Kanawha Valley Regional Transportation Authority (KVRTA)

Public Transportation Agency Safety Plan (PTASP)

Developed in Coordination With

West Virginia Department of Transportation (WVDOT)

November 18, 2021

Contents

Revisions

Version	Notes
Rev. 0	Initial PTASP developed September 2019 by WVDOT and Transportation Resource Associates, Inc. in consultation with KVRTA management.
Rev. 1	PTASP finalized October 2019 by Transportation Resource Associates, Inc. after review and comment by KVRTA management.
Rev. 2	Correction of typographical errors after final review.
Rev. 3	Update changes in staff. Revise Safety Performance Target for Demand Response Service.

Acronyms

AIP	Accident Investigation Procedure
CFR	Code of Federal Regulations
FTA	Federal Transit Administration
KVRTA	Kanawha Valley Regional Transportation Authority
MPO	Metropolitan Planning Organization
NEO	New Employee Orientation
NPTSP	National Public Transportation Safety Plan
OJT	On-the-job Training
PTASP	Public Transportation Agency Safety Plan
RIC	Regional Intergovernmental Council
SMS	Safety Management System
SPIDER	Safety & Security Planning Information Directed to Effective Response Tool
WVDOT	West Virginia Department of Transportation

Definitions

Accountable Executive means 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. The Executive Manager is KVRTA Accountable Executive.

Director of Planning, Grants and Compliance means 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.

Consequence means the potential outcome(s) of a hazard.

Equivalent Authority means an entity that carries out duties similar to that of a Board of Directors, for a recipient or subrecipient of FTA funds under 49 U.S.C. Chapter 53, including sufficient authority to review and approve a recipient or subrecipient's Public Transportation Agency Safety Plan.

Event means any Accident, Incident, or Occurrence.

FTA means the Federal Transit Administration, an operating administration within the United States Department of Transportation.

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

Investigation means the process of determining the causal and contributing factors of an accident, incident, or hazard, for the purpose of preventing recurrence and mitigating risk.

National Public Transportation Safety Plan means the FTA plan to improve the safety of all public transportation systems that receive federal financial assistance under 49 U.S.C. Chapter 53.

Operator of a public transportation system means a provider of public transportation as defined under 49 U.S.C. 5302(14).

Performance measure means an expression based on a quantifiable indicator of performance or condition that is used to establish targets and to assess progress toward meeting the established targets.

Performance target means 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.

Probability means the likelihood that hazard consequences might occur, considering the worst foreseeable condition.

Public Transportation Agency Safety Plan means the documented comprehensive agency safety plan for a transit agency that is required by 49 U.S.C. 5329 and this part.

Risk means the composite of predicted severity and likelihood of the potential effect of a hazard.

Risk mitigation means a method or methods to eliminate or reduce the effects of hazards.

Safety Assurance means processes within a transit agency's Safety Management System that functions to ensure the implementation and effectiveness of safety risk mitigation, and to ensure that the transit agency meets or exceeds its safety objectives through the collection, analysis, and assessment of information.

Safety Management Policy means a transit agency's documented commitment to safety, which defines the transit agency's safety objectives and the accountabilities and responsibilities of its employees in regard to safety.

Safety Management System (SMS) means the formal, top-down, organization-wide approach to managing safety risk and assuring the effectiveness of a transit agency's safety risk mitigation. SMS includes systematic procedures, practices, and policies for managing risks and hazards.

Safety Management System (SMS) Executive means a Chief Safety Officer or an equivalent.

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

Safety Promotion means a combination of training and communication of safety information to support SMS as applied to the transit agency's public transportation system.

Safety risk assessment means the formal activity whereby a transit agency determines Safety Risk Management priorities by establishing the significance or value of its safety risks.

Safety Risk Management means a process within a transit agency's Public Transportation Agency Safety Plan for identifying hazards and analyzing, assessing, and mitigating safety risk.

Severity means the anticipated effects of a consequence, should it materialize, considering the worst credible condition.

Small public transportation provider means a recipient or subrecipient of federal financial assistance under 49 U.S.C. 5307 that has 100 or fewer vehicles in peak revenue service and does not operate a rail fixed guideway public transportation system.

State of good repair means the condition in which a capital asset is able to operate at a full level of performance.

Transit agency means an operator of a public transportation system.

Transit Asset Management Plan means the strategic and systematic practice of procuring, operating, inspecting, maintaining, rehabilitating, and replacing transit capital assets to manage their performance, risks, and costs over their life cycles, for the purpose of providing safe, cost effective, and reliable public transportation, as required by 49 U.S.C. 5326 and 49 CFR part 625.

1. Introduction / General Information

1.1 About KRT

The Kanawha Valley Regional Transportation Authority (KVRTA) is a regional transportation authority that provides transit service in Kanawha County and portions of Fayette and Putnam Counties, encompassing a service area of approximately 913 square miles. KVRTA operates both fixed route bus service and paratransit bus service known as Kanawha Alternative Transit (KAT).

KVRTA provides service seven days per week from 4:25 a.m. until 12:55 a.m. the following day. The KVRTA's paratransit service operates during the same days and hours of service as the bus fixed routes.

KVRTA's administrative and maintenance headquarters is in Charleston, West Virginia. The multi-use Laidley Street Transit Mall in Charleston serves as the hub and transfer center for all the KVRTA's routes.

