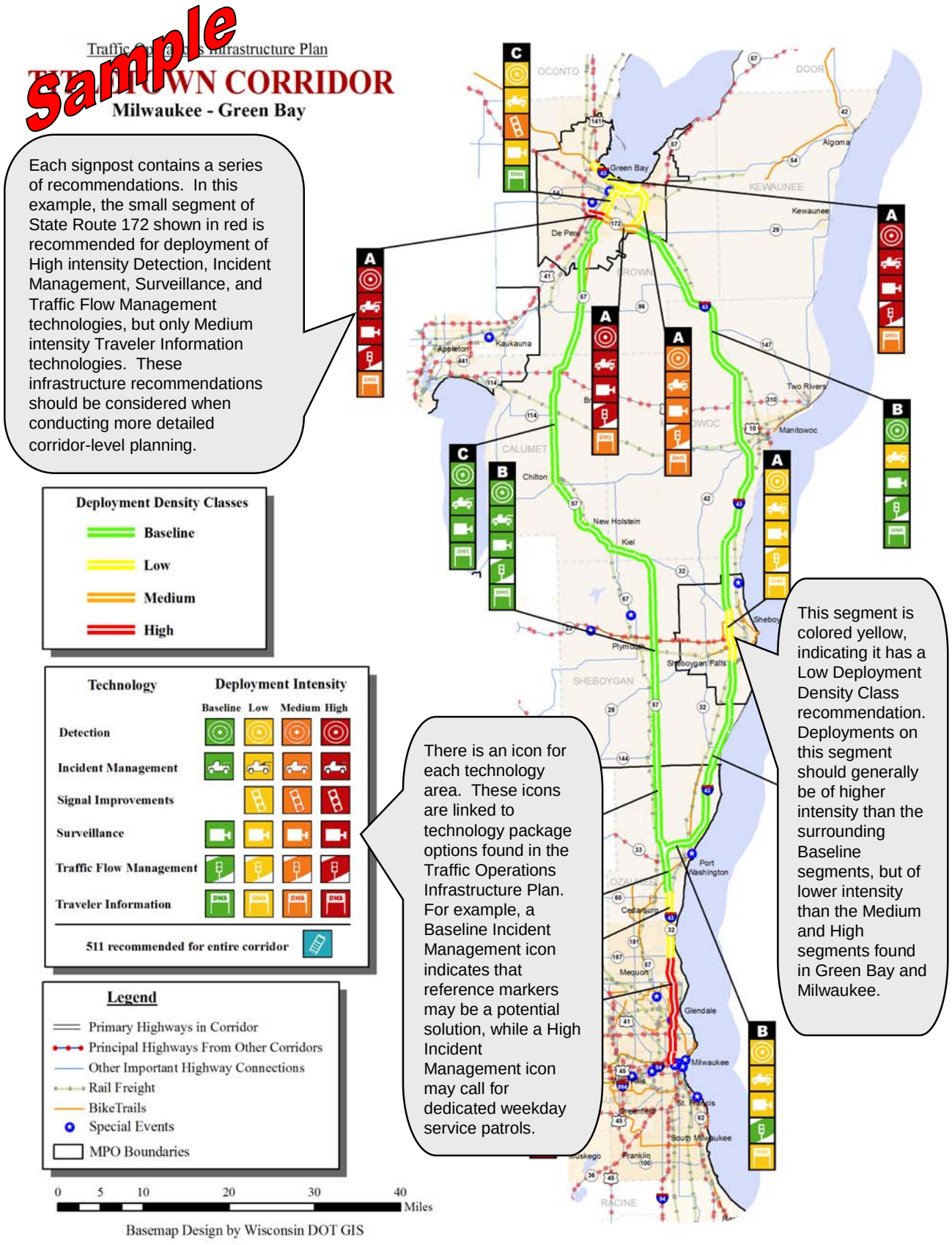
Signposts

Signposts are composed of a series of icons and are used to capture technology recommendations in greater detail than Deployment Density Classes. They illustrate the specific types of technologies being recommended as well as the intensity of technology deployment recommended for a specific segment of roadway. They allow for variation of intensities. For example, a roadway segment with significant safety concerns but a Low Deployment Density Class may receive a High Incident Management recommendation. For more details on the specific technology packages tied to each icon, see the *Traffic Operations Infrastructure Plan.* The technology functional areas considered separately include Detection, Incident Management, Signal Improvements, Surveillance, Traffic Flow Management, and Traveler Information.

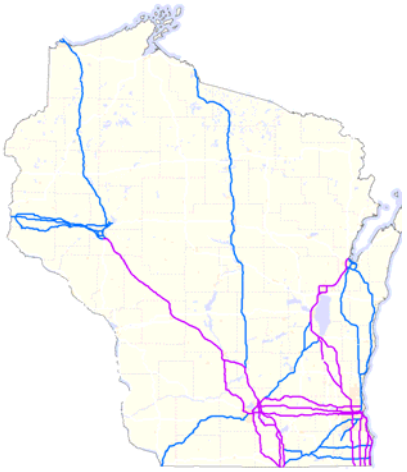
◄ **Functional Class Indicator:** The letter at the top of a signpost indicates the functional class grouping of the corresponding roadway. (A = Urban Interstate/Expressway, B = Rural Interstate/Expressway, C = Arterial)

◄ **Technology Recommendations:** Each icon represents a different operations technology functional area. The color scheme matches that of the Deployment Density Classes (High = Red, Medium = Orange, Low = Yellow, Baseline = Green). For the orange icons shown to the left, Medium deployment intensity is recommended. For the yellow icon, Low deployment intensity is recommended. Icons can be matched to the Legend in each map. Note: The absence of a Signal Improvement icon in this example means that there are no recommendations for Signal Improvement on this roadway segment.

◄ **Connecting Line:** Every signpost has a line connecting it to a roadway segment.


Sample
Traffic Operations Infrastructure Plan
BROWN CORRIDOR
Milwaukee - Green Bay
Each signpost contains a series of recommendations. In this example, the small segment of State Route 172 shown in red is recommended for deployment of High intensity Detection, Incident Management, Surveillance, and Traffic Flow Management technologies, but only Medium intensity Traveler Information technologies. These infrastructure recommendations should be considered when conducting more detailed corridor-level planning.
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
There is an icon for each technology area. These icons are linked to technology package options found in the Traffic Operations Infrastructure Plan. For example, a Baseline Incident Management icon indicates that reference markers may be a potential solution, while a High Incident Management icon may call for dedicated weekday service patrols.
This segment is colored yellow, indicating it has a Low Deployment Density Class recommendation. Deployments on this segment should generally be of higher intensity than the surrounding Baseline segments, but of lower intensity than the Medium and High segments found in Green Bay and Milwaukee.
Green Bay
Kewaunee
Algoma
De Pere
Appleton
Kaukauna
Two Rivers
Manitowoc
Chilton
New Holstein
Kiel
Plymouth
Sheboygan Falls
Port Washington
Cedarburg
Mequon
Glendale
Milwaukee
Greenfield
St. Francis
South Milwaukee
Franklin
Muskego
OCONTO
DOOR
KEWAUNEE
BROWN
CALUMET
SHEBOYGAN
OZAUKEE
RACINE

Statewide Priority Corridors



Overview

To identify which proposed operational infrastructure deployments best serve the mobility and connectivity needs of Wisconsin, each of the 37 Connections 2030 Multimodal Corridors was evaluated. Based on the Deployment Density Class output, the corridors were then prioritized by need. The resulting top five corridors are defined as **Priority Corridors**. The next eight are defined as **Emerging Priority Corridors**. Collectively, they connect almost every major metro area in Wisconsin and encompass the most critical freight and tourism routes in the State. These Corridors are intended to be the focus of traffic operations infrastructure investment.

Prioritization Methodology

The prioritization methodology identifies those corridors with the greatest need for traffic operations infrastructure investment. As part of the corridor scoring and mapping process, every roadway segment was grouped into a Deployment Density Class (DDC). These DDCs serve as the basis for analysis of corridor needs on a statewide level. A simple weighing process determines the Priority Scores below. Each centerline mile of High DDC adds a score of three to the overall Priority Score. Medium DDC adds two while Low DDC adds one.

The results are shown below from highest to lowest priority. Rankings and results for the remaining 24 corridors are available in the *Traffic Operations Infrastructure Plan*.

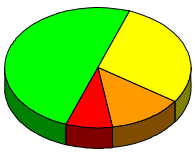
	Name	Endpoints	Primary Routes	Priority Score
Priority	Badger State	Eau Claire – Madison	I-94/90, US 12	359
	Capitol	Milwaukee - Madison	I-94, US 12/18, S19, S16	275
	Fox Valley	Milwaukee – Green Bay	US 41/45	217
	Blackhawk	Madison – Beloit - Chicago	I-90/39, US 51, S213	157
	Hiawatha	Milwaukee - Chicago	I-94, US 45, S31, S32	151
Emerging Priority	Wisconsin River	Madison – Ironwood, MI	I-39, US 51	123
	Gopher Connection	Eau Claire – Twin Cities	I-94, US 12, S29	107
	Wild Goose	Madison – Fox River Valley	US 151/41	99
	Peace Memorial	Chippewa Valley – Duluth/Superior	US 53	86
	Cornish Heritage	Dubuque - Madison	US 151/18	86
	Titletown	Milwaukee – Green Bay	I-43, S32, S57	76
	Southern Tier	Janesville/Beloit – Racine/Kenosha	I-43, US 14, S11, S50	57
	Alpine Valley	Janesville/Beloit - Milwaukee	I-43, S36, S11, S14	52

Corridor Statistics

Total Priority and Emerging Priority Corridor Miles

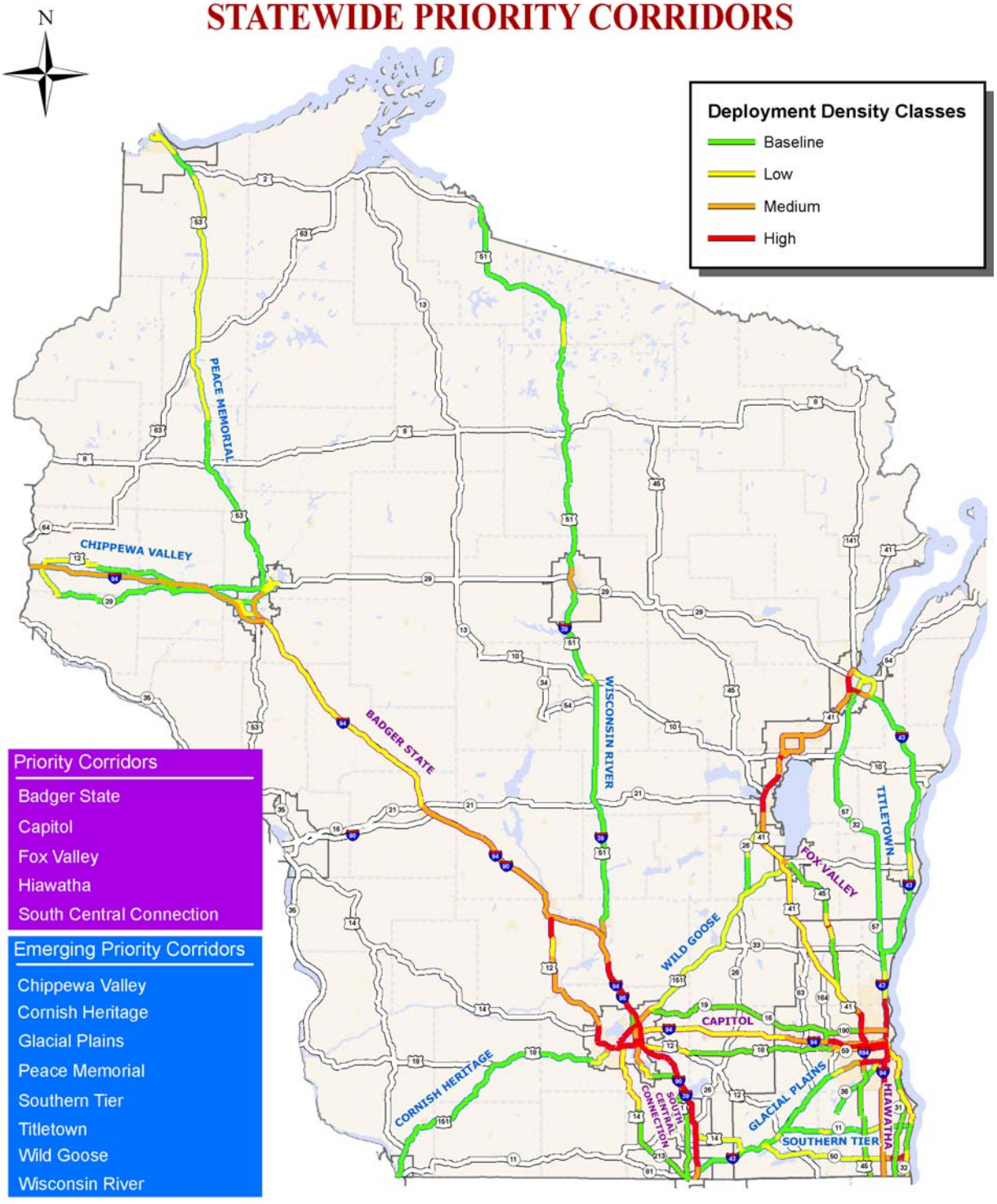
~ 2,300

Deployment Density Class	Miles	% of Corridors
Baseline	1,149	50%
Low	678	29%
Medium	312	13%
High	181	8%



Traffic Operations Infrastructure Plan

STATEWIDE PRIORITY CORRIDORS



Please noet: "Baseline" (Green) includes a variety of statewide network service recommendations, to include: 511, STOC-Intercad, STOC-RWIS, and PCMS Fleet. Many of these elements are either in place or committed and funded deployments that will provide a basic traveler warning and information service.

Operation Infrastructure Plan - Cost Estimates

Total Program Costs

Total Cost of Operations Plan Statewide*:

Capital	Operations	Maintenance	Replacement
$63,700,00	$7,500,00	$3,100,000	$1,740,000

Total Cost of Priority Corridors (5):

Capital	Operations	Maintenance	Replacement
$39,400,00	$4,100,000	$1,700,000	$1,000,000

Total Cost of Emerging Priority Corridors (8):

Capital	Operations	Maintenance	Replacement
$21,700,000	$3,000,000	$1,000,000	$700,000

Non Corridor Related Costs (i.e. 511)

Capital	Operations	Maintenance	Replacement
$2,600,000	$400,000	$400,000	$40,000

*** Includes the 13 Priority and Emerging Priority Corridors**

Statewide Costs by Technology Layer

	Capital	Operations	Maintenance	Replacement
Surveillance	$11,600,000	$720,000	$250,000	$160,000
Detection	$3,900,000	$1,800,000	$100,000	$20,000
Incident Management	$5,000,000	$3,600,000	$400,000	$300,000
Traffic Flow Management	$5,300,000	$400,000	$100,000	$100,000
Traveler Information	$13,600,000	$900,000	$1,600,000	$200,000
Signals	$17,600,000	$1,000,000	$600,000	$9000,000
Comm.	$6,800,000	$700,000	$20,000	$-

Operation Infrastructure Plan - Cost Estimates

Costs by Corridor

Priority	**Badger State**	Capital $9,700,000	Operations $1,100,000	Maintenance $300,000	Replacement $200,000
	Capitol	Capital $13,900,000	Operations $1,600,000	Maintenance $700,800	Replacement $300,000
	Fox Valley	Capital $6,700,000	Operations $600,000	Maintenance $300,000	Replacement $100,000
	South Central Connection	Capital $8,000,000	Operations $1,000,000	Maintenance $200,000	Replacement $200,000
	Hiawatha	Capital $6,300,000	Operations $700,000	Maintenance $300,000	Replacement $200,000
Emerging Priority	**Wisconsin River**	Capital $2,400,000	Operations $400,000	Maintenance $100,000	Replacement $60,000
	Chippewa Valley	Capital $3,000,000	Operations $300,000	Maintenance $100,000	Replacement $40,000
	Wild Goose	Capital $3,900,000	Operations $300,000	Maintenance $200,000	Replacement $100,000
	Peace Memorial	Capital $1,300,000	Operations $300,000	Maintenance $70,000	Replacement $40,000
	Cornish Heritage	Capital $4,400,000	Operations $300,000	Maintenance $200,000	Replacement $200,000
	Titletown	Capital $5,700,000	Operations $1,000,000	Maintenance $200,000	Replacement $100,000
	Southern Tier	Capital $2,000,000	Operations $200,000	Maintenance $50,000	Replacement $70,000
	Glacial Plains	Capital $2,800,000	Operations $400,000	Maintenance $100,000	Replacement $50,000

Notes:

- All costs in 2007 dollars.
- For corridor limits see page 2-3 of this document.
- The sum of cost by corridor does not equal total program costs as the overlapping segments have been removed in the calculation.
- Costs not included in this estimate: any costs related to an STOC and communications cost associated with DMS.
- Details on these cost estimates with assumptions can be found in each appropriate functional appendix.

