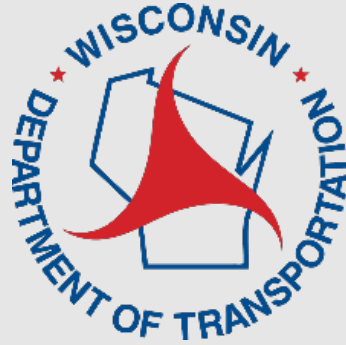




Traffic Maintenance & Asset Management

Bureau of Traffic Operations

September 2, 2026

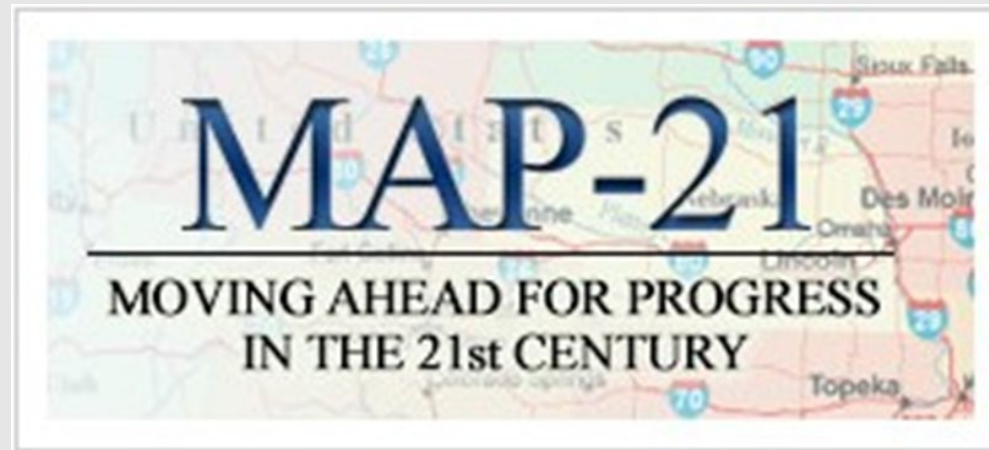
Traffic Tech Talk

Topics

- Traffic operations asset management
- Traffic maintenance funding
- Signing maintenance
- Pavement marking maintenance
- Traffic signal maintenance
- Electrical and intelligent systems maintenance
- Summary



Traffic Operations Asset Management



Traffic Operations Asset Management

Challenge:

Coordinating a complex system with many entities and complex funding



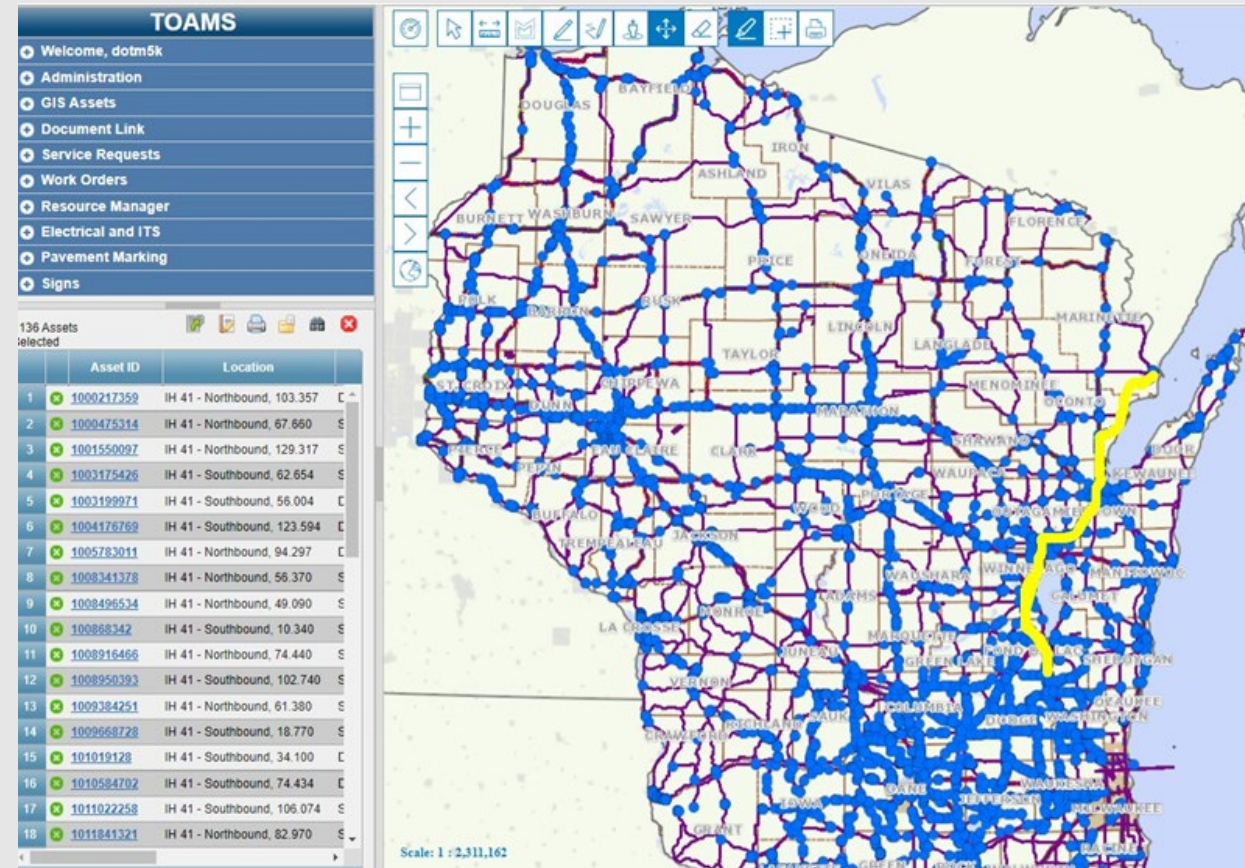
Asset Management Funding

- Appropriation 369/389- Federal planning and research
 - Federal-aid program to fund state's planning, research and technology development
- Appropriation 361/362/363/383/372/374/378/382- Federal improvement funds
 - Construction, reconstruction, bettering a highway or public mass transportation
- Appropriation 365/385 - State and federal maintenance and traffic
 - Installation, rehabilitation, or maintenance of highway signs, highway lighting, pavement markings, the maintenance of traffic control signals or intelligent transportation systems, unless incidental to building, fabricating, or bettering a highway or a street.
- Appropriation 352 – State signals and ITS standalone program (SISP)
 - Funds standalone projects with greater than 50% cost associated with traffic signal or ITS hardware and construction on state and connecting highways.
 - <https://wisconsindot.gov/Pages/doing-bus/local-gov/astnce-pgms/highway/sisp.aspx>
- Maintenance is a state-funded endeavor
- Increasing asset counts strain shrinking or stagnant levels of maintenance funds



Traffic Operations Asset Management System

- Customized commercial software
- Mapping
- Field inventory
- Multiple asset programs
- Electrical shop inventory
- Planned field maintenance
- Emergency field dispatch

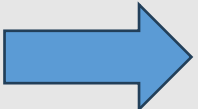


TOAMS Assets

- Intelligent Transportation Systems (ITS)
- Lighting and Signals
- Pavement markings
- Signs
- Retroreflectivity



Asset Data Supports Life Cycle Management

- Geographic location
 - Installation information
 - Material and labor charges
 - Inspection details
 - Manufacturer records
 - Repairs/replacements history
- 
- How do we best respond to this mandate or product recall?
 - Which models are most cost effective to operate?
 - Where do gaps exist in our provision of best practice traffic control devices?
 - What can we do to lengthen years of effective service on any traffic control asset?

