



# **Independent Assessment of Motor Vehicle Safety at the Los Alamos National Laboratory**

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## Acronyms

CEWG	Culture Alliance-Culture Enhancement Working Group
CFR	Code of Federal Regulations
CRAD	Criteria and Review Approach Document
DOE	U.S. Department of Energy
EA	Office of Enterprise Assessments
ECHO	Engage, Communicate, Hear, and Observe
ESH&Q	Environment, Safety, Health and Quality
GOV	Government-owned or -leased Vehicle
GSA	General Services Administration
HPI	Human Performance Improvement
LANL	Los Alamos National Laboratory
LAPD	Los Alamos Police Department
MUTCD	Manual on Uniform Traffic Control Devices
MVS	Motor Vehicle Safety
NA-LA	NNSA Los Alamos Field Office
NNSA	National Nuclear Security Administration
OFI	Opportunity for Improvement
PATS	Parking and Transportation Services
RLM	Responsible Line Manager
SPOMCs	Safety Performance Objectives, Measures, and Commitments
TPS	Traffic and Pedestrian Safety
Triad	Triad National Security, LLC
VPS	Vehicle and Pedestrian Safety
WESST	Worker, Environment, Safety, and Security Team

# **INDEPENDENT ASSESSMENT OF MOTOR VEHICLE SAFETY AT THE LOS ALAMOS NATIONAL LABORATORY**

## **Executive Summary**

The U.S. Department of Energy's Office of Enterprise Assessments (EA) conducted an independent assessment of motor vehicle safety (MVS) of Triad National Security, LLC (Triad) at the Los Alamos National Laboratory (LANL) from February to April 2025. This assessment evaluated Triad's MVS requirements, including traffic and pedestrian safety. Additionally, this assessment reviewed safety culture and Triad employees' perceptions about motor vehicle, traffic, and pedestrian safety. Powered industrial equipment was not evaluated. This assessment was conducted at the request of the National Nuclear Security Administration's Los Alamos Field Office Manager.

EA identified several strengths including:

- Triad's Traffic and Pedestrian Safety organization is administered by well-qualified staff and augmented through collaboration across the Associate Laboratory Directorates of Environment, Safety, Health and Quality; Facilities and Operations; and the Defense Protection Program.
- Triad uses telematics to collect data on speeding and seat belt use in government-owned or -leased vehicles (GOV) and is currently developing a traffic violation dashboard that includes speed monitoring, telematics data, and safety concerns to centralize and simplify the management of various traffic-related violations.
- Triad encourages worker engagement regarding traffic and pedestrian safety through multiple programs and used feedback to develop comprehensive transportation plans that included the implementation of several initiatives to address traffic congestion and commuting efficiency.
- Triad has completed several assessments and studies to gain insight on motor vehicle, traffic, and pedestrian safety including assessments performed by third parties. Feedback from the assessments resulted in leadership including a commitment to enhance vehicle and pedestrian safety (VPS) in the fiscal year 2025 safety performance objectives, measures, and commitments (SPOMCs).

EA also identified several weaknesses including:

- Triad has not conducted an evaluation of multiple, similar, and reoccurring vehicle incidents (e.g., GOV on GOV collisions, backing and reversing into objects or vehicles) to adequately rank and determine issue significance.
- Triad has limited enforcement of traffic safety violations (e.g., speeding, stop sign infractions) on LANL-owned roads and the LANL campus, including the inability to use Triad-owned speed cameras.
- Triad traffic engineers do not document observations from onsite walkthroughs at traffic impediment locations to assess the effectiveness of traffic control plans and gather valuable data for tracking, trending, and continuous improvement.
- Triad workers, during multiple focus group discussions and interviews, revealed concerns that leadership responses to VPS programmatic and infrastructure issues were reactive rather than strategic.
- Triad underutilizes human performance improvement tools, such as learning teams, to analyze motor vehicle incidents, potentially limiting the understanding of contributing contextual and environmental factors.

In summary, Triad has developed and implemented adequate motor vehicle safety procedures, incorporating the applicable requirements, and has demonstrated its commitment to improving VPS culture and behaviors. The Traffic and Pedestrian Safety organization is administered by well-qualified staff and augmented by strong leadership. Triad has proactively implemented several initiatives, such as deploying telematics, providing multiple transit options, conducting traffic safety assessments, and demonstrating leadership commitment to improve VPS as documented in the fiscal year 2025 SPOMCs. However, Triad has not conducted an evaluation of multiple, similar, and reoccurring vehicle incidents (e.g., GOV on GOV collisions, backing and reversing into objects or vehicles) to adequately rank and determine issue significance to develop targeted actions, effectively manage VPS issues, and correct underlying causes. Addressing the concerns identified in this report will further support traffic and pedestrian safety at LANL.