The agency operates a fleet of 49 buses for fixed-route service. Its bus fleet consists of standard 30- and 35-foot transit coaches, minibuses, and a trolley. KVRTA also has 13 cutaway vans which it operates for its KAT paratransit service.

1.2 Safety Management Systems and the KVRTA PTASP

The KVRTA Public Transportation Agency Safety Plan (PTASP) is a comprehensive agency safety plan for the agency required by 49 United States Code 5329 and 49 Code of Federal Regulations (CFR) Part 673. KVRTA's PTASP is organized according to Safety Management Systems (SMS) principles in accordance with the requirements of Part 673. As identified in the Definitions section of this document, SMS is a formal, top-down, organization-wide approach to managing safety risk and assuring the effectiveness of a transit agency's safety risk mitigation. SMS includes systematic procedures, practices, and policies for managing risks and hazards, and consists of four primary elements:

- **Safety Management Policy:** A transit agency's documented commitment to safety, which defines the transit agency's safety objectives and the accountabilities and responsibilities of its employees in regard to safety.
- **Safety Risk Management**: A process within a transit agency's Public Transportation Agency Safety Plan for identifying hazards and analyzing, assessing, and mitigating safety risk.
- **Safety Assurance:** A process within a transit agency's Safety Management System that functions to ensure the implementation and effectiveness of safety risk mitigation, and to ensure that the transit agency meets or exceeds its safety objectives through the collection, analysis, and assessment of information.
- **Safety Promotion**: A combination of training and communication of safety information to support SMS as applied to the transit agency's public transportation system.

The four elements of SMS work together in a unified, agency-wide system for management and control of safety hazards.

2 Safety Policy

2.1 Safety Policy Statement

Safety is always a priority for the Kanawha Valley Regional Transportation Authority (KVRTA) as well as a concern for all public transit operators in the state of West Virginia. Safety is an issue that affects every aspect of West Virginia public transportation. Identifying and addressing potential threats and hazards can save lives, reduce injuries and reduce costs. Each West Virginia transportation system must designate safety as its top priority.

Consistent with requirements established by both the Federal Transit Administration (FTA) in 49 CFR Part 673 and the National Public Transportation Safety Plan (NPTSP), as well as by the West Virginia Department of Transportation (WVDOT), to address safety in all aspects of our organizational development, the Kanawha Valley Regional Transportation Authority (KVRTA) has developed this Public Transit Agency Safety Plan (PTASP). The PTASP, structured around the Safety Management System (SMS) framework, outlines the process used by our agency to make informed decisions that are appropriate for our operations, passengers, employees and communities regarding the development and implementation of a comprehensive safety program.

This PTASP is designed to be used in conjunction with the expanded and revised WVDOT SPIDER document, the SPIDER document being WVDOT's manual to assist the state's public transit operators with ensuring the safety and security of their operations. This PTASP references the SPIDER document in terms of specific content on planning, preparing, and responding to our mission. This PTASP and the SPIDER are complementary tools used by KVRTA in the enhancement of our system's safety program. As a result of this effort, KVRTA achieves not only an effective physical security program, but also enhances our associations with the local public safety agencies in our service area. Improved communication increases their awareness of our resources and capabilities and improves our readiness to support their efforts to manage community-wide emergencies, including, accidents and incidents, acts of nature, hazardous materials, criminal activity, and domestic or international terrorism.

The activities documented in this PTASP focus on establishing responsibilities for safety identifying our methodology for documenting and analyzing potential safety issues and developing the management system through which we can track and monitor our progress in addressing these issues.

KVRTA management is fully committed to ensuring that the employee safety reporting processes established within this plan allow all employees to report safety hazards to senior management without fear of retribution. Except in the instance of willful safety rule violations, KVRTA employees reporting safety hazards via the methods established in this plan shall not be subject to disciplinary action.

The development and use of this PTASP by KVRTA is an integral part of our proactive program to ensure the safety of our employees, passengers, communities, state, and nation. This PTASP meets the safety standards we have set for our own agency and is consistent with the expectations of WVDOT and the FTA.

_Sean D. Hill_____ November 18, 2021

Executive Director/Accountable Executive Date

_Todd Goldman_____ November 18, 2021

President, KVRTA Board of Members Date

2.2 Safety Policy Development, Review, and Updates

KVRTA's PTASP, including the Safety Policy Statement, is reviewed on an annual basis to ensure it remains relevant and appropriate to the agency's safety objectives and safety performance targets. The plan is distributed to the KVRTA Board of Members, all KVRTA department directors and managers, and all members of the safety committee. Employees are encouraged to provide comments on any part of the plan that they believe is inadequate or inappropriate. Modifications to the plan will take place under the direction of Director of Planning, Grants and Compliance. Annually, the Director of Planning, Grants and Compliance will identify and propose any necessary modifications to the PTASP. Revisions and modifications will be presented to the Executive Director for review and approval. Minor changes can be implemented under the direction of the Director of Planning, Grants and Compliance. The annual review process will be submitted to the Board when changes are necessary. Both the Board President and Accountable Executive will sign the Safety Policy Statement to indicate approval. If the KVRTA Board of Members does not approve of the content of the agency's Safety Policy, the KVRTA Board and agency executive management will coordinate to revise the Safety Policy as needed and address any concerns while ensuring the PTASP remains fully compliant with the requirements of 49 CFR Part 673. On an annual basis, KVRTA certifies through the FTA's existing Certifications and Assurances process that the agency has maintained a PTASP consistent with Part 673 and operates its system in full compliance with the PTASP.

