

NEW YORK STATE
PUBLIC TRANSPORTATION
SAFETY BOARD

SYSTEM SAFETY PROGRAM PLAN GUIDELINES

FOR LARGE SIZE BUS SYSTEMS

(BUS FLEET SIZE 200+ BUSES)

... establish a public transportation safety board ... to insure the health and safety of the citizens of the State who use public transportation facilities.
Legislative findings, L.1983, c.428§1.

INTRODUCTION TO SYSTEM SAFETY PROGRAM PLAN GUIDELINES

The following guidelines for a bus system safety program plan are intended to furnish an operational bus transportation system with the basic criteria for developing a safety program plan. These guidelines identify all the elements which should be considered in a system wide approach to safety. They stress operational safety rather than industrial safety, as operational safety implies a broader perspective in providing a safety service to the fare paying public and as the bulk of the accidents occur in the operational aspect of the transportation system. The System Safety Program Plans which were developed by the American Public Transit Association for the Urban Mass Transportation Administration have been used as a resource material and are incorporated into the following System Safety Program Plan Guidelines.

The System Safety Program Plan Guidelines are intended to be flexible standards for developing a system safety program, and ensure that all essential elements are covered in a transit operator's safety program. One of the most significant factors of these guidelines and in the design of a system safety program, is the size of the bus system. The Public Transportation Safety Board recognizes and is sensitive to the diversity of bus transit systems and operational characteristics of the approximate 135 public transportation systems under its jurisdiction throughout New York State. This diversity of size and operational characteristics preclude the guidelines from being used to the same level of detail by each operator. Three separate guidelines have been developed to address small (1-25 buses), medium (26-199 buses) and large (200+ buses) bus transit systems. The guidelines should be used to develop the most efficient and comprehensive plan for that system based on its characteristics.

It is the intent of these guidelines to highlight the significant factors which should be considered in the efficient and safe operation of transportation vehicles in providing a service to the public.

The paramount concern of the Public Transportation Safety Board, cited in the PTSB Rules and Regulations, is the actual and perceived value of requiring each transportation operator to develop and adopt a system safety program plan. The value of such a program is summarized by the following:

1. It gives evidence of a positive and active approach towards safety.
2. It enables the transit system to display to its best advantage its safety policies, programs and goals.
3. It gives the transportation operator a professional approach to safety.
4. It enables management to see its entire safety effort coordinated into a system wide approach.
5. It assures management that all safety responsibilities and tasks are documented in a logical and organized manner.
6. It develops a program where SAFETY is part of all decision making processes.
7. It assures a consistent safety program among transportation operators through the State.

If the outline of the revised Public Transportation Safety Board System Safety Program Plan Guidelines contains a program that the bus system does not have, the PTSB recommends that the bus system comply with that program to ensure a systematic approach to transportation safety.

SECTION 1 - EXECUTIVE POLICY STATEMENT

Policy Statement

The management statement of a system safety policy should be a brief statement made by top management, which establishes the safety philosophy of the bus transportation system and to what extent safety is part of its operation. This statement addresses the tone of the safety plan and directs the individual or individuals responsible to carry out the system safety plan according to its safety philosophy.

The system safety program plan has been developed as the top tier safety document within the transit property. The plan is intended to establish the safety philosophy and the property's commitment of safety. The plan should be signed by the top executive.

Authority

The policy should define the authority and responsibility of the safety organization. Include but not limited to the following:

- 1.1 Safety policy signed by the General Manager, President or Chairman of the Board.
- 1.2 Policy statement establishes safety philosophy for the agency.
- 1.3 Policy identifies extent of commitment to safety.
- 1.4 Policy designates and directs responsible individual(s) to carry out the SSPP and provides the basis to carry out safety rules and procedures.
 - 1.4.1 Procedure in place for written documentation of all responsible individuals with the property who have received, and have full knowledge of and are responsible for implementation of all or part of the SSPP.
- 1.5 Policy provides the basis from which safety rules and applicable procedures can be carried out.
- 1.6 Policy defines safety's mission and role in the organization.

SECTION 2 - GOALS AND POLICIES

The purpose of a bus system safety program plan is to improve public transportation safety by reducing the number, rate and severity of bus accidents. This section should identify the role that management plays in developing safety goals necessary to accomplish the purpose of the SSPP. Both short and long term goals should be established and measures to gauge accomplishment should be described.