# INDEPENDENT ASSESSMENT OF MOTOR VEHICLE SAFETY AT THE LOS ALAMOS NATIONAL LABORATORY

## 1.0 INTRODUCTION

The U.S. Department of Energy (DOE) Office of Worker Safety and Health Assessments, within the independent Office of Enterprise Assessments (EA), conducted an assessment of Triad National Security, LLC's (Triad) motor vehicle safety (MVS) at the Los Alamos National Laboratory (LANL). LANL is managed and operated by Triad for the National Nuclear Security Administration (NNSA) and is overseen by the NNSA Los Alamos Field Office (NA-LA). This assessment was requested by the NA-LA Manager and was conducted from February to April 2025.

In accordance with the *Plan for the Independent Assessment of Motor Vehicle Safety at the Los Alamos National Laboratory, March – April 2025*, this assessment evaluated the effectiveness of Triad's implementation of the MVS requirements within 10 CFR 851, *Worker Safety and Health Program*, appendix A, section 9, *Motor Vehicle Safety*, and included a review of policies and procedures related to motor vehicle, traffic, and pedestrian safety on the LANL site. This assessment also reviewed Triad's feedback and improvement mechanisms to address vehicle safety performance and documented Triad employees' safety culture perceptions about motor vehicle, traffic, and pedestrian safety. Powered industrial equipment (i.e., fork trucks, tractors, platform lift trucks, and other similar specialized equipment powered by an electric motor or an internal combustion engine) was not included in this assessment.

## 2.0 METHODOLOGY

The DOE independent oversight program is described in and governed by DOE Order 227.1A, *Independent Oversight Program*, which EA implements through a comprehensive set of internal protocols, operating practices, assessment guides, and process guides. This report uses the terms "best practices, deficiencies, findings, and opportunities for improvement (OFIs)" as defined in the order.

As identified in the assessment plan, this assessment used selected objectives and criteria from EA CRAD EA-32-15, Revision 0, *Motor Vehicle Safety*, and EA CRAD 30-08, Revision 0, *Safety Culture Assessment*. EA also referenced generally accepted standards and practices for safety culture surveys and monitoring. Core references used in this assessment included DOE Guide 450.4-1C, *Integrated Safety Management System Guide*, attachment 10, and the Energy Facility Contractors Group's (EFCOG's) *Safety Culture Practitioner's Resources Guide*, Revision 1, September 2022.

EA examined key program documents, such as program descriptions, policies, procedures, assessments, traffic control plans, transportation plans, operator logs, and maintenance records. Triad provided vehicle incident data from July 2021 through February 2025. EA also reviewed documents related to safety culture, including surveys, organizational assessments, management plans and strategies, communications, and voluntary protection program (VPP) reports. EA conducted individual interviews with leadership and personnel responsible for implementing MVS, vehicle and pedestrian safety (VPS), and safety culture. EA also conducted six focus groups (averaging eight staff members per group) representing responsible line managers (RLMs), craft workers, traffic engineers, and safety committee members. EA observed multiple organizational meetings, such as the VPP steering committee, craft safety briefings, and the Traffic and Pedestrian Safety (TPS) working group. The members of the

assessment team, the Quality Review Board, and the management responsible for this assessment are listed in appendix A.

There were no previous findings for follow-up addressed during this assessment.

### **3.0 RESULTS**

#### **3.1 Motor Vehicle Safety Procedures**

This portion of the assessment evaluated Triad’s framework to support the implementation of its MVS requirements in accordance with 10 CFR 851, appendix A, section 9, including evaluating institutional requirements, policies, and procedures related to motor vehicle, traffic, and pedestrian safety.

Triad has established a solid framework to support the implementation of MVS requirements in accordance with 10 CFR 851, appendix A, section 9, within PD100, *DOE/NNSA Approved Los Alamos National Laboratory 10 CFR 851 Worker Safety and Health Program Description*. PD100 includes an electronically linked crosswalk to relevant implementing documents, such as P101-7, *Vehicle and Pedestrian Safety*, ensuring traceability and integration of safety requirements. P101-7 provides detailed requirements, including requirements beyond 10 CFR 851 (e.g., post-accident drug/alcohol testing, bicycle and pedestrian safety, traffic control plans) and guidance, and assigns clear roles and responsibilities for managing VPS. P101-7 further describes the proper procedures for ensuring the safe operation of government-owned or -leased vehicles (GOVs)<sup>1</sup>, privately owned vehicles used for official purposes, and other equipment operated on the LANL site. PD100 and its associated site-level procedures flow-down MVS requirements to subcontractors, appropriately tailoring them to LANL’s specific traffic patterns, vehicle fleet, topography, and mission needs.