Map Series

TABLE OF CONTENTS

Priority and Emerging Priority Corridors

Metro Nodes

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Badger State Corridor

Corridor Overview

The Badger State Corridor includes the Madison MPO and Chippewa Falls – Eau Claire MPO Regions as well as I-94 from Eau Claire to Madison, I-90 from Tomah to Madison and I-39 from Portage to Madison. The Corridor includes a system interchange with I-90 and I-94 near Tomah. The Corridor experiences significant regional traffic, high peaking on weekends (Friday afternoon and evening and Sunday afternoon), and weather disturbances during the winter months.

Key Operational Infrastructure

Surveillance and Traffic Flow Management

- High recommendations for surveillance and traffic flow management technologies fall primarily in the Madison metropolitan area, which is already instrumented somewhat heavily with traffic operations devices. Surveillance and detection recommendations remain high north from Madison to the I-90/94 split. There is a combination of medium and low recommendations further north on I-94. (See *TOIP Appendix A* for further details.)

Traveler Information

- The segment of I-94 from Eau Claire to Tomah is recommended for medium density deployment. Recommendations include a portable DMS be deployed between Black River Falls and Tomah upstream from the I-90/94 system interchange to provide incident and alternative route guidance as well as for weather and construction alerts. I-90/94 from Tomah through Madison is classified as medium density deployment. Portable DMS along the corridor will be maintained to provide incident and alternate route guidance as well as being used for weather and construction alerts. The majority of the deployments were installed as part of the earlier Blue Route project. The Blue Route uses US 51 (Stoughton Road) from US 12/18 (the Madison Beltline) at the south to its intersection with I-39/90/94 at the north. An additional portable DMS is recommended for southbound US 51 for the Blue Route as well as to provide incident and alternate route guidance as well as being used for weather and construction alerts. (See *TOIP Appendix B* for further details.)

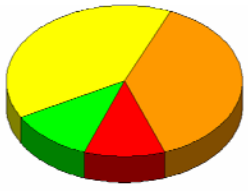
Signal Systems

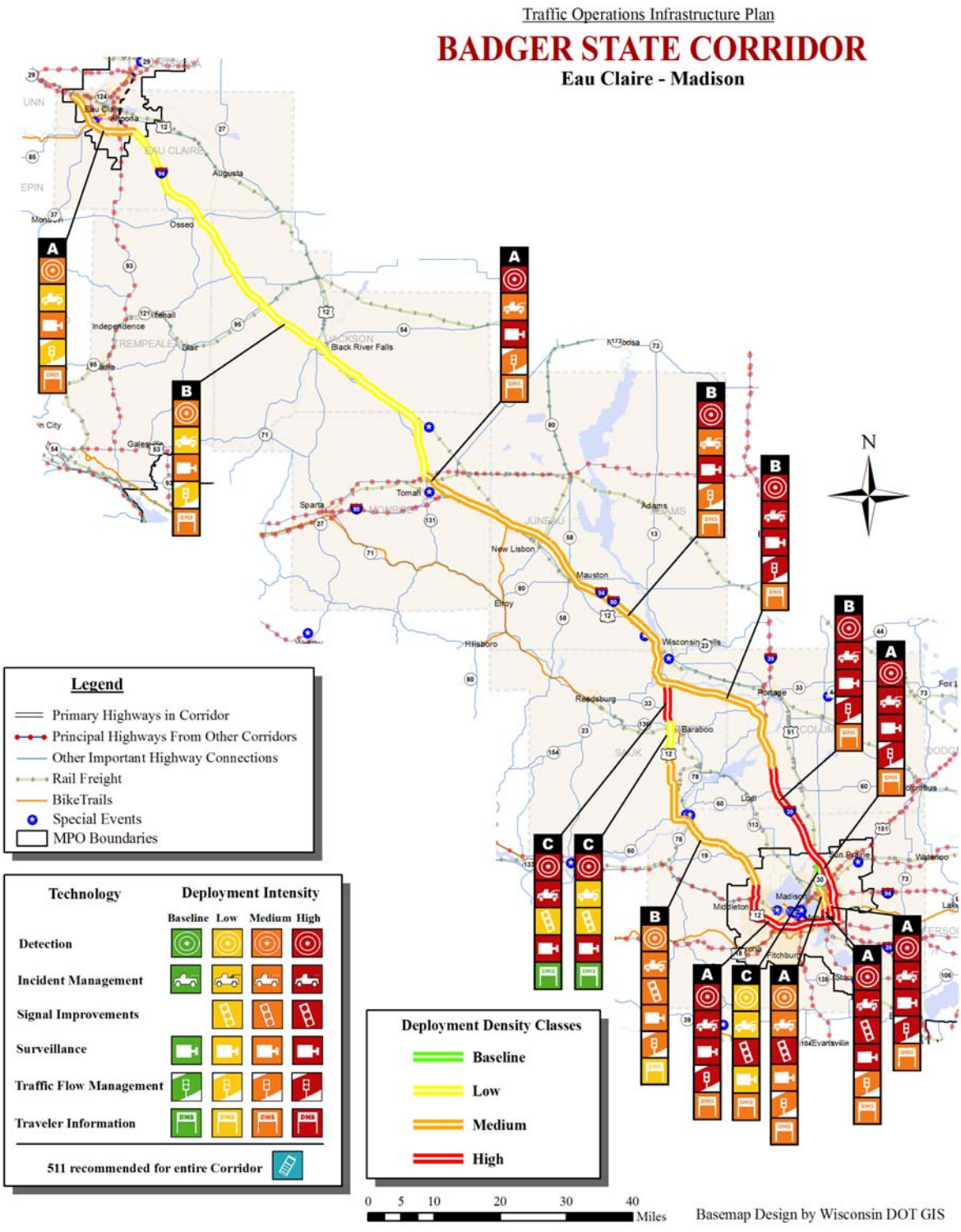
- Various traffic signal deployments are recommended throughout the Corridor. For example, a 9 signal, 5 mile closed loop signal system with ATMS and real time communication link to operating agencies and the STOC is recommended on US 151 south to US 12/18. (See *TOIP Appendix C* for further details.)

Corridor Statistics

Total Miles = **241**

Deployment Density Class	Miles	% of Corridor
Baseline	27.5	11.4%
Low	94.6	39.3%
Medium	92.2	38.2%
High	26.8	11.1%




Traffic Operations Infrastructure Plan
BADGER STATE CORRIDOR
Eau Claire - Madison
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 20 30 40
Miles
Basemap Design by Wisconsin DOT GIS
N
Eau Claire
Augusta
Osseo
Black River Falls
Tomah
Sparta
New Lisbon
Mauston
Hillsboro
Wisconsin Dells
Reedsburg
Baraboo
Portage
Madison
Middleton
Fitchburg
Evansville
Waterloo
Adams

Capitol Corridor

Corridor Overview

The Capitol Corridor includes the Madison MPO and Milwaukee-Waukesha Regions as well as I-94 from Madison to Milwaukee, WIS 151/19/16 from Madison to Milwaukee, and US 18 from Madison to Milwaukee. The Corridor includes system interchanges with US 41/45 and I-43 in Milwaukee. The Corridor experiences significant regional traffic, high peaking on weekends (Friday afternoon and evening and Sunday afternoon), and recurring congestion during the weekday peak periods in the Milwaukee-Waukesha urban areas and weather disturbances during the winter months.

Key Operational Infrastructure

Surveillance and Traffic Flow Management

- High deployment levels are recommended for the Milwaukee are, which is already heavily instrumented. It is recommended to extend the traffic operations infrastructure further west to accommodate increased traffic volumes and growth along these segments. Although Madison is not currently as heavily instrumented as Milwaukee, it is recommended that technologies continue to be implemented to maintain the level of traffic operations capability as the area grows.
- One of the main traffic operations strategies that is recommended in this Corridor that is less significant in other corridors is incident management. Along US 12 and US 18, a medium level of incident management is recommended to mitigate safety concerns. (See *TOIP Appendix A* for further details.)

Traveler Information

- The majority of the freeways within the Milwaukee-Waukesha Metro Region are recommended for high density deployment. Permanent DMS are recommended throughout the Region to provide real time travel time information to key destinations as well as information on incident and alternative route guidance as well as for weather and construction alerts.
- The majority of highways entering the Madison area within the Madison MPO Region are recommended for medium density deployment. Portable DMS are recommended throughout the Corridor. The majority of the deployments were installed as part of the earlier Blue Route project. The Blue Route uses US 51 (Stoughton Road) from US 12/18 (the Madison Beltline) at the south to its intersection with I-39/90/94 at the north. An additional portable DMS is recommended for southbound US 51 for the Blue Route as well as to provide incident and alternate route guidance as well as being used for weather and construction alerts. (See *TOIP Appendix B* for further details.)

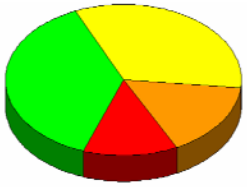
Signal Systems

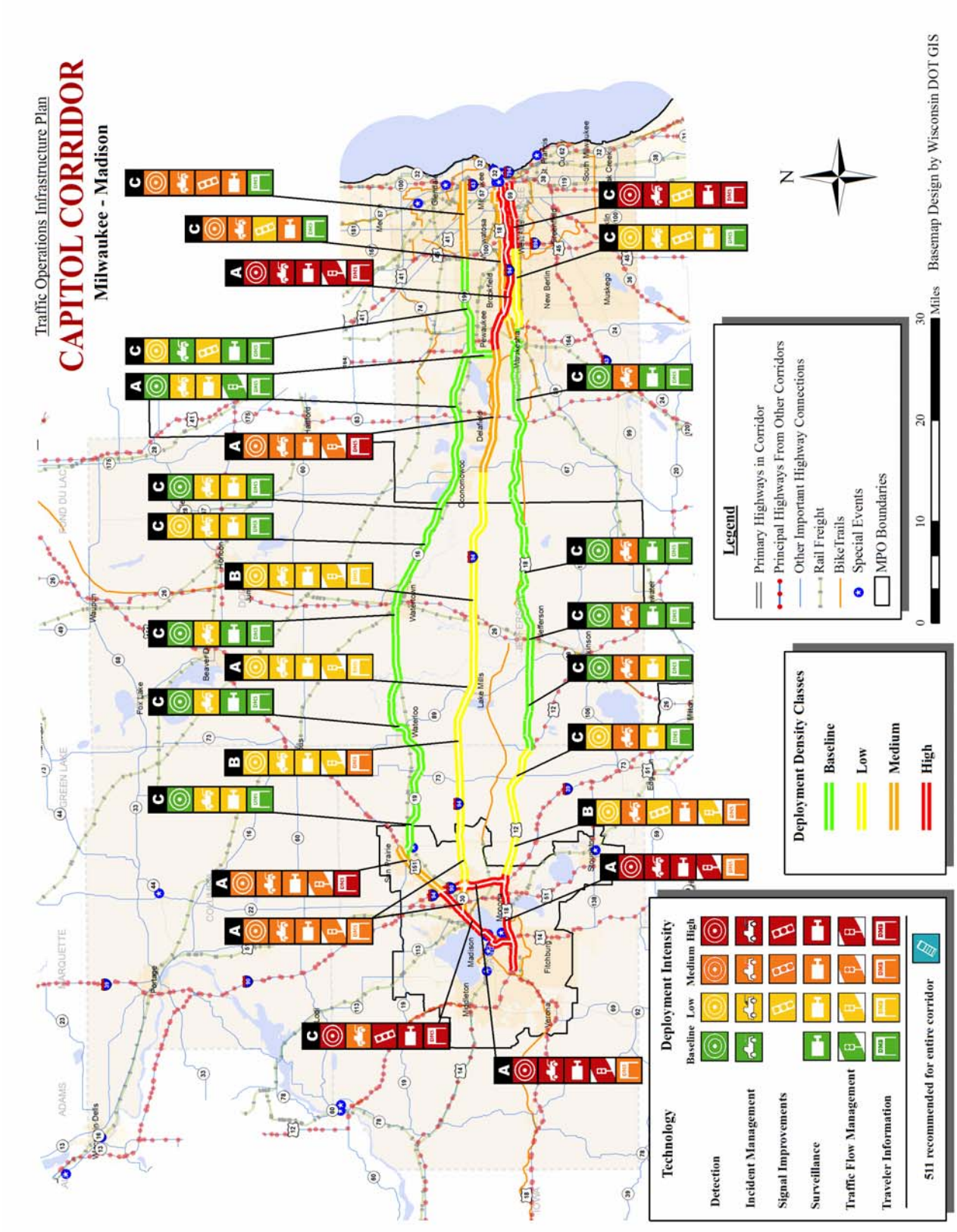
- Various signal upgrades on the Corridor are recommended, such as targeted ATMS deployments in the Madison area with real time communications links to operating agencies and the STOC. (See *TOIP Appendix C* for further details.)

Corridor Statistics

Total Miles = **264**

Deployment Density Class	Miles	% of Corridor
Baseline	99.7	37.7%
Low	88.1	33.3%
Medium	42.0	15.9%
High	34.4	13.0%




Traffic Operations Infrastructure Plan
CAPITOL CORRIDOR
Milwaukee - Madison
Legend
Primary Highways in Corridor
Principal Highways From Other Corridors
Other Important Highway Connections
Rail Freight
BikeTrails
Special Events
MPO Boundaries
0 10 20 30 Miles
Basemap Design by Wisconsin DOT GIS
N
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

Fox Valley Corridor

Corridor Overview

The Fox Valley Corridor includes the Milwaukee-Waukesha, Appleton-Oshkosh-Fond-du-Lac, and Green Bay Regions as well as US 41 from Milwaukee to Green Bay, and US 45 between Milwaukee and Fond du Lac. The Corridor experiences significant regional traffic, high peaking on weekends (Friday afternoon and evening and Sunday afternoon), significant event traffic, and weather disturbances occur during the winter months.

Key Operational Infrastructure

Surveillance and Traffic Flow Management

- Although few traffic operations devices exist in this corridor outside the Milwaukee area, infrastructure implementation is planned for US 41 from Oshkosh to the Green Bay area. Currently, plans call for 34 cameras, 50 traffic detectors, and nine (9) DMS between the WIS 26 interchange south of Oshkosh and Suamico to the north of Green Bay. The low and medium recommendations on the Brown, Outagamie, and Winnebago County portions of this Corridor assume the planned infrastructure will fulfill the majority of the Corridor's need. (See *TOIP Appendix A* for further details.)

Traveler Information

- The segment of US 41/45 from I-94 to the split is recommended for high density deployment due to significant recurring congestion. It is recommended that permanent DMS be deployed inbound into the Milwaukee metro area. For the Fond du Lac area, it is recommended that portable DMS be located on US 41 approaching the city from the south and north. For the Oshkosh area, it is recommended that portable DMS be located on US 41 approaching the city from the south and north to provide incident and alternate route guidance as well as being used for weather, construction, and traffic event (EAA Fly-in) alerts. In addition, it is recommended that a portable DMS be located north of the WIS 26 exit for southbound traffic to provide additional alternate route guidance. For the Appleton area, it is recommended that portable DMS be located on US 41 approaching the city from the south and north to provide incident and alternate route guidance via WIS 441. For the Green Bay area, it is recommended that a combination of portable DMS and permanent DMS be located approaching the US 41, I-43, and WIS 172 ring road around the city to provide guidance and weather, construction, and event (Green Bay Packer games) alerts. (See *TOIP Appendix B* for further details.)

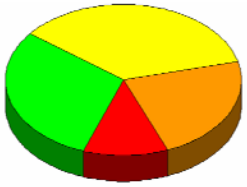
Signal Systems

- Various signal upgrades are recommended. For example, along US 45, 18 traffic signal controller upgrades to a closed loop signal system with communications link to operating agencies are recommended from WIS 175 south to 8th Street.. (See *TOIP Appendix C* for further details.)