The role of the other organizations in the safety areas, and their interface with the Safety organization within the property should be defined. For example, the Operations/Transportation department has a key responsibility in developing operating procedures for abnormal and emergency situations.

- 2.1 Clearly define the safety goals, both qualitatively and quantitatively.
- 2.2 Describe management participation in developing and updating goals and management's role and authority.
- 2.3 Describe the roles and authority of the company's departments/divisions/groups in establishing goals and policies. Define interfaces.
- 2.4 Define safety's role, authority and interface with other departments throughout company
- 2.5 Define and convey intent of goals and policies.
- 2.6 Safety goals and policies updated annually, or as required based upon system changes.

SECTION 3 - HISTORY & BACKGROUND

In addition to the background of the carrier, the plan should discuss multi-jurisdictional operations (for example, operating in New Jersey and New York), and special leasing arrangements that could affect maintenance and operations.

Describe the following:

- 3.1 History/background of carrier's SSPP.
- 3.2 Legal status and structure, agency's charter.
- 3.3 How agency was formed (mergers, enabling legislation, etc.)
- 3.4 List governing regulatory agencies.
- 3.5 Description of the owner(s)/operator of the bus fleet and company (including parent and subsidiary companies, employee roster; see for HB3-1) and their interfaces with local, county and state jurisdictions.

SECTION 4 - SCOPE OF OPERATION

The plan should cover the type of service, the operating routes and schedules and maintenance requirements.

The operating and maintenance rules and procedures should be referenced and pertinent forms attached to the plan.

Describe the following:

- 4.1 The scope of bus transportation services provided by the company, including but not limited to the following.
 - 4.1.1 Transportation modes: Types of service (commuter, demand, etc.);

Type of Operations:

- (A) Schedule Local (B) Schedule Express (C) Charter (D) Subscription
 (E) Demand (F) Other (Specify)

<u>Company Name</u>	<u>Type of Service</u>	<u>Percentage of Service</u>	<u>Annual Number of Passengers</u>	<u>Annual Number Revenue Miles</u>
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1. _____
2. _____
3. _____
4. _____
5. _____

4.1.2 Operating schedules, routes, fleet size, types of patrons (school children, elderly, etc.) road conditions and operating environment.

4.1.3 Types, characteristics, models and age of buses used. See attached form EI-I.

4.1.4 Methods of control from dispatching facility.

4.2 List operating and maintenance rules and procedures including but not limited to the following:

4.2.1 Standard operating procedures (SOP's).

4.2.2 Emergency operating procedures (EOP's), addressing contingency plans and O & M participation, including but not limited to the following:

4.2.2.1 EOP for fire and smoke on bus is attached or referenced.

4.2.2.2 EOP for fire and smoke on right-of-way, is attached or referenced.

4.2.2.3 EOP for passenger evacuation from bus is attached or referenced.

4.2.2.4 EOP for bus collision with another vehicle or fixed object is attached or referenced.

4.2.2.5 EOP for person hit by bus is attached or referenced.

4.2.2.6 EOP for crowd control or incident on bus is attached or referenced.

4.2.2.7 EOP for severe weather and natural disaster conditions (earthquake, flooding, high winds, heavy snow, etc.) is attached or referenced.

4.2.2.8 Storage yard and shop emergency operating procedures and contingency plans are established/approved (copy attached or referenced in SSPP).

4.2.3 Abnormal operations for failure recovery procedures specifying contingency plans and O&M participation are attached or referenced in SSPP. Examples are:

- 4.2.3.1 Operating procedure for engine/drive failures are attached or referenced.
- 4.2.3.2 Operating procedure for communications and automatic vehicle locator (AVL) system failures, are attached or referenced.
- 4.2.3.3 Operating procedure to handle detours is attached or referenced.
- 4.2.3.4 Operating procedure for traffic congestion and bus delay (due to road construction, other vehicles accidents, etc.), is attached or referenced in SSPP.
- 4.2.3.5 Operating procedure for inclement weather (snow fog, rainstorm), is attached or referenced in SSPP.
- 4.2.3.6 HVAC Operating procedure for bus subsystems malfunction (doors, brakes, HVAC, lighting, wheelchair lift, kneeling), is attached or referenced in SSPP.
- 4.2.4 Safety related maintenance procedures attached or referenced, including but not limited to the following:
 - 4.2.4.1 Preventive maintenance procedures and intervals for bus subsystems are established and referenced for each category.
 - 4.2.4.2 Corrective maintenance procedures for facilities, shop equipment and bus subsystems are attached or referenced.
 - 4.2.4.3 Manpower size and qualifications for each maintenance discipline (mechanical, body, unit rebuild, etc.), listed or referenced.
 - 4.2.4.4 Trend analysis programs in-place for frequency of corrective/preventive maintenance, for all subsystems, referenced.
- 4.3 Training requirements for O & M personnel, including but not limited to the following:
 - 4.3.1 Vehicle operator training requirements.
 - 4.3.2 Dispatcher training requirements.
 - 4.3.3 Facilities maintenance personnel training requirements.
 - 4.3.4 Fleet maintenance personnel training requirements.
 - 4.3.5 Training drills, refresher courses for operators and maintainers, types and frequency.
 - 4.3.6 New employee orientation training and qualification requirements.
 - 4.3.7 Employee special assistance programs (counseling, rehabilitation, etc.)

SECTION 5 - ORGANIZATION

This section is a summary of the safety responsibilities of departments other than the safety department. It highlights their safety responsibilities as it contributes to the safety of passengers, employees of the general public and which prevent or reduces damages to property. A summary of safety responsibilities of each individual would be sufficient.

Some examples of safety-related responsibilities of other departments are training (where training is not a function of the safety staff), investigation of unsafe practices (where all departments would be involved), disciplinary actions (where each department head or supervisor is responsible for the actions of his employees), safety rules and procedures, routine maintenance checks, etc.

In order to involve the entire organization in safety, which is System Safety, the system safety program plan should identify what the contribution of each group is in promoting safety transportation service.

The plan should describe or show geographically all the organizational elements within the system. Inter-relationships should be described.

- 5.1 Organizational structure defined and all department/division/group/sections shown on organizational chart.
- 5.2 Roles, responsibilities, authority and interfaces defined. All in-house organizations have data and understand interrelationships.
- 5.3 Describe how safety recommends safety changes related to functional/organizational changes for management review and approval.

SECTION 6 - PLANT EQUIPMENT AND FACILITIES

The plan should contain a comprehensive description of plant, equipment and the facilities.

Describe the following:

- 6.1 Bus terminals and station stops address safety related characteristics including but not limited to the following:
 - 6.1.1 Stations/bus stops characteristics (e.g., at-grade, mixed traffic, pedestrian mall, multi-modal transfer station, etc.).
 - 6.1.2 Stations/bus stops construction materials defined.
 - 6.1.3 Loading and unloading zones are clearly signed and marked.
 - 6.1.4 Bus station/stops design meet accessibility requirements for patrons including elderly and handicapped.
- 6.2 Dispatching facility contains safety related characteristics including but not limited to the following.

- 6.2.1 Dispatching procedures for normal operations and contingency plans have been developed.
- 6.2.2 The staffing requirements for the dispatchers have been studied and incorporated.
- 6.2.3 Central control facility equipment is available to handle defined contingencies (reference checklist section 4).
- 6.2.4 Ergometric design requirements have been incorporated into the facility.
- 6.2.5 Standard operating procedures (SOP's) and emergency operating procedures (EOPS) meet requirements such as the following:
 - 6.2.5.1 SOP's and EOP's are approved, distributed and readily available to dispatchers.
 - 6.2.5.2 SOP's and EOP's are kept updated and current.
 - 6.2.5.3 Dispatchers are familiar with the current SOP's and EOP's, which are in place (see Section 11).
- 6.2.6 Fire protection measures at dispatching facility (suppression, detectors, and extinguisher) are in place.
- 6.3 The maintenance facilities contain safety related characteristics including but not limited to the following:
 - 6.3.1 Maintenance facilities include definition of characteristics for each facility (type of maintenance, layout, etc.).
 - 6.3.2 Fire/life safety equipment at the maintenance facilities are in place, such as sprinklers, detectors & fire extinguisher.
 - 6.3.3 Safety related maintenance procedures are in place (e.g., jacking, safety stands, machine operations, moving buses, etc.).
 - 6.3.3.1 Suppression system at high hazard areas in the maintenance facilities is in place.
 - 6.3.3.2 Standpipes are in place at high hazard areas at the maintenance facilities.
 - 6.3.3.3 Detection and alarm systems, e.g.: fire, smoke, atmosphere (gas, low oxygen), are used as applicable in the maintenance facilities.
 - 6.3.3.4 Maintenance facilities are equipped with fireman's control of elevators.
 - 6.3.3.5 Maintenance facilities are equipped with signing, communications (public-address, telephone, paging).
 - 6.3.3.6 Egress routes at the maintenance facilities are marked, unobstructed.