As a component of the annual PTASP review, KVRTA communicates its safety performance targets to the State of West Virginia and points of contact from the Regional Intergovernmental Council (RIC), the Metropolitan Planning Organization (MPO) within the KVRTA service area, to aid in the planning process. In coordination with the State and MPO, KVRTA may adjust its safety performance targets or develop new safety performance targets for tracking and monitoring by the agency.

2.3 Safety Goals, Objectives, and Targets

KVRTA has established numerical safety objectives and performance targets consistent with the categories required under the National Public Transportation Safety Plan. These objectives and targets serve as benchmarks for measuring the effectiveness of KVRTA's safety performance monitoring activities.

Safety performance targets for **Bus Service**, informed by the safety performance measures established by the National Public Transportation Safety Plan, include:

Safety Performance Category	Target
Fatalities (total number of NTD-reportable fatalities and rate per total vehicle revenue miles by mode)	Less than .05 per 1,000,000 vehicle revenue miles
Injuries (total number of NTD-reportable injuries and rate per total vehicle revenue miles by mode)	Less than 10 major/minor injuries per 1,000,000 vehicle revenue miles
Safety events (total number of NTD-reportable events and rate per total vehicle revenue miles by mode)	Less than 10 major/minor reportable events per 1,000,000 vehicle revenue miles

System reliability (measured as revenue miles operated divided by the number of major mechanical failures)	Distance between Major Failures: Greater than 80,000 miles Distance between Minor Failures: Greater than 3,000 miles

Safety performance targets for **Demand Response Service**, informed by the safety performance measures established by the National Public Transportation Safety Plan, include:

Safety Performance Category	Target
Fatalities (total number of NTD-reportable fatalities and rate per total vehicle revenue miles by mode)	Less than .05 per 200,000 vehicle revenue miles
Injuries (total number of NTD-reportable injuries and rate per total vehicle revenue miles by mode)	Less than 5 major/minor injuries per 250,000 vehicle revenue miles
Safety events (total number of NTD-reportable events and rate per total vehicle revenue miles by mode)	Less than 5 major/minor reportable events per 250,000 vehicle revenue miles
System reliability (measured as revenue miles operated divided by the number of major mechanical failures)	Distance between Major Failures: Greater than 80,000 miles Distance between Minor Failures: Greater than 3,000 miles

In describing these categories, the definitions for "major" and "minor" from the National Transit Database (NTD) are as follows:

Reportable Event (Major)

A safety or security event occurring on transit right-of-way or infrastructure, at a transit revenue facility, or at a transit maintenance facility during a transit related maintenance activity or involving a transit revenue vehicle that results in one or more of the following conditions:

- A fatality confirmed within 30 days of the event
- An injury requiring immediate medical attention away from the scene for one or more person
- Property damage equal to or exceeding $25,000
- Collisions involving transit revenue vehicles that require towing away from the scene for a transit roadway vehicle or other non-transit roadway vehicle
- An evacuation for life safety reasons

Non-Major Summary Incident/Event (Minor)

Less severe incidents or events that do not meet the requirements of Reportable Events:

- Other safety occurrences not otherwise classified (injuries); and

- Fires

Major mechanical system failures, as defined by the NTD, are those that limit actual vehicle movement or create safety issues. This includes but is not limited to failures involving:

- Brakes
- Doors
- Engine cooling systems
- Steering, axles, and suspension

Minor mechanical system failures are failures of some other mechanical element of the revenue vehicle not caused by a collision, natural disaster, or vandalism, but, because of local agency policy, prevents the revenue vehicle from completing a scheduled revenue trip or from starting the next scheduled revenue trip even though the vehicle is physically able to continue in revenue service. They include but are not limited to issues involving:

- Fareboxes
- Wheelchair lifts
- Heating, ventilation, and air conditioning (HVAC) systems

KVRTA may identify and establish additional safety performance measures to meet identified goals and objectives in response to hazard management trends and the results of root cause analysis activities under the Safety Risk Management process. KVRTA's Executive Director is responsible for tracking progress toward goal completion in coordination with KVRTA's operations, maintenance, and executive management team. Safety performance targets will be communicated during quarterly safety committee meetings and through hard copy memos.

Whenever possible, numerical safety performance indicators are used to inform the allocation of resources. KVRTA's executive management team considers progress toward performance indicators when developing budgets, staffing plans, and safety-related programs. Failures to achieve safety performance objectives and targets are reviewed and discussed during regular management meetings, and KVRTA will implement remedial actions in response to high-level safety trends. It is KVRTA's expectation that all failures to meet safety performance objectives identified through the Safety Assurance process will be reviewed by the management team and considered for remediation via changes to KVRTA operating, maintenance, and safety practices.

2.4 Safety Policy Communication

KVRTA's Safety Policy is communicated throughout the organization through several methods. First, the Safety Policy Statement is included as an insert in the KVRTA non-union Employee Handbook and will also be included in the union contract. Management staff are able to access the complete KVRTA PTASP in both hard copy at KVRTA's main office and the policy will be published on the KVRTA website. In addition to these methods, all employees are familiarized with the agency's safety programs during onboarding, and through bulletin boards located throughout the building, memos, inserts with employee pay stubs, and television monitors in the break area with weekly PowerPoint presentations focusing on safety.

