



**ORANGE COUNTY
TRANSPORTATION
AUTHORITY**

PUBLIC TRANSPORTATION AGENCY SAFETY PLAN

MAY 2020

**PUBLIC TRANSPORTATION AGENCY SAFETY PLAN
FOR THE
ORANGE COUNTY TRANSPORTATION AUTHORITY**

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EXECUTIVE SUMMARY

Moving Ahead for Progress in the 21st Century (MAP-21) grants the Federal Transportation Administration (FTA) the authority, to establish and enforce a comprehensive framework to oversee the safety of public transportation throughout the United States. As a component of this safety oversight framework, recipients of FTA Chapter 53 funding are required to develop and implement a Public Transportation Agency Safety Plan (PTASP), Regulation 49 C.F.R. Part 673 based on Safety Management Systems (SMS) principles and methods.

On July 19, 2018, the FTA published the PTASP final rule, requiring certain operators of public transportation systems that receive federal funds under FTA's Urbanized Area Formula Grants to develop safety plans that include the processes and procedures to implement SMS. The goal of SMS is to increase the safety of transit systems by proactively identifying, assessing and controlling risks. Further, Regulation 49 C.F.R. Part 673 puts the FTA and the Orange County Transportation Authority (OCTA) in a position to provide guidance that strengthens the use of safety data to support management decisions, improves the commitment of transit leadership to safety, and fosters a culture of safety promoting awareness and responsiveness to safety risks.

SMS is a comprehensive, collaborative, proactive, and a data-driven approach to managing safety, thus bringing management and labor together to: better control risk, detect and correct safety issues in a timely manner, effectively share and analyze safety data, and precisely measure safety performance.

Our Mission is to develop and deliver transportation solutions to enhance quality of life and keep Orange County moving.

Our Vision is, an integrated and balanced transportation system that supports the diverse travel needs and reflects the character of Orange County.

OCTA is a public agency that conducts its business with integrity, in an honest and ethical manner. Our values consist of safety, integrity, customer focus, can-do spirit, communication and teamwork/partnership. OCTA keeps people moving by reducing freeway congestion, improving safety and efficiency on our local roads, providing bus service and regional multimodal connections, helping people find ways to leave their cars home, and providing safe, convenient transportation that is FTA and Americans with Disabilities Act (ADA) compliant to those with special accommodations. These values shape the way we do business and significantly influence who we are and how we want to be viewed by others.

OCTA has taken steps of creating an environment where safety culture is paramount by adopting safety as a core value. Individual efforts alone do not result in the desired outcome. A positive safety culture is achieved only when it develops an aggregate attitude that safety is paramount in all transit services. This type of safety thinking permits individuals to resist complacency, commit to excellence, and take personal accountability. The cumulative effect of these attitudes develops an organizational attitude of self-regulation for safety. It fosters a universal type of safety mindset.

Accordingly, safety culture is both attitudinal, as well as structural, and revolves around the common beliefs and actions of individuals and the organization. It consists not only of identifying safety issues, but also resolving them with appropriate actions.

OCTA is committed to Safety as a systematic and comprehensive approach to identifying hazards and risks and has adopted the SMS framework by establishing a safety policy; identifying hazards and controlling risks; setting goals and planning and measuring performance. OCTA uses SMS as means of agency-wide support for transit safety by establishing a culture where everyone is accountable for safety. The success of these efforts starts with senior executives and labor leadership visibly demonstrating their commitment to safety and leading by example to resolve safety issues.

The implementation of SMS, as described within this document, has been ongoing at OCTA through the execution of multiple activities, including:

- Extensive hazard identification, analysis and resolution;
- Increased internal auditing to ensure our processes are functioning as intended;
- Safety Outreach with the community – as good neighbors and partners with emergency management resources in the surrounding communities; and
- Focus on improved safety training for all employees – to ensure that OCTA is as safe as practical with the understanding that safety is everyone’s responsibility.

OCTA has developed and adopted this PTASP to comply with FTA regulations. OCTA’s Board of Directors, Accountable Executive, and Chief Safety Officer have reviewed and approved the PTASP through (resolution #-); assuring its content meets the requirements of Regulation 49 C.F.R. Part 673 through the establishment of a comprehensive SMS framework.

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DEFINITIONS

Source: All definitions are official U.S. Department of Transportation, Federal Transit Administration definitions related to the Public Transportation Agency Safety Plan.

Accident: an event that involves any of the following: a loss of life; a report of a serious injury to a person; a collision of public transportation vehicles; a runaway train; an evacuation for life safety reasons; or any derailment of a rail transit vehicle, at any location, at any time, whatever the cause.

Accountable Executive: a single, identifiable person who has ultimate responsibility for carrying out the Public Transportation Agency Safety Plan of a public transportation agency; responsibility for carrying out the Agency's Transit Asset Management Plan; and control or direction over the human and capital resources needed to develop and maintain both the Agency's Public Transportation Agency Safety Plan, in accordance with 49 U.S.C. § 5329(d), and the Agency's Transit Asset Management Plan in accordance with 49 U.S.C. § 5326.

Chief Safety Officer: an adequately trained individual who has responsibility for safety and reports directly to a transit agency's chief executive officer, general manager, president, or equivalent officer. A Chief Safety Officer may not serve in other operational or maintenance capacities, unless the Chief Safety Officer is employed by a transit agency that is a small public transportation provider as defined in this part, or a public transportation provider that does not operate a rail fixed guideway public transportation system.

Core Safety Responsibilities: responsibilities, accountabilities, and authority of the accountable executive, the key safety officers, and key members of the safety management team.

Desired Safety Outcomes or Goals: safety outcomes for each risk using the measurable safety performance indicators established.

Document Revision and Control: a description of the regular annual process used to review and update the plan including a timeline for implementation of the process.

Event: any accident, incident, or occurrence.

Hazard: any real or potential condition that can cause injury, illness, death; damage to or loss of the facilities equipment, rolling stock, or infrastructure; or damage to the environment.

Hazard Probability: likelihood of a hazard consequence to occur.

Hazard Severity: the effect/damaging result of a hazards consequence.

Incident: an event that involves any of the following: A personal injury that is not a serious injury; one or more injuries requiring medical transport; or damage to facilities, equipment, rolling stock, or infrastructure that disrupts the operations of a transit agency.

Injury: any damage or harm to persons that requires immediate medical attention away from the scene because of a reportable event. Agencies must report each person transported away from the scene for medical attention as an injury, whether or not the person appears to be injured.

Occurrence: an event without any personal injury in which any damage to facilities, equipment, rolling stock, or infrastructure does not disrupt the operations of a transit agency.

Performance target: a quantifiable level of performance or condition expressed as a value for the measure, to be achieved within a time period required by the Federal Transit Administration.

Policy Statement: a statement establishing senior management commitment to continual safety improvement, signed by the executive accountable for the operation of the Agency and the board of directors.

Prioritized Safety Risks: a description of the most serious safety risks to the public, personnel and property.

Reportable: an event occurring on transit right-of-way, in a transit revenue facility, in a transit maintenance facility, or involving a transit revenue vehicle, excluding occupational safety events occurring in administrative buildings.

Risk: an assessed probability and severity calculation to classify the overall potential consequences of a hazard.

Risk Control Strategies and Actions for Prioritized Safety Risks: a description of risk control strategies and actions the Agency will undertake to minimize exposure of the public, personnel and property to hazards, including a schedule for implementing the risk control strategies and the primary entity responsible for each strategy.

Safety Assurance: a list of defined safety performance indicators for reach priority risk and associated targets the Agency will use to determine if it is achieving the specified safety goals.

Safety Culture: the product of individual and group values, attitudes, competencies and patterns of behavior that determine commitment to safety management. Four attributes of a positive safety culture:

Reporting: encouraging employees to divulge information about hazards that they encounter

Just: rewarding employees for providing essential safety-related information, and holding them accountable for deliberate violations of the rules

Flexible: adapting to changing demands and reacting to events

Learning: willing to change based on safety indicators and hazards uncovered through assessments, audits, data and incidents.

Safety Performance Target: a performance target related to safety management activities.

Safety Risk Management Approach: the formal processes the agency uses to identify hazards, analyze and assess safety risks, and develop, implement and evaluate risk controls.

Safety Training Program: a comprehensive safety training program for agency staff that ensures staff are trained and competent to perform their safety duties.

Serious Injury: any injury which: (1) Requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; (2) Results in a fracture of any bone (except simple fractures of fingers, toes, or noses); (3) Causes severe hemorrhages, nerve, muscle, or tendon damage; (4) Involves any internal organ; or (5) Involves second or third degree burns, or any burns affecting more than 5 percent of the body surface.

Source: NTD Safety and Security Reporting Manual

Fatality: a death or suicide confirmed within 30 days of a reported event. Does not include deaths in or on transit property that are a result of illness or other natural causes; a death due to, Collision (including suicides), Fire, Hazardous material spill, Acts of God, System or personal security event (including suicides), and Other safety events.

Source: National Public Transportation Plan Performance Measures

Fatalities: total number of reportable fatalities and rate per total vehicle revenue miles by mode.

Injuries: total number of reportable injuries and rate per total vehicle revenue miles by mode.

Safety Events: total number of reportable events and rate per total vehicle revenue miles by mode.

Other Safety Events: include but are not limited to slips, trips, falls, smoke, power failure, maintenance-related issues, or electric shock. To be reported as a major event, these events must **either** meet the fatality, evacuation, or property damage threshold **or** result in two or more injured persons. Other Safety Events that cause only one person to be immediately transported from the scene for medical attention, and that do not trigger any other reporting threshold, are reported on the Non-Major Monthly Summary Report form. The FTA includes Other Safety Events that occur in a transit maintenance facility and meet a reporting threshold but continues to exclude occupational safety events occurring in administrative buildings.

***Note:** Definitions from the U.S. Department of Transportation, Federal Transit Administration should be applied uniformly across the entire agency, to ensure safety performance measures are accurate agency wide and SMS is applied systematically.*

ACRONYMS

ADA	Americans with Disabilities Act
ART	Annual Required Training
BSSPP	Bus System Safety Program Plan
CAP	Corrective Action Plan
CEO	Chief Executive Officer
CFR	Code of Federal Regulations
CMP	Configuration Management Plan
COOP	Continuity of Operations Plan
CPUC	California Public Utilities Commission
CSO	Chief Safety Officer
EOC	Emergency Operations Center
FAST	Fixing America's Surface Transportation Act
FTA	Federal Transportation Administration
HR	Human Resources
HROD	Human Resources and Organizational Development Division
HSEC	Health, Safety and Environmental Compliance Department
IIPP	Injury and Illness Prevention Program
LMS	Learning Management System
MAP-21	Moving Ahead for Progress in the 21 st Century
MPO	Metropolitan Planning Organization
NPTSP	National Public Transportation Safety Plan
NTD	National Transit Database
NTSB	National Transportation Safety Board
OC	Orange County
OCTA	Orange County Transportation Authority
OHA	Operating Hazard Analysis
OSHA	Occupational Health and Safety Administration
OTS	Occurrence Tracking System
PHA	Preliminary Hazard Analysis
PTASP	Public Transportation Agency Safety Plan
Ri2	Routes Issues and Information Reporting Program
SCAG	Southern California Association of Governments
SCOT	Student Coach Operator Training
SMS	Safety Management System
SRM	Safety Risk Management
SOP	Standard Operating Procedure
SSCP	Safety and Security Certification Plan
SSEPP	Security Emergency Preparedness Plan
SSHA	Sub-System Hazard Analysis
SSOA	State Safety Oversight Agency
SSO	State Safety Oversight
TAM	Transit Asset Management
USC	United States Code

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1. INTRODUCTION

OCTA was created in 1991, consolidating the functions of seven separate transportation agencies, including the Orange County Transportation Commission, the Orange County Transit District, the Consolidated Transportation Services Agency, the Orange County Local Transportation Authority, the Orange County Service Authority for Freeway Emergencies, the Orange County Congestion Management Agency and the Orange County Service Authority for Abandoned Vehicles. OCTA is served by 17 Board Members.