Corridor Statistics

Total Miles = **187**

Deployment Density Class	Miles	% of Corridor
Baseline	55.9	29.9%
Low	66.7	35.7%
Medium	42.5	22.7%
High	21.8	11.7%



Traffic Operations Infrastructure Plan

FOX VALLEY CORRIDOR

Milwaukee - Green Bay

Legend

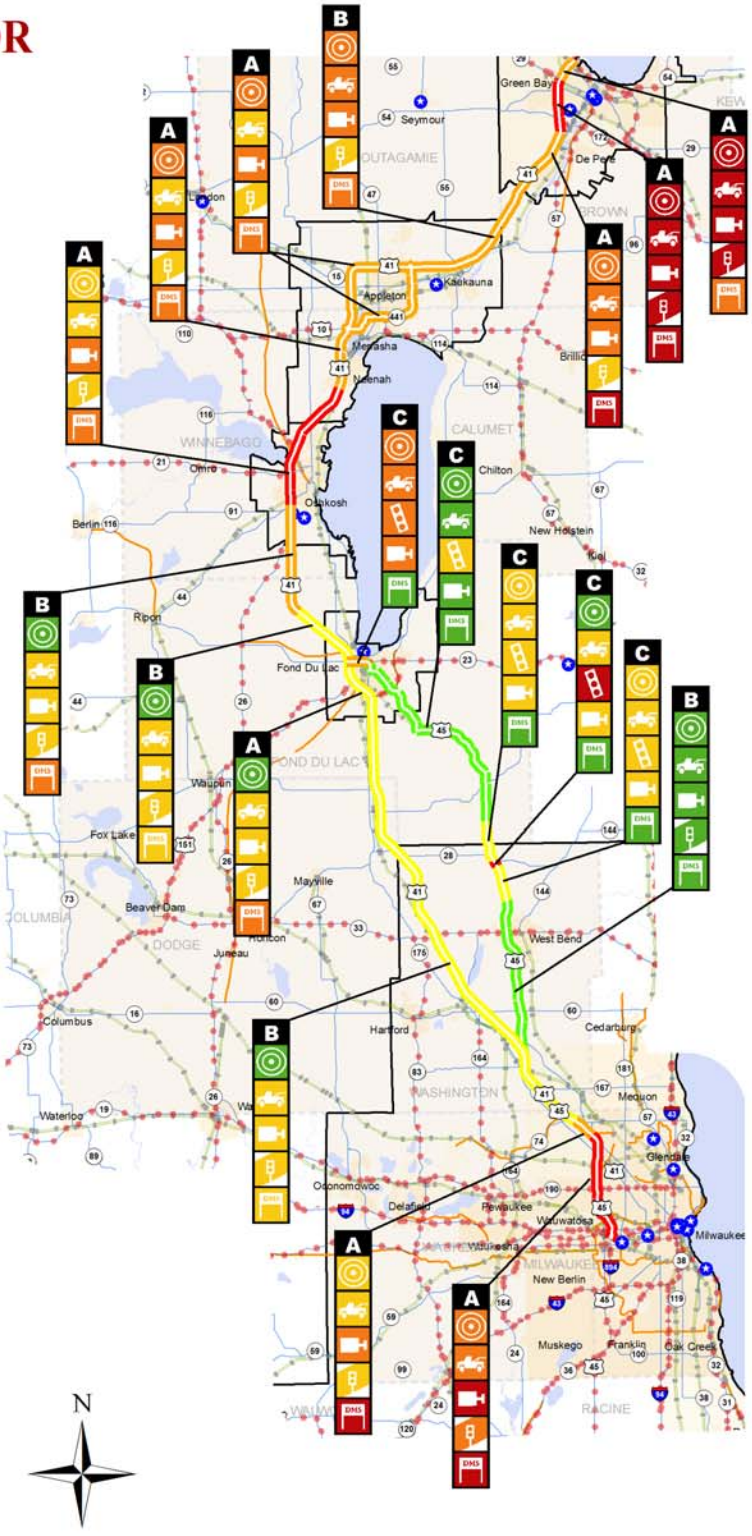
- Primary Highways in Corridor
- Principal Highways From Other Corridors
- Other Important Highway Connections
- Rail Freight
- BikeTrails
- Special Events
- MPO Boundaries

Deployment Density Classes

- Baseline
- Low
- Medium
- High

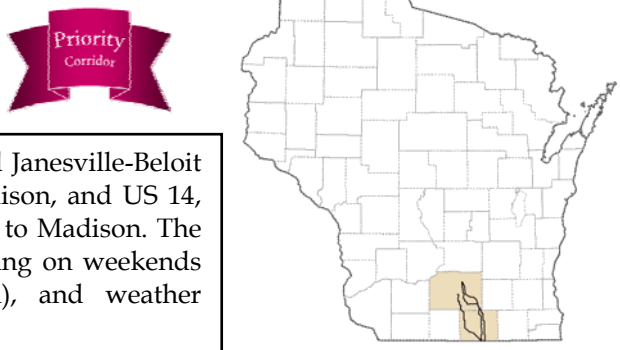
Technology	Deployment Intensity			
	Baseline	Low	Medium	High
Detection				
Incident Management				
Signal Improvements				
Surveillance				
Traffic Flow Management				
Traveler Information				

511 recommended for entire corridor



Basemap Design by Wisconsin DOT GIS

South Central Connection Corridor



Corridor Overview

The South Central Corridor includes the Madison MPO and Janesville-Beloit Regions as well as I-39/90 from the Illinois border to Madison, and US 14, WIS 59/213 from Beloit to Madison, and US 51 from Beloit to Madison. The Corridor experiences significant regional traffic, high peaking on weekends (Friday afternoon and evening and Sunday afternoon), and weather disturbances during the winter months.

Key Operational Infrastructure

Surveillance and Traffic Flow Management

- Recommendations call for high levels of infrastructure within the Madison metropolitan area, accompanying existing instrumentation.
- High levels of surveillance, incident management, detection, and traffic flow management are all recommended along I-39/90 south of Madison due to heavy traffic counts and safety concerns. (See *TOIP Appendix A* for further details.)

Traveler Information

- I-39/90 from the Illinois border through Janesville is recommended for medium density deployment. Portable DMS are recommended for southbound into Beloit and southbound and northbound into Janesville.
- I-39/90 through Madison classified as medium density deployment. Portable DMS along the corridor will be maintained to provide incident and alternate route guidance as well as being used for weather and construction alerts. The majority of the deployments were installed as part of the earlier Blue Route project. The Blue Route uses US 51 (Stoughton Road) from US 12/18 (the Madison Beltline) at the south to its intersection with I-39/90/94 at the north. An additional portable DMS is recommended for southbound US 51 for the Blue Route as well as to provide incident and alternate route guidance as well as being used for weather and construction alerts. (See *TOIP Appendix B* for further details.)

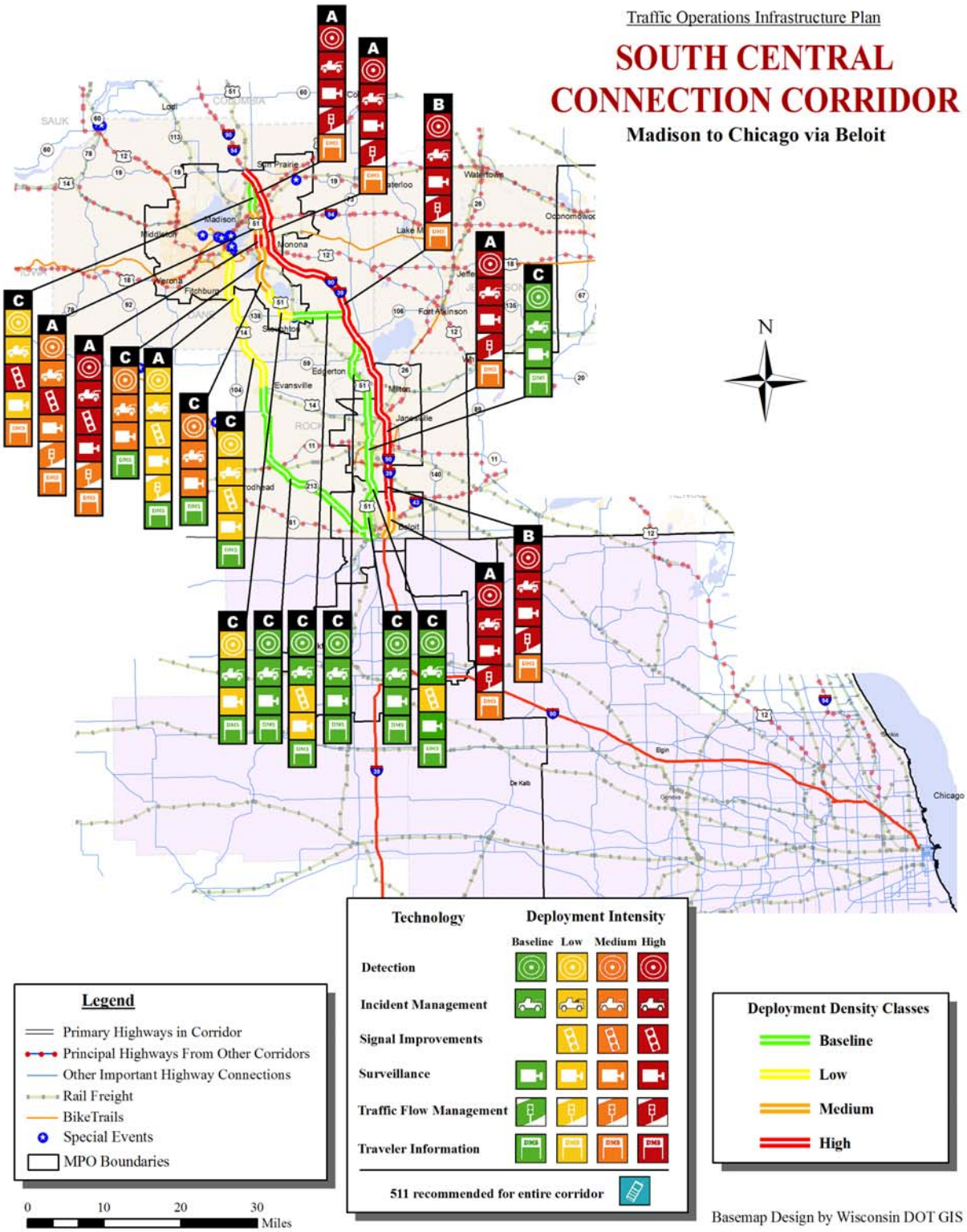
Signal Systems

- Various signal upgrades are recommended on the Corridor. US 51 consists of nine signalized intersections as well as grade separated interchanges. The segment is part of the "Madison Blue Route" and is used as an alternate route when I-39/I-90/I-94 has reduced capacity due to an incident. Recommendations include 9 traffic signal controller upgrades to a closed loop signal system with ATMS and real time communication link to operating agencies and the STOC. (See *TOIP Appendix C* for further details.)

Corridor Statistics

Total Miles = **161**

Deployment Density Class	Miles	% of Corridor
Baseline	55.9	29.9%
Low	66.7	35.7%
Medium	42.5	22.7%
High	21.8	11.7%


Traffic Operations Infrastructure Plan
SOUTH CENTRAL CONNECTION CORRIDOR
Madison to Chicago via Beloit
N
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 10 20 30 Miles
Deployment Density Classes
Baseline
Low
Medium
High
Basemap Design by Wisconsin DOT GIS

Hiawatha Corridor

Corridor Overview

The Hiawatha Corridor includes the Milwaukee-Waukesha Region area as well as I-94 from downtown Milwaukee (I-43) to the Illinois border, I-894 from I-43 to I-94, and parallel routes WIS 45, WIS 31 and WIS 32. The corridor experiences significant regional traffic, high peaking on weekends (Friday afternoon and evening and Sunday afternoon), recurring congestion westbound into the Milwaukee metro area during daily peak periods and weather disturbances during the winter months.

Key Operational Infrastructure

Surveillance and Traffic Flow Management

- This Corridor has several segments where high traffic operations deployment densities are recommended. It is recommended that the segments in and around Milwaukee should have medium to high deployment levels. These deployment levels should continue along I-94 to the Illinois border. There are already a substantial number of cameras installed along I-94 and it is recommended to maintain this level of deployment and even add to it with the increased traffic volumes and forecasted growth of the area.
- Outside I-94, the recommendations are consistently high within the Milwaukee area and are substantially lower in the rural areas. There are a few hotspot areas where lesser levels of incident management and detection resources should be applied to mitigate crash and congestion concerns. (See *TOIP Appendix A* for further details.)

Traveler Information

- I-94 from downtown Milwaukee to WIS 11, and I-894 are recommended for high density deployment. Permanent DMS are recommended to provide real time travel time information to key destinations as well as provide information on provide incident and alternative route guidance as well as for weather and construction alerts. (See *TOIP Appendix B* for further details.)

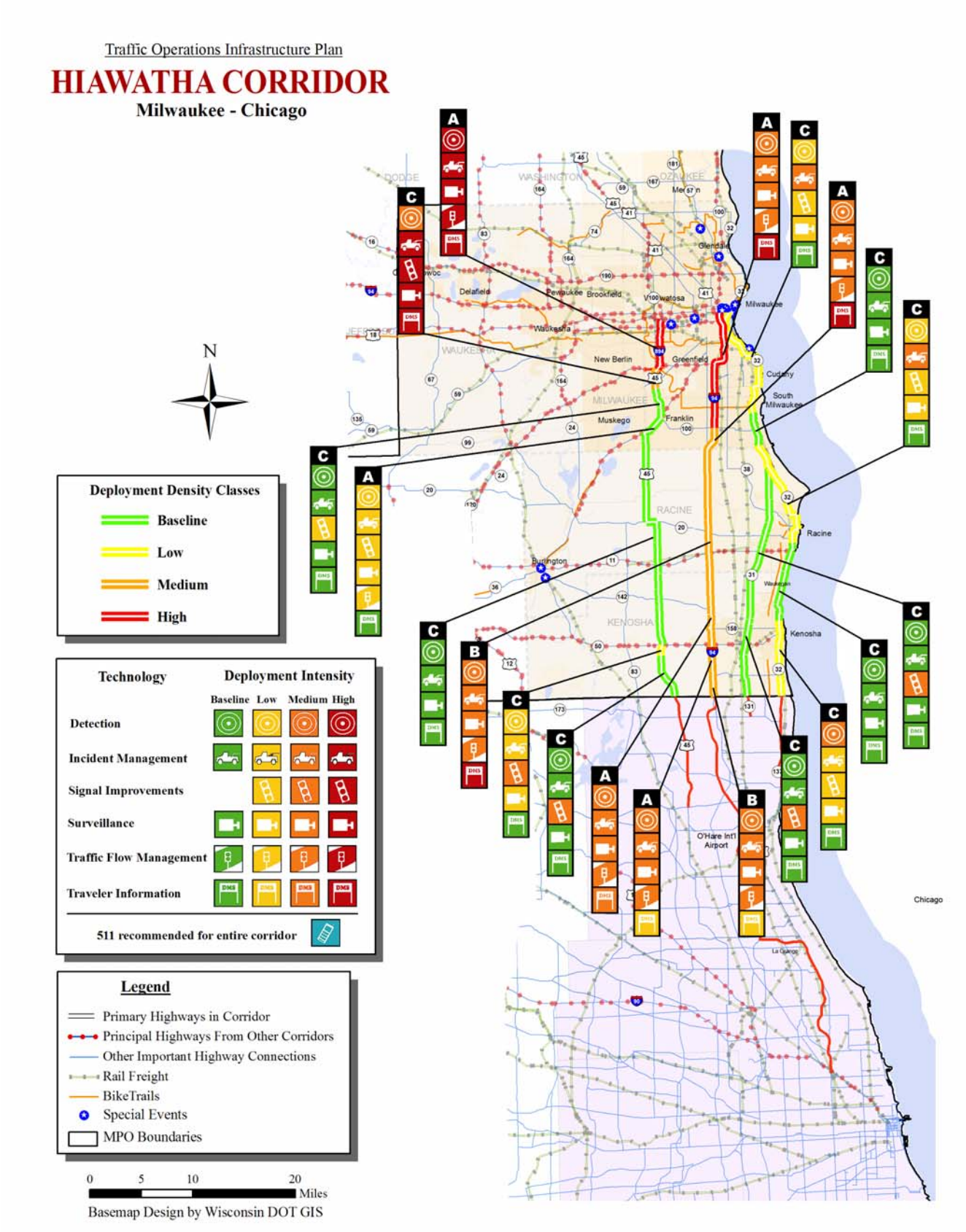
Signal Systems

- There are various signal recommendations throughout the Corridor, such as along the north end of US 45/WIS 100 (Layton Avenue south to Speedway Drive) where an ATMS with real time communications links to operating agencies and the STOC is recommended. (See *TOIP Appendix C* for further details.)