PD100 and its associated site-level procedures adequately address the core elements in 10 CFR 851, appendix A, section 9, with one exception (enforcement provisions) discussed below. For example, P101-7 and P821-4, *Fleet Management*, appropriately define operator licensing requirements. All drivers of GOVs are required to complete a written examination, a vehicle-specific practical test, and, where applicable, a medical qualification exam. Medical certification requirements are further specified in P&T-AP-019, *Initial Qualification and Authorizing for Commercial Drivers*. Drivers must requalify every two years, or sooner if they are involved in an incident, with records maintained in Triad’s learning management system (UTrain) and reauthorization managed through the Environment, Safety, Health and Quality (ESH&Q) Driver Authorization Office. Interviewed RLMs confirmed that they actively verify valid licenses for employees operating GOVs.

Seat belts and, where equipped, shoulder harnesses or helmets for specialty vehicles are required for all occupants in a GOV on every trip. Seat belt use is introduced during onboarding safety training and reinforced annually through the *Safe Driving* refresher course and routine safety bulletins. Operators are expected to comply with posted speed limits and site traffic regulations.

Requirements associated with vehicle inspections and maintenance are appropriate. Daily “pre-trip” vehicle inspections are mandatory and are required to be documented using a standardized vehicle inspection form. These inspections appropriately include tires, brakes, lights, fluid levels, and safety features. Fleet Management requires vehicle operators to perform inspections to ensure that the vehicles are in a safe and operable condition. Maintenance is tracked in Triad’s computerized maintenance

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<sup>1</sup> In this report, the acronym “GOV” refers to “government-owned or -leased vehicles” that are LANL-operated only and does not include vehicles from other government agencies.

management system (Maximo), which uses automated hold points to restrict the use of any vehicle pending required preventive and/or corrective maintenance. Vehicle custodians, who are assigned responsibilities for the protection and proper use of vehicles, are accountable for ensuring that maintenance is completed and properly documented.

The Federal Highway Administration's *Manual on Uniform Traffic Control Devices* (MUTCD) is appropriately used as the design and maintenance standard for all traffic and pedestrian control devices on LANL-owned and -operated roads. Interviewed traffic engineers stated that they apply MUTCD standards during traffic impediment projects at LANL.

To enhance traffic safety, Triad has invested significantly in leadership and resources. Triad's TPS organization is adequately staffed by experienced safety professionals and former law enforcement officers. This effort is reinforced through collaboration across the Associate Laboratory Directorates of ESH&Q, Facilities and Operations, and the Defense Protection Program.

While Triad has established a solid framework to support the integration of MVS requirements, the following weaknesses were identified:

- Written procedures are not clear as to whether post-accident drug/alcohol testing is mandatory. Specifically, P101-7, table 1, *Accident Reporting and Notification Requirements*, states "to complete Post-Accident Drug/Alcohol testing if required by P732, *Drug- and Alcohol-Free Workplace*" (emphasis added). In contrast, P821-4, section 5.12.8, and the GOV glovebox card entitled *Accident Reporting and Guidance* state that vehicle operators "must complete" post-accident drug/alcohol testing in accordance with P732. (See **OFI-Triad-1.**)
- Interviewed managers, TPS working group members, and employees acknowledged that there is limited enforcement of traffic safety violations (e.g., speeding, stop sign infractions) on LANL-owned roads and the LANL campus. This issue is exacerbated by existing Triad-owned speed cameras that were intended for cloud-based systems but, at the time of the assessment, had not yet been integrated into Triad's network. According to the memorandum of understanding between DOE, NNSA, NAL, the Federal Bureau of Investigation, and the Los Alamos Police Department (LAPD), dated November 13, 2023, the LAPD is responsible for local and state law enforcement activities, including traffic enforcement throughout Los Alamos County and on the LANL site. However, LAPD's limited onsite presence and lack of accessibility to the speed camera data hinders enforcement of traffic safety violations. (See **OFI-Triad-2.**)

## **Motor Vehicle Safety Procedures Conclusions**

Triad has demonstrated a solid, structured approach to MVS, and requirements in procedures are generally aligned and compliant with 10 CFR 851, appendix A, section 9 core elements. Triad's VPS-related procedures and guidance are tailored to the LANL site and reflect a high level of operational awareness and commitment to compliance with MVS requirements. However, weaknesses were identified associated with post-accident drug/alcohol testing reporting requirements and the enforcement of traffic safety violations.