OCTA's 17-member Board of Directors consists of five County Supervisors, ten city members, and two public members. The District Director of the California Department of Transportation, District 12, serves as an Ex-officio member. Board of Supervisors are elected by Supervisorial Districts to a four-year term. City Members are appointed by the Orange County City Selection Committee to a two-year term. Public Members are appointed by OCTA Board of Directors to a four-year term. Ex-officio Member, Caltrans District 12, District Director, is appointed by the Governor to a four-year term Public Utilities Code Sec. 130052(d).

The Chief Executive Officer (CEO) reports directly to the OCTA Board of Directors; the Deputy CEO reports to the CEO and is tasked with the duties of "acting CEO" in the absence of the CEO. The Deputy CEO is also tasked with reporting to the Board of Directors in the CEO's absence. The CEO is responsible for the daily management of all systems operated by OCTA and ensures federal, state, local, and agency safety requirements are being met.

Facilities and Bus Facilities:

OCTA owns and maintains five maintenance and operating bases, eight transportation centers, and one administration location that supports the bus bases and transportation centers. Additionally, there are support facilities, terminals, Park-N-Ride terminals, employee parking lots, surplus properties, communications, and other miscellaneous locations. The facilities are comprised of 47 buildings and structures totaling over 400,000 square feet. The structures are situated on 80 acres of property throughout Orange County with an initial capital cost of more than \$50 million dollars.

The primary physical elements of the OCTA bus system are facilities and buses. The five maintenance and operating bases operate 24 hours per day, seven days a week, 365 days a year. The five bases are as follows:

- Base 1-Santa Ana;
- Base 2-Irvine Construction Circle (Paratransit);
- Base 4-Garden Grove;
- Base 6-Anaheim (Contracted Fixed Route); and
- Base 7-Irvine Sand Canyon (Contracted Fixed Route).

Bus Service and System Description

OCTA's bus system offers 58 routes and over 5,000 bus stops which operate over a 798 square-mile area, in 34 cities and unincorporated areas. OCTA routes include local and community routes which travel between cities, express routes which travel on freeways, OC Flex on-demand service, and Stationlink service that connects Orange County Metrolink stations with major employment centers. Figure 1 depicts the OCTA system map.

Figure 1

THE OCTA SYSTEM MAP



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2. TRANSIT AGENCY INFORMATION

Transit Agency Name	Orange County Transportation Authority- OCTA		
Transit Agency Address	550 South Main Street Orange, CA 92868		
Name and Title of Accountable Executive	Darrell E. Johnson, OCTA Chief Executive Officer		
Name of Chief Safety Officer or SMS Executive	Matthew DesRosier		
Mode(s) of Service Covered by This Plan	Bus and Paratransit: Directly Operated and Contracted	List all FTA Funding Types	5307, 5309, 5310, 5337, and 5339
Mode(s) of Service Provided by the Transit Agency (Directly operated or contracted service)	Commuter Bus, Bus, Vanpool, Demand Response, Demand Response Taxi, and Paratransit services.		
Does the agency provide transit services on behalf of another agency or entity?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Description of Arrangements: OCTA operates fixed-route service for the Irvine iShuttle; and operates ADA service the Laguna Beach Trolley, Anaheim Transit Network, iShuttle, and Project V community shuttles.		
Name and Address of Transit Agency(ies) or Entity(ies) for Which Service Is Provided	N/A		

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3. PLAN DEVELOPMENT, APPROVAL, AND UPDATES

Name of Entity That Drafted This Plan	Orange County Transportation Authority	
	Signature of Accountable Executive	Date of Signature
Signature by Accountable Executive		
Approval by the Board of Directors or an Equivalent Authority	Name of Individual/Entity That Approved This Plan	Date of Approval
	Relevant Documentation (title and location)	
	Name of Individual Entity That Certified This Plan	Date of Certification
Certification of Compliance	Relevant Documentation (title and location)	

Version Number and Updates Record the complete history of successive versions of this plan.			
Version Number	Section/Pages Affected	Reason for Change	Date Issued

Annual Review and Update of the Public Transportation Agency Safety Plan

Due to the implementation of 49 CFR Part 673, OCTA is required to annually submit the current PTASP to the Board of Directors for review and approval, along with an annual safety report. The annual review of the PTASP will be conducted by the Accountable Executive, the Chief Safety Officer and the SMS Program Manager each fiscal year, no later than June 30. No proposed change will be incorporated into the PTASP until it has been approved by the CEO and the Board of Directors. Annual review and updating of the PTASP will consist of the CEO signing and dating this document and submitting to the Board of Directors for review. All changes to the PTASP are recorded in the PTASP Activity Log; displaying the version number, section/pages affected, the reason for change and the date of the change.

Necessary updates outside the annual update will be bulletins, which will be incorporated in the body of the PTASP each year for approval. Any division Executive Director or other official may submit a proposed change at any time for review and adoption. Proposed changes are submitted to the Chief Safety Officer and a determination is made whether to convene a special SMS/PTASP Committee meeting, or to include the matter on the agenda for the regular SMS/PTASP Committee monthly meeting.

Management's Commitment

The individuals signing this PTASP, attest all items and conditions contained in this plan are understood, accepted, recommended, and supported; they are committed to implementing the PTASP and achieving its safety goals and objectives.



Jennifer L Bergener, Deputy Chief Executive Officer,
Chief Operations Officer

4/27/2020

Date



Andrew Oftelie, Chief Financial Officer

4/24/2020

Date



Beth McCormick, Executive Director of Bus Operations

4/24/2020

Date



Maggie McJilton, Executive Director, HROD

4/24/2020

Date



Jim Beil, Executive Director, Capital Programs

4/24/2020

Date



Maggie McJilton, Executive Director, External Affairs

4/24/2020

Date



Kia Mortazavi, Executive Director, Planning

4/27/2020

Date



Matt DesRosier, Manager, Health, Safety
& Environ. Compliance, Chief Safety Officer

4/24/2020

Date

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4. SAFETY PERFORMANCE TARGETS

Safety Performance Management is a critical tool that supports OCTA in identifying safety concerns and monitoring progress in safety improvements. OCTA has developed the following Safety Performance Targets to focus on its commitment to safety and meet federal requirements.

	Objective	Metric	Baseline	Target
Bus	Reduce Fatalities	Fatalities per 100K VRM	0.00	Maintain
	Reduce Injuries	Injuries per 100K VRM	0.59	Maintain
	Reduce Safety Events	Safety Events per 100K VRM	1.03	Maintain
	Maintain System Reliability	Miles between Road Calls	1 per 14K VRM	Maintain

*Safety Performance Targets are calculated on the calendar year.

Annual Safety Performance Targets (Based on safety performance measures under NSP)							
Mode	Fatalities (Total)	Fatalities Per 100k VRM	Injuries (Total)	Injuries Per 100k VRM	Safety Events (Total)	Safety Events Per 100k VRM	System Reliability (Failures/VRM)
Bus	0	0.00	81	0.59	133	1.03	1/14,827
	Objective		Metric		Baseline		Target
Paratransit	Reduce Fatalities		Fatalities per 100K VRM		0.00		Maintain
	Reduce Injuries		Injuries per 100K VRM		0.00		Maintain
	Reduce Safety Events		Safety Events per 100K VRM		0.00		Maintain
	Maintain System Reliability		Miles between Road Calls		1 per 14K VRM		Maintain

*Safety Performance Targets are calculated on the calendar year.

Annual Safety Performance Targets (Based on safety performance measures under NSP)							
Mode	Fatalities (Total)	Fatalities Per 100k VRM	Injuries (Total)	Injuries Per 100k VRM	Safety Events (Total)	Safety Events Per 100k VRM	System Reliability (Failures/VRM)
Paratransit	0	0.00	0	0.00	0	0.00	1/14,827

Safety Performance Target Coordination

Describe the coordination with the State and Metropolitan Planning Organization(s) (MPO) in the selection of State and MPO safety performance targets

OCTA will foster agency-wide support for transit safety and will provide copies of their PTASP and additional information as requested to Southern California Association of Governments (SCAG) and California Public Utilities Commission (CPUC). Additionally, OCTA will evaluate agency Safety Performance Targets annually; the updated targets will be shared with the SCAG, and CPUC.

Targets Transmitted to the State	State Entity Name	Date Targets Transmitted
	CPUC	
Targets Transmitted to the Metropolitan Planning Organization(s)	Metropolitan Planning Organization Name	Date Targets Transmitted
	SCAG	

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5. SAFETY MANAGEMENT POLICY (673.23)

5.1 Safety Management Policy Statement- 673.23 (a)

OCTA is committed to developing, implementing, maintaining, and constantly improving processes to make sure all transit service delivery activities take place under a balanced allocation of organizational resources, aimed at achieving the highest level of safety performance and meeting standards. All levels of management and employees are accountable for the delivery of the highest level of safety performance, starting with the OCTA CEO.

OCTA managers, personnel, and outside contractors are responsible for promoting the safety of customers, employees, property and the public who encounter OCTA's transit services. Every employee must practice workplace safety, use equipment, tools and materials properly, and be trained in the work rules and procedures for their area of responsibility, including contingency plans for abnormal and emergency conditions. Each employee and contractor shall take an active part in the hazard identification and reporting process.

OCTA is committed to:

- Support the management of safety through the provision of appropriate resources to result in an organizational culture that fosters safe practices, encourages effective employee safety reporting and communication, and actively manages safety with the same attention to results as paid to other management systems of the organization;
- Integrate the management of safety as a primary responsibility of all managers and employees;
- Clearly define for all staff, managers and employees alike, their accountability and responsibility for the delivery of the organization's safety performance and the overall performance of OCTA's safety management system;
- Establish and operate hazard identification and analysis, and safety risk evaluation activities, including an employee safety reporting program as a fundamental source for safety concerns and hazard identification. Eliminate or mitigate safety risks and hazardous consequences resulting from OCTA's operations or activities to a level that is acceptable and consistent with safety performance;
- Ensure no action will be taken against any employee who discloses a safety concern through the employee safety reporting program, unless disclosure indicates, an illegal act, gross negligence, or a deliberate or willful disregard of regulations or procedures;
- Comply with, and wherever possible exceed, legislative and regulatory requirements and standards;

- Ensure sufficiently skilled and trained HROD staff are available to implement safety management processes;
- Ensure all staff are provided with adequate and appropriate safety-related information and training, are competent in safety management matters, and are allocated only tasks commensurate with their skills;
- Establish and measure OCTA's safety performance against realistic and data-driven safety performance indicators and safety performance targets;
- Continually improve OCTA's safety performance through management processes that ensure appropriate safety management action is taken and is effective; and
- Ensure externally supplied systems and services to support OCTA's operations are delivered to meet OCTA's safety performance standards.

5.2 Process for Reporting Unsafe Conditions-673.23(b)

Employees are required to embrace OCTA's safety goals and objectives and encouraged to report safety concerns, issues or hazards. OCTA's employees have a duty to report any unsafe condition to their supervisor, manager, Safety staff, the Accountable Executive or the SMS Program Manager. The Safety staff works with managers and employees to facilitate the reporting of hazards using email, telephone, and in-person reporting. Moreover, employees may report safety concerns, issues or hazards through the safety department intranet page, Ri2, and Ethicspoint, OCTA's ethics hotline.

OCTA Health, Safety & Environmental Compliance Intranet Page

OCTA intranet homepage provides employees with links to the intranet pages for each division in the agency. By selecting "Organization" on the main menu bar and then scrolling to appropriate division, employees have access to the that division's intranet page. On the Health Safety and Environmental Compliance page employees may use the "Big Red Button" to submit a safety concern or get access to safety policies and information. The reporting of unsafe conditions through the "Big Red Button" are managed by the CSO and is a closed loop process that is resolved within 14 business days.

Routes Issues and Information Reporting Program (Ri2) affords OCTA employees the ability to enter information related to safety concerns, issues, or hazards into an electronic reporting forum. OCTA responds to Ri2 submissions and typically resolves the report within 14 business days. During the resolution process employees have the ability to log in and check the progress or status of their Ri2 submission.