Progress toward achievement of KVRTA's safety performance objectives, targets, and indicators is communicated throughout the agency via regular management updates to agency personnel during Safety Committee meetings.

2.5 Safety Accountabilities and Responsibilities

KVRTA's **Executive Director** serves as the agency's Accountable Executive and has the overall authority to develop and execute KVRTA's PTASP along with ultimate accountability for the agency's safety and the maintenance of the agency's SMS program. The Executive Director, in coordination with the Director of Planning, Grants and Compliance, the Director of Operations, and the Director of Maintenance, possesses the technical resources and qualified personnel to support SMS implementation. Outside technical experts or contractors are brought in as required by the management team. The Executive Director is responsible for the following specific activities:

- Proactive leadership which supports safety
- Ensuring that sufficient resources and attention are devoted to the PTASP, including:
  - Development of standard operating procedures related to employee safety duties;
  - Development and enforcement of safety regulations;
  - Development of emergency operating procedures to maximize transit system response effectiveness and minimize system interruptions during emergencies;
  - Provision of proper training and equipment to employees to allow an effective response to incidents and emergencies, including vehicle evacuation
- Developing an effective incident notification and reporting system
- Supporting and communicating safety as the top priority to all employees
- Developing relations with outside organizations that may participate in and contribute to the PTASP, including local public safety and emergency planning agencies

The **Director of Planning, Grants and Compliance** manages the day-to-day implementation of the PTASP and the SMS, serving as the agency's SMS Executive. The Director of Planning, Grants and Compliance reports directly to the Executive Director / Accountable Executive, and they meet regularly to discuss the agency's safety performance. In addition, the Director of Planning, Grants and Compliance is responsible for:

- Developing standard operating procedures related to employee safety duties;
- Developing and enforcing safety requirements;
- Developing emergency operating procedures to maximize transit system response effectiveness and minimize system interruptions during emergencies.

Managers/Supervisors specific responsibilities include:

- Having full knowledge of all standard and emergency operating procedures
- Ensuring that operators make safety the primary focus when on the job
- Complying fully with the PTASP regarding any accident investigations as well as listening and acting upon any safety concerns raised by the operators

In addition, when supporting response to an incident, managers/supervisors:

- Provide leadership and direction to employees during incidents
- Determine when to call for assistance
- Make decisions regarding the continuance of operations
- Respond to safety related calls with police officers when required, rendering assistance with crowd control, victim/witness information gathering, and general on-scene assistance
- Complete necessary safety related reports
- Coordinate with all outside agencies at incident scenes
- Assist employees in proactive planning for their families' safety during a community emergency
- Set up call out procedures to be used during normal operating hours and after normal operating hours

Administrative Staff responsibilities include:

- Ensuring all pre-employment screening processes are carried out effectively
- Being aware of employee disciplinary action that may result in the affected employee becoming a risk to KVRTA's facilities, systems, passengers, employees or other assets
- Educating employees on employee safety policy and procedure
- Ensuring that all training materials adopted by KVRTA are current and reflect the best practices established by the transit industry
- Providing accurate and timely information regarding safety, security and emergency response incidents and activities.
- Coordinating with partner agencies before, during and after critical incidents

In addition to the general responsibilities identified for all personnel, **Operators** (including volunteers and contractors) are responsible for exercising maximum care and good judgment at all times. Each operator:

- Reports all safety events/issues to agency dispatch
- Determines when to call for assistance
- Takes charge of any incident scene in which they are involved until the arrival of supervisory or emergency personnel
- Maintains control of the vehicle and other agency assets under their purview
- Completes all necessary safety-related reports
- Supports community emergency response activities as directed by KVRTA's policies and procedures
- Knows when and how to conduct a vehicle evacuation

Dispatchers must:

- Receive calls for assistance
- Dispatch supervisors and emergency response personnel (if necessary)
- Coordinate with law enforcement and emergency medical service communication centers
- Notify supervisory and management staff of serious incidents requiring immediate management/supervisor response and record non-serious incidents in daily reports
- Establish on-scene communication

- Complete any required safety-related reports
- Provide direction to on-scene personnel

Maintenance Personnel (including volunteers and contractors):

- Report vandalism (Trespassing, etc)
- Report threats and vulnerabilities of vehicle storage facilities
- Provide priority response to safety requests for equipment and/or personnel

2.5.1 Responsibilities for All Personnel

KVRTA's personnel understand and adopt their specific roles and responsibilities, as identified in this PTASP, thereby increasing their own personal safety and that of their passengers during normal operations and in emergency conditions.

To ensure the success of the PTASP, KVRTA's personnel and contractors perform the following functions:

- All potentially unsafe situations and hazards are immediately reported.
- Proper judgment is used by following crisis management guidelines when managing potentially dangerous situations.
- All safety, security and emergency preparedness training, including drills and exercises, is attended.
- Are familiar with, and operate within, all safety, security, and emergency preparedness procedures for the assigned work activity.
- The Executive Director or his/her designee is notified when a physical or mental condition, or required medications or therapies, may impair the ability of an employee to perform required duties.

KVRTA has established a Safety Committee with membership including the Director of Planning, Grants and Compliance, the Director of Maintenance, and two union members. This committee meets quarterly to review safety performance, priorities, and deficiencies. The Executive Director has designated the Safety Committee as the primary committee to support the Executive Director / Accountable Executive and SMS Executive in developing, implementing, and operating the agency's SMS. Specific information regarding the membership, role, and function of KVRTA's Safety Committee is outlined in the Safety Risk Management section of this plan.