Corridor Statistics

Total Miles = **144**

Deployment Density Class	Miles	% of Corridor
Baseline	61.9	43.0%
Low	35.9	24.9%
Medium	24.2	16.8%
High	22.1	15.3%


Traffic Operations Infrastructure Plan
HIAWATHA CORRIDOR
Milwaukee - Chicago
N
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
Miles
Basemap Design by Wisconsin DOT GIS
Milwaukee
Racine
Kenosha
Chicago
O'Hare Int'l Airport
Glendale
Brookfield
Waukesha
New Berlin
Greenfield
Franklin
Muskego
Delafield
Pewaukee
Wauwatosa
Cudahy
South Milwaukee
Burlington
MILWAUKEE
RACINE
KENOSHA

Wisconsin River Corridor

Corridor Overview

The Wisconsin River Corridor includes a portion of the Madison MPO Region and US 51 from the Michigan border (Ironwood) to Wausau (I-39) and I-39 from Wausau to I-90/94 and I-39/90/94 to Madison (I-94). This 260-mile Corridor is part of a major passenger and freight corridor linking north central Wisconsin and south central Wisconsin and Illinois. It is a critical tourist corridor between the population centers in Illinois and southern Wisconsin to the major recreation areas in the north. It also provides critical economic links for the industrial and commercial communities of Wausau, Wisconsin Rapids, Stevens Point, and Marshfield.

Key Operational Infrastructure

Surveillance and Traffic Flow Management

- Heavy deployment levels are recommended for I-39/90/94 through and north of the Madison metropolitan, supplementing the current heavy instrumentation. Recommendation levels fall off north of the I-39 split with I-90/94.
- A combination of medium and high deployments are recommended for US 51 in Wausau., though current expansion projects in the region will likely reduce operational needs. (See *TOIP Appendix A* for further details.)

Traveler Information

- I-39/90/94 from I-39 through Madison is classified as medium density deployment. Portable DMS along the corridor will be maintained to provide incident and alternate route guidance as well as being used for weather and construction alerts. The majority of the deployments were installed as part of the earlier Blue Route project. The Blue Route is an alternate route signing concept for when a major incident on the interstate requires a lengthy closure or results in major delays. The Blue Route uses US 51 (Stoughton Road) from US 12/18 (the Madison Beltline) at the south to its intersection with I-39/90/94 at the north. An additional portable DMS is recommended for southbound US 51 for the Blue Route as well as to provide incident and alternate route guidance as well as being used for weather and construction alerts. (See *TOIP Appendix B* for further details.)

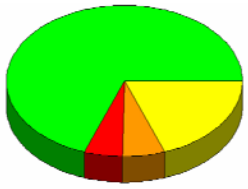
Signal Systems

- Various low level traffic signal deployments are recommended throughout the Corridor; primarily signal controller upgrades. (See *TOIP Appendix C* for further details.)

Corridor Statistics

Total Miles = **260**

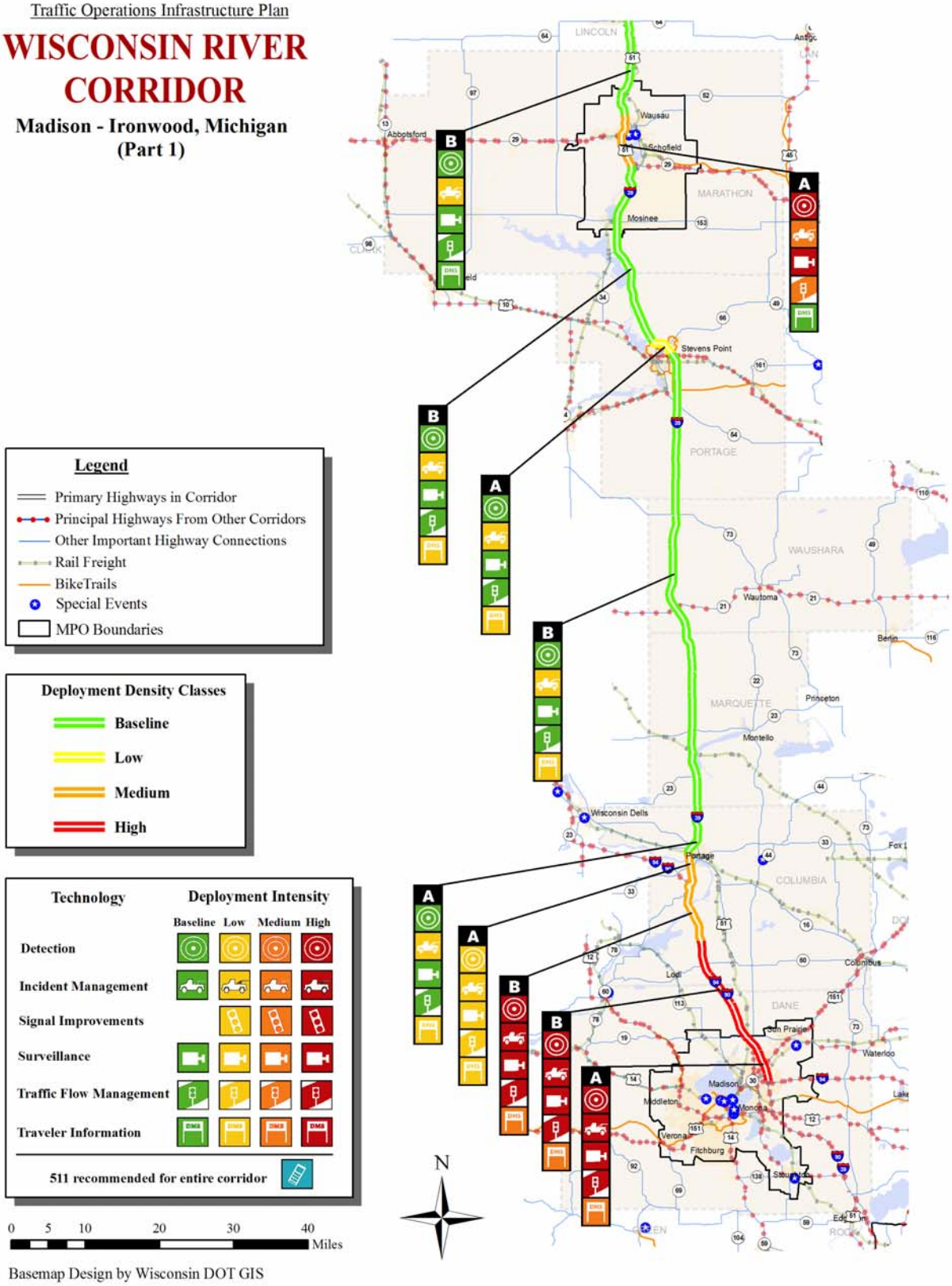
Deployment Density Class	Miles	% of Corridor
Baseline	180.3	69.4%
Low	50.7	19.5%
Medium	14.9	5.7%
High	14.0	5.4%



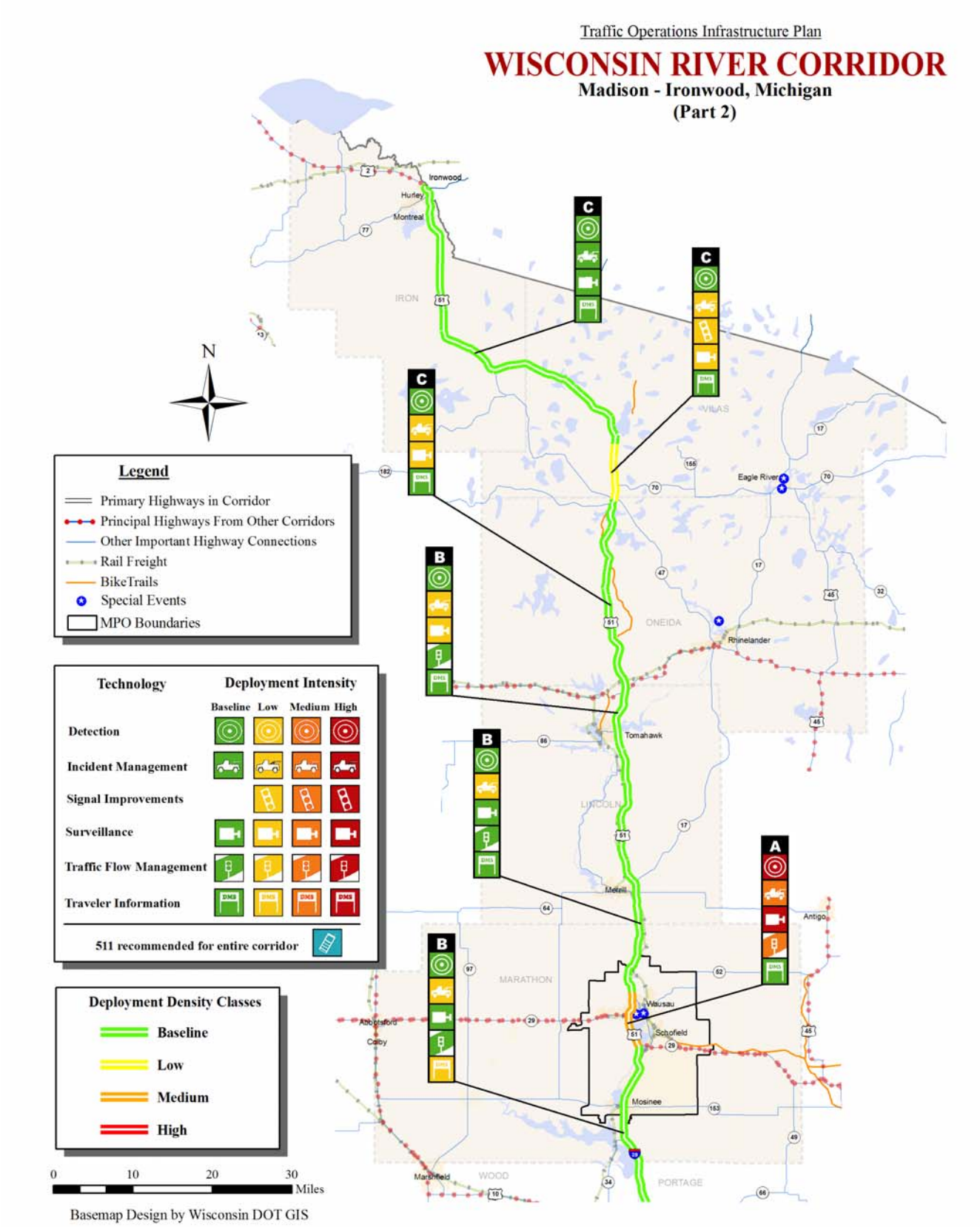
Traffic Operations Infrastructure Plan

WISCONSIN RIVER CORRIDOR

Madison - Ironwood, Michigan (Part 1)



Basemap Design by Wisconsin DOT GIS


Traffic Operations Infrastructure Plan
WISCONSIN RIVER CORRIDOR
Madison - Ironwood, Michigan
(Part 2)
N
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 10 20 30
Miles
Basemap Design by Wisconsin DOT GIS
Ironwood
Hurley
Montreal
IRON
VILAS
Eagle River
ONEIDA
Rhinelander
Tomahawk
LINCOLN
Merrill
Antigo
MARATHON
Wausau
Schofield
Abbotsford
Colby
Mosinee
Marshfield
WOOD
PORTAGE

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Chippewa Valley Corridor

Corridor Overview

The Chippewa Valley Corridor includes I-94 from the Minnesota border (Hudson) to Eau Claire as well as the parallel routes of US 12 and WIS 29 as well as the Eau Claire – Chippewa Falls MPO Region. Major traffic generators in this corridor are the Twin Cities metropolitan area and the Eau Claire/Chippewa Falls region. Over half of Minnesota's population resides in the Twin Cities metropolitan area, with growth encompassing the western portion of the Chippewa Valley Corridor. The Corridor experiences significant regional traffic, high peaking on weekends (Friday afternoon and evening and Sunday afternoon), recurring congestion westbound into Minneapolis during the daily peak periods and weather disturbances during the winter months.

Note: The realignment of US 53 is likely to impact recommendations in the future.

Key Operational Infrastructure

Surveillance and Traffic Flow Management

- High levels of surveillance, detection, and traffic flow management are recommended on I-94 near the Wisconsin-Minnesota border. Incident management is recommended at a medium level for the length of I-94 due to safety and weather incident concerns.
- The realignment of US 53 is likely to influence recommendations within Eau Claire-Chippwa Falls significantly. (See *TOIP Appendix A* for further details.)

Traveler Information

- The entire segment of I-94 is recommended for medium density deployment. Portable DMS are recommended for westbound traffic approaching Hudson and westbound and eastbound approaching the Knapp hill to provide additional weather warnings.
- For the Chippewa Falls – Eau Claire MPO Region, it is recommended that portable DMS be located on major approaches to the Chippewa Falls/Eau Claire ring road (I-94, WIS 29, and US 53) to provide incident and alternate route guidance as well as being used for weather and construction alerts. (See *TOIP Appendix B* for further details.)

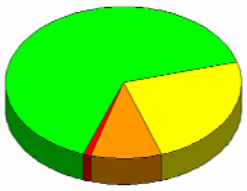
Signal Systems

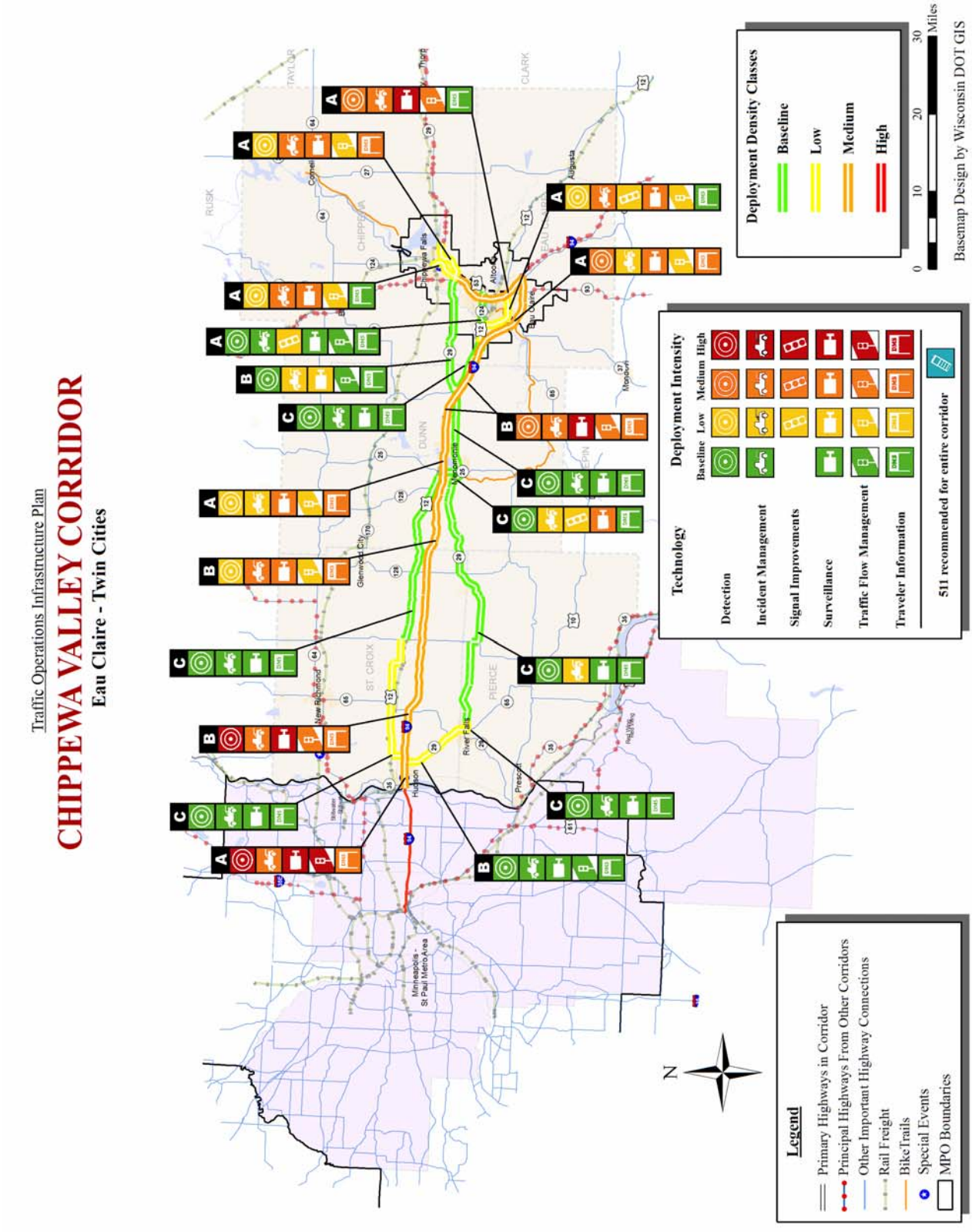
- Signal recommendations throughout the Corridor are low level and consist primarily of traffic signal controller upgrades. (See *TOIP Appendix C* for further details.)