OCTA's Ethicspoint number is available for any employee, outside contractor, or member of the public to anonymously report any safety hazards, suspected fraud, waste, abuse, illegal or unethical behavior. The report is confidential. Reports to Ethicspoint will be administered by Internal Audit for review and investigation by the appropriate department.

OCTA is committed to fair treatment of all its employees and recognizes its responsibility under state and federal law to protect from punishment and harassment any person who reports an issue, whether the allegation is found to have merit. OCTA shall not take any action or threaten any action against any employee as a reprisal for making a report unless the report was made, or the information was disclosed with the knowledge that it was false or with willful disregard for its truth or falsity. Policy violations will be managed through OCTA's Human Resources Department.

5.3 Safety Management Policy Communication-673.23(c)

OCTA staff are informed of their responsibilities related to safety and SMS during onboarding, within their individual job descriptions, and receive an annual performance evaluation that includes safety related evaluation criteria. Additionally, each employee is required to acknowledge through signature that they have received a written copy of OCTA's Safety Management Policy Statement. Signed copies will be filed within individual employee files. OCTA will provide additional safety information via the Intranet; newsletters, safety bulletins, and audio-visual monitors in break rooms.

5.4 Authorities, Accountabilities, and Responsibilities-673.23(d)

The purpose of the PTASP is to: maintain a formal Safety Program and establish a coordinated safety effort responsive to the needs of the operating and support departments, make sure all personnel and contractors are working toward the common goal of minimizing the occurrence of customer and employee incidents by providing safe revenue service to our customers and a safe work environment for our employees.

Board of Directors

The 17-member Board of Directors receives staff reports and considers staff recommendations that have the potential to impact operational safety. The Board of Directors makes policy level decisions and follows established protocol for voting on actions that guide OCTA's operations. OCTA Board Members also serve on smaller committees, which are intended to provide more detailed information and specifically focus on different functional areas of OCTA. The various Board committees that review and recommend actions that have potential safety and environmental impacts include the Executive Committee, which safety related items are brought before, the Legislative and Communications Committee, the Regional Planning and Highways Committee, and the Transit Committee.

Executive Staff

Executive staff refers to the Chief Executive Officer, Deputy Chief Executive Officer, Chief Financial Officer, Chief Operating Officer, Division Executive Directors, and Division Directors. The CEO is the OCTA Accountable Executive and reports directly to the OCTA Board of Directors; the Deputy CEO reports to the CEO and is tasked with the duties of "acting CEO" in the absence of the CEO. The Deputy CEO is also tasked with reporting to the Board of Directors in the CEO's absence. The CEO is responsible for the daily management of all systems operated by OCTA and ensures federal, state, local, and agency safety requirements are being met. CSO

and Executive staff directs the utilization of available resources as necessary to achieve safety goals and objectives. This management level exercises approval authority for major system modifications and facilitates coordination of safety efforts.

Divisions/Departments

Human Resources and Organizational Development Division– Led by the Executive Director of Human Resources and Organizational Development (HROD), is responsible for planning, directing, and evaluating the effectiveness of all the Human Resources and Organizational Development Division systems, policies and practices, as well as related administrative functions. HROD directs the overall programs/activities of the Human Resources Department, which includes Labor & Employee Relations, EEO/ Affirmative Action, ADA general program and Title VI, Learning & Development Department, Risk Management Department, and Health, Safety, and Environmental Compliance Department.

Operations Division – Led by the Chief Operating Officer, is responsible for all operational functions in the authority: bus, streetcar, rail, on-demand services and mobility paratransit. Operations provides highly complex and responsible direction for multiple transit departments and administrative programs. Operations is also responsible for creating policy and strategic direction as well as planning to the operational functions of the Authority.

Planning Division – Led by the Executive Director of Planning, is responsible for ensuring the coordination of activities and integration of effort. Oversees, evaluates, and manages the work of agency staff and contractors conducting the strategic planning, policy development, environmental studies, design, and community relations activities to deliver highly complex multi-modal transportation planning. Planning is also responsible for creating policy and strategic direction as well as planning, directing, and evaluating the effectiveness of all Planning Division’s systems, policies and practices, and related functions.

Finance & Administration Division – Led by the Chief Financial Officer, is responsible for the direction of the overall programs/activities of the Treasury Department, Contracts Administration and Materials Management, Accounting and Financial Reporting, Financial Planning and Analysis, General Services, and leads the Finance and Information Systems.

Capital Programs Division – Led by the Executive Director of Capital Programs, is responsible for the oversight, evaluation, and management of the division’s activities to deliver highly complex multi-modal transportation rail, high speed rail, and highway programs. The division is also responsible for creating policy and strategic direction as well as planning, directing, delivering, and evaluating the effectiveness of all division systems, policies and practices, and related functions.

External Affairs Division– Led by the Executive Director of External Affairs, is responsible for marketing and public outreach programs in support of OCTA projects, services and initiatives. External Affairs directs communications programs during development and construction of transportation projects, oversees bus and rail transit marketing and customer engagement, and diversity outreach and economic opportunity programs.

Government Relations Division – Led by the Executive Director of Government Relations, is comprised of State and Federal Relations, a Grants section, and the Regional Initiatives Department. The Government Relations Division is responsible for monitoring, analyzing, and responding to government actions and decisions that affect how OCTA receives funding, plans for projects and delivers services. Government Relations also maintains an active presence at all levels of government to ensure OCTA's interests are well represented in these various forums.

Positions

Directors, Managers Roles and Responsibilities

All directors and managers are accountable and responsible for:

- implementing the safety risk management, safety assurance, and safety training and communication protocols of their department;
- safety performance within their functional areas;
- ensuring procedures are consistent with the SMS;
- determining and implementing countermeasures required to counteract safety risks and manage issues that negatively impact OCTA safety performance;
- ensuring that all employees are trained in SMS;
- supporting and requiring employees within their department to participate in safety training activities;
- integrating SRM into existing processes;
- requiring that all relevant safety information is communicated and used in decision-making;
- providing information to the CEO, COO, Executive Directors, and HSEC, as appropriate;
- ensuring that all system changes are coordinated with HSEC and documented; and
- cooperating with and providing support for evaluations and audits conducted by HSEC.

Supervisor Roles and Responsibilities

Supervisors are accountable and responsible for:

- the safety performance of all personnel and equipment under their supervision;
- implementing and maintaining safety-related control measures/mitigations;
- familiarizing employees with the safety requirements and hazards associated with the work to be performed;
- responding to identified hazards that may impact safety performance;
- reporting all mishaps and incidents to HSEC;
- sharing lessons learned from incidents; and
- implementing and adhering to SMS procedures and processes within their span of control.

Employee Responsibilities

All OCTA employees are responsible for:

- becoming familiar with the safety procedures for their assigned work activity;
- performing their work safely;
- following procedures and rules;
- calling attention to hazards that may impact safety performance; and
- reporting mishaps and incidents to their Supervisor, in accordance with established requirements for the protection of themselves, co-workers, customers, facilities, and equipment.

Contractors

OCTA is responsible for facilitating communication between internal stakeholders and outside contractors. All contractors are responsible for compliance with this PTASP and 49 CFR Part 673. The contractor is responsible for collecting, reviewing for accuracy, and submitting contract/performance related information and data to OCTA Operations Management monthly. The contractor is required to comply with all OCTA SMS policies and procedures, reporting and submission requirements, including those required for Hazard Identification and Analysis, the NTD submission, and preparing all required data for OCTA to report. OCTA's SMS Program Manager will receive SMS data from OCTA contractors, per the agreed upon schedule; monitor and measure the contractor's safety performance through the data provided and report to the Chief Safety Officer and the PTASP SMS Committee quarterly.

Additionally, the contractor must provide OCTA access to all work, materials, payroll, and other data, records, and accounts maintained by the contractor for auditing purposes. Any audit findings requiring corrective action must be corrected by the contractor and checked by OCTA to ensure they have been corrected.

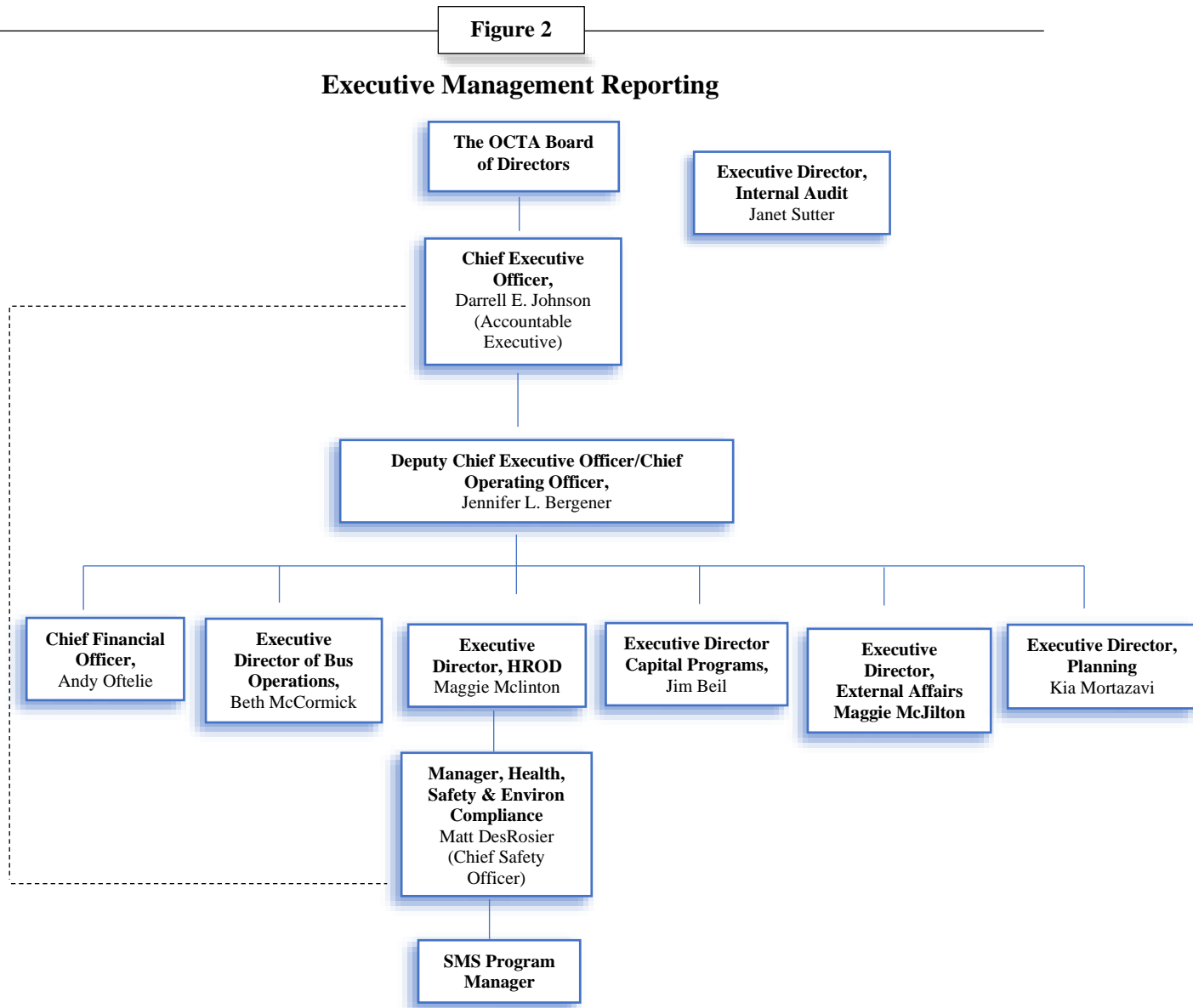
Contractors are required to provide training to employees on a scheduled basis, to include refresher training. The Contractor is required to make sure that their staff receives training applicable to requirements of jobs performed. Training is related to knowledge and operation of equipment, dealing with the public, sensitivity to persons with disabilities, knowledge of various kinds of disabilities, rules and procedures of OCTA services, and other areas of knowledge and proficiency which, shall enable personnel to perform their jobs and meet the requirements of the Contract. OCTA reserves the right to audit training activities at its discretion.

