

NDOT-RTC Southern Nevada Traffic Incident Management Reports and Diversion Routes



By Nevada Department of Transportation and
the Regional Transportation Commission of
Southern Nevada

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Benefits Statement

The Nevada Traffic Incident Management (TIM) Program, involving government agencies and stakeholders, saves lives by swiftly responding to accidents, minimizes travel time through real-time information and diversion routes, and saves money by reducing congestion, fuel consumption, and resource waste. Data-driven insights enhance efficiency, prevent accidents, and ensure cost-effective resource allocation.

In this case study you will learn:

1. How Nevada's TIM Program, a collaboration of agencies, enhances incident response and safety through quarterly reports and diversion plans.
2. How RTC FAST produces quarterly reports, fostering communication between NDOT and RTC FAST, leading to safety improvements and program advancements.
3. How formalized meetings and integration of performance measures have improved TIM collaboration, reducing crashes and enhancing roadway clearance times in Southern Nevada.

BACKGROUND

The Traffic Incident Management (TIM) Program in Nevada is a statewide partnership between the Department of Public Safety (DPS); the Nevada Department of Transportation (NDOT); fire, Emergency Medical System (EMS), police, and environmental agencies; towing and recovery industry; and the media. These partners have formed multidisciplinary TIM coalitions to facilitate planned and coordinated processes to detect, respond, and clear traffic incidents, improving travelers' safety and restoring traffic flow as safely and as quickly as possible.

There are nine TIM coalitions formed in both rural and urban areas of Nevada with scheduled bimonthly meetings. Southern Nevada is one of the key TIM coalitions and involves a partnership between all the agencies listed above, as well as the Regional Transportation Commission of Southern Nevada (RTC) Freeway and Arterial System of Transportation (FAST).



Through an interlocal agreement, RTC FAST has been monitoring freeway operations by managing, operating, and maintaining ITS devices on behalf of NDOT in Southern Nevada, including developing quarterly TIM reports and TIM diversion routes for six points of failure. These points are selected collaboratively between NDOT and RTC FAST and represent potential incidents and closures in most critical corridors. This task has established a formalized process of collaboration between the two agencies for TIM and assisted with organizing for potential closures and safety

implications in a systematic manner.

TSMO PLANNING, STRATEGIES AND DEPLOYMENT

1. TIM Quarterly Reports

NDOT and RTC FAST hold an annual TIM kickoff meeting to review scope, identify focus areas, and discuss expected outcomes. RTC FAST then develops quarterly reports to document and communicate TIM-related activities including:

- Real-time traveler information
 - o Freeway traffic alerts and tweets including a comparison of multiple traveler information platforms
 - o Overhead digital display traveler information including analysis of posted messages on dynamic message signs (DMS), active traffic management (ATM) signs, and DMS campaign strategies
- TIM
 - o Regional traffic management services analysis
 - o Data sources presentation and potential improvements identification
 - o Crash heat map and crashes per corridor comparison
 - o Analysis and comparison of:
 - Total crashes per quarter
 - Crashes per day of the week
 - Crashes per hour weekdays vs. weekends
 - Secondary crashes per quarter
 - DPS' fatal crashes
- ATM
 - o Analysis and comparison of High Occupancy Vehicle (HOV) hours of operation and utilization per corridor
 - o Comparison of HOV operations and utilization against major incidents or construction activities per corridor

- Unplanned incidents
 - o Presentation and analysis of up to three significant crashes including location; severity; incident type; data used; start time; duration; impact; media coverage; contact person(s); involved agencies; ITS devices used; event synopsis; RTC FAST's response; strengths, weaknesses, opportunities, and threats (SWOT) analysis; recommendations; and interagency operations.
- Safety, congestion, travel time reliability, and incident clearance performance measures reporting
- Data source needs per the analysis and findings of each quarterly report

NDOT and RTC FAST then schedule report review meetings to discuss major findings, recommendations, and identify areas for improvement, including items to be shared at the Southern Nevada TIM (SNV TIM) Coalition meetings that will result in major safety improvements and TIM Program advancements, enhance two-way communication, knowledge sharing, and collaboration between TIM stakeholders.

2. TIM Diversion Routes Plan Sheets

NDOT and RTC FAST annually develop TIM diversion route plan sheets for six points of failure in Southern Nevada that are selected in collaboration with SNV TIM Coalition stakeholders to ensure appropriate and critical areas are included.