Corridor Statistics

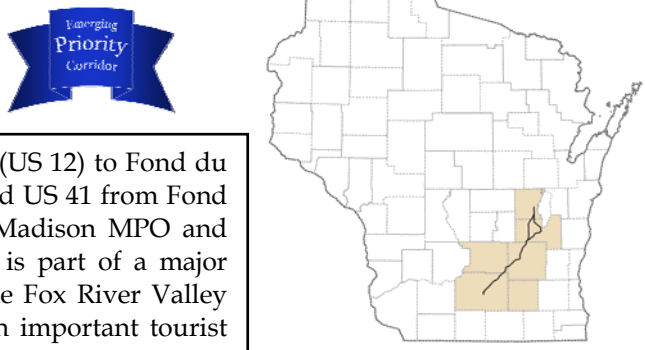
Total Miles = **230**

Deployment Density Class	Miles	% of Corridor
Baseline	149.5	65.1%
Low	55.5	24.2%
Medium	22.3	9.7%
High	2.4	1.0%




Traffic Operations Infrastructure Plan
CHIPPEWA VALLEY CORRIDOR
Eau Claire - Twin Cities
Deployment Density Classes
Baseline
Low
Medium
High
0
10
20
30
Miles
Basemap Design by Wisconsin DOT GIS
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
N
Minneapolis - St Paul Metro Area
Hudson
River Falls
Prescott
New Richmond
Glenwood City
Menomonie
Chippewa Falls
Eau Claire
Altoona
Augusta
Colfax
Cornell
Mondovi
RUSK
TAYLOR
CLARK
CHIPPEWA
EAU
DUNN
ST CROIX
PIERCE
PEPIN

Wild Goose Corridor



Corridor Overview

The Wild Goose Corridor includes US 151 from Madison (US 12) to Fond du Lac (US 41), WIS 26 from US 151 to Oshkosh (WIS 26), and US 41 from Fond du Lac to Oshkosh (US 45) as well as portions of the Madison MPO and Appleton-Oshkosh-Fond du Lac Regions. This Corridor is part of a major passenger and freight corridor linking Green Bay and the Fox River Valley and Madison and points further south and west. It is an important tourist corridor between the population centers in Iowa and the recreation areas of northeastern Wisconsin, including Door County. The Corridor is also a major commuter route for the growing communities in Dodge County and northeastern Dane County.

Key Operational Infrastructure

Surveillance and Traffic Flow Management

- High levels of operations infrastructure are called for within the currently heavily instrumented Madison metropolitan area.
- The Appleton/Oshkosh/Fond du Lac Region likewise shows high operational needs, though the planned instrumentation of US 41 leads to reduced recommended levels of deployment.
- Recommendations on US 151 between Madison and Fond du Lac are low, with some medium deployments recommended near Beaver Dam due to elevated crash rates. (See *TOIP Appendix A* for further details.)

Traveler Information

- US 151 between downtown Madison and Sun Prairie is recommended for high density deployment. Permanent DMS are recommended to provide real time travel time information to key destinations as well as provide information on provide incident and alternative route guidance as well as for weather and construction alerts.
- Medium density deployment is recommended for the majority of the US 41 corridor. For the Fond du Lac area, it is recommended that portable DMS be located on US 41 approaching the city from the south and north.
- For the Oshkosh area, it is recommended that portable DMS be located on US 41 approaching the city from the south and north to provide guidance as well as being used for weather, construction, and traffic event (EAA Fly-in) alerts. In addition, it is recommended that a portable DMS be located north of the WIS 26 exit for southbound traffic. (See *TOIP Appendix B* for further details.)

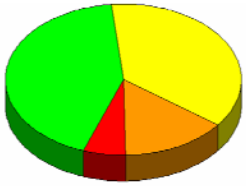
Signal Systems

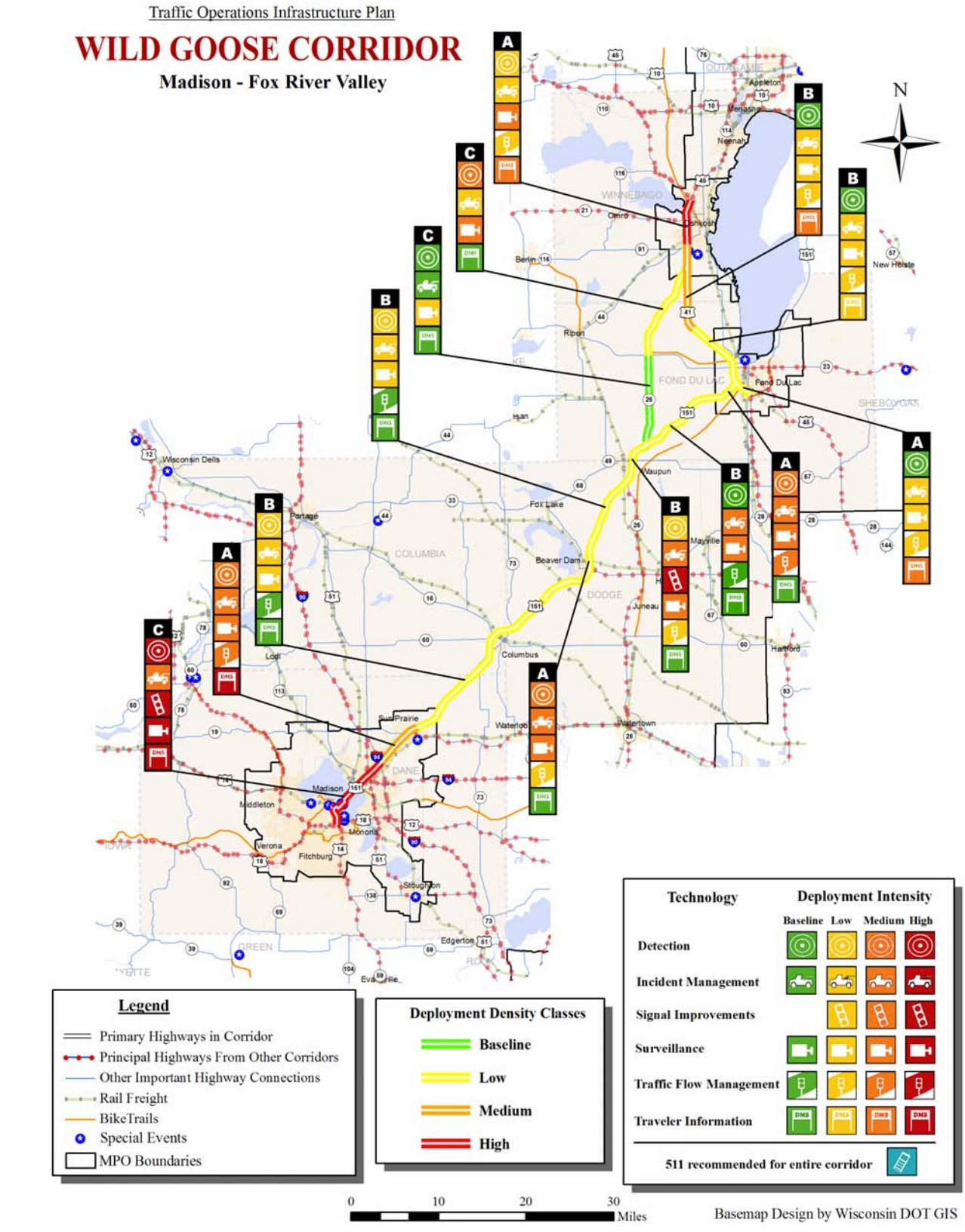
- Targeted high level traffic signal deployments throughout the corridor include ATMS with real time communications link to operating agencies and the STOC in the Madison region. (See *TOIP Appendix C* for further details.)

Corridor Statistics

Total Miles = **118**

Deployment Density Class	Miles	% of Corridor
Baseline	50.8	42.9%
Low	43.5	36.7%
Medium	17.1	14.5%
High	7.0	5.9%




Traffic Operations Infrastructure Plan
WILD GOOSE CORRIDOR
Madison - Fox River Valley
N
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 10 20 30
Miles
Basemap Design by Wisconsin DOT GIS

Peace Memorial Corridor

Corridor Overview

The Peace Memorial Corridor includes a portion of the Eau Claire-Chippewa Falls MPO Region as well as US 53 from Eau Claire (I-94) to the Minnesota border (Duluth/Superior).

Note: The realignment of US 53 is likely to impact recommendations in the future.

Key Operational Infrastructure

Surveillance and Traffic Flow Management

- Recommendations for surveillance are high on US 53 in Eau Claire-Chippewa Falls, though the realignment of US 53 is likely to impact deployment needs significantly. Medium levels of detection, incident management, and traffic flow management are also called for.
- Incident management is recommended at a medium level in the primarily rural portion of US 53 north of Rice Lake due safety and severe weather impact concerns.
- The Superior/Duluth region has medium levels of surveillance recommended. (See *TOIP Appendix A* for further details.)

Traveler Information

- Medium density deployment is recommended for the segment in Superior where Portable DMS are recommended for northbound US 2/53 to provide incident and alternate route guidance (two bridges into Minnesota) as well as being used for weather and construction alerts.
- For the Chippewa Falls – Eau Claire MPO Region, it is recommended that portable DMS be located on major approaches to the Chippewa Falls/Eau Claire ring road (I-94, WIS 29, and US 53) to provide incident and alternate route guidance as well as being used for weather and construction alerts.
- Baseline density deployment is recommended for the remainder of the Corridor, which includes statewide initiatives such as 511 and STOC operations. (See *TOIP Appendix B* for further details.)

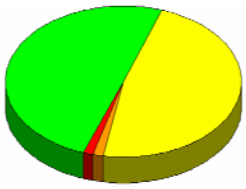
Signal Systems

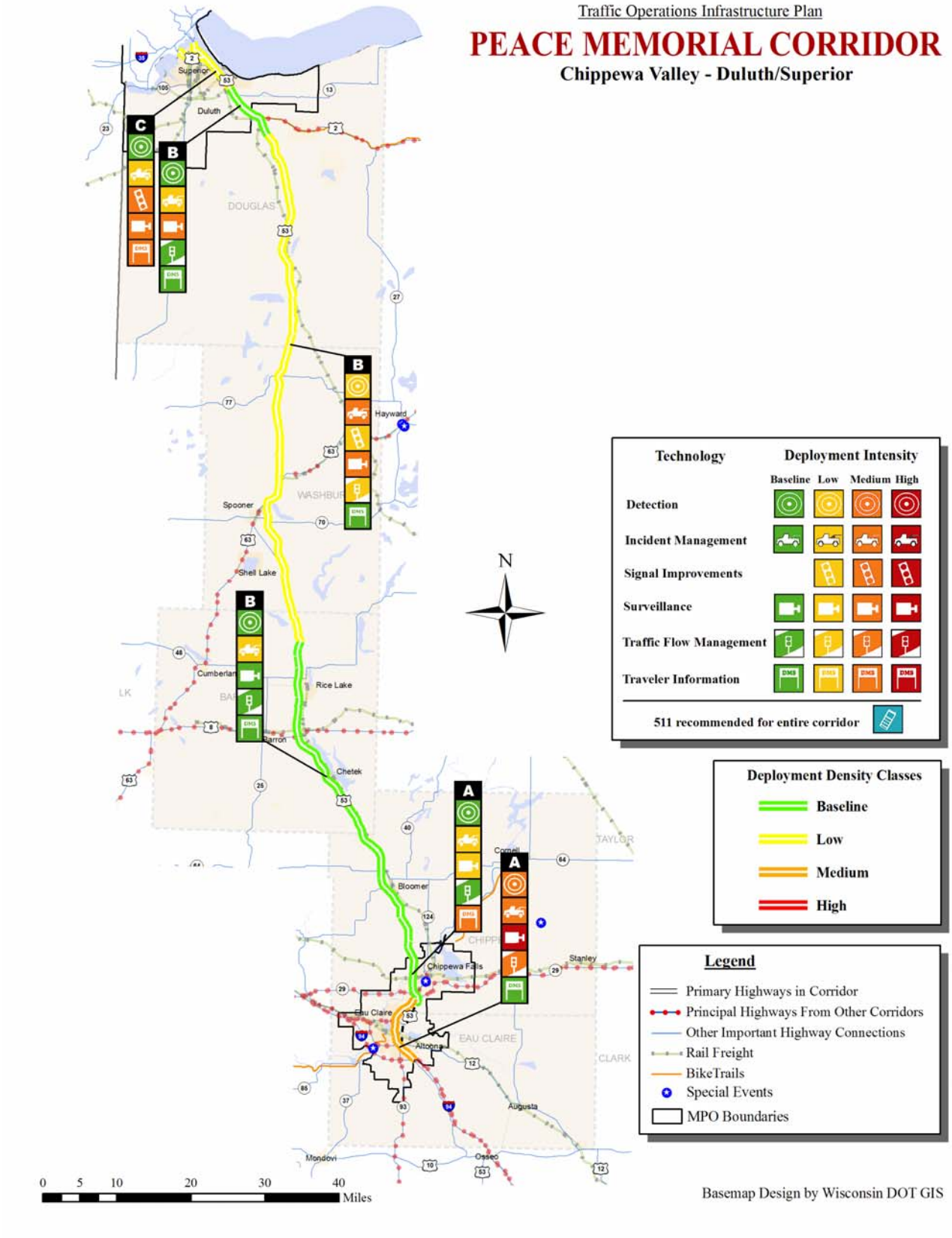
- Various low level traffic signal deployments are recommended throughout the Corridor; primarily signal controller upgrades. (See *TOIP Appendix C* for further details.)

Corridor Statistics

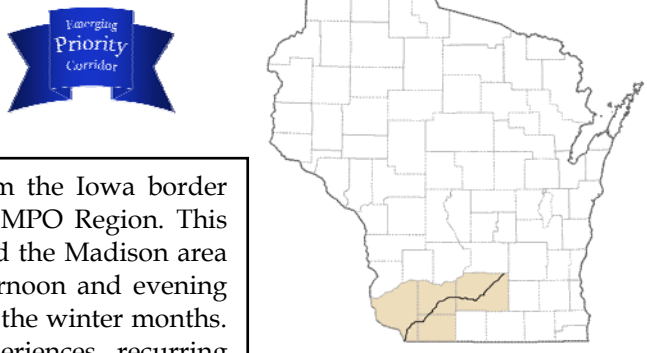
Total Miles = **159**

Deployment Density Class	Miles	% of Corridor
Baseline	79.3	49.9%
Low	75.5	47.5%
Medium	1.9	1.2%
High	2.4	1.5%




Traffic Operations Infrastructure Plan
PEACE MEMORIAL CORRIDOR
Chippewa Valley - Duluth/Superior
Superior
Duluth
DOUGLAS
Hayward
Spooner
Shell Lake
Cumberland
Rice Lake
Barron
Chetek
Bloomer
Cornell
Chippewa Falls
Stanley
Eau Claire
Altoona
EAU CLAIRE
CLARK
TAYLOR
Augusta
Mondovi
Osseo
N
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
0 5 10 20 30 40
Miles
Basemap Design by Wisconsin DOT GIS

Cornish Heritage Corridor



Corridor Overview

The Cornish Heritage Corridor includes US 18/151 from the Iowa border (Dubuque) to Columbus and a portion of the Madison MPO Region. This Corridor accommodates regional travel between Iowa and the Madison area and experiences high peaking on weekends (Friday afternoon and evening and Sunday afternoon), and weather disturbances during the winter months. The segment from Verona to Sun Prairie also experiences recurring congestion during the weekday peak periods. The long-range vision for the Cornish Heritage Corridor is a continuous freeway from the Wisconsin/Iowa state line to the Madison beltway.

Key Operational Infrastructure

Surveillance and Traffic Flow Management

- High levels of infrastructure are recommended for the Madison metropolitan area, supplementing existing traffic operations infrastructure devices.
- Recommendations on US 18/151 are generally for baseline deployment in this Corridor due to limited operational needs. Baseline deployment includes statewide initiatives such as 511 and STOC operations. In the Platteville area, recommendations for low incident management and surveillance reflect the input of transportation professionals. (See *TOIP Appendix A* for further details.)