Lines of Authority for Safety:

The Health, Safety, & Environmental Department, led by the Health, Safety, & Environmental Compliance Manager/CSO, reports directly to the CEO through a dotted line and reports administratively daily to the Executive Director of HROD. The Health, Safety, & Environmental Compliance Manager/CSO, is responsible for the development, implementation and administration of environmental, health, safety and sustainability policies, procedures, and programs designed to ensure regulatory compliance, minimize hazards and promote a culture of safety and sustainability. Provides leadership, technical expertise and strategic planning for implementing employee safety programs, fleet and construction safety, wellness, and

environmental compliance. Assists all departments in maintaining a safe and secure environment by providing guidance in identifying and evaluating hazards and vulnerabilities and minimizing the hazardous conditions and/or vulnerabilities to their lowest achievable level.

The CSO oversees SMS, the SMS Program Manager, and is the chair of the SMS/PTASP Committee. The HSEC Department consists of a the CSO, SMS Program Manager, and safety staff to achieve its safety responsibilities as outlined in this document.



Source: The Orange County Transportation Authority

Chief Safety Officer (CSO)

The CSO takes a proactive approach by performing the following activities:

- Manages and implements the Public Transit Agency Safety Plan, as well as answers any questions regarding the Agency's Transit Safety Plan;
- Chairs the SMS/PTASP Committee meetings;
- Leads OCTA in the implementation of the Safety Management System throughout the Agency;
- Participates in formal meetings with the FTA, CEO and other OCTA management on safety issues;
- Reports Safety Performance Measures/Targets to the MPO; and
- Develops and implements safety policies, procedures, and programs risk identification, evaluation, control, funding, and administration.

SMS Program Manager

Assists the CSO in all functions and takes the lead in the following safety functions:

- Co-Chairs the SMS/PTASP Committee meetings;
- Promotes and coordinates the Safety Management System methodology within the Agency;
- Participates in formal meetings with the FTA, CEO and other management on safety issues;
- Investigates employee and vehicle accidents, incidents, and injuries; assists in developing programs to reduce injuries;
- Serves as OCTA's main contact with other agencies related to safety programs and procedures and prepares case records, documents, and data required by such agencies;
- Compiles and analyzes safety statistics; produces reports, records, documents, and manifests; accesses and updates database files;
- Coordinates staff safety meetings and attends meetings, conferences and group functions related to safety;
- Conducts training sessions relating to safety;
- Identifies health and safety concerns, analyzes reports and information, develops programs for accident/injury prevention, and submits recommendations to reduce frequency of accidents;
- Identifies safety concerns and issues, and participates in the design and implementation of safety policies and procedures;
- Performs hazard analyses as necessary;
- Tracks hazards and corrective actions; and
- Performs other job-related duties, as directed.

To ensure transit operations are conducted in the safest manner possible, all appropriate personnel have been assigned Safety and SMS related responsibilities, Table 1: Safety Roles and SMS Responsibilities. In addition, within OCTA, each department/function provides distinct roles and carries out specific responsibilities to ensure the safety of passengers, employees, local responders, and the community served.

Table 1

Safety Task Roles and Responsibilities

SAFETY TASKS	SSO	Accountable Executive / Executive Dept.	Operations Management	Safety	Security and EP	Finance / CAMM	TTS / Engineering	HROD / Risk Management	Planning & Development	Internal Audit	D-Daily M-Monthly Q-Quarterly Y-Yearly AR-As Required
Safety Management Policy Statement	A	P	P	P	S	S	S	S	S	S	AR
Develop PTASP	A	P	P	P	RC	RC	RC	RC	RC	RC	AR
Update PTASP	A	P	P	P	RC	RC	RC	RC	RC	RC	AR
Liaison with SSO	N/A	S	S	P	S	S	S	S	S	S	AR
External PTASP Audits	P	S	S	P	S	S	S	S	S	S	AR
Conduct Internal Safety Assessment/Audits	A	A	S	P	S	S	S	S	S	P	Y
Internal Safety Reporting and Program Monitoring	A	S	S	P	S	S	S	S	S	S	AR
Safety/Security Certification	RC	A	P	P	P	S	P	S	S	S	AR
Develop Emergency Response Plans	A	A	S	S	P	S	S	S	S	S	Y
Safety Hazard, Near-Miss, and Incident Identification and Reporting	RC	P	P	P	P	P	P	P	P	P	AR
Collect and analyze all safety data and measurements	RC	S	P	P	S	S	S	S	S	S	AR
Collect and analyze all security data and measurements	RC	S	P	S	P	S	S	S	S	S	D
Maintain Database of safety statistics, measurements, trends	RC	S	P	P	S	S	S	S	S	S	D
Maintain Database of security statistics, measurements, trends	RC	S	P	S	P	S	S	S	S	S	D
Issue Accident/Incident Statistics and Reports	A	S	S	P	P	S	S	S	S	S	D
Review Passenger Accident Trends	RC	S	P	S	S	S	S	S	S	S	M
Conduct Accident/Incident Investigations	A	A	P	P	P	S	S	S	S	S	AR
Report required threshold Accidents to Outside Agencies (SSO, FTA)	A	A	P	P	S	S	S	S	S	S	AR
Safety Risk Assessments	RC	A	P	P	P	P	P	S	P	S	AR

SAFETY TASKS	SSO	Accountable Executive / Executive Dept.	Operations Management	Safety	Security and EP	Finance / CAMM	TTS / Engineering	HROD / Risk Management	Planning & Development	Internal Audit	D-Daily M-Monthly Q-Quarterly Y-Yearly AR-As Required
Hazard/Risk Management and Mitigations	A	S	P	P	P	S	P	S	P	S	AR
Design Reviews	RC	S	P	P	P	S	P	S	P	S	AR
Management of Change/Configuration Management	N/A	S	P	S	S	S	P	S	S	S	AR
Safety Training Program	RC	A	P	P	S	S	S	S	S	S	AR
Security Training Program	RC	A	P	S	P	S	S	S	S	S	AR
Safety Communication	RC	S	P	P	P	S	P	S	S	S	AR
Occupational Safety and Health Program Compliance	RC	P	P	P	S	S	S	S	S	S	AR
Security and Emergency Response Program Compliance	RC	P	P	P	P	S	S	S	S	S	AR
Maintain accident record keeping, employee injury reporting forms, and related data	RC	S	S	P	S	S	S	S	S	S	AR
Provide claims administration and investigation	RC	S	S	S	S	S	S	P	S	S	D
Corrective Action Plans	A	S	P	P	P	S	P	S	S	S	D
Contractor Oversight and Compliance Assurance	RC	S	S	P	S	S	S	S	S	S	AR
PTASP Documentation Control	RC	S	S	P	S	S	S	S	S	S	AR

Legend:

A	Approval	The identified participant(s) is (are) responsible for approval of specified documentation
P	Primary Task Responsibility	The identified participant(s) is (are) responsible for the preparation of the specified documentation.
S	Secondary or Support Task Responsibility	The identified participant(s) is (are) to provide the necessary support to accomplish and document the task.
RC	Review and Comment Responsibility	The identified participant(s) may review and provide comments on the task or requirement.

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6. SAFETY RISK MANAGEMENT (673.25)

6.1 Safety Risk Management Process 673.25(a)

Safety Risk Management promotes the identification of hazards before they escalate into accidents or incidents, assesses safety risk, and establishes necessary mitigations. The Safety Risk Management process is comprised of the following activities: safety hazard identification, safety risk assessment, and safety risk mitigation.

6.2 Safety Hazard Identification 673.25(b)

Hazard identification and resolution is a core element of the PTASP/SMS emphasizing timely correction of unsafe conditions, anticipated and reconciled before serious accident, injury, or damage occurs. OCTA has the following hazard identification sources in place:

- Employee safety reporting;
- Safety observations;
- Inspections;
- Internal audits;
- Internal safety investigations;
- Accident reports;
- Compliance programs;
- PTASP/SMS committee reviews;
- SMS data/Industry data;
- State and federal government sources (including CPUC and FTA); and
- Public feedback/complaints.

The objective of hazard identification and analysis is to identify and define as many hazardous conditions as possible and enter them into the Hazard Resolution process before those conditions or associated actions cause or contribute to an accident. Hazard identification is accomplished through on-site hazard identification, hazard reporting, and/or as each Department or Base Manager collects and analyzes data to monitor trends. Departmental and Base Managers are responsible for investigating hazards and resolving such hazards within their departments utilizing the Hazard Management Process- Identification/Analysis delineated in Appendix B. When hazards cannot be resolved within the department, the Safety Department, CSO, and Accountable Executive are consulted for resolution.

Data gathered within each department is used to set the agenda for PTASP/SMS Committee meetings, where hazard data is discussed, evaluated, and disseminated to each representative departmental manager for use interdepartmentally and agency wide. The SMS Program Manager is responsible for preparing monthly data and trend analysis reports which are reviewed at monthly PTASP/SMS Committee meetings. The monthly report(s) are distributed throughout OCTA as part of Safety Promotion / Communication strategies.

OCTA documents hazards that develop through multiple sources, such as: employee reporting, accidents, incidents, and leading or lagging indicators. OCTA also evaluates hazards to determine if multiple events occurred leading up to an event. This ensures each possible cause is evaluated and documented for trending purposes.

6.3 Safety Risk Assessment 673.25(c)

OCTA's Hazard Analysis Process establishes processes to assess the safety risks associated with identified hazards. The process assesses the safety risk based upon predicted probability and severity of a hazard's potential consequences.

The probability that a hazard will occur during the planned life expectancy of the system element, subsystem, or component can be described subjectively in potential occurrences per unit of time, event, population, items, or activity. Supporting rationale for assigning a hazard probability are documented in hazard analysis reports.

The severity of a hazard is defined to provide a qualitative measure of the worst credible mishap resulting from operational risks; personnel error; environmental conditions; design inadequacies; and procedural deficiencies for a system, subsystem, or component failure or malfunction.

Safety Risk Assessment Request Process

The process allows OCTA employees to submit safety concerns, as a non-punitive safety reporting system. Hazards that are deemed by Operations and/or HSEC to be an immediate threat to safety, for example poor footing in walk areas, are expected to be immediately corrected. The process is as follows:

1. Employee reports hazard to supervisor/manager – employee enters request through the safety department intranet site, Ri2, or the Ethicspoint.
2. Report entry and tracking into OTS
 - a. Once entered into the database, a tracking number is assigned, and a notification is sent to the requestor via email.
 - b. Primary Safety staff notified via email, review for complete information, and route assignments; post updates as progress is made
3. Review of issues – issues reviewed by Safety and other experts as needed.
4. Conclusions and actions to be taken – conclusions of the review guide follow-up actions to be taken.
5. Response to the requestor – Primary Safety staff sends written report to conclusions and actions taken, once determined and completed.

6.4 Safety Risk Mitigation 673.25(d)

Hazards which cannot be eliminated, are mitigated through engineering controls, administrative controls or personal protective equipment. Hazards that pose an imminent danger are expected to be immediately mitigated through the organization's stop work authority.

The Accountable Executive and the CSO have authority to implement operational changes that have safety implications. Accordingly, all hazard identification and analysis proceedings should result in the issuance of a report by the SMS Program Manager to the CSO. The report includes all pertinent data developed by the PTASP/SMS Committee on the identified hazard and risk evaluation process. A recommendation achieved by consensus of the Committee is included, regardless of whether the recommendation is for a change in existing conditions or procedures, or for retention of the existing condition/risk. Any disagreement on the matter, or suggested negative ramifications of the recommendation, must also be included for review and consideration by the Accountable Executive.