Type 1 vs Type 2 Signs

Type 1

- Large Green and Blue signs on Freeways
- Installed on I-beams or Overhead
- Replaced due to Age
 - Contractors through Improvement Program
- Replaced due to Damage
 - Contractor through Request for Bids/Contract
- Replaced in Improvement Projects



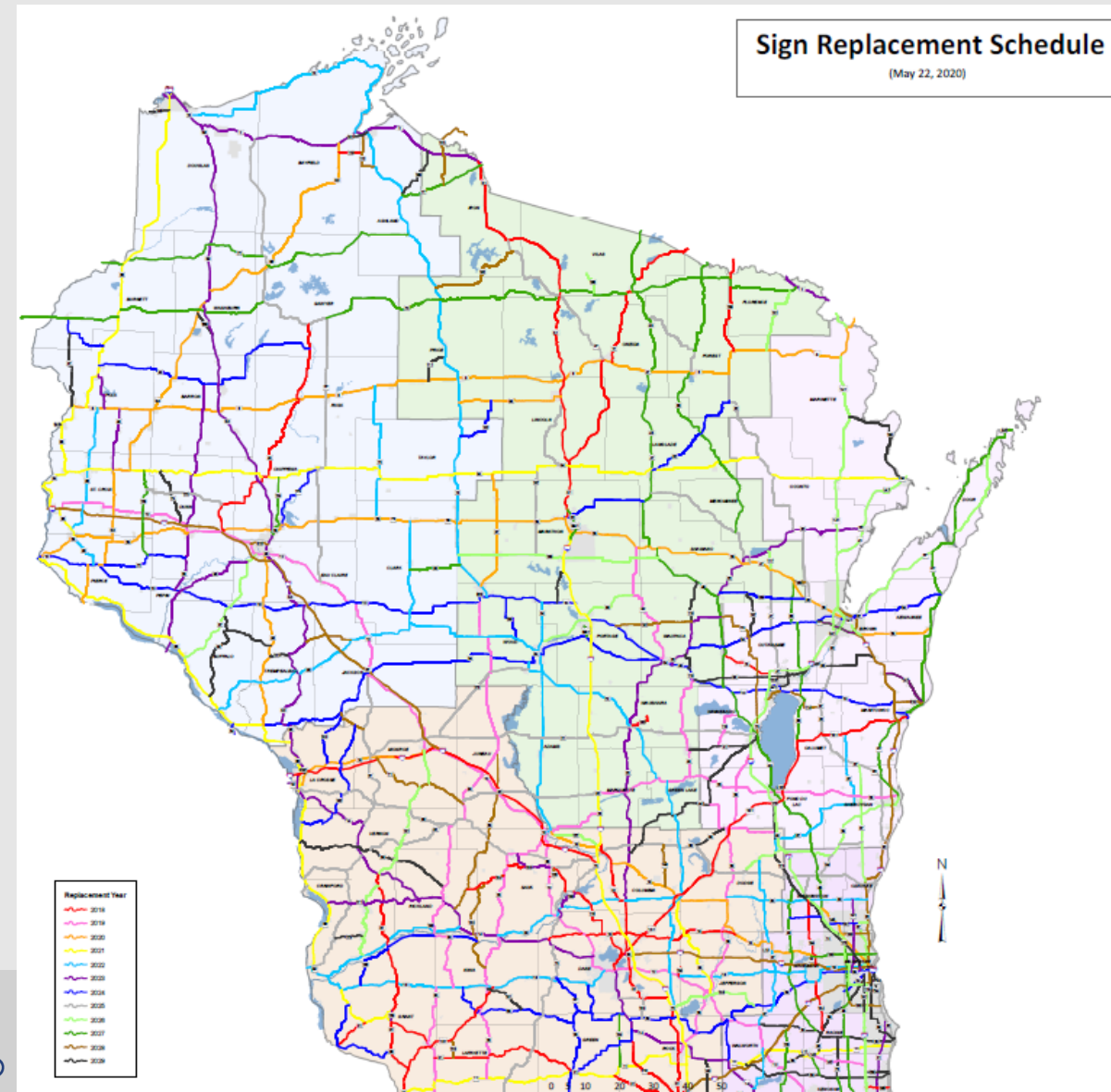
Type 2

- Small signs
- Installed on Wood Posts
- Replaced on 12 year Corridor Cycle
 - Counties installs through TMAs
- Damage Claims/Safety Improvements
 - Counties Installs through RMAs
- Improvement Projects
 - Only if there is a change in condition



