METROPOLITAN TRANSIT AUTHORITY OF BLACK HAWK COUNTY

Agency Safety Plan (ASP) (version #4 on 7-19-24)

MET

Federal Transit Administration

METROPOLITAN TRANSIT AUTHORITY OF BLACK HAWK COUNTY

Agency Safety Plan (ASP)

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Agency Safety Plan (ASP)

As authorized by the Moving Ahead for Progress in the 21st Century Act (MAP-21), the FTA published the Public Transportation Agency Safety Plan (PTASP) which requires transit operators that receive federal funds to develop safety plans that include the development and methods of Safety Management Systems (SMS). The goal of the SMS is to improve the Metropolitan Transit Authority of Black Hawk County (MET) safety performance, practices and monitor safety risks.

This safety program describes the policies, procedures and requirements to be followed by management, maintenance and operating personnel in order to provide a safe environment for MET employees (volunteers) and the general public. All personnel are expected and required to adhere to the policies, procedures, and requirements established herein and to properly and diligently perform safety-related functions as a condition of employment. This ASP will reference various procedures for the operation of MET Transit including the MET Employee Policy Handbook, Labor Agreements and the MET Safety Manual.

PURPOSE

The National Safety Council defines a preventable accident as one in which the operator did not do everything that reasonably could have been done to prevent the accident. This plan's purpose is to determine whether an accident resulted from the action or inaction of a MET employee (or volunteer), in order to identify and implement corrective action and ultimately prevent future accidents and/or injuries. MET's Safety Plan will involve all employees (and volunteers) and will be actively pursued as a condition of employment.

1. Transit Agency Information

Transit Agency Name	Metropolitan Transit Authority of Black Hawk County
Transit Agency Address	1515 Black Hawk Street, Waterloo, IA 50702
Name Title of Accountable Executive	David Sturch, General Manager
Name of Chief Safety Officer or SMS Executive	Philip Golden, Paratransit Operations Manager Cory Ernst, Fixed Route Operations Manager

Mode(s) of Service Covered by This Plan	Fixed Route & Paratransit	**List All FTA Funding Types**	5307, 5310, 5339

Mode(s) of Service Provided by the Transit Agency (Directly operated or contracted service)	MET directly provides Fixed Route service and Paratransit service and uses its employees to supply the necessary labor to operate the revenue vehicles.			
Does the agency provide transit services on behalf of another transit agency or entity?	Yes ☐	No ☒	**Description of Arrangement(s)**	
Name and Address of Transit Agency(ies) or Entity(ies) for Which Service Is Provided	N/A			

2. Plan Development, Approval, and Updates

Name of Entity That Drafted This Plan	Metropolitan Transit Authority of Black Hawk County (NTDID 70013)	
Signature by the Accountable Executive	**Signature of Accountable Executive**	**Date of Signature**
	David Sturch, General Manager	December 10, 2020
	David Sturch, General Manager	June 30, 2022
	David Sturch, General Manager	July 27, 2023
	David Sturch, General Manager	July 19, 2024
Approval by the Board of Directors or an Equivalent Authority	**Name of Individual/Entity That Approved This Plan**	**Date of Approval**
	Roslyn Middleton, MET Board of Directors	December 10, 2020
	Robert Seymor, MET Board of Directors	June 30, 2022
	Sharon Droste , MET Board of Directors	July 27, 2023
	, MET Board of Directors	July 19, 2024
	Relevant Documentation (title and location)	
	A copy of the Authority's Board of Directors minutes approving MET's Safety Plan (ASP) is maintained on file by the General Manager of the Metropolitan Transit Authority of Black Hawk County.	

Version Number and Updates – *Record the complete history of successive versions of this plan.*			
Version Number	**Section/Pages Affected**	**Reason for Change**	**Date Issued**
1	N/A	Initial (New) Document	December 10, 2021
2	3, 12, 17, 18	Revised safety performance targets, Safety Risk Mitigation project, definitions, Attachment B Safety Risk Assessment Project	June 30, 2022
3	2, 4, 23	Name of CSO, revised safety performance targets, Attachment B Safety Risk Assessment Project	July 27, 2023
4	3	Revised safety performance targets, Definitions	July 19, 2024

This plan will be joinly reviewed and updated by MET's General Manager, the Fixed Route Operations Manager and the Paratransit Operations Manager by July 1st of each year. The General Manager will review and approve any changes, sign the new ASP and then forward to MET's Board of Directors for review and approval.

This ASP addresses all applicable requirements and standards as set forth in FTA's Public Transportation Safety Program and the National Public Transportation Safety Plan.

3. Safety Performance Targets

Safety Performance Targets

The targets below are based on the previous 5 years of MET's safety performance data. These targets represent a baseline for a rolling 5-year period. Every year, these baseline targets will be measured against the new 5-year total in order to determine if the safety performance targets are achieved.

The goal for these targets is a 5% reduction in injuries and safety events and a 5% increase in system reliability.

Injury = person injured with medical attention. Accident = property/vehicle damage. System reliability is based on major mechanical system failures per VRM when a tow truck brings a bus back to the garage.

Version #1: 2020 Safety Performance Data from 2016 to 2020
Version #2: 2021 Safety Performance Data from 2017 to 2021
Version #3: 2022 Safety Performance Data from 2018 to 2022
Version #4: 2023 Safety Performance Data from 2019 to 2023

Mode of Transit Service	Fatalities - Total	Fatalities -per 100k VRM	Injuries – Total	Injuries -per 100k VRM	Safety Events - Total	Safety Events - per 100k VRM	System Reliability
Fixed Route	2020 = 0 2021 = 0 2022 = 0 2023 = 0	2020 = 0 2021 = 0 2022 = 0 2023 = 0	2020 = 7 2021 = 12 2022= 15 2023 = 15	2020 = 0.25 2021 = 0.43 2022 = 0.55 2023 = 0.55	2020 = 4 2021 = 7 2022 = 12 2023 = 31	2020 = 0.14 2021 = 0.25 2022 = 0.44 2023 = 1.14	'20 =13,892 '21 = 14,630 '22 = 14,121 '23 = 15,062
Non-Fixed Route – Paratransit	2020 = 0 2021 = 0 2022 = 0 2023 = 0	2020 = 0 2021 = 0 2022 = 0 2023 = 0	2020 = 3 2021 = 2 2022 = 2 2023 = 3	2020 = 0.18 2021 = 0.12 2022 = 0.13 2023 = 0.19	2020 =8 2021 = 6 2022 = 7 2023 = 14	2020 = 0.47 2021 = 0.36 2022 = 0.45 2023 = 0.90	'20 = 27,196 '21 = 33,536 '22 = 35,223 '23 = 48,431

Version #1: 2020 Safety Performance Data from 2016 to 2020
Version #2: 2021 Safety Performance Data from 2017 to 2021
Version #3: 2022 Safety Performance Data from 2018 to 2022
Version #4: 2023 Safety Performance Data from 2019 to 2023
(Next year's Goal: 5% reduction in safety events and injuries and a 5% increase in system reliability)