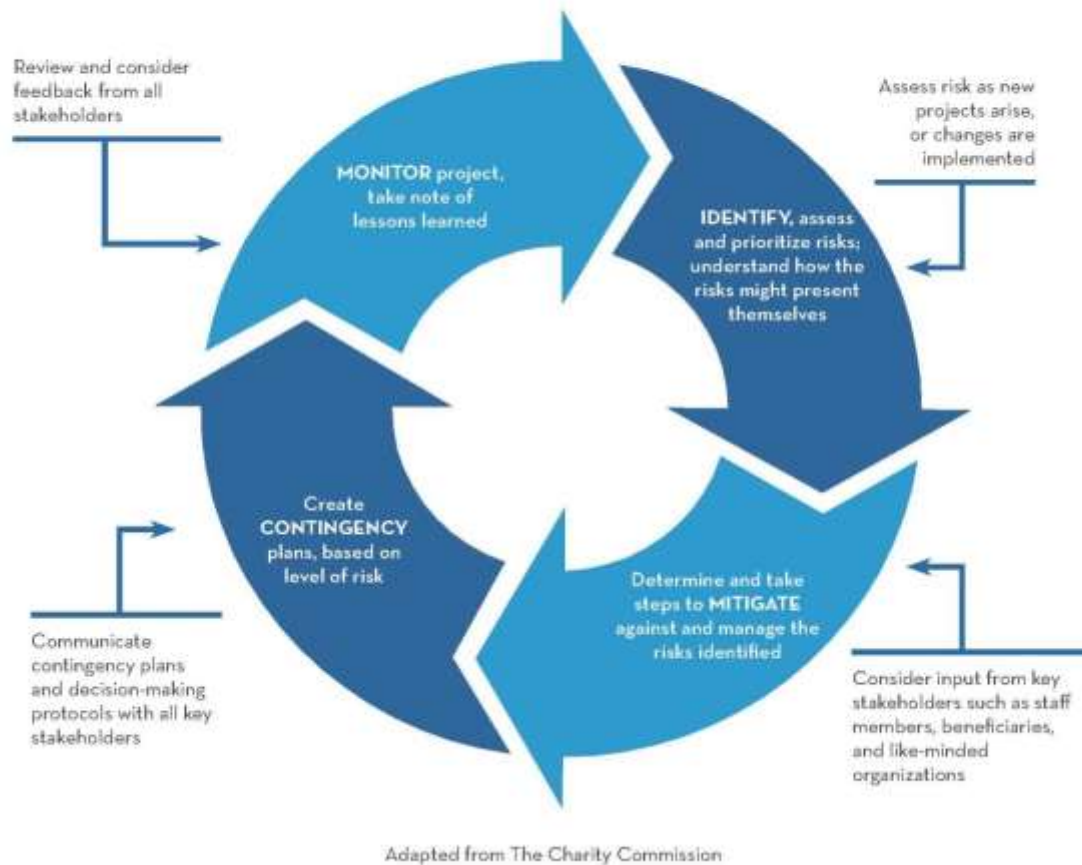
The PTASP/SMS Committee Chair (CSO) discusses reports with the Accountable Executive; if required, the CSO will direct the SMS Program Manager, to prepare a report based on the Accountable Executive's response to the recommendation, including all necessary data pertaining to the decision. If deemed necessary, the appropriate department will be directed to arrange any necessary field testing, pilot program, or controlled environment for developing additional information. Such testing may be requested by the Accountable Executive, CSO or the PTASP/SMS Committee and documented.

Hazards identified within the system are evaluated by appropriate staff and eliminated or mitigated to an acceptable level. The Hazard Analysis Process has been developed to ensure the optimum level of safety is achieved through the expeditious resolution of hazards. In the event the hazard has been categorized as UNACCEPTABLE, the Chief Safety Officer is responsible for maintaining the necessary information, notifications and Corrective Action Plans. Figure 3, Risk Assessment Flow Diagram displays the risk assessment cycle.

Figure 3

Risk Assessment Flow Diagram

The risk assessment cycle



6.5 Emergency Preparedness

Integration with Public Safety and Emergency Management

Effective emergency preparedness, response, coordination, and training are essential elements to minimize loss resulting from an emergency or disastrous event. The objective of emergency preparedness and planning is to ensure fast efficient response to emergencies or disasters in a manner that minimizes risk to the safety and health of passengers, employees, and emergency response personnel, the community, and property.

Responsibilities for Emergency Preparedness

Responsibility of Emergency Preparedness Planning, Coordination, and Training resides with OCTA management; however the Security and Emergency Preparedness Department is

responsible for providing a safe and secure environment with an "All Hazards" approach based on preparedness, protection, response, and recovery.

The primary OCTA EOC is located at the OCTA Administration Building, 600 South Main Street, Orange, CA 92868. OCTA's alternate EOC is located at the Garden Grove Annex.

The purpose of the EOC is to provide a facility from which the organization's response to an emergency can be coordinated effectively and to bring together all relevant information about the emergency in one place; organize that information into a useful format; and facilitate the coordination of resources needed to mitigate the effects of the emergency. The EOC will provide a single focal point for centralized activities, which include:

- Management of information;
- Decision making;
- Resource support; and
- Resource application.

Transit Operations and local managers, supported by the Security and Emergency Preparedness Department, are responsible for training employees on facility emergency management, emergency resources (e.g., telephone numbers, local vendors, location and inventory of emergency supplies, etc.), and response protocols of local agencies.

OCTA's Security and Emergency Preparedness Department develops, implements, and administers agency-wide security and emergency management programs and procedures for all the Agency's multi-modal operations and activities in accordance with federal, state, and local regulations, industry standards and the Agency's policies, including but not limited to:

- Emergency Operation Plan;
- System Security and Emergency Preparedness Plan (SSEPP)*; and
- Continuity of Operations Plan*.

****SSI information is available upon request and appropriate processing.***

The Security and Emergency Preparedness Department also improves emergency preparedness by evaluating responses to actual events. After action reviews are conducted for every emergency response. For major events where there are multiple injuries, property damage, or service disruption, formal review meetings are conducted and documented.

Emergency Exercises

The Security and Emergency Preparedness Department is responsible for organizing and oversight of the annual emergency preparedness drill. The exercise planning is a continuous process with preliminary plans for subsequent activities established as each exercise is planned and conducted. Recommendations and primary safety goals and objectives that OCTA wants to convey to the emergency response agencies are presented to the Security and Emergency Preparedness Department which determines the drill scenario and location each year.

The execution of these activities will function as part of OCTA's Safety Review Process and will serve to evaluate the emergency response capabilities and procedures of all involved parties. Scenarios are acted out to demonstrate, inform, and train OCTA personnel and emergency responders of their individual roles and responsibilities. Findings generated through these activities are documented, and corrective actions generated because of exercises, will be developed and tracked through Corrective Action Plan (CAP) completion.

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7. SAFETY ASSURANCE (673.27)

The Safety Assurance component describes how OCTA implements mitigations that are prudent and effective in addressing potential risk of identified hazards. Organizationally, safety related data is collected, analyzed by the SMS Program Manager, and transmitted to the SMS/PTASP Committee for the purpose of review, trending, and use by the Agency to support the review of safety objectives and goals.

7.1 Safety Performance Monitoring and Measurement 673.27 (b)(1)

Each OCTA department generates its own performance data used for detection of trends or problems prior to the development of major safety concerns. It is the task of OCTA's SMS Program Manager to monitor and measure the safety performance of the agency's operations through data provided from all OCTA departments and to report to the Chief Safety Officer and the PTASP SMS Committee quarterly.

OCTA's Occurrence Tracking System (OTS) is an electronic tool used to track and monitor safety data and objective performance. The OTS is a database that tracks an occurrence or condition, identifies the responsible party, and tracks an item's corrective/preventive actions to closure.

Selected data is accumulated and analyzed for ongoing trending and performance measurement, including fatalities, injuries to passengers and/or OCTA personnel, system reliability, and other safety related events. The SMS Program Manager reports the results of such data quarterly at the SMS/PTASP Committee meeting.

7.2 Hazard Mitigation Monitoring Process 673.27 (b)(2)

Monitoring and measurement establishes a baseline for a system; comparing the difference between the criteria and condition at a specific point in time. Once a baseline or goal is established through monitoring and measurement, data can be used as criteria in evaluating operations to reduce risk and hazard and overall safety objective/goal achievement. Ongoing monitoring is built into OCTA's operations, performed continually, and responsive to change. Ongoing monitoring includes regular management and supervisory activities, comparisons, reconciliations, and other routine actions.

OCTA's Operations Management and the Safety Department perform base safety inspections, record the walk, and document any observations.

OCTA, under the regulatory requirements established by the California Occupational Health and Safety Administration (Cal/OSHA), also utilizes an Injury and Illness Prevention Program (IIPP) to establish methods and processes to identify and eliminate unsafe conditions or practices and control workspace safety hazards. All other local, state, and federal regulations that govern safety compliance outside the jurisdiction of the FTA support the SMS efforts.

Safety Certification

Safety Certification is the process of verifying that safety requirements are included as early as the planning phase through the life of a project, ensuring the safety of customers, employees, emergency responders, and the public to aid in establishing a proactive approach towards hazard mitigation.

OCTA requires the Safety Certification process to be performed for major projects, rehabilitating or modifying existing systems, or to replace vehicles and equipment. Once the need for Safety Certification is identified, the process becomes part of the project, beginning with the preparation of the project specification and the design contracts. Safety objectives are considered during all activities of a project. Safety objectives include but are not limited to:

- Establish a formalized process that is sufficiently documented to verify compliance with safety requirements;
- Ensure safety is an integral part of the design, procurement, construction, testing, and operations;
- Ensure safety decisions are made by appropriate Project Managers, committees, and responsible contractors;
- Ensure any safety hazards and vulnerabilities that become apparent during reviews, audits, inspections, or system testing are resolved, either by redesign, use of safety/warning devices, or by implementation and enforcement of special procedures; and
- Ensure affected outside response agencies, including fire and police departments, are prepared to respond.

7.3 Accident Notification, Investigation, and Reporting 673.27 (b)(3)

Effective accident/incident investigation and reporting is key to identifying and eliminating hazards to prevent reoccurrence. To minimize and control the threat to life, health, and property, it is essential all appropriate parties be notified of an accident/incident as quickly as possible to ensure a timely response to the scene. Accident/incident reporting and investigation shall be conducted to ensure all accidents/incidents are investigated objectively with the goal of determining causal factors and contributing causal factors.

OCTA's Incident and Injury Investigation policy provides investigation criteria and guidelines for incidents that result in property damage, occupational injuries, environmental damage, or similar unforeseen harmful events. OCTA has an accident notification system (NOTO), Everbridge, which sends an email notification to key organizational personnel, including the Safety Department, regarding an incident or passenger/employee injury. When Central Communications gets a call notifying them of an incident or injury; Central Communications logs the call, generates an occurrence in OTS, and develops and distributes a NOTO. If necessary, in the event of an incident or injury, Emergency Response agencies will be dispatched immediately.

In the event of an accident/incident, a Field Supervisor has the responsibility to respond to the occurrence. The Field Supervisor will then report to his/her supervisor, who is responsible for notifying and updating the base management and Central Communications during the response

efforts. The report from the accident/incident or investigation is submitted to Base Management for review through the OTS. The reporting structure/responsibilities for accidents/incidence is outlined in OCTA's Employee Safety Responsibilities Matrix.

If during an onsite investigation/inspection, a concern arises that constitutes an immediate threat to safety, OCTA staff and management will halt the operation through "stop work authority" and respond immediately to reduce the safety hazard to an appropriate level using the safety risk mitigation processes. Any issues or findings are provided to the CSO and SMS Program Manager in writing for tracking safety performance and for inclusion in the quarterly SMS/PTASP Committee meeting report.

Corrective Action Resulting from Accident Investigation

Corrective Action Plans for accidents and incidents will follow the same procedures delineated in the Safety Risk Management section.

7.4 Drug and Alcohol Policy

OCTA has implemented the Federal Transit Administration Regulations as set forth in 49 CFR Part 655 and require testing for prohibited substances in the case of transit accidents. OCTA's process for conducting such testing is delineated in the OCTA Drug and Alcohol Policy Manual.