### **3.2 Motor Vehicle Safety Implementation**

This portion of the assessment evaluated Triad's implementation of MVS requirements.

Triad has adequately implemented MVS requirements through P101-7. All interviewed workers involved in motor vehicle accidents held a current driver's license, and reviewed records (18) confirmed that standard form 91, *Motor Vehicle Accident (Crash) Report*, was appropriately completed for each accident.

Additionally, all interviewed workers underwent post-accident drug/alcohol testing, as directed by the RLM. Custodians periodically inspect their assigned GOVs and coordinate scheduled maintenance through the Logistics – Property Management organization, which arranges service with local General Services Administration (GSA) vendors. The Triad Logistics – Heavy Equipment, Roads and Grounds organization performs maintenance on heavy-duty fleet equipment, select medium-duty vehicles, protective force vehicles, and all-terrain vehicles. Maintenance and inspection records are appropriately maintained.

Triad has appropriately prioritized VPS through the following proactive traffic safety initiatives:

- Triad’s adoption of the Geotab, Inc. telematics platform has significantly enhanced its ability to monitor vehicle operation metrics related to vehicle safety, e.g., seat belt use and speeding. The platform’s reports provide actionable data, allowing safety personnel to identify habitual speeders and implement corrective measures, including retraining or disciplinary action. In addition, the platform interfaces with seat belt sensors in GOVs, enabling real-time compliance monitoring.
- Interviewed TPS working group members, supported by recent parking-related assessments, acknowledged the limited availability of onsite parking spaces. Interviewees also expressed that current parking shortages often lead to unauthorized or unsafe parking practices. As a result, Triad is exploring strategies to reduce congestion and improve LANL accessibility. In response, Triad has increased the enforcement of parking restrictions, a commendable step toward improving sitewide traffic safety.
- Triad developed a comprehensive transportation plan in 2023, with key updates implemented in 2024, to address traffic congestion and commuting efficiency. The plan introduced initiatives to reduce the reliance on single-occupancy vehicles to improve traffic congestion. Notable measures included the establishment of a dedicated Parking and Transportation Services (PATs) team, the launch of the Pojoaque Express bus service, the rollout of a vanpool program, revisions to LANL’s parking policy, completion of an employee commute survey and transit implementation study, procurement of short-term rental buses through the GSA, and personalized trip-planning assistance for employees. Additionally, alternative commuting options are promoted as part of the new-hire orientation process. From February to September 2023, the PATs team delivered more than 100 presentations, reaching over 2,500 employees, to raise awareness and support for the evolving transportation strategy at LANL.
- Triad’s Safety Concerns Program has become an essential tool in cultivating a safety conscious workforce. Employees are encouraged to report unsafe driving behaviors, hazardous vehicle conditions, and risky pedestrian-vehicle interactions. Reviewed documentation showed a marked increase in reports involving safety issues, which is attributed to greater program visibility and exposure to LANL’s Safety Concerns Hotline, the population growth at LANL, and active support from senior management. Safety concerns involving reckless driving or speeding are shared with the Security Investigations organization, which identifies drivers and their respective work organizations for referral to RLMs for action.

While Triad has undertaken proactive traffic safety initiatives, the following weaknesses were identified:

- Traffic engineers frequently conduct onsite observations at traffic impediment locations to assess the effectiveness of traffic control plans and ensure that the needs of pedestrians and bicyclists are adequately addressed during the planning process. While interviewed engineers confirmed that traffic control plans generally comply with the MUTCD, they also noted frequent incidents of noncompliance by employees and bicyclists, particularly in ignoring detour routes and bypassing barricades; however, these observations are not routinely documented. (See **OFI-Triad-3**.)
- The development of a traffic violation dashboard, a proactive online tool designed to automatically notify managers of employee violations, has not fully engaged all relevant stakeholders. The dashboard is currently in its initial development phase throughout the remainder of fiscal year 2025.