Mode of Transit Service	Fatalities - Total	Fatalities -per 100k VRM	Injuries – Total	Injuries -per 100k VRM	Safety Events - Total	Safety Events - per 100k VRM	System Reliability
Fixed Route	2020 = 0 2021 = 0 2022 = 0 2023 = 0	2020 = 0 2021 = 0 2022 = 0 2023 = 0	2020 = 6.65 2021 = 11.4 2022 = 14.25 2023 = 14.25	2020 = 0.24 2021 = 0.41 2022 = 0.53 2023 = 0.53	2020 = 3.8 2021 = 6.65 2022 = 11.4 2023 = 29.4	2020 = 0.14 2021 = 0.24 2022 = 0.42 2023 = 1.09	'20 =14,587 '21 = 15,362 '22 = 14,827 '23 = 15,815
Non-Fixed Route – Paratransit	2020 = 0 2021 = 0 2022 = 0 2023 = 0	2020 = 0 2021 = 0 2022 = 0 2023 = 0	2020 = 2.85 2021 = 1.9 2022 = 1.9 2023 = 2.85	2020 = 0.17 2021 = 0.11 2022 = 0.12 2023 = 0.18	2020 = 7.6 2021 = 5.7 2022 = 6.65 '23 = 13.3	2020 = 0.44 2021 = 0.34 2022 = 0.43 2023 = 0.86	'20 = 28,556 '21 = 35,213 '22 = 36,984 '23 = 50,853

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.

The General Manager shares MET's Agency Safety Plan (ASP) with INRCOG, the local Metropolitan Planning Organization (MPO) in our service area each year after its formal adoption by MET's Board of Directors. The General Manager will also provide a copy of the formally adopted plan to the Iowa Department of Transportation. MET personnel are available to coordinate with the State of Iowa and the MPO in the selection of Iowa's and INRCOGs performance safety performance targets upon request.

Targets transmitted to the State	State Entity Name	Date Targets Trasmitted
	Iowa Department of Transportation	1/14/21, 7/12/22, 7/28/22, 8/6/24
Targets transmitted to the MPO	Metropolitan Planning Organization Name	Date Targets Transmitted
	Iowa Northland Regional Council of Government	1/14/21, 7/12/22, 7/28/22, 8/6/24

4. Safety Management Policy

Safety Management Policy Statement

Include the written statement of safety management policy, incorporating safety objectives. MET Transit's safety management policy is described below:

Safety is the number one priority of MET. In support of that goal, the primary importance of the agency's safety plan is the reduction of accidents and injuries to transit customers, employees and the general public. Safety is a shared responsibility between system management and employees.

It is the policy of MET to provide a place of employment that is free from recognized hazards that could result in death or serious injury to employees, customers or the general public.

It is the responsibility of each employee to report all incidents or unsafe conditions to their supervisor. Supervisors must immediately take necessary corrective action to prevent unsafe conditions.

It is also the policy of MET to require that safety training and the use of safe protective equipment and procedures are adhered to at all times.

Individual employees are expected to perform their duties in a safe and responsible manner, as safe work behavior is a condition of employment.

Prohibited behaviors are behaviors that are in violation of the agency's safety plan. Such behaviors include actions that threaten the safety of employees, customers and the general public. Other unacceptable behaviors include those that result in damage to system, employee or public property.

An employee who intentionally violates safety policy and procedures will be subject to appropriate disciplinary action, as determined by the findings of an investigation. Such discipline may include warnings, demotion, suspension or immediate dismissal. In addition, such actions may cause the employee to be held legally liable under State or Federal Law.

David Sturch, General Manager, Metropolitan Transit Authority of Black Hawk County and Accountable Executive

MET has a sincere concern for the welfare and safety of its employees (and volunteers) as well as the public it serves. The goal of this program is to eliminate the suffering and cost of avoidable personal injury and vehicle accidents. It is MET's policy to provide safe working conditions and to provide complete instructions covering safe work methods. All MET employees (and volunteers) will promote accident prevention by actively supporting the safety program.

The ASP will be accomplished through the following activities:
- MET will develop and maintain safety performance criteria;
- MET will pursue an active safety inspection program involving all facilities, vehicles, and work procedures to identify and correct all hazardous conditions and practices;
- MET will actively investigate and review all accidents involving Authority employees (and volunteers) or property to determine the source of negligence in the accident and to outline preventive measures;
- MET will conduct both formal and informal safety training sessions for all employees (and volunteers);
- MET will establish personal protective equipment guidelines for its employees (and volunteers), provide the equipment, and require employees (and volunteers) to utilize the equipment.
- MET will provide adequate equipment so as to provide a safe transportation system for its riders and the general public.

Safety Management Policy Communication

Describe how the safety management policy is communicated throughout the agency's organization. Include dates where applicable.

The General Manager introduced the Safety Management System (SMS) principles in December of 2020 to the authority's management team. The ASP was distributed to each employee in the form of a handout. The ASP is available in the management offices of MET Transit. The ASP has been incorporated and distributed into new-hire training.

Authorities, Accountabilities, and Responsibilities

Describe the authorities, accountabilities, and responsibilities of the following individuals for the development and management of the transit agency's Safety Management System (SMS).

Accountable Executive (General Manager)	The General Manager of the Metropolitan Transit Authority of Black Hawk County serves as the Accountable Executive under this plan. The following duties of the General Manager will support the development and implementation of MET's SMS: • Oversight of MET's SMS. • Carrying out the ASP and Transit Asset Management (TAM) Plan. • Oversight of employee training and development needed to maintain the ASP, Safety Manual and TAM plan. • Work with the Lead Mechanic to ensure that vehicles dispatched are in proper working conditions. • Assist in developing procedure manuals for Dispatchers, Supervisors, Operators and Service personnel. • Identify potential risk and develop resolution processes. • Oversight of vehicle maintenance program. • Maintain a thorough understanding of MET Transit policies and employee handbook guidelines. • Develop a working relationship with other agencies, to ensure exceptional customer service needs and problem resolution processes are in place. • Act as a liaison between MET Transit and other agencies to address any concerns or issues that may arise and do so in a timely manner. • Maintain a "Safety First" attitude with personnel. • Capability of addressing any questions /concerns regarding transit program. • Develop and maintain thorough knowledge of MET Transit departments and compliance programs. • Oversight of Federally mandated Drug and Alcohol program. • Ensure that MET's SMS is implemented and the necessary action is taken to address substandard performance in this Plan.
Chief Safety Officer (Paratransit Operations	The Paratransit Operations Manager serves as the Chief Safety Officer for the Metropolitan Transit Authority of Black Hawk County. The Fixed Route Operations Manager serves as the