- 6.3.3.7 Maintenance facilities are equipped with fire extinguisher.
- 6.3.3.8 Maintenance facilities are equipped with power on/off alarms and indications.
- 6.3.3.9 Maintenance facilities are equipped with shop power emergency disconnect.
- 6.3.3.11 The maintenance pits and openings are protected.
- 6.3.3.12 Shop procedures for moving buses are in place at the maintenance facility/garages.
- 6.3.3.13 Safety related maintenance procedures are in place (e.g., jacking, safety stands, machine operations, etc.).

6.4 The bus fleet contains characteristics including but not limited to the following:

- 6.4.1 Safety related bus characteristics and on-board subsystems/equipment (e.g., brakes, wheelchair lift, radio).
 - 6.4.1.1 Bus emergency exits, door releases are described.
 - 6.4.1.2 Bus fire extinguisher.
 - 6.4.1.3 Bus communication system.
 - 6.4.1.4 Bus equipment by-pass controls and releases.
 - 6.4.1.5 Bus signing and graphics described or referenced.
 - 6.4.1.6 Bus fare collection equipment/crowd bar described, re: protecting passengers from falls.
 - 6.4.1.7 Bus lighting (normal and emergency).
 - 6.4.1.8 Bus HVAC.
 - 6.4.1.9 Bus kneeling equipment.
 - 6.4.1.10 Bus wheelchair lift.
 - 6.4.1.11 Bus engine and drive system.
 - 6.4.1.12 Bus suspension and steering.
- 6.4.2 Bus fire protection/flammability characteristics defined, including bus not limited to the following
 - 6.4.2.1 Flame spread for materials on the bus.
 - 6.4.2.2 Smoke emission for materials on bus.

6.4.2.3 Bus floor fire resistivity.

6.4.2.4 Bus crash worthiness.

SECTION 7 - SYSTEM MODIFICATION

The plan should address any on-going or planned activities that in turn result in changes to the SSPP. Also, the safety organization's role in reviewing engineering changes should be included.

- 7.1 Provide rules and procedures on incorporating changes and modifications into the bus system, including but not limited to the following:
 - 7.1.1 Provisions for incorporating new/extended lines into the bus system.
 - 7.1.2 Provisions for incorporating new/upgraded bus fleet into the system, and provisions regarding the purchase and maintenance of used buses.
 - 7.1.3 Provisions for incorporating new/upgraded facilities, plant into the bus system are provided.
 - 7.1.4 Provisions to incorporate new/upgraded equipment (e.g., fare collection, AVL communications, etc.) into the bus system.
 - 7.1.5 Provisions to incorporate changes in operations (e.g., type and/or frequency of service) into the bus system.
- 7.2 Procedures to evaluate affect of modifications/new systems on safety (ref. 7.1), including but not limited to the following:
 - 7.2.1 Safety review required for engineering changes.
 - 7.2.2 Safety review required for standard and emergency operating procedure changes.
 - 7.2.3 Safety review/requirements are part of the system procurement practices.
 - 7.2.4 Safety review required prior to instituting operations changes.
 - 7.2.5 Results of safety review, prior to instituting system changes, are reported and tracked.
- 7.3 Explain safety's analyses reviewed and upgraded as required in evaluating system modifications.
 - 7.3.1 Severity and frequency of hazards reassessed in hazard analyses in evaluating system modifications.
 - 7.3.2 Results and recommendations of hazard assessment in evaluating system modifications are reported to management.
 - 7.3.3 Corrective actions for hazard resolution are validated prior to instituting system modification.

SECTION 8 - SYSTEM SAFETY ORGANIZATION

The plan should present a detailed breakout of the (system) safety staff, the qualifications of personnel, any planned near and long term additions to the safety organization's mission and any additional staff which may be required. Specific roles and responsibilities should be included.