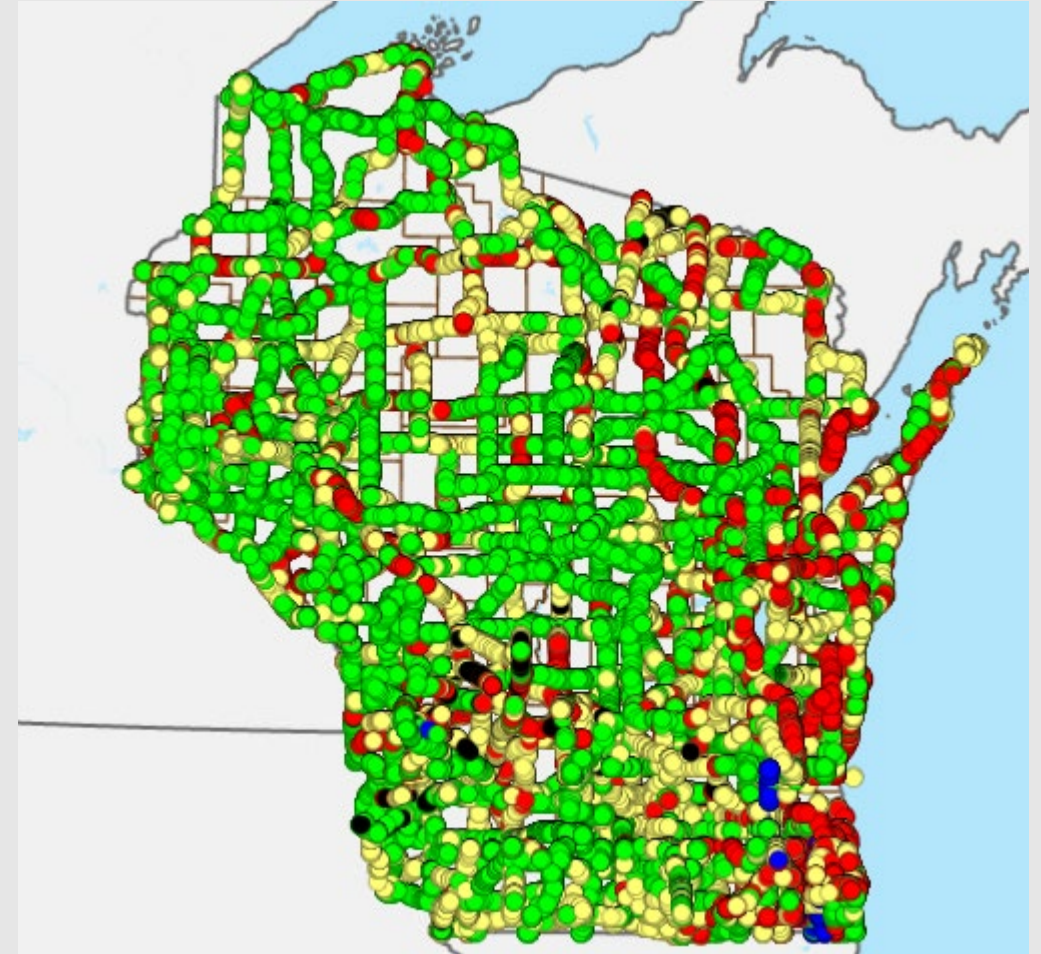
Type II Signing Replacement

- 12 Year Corridor Replacement
 - Complete routes throughout the state get replaced in the same year.
 - ~25,000 signs replaced per year by Counties
 - Based on oldest number of signs back in 2018.
 - First cycle will be completed in 2029



Signing Assets

- Signs
 - Stored In TOAMs
 - Dots are based on age of sign
 - Blue Future Corridor Signs
 - Green < 5 Years Old
 - Yellow 6-12 Years Old
 - Red > 12 Years Old
 - Black No Data
 - Regions maintain data
 - >300,000 Signs