Manager, Fixed Route Operations Manager)	Deputy Safety Officer. These two individuals are responsible for establishing this safety program and for maintaining safe working conditions and practices for all MET personnel. These individuals are adequately trained and are responsible in the implementation of MET's SMS. The Chief Safety Officer will: • Be responsible for successfully administering the plan and establishing, monitoring and reporting on the system's safety objectives; • Develop, publish and enforce reasonable safety procedures pertinent to MET's activities; • Provide for adequate operator training and continuing instruction for all employees (and volunteers); • Make the determination as to preventability or non-preventability of accidents; • Meet with employees (and volunteers) involved in accidents that are determined to be preventable to review disciplinary and corrective action; and • Set a good example for safety by working in a safe manner and by encouraging others to do so. • Maintain and implement the MET's drug and alcohol program. • Participate in MET's Safety Committee. • Reports directly to the Accountable Executive.
Activities	MET uses the Safety Committee and Company meetings to discuss the SMS: • Safety Committee shall be held not less than quarterly. They should cover a topic germane to the time of year, types of accidents that have occurred in the near term or to reinforce important rules and regulations. • Company meeting are held annually or when needed to discuss the SMS and other driver concerns.
Key Staff (Operators, Mechanics)	Operators and mechanics are responsible for exercising maximum care and good judgment in preventing accidents. Each employee will: • Maintain and have in her/his possession a valid operator's license or Commercial Operators License (CDL) as required by law at all times while operating MET vehicles. • Maintain and have in her/his possession a valid Department of Transportation medical examiners certificate, as required by law or regulation, at all times while operating a MET vehicle. • Immediately report all motor vehicle citations, convictions, suspensions or removal of operator's license to Management. • Immediately report all accidents, no matter how insignificant they may seem, to the management team or her/his designee; • Immediately report all unsafe practices or vehicle conditions and not operate a vehicle in an unsafe condition; • Use proper judgment and care to avoid accidents; • Participate in all safety training; • Become familiar with, and operate within, all safety procedures for the assigned work activity; • Notify the Paratransit Operations Manager or her/his designee when taking medication, whether prescription or nonprescription, which may impair physical or mental alertness and affect ability to perform a job safely; • Notify the Paratransit Operations Manager or her/his designee when a physical or mental condition may impair the ability to perform the job safely; • Use or wear protective equipment at all times and obtain replacements for such equipment when damaged or otherwise unserviceable; • Accurately complete "Employee Statements" on appropriate accident reports; and • Consent to all mandated pre- or post-accident drug and/or alcohol tests or screenings whether required by law or MET.

Employee Safety Reporting Program

Describe the process and protections for employees to report safety conditions to senior management. Describe employee behaviors that may result in disciplinary action (and therefore, are excluded from protection).

MET has a policy to establish a means by which employees can formally or informally submit suggestions for improvements or voice areas of concern.

- *Informal Communication*: a suggestion, comment or concern to be openly reviewed by all employees for implementation discussion and ideas. Informal communications are not considered confidential.
- *Formal Communication*: a suggestion, comment or concern requiring review by a manager as prescribed by subject matter. Formal communications are to be kept confidential at all times.

Informal Communications

- A verbal suggestion can be made by any employee to a MET Transit Manager.
- All suggestions will be reviewed with the employee by a MET Transit Manager. The manager receiving the suggestion will, if necessary, review the suggestion with other managers including the General Manager. Employee will be notified of the result of their suggestion.

Formal Communications

- All formal communications shall be submitted to the General Manager. These suggestions shall be kept confidential and only reviewed by MET management.
- The employee submitting the suggestion shall be notified by MET management as soon as possible.

These communications can be reported to management verbally or in writing without fear of retribution.

All MET employees responsible for the supervision, management or direction of subordinate employees will be responsible for ensuring that all employees are informed on the methods used to communicate suggestions, comments or concerns. These communications will be included in the safety risk management process as described in the next section of this ASP. Each employee will:

- Report all unsafe practices or conditions to Management;
- Use proper judgment to avoid accidents;
- Notify a manager when taking medications which may impair physical or mental alertness and affect ability to perform a job safely;
- Notify appropriate emergency services for all injuries requiring immediate medical attention;
- Promptly report all work-related injuries and accidents to a manager;
- Accurately complete an Employee Statement on accident reports and submit to Management immediately.

Management will review these communications and if necessary, provide the Safety Committee a copy of pertinent information and documentation regarding any injury to any employee sustained while on duty within 48 hours of the injury. The Safety Committee will conduct an investigation and report of all findings and recommendations to the General Manager within 30 days of the injury. Recommendations that required immediate action will be noted on the Safety Committee's report. The General Manager will review the Safety Committee's findings and recommendations. Each recommendation will be documented with the action taken by the agency. The Safety Committee will be provided a copy of the actions taken within 120 days of receipt of the findings and recommendations. (Please refer to Safety Committee's responsibilities in the Agency's Safety Manual for additional details.)

In order to protect MET employees, MET has established procedures to ensure confidentiality for all staff and/or passenger information. The procedure includes the indiscriminate or unauthorized review, use, or disclosure of protected health and/or other information, personal or otherwise, regarding any passenger or staff member is expressly prohibited.

Each employee is expected to maintain the confidentiality of all fellow employees and passengers at all times and will not be released without written authorization. Employees are prohibited from discussing confidential information pertaining to fellow employees or passengers without prior consent. Any questions regarding the confidential status of specific employee or passenger information should be directed to the employee's supervisor. Violation of the policy will result in severe discipline up to and including termination.

It shall be the responsibility of the General Manager (Accountable Executive) and/or the Operations Managers (Chief Safety Officer) to ensure compliance.

5. Safety Risk Management

Safety Risk Management Process

Describe the Safety Risk Management process, including:
- *Safety Hazard Identification: The methods or processes to identify hazards and consequences of the hazards.*
- *Safety Risk Assessment: The methods or processes to assess the safety risks associated with identified safety hazards.*
- *Safety Risk Mitigation: The methods or processes to identify mitigations or strategies necessary as a result of safety risk assessment.*

METs Safety Risk Management (SRM) process includes all elements in the agency's operation. The Paratransit Operations Manager serves at the Chief Safety Officer to led MET in the Safety Risk Management (SRM) process. The Chief Safety Officer is assisted by the Fixed Route Operations Manager to provide guidance for all MET employees to identify the hazards and consequences, assess the safety risks and develop mitigation plans. As part of the adoption of this ASP, MET will utilize the safety risk index matrix table found in Attachment A in its SRM process.

Key terms included in the SRM process listed in 49 C.F.R. Part 673 are as follows:

L/S	1	2	3
A	1A	2A	3A
B	1B	2B	3B
C	1C	2C	3C

Severity Table	
1	
2	
3	

Likelihood Table	
A	
B	
C	

- Safety Event – a recorded accident, incident or occurrence.
- Safety Risk – the composite of predicted severity and likelihood of the potential effect of a hazard.
  - The allocation of resources to address safety concerns is based on safety risk.
- Hazard – any real or potential condition that can result in one or more consequences. A hazard can cause injury, illness, death or damage to equipment, facilities, rolling stock or infrastructure of MET or cause damage to the environment.
- Risk Mitigation – method or methods to eliminate or reduce the effects of hazards.
- Consequence – the potential effect of a hazard that can cause injury, illness, death, damage to property or environment.
- Causal Factors - An action, situation or condition that made the event more likely to occur or made the outcome more severe.

SAFETY HAZARD IDENTIFICATION

Implementing a safety hazard identification system will assist MET in order to identify hazards and potential consequences in the operation and maintenance of the company. When a safety hazard is observed by a MET employee, it is reported to management to review. The management team will discuss and document the hazard and either assess the situation for immediate correction or assemble the Safety Committee for further review. The Chief Safety Officer will create an inventory and summary of the reported or observed hazards. There are a number of sources that will help identify a safety hazard including the following:

- Employee reporting/suggestions
- Video surveillance review
- Management observations
- Maintenance reports and vehicle inspections
- Safety Committee
- Comments from the public, passengers and vendors
- Safety event investigations
- Federal Transit Administration (FTA) and other oversight authorities

The following is additional information that each employee receives in their employee handbook that explains the reporting process and safety hazard identification.

