



MDOT PERFORMANCE-BASED ITS INFRASTRUCTURE AND NETWORK SERVICES

BENEFITS OF INTELLIGENT TRANSPORTATION SYSTEMS

- “When signal operations and freeway lane management applications are optimized for the environment, they could yield fuel savings of up to 22 percent.”
- “Traffic management applications on freeways can reduce the number of crash-related incidents by 25 percent during winter weather conditions.”
- “Crash avoidance technologies have been shown to decrease crashes and can reduce occurrences of driver injury and fatalities by up to 57 percent.”

Source: United States Department of Transportation – Intelligent Transportation Systems Joint Program Office
(https://www.its.dot.gov/communications/its_factsheets.htm)

ITS MAINTENANCE NEEDS AND CHALLENGES

- Comprehensive response and preventative maintenance services are required to keep Michigan's ITS infrastructure in proper working order.
- MDOT has over 31,000 ITS assets that require maintaining.
- A vast statewide fiber optic and wireless network.
- Four TOCs that cover the state.
- Various construction conflicts throughout the year.

PERFORMANCE PAY SCHEDULE

Device Type	Desired Level of Service per Device Type	Base Payment		
CCTV, DMS, Detector Station, Travel Time Sign, Speed and Curve Warning System, TPIMS, DTPS, DSRC - RSU, Border Wait Time Devices, ICM DTBP, LCS, NTCIP PCMS	90%	80% of total device payout for each day any region < 90% operation	70% of total device payout for each day any region < 80% operation	60% of total device payout for each day any region < 70% operation
		Performance Payment		
		The Department will pay 102% of the daily routine maintenance amount for each day that the level of service exceeds 95% for all regions.		

Start Date	End Date	Region	Device	Total D	Down C	Up Day	
4/1/2021	4/1/2021	Metro	CCTV	1	0	1	
4/1/2021	4/1/2021	Metro	CCTV	1	0	1	
4/1/2021	4/1/2021	Metro	CCTV	1	0	1	
4/1/2021	4/1/2021	Metro	CCTV	1	0	1	
4/1/2021	4/1/2021	Metro	CCTV	1	0	1	
4/1/2021	4/1/2021	Metro	CCTV	1	0	1	
4/1/2021	4/1/2021	Metro	CCTV	1	0	1	
				310	15	295	95%

MAINTAIN CCTV

- Minimum Thresholds:
 - Loss of image or control of CCTV
 - Loss of communications to site
 - Degradation of image on control to less than 75% of optimal operation



MAINTAIN DMS SITE

- Minimum Thresholds:
 - Loss of communications to a DMS site
 - Pixel errors that fail a DMS
 - Any driver board, power supply, or module that malfunctions that fail a DMS
 - Failure resulting in an un-lit sign during darkness



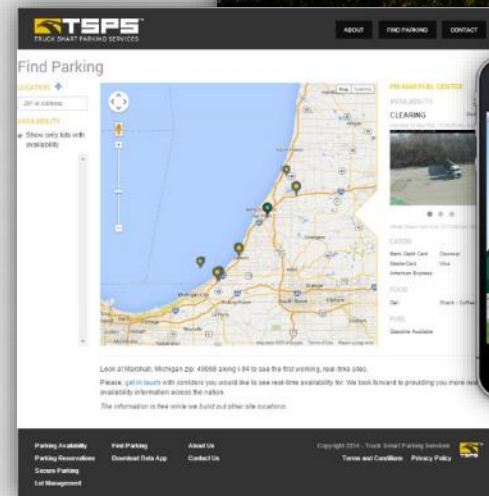
MAINTAIN TRAVEL TIME SIGN

- Minimum thresholds:
 - Loss of communications to a TTS site
 - Pixel Errors that fail a TTS site
 - Any driver board, power supply, or module that fails a TTS site



MAINTAIN TRUCK PARKING INFO & MANAGEMENT SYSTEM

- Minimum Thresholds:
 - Loss of communications to a TPIMS site
 - Any malfunction of the parking availability detection and controller, including inaccurate data
 - Loss of image or control of CCTV
 - Degradation of image or control to less than 75% of optimal operation



MAINTAIN BORDER WAIT TIME SYSTEM

- Minimum thresholds:
 - Loss of communications to the devices
 - Any malfunction of the detection and controller, including inaccurate data



MAINTAIN ACTIVE TRAFFIC MANAGEMENT

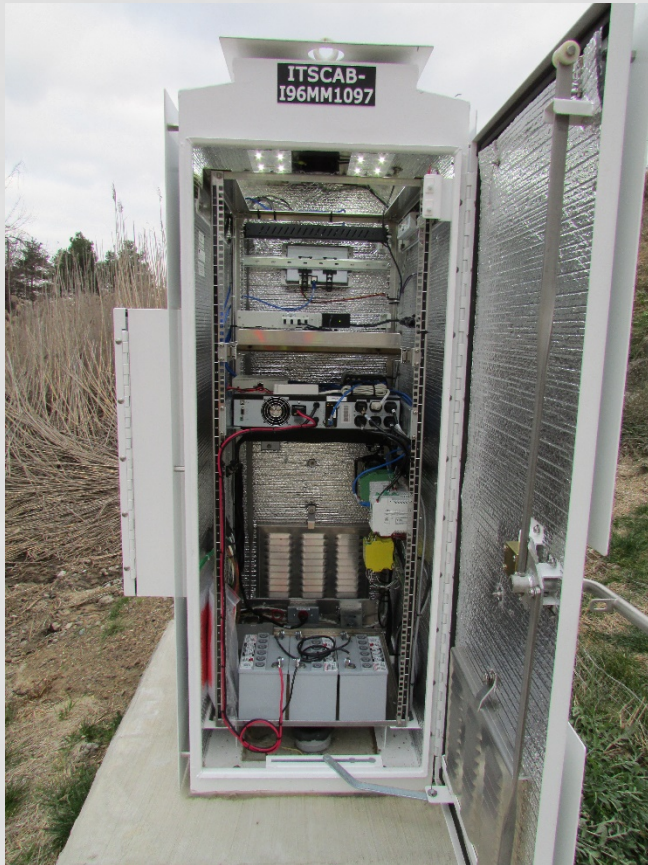
- Actively Manage Incidents
 - Lane Control Signs
 - Message Signs
 - Increase Reliability
 - Speed Harmonization
 - Increased Capacity
 - Hard Shoulder Running
- System Availability: 97.5%



WORK NOT INCLUDED IN PERFORMANCE SCHEDULE

- Non-routine work for devices
 - Acts of God or third-party damages
 - Broken devices or major components
 - Obsolete devices/components
- Networking Services
 - Network monitoring
 - IP address management/allocation
- Maintain TOC Equipment
 - Maintain video walls
 - Maintain and monitor video servers

QUESTIONS?



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