

# Appendix Q:

# Transportation Security and Safety



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## Introduction

Transportation security and safety are integral components of the planning and programming that the San Diego Association of Governments (SANDAG) facilitates and develops on behalf of the region. San Diego Forward: The 2021 Regional Plan (2021 Regional Plan) introduced the 5 Big Moves strategy to implement the plan's Vision. Each of the 5 Big Moves applies facets of technology to achieve plan goals. Technology and the use of data are most prominent in the Next Operating System (Next OS), Transit Leap, and Complete Corridors. Next OS advances and leverages underlying technology to allow people to connect to transportation services and a digital platform that allows for dynamic management of roadways and transit services. Transit Leap enhances existing services, incorporates new modes, and adds transit priority technologies. Additionally, the Complete Corridors strategy uses technology and real-time data to dynamically manage the flow of traffic and offer safe space for all roadway users.

These technology-enhancing strategies will have beneficial outcomes for transportation operations and safety. The use of additional technology and associated data requires extra attention on the security of data and the systems that use them. The 2021 Regional Plan also furthers the planning of transportation safety with the incorporation of safety data in the project bundle evaluation process and an implementation strategy to develop a regional Vision Zero policy. The following sections provide an overview of SANDAG efforts relating to transportation security and safety.

## Transportation Security

### *Intelligent Transportation Systems Transportation Security*

Proposed implementation of Intelligent Transportation Systems (ITS) is focused on advancing the implementation of all 5 Big Moves. The delivery of these systems will be managed by SANDAG under the Technology Project Management Office (PMO). The PMO coordinates strategic efforts across multiple projects and programs and delivers the management tools to ensure consistent delivery of complex projects that are technical in nature and require significant system or software development. The PMO will help coordinate planning and execution of the program projects throughout the development of all ITS project concepts that will help advance the delivery of 5 Big Moves technology components. In addition, to ensure the successful delivery of the ITS project components, as part of the transportation planning process, SANDAG also coordinates transportation security issues with Caltrans through its Transportation Management Center and with transit operators. The region is also supported by the San Diego County Emergency Operations Plan, which serves as a guide to the county's Emergency Operations Center and other jurisdictions responding to major emergencies. More on planning for major emergencies is included in the Transportation Safety section of this appendix.

## *Information Security Program Overview*

The SANDAG Information Security Program documents the agency's information security policies, procedures, controls, and selected frameworks. This program provides a roadmap for effective security management, ensuring the confidentiality (making certain that information does not reach unauthorized people), integrity (protecting information from being modified by unauthorized individuals), and availability (ensuring systems and services are accessible to those who need it) of SANDAG technology, services, and data.

Government agencies' data and systems—which could be sold, manipulated, or taken as ransom—are an attractive target for attackers. As a result, government agencies and their staff are targeted by nation-states, hackers, disgruntled employees, and organized cybercriminals. Many cities and governments have recently experienced costly attacks. This program prepares SANDAG to handle an attack as a routine event rather than a prominent crisis.

The SANDAG Information Security Program will guide the agency's policies and processes that will protect the agency. Programs like the SANDAG Incident Response Program, Security Awareness Program, Patch Management Procedure, and Vulnerability Management Program are all components that will help SANDAG understand where data resides and what policies are followed to protect it.

## *Philosophy of the SANDAG Information Security Program*

Cybersecurity is the assessment of threats and the mitigation of those risks. The SANDAG program is guided by frameworks, policies, procedures, controls, and partnerships. SANDAG will use the National Institute of Standards and Technology Cybersecurity Framework Version 1.1 to guide efforts in securing the agency's data and services, and it will use the Center for Internet Security's (CIS) Controls to mitigate risks.

## *Data and System Security Requirements*

When SANDAG engages with external service providers (e.g., contractors, partners, vendors, developers, and Software as a Service), the agency must assess potential risk and understand how data is transited, processed, and/or stored. SANDAG Data and System Security Requirements are based on CIS Controls, and if followed, will mitigate the most widely used attacks against the agency's data and systems. External service providers that design, create, deliver, and/or maintain data or systems on behalf of SANDAG shall meet or exceed these guidelines. Which controls and sub-controls are implemented is determined by the necessity of compliance based on laws and regulations (e.g., Health Insurance Portability and Accountability Act, Payment Card Industry/Data Security Standard, Federal Highway Administration), contractual agreements (e.g., memorandums of understanding), and best practices (e.g., CIS Controls, Open Web Application Security Project Top 10 Proactive Controls project).