Employee Reporting Procedure
There are several reports and forms to be completed by all MET employees when encountering an accident or incident when performing their normal job duties. MET's policy defines an _accident_ as any circumstance involving a transit vehicle, whether in revenue service or not, and/or secondary vehicle(s) resulting in damage to one or more vehicles, property, or bodily injury and requiring the response of local law enforcement and/or emergency services personnel. An _incident_ is any circumstance involving a transit vehicle, whether in revenue service or not, resulting in damage to the transit vehicle and/or Agency property, bodily injury to a passenger or employee, or violation of any policy on prohibited behavior (i.e., disruptive behavior, prohibited items brought on board, etc.). Procedures must be followed and forms completed to ensure that all accidents/incidents are reported to the appropriate MET personnel in a timely manner.

Employee Suggestion Program
As employees of MET Transit, there are opportunities to contribute to the future success and growth by submitting suggestions for practical work-improvement or cost-savings ideas.

All regular employees are eligible to participate in the suggestion program. A suggestion is an idea that will benefit MET Transit by solving a problem, reducing costs, improving operations or procedures, enhancing customer service, eliminating waste or spoilage, or making MET Transit a better or safer place to work. Statements of problems without accompanying solutions, or recommendations concerning co-workers and management are not appropriate suggestions.

All suggestions should contain the description of the problem or condition to be improved, a detailed explanation of the solution or improvement, and the reasons why it should be implemented. All suggestions are submitted to Management for review, adoption or rejection of the suggestion. Special recognition will be given to employees who submit a suggestion that is implemented.

MET's safety performance guidelines provide a constant flow of communication from the front-line employee to management in order to identify and mitigate a safety risk. This communication and reporting allow management to review the concern in order to adjust, if needed, or correct the safety risk. Safety for MET employees and passengers is a major focus of our operations.

In addition to the aforementioned MET policies, the following is an excerpt from MET's Employee Policy Handbook on identifying safety hazards:

Safety Hazard Identification
- Operators shall not leave their bus unattended when in service or while there are passengers on board.
- Operators shall not eat or drink while driving the bus.
- Operators must stop at all railroad crossings when driving MET vehicles.
- Backing is prohibited unless absolutely necessary. When backing is necessary, it is only to be done with a spotter, or guide, or with extreme caution.
- In residential areas, operators should keep the bus noise level down so that buses do not disturb residents. Operators should be alert for cars backing out of driveways and for children playing outside. Operators should slow down anytime children are observed playing along the street. Operators should be aware of uncontrolled intersections.
- Operators must be aware of the school crossings on their routes. Traffic signals and crossing guard instructions must be obeyed.
- When traveling behind a school bus, operators must be prepared to stop if the school bus driver turns on the flashing yellow lights, which indicate the bus is stopping to pick up or drop off passengers. Once the bus is stopped, the school bus driver will activate the flashing red lights and the side stop sign. It is illegal to pass a school bus stopped in this manner. MET operators must not pass a school bus once the flashing yellow lights have come on. Operators should contact the dispatcher for assistance if delayed by a stopped school bus.
- Operators who observe a hazard in the streets such as a tree branch or trash should stop and move the hazard off the roadway whenever it is safe to do so and the schedule allows. Operators should leave objects that appear to be heavy or dangerous and notify the dispatcher. Operators should make a gradual stop and turn on the four-way flashers so that they are not involved in an accident when stopping to remove the debris from the street.
- Operators must follow the proper wheelchair securement procedure when transporting a passenger.
- Operators should not walk through the shop area for safety reasons. Buses parked in a shop stall will be driven out by a mechanic.
- The speed limit in the garage is 3 mph. If clearances are close when maneuvering in the garage, operators should contact shop for assistance.
- When parking vehicles inside the garage, these procedures should be followed.
  o The transmission must be in NEUTRAL or park.

- o The parking brake must be set. The door interlock should not be used as a parking brake. If the bus is found with parking brake not set, or if an accident occurs because the brake interlock fails and the parking brake was not set, disciplinary action may result.
  - o The drivers' seat should be moved back and the steering wheel should be left in an upright position.
  - o Operators should walk through the bus and pick-up lost items and trash.
  - o All lights and fans should be turned off.
  - o The front doors should be left open.
- All securement straps must be picked up and put in its proper place.
- All MET vehicles are equipped with a bio-hazard spill kit for blood borne pathogens and other body fluids. All MET operators are trained in the proper techniques in handling body fluid spills in order to protect themselves against serious diseases and to feel safe when working with the public.
- Operators follow certain procedures in the event of a fire on a bus.
- During severe weather, management will monitor the radio and television broadcasts and will notify operators of dangerous conditions including thunderstorms, tornadoes, floods, snow or ice conditions. Operators should notify the dispatcher if they must stop due to poor visibility caused by heavy rain or hail. Operators should also call the dispatcher for instruction if a detour is required due to street flooding.
- Operator and customer relations are important to establish an excellent reputation in the community. Customers must obey the following rules:
  - o The operator is in charge of the vehicle.
  - o Customers must remain seated at all times and until the vehicle comes to a complete stop.
  - o Customers are not allowed to have any part of their body out the windows of the vehicle.
  - o No smoking, drinking or eating is permitted in the vehicles.
  - o Customers must keep noise at a level that will allow the operator to hear traffic and assistance.
  - o Customers are not permitted to yell or throw things out of the windows.
  - o Customers are not to disturb the operator and the operator should keep conversation to a minimum to avoid distraction.

SAFETY RISK ASSESSMENT

As part of the adoption of this ASP, MET will assess a safety risk that is associated to an identified hazard by using the safety risk index matrix found in Attachment A of this ASP. This includes an assessment of the severity, likelihood and consequence of a hazard and ways to mitigate said hazard. The identified hazard event will be assessed using the following procedure:

1. Collect the information pertaining to an identified hazard;
2. Assess the severity of the hazard;
3. Assess the likelihood of the hazard;
4. Determine the safety risk; and
5. Document the results

These assessment procedures are summarized below.

1. Collect the information pertaining to an identified hazard
   The Chief Safety Officer will start a case by collecting information for a specific hazard and its consequence. A file is created and a number is associated for the hazard. The information that is collected may come from the following resources:
   - Interview employees
   - Review surveillance video
   - Gather photos
   - Inspect the hazard area
   - Review manuals, reports, inspections, or other records that may be associated to the hazard
   - Review past reports, or current mitigations on a similar hazard
   - Evaluate the tasks or training methods associated to the hazard and its consequences

2. Assess the severity of the hazard
   To assess the severity of a hazard, the Chief Safety Officer and Safety Committee will place the hazard in the following categories.
   - Catastrophic (Category 1) - Could result in death, permanent total disability, loss exceeding $250,000, system shutdown lasting 4 or more hours, or irreversible environmental damage that violates low or regulation.