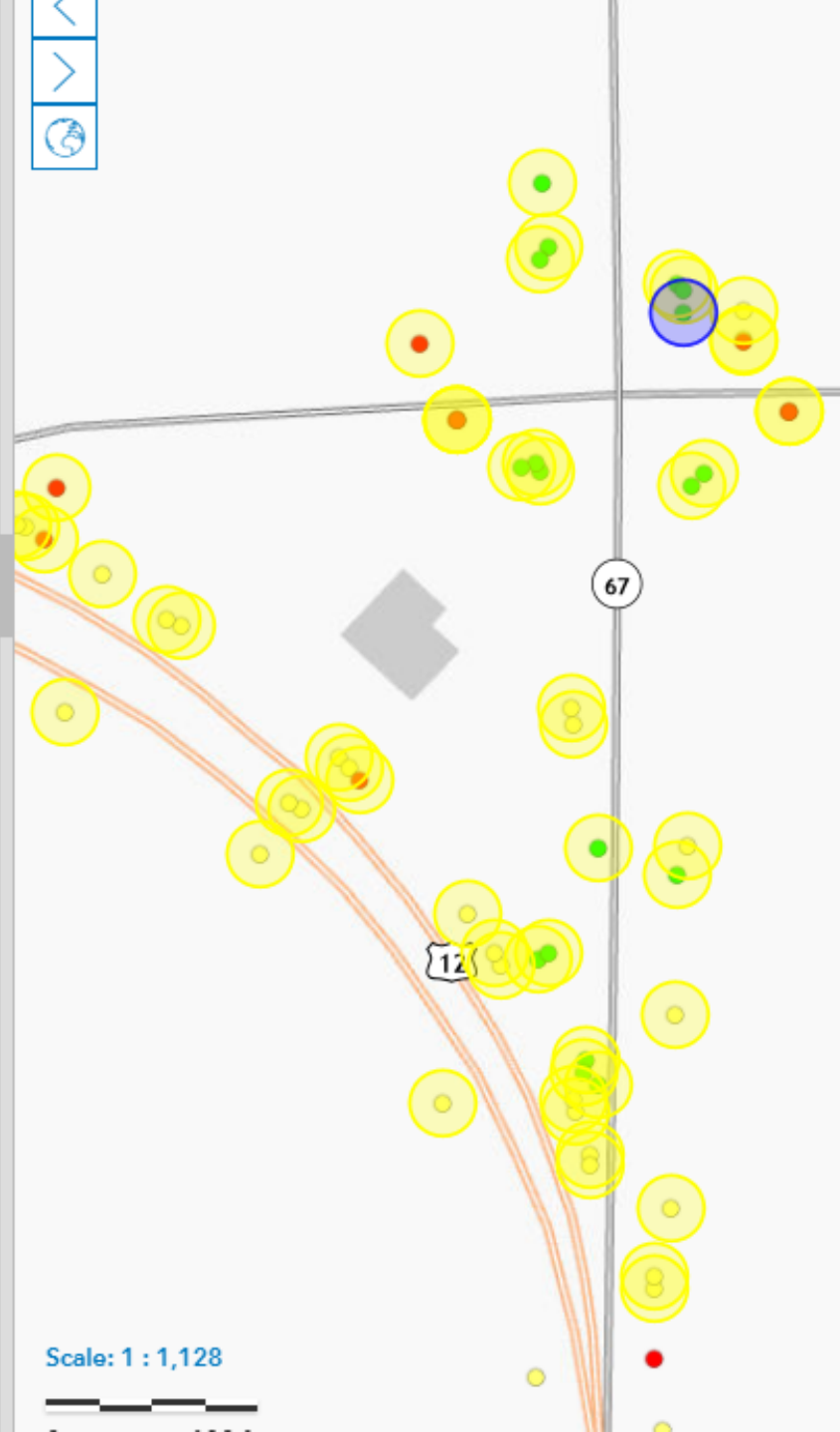
Sign: 251715



A Attributes ▾

Save Cancel

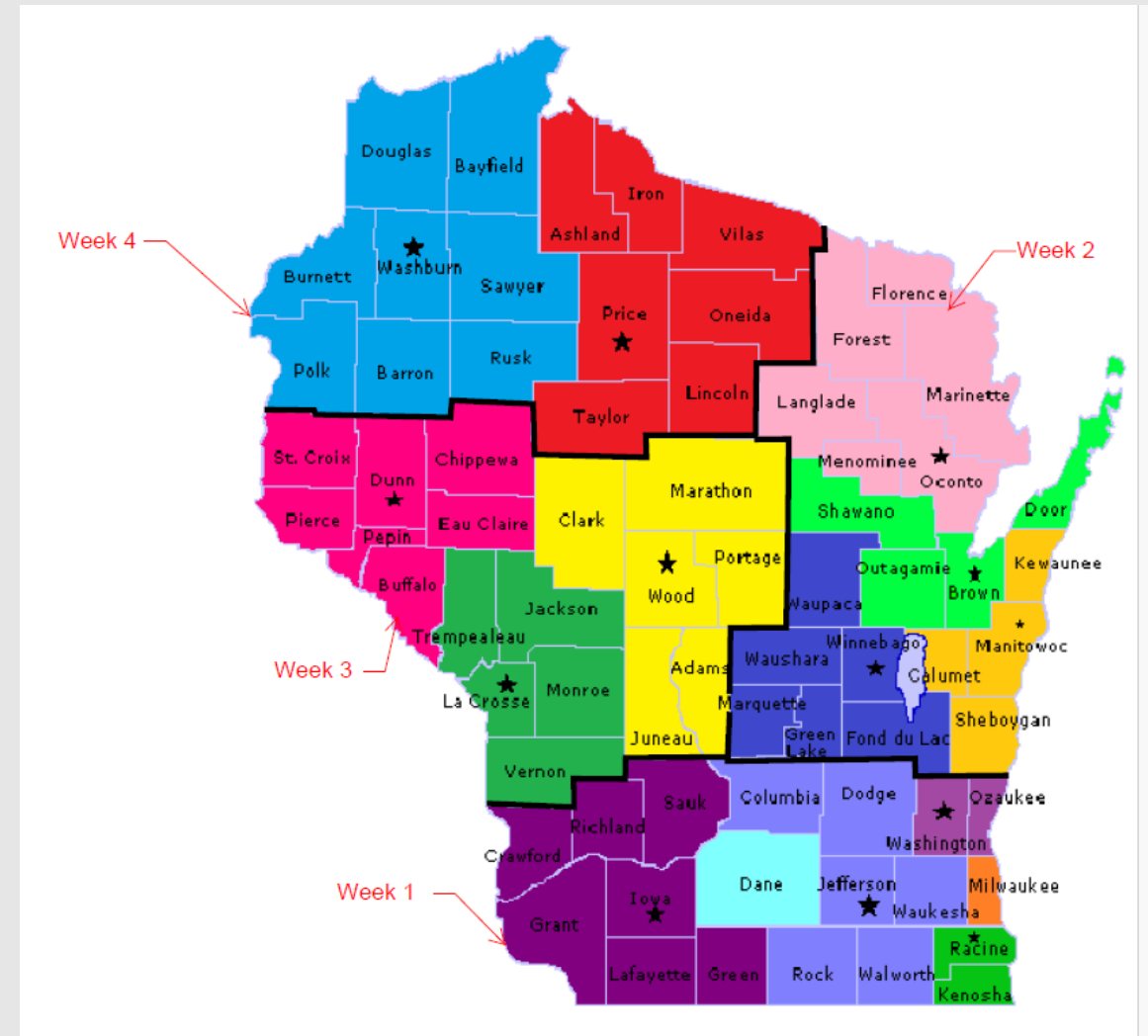
TOAMS Sign ID*	251715
Status	Active ▾
Region	Southeast ▾
County	Walworth ▾
Route	STH 67 ▾
Travel Direction	Northbound ▾
Photolog Marker	23.43
STN Cumulative Mileage	42.847
Nearest Crossroad	STH 20
Position	Right ▾
Material ID	D2-2 Destination/Distance (Two) with Die ▾
Width (in)	96
Height (in)	24
Sign Area (sq ft)	16
Substrate	Sheet Aluminum ▾
Manufacture Code	F (3M Sheeting) ▾
Year Manufactured	2022 ▾
Order Line 1	Eagle 7
Order Line 2	Oconomowoc 22
Order Line 3	
Order Line 4	
Order Line 5	
Order Line 6	
Order Line 7	
Order Line 8	
Letter Size	6" Upper Case, 4.5" Lower Case ▾



Sample Data

Signing Shipping

- Regions Place Orders
- All Signs Processed, Packaged and Shipped through Madison Sign Shop
- Counties Store Emergency Signs Only
- BCE (Prison) Manufactures and Ships our Signs
 - 4 Week Sign Delivery Cycle
 - Large Orders to 1 County
 - Direct Delivery if Requested by BTO



SIS/TODS/WAB



Specific Information Signs (SIS)

- Managed, Manufactured & Installed by Wisconsin Logos
- 5 Categories
 - Advisory Council Reviews Attractions
- Installed on Major Routes

Tourist Oriented Direction Signs (TODS)

- Managed by Counties and BTO
- 5 Categories
 - Advisory Council Reviews Attractions
- Applicants Get Sign Made
- Installed by Counties

Directional Arrow Boards (WAB)

- Managed by Region Staff
- Applicants Get Sign Made
- Installed by Counties
- Additional Categories