While data-providing groups, such as Security Investigations, are included in the development of the dashboard, key stakeholders, such as RLMs, have not been actively involved, potentially limiting the dashboard's effectiveness and alignment with operational needs. (See **OFI-Triad-4**.)

- Safety concerns involving reckless driving or speeding, which are referred to and screened by the Security Investigations organization and shared with RLMs, lack a formal mechanism for tracking and documenting follow-up actions. Without such accountability, inconsistent enforcement could undermine the effectiveness of VPS, allowing unsafe behaviors to persist. To address this gap, the TPS program manager explained Triad's current efforts to implement the traffic violation dashboard such that the system will prompt the RLM's acknowledgment and ensure that corrective actions are initiated, as required by P101-7.

### **Motor Vehicle Safety Implementation Conclusions**

Triad has adequately implemented MVS requirements through P101-7. Triad has prioritized VPS through proactive traffic safety initiatives, including fleet management and telematics technologies, robust parking enforcement, a well-defined safety concerns program scope, and the development of transportation plans aimed at reducing traffic congestion and improving commuting. However, weaknesses were identified associated with documenting traffic engineer observations, developing the traffic violation dashboard, and tracking and documenting follow-up actions for vehicle safety concern referrals.

### **3.3 Feedback and Improvement**

This portion of the assessment evaluated whether Triad identifies issues and concerns and uses this data to make improvements in VPS.

Triad has proactively addressed traffic safety at LANL by commissioning multiple assessments targeting traffic volume, high-risk intersections, speeding, parking, and alternative transportation options, such as shuttles. Notable efforts include the *East Jemez Road Safety Audit Report* (February 21, 2025), the *Overall Economic Assessment: Contributions and Opportunities for Northern New Mexico* (September 2023), and the *LANL Transit Service Options Analysis* (2021), with results used to develop the *Transit Service Implementation Plan* (2023) and broader transportation plans for 2023 and 2024. These initiatives were designed to support Laboratory growth and enhance commuting efficiency.

In response to a 2024 safety perception survey identifying commuting and parking lot risks as top employee concerns, Triad prioritized VPS in its fiscal year 2025 safety performance objectives, measures, and commitments (SPOMCs). SPOMC commitment 2 focuses on evaluating current programs, closing safety gaps, and launching new initiatives to drive continuous improvement. Key actions include optimizing telematics data to monitor seat belt use and speeding in GOVs, expanding speed camera coverage, training managers on the updated P101-7, and implementing VPS requirements site wide. The TPS program manager further explained that Triad's progress would be tracked using metrics, such as the quantity and resolution of reported safety concerns, GOV violations, and speed camera infractions.

Triad collects VPS data from multiple sources (e.g., telematics, safety concerns, surveys, incident reports, violation data), but these sources often function independently, with limited integration or strategic analysis. As a result, raw data is collected but not consistently converted into actionable issues. Further, tools like iLink (Triad's issues management software tool) are generally underused with regard to VPS, with trending often performed manually or reactively. Consequently, contrary to P322-4, *Issues Management*, section 5, Triad has not conducted an evaluation of multiple, similar, and reoccurring vehicle incidents (e.g., GOV on GOV collisions, backing and reversing into objects or vehicles) to

adequately rank and determine issue significance. (See **Deficiency D-Triad-1.**) Without properly evaluating the issue significance, subsequent causal analysis or extent of condition would not be performed, root causes and contributing factors could be missed, and hazards could go unaddressed.

## **Feedback and Improvement Conclusions**

Triad has actively pursued VPS improvements as a result of recent assessments that have provided valuable feedback. The implementation of transit service improvements and promotion of carpooling and shuttles aim to reduce overall vehicle volume on site and improve commuting efficiency. However, Triad has not conducted an evaluation of multiple and recurring vehicle incidents, to determine the issue significance and understand underlying causes and contributing factors.

### **3.4 Vehicle and Pedestrian Safety Culture Evaluation**

This portion of the assessment documented Triad employees' perceptions and observations of motor vehicle, traffic, and pedestrian safety; perceptions and observations are addressed in the focus areas of leadership, employee engagement, and organizational learning.