- Serious (Category 2) - Could result in permanent partial disability, injury or occupational illness that may result in hospitalization of at least one person, property damage exceeding $25,000 but less than $250,000, system shutdown lasting between 10 minutes and 4 hours, or irreversible environmental damage that violates low or regulation.
- Marginal (Category 3) - Could result in injury or occupational illness resulting in one or more lost workday(s), property damage up to $25,000, system shutdown lasting less than 10 minutes, or irreversible environmental damage that violates low or regulation.

3. Assess the likelihood of the hazard
Once the severity score is developed for the hazard, the next step is to develop the likelihood or probability level for the event. The level of probability is described as follows:
- Frequent (Level A) – Likely to occur often in the life of an item. Continuously experienced. Potential consequence may occur more than one in 500 operating hours.
- Occasional (Level B) - Will occur several times in the life of an item. Will occur several times. Potential consequence may be experienced once in 500 to 60,000 operating hours.
- Remote (Level C) - Unlikely to occur in the life of an item. Unlikely but possible. Potential consequence may be experienced once in 60,000 to 1,800,000 operating hours.

4. Determine the safety risk
Once the severity and likelihood of a hazard is scored, the risk assessment matrix will determine the criteria for the safety risk. The criteria index is described as follows:
- High - Unacceptable, action required. Safety risk must be mitigated or eliminated.
- Medium – Undesirable, management decision. Executive management must decide whether to accept safety risk with monitoring or require additional action.
- Low - Acceptable with review. Safety risk is acceptable pending management review.

5. Document the results
The results of the hazard analysis will be documented in an excel spreadsheet as a Safety Risk Record. This spreadsheet will include the hazard number, date, type, consequence and mitigation. The safety risk will be reviewed by the Accountable Executive (General Manager) and the final determination will be added to the spreadsheet. This spreadsheet is a living document that will be reviewed by the Safety Committee and management in order to ensure that METs SRM process is followed with policies and procedures updated accordingly.

SAFETY RISK MITIGATION

The management department at MET Transit, led by the Accountable Executive and the Chief Safety Officer will review MET's current methods of safety risk mitigation through the SRM process described above. The goal is to develop procedures and mitigate or eliminate the safety risk associated with a hazard based on recommendations from the Safety Committee. This analysis and implementation of change will assist MET in reducing a safety risk by reducing the likelihood and severity of a potential consequence of hazards by 1) eliminating the hazard; 2) reducing the Severity of the hazard and; 3) reducing the likelihood of the hazard.

If possible, the SRM process will remove or eliminate the hazard through a policy or design change. If a hazard cannot be eliminated, the goal is to reduce the risk to an acceptable level with policy changes or initiate warning signs, procedures and training.

As the safety assessment is developed, MET will be able to prioritize and mitigate a safety risk through the Safety Risk Record with an ongoing review by MET management and the Safety Committee. The Safety Risk Record will include a list of each risk that is recorded, our observations, recommendations and actions mitigate the safety risk. Below is an example of the Safety Risk Record:

Hazard	Consequence	Safety Event	Safety Risk Index Result	Company Changes/Modifications to Operations
Lack of training for maintenance staff	Fleet operating with deficient brakes	Vehicle accident	High - unacceptable	Review budgets, staffing and training of maintenance employees
Bus stops adjacent to bike lane	Bus collision with cyclist or pedestrian	Pedestrian injury	Medium - undesirable	Driver training, mirror adjustment, turning signal functions, signage, awareness of surroundings
Snow pile at intersection	Obstructing drivers' line of sight	Vehicle or pedestrian accident	Low - acceptable	Contact local jurisdiction to remove snow near intersection

Current Safety Risk Assessment Projects

Hazard	Consequence	Safety Event	Safety Risk Index Result	Company Changes/Modifications to Operations
Upgrade shop and bus barn lights from metal halide vapor bulbs to LED bulbs	Failure of the metal halide vapor bulbs	Bulbs exploding and showering molten glass fragments onto surfaces and objects beneath the light.	Medium - undesirable	Review budgets, modify the light fixtures in the shop and bus barn to replace existing metal halide vapor bulbs with new LED bulbs.
Flammable and combustible liquids in storage area.	Spill or Fire in building	Flammable liquid spill or fire resulting in injury and building damage	High - Unacceptable	Purchase flammable storage cabinet and spill containers/pallets.

A more detailed analysis of the projects described above can be found in Attachment B at the end of this document.

6. Safety Assurance

Safety Performance Monitoring and Measurement

Describe activities to monitor the system for compliance with procedures for operations and maintenance.

Safety Assurance is defined in §673.5 as *the process within a transit agency's Safety Management System that function to ensure the implementation and effectiveness of safety risk mitigation, and to ensure that the transit agency meet or exceeds its safety objectives through the collection, analysis and assessment of information.*

The Safety Performance Monitoring and Measurement activities are used to assess MET's activities and compliance with this ASP. This is to confirm that MET has adequate and effective safeguards in place that identifies potential safety measures are satisfied.

A function of the Chief Safety Officer (Paratransit Operations Manager) is to monitor and measure the company's safety performance. The Fixed Route Operations Manager serves as the assistant safety officer with input from the lead mechanic. The final authority leads to the General Manager. This group of individuals work together as a team to monitor MET's operation and maintenance for compliance in order to manage a sufficient transit agency, using the following sources to collect data and information:
- Informal inspections,
- Review of on-board security camera video on specific incident and driver behavior,
- Employee incident reports,
- Review/Investigation of safety hazards,
- Review of new service modifications,
- Facility inspections and
- Vehicle inspections and preventative maintenance procedures.

MET developed an Employee Policy Handbook that describes the expectations for each employee and outlines the policies, procedures, programs and benefits for the company. In addition to this handbook, bulletins will be posted from time to time containing special orders and instruction. These bulletins must be fully observed while in effect. Permanent changes to policies, or additions, will be placed in the employee box and added the handbook. Each employee is expected to be familiar with MET's rules, and to consult the bulletin board daily for any changes or special orders.

Bus maintenance at MET is regulated by maintenance manuals, instructions, bulletins and vendor instructions. Maintenance procedures are established through the Employee Policy Handbook that regulates shop procedures, servicing buses, inspections and radio controls/guidelines.

The following activities are conducted at MET to maintain the sufficiency of our operations and maintenance procedures:
- Training – Refresher/Retraining
- Evaluation and Supervision
- On-street observations
- Motor Vehicle Record Checks
- Annual Physical Examinations
- Safety Meetings
- Seat-belt Usage
- Discipline/Recognition

Records of these activities will be kept on file to review and compare to the previous year's activities to comply with the Authority's existing job duties and procedures. The Chief Safety Officer will review these records and make a determination if procedural compliance is achieved or if any deficiencies are observed. If non-compliant activities are identified, this will be reevaluated by the Safety Committee and Accountable Executive through in the SRM process.
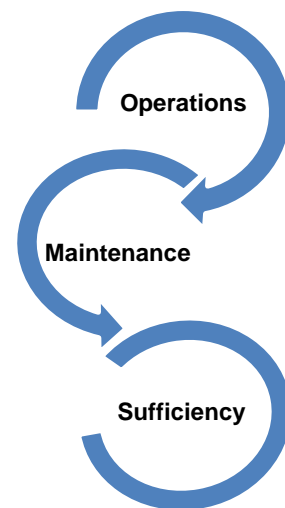
Describe activities to monitor operations to identify any safety risk mitigations that may be ineffective, inappropriate, or were not implemented as intended.