Traveler Information

- US 18/151 from Verona to Madison is recommended for medium density deployment. Portable DMS are recommended for US 18/151 prior to and along the Madison Beltline to provide incident and alternate route guidance as well as being used for weather and construction alerts.
- US 151 between downtown Madison and Sun Prairie is recommended for high density deployment. Permanent DMS are recommended to provide real time travel time information to key destinations as well as provide information on incident and alternative route guidance as well as for weather and construction alerts. (See *TOIP Appendix B* for further details.)

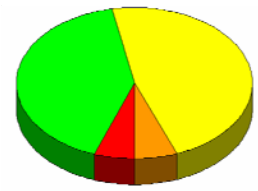
Signal Systems

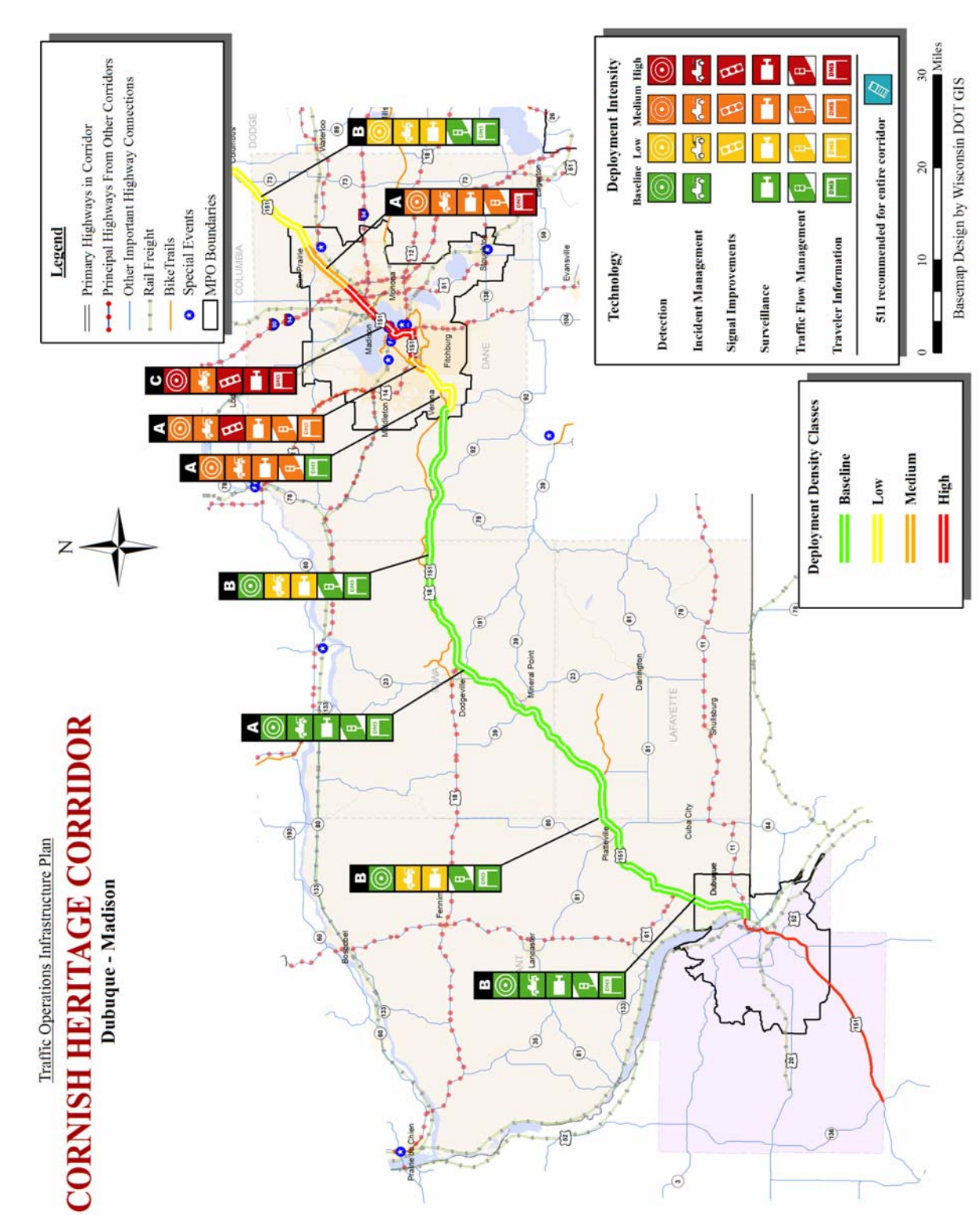
- Various signal upgrades are recommended on the Corridor, such as along US 18/US 151 where an Advanced Traffic Management System (ATMS) with real time communications link to operating agencies and the STOC is recommended. (See *TOIP Appendix C* for further details.)

Corridor Statistics

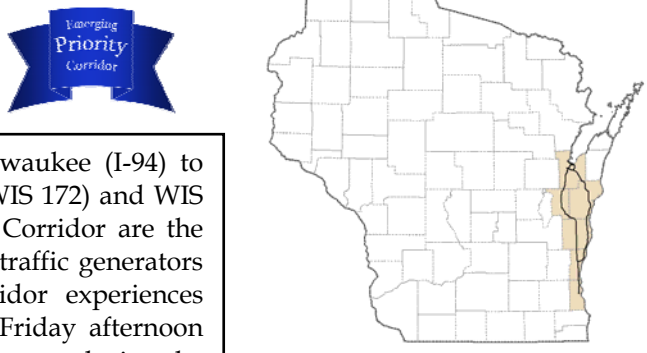
Total Miles = **113**

Deployment Density Class	Miles	% of Corridor
Baseline	46.8	41.3%
Low	53.7	47.4%
Medium	6.4	5.7%
High	6.4	5.6%




Traffic Operations Infrastructure Plan
CORNISH HERITAGE CORRIDOR
Dubuque - Madison
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
N
0 10 20 30 Miles
Basemap Design by Wisconsin DOT GIS
Madison
Dubuque
Platteville
Mineral Point
Dodgeville
Darlington
Fennimore
Boscobel
Prairie du Chien
Monona
Fitchburg
Verona
Middleton
Waterloo
Evansville
Shullsburg
Cuba City
Lancaster
DANE
DODGE
COLUMBIA
LAFAYETTE

Titletown Corridor



Corridor Overview

The Titletown Corridor includes I-43/WIS 32 from Milwaukee (I-94) to Green Bay (US 41) and WIS 57 from I-43 to Green Bay (WIS 172) and WIS 172 from US 41 to I-43. Major traffic generators in this Corridor are the metropolitan areas of Milwaukee and Green Bay. Other traffic generators are the Manitowoc and Sheboygan areas. The Corridor experiences significant regional traffic, high peaking on weekends (Friday afternoon and evening and Sunday afternoon), and weather disturbances during the winter months.

Key Operational Infrastructure

Surveillance and Traffic Flow Management

- The Titletown Corridor has generally low and baseline recommendations outside of Milwaukee and Green Bay. Incident management recommendations remain low throughout I-43 reflecting a crash severity rating that is higher than typical for baseline roadway segments.
- Cameras at the two Fox River freeway crossings in the Green Bay area are planned to be installed. Also, traffic operations deployment is planned for the US 41 parallel corridor from Oshkosh to the Green Bay area and may include portions of the Titletown Corridor, fulfilling or influencing the high deployment recommendations in Green Bay. (See *TOIP Appendix A* for further details.)

Traveler Information

- High density deployment is recommended for I-43 beginning at I-94 and running through the northern Milwaukee suburbs. The segment experiences significant recurring congestion on a daily basis. It is recommended that permanent DMS be deployed inbound into the Milwaukee metro area. The DMS should be equipped with real time travel time capability as well as incident and weather warnings.
- Medium density deployment is recommended for WIS 172 and I-43 north of WIS 172. It is recommended that Portable DMS be located approaching the US 41, I-43, and WIS 172 ring road around the city to provide incident and alternate route guidance as well as for weather, construction, and event (Green Bay Packer games) alerts. (See *TOIP Appendix B* for further details.)

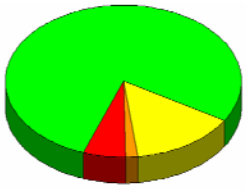
Signal Systems

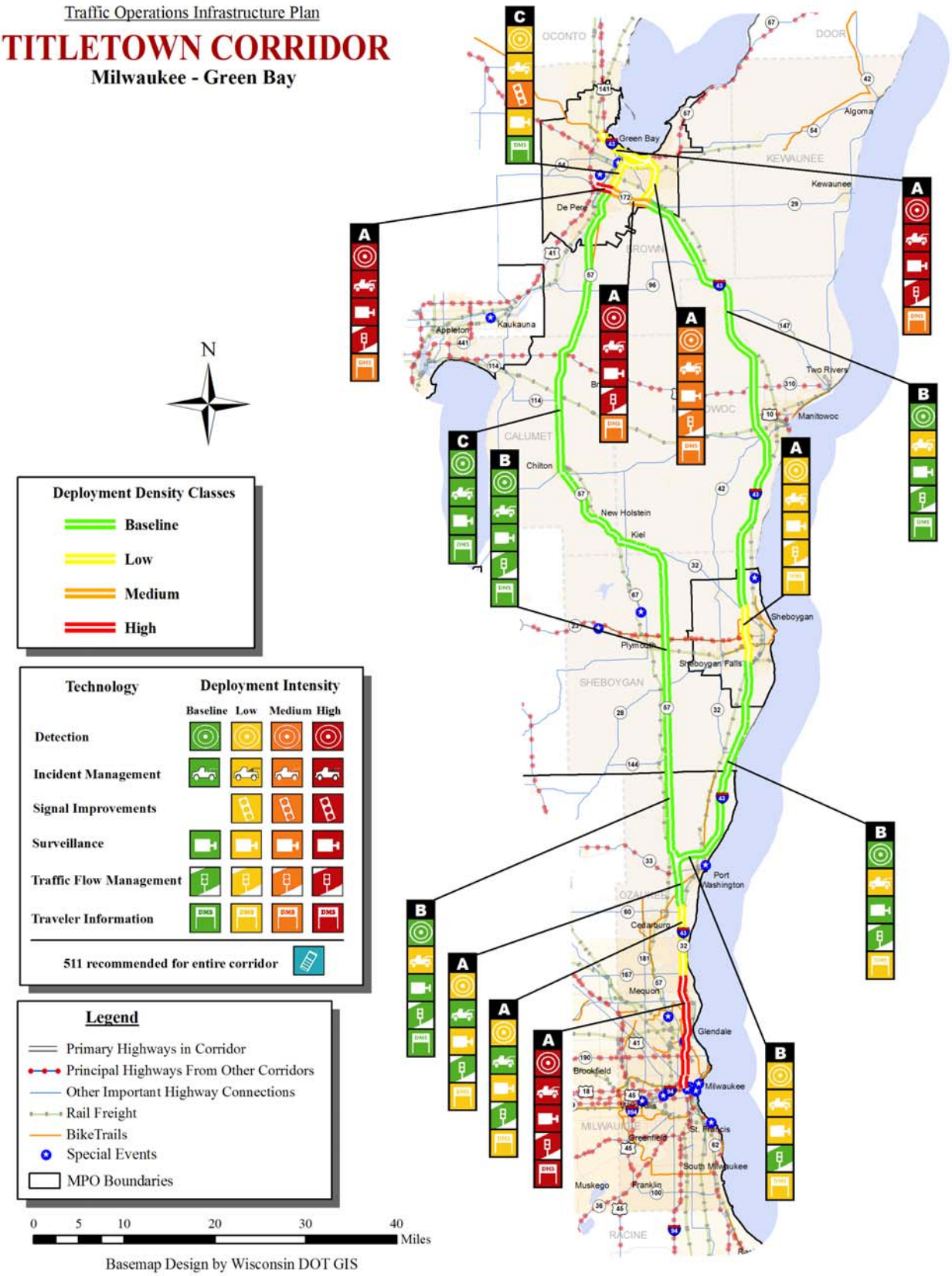
- Various low level traffic signal deployments are recommended throughout the Corridor; primarily signal controller upgrades and targeted closed loop systems. (See *TOIP Appendix C* for further details.)

Corridor Statistics

Total Miles = **215**

Deployment Density Class	Miles	% of Corridor
Baseline	167.7	78.1%
Low	30.8	14.3%
Medium	4.0	1.9%
High	12.3	5.7%




Traffic Operations Infrastructure Plan
TITLETOWN CORRIDOR
Milwaukee - Green Bay
N
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
OCONTO
DOOR
Algoma
Green Bay
KEWAUNEE
Kewaunee
De Pere
BROWN
Appleton
Kaukauna
Two Rivers
Manitowoc
CALUMET
Chilton
New Holstein
Kiel
Sheboygan
Plymouth
Sheboygan Falls
SHEBOYGAN
Port Washington
Cedarburg
Mequon
Glendale
Brookfield
Milwaukee
Greenfield
St. Francis
South Milwaukee
Muskego
Franklin
RACINE

Southern Tier Corridor

Corridor Overview

The Southern Corridor includes I-43 from Beloit to Elkhorn, and US 14 from Janesville (I-39/90) to I-43, and WIS 50 from Delavan (I-43) to Kenosha. This Corridor is part of a major passenger and freight corridor between the metro areas of Janesville and Beloit (and points south and west) and the metro areas of Racine and Kenosha. The Southern Tier Corridor serves major industrial and manufacturing areas in southern Wisconsin. It also serves some of the richest agricultural land in the state as well as the major tourism/recreational areas in Walworth County.

Key Operational Infrastructure

Surveillance and Traffic Flow Management

- Recommendations show that there are hotspots in the Lake Geneva, Delvan-Elkhorn and Kenosha areas that would benefit from surveillance and increased incident management resources.
- Detection and surveillance recommendations fluctuate between low and baseline, being generally heavier on WIS 50 than WIS 11. (See *TOIP Appendix A* for further details.)

Traveler Information

- Low density deployment of traveler information technologies is recommended for the entire length of I-43.
- Baseline density deployment is recommended for the remainder of the Corridor (US 14, WIS 11/50), which includes statewide initiatives such as 511 and STOC operations. (See *TOIP Appendix B* for further details.)

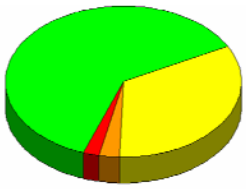
Signal Systems

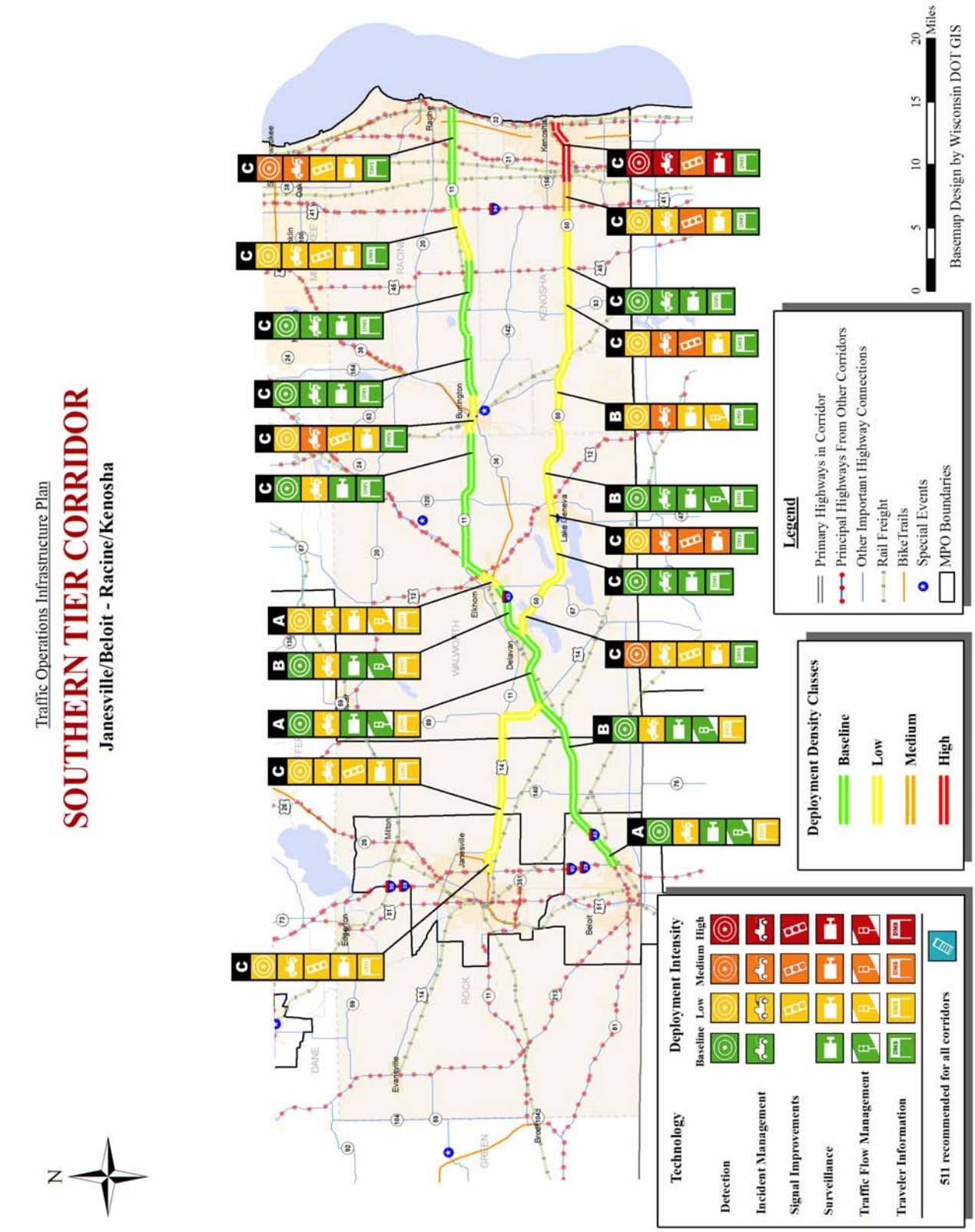
- Various low level traffic signal deployments are recommended throughout the Corridor; primarily signal controller upgrades and targeted closed loop systems. (See *TOIP Appendix C* for further details.)