#### **General**

Triad has engaged in multiple self-assessments and third-party assessments to identify areas of improvement for MVS and pedestrian safety. The results of these assessments and the perceptions and observations documented in this EA assessment align with two key themes, the high volume of personnel on site and the violation of VPS requirements. Triad continues to demonstrate progress toward improving VPS by raising awareness and establishing initial enforcement mechanisms. Triad has made significant investments in proactive initiatives to reduce the volume of traffic and therefore VPS violations. However, LANL's over 18,000-person campus, the geographical constraints (site is spread across multiple mesas with limitations on infrastructure development), and the future demands of 24/7 operations will require continued Triad leadership focus and the allocation of adequate resources to various groups (e.g., the TPS organization, contractors, local community) to sustain VPS implementation, continuously strengthen the safety culture, and fully implement VPS initiatives. (See **OFI-Triad-5.**)

Further, interviewees and focus group participants identified weaknesses and limitations in alternate transportation programs, including the fleet of buses, support for vanpooling, the e-bike program, shuttle services, and carpooling initiatives to support reducing the volume of vehicles at LANL, and requested that Triad incentivize and communicate these alternate transportation programs. These initiatives will require sustained support and collaboration with community partners to enhance implementation. (See **OFI-Triad-5.**)

Previous reports (e.g., *East Jemez Road Safety Audit Report* (February 21, 2025) and *Pedestrian Safety Actions and Initiatives: FY24 Update and FY25 Plan*), interviews, focus groups, and EA observations identified specific pedestrian-related recommendations. Some key elements include:

- Continue the construction of walkways that provide safe, grade-separated crossings over roadways for pedestrians.
- Develop and construct a multi-use path to provide a safe alternative for bicyclists and pedestrians, separating them from vehicular traffic as recommended in previous assessments.
- Improve visual guidance (e.g., signage, painted walkways) for pedestrians during construction and work site upgrades.

Triad engaged the *DSS+ Safety Perception Survey* (a third-party assessment) in 2022 and 2024 as part of the overall safety culture review; results showed an improvement in safety culture scores from 2022 to 2024. In 2022, the survey identified that a specific behavior pattern called the normalization of deviance (NoD) (i.e., deviance from correct or proper behavior or rule that becomes culturally normalized) was occurring in many areas. Consequently, there is a significant risk of inadvertently reinforcing the undesired behaviors that Triad has diligently worked to mitigate. Triad is addressing this concern through cultural improvement groups (i.e., Culture Enhancement Working Group and Worker, Environment, Safety, and Security teams (WESSTs)) and at the employee task level (i.e., reinvigorating 360 walk arounds, improving usage of telematics, and continued development of walkways). If the perceived constraints and barriers (e.g., not allocating adequate resources, or not reinforcing existing processes) are not addressed, employees could interpret the lack of consistent enforcement as tacit acceptance of unsafe behaviors and employees could be more likely to revert to NoD and unsafe practices, undermining the overall safety culture and jeopardizing the positive gains achieved between 2022 and 2024.

## Leadership

Most interviewees and focus group participants perceived Triad's leadership as responsive to VPS concerns. Leaders are provided with tools like the decision matrix and coaching documents, which incorporate Safety Culture for Researchers (SCoR) principles to support decision-making to address VPS concerns. Triad staff and leadership were observed actively encouraging engagement in focus groups and promptly addressed issues identified during these discussions. The organization actively fosters a healthy reporting culture.

Additionally, while the overall perception of leadership engagement was positive, interviews and focus group discussions communicated the following leadership challenges:

- Participants voiced concerns about leadership's ongoing commitment to VPS, with some perceiving a "plateau" in progress. A recurring area of concern was leadership being reactive rather than enacting strategic or well-planned responses to programmatic and infrastructure issues. Management's reactive actions were said to result in leading employees to interpret outcomes as being ineffective, requiring rework, and contributing to a sense of change fatigue. (See **OFI-Triad-6**.)
- Concerns were expressed about the future implementation of 24/7 operations and lack of management presence to relay safety messages or model safety culture values and behaviors related to both VPS and safe working conditions. (See **OFI-Triad-6**.)
- Several focus group participants stated although leaders/RLMs have the authority to manage employees' schedules and presence on site, there is a lack of clear guidance on how to offset the volume of employees coming on site during high-traffic times. (See **OFI-Triad-6**.)
- Multiple interviews shared the concern that several Triad programs that support the TPS organization are not scaled to LANL's geographical size, number of employees, and volume of concerns (e.g., speeding, unsafe driving, shuttle services). (See **OFI-Triad-5**.)
- Focus group participants indicated a lack of collaboration among Triad, local, regional, state, and Federal resources to ensure consistent and visible enforcement of motor vehicle regulations. (See **OFI-Triad-5**.)
- Focus group participants indicated a need to better support RLMs with how to constructively provide employees with feedback. (See **OFI-Triad-6**.)