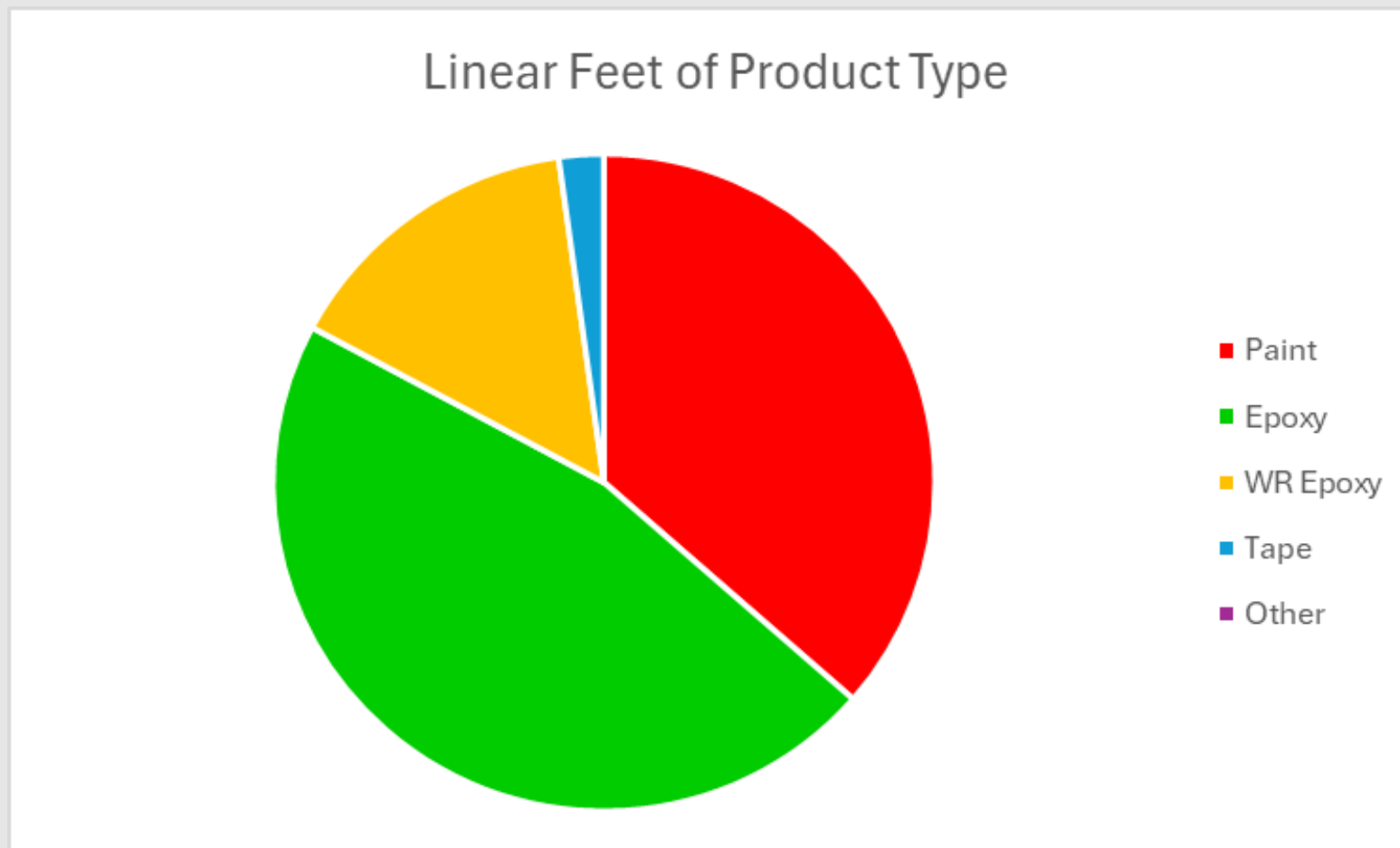


Pavement Marking Products



Product	Service Life (years)	Average Cost (\$/LF/Year)	Installed By	Type	Wet Recoverable	Appropriation	Location
Permanent Tape	10+	\$0.82	Improvement Projects	Grooved	Yes	-	Lane Lines on Concrete Surfaces
Wet Reflective Epoxy	5-7	\$0.21	Improvement Projects	Grooved	Yes	-	Edgelines Lane Lines Centerlines
Standard Epoxy	3-5	\$0.11	Regionwide LETs	Surface Applied	No	365/385	Edgelines Centerlines Special Markings
Waterborne	1	\$0.11	County TMAs	Surface Applied	No	368	Edgelines Centerlines

Product Break Down



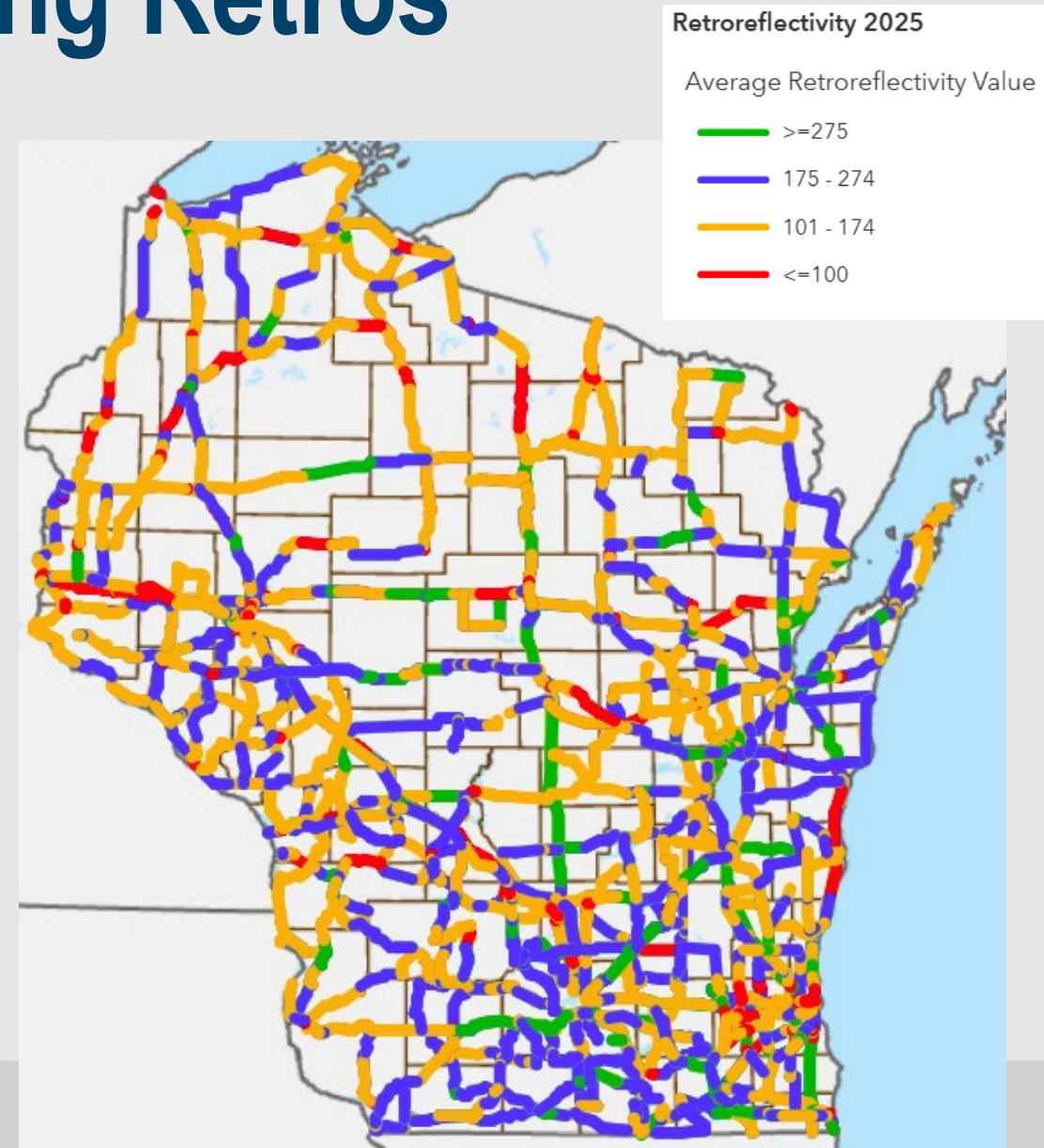
Pavement Marking Maintenance

- Retro Data Collection Program
 - 2023 MUTCD established a minimum recommended retro of 100mcd/m²/lx