Corridor Statistics

Total Miles =
125

Deployment Density Class	Miles	% of Corridor
Baseline	77.3	61.7%
Low	41.5	33.1%
Medium	3.7	2.9%
High	2.8	2.2%




Traffic Operations Infrastructure Plan
SOUTHERN TIER CORRIDOR
Janesville/Beloit - Racine/Kenosha
N
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 all corridors
0 5 10 15 20 Miles
Basemap Design by Wisconsin DOT GIS

Glacial Plains Corridor

Corridor Overview

The Glacial Plains Corridor includes a portion of the Janesville-Beloit Region as well as I-43 from Beloit (I-39/90) to I-94 in Milwaukee as well as WIS 11/14 from Janesville (I-39/90) to I-43, and WIS 36 from WIS 20 to I-894. This Corridor accommodates regional travel between Illinois and the Milwaukee area and experiences high peaking on weekends (Friday afternoon and evening and Sunday afternoon), and weather disturbances during the winter months. The eastern section of I-43 experiences significant recurring congestion during the weekday peak periods through the Milwaukee metro area.

Key Operational Infrastructure

Surveillance and Traffic Flow Management

- High levels of surveillance, detection, incident management, and traffic flow management are recommended on I-43 within Milwaukee on this already heavily instrumented Corridor segment. On the most eastern segment, weekday service patrols are recommended.
- Moving west, lower deployment recommendations are made which would extend the existing surveillance and detection deployments.
- Outside of the Milwaukee area, the recommendations are baseline to low with a low level of incident management carried almost throughout the corridor. (See *TOIP Appendix A* for further details.)

Traveler Information

- High density deployment is recommended for I-43 (New Berlin to I-94) as enters the Milwaukee metro area. Permanent DMS are recommended to provide real time travel time information to key destinations as well as information on incident and alternative route guidance as well as for weather and construction alerts. (See *TOIP Appendix B* for further details.)

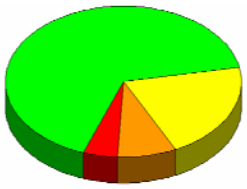
Signal Systems

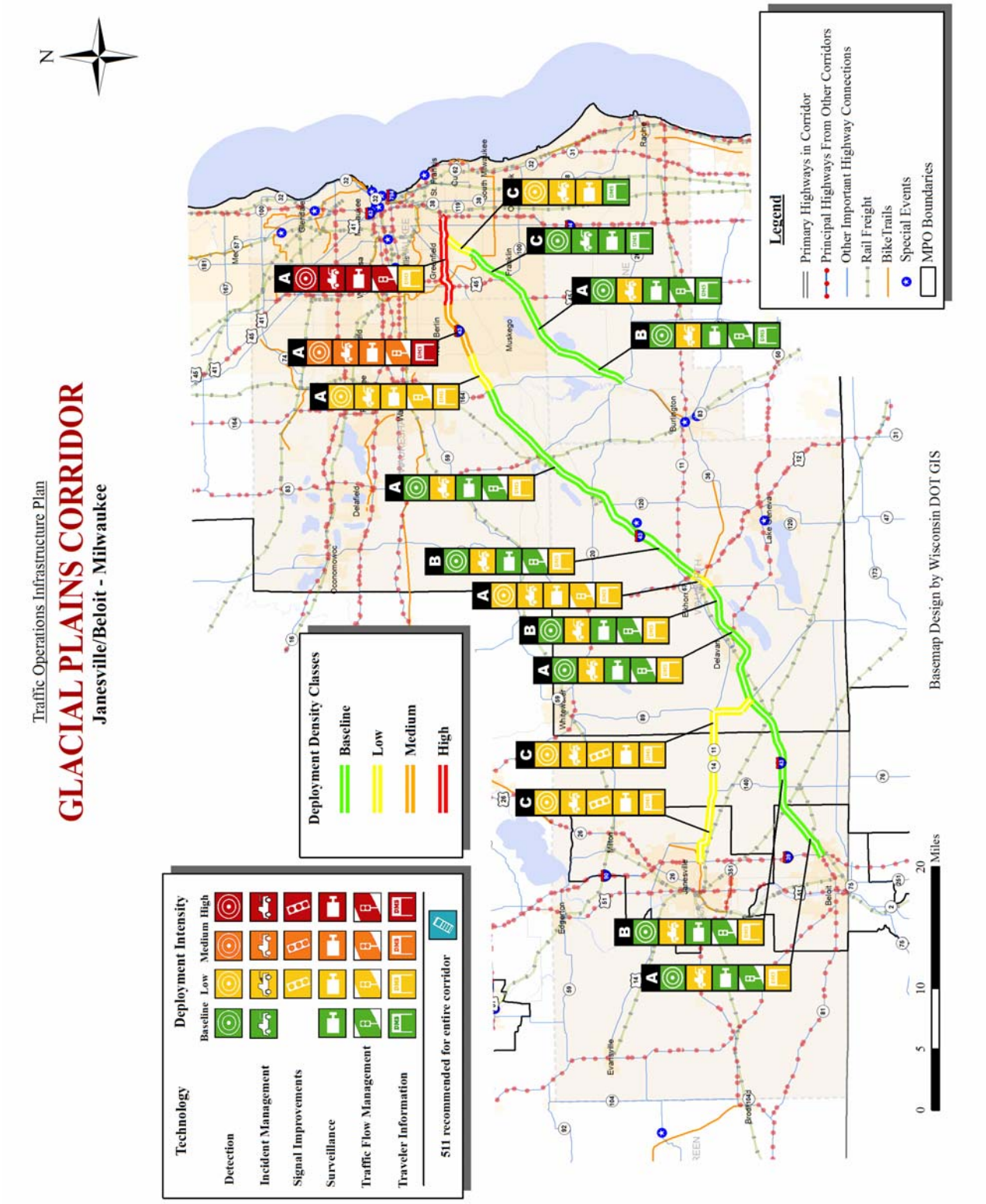
- Various low level traffic signal deployments are recommended throughout the Corridor; primarily signal controller upgrades. (See *TOIP Appendix C* for further details.)

Corridor Statistics

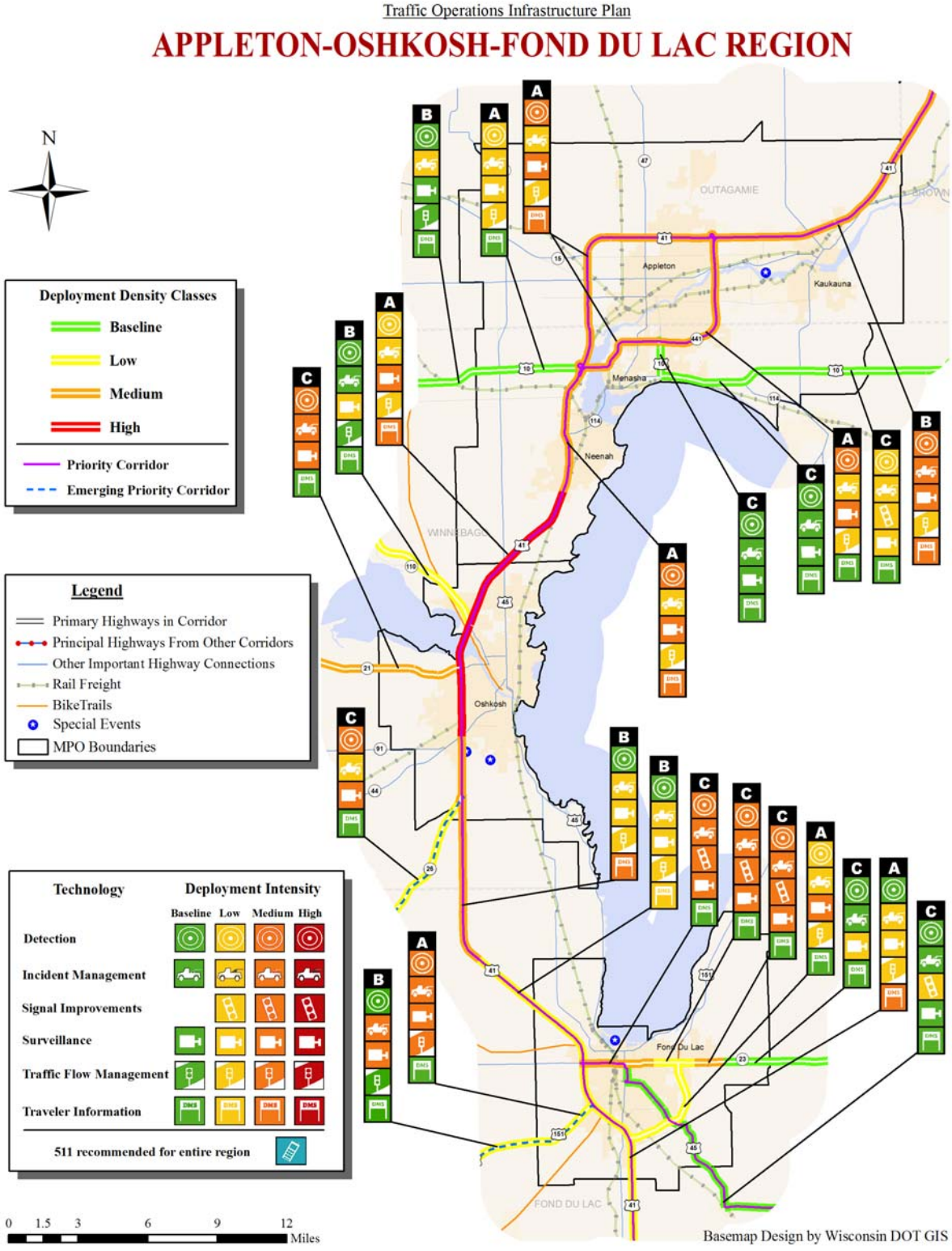
Total Miles = **102**

Deployment Density Class	Miles	% of Corridor
Baseline	67.8	66.4%
Low	21.3	20.8%
Medium	8.1	8.0%
High	4.9	4.8%



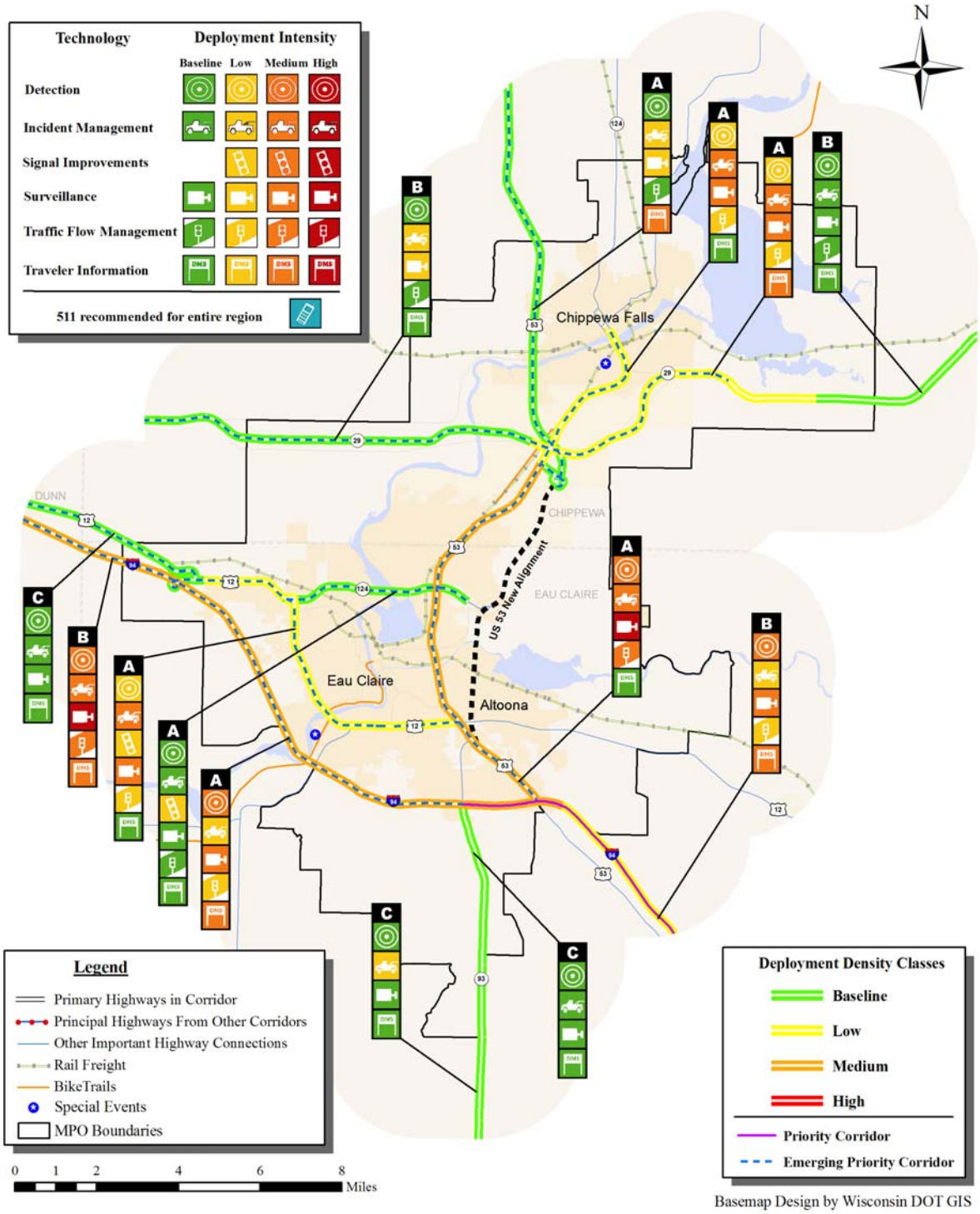

Traffic Operations Infrastructure Plan
GLACIAL PLAINS CORRIDOR
Janesville/Beloit - Milwaukee
N
Legend
Primary Highways in Corridor
Principal Highways From Other Corridors
Other Important Highway Connections
Rail Freight
Bike Trails
Special Events
MPO Boundaries
Deployment Density Classes
Baseline
Low
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 Miles
Basemap Design by Wisconsin DOT GIS