As outlined in the Policy Statement, KVRTA's executive management team has established safety reporting processes which allows all employees to report safety hazards to senior management without fear of retribution. All KVRTA employees are responsible for reporting hazards and safety concerns identified during the course of their duties to management via the methods established in the Safety Risk Management section of this plan. Except in the instance of willful safety rule violations, KVRTA employees reporting safety hazards shall not be subject to disciplinary action.

2.6 Documentation and Recordkeeping

KVRTA records developed and maintained by the agency to document the SMS and the interrelationships of its processes, activities, and tools are identified throughout this plan. As noted in the Safety Assurance

portion of the plan, KVRTA periodically reviews SMS documentation to ensure its continuing suitability, adequacy, and effectiveness.

In general, document control for SMS-related items is maintained by the Executive Director, and the Director of Planning, Grants and Compliance. KVRTA will update agency documentation to ensure that plans, procedures, and forms include revision information including dates and version numbers. Individual managers responsible for maintaining certain documents have sole control over editing and distributing the latest versions. All managers, supervisors, and the dispatcher / foreman have binders with hard copy versions of the latest policies and procedures. Whenever updates are made, the hard copies are updated. In the event of organizational changes impacting the SMS, the Executive Director and the Director of Planning, Grants and Compliance coordinate to ensure that SMS documentation is updated as needed.

KVRTA retains all records identified in this plan pertaining to outputs of processes and activities contained within the SMS for a minimum of three years.

3 Safety Risk Management

3.1 Hazard Identification

KVRTA has established formal requirements for proactive identification of hazards. The primary methods used to identify hazards and threats to the transit system are the collection of historical data and incident reports submitted by drivers and supervisors and information provided by federal and state agencies and local law enforcement.

The employee safety reporting program is a keyway for management to identify hazards. Employees are encouraged to report any safety issues to management without fear of disciplinary action. This can be accomplished through management's open-door policy, at quarterly safety meetings, or through the anonymous suggestion box located at the facility.

Potential sources that are regularly reviewed for hazard information include, but are not limited to, the following:

Hazard Information Source	Responsibility	Production / Review Frequency
Dispatcher daily log	Operations Department	Daily
Maintenance reports in Fleetnet and/or defect cards	Maintenance Foreman, Director of Maintenance	Daily
Safety Committee meeting reports	Executive Director, Director of Planning, Grants and Compliance, Operations Department	Quarterly
Statistical reports / historical data	Executive Director, Director of Planning, Grants and Compliance, Operations Department	Annually
Internal and external audits and inspections (including FTA and WVDOT audits and inspections)	Executive Director, Director of Planning, Grants and Compliance, Operations Department	As needed
Passenger/public customer service reports	Executive Director, Director of Planning, Grants and Compliance, Operations Department	As needed
Incident/accident reports	Director of Planning, Grants and Compliance, Operations Department	As needed
Information from public safety officials, local governments, and other major KRVTA stakeholders	Executive Director, Director of Planning, Grants and Compliance, Operations Department	As needed
Employee safety reports to supervisors or management	All	As needed

KVRTA's management team will document hazards identified via these methods in a consolidated Hazard Log for long-term tracking and mitigation.

The agency's primary means for facilitation of the Safety Risk Management process, including regular review of hazard reports, is the agency-wide Safety Committee meeting, a quarterly meeting during which representatives from executive management, operations, and maintenance discuss new and existing hazard items. Key roles and responsibilities within the Safety Committee are as follows:

Individual / Group	Role(s)
Director of Planning, Grants and Compliance or Director of Operations	• Facilitate meetings • Provide information on the status of key safety-related actions and mitigations Coordinate updates to Hazard Log • Delegate and track action items
Director of Maintenance	• Document discussion in meeting minutes
Union Representatives	• Report concerns from frontline operations and maintenance employees

Elevator maintenance, sprinkler system maintenance, and fuel delivery contractors are occasionally on site. In addition, bus shelters are installed by a contractor. On the occasion that contract workers perform work on behalf of the agency involving KRVTA facilities and vehicles, the agency's safety reporting program and hazard identification requirements remain in effect. KRVTA management familiarizes contracted workers with safety reporting program parameters and hazard identification / reporting requirements on an as-needed basis.

3.2 Hazard Analysis and Evaluation

KVRTA conducts an analysis and evaluation process for all reported hazards to ensure that hazards are managed in order of their priority to the agency.

During Safety Committee meetings, the Director of Planning, Grants and Compliance or Director of Operations reviews and discusses new hazards in consultation with the Director of Maintenance, and union members. KRVTA's hazard analysis activities are carried out in coordination with subject matter experts as necessary, and KVRTA contacts outside experts or peer transit agencies for input on specific hazards as needed. KRVTA management consults with experienced operations and maintenance personnel during the hazard analysis process to ensure that the potential severity and likelihood of each hazard has been properly identified and that underlying causal and contributing factors for all hazards are addressed. Occasionally, KRVTA may consult with outside federal and state bodies including the FTA and WVDOT as a component of the hazard analysis process. The Director of Planning, Grants and Compliance or Director of Operations coordinates each of these steps to ensure that the agency has appropriately considered all human factors, environmental factors, supervision elements, and organizational elements when analyzing hazards.

