Appendix Q:

Transportation Security and Safety

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Introduction

Transportation security and safety are integral components of the planning and programming that SANDAG facilitates and develops on behalf of the region. San Diego Forward: the 2021 Regional Plan (2021 Regional Plan) introduced the 5 Big Moves strategies to implement the plan's vision. Each of the 5 Big Moves applied facets of technology to achieve plan goals. Technology and the use of data are most prominent in Next Operating System (Next OS), Transit Leap, and Complete Corridors. The 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 additional uses of technology and associated data require additional 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 (ensuring 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 a target from nation states, hacktivists, disgruntled employees, and organized cyber criminals. 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

Cyber security 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) Version 7.1 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 20 Controls version 7.1, 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 are determined by the necessity of compliance based on laws and regulations (e.g., Health Insurance Portability and Accountability Act (HIPAA), Payment Card Industry/Data Security Standard (PCI/DSS), Federal Highway Administration) contractual/Memorandum of Understanding (MOU), and best practices (e.g., CIS 20 Controls, Open Web Application Security Project [OWASP] Top 10 Proactive Controls project [OPC]).

To see a complete list of the CIS 20 Controls version 7.1, please visit learn.cisecurity.org/control-download.

Continuity of Operations Plan

Resiliency of the 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 utilized by SANDAG to support transportation safety and security for the 2021 Regional Plan and 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 Regional Plan are continuously reviewed and updated. Further, 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, whether the risks are political, economic, natural, 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 utilizes 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 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 were applied to project bundles during the network-development process through evaluation criteria. See Appendix T 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 for more information.
- **Strategic Highway Safety Plan:** The 2021 Regional Plan is consistent with the 2020 Strategic Highway Safety Plan (SHSP). SANDAG supported the development of this statewide plan and continues support of plan implementation through SHSP Challenge Area Teams. See dot.ca.gov/programs/safety-programs/shsp for more information.
- **Comprehensive Multimodal Corridor Plans (CMCPs):** 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 United States 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 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.[1]
- **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 18 tribal governments with jurisdiction over 19 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.

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