MET monitors operations to identify any safety risk mitigations that may be ineffective, inappropriate or were not implemented as intended. This duty is placed upon the Chief Safety Officer to maintain a Safety Risk Record to list the safety risk mitigations of the company. The Chief Safety Officer will assign the monitoring activities to the appropriate manager or supervisor to collect information on the following activities:

- Employee incident reporting
- Service activities (field observations)
- Operational and maintenance data and inspections
- Safety surveys, studies, inspections
- Safety/accident investigations
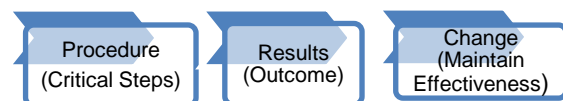
A Safety Committee is established at MET to act as a resource for enhancing and facilitating operation and maintenance safety within the company. This committee shall not supersede the role of management and employees in safety. Duties of the Committee include:
- Help management identify current accident prevention and safety training needs.
- Assist supervision to develop strategies that prevent vehicle accidents.
- Identify and communicate new vehicle and operator safety requirements. Along with Management, identify staff who should attend any training related to these requirements.
- Identify and recognize successful safety projects.
- Maintain a vehicle safety training resource library.
- Attend safety training as applicable to safety committee operations and general safety procedures.
- Maintain confidentiality of all records.
- Make sure the facilities and all equipment are in good working order.
- Conduct an annual safety audit of all facilities and provide a report, including recommendations to Management.

The reports are reviewed by the Safety Committee to determine the proper course of action to correct the safety event. The Safety Committee may determine that the Safety risk procedure may be ineffective and would identify new mitigation options. The Chief Safety Officer maintains a record of the safety events and procedures to measure outcome of a specific event. The Accountable Executive (General Manager) will review the reports and modify a policy or procedure with final approval by the Board of Directors.

Any violations or procedures that are discovered will be addressed promptly by management and employee bulletins will be posted throughout the facility.

Describe activities to conduct investigations of safety events to identify causal factors.

MET retains documented manuals and policies to follow certain procedures in investigating an accident, incident or occurrence as defined by the FTA in Part 673.5. All reports and forms are on file in the management office and will be collected and retained by the Chief Safety Officer. The Safety Committee will review the accident or incident report, surveillance videos, photos, witness testimony and other details to determine if:
- The accident was preventable or non-preventable.
- Does the safety event require retraining or discipline?
- What are the factors involved in the safety event?
- Did the employee follow the proper company procedures or before the safety event or was the employee careless in performing their work?

Additionally, all MET employees shall follow the proper procedures and complete accident and incident reports when a Safety Event occurs. The following is a list of factors that is included in the training/retaining of all employees and safety event investigations. A complete description of these factors is listed in the MET Employee Handbook:
- Vehicle Accidents
- Work Related Injuries
- Workplace Monitoring
- Workplace Violence Protection
- Cause of Accident
- Slippery Road Surfaces
- Driving at Night
- Winter Driving
- Tornado
- Flood Procedures – Vehicle
- Vehicle Fire / Evacuation
- Hold up / Robbery
- Items not Allowed on the Bus
- Use of Equipment and Vehicles
- Personal Appearance

Describe activities to monitor information reported through internal safety reporting programs.

The Safety Committee shall review all accidents along with safety hazards and create a report to summarize their findings. The Committee will review all safety reports, safety meeting minutes and complaints. All matters presented to the Safety Committee will be investigated and analyzed through MET's SRM process.

Any accident involving MET or its property (including personal injury accidents) in any manner shall be fully, properly and completely reported by employees involved as quickly as possible, but in no event shall reports be delayed in excess of twenty-four (24) hours from the time of happening. Any unusual occurrences, however apparently insignificant (such as disturbances, observations of accidents, etc.), shall be reported fully, properly and completely by the employee concerned in the method prescribed by MET.

The Safety Committee will collect all reports to develop an annual summary of all Safety Events. This summary will provide MET valuable data that will lead to the identification of hazards through the SRM process.

Management of Change (Not Required for Small Public Transportation Providers)

Describe the process for identifying and assessing changes that may introduce new hazards or impact safety performance.

Continuous Improvement (Not Required for Small Public Transportation Providers)

Describe the process for assessing safety performance. Describe the process for developing and carrying out plans to address identified safety deficiencies.

7. Safety Promotion

Competencies and Training

Describe the safety training program for all agency employees and contractors directly responsible for safety.

To ensure orderly operations and provide the best possible work environment, MET expects employees to follow rules of conduct that will protect the interests and safety of all employees, passengers and the organization. MET does not hire outside contractors for the Authority's daily operations. Initial training applies to all new hires including:
- Managers and Supervisors
- Dispatchers
- Bus operators
- Shop employees

All employees at MET will complete their initial training and will demonstrate their understanding of the following:
- MET Policies and Procedures
- MET Employee Manual
- Ecolane system training (Dispatchers)
- Radio procedures
- Paperwork requirements
- Training Requirements for Drug and Alcohol Program
- Vehicle Familiarization of all vehicles
- Basic Operations and Maneuvering
- Pre and Post Trip Inspections
- Adverse Weather Conditions
- Emergency Management
- Disability Awareness
- Passenger Assistance

Federal and State Guidelines and Regulations
- Drug and Alcohol Program
  - Awareness training with video and handbook
- Blood borne Pathogens
  - Video with fact sheets, spill kit, demonstration and quiz
- Chemicals in the workplace
  - Safety video, MSDS information and quiz
- ADA requirements
  - Disability awareness, videos, workbook, quiz
- Other federal and state requirements

The bus operators will be training on the proper pre trip inspections and the MET inspection form. These employees will be given a complete familiarization of the vehicle including engine compartment, all operator controls, emergency equipment and customer safety devices. This training will cover the following:
- Transportation Safety Institute (TSI) training
- Introduction to Bus Operator Training
- Vehicle Operations

- Emergency Management
- Customer Service
- Passenger Assistance Training (PAT)
  - All operators operating mobility aid lifts, ramps, or otherwise assisting disabled persons shall receive specialized training and supervised practice on safe and proper techniques prior to offering such assistance. Such operators shall also be prepared to deal with mechanical failures of lifts or other emergencies that may arise.
- On-street Training
  - All trainees shall complete an on the road training program that shall cover all aspects of driving duties. Due to varying levels of expertise and experience, the program will be adapted to the training needs of the trainee. After initial training, the new operator will be assigned to an experienced supervisor or operator for continued orientation and observation. Only when the operator is deemed to be fully trained will he or she be permitted to operate a vehicle in regular service. All newly trained drivers will receive a written evaluation by the Paratransit Operations Manager at the time they go solo.

Typical training sessions include 10 days of classroom instruction and up to 80 hours of driving. Operators must receive this training before they are released for solo duty.

Additional management training includes the following:
- On-going video and webinar training for managers and supervisors;
- Internal promotions require refresher training.
- Management will initiate the Public Transportation Safety Certification Program including:
  - SMS Awareness (eLearning);
  - Safety Assurance (virtual instructor led);
  - SMS Principles for Transit (classroom);
  - Transit Safety and Security Program by TSI.