KVRTA's Director of Planning, Grants and Compliance or Director of Operations, is directly involved in the review of all high-, medium-and low-priority hazards, with the exception of hazards that have been immediately mitigated by frontline employees or minor disciplinary actions in response to rule violations not constituting systematic, widespread issues. High-priority items are immediately brought to the

attention of the Executive Director. Hazards are discussed at safety committee meetings, and meeting minutes are also shared with the Executive Director. KVRTA senior management assists in the development and implementation of appropriate mitigating actions for all hazards. All necessary information pertaining to a specific accident or event occurrence will be contained in the accident/incident reports and documented on the hazard log.

KVRTA's safety risk evaluation activities include a formal process of evaluating safety risk in terms of probability and severity, in consideration of any mitigation measures already in place. The agency's activities and tools to evaluate and prioritize safety risks associated with the consequences of identified hazards include discussion of all hazards in the Safety Committee meeting, executive management and subject matter expert review, and application of a rating system to formally assess the probability and potential severity of reported hazards.

As identified in the Definitions section, risk may be understood as the composite of predicted severity and likelihood of the potential effect of a hazard. Severity means the anticipated effects of a consequence, should it materialize, considering the worst credible condition. Probability means the likelihood that hazard consequences might occur, considering the worst foreseeable condition.

KRVTA further defines Severity according to the following scale:

- **Catastrophic – 4:** Conditions are such that human error, environment, design deficiencies, element, subsystem or component failure, or procedural deficiencies may commonly cause death or major system loss
- **Critical – 3:** Conditions are such that human error, environment, design deficiencies, element, subsystem or component failure or procedural deficiencies may commonly cause severe injury or illness or major system damage
- **Marginal – 2:** Conditions may commonly cause minor injury or illness or minor systems damage such that human error, environment, design deficiencies, subsystem or component failure or procedural deficiencies can be counteracted or controlled without severe injury, illness or major system damage
- **Negligible – 1:** Conditions are such that personnel error, environment, design deficiencies, subsystem or component failure or procedural deficiencies will result in no, or less than minor, illness, injury or system damage

KRVTA further defines Probability according to the following scale:

- **Frequent – 5:** Likely to occur often in the life of an item
- **Probable – 4:** Will occur several times in the life of an item
- **Occasional – 3:** Likely to occur sometime in the life of an item
- **Remote – 2:** Unlikely but possible to occur in the life of an item
- **Improbable – 1:** So unlikely, it can be assumed occurrence may not be experienced

KRVTA determines the overall risk presented by each hazard using a composite measurement of the hazard Severity and Probability according to the following classification system:

		Severity			
		Catastrophic – 4	Critical – 3	Moderate – 2	Marginal - 1
Probability	Frequent – 5	High – 20	High -15	High – 10	Medium - 5
	Probable – 4	High - 16	High -12	Serious – 8	Medium - 4
	Occasional – 3	High – 12	Serious – 8	Medium – 6	Low - 3
	Remote – 2	Serious – 8	Medium – 6	Medium – 4	Low - 2
	Improbable - 1	Medium – 4	Low – 3	Low – 2	Low - 1

3.3 Safety Risk Mitigation

KVRTA's safety risk mitigation strategies include the development of corrective and preventative actions to ensure that hazardous conditions do not recur.

KVRTA executive, operations, and maintenance management develop corrective actions for all hazards in consultation with frontline personnel and subject matter experts as necessary. The Executive Director ensures coordination with board members, union members, and outside stakeholders as required. All mitigation activities are communicated to the Executive Director, who may require changes or the implementation of additional mitigations as needed. KRVTA's Director of Planning, Grants and Compliance ensures that safety risk mitigations and associated mitigation plans are maintained in the Hazard Log.

Each corrective action developed in response to a hazard identified by KVRTA shall include, but will not be limited to, the following information:

- Identification number (or ID number of the associated hazard)
- Responsible individual or department
- Hazard analysis results (likelihood, severity, and cumulative risk level)
- Corrective action plan summary identifying actions to control, minimize, or eliminate the hazards and risks identified
- Verification activities required to demonstrate that the corrective action has been successfully carried out
- Timeline for completion of corrective action / mitigation and expected closure date
- Interim actions and milestones, if necessary
- Status (open/closed)

While many corrective and mitigating actions taken by KVRTA in response to hazards are relatively straightforward and do not require tracking over multiple months, KVRTA ensures that this information is documented for all hazards independent of their priority.

3.4 Hazard Tracking and Recordkeeping

KRVTA will maintain a Hazard Log which serves as a unified repository for all data and information related to the proactive and reactive identification of hazards, as well as the results of KVRTA's hazard analysis process and any corrective actions developed under the safety risk mitigation process. Information in the log related to hazards identified by agency personnel includes, but is not limited to, the following:

- Identification number

- Date identified
- Reporting person or source
- Hazard description
- Hazard analysis results (likelihood, severity, and cumulative risk level)

Most items from inspections will not need to be recorded in the hazard log. Minor occurrences that result as a part of day-to-day operations (e.g. a mechanical issue is found on a bus during an inspection) do not need to be recorded. However, unusual, serious, or systemic issues should be recorded in the log. As data from hazard log sources is reviewed, any trends which illustrate larger issues should be recorded.

Major accidents, incidents, and hazards may also be documented in formal investigation reports and supporting documents maintained separately by KVRTA but referenced in the Hazard Log.