7.5 Internal Safety Reporting Program Monitoring 673.27 (b)(4)

OCTA currently records and reports safety data from operations and facilities to the CSO and SMS Program Manager; the data is recorded and reported to the SMS/PTASP Committee. The SMS Program Manager monitors the safety data for performance measurement and trending. Further, in accordance with the FTA NTD Safety and Security Policy Manual, the OCTA data is recorded and reported in accordance with federal regulations.

Internal Safety Audits

OCTA's current internal audit process is a proactive approach that verifies safety programs have been developed, implemented, and are effective. The internal audit process assesses the effectiveness of safety programs; identifies process deficiencies; identifies potential hazards in the operational system; identifies weaknesses in system safety programs; verifies prior corrective actions are being tracked for closure and evaluates their effectiveness; recommends system safety improvements; provides management with an assessment of the system safety program; and assures continuing evaluation of safety-related programs, issues, awareness, and reporting. OCTA's SMS practices and processes may be evaluated in whole or in part, during regularly scheduled internal audits and according to OCTA's Board approved audit plan.

OCTA will conduct its own independent audit of the PTASP and SMS practices according to the SSOA schedule and requirements, using adequately trained SMS staff, consultants, or contractors. OCTA will also participate in the FTA triennial reviews, providing trained and knowledgeable staff and/or consultants in SMS, OCTA's operational processes, and appropriate documentation of such processes, as requested by reviewers.

7.6 Management of Change 673.27 (c)

Stimuli for system changes and modifications originate both internally and externally and those changes may introduce new hazards and safety risks into transit operations. In either case, appropriate staff are assigned responsibility for managing and implementing the change and evaluating the change through the Safety Risk Management Process. This process demands coordination and cooperation within and between OCTA divisions, departments, and relevant outside agencies and organizations.

OCTA is establishing a process where all proposed changes will flow through the Change Control Committee and this process will be in accordance with OCTA's Configuration Management Policy.

The Configuration Management Policy sets up a Change Control Committee that meets monthly, or as needed, to evaluate proposed and/or potential changes affecting OCTA systems; these changes include those affecting system reliability, system maintainability, system upgrades, system expansions, ability to share information with other systems, and the ability to integrate with other systems. The Configuration Management Committee discusses project status, planned future projects, new business and assignments, safety impacts, potential hazards, and other relevant topics. The Configuration Management process accommodates changes and ensures documents, records, and data remain concise and valid.

It is important that safety requirements are included as early as the planning phase through the life of a project, ensuring the safety of customers, employees, emergency responders, and the public is considered. Safety objectives are incorporated into all projects in accordance with the Configuration Management Policy.

7.7 Continuous Improvement 673.27(d)

Evaluation of the SMS is necessary to ensure it effectively and efficiently allows OCTA to meet safety objectives and performance targets. OCTA uses the data and information collected from the subcomponents in this Safety Assurance section while conducting safety performance monitoring to address any identified deficits in SMS organizational structures, processes, and resources in a timely manner. OCTA strives for continuous improvement and recognizes this is a dynamic process and significant efforts within Safety Assurance and Safety Promotion are required to improve systems and practices to comply with SMS standards.

Data Analysis and Tracking

Safety-related data is collected, compiled, organized, stored, and maintained by individual departments, the data is then reported to, and analyzed by, the SMS Program Manager. Further, the information gathered during this process is reported to the PSMS/PTASP Committee by the SMS Program Manager and used by OCTA to identify hazards through trend analysis. If a trend is identified through the analysis, the trend is further investigated to determine the causes and tracked through resolution by the responsible department and the SMS Program Manager. Moreover, tracking of hazard-related data is used to identify trends; trends are further analyzed and/or investigated to determine causal factors. Identified hazards are categorized with corrective action recommendations. Corrective actions are tracked within the responsible department to closure using a hazard tracking log and reported to the SMS Program Manager.

Procurement Risk Mitigation

OCTA's Procurement Policy describes procedures to guide staff members, potential vendors, contractors, and suppliers with respect to procurement activities taken on behalf of OCTA, recognizing safety and asset protection as core business values.

Equipment, materials, and professional services for use by OCTA are procured based on safety and industry specifications provided by the user department. OCTA policies and procedures require management authorize all purchases. Requisitions are reviewed by the associated management of the requesting department for safety specifications and efficient and effective usefulness. Larger purchases require a contract developed under supervision of an associate management and are subject to approval by the Board. This assures all essential specification requirements, applicable standards and restrictions are included in the contract terms. Purchasing personnel are not authorized to modify the specifications or grant exceptions.

In its effort to ensure the procurement process considers and evaluates the safety aspects of services, equipment, and other materials obtained, OCTA includes safety specification requirements in all technical specifications and contracts. The Procurement Department requires all safety related purchase requests be reviewed and approved by the Project/Procurement Manager in consultation with the Safety Department.

Transit Asset Management (TAM)

TAM is a business model used to guide the prioritization of funding based on the condition of assets. TAM defines State of Good Repair as the condition of an asset to operate at full performance level: able to perform its designated function, does not pose an unacceptable safety risk, and its lifecycle investments have not been met or recovered. OCTA has adopted TAM as the official, institutional approach in managing infrastructure assets, making capital investment and operational expenditure decisions, and considers the results of its condition assessments while performing safety risk management and safety assurance activities. TAM data is provided to the SMS Program Manager for inclusion in the monthly SMS/PTASP Committee meeting agenda.

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8. SAFETY PROMOTION (673.29)

Safety Promotion fosters a positive safety culture and improves safety performance by increasing safety awareness through training and communication. Appropriate training for all employees regardless of their position within OCTA, provides knowledge for a successful SMS. Through communication of lessons learned and safety performance data, employees are made aware of safety priorities and concerns as they relate to their individual job tasks and the entire OCTA organization. Developing a safety culture requires regular training and ongoing promotion. The activities below must be continually implemented, reviewed, and updated.

8.1 Safety Training Program 673.29 (a)

With the implementation of the PTASP and SMS, OCTA has adopted a training program to ensure all employees are aware of the PTASP and SMS responsibilities. New employees will be trained while attending new employee orientation/onboarding and current employees will undergo SMS/PTASP familiarization training. All employees will sign-off verifying they have been trained in the SMS process and understand their role and responsibility.

Employees at all levels of the Agency need to understand 1) what SMS is, 2) how it supports OCTA's mission, and 3) what their specific individual SMS responsibilities are. OCTA has developed criteria to identify and provide skills training related to safe job performance to include initial and refresher training for all relevant job functions. Training includes measures for ensuring employees are competent to perform their safety-related duties.

OCTA has robust safety training programs including, but not limited to, the following:

- Student Coach Operator Training (SCOT)
- Operations new hire training
- Annual Required Training (ART)
- CAL/OSHA required training
- OCTA CORE 11 Safety Training
- Retraining based on performance deficits
- Maintenance new hire and ongoing training
- Maintenance tailgate meetings
- Safety Spotlights

Employees receive training related to the employee safety-reporting program during initial orientation training and are encouraged to use the identified mechanisms to report safety hazards, near misses, concerns, and issues. Bus operator and vehicle maintenance employee training programs provide opportunities for delivering SMS related training. OCTA's six-week formal new-hire bus operator training program curriculum includes classroom and behind-the-wheel training. Operator and mechanic training includes an eight-hour ART program to meet the requirements of a commercial driver's license. Maintenance employees receive extensive training

at hire and aggressive ongoing skills development training and refresher training on safety-related topics.

All SMS/PTASP safety-related classroom and on-the-job-training is appropriately documented within individual employee safety training records and can be accessed through the Learning Management System (LMS) and Records Management. Training documentation for operators and mechanics is kept within the individual departments and mandatory administrative training is documented through Halogen LMS software. All training records can be accessed upon request.

OCTA evaluates the effectiveness of its safety-related training through departmental inspections, compliance assessments, and audits. All formal training processes shall be reviewed and audited periodically, when an accident investigation lists training as contributory, when training becomes suspect during any hazard analysis process, or when summary student test scores indicate low instructional effectiveness. All training classes, training manuals, and lesson plans are subject to review and audit.

Safety-related training curriculum for all employees is updated to reflect new techniques, technologies, and results of investigations, corrective actions, and regulatory changes. OCTA provides training to employees on new equipment, technologies, and regulatory changes as necessary.

Emergency Response Planning, Coordination, and Training

The Security and Emergency Preparedness Department is responsible for providing a safe and secure environment with an “All-Hazards” approach based on preparedness, protection, response, and recovery. The Department ensures OCTA is compliant with required employee training in the National Incident Management System and the 9/11 Commission Act.

Operations managers are responsible for training employees on evacuation procedures, facility emergency management organization, emergency resources, response protocols of local response agencies, and the SMS.

Contractor Safety

Contractors are required to comply with all applicable State and Federal Regulations and those established by OCTA. Each contractor is responsible for and shall comply with all safety, fire, security policies, procedures, and safe work practices, as well as any other appropriate safety procedures specified in the contract. OCTA reserves the right to audit training activities at its discretion.

8.2 Safety Communication 673.29 (b)

OCTA has developed quantifiable goals to ensure performance can be tracked, evaluated, and measured for continued improvement and success. OCTA has established effective safety communication activities to ensure all employees and contractors are aware of the following goals and responsibilities:

- Continue growth and development of all OCTA SOPs, Policies, and Plans on an annual basis to ensure they reflect the current operating environment;
- Continue to grow SMS, allowing OCTA to systematically identify safety hazards, mitigate risk and reduce fatalities and injuries resulting from transit operations;
- Reduce the injury incidence rate by minimizing exposure to unsafe conditions and reducing hazardous employee behavior;
- Provide a safe and efficient transit operation by ensuring that all vehicles, equipment and facilities are regularly inspected, maintained and serviced as needed; and
- Achieve 100 percent of scheduled routine inspections, preventive and regular maintenance work is completed on time, and essential repairs addressed in a designated time.

Further, OCTA ensures employees and contractors are mindful of SMS responsibilities, processes, activities, and tools relevant to their responsibilities through the following communication platforms:

- Employee Safety Reporting;
- Safety meetings;
- Union meetings;
- Coach operator quarterly meetings with supervisors and managers;
- OCTA Intranet; newsletters, safety bulletins, audio-visual monitors in break rooms;
- Signage;
- Operator log-in messages;
- Text message alerts;
- Radio supervisor communication with operators;
- One-on-one communication between supervisors and frontline employees;
- Daily Maintenance Tailgate meetings;
- Meetings with contractors;
- Committee meetings;
- Safety emails and notifications;
- Safety captains;
- Base television displays and bulletin boards;
- Safety campaigns;
- Intranet postings.

As part of the SMS program, the SMS Program Manager collects data to provide performance reports and trend analysis to the SMS/PTASP Committee, to include: the types of safety actions taken, why safety procedures have been introduced or changed, and information related to significant accident and incident investigation outcomes. OCTA communicates employees' responsibilities in OCTA Staff Safety Roles and SMS Responsibilities Matrix, Appendix B.

8.3 SMS Documentation and Records 673.11 (c), 673.31

OCTA must at a minimum, maintain documents that set forth its PTASP, including those related to the implementation of its SMS, and results from SMS processes and activities. As part of

673.31 (d), OCTA will maintains all documentation regarding SMS and PTASP, including results. The documentation will be available upon request by the FTA or other federal entity having jurisdiction and to auditors. OCTA's SMS documentation will be maintained for three years, in accordance with FTA requirements and OCTA's Records Management.

OCTA has set up a SharePoint site application for all PTASP/SMS recordkeeping. The SharePoint site application allows for ease of document review, sharing, control, and archiving PTASP/SMS documents between authorized/applicable personnel. Documents on the SharePoint site may include but are not limited to: Draft and Final PTASP, meeting agendas, meeting minutes, audit reports, Emergency Management Plan, PTASP related correspondence, data reports, hazard analyses, corrective action logs, training, etc.