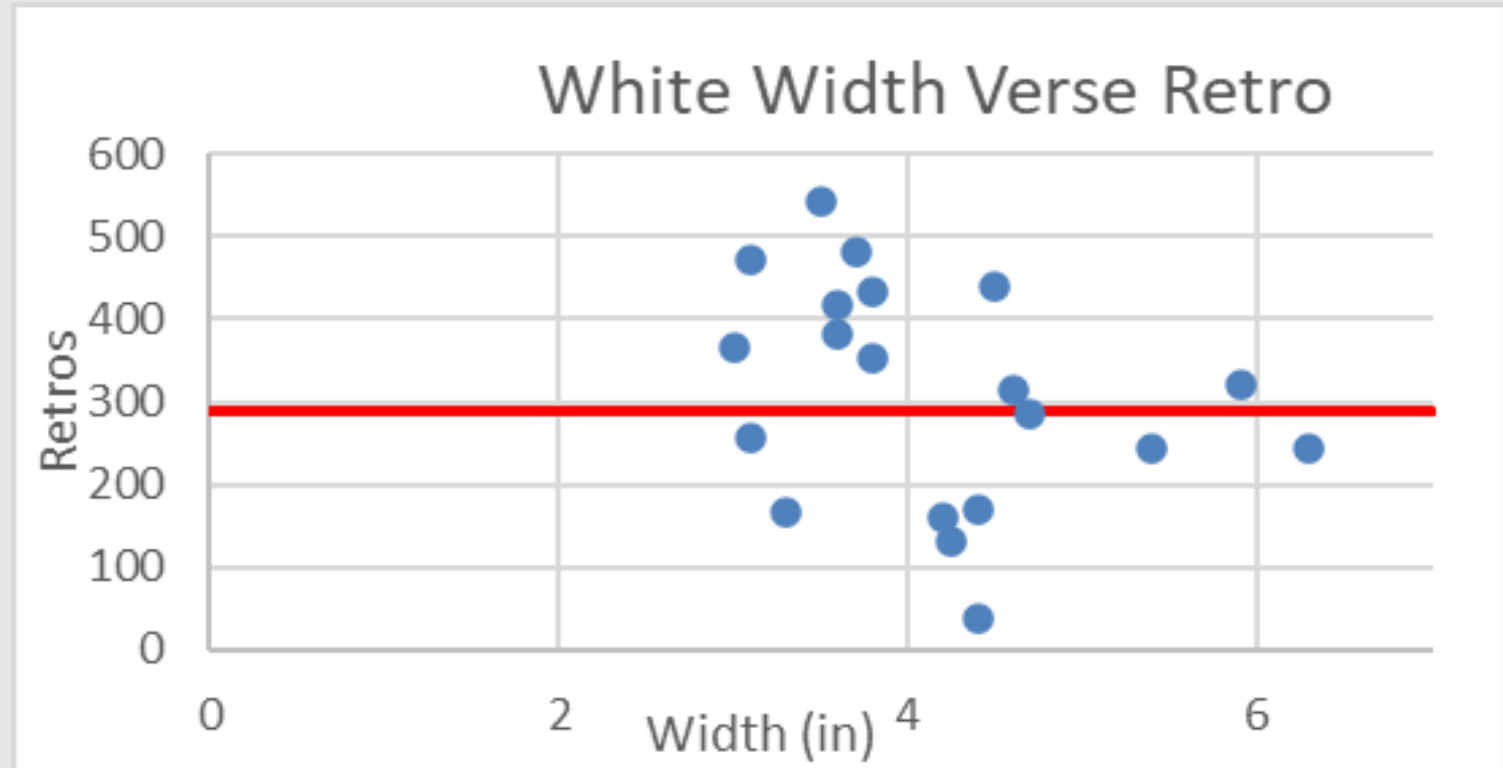
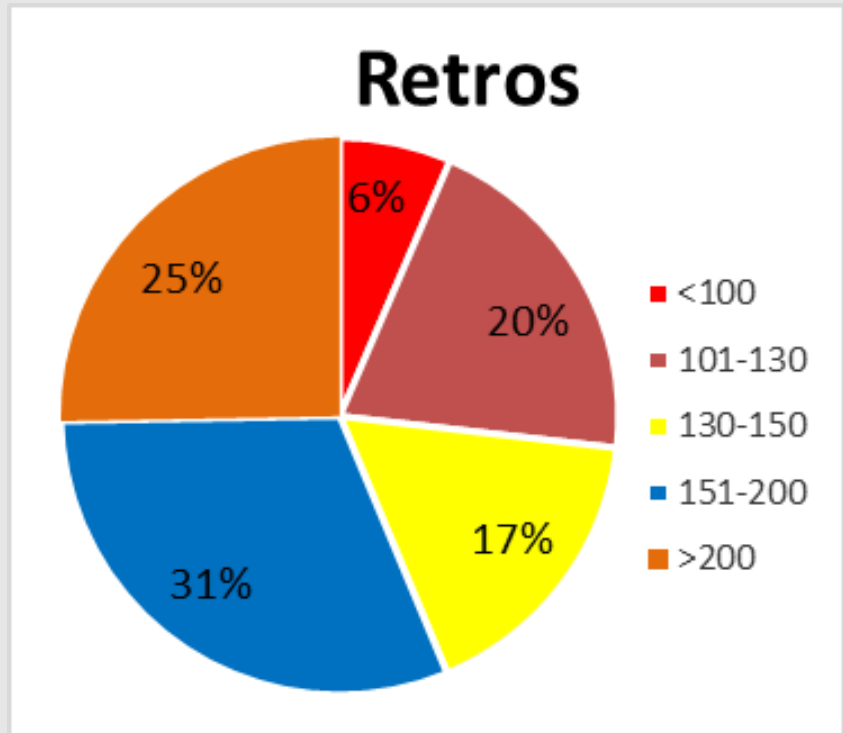


Pavement Marking Retros

- June-August
 - Collect Data (~22,000 Collection Miles)
- Fall
 - Upload into TOAMs/Project Acceptance
- Winter-Spring
 - Analysis and Planning for next LET