Describe the following:

- 8.1 The system safety organizational structure.
- 8.2 Roles, responsibilities, authority and interfaces defined within the system safety organization including but not limited to the following:
 - 8.2.1 Safety responsibilities established/assigned to designated individuals.
 - 8.2.2 Responsibilities of safety personnel include safety areas in general conformance to the section outline of this audit checklist.
 - 8.2.3 Safety initiates safety and is responsible for dissemination and coordination of information.
 - 8.2.4 Safety initiatives are taken by other departments/divisions/groups.
- 8.3 Safety Department is adequately staffed for roles and responsibilities.
- 8.4 Safety staff qualifications.
- 8.5 Safety staff trained in appropriate disciplines.

SECTION 9 - PARTICIPATION ON SAFETY COMMITTEES AND BOARDS

The plan should address the various committees and boards where safety is a vital concern. Examples are the accident/incident investigation board, a central safety committee, liaison committees with local enforcement and emergency response groups if applicable and line safety meetings.

Describe the following:

- 9.1 Safety represented on the property's central/primary safety committee.
 - 9.1.1 The mission of the property's central/primary safety committee and the roles on the members.
- 9.2 Safety is a permanent member of the accident/incident investigation board.
 - 9.2.1 The mission of the accident/incident board and the role of its members.

- 9.3 Safety attends tool box or local safety meetings at least monthly or as needed and participates as required/planned.
 - 9.3.1 Tool box meetings are scheduled for all crafts on a regular basis, with planned topics. Attendance is taken and makeups scheduled.
 - 9.3.2 Safety has a procedure in place to process safety concerns raised at tool box meetings and provides feedback to the individual.
- 9.4 Property has established a liaison committee with local fire department and emergency response teams.
 - 9.4.1 Mission and authority of the fire Department liaison committee and the role of its members are defined (e.g. is it the authority having jurisdiction).
 - 9.4.2 Procedure in place to process recommendations of fire department liaison committee, and minutes of meetings are recorded and distributed.
- 9.5 Liaison committee established with the local law enforcement agencies.
 - 9.5.1 Mission and authority of liaison committee with local enforcement committee agencies, and roles or members are defined.
- 9.6 Liaison committee established with Federal and State emergency organizations.
 - 9.6.1 Mission and the authority of the liaison committee formed to interact with Federal and State emergency groups, and role of members defined.
 - 9.6.2 Procedure in place to implement recommendations of the emergency agencies committee, and minutes of meetings are prepared and distributed.
- 9.7 Liaison committee established with the local handicapped group(s) for transit accessibility and use.
 - 9.7.1 Mission and authority of the handicapped liaison group(s) and role of the defined.
 - 9.7.2 Procedure in place to process recommendations of handicapped liaison committee and minutes of meetings are prepared and distributed.
- 9.8 Reports are prepared and distributed to top management and other departments identifying action items and organizational responsibility.

SECTION 10 - MAINTAIN SYSTEM SAFETY PROGRAM PLAN

This section should describe the bus system's policy for reviews updated and refinement of the System Safety Program Plan. A biennial recertification will be provided every other year. The recertification will be submitted to the PTSB for their review and approval. A new official resolution will be issued to the bus system to represent the SSPP with the recertification annexed to the

original SSPP on file with the PTSB staff. The internal review of the SSPP should be included in this section.

The biennial recertification will include as a minimum:

- Number of passenger fare vehicles (E I-1 form).
- Number of personnel (HB3 -1 form).
- Changes in policies, procedures and practices.
- Changes in facilities.
- Number of accident occurrences reported to NYSDMV for each year in the reporting period that did not meet PTSB accident criteria.

The System Safety Plan requires that top management or the Principal Officer certify and sign the document as to the description of the bus properties total operation scope.

Describe the following:

10.1 Revise plan biennially and submit to PTSB.

10.2 Procedures in place to control revisions, distribute changes to SSPP.

10.3 Procedure in place to update plan as required for priority/critical items and events, including but not limited to the following:

10.3.1 New/extended/upgraded service and/or routes require an update to the SSPP.

10.3.2 New/retrofitted bus fleet requires an update to SSPP.

10.3.3 New/refurbished facilities require an update to the SSPP.

10.3.4 New/revised emergency operating procedures require an update to the SSPP.

10.3.5 Organization changes require an update to the SSPP.

10.4 Procedure and process in place to coordinate revisions to the SSPP within the transit property including but not limited to the following:

10.4.1 Safety review board/council participates in the review of SSPP revisions.

10.4.2 Maintenance participates in the review of SSPP revisions.

10.4.3 Operations participate in the review of SSPP revisions.

10.4.4 Engineering department participates in the review of SSPP revisions.

10.4.5 Transit police participates in the review of SSPP revisions.

- 10.4.6 Training participants in the review of SSPP revisions.
- 10.5 Procedure and process in place to coordinate external review of SSPP revisions among agencies including but not limited to the following:
 - 10.5.1 NYS PTSB is on the review cycle of SSPP revisions.
 - 10.5.2 Funding/insuring agencies are on the review cycle of SSPP revisions.
- 10.6 Comments from internal and external review process kept on file with disposition and supporting rationale.