## Employee Engagement

Triad promotes worker engagement through various initiatives that reinforce employees' personal commitment to safety. Worker engagement is incorporated into the Culture Alliance-Culture Enhancement Working Group (CEWG), the PATS team, the TPS organization, and "integrators" (designated safety professionals who promote attention to safety). The SCoR principles ("SCoR in Action") are well-integrated into the implementation of VPS and consistently communicate the organization's safety culture commitment and expectations at the operator level of work. Worker, Environment, Safety, and Security teams (WESSTs) offer employees direct involvement in safety initiatives, influencing worker safety and health. The shift from a management-only observation system to the all-employee Engage, Communicate, Hear, and Observe (ECHO) system provides broader opportunities for employees at all levels to identify concerns.

The results of the 2024 *DSS+ Safety Perception Survey* showed that Triad workers had concerns related to VPS. Triad's commitment to VPS was demonstrated through additional assessments, implementation of SPOMCs, development of strategic plans for infrastructure improvement, and a formalized TPS organization.

The consensus from interviews and focus group participants was that expectations for VPS are clear among all employees. However, the following weaknesses were identified:

- Focus group participants reported concerns related to bicycling compliance on LANL property. Document reviews also revealed weaknesses in the communication of and access to bicyclist requirements and vehicle operator roles and safety responsibilities. Triad's internal website specifies that bicyclists on its property are required to adhere to Los Alamos County codes. However, this requirement is not specifically hyperlinked to the codes or a summary thereof. Additionally, concerns included a desire to establish a system of accountability for bicyclists similar to vehicle operators to ensure the comprehensive adoption of VPS principles. (See **OFI-Triad-7**.)
- The *Motor Vehicle Operation Individual and Organizational Requirements* document (no document number) emphasizes the "promotion of motor vehicle, bicycle, and pedestrian safety" at the RLM level, but a similar statement is absent from the vehicle operator responsibilities. (See **OFI-Triad-8**.)

## Organizational Learning

Triad has adequately addressed and prioritized organizational learning for continuous improvement and employs multiple feedback systems to enhance safety culture. Triad's motto "How we do work is as important as what we do" demonstrates the commitment to improve the overall safety culture by making a conscious effort to create a collaborative "we" safety culture. Triad's feedback mechanisms, including the safety concerns program, the TPS working group, the PATS team, WESSTs, the CEWG, and the ECHO system, are used to systemically improve VPS initiatives.

While Triad has adequately addressed organizational learning, the following weaknesses were identified:

- Human performance improvement (HPI) resources, such as learning teams, were underused in the analysis of incidents, potentially limiting the understanding of contributing contextual and environmental factors at the work site. (See **OFI-Triad-9**.)
- Triad lacks data to demonstrate employee engagement with various communication channels (e.g., internal letters, email open rates, webpage views), limiting the organization's ability to identify the most effective methods of communicating with employees. Triad is also underusing communication channels like podcasts, visual communication campaigns, and simplified communication campaigns (e.g., traffic hub, bus advertisements) to reinforce the desired behaviors. (See **OFI-Triad-10**.)

- Focus groups highlighted concerns about sufficient work site planning to include MVS hazard identification and the potential for motor vehicle incidents. DOE Guide 450.4-1C, attachment 10, emphasizes taking a proactive approach to work site planning and hazard identification before initiating work activities.
- Clear behavioral sequencing of actions is missing in high-impact areas (e.g., East Jemez Road, Pajarito corridor) related to VPS. Focus group discussions identified specific VPS behaviors of concern (e.g., lack of seatbelt usage, zipper merging in high-traffic areas, unsafe braking distances, rapid lane changes, “darting in and out of traffic,” and the risks associated with cell phone use while driving and walking).
- Interviewees identified challenges with the underuse of VPS data for decision-making and limited documentation of leadership follow-through on VPS concerns. To address these challenges, Triad is implementing MVS data-informed decision-making processes for RLMs, as described by interviewees and confirmed through document reviews. To support the process, the traffic violation dashboard currently being developed will systemically track RLM engagement with employees about modifying behaviors based on MVS concerns.

### **Vehicle and Pedestrian Safety Culture Evaluation Conclusions**

Triad has demonstrated a commitment to enhancing VPS, with initial steps yielding positive results. Triad uses various feedback mechanisms and groups to systemically improve VPS initiatives and employees reported their concerns were recognized by leadership. However, weaknesses were identified in the areas of strategic response planning, guidance for RLMs to better manage workflow during high-traffic times, VPS communication methods and campaigns, and engaging HPI principles to assist with the analysis of vehicle incidents.

