

NCDOT Teams for TIM



By North Carolina Department of Transportation

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Benefits Statement

NDOT's use of CMM self-assessment enhances traffic management, incident response, and resource allocation, potentially saving lives by reducing accidents and traffic-related fatalities. It saves time through efficient processes and collaborative stakeholder efforts. This approach can also save money by optimizing resource use, reducing congestion costs, and inspiring regional collaboration for more effective transportation solutions.

In this case study you will learn:

1. How NDOT's ongoing CMM self-assessment journey since 2011 has improved program planning, including TSMO, ATM, and TIM.
2. How multiple assessments led to workforce and stakeholder plans. Communication via TSC meetings and virtual workshops was key.
3. How CMM yielded roadmap development, stakeholder collaboration, and a Level 3 maturity goal, influencing other organizations like RTC of Southern Nevada.

BACKGROUND

The North Carolina Department of Transportation (NCDOT) strives to better manage the roadway network during major construction projects using strategies that focus on quick-clearance and minimizing secondary crashes. An integrated corridor management (ICM) approach during a major construction project, communication is critical for effective, reliable emergency response during these closures. As with most major construction projects, consistent monthly Interagency Team meetings with construction project stakeholders (i.e., NCDOT Division staff, construction company staff, law enforcement, first responders, public, etc.) are critical to discuss upcoming construction activities and their impacts.

Even with this coordination, there was a gap in first responders and their partners (e.g., hospital staff, 911 Communications) receiving real-time situational awareness about roadway conditions during construction. Real-time situational awareness supports the fastest response to the scene and to the hospital. Microsoft Teams provided a platform for streaming video with live chat between responders and the Regional Traffic Management Center, who operate the cameras. Daily Microsoft Teams meetings were set up to provide situational awareness and an improved communication strategy for key parties during construction.

TSMO PLANNING, STRATEGIES AND DEPLOYMENT

Full closures require an advance level of traffic management, including the use of existing field devices such as cameras. Daily, the Mountain Region Regional Intelligent Transportation System (RITS) engineer scheduled a Microsoft Teams meeting with key partners, including the contractor, Division and Resident Engineer's office staff, Regional Traffic Management Center (TMC) and Statewide Transportation

Operations Center (STOC), 911 Communication Centers, law enforcement, and other key internal and external operational staff.

Microsoft Teams established a platform for the partners to communicate seamlessly while having live streaming video (refer to Figure 1). This method provided live viewing of the CCTV cameras in the area without needing to connect directly to each one, which typically can be a challenge. Camera controls are managed by the TMC and are requested through the chat function.



Figure 1

Questions and information on roadway conditions, including the alternate routes, and/or additional cameras views were handled through the chat feature. The Microsoft Teams meeting was set as a recurring daily meeting during the duration of the construction project.

COMMUNICATIONS PLANNING AND EXECUTION

Key partners developed and signed an Open Roads Memorandum of Understanding (MOU) that outlined the general expectations and conduct between partners and focused on fostering collaborative communication. The team included transportation, law enforcement, and construction industry along with other institutions like schools and hospitals who could be affected by the construction project. The communication process for the construction activities followed these steps:

1. The Contractor alerts the Resident Engineer of the schedule for construction activity that would significantly impact traffic.

2. The Resident Engineer submits an announcement to the NCDOT Public Information Officer (PIO) to include the limits, time of day, and duration of the closure.
3. The Regional Traffic Incident Management (TIM) Coordinator sends an announcement to the Open Roads Team about 2 to 3 days before the closure.
4. During the closure, the TMC communicates with partner agencies and displays real-time CCTV camera feeds via the Microsoft Teams platform.

The members of the Open Roads Team then distributed information to other key partners in their agency and invited them to the Microsoft Teams live camera feed to observe the closure and activity on the alternate routes. Public communication took place through NCDOT's communications department, which notified the public of the closure through media releases and social media posts.

Continuous internal communication occurred during weekly construction update meetings. A portion of these meetings was dedicated to planned and completed construction activity that significantly impacted traffic. This open communication regarding schedule and construction activities helped all partners remain well informed of the project status. It was also an opportunity for the construction contractors to request additional closures for other construction activities.

OUTCOME, BENEFITS AND LEARNINGS

Learnings: Stakeholders used this tool to not only support incident management, but also with logistics and movement of supplies on the project. The ability to use the Microsoft Teams platform has resulted in better communication between agencies and continues to expand throughout the region. This idea has been shared with schools, health care facilities, public works, 911 communications, law enforcement, Fire/EMS etc. so that these

partners can share with their group real-time travel information. Not only is this tool valuable during an incident, but it can also be viewed for planning purposes. If an area appears to have an increase in incidents, changes in the alternate route could minimize any increase and provide lessons to future route decisions.

Public Benefit: Safety and Efficiency. Having clear situational awareness, especially camera viewpoint, provided to key partners provides areas of accessibility to and from the incident site which could have a life-or-death impact.

Outcome: Improved communication with a large group of engaged stakeholders. Communication is one of the key factors for quick and efficient responses to an incident. During construction projects where the lanes are narrowed and no shoulder to support access can hinder how quickly first responders can arrive on scene. When there are closures and the alternate routes are used, this too can minimize the typical access points for quick responses to the incidents.