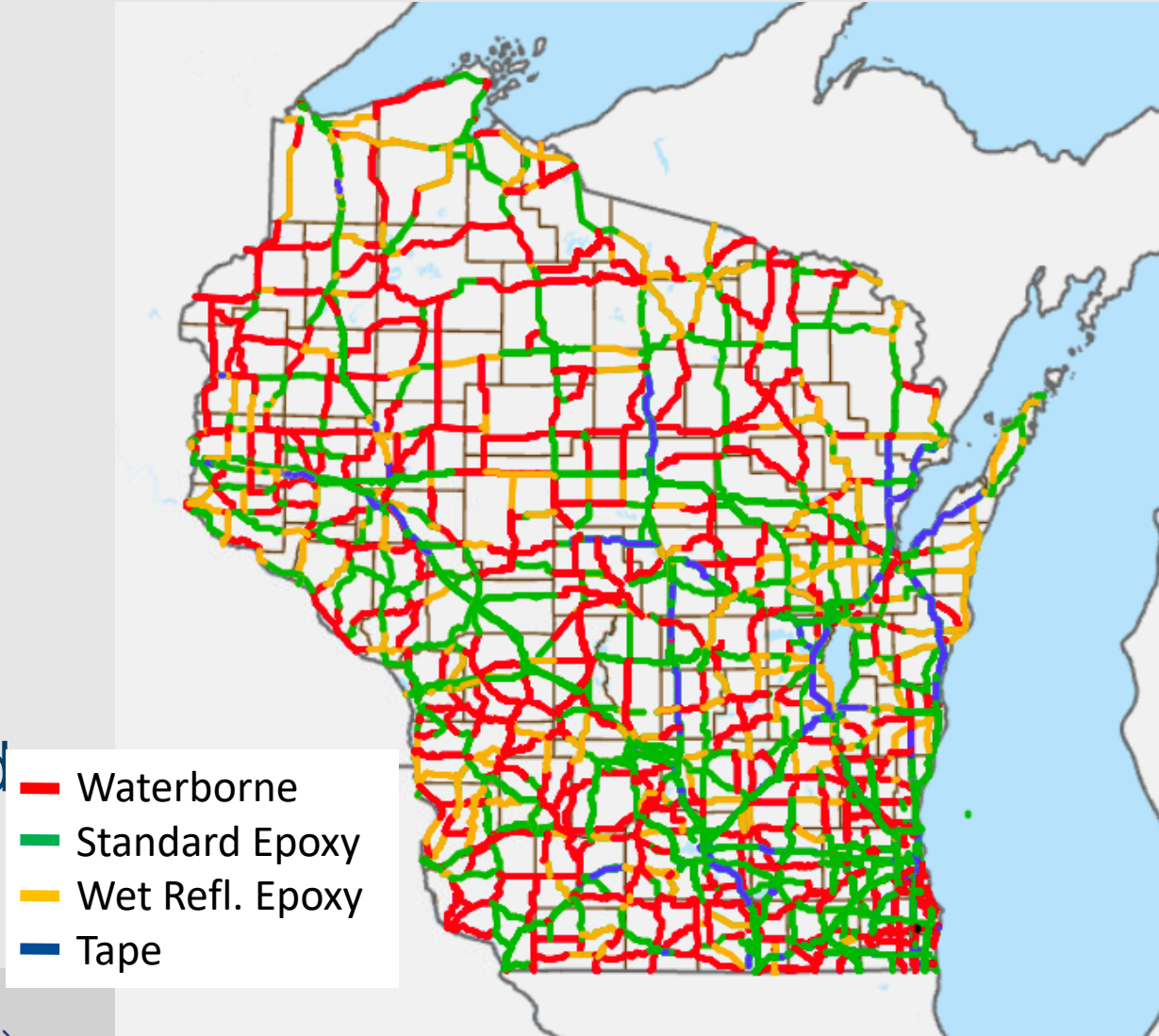


Sample Performance Measures



Pavement Marking Product Replacement

- Counties paint roughly 4,550 centerline miles per year
- Contractors thru Regionwide LETs paint roughly 1,445 centerline miles per year.
- Contractors thru Improvement Projects paint roughly 2,200 miles
- Roughly 600 centerline miles is not painted per year.
- Data is all stored in TOAMS and updated manually.

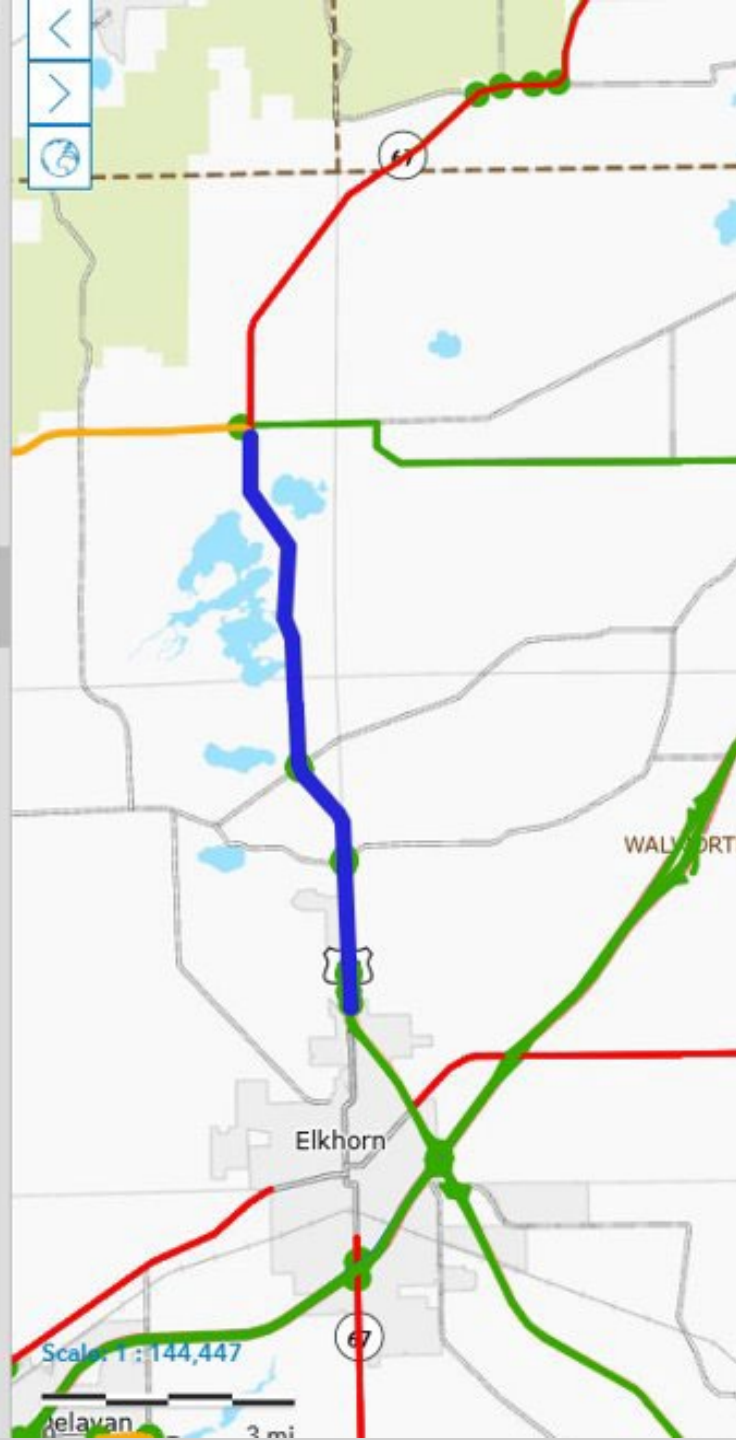


Online Markings: 2147513837

A Attributes

Save Cancel

Marking ID*	2147513837
Region	Southeast
County	Walworth
Route	USH 12
Travel Direction	Eastbound/Westbound
Segment Location	STH 67 to STH 67
Start Marker	313.34
Start STN Cumulative Mileage	313.34
Start Latitude	42.79791962
Start Longitude	-88.56284426
End Marker	320.43
End STN Cumulative Mileage	320.43
End Latitude	42.70031941
End Longitude	-88.54197367
Bid Item Number & Description	646.2040 Marking Line Grooved Wet Ref
Marking Location	Edgeline Right
Marking Code	
Color	White
Segment Length	7.09
Verified Footage	74870
Performed By	Century Traffic
Applied Year	2024
Retrace	No
Pavement Type	
Project ID	3120-10-70
Maintaining Authority	