#### **4.0 BEST PRACTICES**

No best practices were identified during this assessment.

#### **5.0 FINDINGS**

No findings were identified during this assessment.

#### **6.0 DEFICIENCIES**

Deficiencies are inadequacies in the implementation of an applicable requirement or standard. Deficiencies that did not meet the criteria for findings are listed below, with the expectation from DOE Order 227.1A for site managers to apply their local issues management processes for resolution.

#### **Triad National Security, LLC**

**Deficiency D-Triad-1:** Triad has not conducted an evaluation of multiple, similar, and reoccurring vehicle incidents (e.g., GOV on GOV collisions, backing and reversing into objects or vehicles) to adequately rank and determine issue significance. (P322-4, sec. 5)

## 7.0 OPPORTUNITIES FOR IMPROVEMENT

EA identified the OFIs shown below to assist cognizant managers in improving programs and operations. While OFIs may identify potential solutions to findings and deficiencies identified in assessment reports, they may also address other conditions observed during the assessment process. These OFIs are offered only as recommendations for line management consideration; they do not require formal resolution by management through a corrective action process and are not intended to be prescriptive or mandatory. Rather, they are suggestions that may assist site management in implementing best practices or provide potential solutions to issues identified during the assessment.

### **Triad National Security, LLC**

**OFI-Triad-1:** Consider aligning written procedures for consistency regarding the requirements for completing post-accident drug/alcohol testing.

**OFI-Triad-2:** Consider revising the memorandum of understanding to ensure that the LAPD has the authority and resources to access and enforce traffic laws using Triad-owned speed cameras.

**OFI-Triad-3:** Consider documenting and sharing traffic engineers' observations to support enforcement efforts and enhance feedback and improvement by tracking and trending this data.

**OFI-Triad-4:** Consider including key users, such as RLMs, in the development of the traffic violation dashboard to proactively address needs and functionality.

**OFI-Triad-5:** Consider ensuring that adequate resources are allocated to various groups (e.g., the TPS organization, contractors, local community) to sustain VPS implementation, continuously strengthen the safety culture, and accommodate the size of LANL's campus, the number of personnel, and the future demands of 24/7 operations.

**OFI-Triad-6:** Consider improving leadership's strategic response planning, increasing management presence during future 24/7 operations, and enhancing guidance to more effectively provide feedback to workers and manage workflows during high-traffic times.

**OFI-Triad-7:** Consider specifically creating and communicating an accountability mechanism to effectively implement the applicable Los Alamos County codes for bicyclists on LANL property.

**OFI-Triad-8:** Consider revising *Motor Vehicle Operation Individual and Organizational Requirements*, fleet operations section, to include vehicle operator responsibilities for motor vehicle, bicycle, and pedestrian safety.

**OFI-Triad-9:** Consider engaging HPI principles to assist with the analysis and understanding of contributing contextual and environmental factors, with the potential to result in motor vehicle incidents, during work site planning and hazard identification.

**OFI-Triad-10:** To reinforce the adoption of desired behaviors, consider exploring and implementing new communication methods (e.g., dashboards, podcasts, visual aids to illustrate VPS progress) for all employees and simplifying communication campaigns (such as those using bus advertisements).

## **Appendix A Supplemental Information**

### **Dates of Assessment**

February 27 to April 16, 2025

### **Office of Enterprise Assessments (EA) Management**

John E. Dupuy, Director, Office of Enterprise Assessments  
William F. West, Deputy Director, Office of Enterprise Assessments  
Kevin G. Kilp, Director, Office of Environment, Safety and Health Assessments  
David A. Young, Deputy Director, Office of Environment, Safety and Health Assessments  
Brent L. Jones, Acting Director, Office of Nuclear Safety and Environmental Assessments  
David Olah, Acting Director, Office of Worker Safety and Health Assessments  
Jack E. Winston, Director, Office of Emergency Management Assessments  
Brent L. Jones, Director, Office of Nuclear Engineering and Safety Basis Assessments

### **Quality Review Board**

William F. West, Advisor  
Kevin G. Kilp, Chair  
Thomas C. Messer  
Christopher E. McFearin  
William A. Eckroade

### **EA Assessment Team**

Amber M. Pentecost, Lead  
Harrichand Rhambarose  
Thomas M. Wirgau  
Leslie A. Bermudez  
Jodi E. Wilson