Additional bus operator training includes the following:
- Annual bus operator refresher training;
- Operator retraining (recertification or return to work);
- Special driving conditions (interstate, intersections, railroad crossings);
- Vehicle evacuation;
- Backing-up vehicles;
- Boarding and alighting passengers;
- Lift ramp procedures and wheelchair securement;
- Defensive driving;
- Transporting individuals with disabilities;
- Passenger relations.

Additional shop and maintenance training include the following:
- Vehicle maintenance safety and technician skill training;
- Vendor training;
- Shoe, hearing and eye glass protection training;
- Ongoing hazardous materials training;
- Ongoing fire protection training;
- Awareness to replace worn tools and equipment.

The Paratransit Operations Manager is responsible for the training of all employees.

Safety Communication

Describe processes and activities to communicate safety and safety performance information throughout the organization.

To assist in providing a safe and healthful work environment for employees, customers, and visitors, MET has established a workplace safety program. This program is a top priority for MET. The Paratransit and Fixed Route Operations Manager has responsibility for implementing, administering, monitoring, and evaluating the safety program. Its success depends on the alertness and personal commitment of all.

MET provides information to employees about workplace safety and health issues through regular internal communication channels such as supervisor-employee meetings, bulletin board postings, memos, or other written communications. A labor-management safety committee, composed of representatives from throughout the organization, has been established to help monitor MET's safety program and to facilitate effective communication between employees and management about workplace safety and health issues.

Each employee is expected to obey safety rules and to exercise caution in all work activities. Employees must immediately report any unsafe condition to the appropriate supervisor. Employees who violate safety standards, who cause hazardous or dangerous situations, or who fail to report or, where appropriate, remedy such situations, may be subject to disciplinary action, up to and including termination of employment.

In the case of accidents that result in injury, regardless of how insignificant the injury may appear, employees should immediately notify the appropriate supervisor. Such reports are necessary to comply with laws and initiate insurance and workers' compensation benefits procedures.

MET Transit believes that the work conditions, wages, and benefits it offers to its employees are competitive with those offered by other employers in this area and in its industry. If employees have concerns about work conditions, or compensation, they are strongly encouraged to voice these concerns openly and directly to their supervisors.

Our experience has shown that when employees deal openly and directly with supervisors, the work environment can be excellent, communications can be clear, and attitudes can be positive. We believe that MET Transit amply demonstrates its commitment to employees by responding effectively to employee concerns.

Additional Information

Supporting Documentation			
Include or reference documentation used to implement and carry out the Safety Plan that are not included elsewhere in this Plan.			
• MET Employee Manual	• Substance Abuse Policy	• Labor Contract	• Safety Manual
MET will maintain documentation related to the development and upkeep of this SMS along with the programs, policies and procedures of ASP. MET shall retain the SMS documentation for at least three years and it will be available for review upon request to the FTA, Iowa DOT and other oversight agencies.			

Definitions of Special Terms Used in the Safety Plan

Term	Definition
Accident	Any circumstance involving a transit vehicle, whether in revenue service or not, and/or secondary vehicle(s) resulting in damage to one or more vehicles, property, or bodily injury and requiring the response of local law enforcement and/or emergency services personnel.
Accountable Executive	General Manager of MET Transit who has the ultimate responsibility for carrying out the Public Transportation Agency Safety Plan.
Agency Safety Plan (ASP)	Formal document that defines its Safety Management System (SMS) processes and procedures and meets the regulatory requirements of the Public Transportation Agency Safety Plan (PTASP) final rule at 49 CFR Part 673.
Causal Factors	An action, situation or condition that made the event more likely to occur or made the outcome more severe.
Consequence	The potential effect of a hazard that can cause injury, illness, death, damage to property or environment.
Hazard	Any real or potential condition that can result in one or more consequences.
Incident	Any circumstance involving a transit vehicle, whether in revenue service or not, resulting in damage to the transit vehicle and/or Agency property, bodily injury to a passenger or employee, or violation.
Major Mechanical System Failure	The number of towed vehicles.
Occurrence	An event without any personal injury in which any damage to facilities, equipment, rolling stock, or infrastructure that does not disrupt the operations of the agency.
Operator	Anyone who operates a MET vehicle
Performance Measure	A quantifiable indicator of performance or condition that is used to establish targets related to safety management activities and to assess progress toward meeting the established targets.
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 FTA.
Public Transportation Agency Safety Plan (Agency Safety Plan	A documented comprehensive Agency Safety Plan for a transit agency that is required by 49 U.S.C. 5329 and Part 673.
Risk Mitigation	Method or methods to eliminate or reduce the effects of hazards.
Safety Assurance	The processes within a transit agency's Safety Management System that function 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 Event	A recorded accident, incident or occurrence

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 Management System	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 Manual	This manual outlines the Safety and Health Controls policies and programs, promotes better working conditions and establish safe work practices for preventing accidents and injuries.
Safety Performance Target	A performance target related to safety management activities.
Safety Promotion	A combination of training and communication of safety information to support SMS as applied to the transit agency's public transportation system.
Safety Risk Management	A process within a transit agency's Agency Safety Plan for identifying hazards and analyzing, assessing and mitigation safety risk.
Serious Injury	Any injury which: 1) requires hospitalization for more than 49 hours, commencing within 7 days from the date when the injury was received; 2) results in a fracture of any bone; 3) causes severe hemorrhages, nerve, muscle or tendon damage; 4) involves and internal organs; or 5) involves second- or third-degree burns, or any burns affecting more than 5 percent of the body.
System Reliability	Mean distance between major mechanical failures by mode. Calculated by vehicle tows to the maintenance shop.
Transit Asset Management Plan (TAM)	The strategic and systematic practice of procuring, operating, inspecting, maintaining, rehabilitating and replacing transit capital assets to manage their performance, risks and cost 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 CFT Part 625.

List of Acronyms Used in the Safety Plan

Acronym	Word or Phrase
ADA	Americans with Disabilities Act of 1990
ASP	Agency Safety Plan
CFR	Code of Federal Regulations
FTA	Federal Transit Administration
MET	Metropolitan Transit Authority of Black Hawk County
MPO	Metropolitan Planning Organization
Part 673	49 CFR Part 673 (Public Transportation Agency Safety Plan)
PTASP	Public Transportation Agency Safety Plan
SMS	Safety Management System

SRM	Safety Risk Management
TAM	Transit Asset Management Plan
U.S.C.	United States Code

Attachment A: Safety Risk Index Matrix

Severity Categories		
Description	**Severity Category**	**Criteria**
Catastrophic	1	Could result in death, permanent total disability, loss exceeding $250,000, system shutdown lasting 4 or more hours, or irreversible environmental damage that violates low or regulation.
Serious	2	Could result in permanent partial disability, injury or occupational illness that may result in hospitalization of at least one person, property damage exceeding $25,000 but less than $250,000, system shutdown lasting between 10 minutes and 4 hours, or irreversible environmental damage that violates low or regulation.
Marginal	3	Could result in injury or occupational illness resulting in one or more lost workday(s), property damage up to $25,000, system shutdown lasting less than 10 minutes, or irreversible environmental damage that violates low or regulation.