KVRTA management and frontline employees review open hazards in the Hazard Log during Safety Committee meetings as a standing agenda item or separately on an as-needed basis, updating the status of corrective or mitigating measures for open hazards and documenting when hazards have been verified as closed.

During the annual PTASP review and update, KVRTA executive managers will review records produced during Safety Risk Management activities and discuss the results of the program over the previous year to evaluate the effectiveness of the agency's Safety Risk Management process as a whole. This review process extends to safety risk evaluation records, hazard identification and analysis practices, the corrective action plan process, and reviews of the Hazard Log during Safety Committee meetings, to ensure that all aspects of the process are functioning effectively and that hazards are properly identified and mitigated.

4 Safety Assurance

4.1 Safety Performance Monitoring

KVRTA implements a range of formal and informal processes to monitor and measure the agency's safety performance in a proactive and reactive manner.

Responsible Party	Method of Monitoring	Frequency
Executive Management	• Conduct high-level monitoring through regular involvement in Safety Committee meetings. • Have frequent discussions with supervisory personnel responsible for direct oversight of frontline employees • Review worker's compensation claim information • Review data on individual driver performance	• Quarterly • As needed • Monthly • Annually
Operations and Maintenance Managers	• Have frequent discussions with supervisory personnel responsible for direct oversight of frontline employees • Collect and compile data on vehicle performance, safety instances, and maintenance information	• As needed • Monthly
Supervisors	• Conduct ride-alongs	• As needed

Results from safety performance monitoring are reviewed on a monthly basis by the Executive Director.

4.2 Data Collection and Process Evaluation

KVRTA collects a variety of information and data via safety performance monitoring activities which is examined for hazards and safety trends. KVRTA reviews maintenance-generated data to correct discrepancies or issues at a systemic level. Information produced from ride-along observations is periodically reviewed by management for hazards. KVRTA also collects and regularly reviews data related to passenger injuries and claims, passenger complaints, employee injuries, and accidents; hazards and trends are periodically identified using data from these sources. During the annual PTASP review process, KVRTA's Executive Director and Director of Planning, Grants and Compliance will review data produced via safety performance monitoring activities as an input for updates to the numerical performance targets and objectives in the agency's Safety Policy.

KVRTA's management team will conduct follow-up activities and observations on a routine basis to measure and monitor the effectiveness of safety risk mitigations put in place at the agency. Formal follow-up, which will be documented by the Director of Planning, Grants and Compliance in the KVRTA Hazard Log, is conducted by both supervisors and executive management after mitigations are taken to address hazards to ensure that all mitigations put in place in response to hazards are effective in reducing risk. KVRTA will coordinate these activities with its MPO RIC and other outside stakeholders in hazard mitigations, such as the City of Charleston, on an as-needed basis to ensure that hazardous conditions in the operating environment have been effectively mitigated.

If, during these follow-up activities and observations, management determines that safety risk mitigation strategies put in place are ineffective and that a hazard remains present in the system, the Executive Director and Director of Planning, Grants and Compliance will re-enter ineffective strategies into the safety risk management process (such as through Safety Committee meetings or the Hazard Log) and address them via new methods until all safety risks are resolved.

The agency's executive management staff periodically evaluate the programs, processes, and forms used to monitor safety performance to evaluate their overall effectiveness. These activities include periodic review of KVRTA's data collection and analysis activities, as well as employee safety reporting programs, to ensure they are effective. This process of periodic evaluation will primarily take place through structured management meetings, which occur regularly throughout the year. KVRTA's management also considers the effectiveness of safety performance monitoring during the response to specific events and hazards identified by frontline personnel and supervisors.

4.3 Event Investigations

KVRTA conducts investigations into accidents, incidents, and occurrences following formal Accident Investigation Procedures (AIPs). The AIPs identify specific responsibilities of the Operations Department for response, interviews and other on-scene evidence gathering, and completion of key documentation including a Driver's Accident Report and an Accident Incident Report.

Following an accident or incident, the employee involved and supervisor prepare an incident report. Operational accidents are reported immediately to dispatch. The dispatcher reviews and signs incident reports, which are shared with the Operations Department, a technician (who pulls video if needed), and either the Director of Operations or the Director of Maintenance. The Executive Director and the Director of Planning, Grants and Compliance coordinate with the Supervisor involved to collect supporting information, and coordinate with the technical support staffer to review video. The completed accident package is provided to the Director of Operations. In coordination with the Executive Director, the Director of Planning, Grants and Compliance determines whether to provide the report to KVRTA's insurer.

KVRTA investigations into accidents and operator complaints include an assessment of vehicle maintenance conditions. The Director of Maintenance does not produce a formal report as a component of this process, but the results of the assessment may be included in a final investigation report. As a part of the investigation root cause analysis process, the Operations Manager consults with KVRTA's maintenance function to verify the latest PM activity related to the equipment or vehicles involved in an accident and identify any contributing issues. The response to events typically includes progressive discipline, which may involve mandatory retraining.

KVRTA maintains an Accident Log, populated by the Director of Planning, Grants and Compliance or Director of Operations, noting the date of each event, the name(s) of the involved operator(s), bus number(s), location, and the damage or injury sustained.

KVRTA's management team evaluates accident investigation results according to the Safety Risk Management process to determine causal factors and decide whether mitigations or corrective actions are necessary. In the event that hazards are identified during the course of accident investigations, KVRTA management ensures that each hazard is assessed and documented in accordance with Section 3.2 of the Safety Risk Management section of this plan. Corrective or mitigating measures to address each hazard are also recorded and tracked to completion in accordance with Section 3.3. KVRTA's Executive Director coordinates reporting to NTD and FTA in consultation management personnel.