To see a complete list of the CIS Controls, please visit [learn.cisecurity.org/control-download](https://learn.cisecurity.org/control-download).

## *Continuity of Operations Plan*

Resiliency of the 2021 Regional Plan and SANDAG as the Metropolitan Planning Organization and Regional Transportation Planning Agency must be planned for in the modern age. One of the key tools used by SANDAG to support transportation safety and security for the 2021 Regional Plan as well as the agency is the process of drafting a Business Continuity Plan (BCP), also referred to as a Continuity of Operations Plan. The process of drafting a BCP ensures that unexpected events or risks to the successful implementation and mitigation of the 2021 Regional Plan are continuously reviewed and updated. Furthermore, the BCP will ensure that personnel and assets are protected and able to continue and function quickly, and with minimal impact, in the event of an unexpected disaster or disruption.

Key steps to drafting a plan include the identification of critical services and processes, including those referenced in this document; the risks to these services and processes and whether the risks are political, economic, natural, or technological; mitigation steps to minimize the effects of a disruption; and continual testing of the plan for effectiveness and relevance. This process is a comprehensive review of the processes, assets, human resources, and business partners that may be affected by an unexpected disruption and tests the plans and assumptions made for continued relevance and effectiveness. SANDAG uses this process for major projects and critical services of the agency.

SANDAG is currently in the strategy-development phase of drafting a comprehensive BCP to support agency resiliency and the continuity of operations for services to partner agencies and the region.

## **Transportation Safety**

SANDAG continues to pursue and expand regional transportation safety efforts. Safety bridges planning, programming, and project implementation. Safety is central to the design and construction activities SANDAG develops for the region. These include active transportation projects such as bicycle, pedestrian, and transit facilities. Highlighted below are several planning efforts that support continued improvements in transportation safety.

- **Development of Regional Vision Zero Policy:** The Vision Zero Policy was introduced with the 2021 Regional Plan with the aim of keeping all roadway users—especially vulnerable users—safe through the use of data, prioritizing projects, education, and community engagement. See [Vision Zero: 2021 Regional Plan Programs and Policies](#) for more information.
- **2021 Regional Plan Network Development:** Safety data was applied to project bundles during the network-development process through evaluation criteria. See Appendix T: Network Development and Performance for more information.

- **Federal Transportation Performance Management:** Planning and programming are informed by five safety performance targets for all public roads and seven transit safety performance targets that the agency monitors and updates on a regular schedule. See Appendix O: Federal System Performance Report for more information.
- **The 2020–2024 California Strategic Highway Safety Plan (SHSP):** The 2021 Regional Plan is consistent with the SHSP. SANDAG supported the development of this statewide plan and continues to support plan implementation through SHSP Challenge Area Teams. See [dot.ca.gov/programs/safety-programs/shsp](https://dot.ca.gov/programs/safety-programs/shsp) for more information.
- **Comprehensive Multimodal Corridor Plans:** These subregional plans develop groupings of transportation projects that are evaluated using performance measures, including safety improvements. See [the SANDAG Community Planning page](#) for more information.

### *Intelligent Transportation Systems Transportation Safety and Evacuations*

In addition to the transportation planning coordination process, the development of ITS emergency evacuation technologies will apply and follow standardized methodologies, including adhering to the Systems Engineering principles, for delivery of this highly complex transportation software and ITS development projects. This process is defined by a well-established and formalized process called Systems Engineering (SE). The U.S. Department of Transportation requires federally funded ITS projects to follow the SE process.

If a widescale evacuation of the region were necessary, the following strategies could be deployed using both existing and future transit and roadway projects:

- **Signaling:** Traffic signals could be extended for up to four minutes, either red or green, to allow large numbers of vehicles or pedestrians to move in one direction.
- **Traffic Control Guides:** Traffic control personnel could be deployed to problem intersections where they could manually direct traffic.
- **Roadblocks and Barricades:** Various assets such as portable signs, cones, or barrels could be deployed.
- **Electronic Signage:** Changeable message signs have been installed along several major corridors, and these could be used to provide information to evacuees.
- **Lane Expansion:** Road shoulders could be used to increase the vehicle capacity of evacuation routes.
- **Contra-Flow Lanes:** Traffic could be directed to use lanes in both directions (a practice called contra-flow or lane reversal) in order to move a large number of vehicles in one direction.