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**APPENDIX A
IMPLEMENTATION ACTIONS**

2020 IMPLEMENTATION ACTIONS

PTASP/FTA Code	Action Item	Timeline	Responsible Person / Group
673.23	Establish and implement PTASP/SMS Committee	Q1	HSEC/Planning
673.23	Establish safety performance targets and objectives	Q1	PTASP/SMS Committee
673.23	Engage the Contracted Services Management in PTASP expectations/requirements	Q1	HSEC / Operations
673.31	Establish a Documentation Control/Management System (Records Management)	Q1	Information Systems / HSEC
673.23	Implement PTASP through the Board of Directors	Q2 (May)	CEO/Planning/HSEC/Operations
5323	Submit Certification of Assurance to the FTA	Q2 (July)	Finance and Administration / Government Affairs / HSEC
673.23	Safety Management Policy Communication – existing and new employees	Q2	HSEC / HR / Operations
673.29	Establish SMS communication tools and strategy	Q3	HSEC / External and Internal Communications
	Expand on existing hazard reporting systems to include anonymous reporting	Q3	IS / HSEC / Operations
673.25	Identify and implement a Risk Assessment process (All new hazards)	Q4	PTASP/SMS Committee / Operations / HSEC
673.27	Establish a hazard/risk mitigation monitoring process	Q4	PTASP/SMS Committee / Operations / HSEC
673.27	Establish a single data depository for safety and SMS data <ul style="list-style-type: none"> - Create dashboard for summary and real time analysis - Safety performance monitoring and measuring 	Q4	Information Systems / HSEC / Operations
673.29	Identify and establish SMS training requirements for OCTA staff and contractors	Q4	HSEC / Learning & Development / Operations
673.27	Conduct a safety culture survey to assess existing status	Q4	HSEC / HR

2021-2023 IMPLEMENTATION ACTIONS

PTASP/FTA Code	Action Item	Timeline	Responsible Person / Group
673.27	Annual PTASP review and updates	Q2 2021 (June)	CEO / Chief Safety Officer / SMS/PTASP Committee
673.23	Incorporate OC Streetcar into the PTASP and submit draft to the CPUC for review/approval	Q2 2021 (April)	HSEC / Operations
673.23	Submit updated PTASP through the Board of Directors to OC Streetcar detail	Q2 2021 (July)	CEO / HSEC / Operations
673.27	Independent PTASP/SMS audit utilizing contractor, consultant, or other organization	Q2 2022 (June)	HSEC / Internal Audit
673.25	Complete a formal risk analysis for existing operational hazards	Q4 2022	HSEC / Operations
673.27	FTA Triennial Review to include PTASP/SMS	Q4 2022	Government Relations / HSEC / Operations

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**APPENDIX B
HAZARD MANAGEMENT PROCESS-IDENTIFICATION/ANALYSIS**

OCTA facilities require System Safety be effective in helping identify and minimize hazards, in a mature operational environment. Hazardous conditions are identified, investigated and resolved to an acceptable level. The PTASP, this Hazard Identification/Analysis Process document, and the associated system safety tasks, provide for a method of identifying, analyzing, assessing, and resolving conditions or circumstances that are deemed to present a threat to the safe operation of OCTA transit system.

This Hazard Analysis document incorporates proven methods of tests and inspections employed by each OCTA division and department, enabling the examination of all aspects of operation and review of their interdisciplinary ramifications. This provides management with hazard and risk visibility and the causes and effects of potential accidents. In addition, continual monitoring verifies the total system, including but not limited to patrons, the public, employees, contractors, equipment, the environment; OCTA maintains an acceptable level of safety, and that potential hazards do not exist in operational areas previously determined to be safe.

Hazard identification and resolution is a core element of the PTASP and this Hazard Identification/Analysis document, emphasizing timely correction of unsafe conditions, anticipated and reconciled before serious accident, injury, or damage occurs. To ensure it provides as safe and reliable transportation services as possible, OCTA has established a process by which hazards are identified, analyzed for potential impact on the operating system, and resolved in a manner acceptable to OCTA's management and applicable regulatory agencies.

OCTA management, staff, contractors, and suppliers are required to implement high standards of safety and system assurance throughout the design, construction, testing, and operational phases of OCTA's projects. Hazards, which cannot be eliminated in the design, are to be controlled by safety devices, warning devices, training, and/or written procedures to prevent mishaps. Most hazards are identified in the field, reported, and entered in reports. These hazards are addressed by the responsible departments through routine corrective measures and do not require special attention.

Hazard Identification

Hazard identification is accomplished as Department Managers collect and analyze data to monitor trends. Unless additional resources are requested, the Department Manager investigates and resolves all hazards within their department. OCTA Department Managers review reports daily from the previous days' operation. Immediate corrective action is initiated when appropriate; otherwise, data is evaluated and used to set the agenda for the next PTASP/SMS Committee meeting. The SMS Program Manager prepares a trend analysis report for PTASP/SMS meeting. Trend analysis reports are reviewed at PTASP/SMS Committee meetings. Additionally, each Department Manager reviews departmental reports and shift change briefings for the previous operational period and makes a similar evaluation for their department.

OCTA documents hazards that develop through multiple sources, such as: accidents, incidents, and leading indicators. OCTA also evaluates hazards to determine if multiple events occurred leading up to an event. This ensures each possible cause is evaluated and documented for trending purposes. To address hazards resulting from system extensions or modifications, operational and other changes, safety analyses included in design and procurement contracts will provide for:

- Identification of potential hazards;
- Assessment of the severity and probability of occurrence of each potential hazard;
- Timely awareness of hazards for those who must resolve them; and
- Tractability and control of hazards through all phases of a project's life cycle.

Hazard Investigation and Reporting

Hazards which are not resolved at the operating, maintenance, or other front-line department level are appropriately investigated by the CSO, assisted by the responsible Operations Department. Investigation findings are documented and reported to the CSO for resolution.

Safety Risk Assessment

Hazard severity categories are defined to provide a qualitative measure of the worst credible mishap resulting from personnel error; environmental conditions; design inadequacies; and procedural deficiencies for a system, subsystem, or component failure or malfunction. The probability a hazard will occur during the planned life expectancy of the system element, subsystem, or component can be described subjectively in potential occurrences per unit of time, event, population, items, or activity. A qualitative hazard probability may be derived from research, analysis, and evaluation of historical safety data from the same or similar systems. Supporting rationale for assigning a hazard probability are documented in hazard analysis reports.

The objective of hazard identification and analysis is to identify and define as many hazardous conditions as possible and enter them into the Hazard Resolution process before those conditions or associated actions cause or contribute to an accident. Although it is virtually impossible to identify every hazard, there are two basic time-tested methods for orderly identification of hazards: inductive and deductive. The inductive hazard identification method consists of an analysis of system components to identify their respective failure modes and the effects they will have on the total system. This method assumes the failure of single elements or events and, through analysis, determines the potential consequential effects on the system or subsystem. The techniques commonly used for inductive hazard identification include:

Preliminary Hazard Analysis (PHA) – is a semi-quantitative analysis performed to identify potential hazards and accidental events that may lead to an accident, rank the identified accidental events according to their severity, and identify required hazard controls and follow-up actions.

Sub-System Hazard Analysis (SSHA) – is a safety analysis tool for identifying hazards, their associating causal factors, effects, level of risk, and mitigation design measures.

Operating Hazard Analysis (OHA) - is performed to determine all applicable operational safety requirements for personnel, procedures, and equipment throughout all phases of the system life cycle. Engineering data, procedures, and instructions developed from other safety analyses, the engineering design, and initial test programs are all used to support this analysis. Operating hazards are generally resolved in preparation for operations by way of training, developing operating procedures, and developing emergency operating procedures.

These types of hazard analyses may also be utilized by OCTA during major capital projects, system modifications, system changes that require Safety / Security Certification, or as determined by the CSO.

The deductive hazard identification method involves defining an undesired effect or event and then deducing the possible conditions or system component faults (or combinations thereof) which are necessary to cause the undesired effect or event.

Hazard Analysis Methodology

The hazard analysis methodology has two steps: evaluating hazard severity (categorizing the hazard) and evaluating hazard probability.

Hazard Severity

OCTA assigns a hazard severity rating based on the definitions in MIL-STD-882E. It is a subjective determination of the worst case that could be anticipated to result from design inadequacies, human error, component failure or malfunction. The ratings are:

Category 1, Catastrophic - Operating conditions are such that design deficiencies, human error, element, sub system or component failure or procedural deficiencies may cause death or major system loss and require immediate termination of the unsafe activity or operation.

Category 2, Critical - Operating conditions are such that design deficiencies, human error, element, sub system or component failure or procedural deficiencies may cause severe injury, severe occupational illness or major system damage and require immediate corrective action.

Category 3, Marginal - Operating conditions are such that they may result in minor injury, occupational illness or system damage and are such that human error, subsystem or component failures can be counteracted or controlled.

Category 4, Negligible - Operating conditions are such that human error, subsystem or component failure or procedural deficiencies will result in less than minor injury, occupational illness or system damage.

Hazard severity categories are defined to provide a qualitative measure of the worst credible mishap resulting from personnel error, environmental conditions, design inadequacies, and procedural deficiencies for a system, subsystem or component failure or malfunction. It reflects the principle that not all hazards pose an equal amount of risk to personnel safety.

Hazard Severity Index

HAZARD SEVERITY		
Category	Severity	Characteristics
1	Catastrophic	Death or system loss
2	Critical	Severe injury, severe occupational illness or major system damage
3	Marginal	Minor injury, minor occupational illness or minor system damage
4	Negligible	Less than minor injury, occupational illness or system damage

Hazard Probability

The probability that a hazard will occur during the planned life expectancy of the system element, subsystem, or component can be described subjectively in potential occurrences per unit time, event, population, items or activity. A qualitative hazard probability may be derived from research, analysis and evaluation of historical safety data from the same or similar system. OCTA assigns a probability rating to a particular event or a specific hazard occurring during the planned life expectancy of the operating system. Supporting rationale for assigning a hazard probability is documented in hazard analysis reports.

Hazard Probability Index

HAZARD PROBABILITY			
Description	Level	Specific Individual Event	Fleet/ Inventory
Frequent	A	Likely to occur frequently	Continuously experienced
Probable	B	Will occur several times in the system's lifecycle	Will occur frequently
Occasional	C	Likely to occur sometime in the system's lifecycle	Will occur several times
Remote	D	Unlikely, but possible to occur in the system's lifecycle	Unlikely, but can be expected to occur
Improbable	E	So unlikely it can be assumed occurrence may not be experienced	Unlikely to occur but possible
Eliminated	F	Eliminated	

Hazard Categorization (Identified by Hazard Risk Index)

Through the established process, OCTA will assess the level of risk for each identified hazard to determine what action(s) must be taken to correct or document the hazard risk. This risk assessment system is incorporated into the formal analysis which enables the CSO and CEO, if concurrence is necessary, to understand the amount of risk involved in accepting the hazard in relation to the cost (schedule, dollars, operations, etc.) to reduce the hazard to an acceptable level.

The Hazard Risk assesses the risk based upon hazard category and probability and the criteria for defining further actions based upon the index.

OCTA applies its collective, deductive reasoning and/or may utilize a method represented by MIL-STD-882E. The information is compiled, and any necessary statistics or trend information is entered into the permanent file.

Hazard Risk Index

HAZARD RISK INDEX				
	1	2	3	4
Frequency of Occurrence	Catastrophic	Critical	Marginal	Negligible
(A) Frequent	1A	2A	3A	4A
(B) Probable	1B	2B	3B	4B
(C) Occasional	1C	2C	3C	4C
(D) Remote	1D	2D	3D	4D
(E) Improbable	1E	2E	3E	4E
(F) Eliminated	Eliminated			

When the Hazard Severity Index is combined with the Hazard Probability Index, the result is the Hazard Risk Index. Each Hazard Risk Index requires a specific level of action. Actions will be taken to eliminate identified hazards or reduce the associated risk. A hazard with a risk index of "Unacceptable" is not permitted and must be redesigned or modified to eliminate or minimize and control the hazard to a more acceptable level.