Metro Node Maps

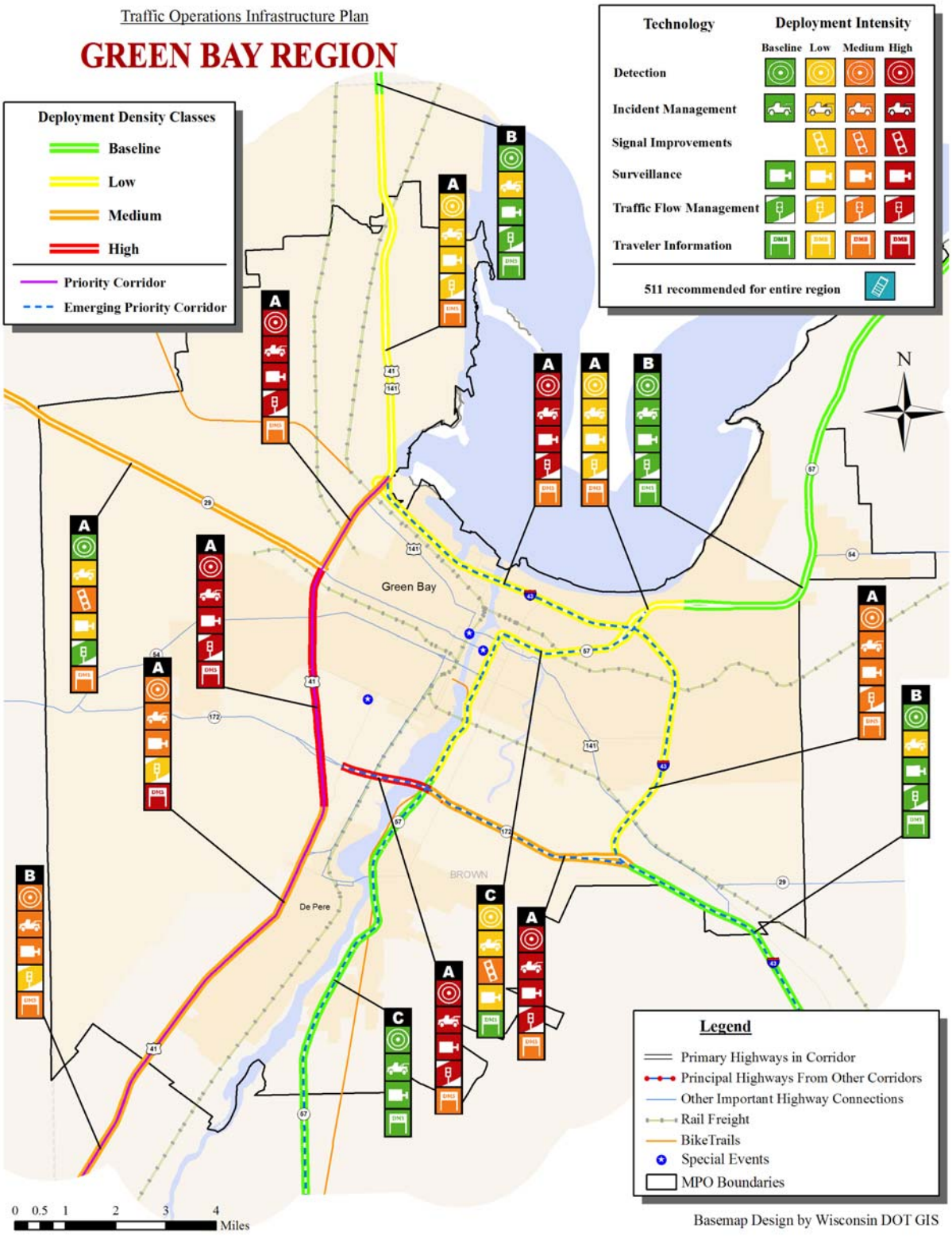


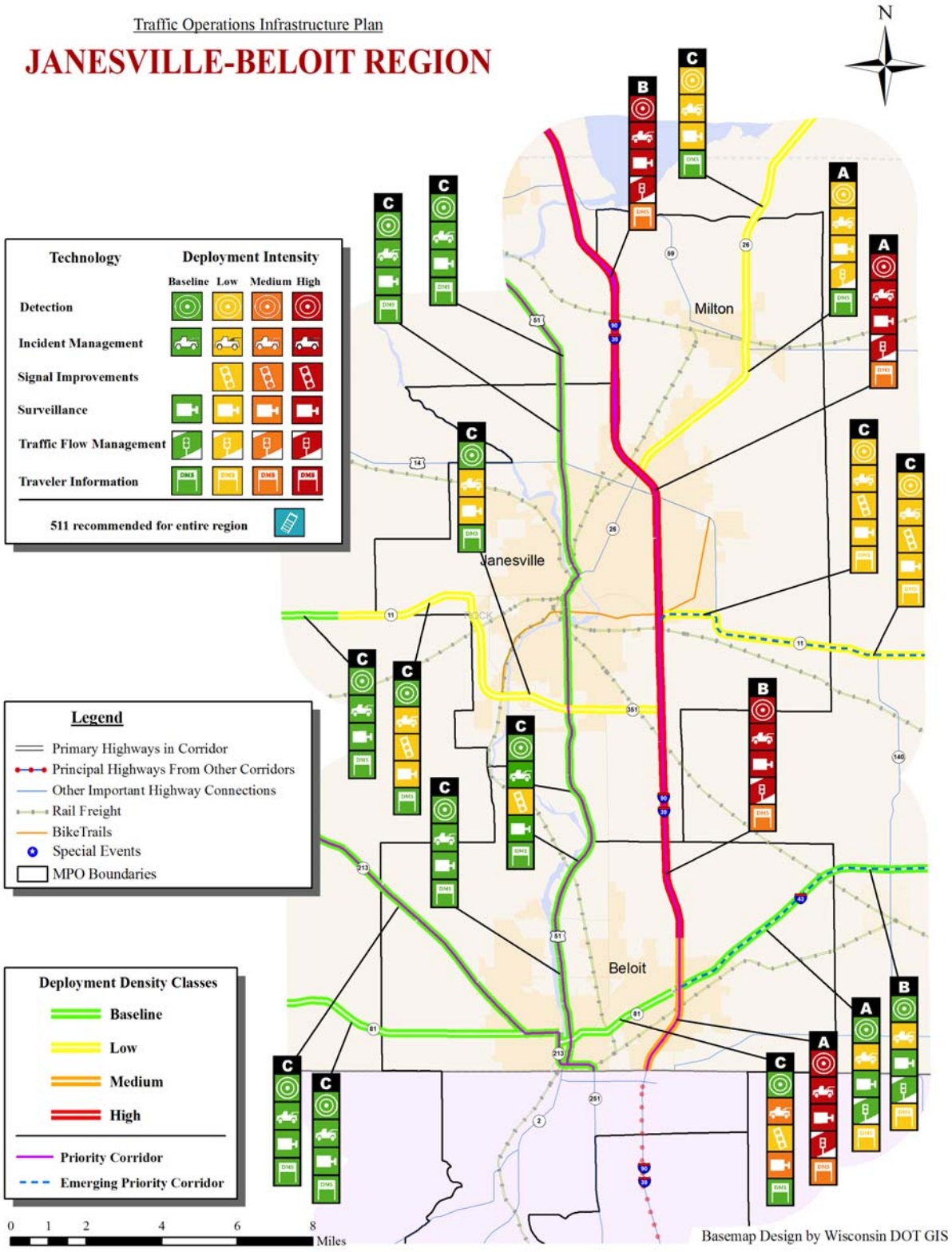
Traffic Operations Infrastructure Plan

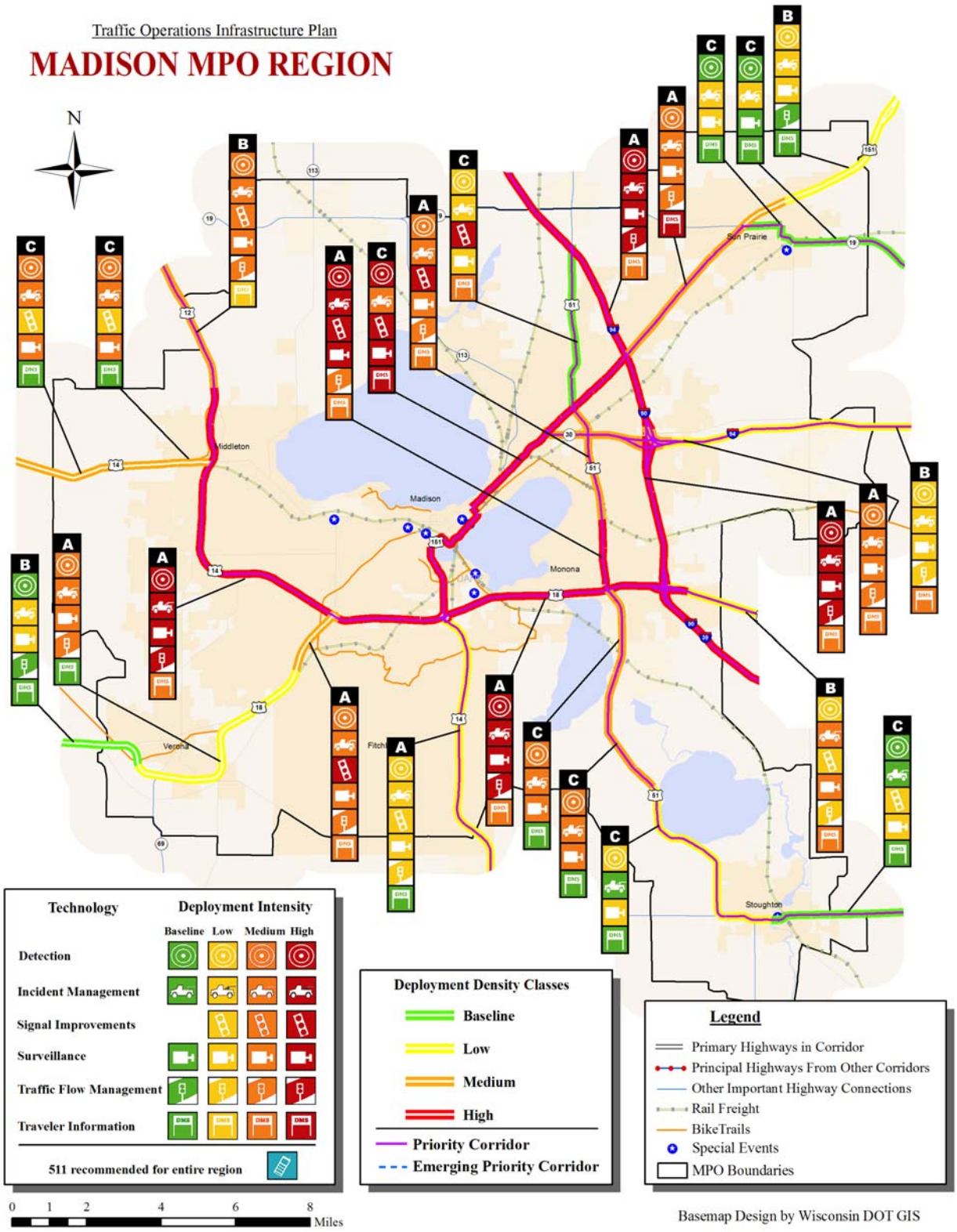
CHIPPEWA FALLS - EAU CLAIRE MPO REGION

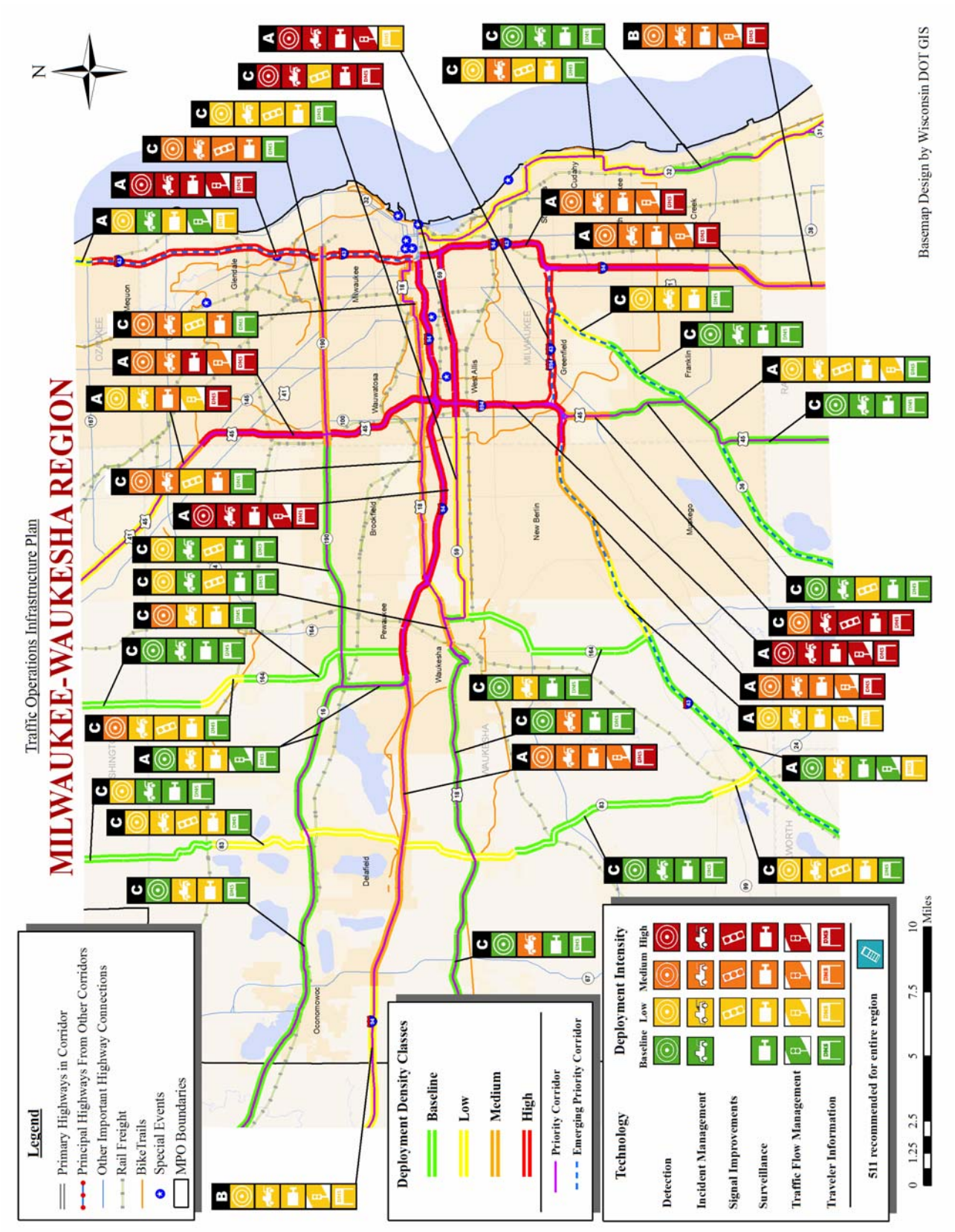


Basemap Design by Wisconsin DOT GIS


Traffic Operations Infrastructure Plan
GREEN BAY REGION
Deployment Density Classes
Baseline
Low
Medium
High
Priority Corridor
Emerging Priority Corridor
Technology
Deployment Intensity
Baseline Low Medium High
Detection
Incident Management
Signal Improvements
Surveillance
Traffic Flow Management
Traveler Information
511 recommended for entire region
N
Green Bay
De Pere
BROWN
Legend
Primary Highways in Corridor
Principal Highways From Other Corridors
Other Important Highway Connections
Rail Freight
BikeTrails
Special Events
MPO Boundaries
0 0.5 1 2 3 4
Miles
Basemap Design by Wisconsin DOT GIS


Traffic Operations Infrastructure Plan
JANESVILLE-BELOIT REGION
N
Technology
Deployment Intensity
Baseline Low Medium High
Detection
Incident Management
Signal Improvements
Surveillance
Traffic Flow Management
Traveler Information
511 recommended for entire region
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
Priority Corridor
Emerging Priority Corridor
0 1 2 4 6 8
Miles
Milton
Janesville
Beloit
Basemap Design by Wisconsin DOT GIS


Traffic Operations Infrastructure Plan
MADISON MPO REGION
N
Middleton
Madison
Monona
Verona
Fitchburg
Sun Prairie
Stoughton
Technology
Deployment Intensity
Baseline Low Medium High
Detection
Incident Management
Signal Improvements
Surveillance
Traffic Flow Management
Traveler Information
511 recommended for entire region
Deployment Density Classes
Baseline
Low
Medium
High
Priority Corridor
Emerging Priority Corridor
Legend
Primary Highways in Corridor
Principal Highways From Other Corridors
Other Important Highway Connections
Rail Freight
BikeTrails
Special Events
MPO Boundaries
0 1 2 4 6 8
Miles
Basemap Design by Wisconsin DOT GIS


MILWAUKEE-WAUKESHA REGION
Traffic Operations Infrastructure Plan
N
Basemap Design by Wisconsin DOT GIS
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
Priority Corridor
Emerging Priority Corridor
Technology
Deployment Intensity
Baseline Low Medium High
Detection
Incident Management
Signal Improvements
Surveillance
Traffic Flow Management
Traveler Information
511 recommended for entire region
0 1.25 2.5 5 7.5 10
Miles
Milwaukee
Waukesha
Ozaukee
Washington
Racine
Kenosha
Walworth
Glendale
Mequon
Wauwatosa
West Allis
Greenfield
New Berlin
Brookfield
Pewaukee
Oconomowoc
Delafield
Muskego
Franklin
Oak Creek
Cudahy