- **Improvements in Traveler Information Services:** Improvements could be made to traveler information services and an application that will link to the County of San Diego's Office of Emergency Services (OES) to provide real-time roadway conditions and information to commuters during typical commuting periods and guidance in terms of emergency staging/routing information during evacuations.
- **Use of Mass Transit:** Transit could be used to help evacuate the public if it becomes necessary.<sup>1</sup>
- **Airport Use:** Airports could be used as staging areas for medical and food supplies, as well as evacuation.

The San Diego region is home to 17 federally recognized tribal governments with jurisdiction over 18 reservations. Although the Federal Emergency Management Agency and other federal agencies coordinate directly with the tribal nations, the 2003 and 2007 firestorms highlighted the need for more interagency coordination. The County of San Diego's OES has been coordinating with the Intertribal Long Term Recovery Foundation to identify interjurisdictional gaps in service and strategies to close them. Additionally, OES works with providers of transportation services throughout the County of San Diego, and these providers can be called upon in emergencies to help during evacuations. The Southern California Tribal Chairmen's Association sits on the SANDAG Public Safety Committee, which helps coordinate with tribal nations on this issue. For more details on emergency preparedness and tribal nations, see Appendix I: Tribal Consultation Process: Communication, Cooperation, and Coordination.

## The San Diego–Coronado Bay Bridge Suicide Deterrent Project

The purpose of the San Diego–Coronado Bay Bridge Suicide Deterrent Project is to install a suicide deterrence system to reduce suicides and suicide attempts while also reducing the closures of the bridge due to these events. Although official figures have not been maintained since its opening in 1969, it is widely believed that there have been approximately 400 deaths by suicide that have occurred from the San Diego–Coronado Bay Bridge on SR 75. The bridge does not have a permanent physical suicide deterrent system. The standard operating procedure for suicide attempts is closure of the bridge.

The bridge has the highest concentration of fatalities for a spot location on the state highway system in Caltrans District 11 (San Diego and Imperial counties) due to deaths by suicide. Fatalities caused by suicide do not qualify under current Highway Safety Improvement criteria and are not eligible for funding from the Highway Safety Improvement Program.

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<sup>1</sup> The County of San Diego's Office of Emergency Services (OES) coordinates the overall county response to disasters. For evacuations and emergencies, the OES coordinates with the transit agencies and other providers of transportation services to use fleet vehicles in the event that they are needed. During large-scale events, the OES also is poised to coordinate with transit agencies outside of the county in the event that additional vehicles are needed for disaster relief.

The existing Transportation Management Systems (TMS) elements on the bridge consist of six cameras controlled exclusively by California Highway Patrol (CHP) staff stationed at the Glorietta Toll Plaza in Coronado. When CHP staff is not available at the Glorietta Toll Plaza, the cameras cannot be repositioned and are no longer effective for monitoring activity on the bridge. In addition, existing camera locations do not provide full coverage of the bridge and surrounding areas.

Non-physical suicide deterrence measures have been implemented on the bridge along with four-inch spikes installed on top of the bridge rail in early 2019 as an interim measure. However, multiple suicides and suicide attempts have still occurred from the bridge. Many of these have resulted in a complete closure of the bridge, sometimes for hours, requiring those traveling to or from Coronado Island, Naval Air Station North Island, and the Naval Amphibious Base to reroute by way of the Silver Strand, a 23-mile detour adding 30 to 60 minutes of travel time per vehicle per incident. SR 75 is part of the Strategic Highway Network which provides defense access, continuity, and emergency capabilities for movement of military personnel and equipment.

Caltrans has initiated the environmental review of this project, which proposes to install a permanent physical suicide deterrent on the bridge, as well as minor improvements to the TMS elements at the Glorietta Toll Plaza, the bridge, and the I-5/SR 75 Interchange. TMS elements could include upgrading the Closed-Circuit Television (CCTV), a new Vehicle Detection System, and a study of limits of the suicide deterrent. Three build alternatives are under evaluation: a horizontal barrier alternative, a vertical barrier alternative that would be constructed on the existing bridge railings, and a vertical barrier alternative that would be constructed on new bridge railings. A no-build alternative also is being analyzed. The project is estimated to cost approximately \$50 million.