5 Safety Promotion

5.1 Safety Communication

KVRTA uses a variety of means to formally communicate safety policies, processes, activities, and tools to all employees. Regular communication from management to agency employees includes hazard and safety risk information of direct relevance to employees' responsibilities.

The agency's SMS Safety Management Policy and other SMS-related processes, activities, and tools relevant to employee job responsibilities are provided to all KVRTA employees within the Employee Handbook. Key agency safety-related plans, including the PTASP and SPIDER Plan, will be retained digitally on KVRTA's website and in hard copy in the offices of the Executive Director and Director of Planning, Grants and Compliance, and are accessible to all management and supervisory employees.

Training is the primary mechanism to notify staff of hazards and safety risks associated with their roles. In order to notify staff of hazards and safety risks identified through the SRM process, KVRTA uses monitors in the break room area to show PowerPoint presentations that share information with frontline staff. KVRTA will begin a weekly PowerPoint focused on safety and will place an additional monitor in the maintenance area. KVRTA management also utilizes bulletin boards to display safety information, and places flyers with employee paystubs or emails flyers directly to employees who receive digital pay stubs.

KVRTA managers convey additional hazard- and risk-related information, including follow-up information on hazards and safety risks identified by frontline employees, during quarterly Safety Committee meetings. These meetings are the primary forum during which transit agency management explains why safety actions have been taken and why safety procedures have been introduced or changed, including in response to reports submitted through employee safety reporting methods.

Safety Committee meetings are also the primary means by which management communicate significant accident and incident investigation outcomes and lessons learned to appropriate employee groups. In order to communicate the results of Safety Committee meetings to employees who do not attend, the SMS Executive will ensure that meeting minutes and action items are posted in a publicly visible location and available to all frontline employees. In addition to Safety Committee meetings, street supervisors occasionally identify trends and communicate information to drivers.

5.2 Competencies and Training

KVRTA maintains and implements a safety management training program to ensure that employees are trained and competent to perform their SMS duties. This training consists of new employee orientation (NEO) training, on-the-job training (OJT), and an ongoing process of refresher and refamiliarization training for current employees. Vendors deliver training on new equipment, covering any new safety risks.

NEO training consists of a two-week onboarding training program covering drug and alcohol policies, bloodborne pathogens, and ADA-related information. The training also includes four weeks of ride-alongs under the supervision of an experienced operator. Operators participate in National Incident Management System (NIMS) training and are familiarized with certain aspects of the agency's workers compensation program and responsibilities for documenting events.

New employees are introduced to the employee safety reporting program, which encourages employees to report safety hazards, near misses, concerns, and issues, through day-to-day exposure and interactions

with management personnel as well as via the Employee Handbook. KVRTA also includes discussion of the employee safety reporting program as a formalized component of NEO training.

Maintenance personnel must qualify on certain tasks including transmission work and engine rebuilds though an assessment by the maintenance lead and shop foreman.

5.2.1 Training Documentation

KVRTA will maintain complete records of all personnel training and certification activities. Training will be documented on sign-in sheets and saved in individual employee files. The training documentation will include the instructor and/or provider of the training, the subject of the training, and a passing / failing grade or an indication of whether the training was successfully completed by each individual. A checklist of training topics for new and refresher training for operators will also be maintained. Arbitration training will be similarly documented and retained in employee files.

KRVTA uses skills tests to screen candidates for maintenance roles. A minimum score is required to enter the trainee program.

KVRTA management will also ensure that OJT delivered to maintenance staff and other frontline personnel is documented in a similar manner to classroom-based training. Signoff sheets or similar records placed in individual personnel files at the conclusion of OJT will indicate the date training was delivered, the instructor and/or provider of the training, the name of the trainee, the subject of training, and a passing / failing grade or an indication of whether the training was successfully completed by the individual.

KRVTA management will periodically review and assesses employee training files and records to ensure completeness.

5.2.2 Training Program Analysis and Evaluation

In order to address safety-related job functions of operations and maintenance positions and ensure that training gaps are addressed as necessary, the Executive Director, Operations Department, and Maintenance Department periodically conduct informal analyses to determine whether gaps are present and develop new training material accordingly. The goal of these periodic analyses and assessments is to ensure that the agency has identified and provided all necessary skill training related to safe job performance for all job functions, to the level that all employees are competent to perform their safety-related duties.

Training curricula changes implemented by management for safety-related employees will include updates to reflect new techniques, technologies, the results of investigations, corrective actions, and regulatory changes. New training courses or materials may also be developed in response to FTA guidance, state oversight activity, or other industry trends and best practices.

A number of KVRTA training courses include post-tests in order to measure the effectiveness of the course. KVRTA will also incorporate course feedback to measure effectiveness of safety-related training and improve training courses when necessary.

Appendix A: Hazard Log Template

Identification Number	Date Identified	Reporting Person / Source	Hazard Description	Hazard Analysis Results (likelihood, severity, cumulative risk level)	Corrective Action Plan	Verification Activities Required	Expected Closure Date	Interim Actions / Milestones	Responsible Individual / Department	Status (open/closed)	Comments	Post-implementation Effectiveness Verified (yes/no, description of activities)