Hazard Acceptance Criteria

HAZARD ACCEPTANCE CRITERIA			
Hazard Risk Index		Decision Authority	Special Conditions
	1A, 1B, 1C, 2A, 2B	Unacceptable	Requires review by CSO and Executive Director
	1D, 2C, 3A, 3B	Undesirable	Requires review by CSO and Executive Director
	1E, 2D, 2E, 3C, 3D, 3E, 4A, 4B	Acceptable with Review	Requires review by CSO
	4C, 4D, 4E	Acceptable	Determination made by Manager, No Review Required
	1F, 2F, 3F, 4F	Eliminated	Eliminated

Hazard Control and Elimination

Before implementation of any corrective action, system safety analyses establish a hazard severity category (1 through 4) and a probability ranking (A through E) which are combined to form a Risk Index, reflecting both severity and probability of occurrence for each identified hazard. The range of possible Risk Indices is shown in the above Sample Hazard Evaluation, Analysis, and Resolution Matrix.

Hazard Risk Indices

Risk assessment criteria will be applied to the identified hazards based on their estimated severity and probability of occurrence to determine acceptance of the risk or the need for corrective action to further reduce the risk.

Action will be taken to eliminate identified hazards or reduce the associated risk. Catastrophic and critical hazards will be eliminated, or their associated risk reduced to an acceptable level. If this is impossible or impractical, alternatives will be recommended for the appropriate decision-making Hazard Resolution and Control.

OCTA shall use the Hazard Resolution and Control process as described below. The process involves the analysis and corrective action taken to reduce the risk associated with an identified hazard to the lowest practical level. The order of precedence resolving identified hazards is as follows:

- **Design for Minimum Risk.** Design new facilities and equipment to eliminate hazards. If an identified hazard cannot be eliminated, its associated risks must be reduced to an acceptable level (see Risk Assessment Criteria) through the design selection.

- **Utilization of Safety Devices.** If an identified hazard cannot be eliminated, or its associated risk cannot be reduced through design selection, that risk must be reduced to an acceptable level using protective safety features or devices. Provision is made, and procedure is issued for periodic inspection and functional checks of safety devices.
- **Warning Devices.** When neither design nor safety devices can effectively eliminate identified hazards or reduce risk to an acceptable level, warning devices are used to detect the condition and produce an adequate warning signal to alert individuals to the hazard. Warning devices are standardized to minimize the probability of incorrect reaction of personnel to these warning signals.
- **Develop Special Procedures and Training.** When it is impossible or impractical to eliminate hazards through design selection or adequately reduce its associated risks through safety or warning devices, then approved procedures and special training programs are used. Procedures may include the use of personal protective equipment. Precautionary notations and warning signs are standardized. OCTA employees who perform critical tasks require certification of personal proficiency.

Warning, caution, and other forms of written advisories cannot be used as the only method of risk reduction for Category 1 (Catastrophic) and Category 2 (Critical) hazards.

Facility and system contract documents require that contractors/suppliers solve hazards in accordance with this list, in order of precedence. Specifications include the requirement for contractors/suppliers who provide system, subsystem or equipment during construction to establish and maintain a safety program. These programs, at a minimum, define objectives, tasks, procedures, schedules, and data submittal for the safety activities that are performed by the contractor/supplier. The safety program and supporting documentation are subject to review and approval by OCTA.

Hazards identified within the system are evaluated by the Safety Committee, appropriate staff and eliminated and controlled to a level acceptable to OCTA. As part of the hazard resolution process, reports summarizing status of safety issues and concerns are prepared and distributed to OCTA's management and other project participants for review and comment.

The Accountable Executive or CSO has authority to implement any change that has system safety implications. Accordingly, all hazard identification and analysis proceedings result in the issuance of a report by Safety to the Accountable Executive. The report is prepared by Safety and includes all pertinent data developed on the identified hazard. A recommendation achieved by consensus must be included, regardless of whether this recommendation is for a change in existing conditions or procedures, or for retention of the status quo. Any disagreement on the matter, or suggested negative ramifications of the recommendation, must also be included, to present as much information as possible to the Accountable Executive.

Hazards identified within the system are to be evaluated by appropriate staff and eliminated or controlled to an acceptable level. The following schedule has been developed to ensure the optimum level of safety is achieved through the expeditious resolution of hazards. All hazard levels

are reviewed by appropriate staff. In the event the hazard has been categorized as UNACCEPTABLE, the CSO is responsible for maintaining the necessary information, notifications and Corrective Action Plans.

HAZARD RESOLUTION SCHEDULE	
Criterion	Resolution Timetable
Unacceptable	Must be eliminated as soon as possible; there is no other option.
Undesirable	Must be resolved in 30 working days
Acceptable with review	Must be resolved in 30 working days
Acceptable	Notification within 30 working days
Eliminated	No notification required

Hazard Tracking

OCTA will utilize a hazard tracking log which consists of the following information and is maintained by the CSO:

- Assigned hazard number;
- Date hazard identified;
- Hazard title;
- Hazard description;
- Sources from which it was identified;
- The element of OCTA's operation affected by the hazard;
- Initial hazard classification;
- Current hazard classification; and
- Corrective action plan.

The hazard tracking log is updated monthly or as requested. All captured data is analyzed for the identification of developing trends to ensure future safety risks/hazards can be mitigated and/or eliminated.

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APPENDIX C

PTASP RELATIONSHIP TO OTHER FEDERAL REGULATIONS

Public Transportation Safety Program Rule- 49 U.S.C. § 5329

The Public Transportation Safety Program Rule establishes substantive and procedural rules for FTA’s administration of the Public Transportation Safety Program authorized by 49 U.S.C. § 5329. The rule establishes FTA’s Safety Management Systems (SMS) approach to the development and implementation of the Safety Program. Further, it sets rules of practice for the FTA’s enforcement authority and describes the contents of a National Public Transportation Safety Plan.

National Public Transportation Safety Plan (NPTSP)- section 5329(b)

Through the NPTSP, the FTA has adopted the principles and methods of SMS as the basis for enhancing the safety of public transportation in the United States. The NPTSP is a policy document, communications tool, and a repository of standards, guidance, best practices, tolls, technical assistance, and other resources.

OCTA’s PTASP was written in accordance to the Public Transportation Safety Program Rule and the NPTSP was a core document in outlining OCTA’s SMS.

Public Transportation Agency Safety Plan (PTASP) Rule- 49 CFR Part 673

The Federal Transit Administration (FTA) published a final rule for PTASP as authorized by the Moving Ahead for Progress in the 21st Century Act (MAP-21). This final rule requires States and certain operators of public transportation systems that receive Federal financial assistance under Urbanized Area Formula Program (49 U.S.C. § 5307) to develop safety plans that include the processes and procedures to implement Safety Management Systems (SMS). Transit operators must certify they have a safety plan, meeting the requirements of the rule, in place by July 20, 2020. OCTA is on schedule to meet the July 20, 2020 deadline and, to remain compliant, will review and revise the Plan annually and have it certified by the OCTA Board.

The safety plan requirements for rail transit agencies under FTA’s original State Safety Oversight Rule (49 C.F.R. Part 659) implemented system safety through 21 specific requirements for System Safety Program Plans (SSPPs). The major focus of system safety is to integrate risk management into the overall system engineering process rather than addressing hazards as day-to-day operational considerations. The PTASP replaces the current OCTA BSSPP. Once the “OC Streetcar” is in operation in 2022, OCTA will be fully responsible to the requirements and for having related practices reviewed by the appropriate State Safety Oversight program.

State Safety Oversight (SSO) Rule- 49 CFR Part 674

On March 16, 2016, FTA issued a final rule for State Safety Oversight (SSO) to oversee the safety of rail fixed guideway public transportation systems, and entities that own or operate rail fixed

guideway public transportation systems with Federal financial assistance authorized under 49 U.S.C. Chapter 53.

The State Safety Oversight Agency (SSOA) has authority to review, approve, oversee, and enforce the Public Transportation Agency Safety Plan for a rail fixed guideway public transportation system required by 49 U.S.C. 5329(d). The SSOA has investigative and enforcement authority with respect to the safety of all rail fixed guideway public transportation systems within the State.

Once the OC Streetcar initiates revenue operations, at least once every three years, the SSOA will audit OCTA's compliance with the Public Transportation Agency Safety Plan required by 49 U.S.C. 5329(d). At least once a year, the SSOA reports the status of the safety of each rail fixed guideway public transportation system to the Governor, the FTA, and the Board of Directors, or equivalent entity, of the rail fixed guideway public transportation system. The FTA will audit each State's compliance at least triennially, consistent with 49 U.S.C. 5329(e)(9).

Transit Asset Management (TAM) Rule- 49 CFR Part 625

Through the implementation of its TAM Plan, required under 49 C.F.R. Part 625, OCTA can consider the results of its condition assessments while performing safety risk management and safety assurance activities. The PTASP final rule applies to only Section 5307 recipients and sub-recipients, and the TAM rule applies to all operators of public transit. However, the two plans can support one another by providing useful data for agency use and NTD reporting.

The results of TAM condition assessments, and subsequent SMS analysis can help prioritize a transit agency's TAM Plan elements. Condition assessments help identify potential safety issues, which could undergo a safety risk assessment as part of Safety Risk Management (SRM). Further, TAM data and analysis can also be used for performance monitoring and measurement as part of Safety Assurance. Results of safety risk assessments and safety performance monitoring and measurement can guide the prioritization of an asset for repair or replacement. OCTA is responsible for both the TAM Plan and the PTASP and can benefit by coordinating efforts and data.

Public Transportation Safety Certification Training Program Rule- 49 CFR Part 672

The Safety Certification Training Program establishes a curriculum and minimum competencies for Federal, SSOA personnel and contractors who conduct safety audits and examinations of rail fixed guideway public transportation systems, and for designated transit agency personnel and contractors who are directly responsible for safety oversight of a recipient's rail fixed guideway public transportation systems. The final rule for the Safety Certification Training Program replaces an interim program which became effective on May 28, 2015. OCTA should continue to educate individuals whom are directly responsible for SMS or are directly responsible for safety oversight to ensure compliance.

National Transit Database (NTD) Rule 49 U.S.C 5335(a)

Transit agency's receiving funding from the Urbanized Area Formula Program (5307) or Rural Formula Program (5311) are required to submit data to the NTD in uniform categories. OCTA submits reports to NTD each fiscal year. The PTASP rule and NTD reporting rule are related, as both rules require OCTA to track data based on the same data points; fatalities, injuries and safety events per total revenue vehicle mile by mode, with the additional requirement of mean distance between major mechanical failures.

The following table is a summary of FTA safety regulations, which impact the PTASP, requiring OCTA compliance.

FTA SAFETY REGULATIONS

Regulation	Overview
Public Transportation Safety Program Rule CFR Part 670	Establishes the procedural rules for enforcement of FTA's safety programs.
National Public Transportation Safety Plan 49 U.S.C. 5329	Manages the safety risks and safety hazards within public transportation systems.
Public Transportation Agency Safety Plan 49 CFR Part 673	Requires transit agencies to develop and implement safety plans based on SMS principles, performance targets.
State Safety Oversight 49 CFR Part 674	Strengthens state oversight of rail transit systems.
Transit Asset Management 49 CFR 625	TAM Plan establishes state of good repair performance measures and targets NTD reporting.
Public Transportation Safety Certification Training Program 49 CFR Part 672	Establishes training curriculum to ensure basic level of safety-related competency for rail transit system auditing and oversight.
National Transit Database 49 U.S.C. 5335(a)	Reporting system, using uniform categories to accumulate public transportation financial, operating, and asset condition.

Source: <https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/regulations-and-guidance>

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APPENDIX D

REFERENCED AND RELATED DOCUMENTS

Configuration Management Policy
Continuity of Operations Plan (COOP)
Drug and Alcohol Policy
Drug and Alcohol Policy Manual
Ethicspoint Policy
Emergency Operation Plan (EOP)
Hazard Identification/Analysis
Injury and Illness Prevention Program
Internal Audit Policy
NTD Reporting Policy
Procurement Policy
Records Management Policy
System Security and Emergency Preparedness Plan (SSEPP)
Safety Review Process
SMS/PTASP Committee Policy
Transit Asset Management Plan