Every TIM diversion route plan sheet includes:

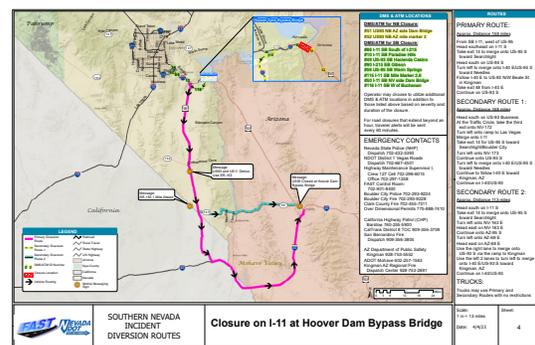
- Closure location(s)
- Applicable software, systems, and data measures
- Applicable performance metrics
- Planned diversions including primary, secondary, and tertiary routes
- Applicable ITS devices and associated loca-

- tions closest in proximity to the closure(s)
- State and local agency emergency contacts information
- Jurisdictions and neighboring states impacted by the closure(s)
- Miles out of direction for alternate routes
- Potential height clearance restrictions along the alternate routes
- Freight, weight, and pavement restrictions
- Identification of potential agreements with neighboring states for closure(s) and diversion(s)

The plans are included in the SNV TIM Coalition meeting agenda and discussed, and Coalition stakeholders share feedback and propose adjustments.

COMMUNICATIONS PLANNING AND EXECUTION

NDOT and RTC FAST have formally organized for TIM planning through their interlocal agreement. An annual kick-off meeting is dedicated to each task and involves key stakeholders and expectations. The report structure is updated per data availability and the applicable performance measures for incidents.



TIM quarterly reports, performance measures, and diversion routes plan sheets are key topics on regular meeting agendas between NDOT and RTC FAST, providing recurring opportunities to discuss TIM Program's performance in Southern Nevada and prepare for future

construction and major events.

The performance measures reported by RTC FAST are formally integrated into NDOT's annual performance measurement reports. Performance measures are discussed by internal and external stakeholders including NDOT Traffic Operations division, NDOT Planning division's Performance Analysis section, RTC FAST, and RTC Information Technology (IT), which has introduced automated reporting tools and resources to streamline reporting, analysis, data visualization, and findings' presentation.

OUTCOME, BENEFITS AND LEARNINGS

- The SNV TIM Coalition was the first in Nevada and includes thousands of responders who executed an Open Roads Agreement in 2009. The group continues to meet bimonthly to implement safe, quick clearance policies for cohesive traffic management.

- NDOT then established the Northern Nevada Coalition, followed by several rural coalitions, and currently facilitates nine coalition meetings bimonthly.

- With an enhanced level of interagency coordination, collaboration, and communication through TIM, NDOT has improved roadway clearance times, increased safety and decreased crashes.

- Efficient performance of TIM practices has increased in complexity, requiring technology and a well-planned, coordinated, multidisciplinary response. NDOT has planned for a TIM Capability Maturity self-assessment to be completed late 2023/early 2024 to benchmark maturity levels, identify enhancement opportunities, and target specific improvements.

- As of mid-March 2023, a total of 6,212 first responders were trained through the TIM Program, 73.8% of Nevada's responders.

- Established processes such as bimonthly coalitions, monthly meetings, quarterly reports,

and performance measures reporting system that has improved TIM collaboration between internal and external stakeholders, creating cross-agency maturity in TSMO culture.

- NDOT is integrating TIM planned diversion routes into the I-15/I-80 Multi-state Corridor Operations and Management diversion route plans. The TIM diversion routes were compared against NDOT's Hazardous Materials (HAZMAT) Program's boundaries to ensure alignment, identify overlaps, and allocate resources.

- TIM quarterly report findings led to NDOT and RTC FAST further coordinating construction projects and special events with the SNV TIM Coalition.

- RTC FAST is working with the RTC IT department to establish automated reporting for TIM quarterly reports and develop a process to pull NDOT Traffic Safety Crash Report Database (i.e., Brazos incident data) to analyze roadway clearance time, incident clearance time, and secondary incident crash data.

- RTC FAST's TIM quarterly reports resulted in identifying a major area for improvement: introducing deep-dive coordination meetings to the TIM Program for select incidents to enhance coordination.

- Through recurring analysis of incident data provided by vendors and dashboards, RTC FAST identified the opportunity to review and flag data accuracy challenges and gaps. Through RTC FAST's efforts, NDOT can more accurately measure and report incident related metrics and improve actions accordingly.