Likelihood Levels			
Description	**Level**	**Individual Item**	**System of Vehicle Fleet**
Frequent	A	Likely to occur often in the life of an item.	Continuously experienced. Potential consequence may occur more than one in 500 operating hours.
Occasional	B	Will occur several times in the life of an item.	Will occur several times. Potential consequence may be experienced once in 500 to 60,000 operating hours.
Remote	C	Unlikely to occur in the life of an item.	Unlikely but possible. Potential consequence may be experienced once in 60,000 to 1,800,000 operating hours.

Risk Assessment Matrix			
Likelihood/Severity	**Catastrophic (1)**	**Serious (2)**	**Marginal (3)**
Frequent (A)	High (1A)	High (2A)	Medium (3A)
Occasional (B)	High (1B)	Medium (2B)	Low (3B)
Remote (C)	High (1C)	Medium (2C)	Low (3C)

Safety Risk Index	Criteria by Index
High	Unacceptable – Action Required: Safety risk must be mitigated or eliminated.
Medium	Undesirable – Management Decision: Executive management must decide whether to accept safety risk with monitoring or require additional action.
Low	Acceptable with Review: Safety risk is acceptable pending management review.

Attachment B: Safety Risk Assessment Projects

PROJECT: 2021-2022 Upgrade Shop and Bus Barn Lights
PROBLEM: Assess the viability of maintaining the existing metal halide vapor bulbs. Metal halide lights have been known to fail, catastrophically, showering molten glass fragments onto surfaces and object beneath the light.
Process: Site visit with company insurance provider to discuss risk management concerns in the company. Insurance company recommended making modifications to the lighting system in the shop area and bus barn.
TASK: Create budget item in the Local Capital project for new LED bulbs. Keep existing fixtures and remove light ballast for new LED bulb with internal fan.
ROLES AND RESPONSIBILITIES: Management and shop employees assessed this issue and determined the severity, likelihood of a metal halide vapor bulb failure.

Shop and Bus Barn Light Upgrade - Safety Risk Index Matrix		
Severity Categories		
Description	Severity Category	Criteria
Catastrophic	1	Could result in death, permanent total disability, loss exceeding $250,000, system shutdown lasting 4 or more hours, or irreversible environmental damage that violates low or regulation.
Serious	2	Could result in permanent partial disability, injury or occupational illness that may result in hospitalization of at least one person, property damage exceeding $25,000 but less than $250,000, system shutdown lasting between 10 minutes and 4 hours, or irreversible environmental damage that violates low or regulation.
Marginal	3	Could result in injury or occupational illness resulting in one or more lost workday(s), property damage up to $25,000, system shutdown lasting less than 10 minutes, or irreversible environmental damage that violates low or regulation.

Likelihood Levels			
Description	Level	Individual Item	System of Vehicle Fleet
Frequent	A	Likely to occur often in the life of an item.	Continuously experienced. Potential consequence may occur more than one in 500 operating hours.
Occasional	B	Will occur several times in the life of an item.	Will occur several times. Potential consequence may be experienced once in 500 to 60,000 operating hours.
Remote	C	Unlikely to occur in the life of an item.	Unlikely but possible. Potential consequence may be experienced once in 60,000 to 1,800,000 operating hours.

Risk Assessment Matrix			
Likelihood/Severity	Catastrophic (1)	Serious (2)	Marginal (3)
Frequent (A)	High (1A)	High (2A)	Medium (3A)
Occasional (B)	High (1B)	Medium (2B)	Low (3B)
Remote (C)	High (1C)	Medium (2C)	Low (3C)

Safety Risk Index	Criteria by Index
High	Unacceptable – Action Required: Safety risk must be mitigated or eliminated.
Medium	Undesirable – Management Decision: Executive management must decide whether to accept safety risk with monitoring or require additional action.
Low	Acceptable with Review: Safety risk is acceptable pending management review.

OUTCOME: The above matrix determined that this is an undesirable situation. There is a remote possibility of metal halide vapor bulb failure that could injure an employee standing under the light fixture. This could result in hospitalization and have no bearing on a system shutdown. Management determined to replace all the metal halide vapor bulbs with LED bulbs in the shop and bus barn.

Winter 2023/2024: Remaining metal halide lights in the bus barn and florescent bulbs throughout the building and Central Transfer have been replaced with LED lights.

TIMELINE: Project completed.

PROJECT: 2022 Flammable and Combustible Liquids Storage Room

PROBLEM: Our engine oils and liquids are stored in a location that is connected to hydraulic lines that run to each shop bay. These flammable liquids were stored in an open hallway area between the east and west shop area.

TASK: Construct a flammable and combustible liquids storage room or purchase a combustible liquids storage cabinet. Due to the limited amount of flammable liquids volume, a flammable storage cabinet will suffice. The plan is to purchase and install a containment pallet that is placed under the oil storage tank to prevent the flow of liquids and spills. The remaining containers will be placed in flammable and combustible liquid storage cabinets.

ROLES AND RESPONSIBILITIES: Management and shop employees assessed this issue and determined the severity, likelihood of a flammable liquids fire or spill.

Flammable and Combustible Liquids Storage Room - Safety Risk Index Matrix		
Severity Categories		
Description	Severity Category	Criteria
Catastrophic	1	Could result in death, permanent total disability, loss exceeding $250,000, system shutdown lasting 4 or more hours, or irreversible environmental damage that violates low or regulation.
Serious	2	Could result in permanent partial disability, injury or occupational illness that may result in hospitalization of at least one person, property damage exceeding $25,000 but less than $250,000, system shutdown lasting between 10 minutes and 4 hours, or irreversible environmental damage that violates low or regulation.
Marginal	3	Could result in injury or occupational illness resulting in one or more lost workday(s), property damage up to $25,000, system shutdown lasting less than 10 minutes, or irreversible environmental damage that violates low or regulation.

Likelihood Levels			
Description	Level	Individual Item	System of Vehicle Fleet
Frequent	A	Likely to occur often in the life of an item.	Continuously experienced. Potential consequence may occur more than one in 500 operating hours.
Occasional	B	Will occur several times in the life of an item.	Will occur several times. Potential consequence may be experienced once in 500 to 60,000 operating hours.
Remote	C	Unlikely to occur in the life of an item.	Unlikely but possible. Potential consequence may be experienced once in 60,000 to 1,800,000 operating hours.

Risk Assessment Matrix			
Likelihood/Severity	Catastrophic (1)	Serious (2)	Marginal (3)
Frequent (A)	High (1A)	High (2A)	Medium (3A)
Occasional (B)	High (1B)	Medium (2B)	Low (3B)
Remote (C)	High (1C)	Medium (2C)	Low (3C)

Safety Risk Index	Criteria by Index
High	Unacceptable – Action Required: Safety risk must be mitigated or eliminated.
Medium	Undesirable – Management Decision: Executive management must decide whether to accept safety risk with monitoring or require additional action.
Low	Acceptable with Review: Safety risk is acceptable pending management review.

OUTCOME: The above matrix determined that this is an unacceptable situation. There is a remote possibility of a flammable liquids fire or spill. This could result in hospitalization and an interruption to operations. Management made the choice to purchase a flammable storage cabinet and spill containment pallets for this area. Any future building improvements involving sprinklers, hydraulic line relocation should be evaluated if a building addition is constructed to house the engine oils and flammable liquids.

TIMELINE: Project completed.