Sample Data

Signal & Lighting Systems Maintenance

- What are considered electrical assets?
 - 1,074 Traffic Signals
 - 165 Flashing Beacons
 - 638 Lighting Systems
 - 27 Navigation Beacons
 - 8 Pedestrian Hybrid Beacons
 - 8 "Welcome to Wisconsin" signs
 - 75 RWIS (not maintained by BTO)
 - 65 Rest Areas & Waysides (Lighting Only)
 - 13 Safety & Weight Enforcement Facilities (Lighting Only)



Signal & Lighting Systems Maintenance

- What work is done?
 - Annual Maintenance Checks
 - Routine Maintenance (e.g., light out, broken pedestrian push button)
 - Emergency Maintenance (e.g., knockdowns, signals in flash)
 - 6,666 Electrical Work Orders in FY 2026



Signal & Lighting Systems Maintenance

- Who maintains assets?
 - Typically, the regional electricians do all maintenance of the electrical installations.
 - Exceptions
 - Electrical contractor maintains the solar-powered flashing beacons in the SE Region.
 - Maintenance of system lighting in SE Region performed by a combination of SE Region electricians and Milwaukee County electricians



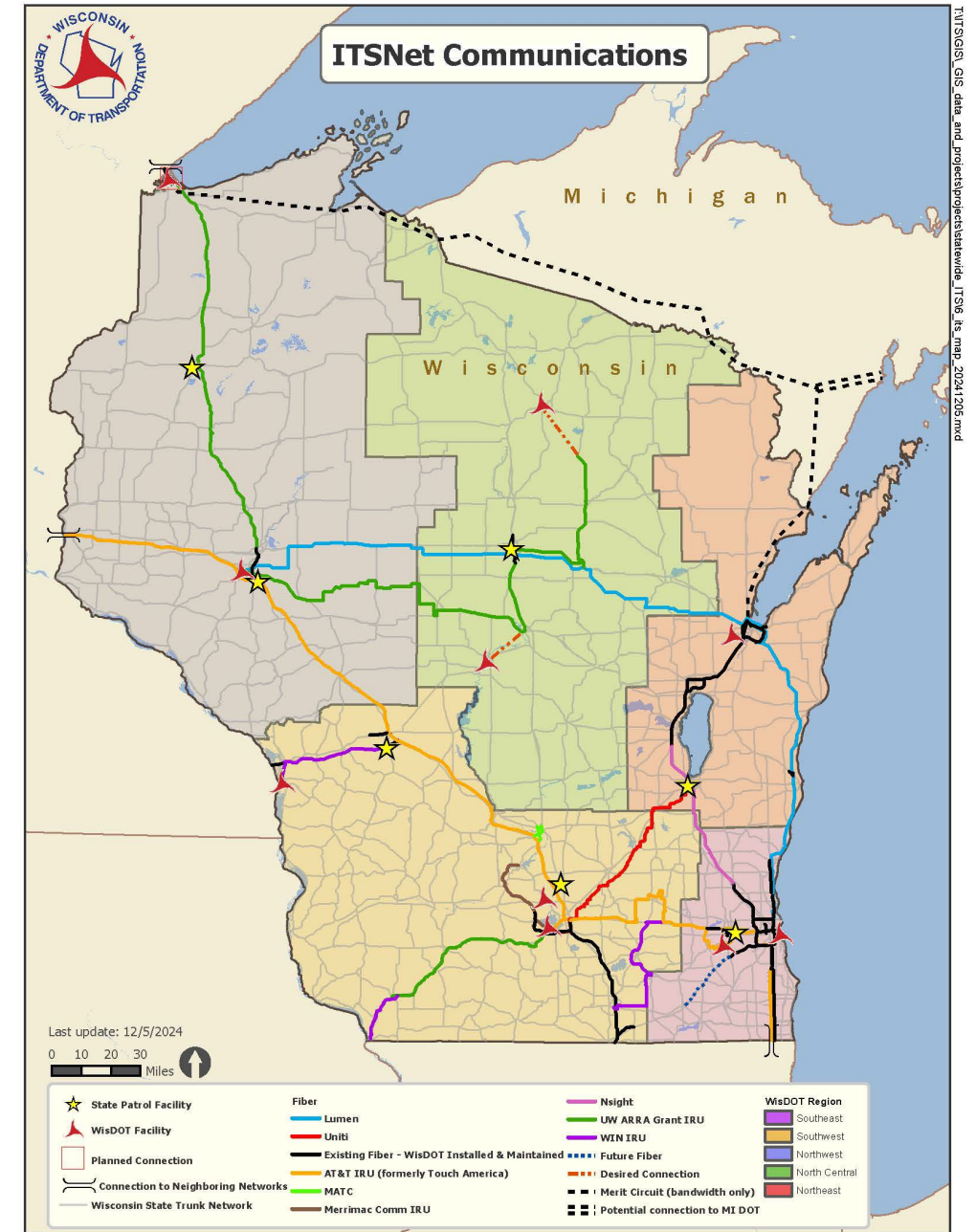
ITS Maintenance

- 1480 ITS Devices Statewide
 - 561 Active CCTV Cameras
 - 186 Dynamic Messaging Signs
 - 126 Ramp Meters
 - 407 System Detector Stations, Auto Traffic Recorders, Count Stations
 - 47 Safety Systems (Over height detection, Wrong Way Driving, Merrimac Ferry)
- Support for networking devices and their infrastructure



ITS Communications Network (ITSNet)

- 1,100 miles of fiber
- 1/3 maintained by BTO



ITS Maintenance

- ITS Maintenance Contractor and Subcontractors
- DOT Staff (BTO TMC and Control Room Staff) and Consultants
- Counties assist with Traffic Control along with Regional Maintenance Coordinators



Summary

- Traffic asset management is best use of scarce resources
- Limited state funds to accomplish highly visible WisDOT functions
- Contract personnel support state employees
- Shared responsibilities require collaboration