SECTION 11 - SAFETY RESPONSIBILITIES OF OTHERS

Other organizations in addition to safety have critical safety roles. These include transportation, maintenance, training and personnel (or the department having that responsibility). The plan should clearly identify the detailed responsibility of each and safety's interface in these activities.

Describe the following:

- 11.1 Policy in place describing safety responsibilities of transit system departments, other than safety. Included, but not limited to the following:
- 11.2 Operations/transportation responsibilities include but are not limited to the following:
 - 11.2.1 Operations/transportation develops emergency operating procedures including but not limited to the following:
 - 11.2.1.1 Emergency operating procedure for fire or smoke on a bus is developed by operations/transportation.
 - 11.2.1.2 Emergency operating procedure for fire or smoke on route is developed by the operations/transportation.
 - 11.2.1.3 Emergency operating procedure for fire or smoke on adjacent property is developed by the operations/transportation.
 - 11.2.1.4 Emergency operating procedure for passenger evacuation from a bus is developed by operations/transportation.
 - 11.2.1.5 Emergency operating procedure for collision with another vehicle or fixed object is developed by the operations/transportation.
 - 11.2.1.6 Procedure for encroachment into bus traffic/lane is developed by the operations/transportation.
 - 11.2.1.7 Emergency operating procedure for flooding on route is developed by the operations/transportation.

- 11.2.1.8 Emergency operating procedure for struck pedestrian is developed by operations/transportation.
- 11.2.1.9 Emergency operating procedure for disruption/incident on a bus is developed by operations/transportation.
- 11.2.1.10 Emergency operating procedure for bomb threat is developed by operations/transportation.
- 11.2.2 Operations/transportation develops procedures for abnormal and failure recovery conditions including but not limited to the following:
 - 11.2.2.1 Operating procedure for inclement weather (snow, fog, etc.,) is developed by operations/transportation.
 - 11.2.2.2 Operating procedure for detour is developed by the operations/transportation.
 - 11.2.2.3 Operating procedure of collision in garage or storage area is developed by operations/transportation.
 - 11.2.2.4 Operating procedure for delays due to traffic congestion is developed by the operation/transportation.
 - 11.2.2.5 Operating procedure for accidents/ incidents involving equipment failure is developed by operations/transportation.
- 11.2.3 Operations/transportation defines facilities, equipment and personnel required to support/enhance system safety, such as the following:
 - 11.2.3.1 Public address used to support system safety.
 - 11.2.3.2 Emergency telephone system is used to support system safety.
 - 11.2.3.3 Communication system (radio) is used to support system.
 - 11.2.3.4 Fire detection, alarm and suppression system is used to support system safety.
 - 11.2.3.5 Operations/transportation takes steps to familiarize personnel with safety equipment, use and locations.
- 11.2.4 Operations/transportation takes steps to identify unsafe practices and procedures throughout the transit system.
- 11.2.5 Operations/transportation helps investigate unsafe practices and procedures.
- 11.2.6 Operations/transportation helps investigate accidents and incidents.

- 11.2.7 Operations/transportation establishes disciplinary procedures for unsafe acts, practices and rule violations.
- 11.2.8 Operations/transportation helps establish safety training requirements for various positions including but not limited to the following:
 - 11.2.8.1 Operations/transportation helps establish safety training requirements for operators.
 - 11.2.8.2 Operations/transportation helps establish safety training requirements for supervisors.
 - 11.2.8.3 Operations/transportation helps establish safety training requirements for central control supervisors.
- 11.2.9 Operations/transportation participates in drill and simulations to validate procedures and training.
- 11.2.10 Operations/transportation establishes requisite tests and inspections (Section 17).
- 11.2.11 Safety performance is part of employee evaluation in operations/transportation.
- 11.3 Maintenance responsibilities include but are not limited to the following:
 - 11.3.1 Maintenance defines support equipment, personnel and procedures for responding to emergencies, including but not limited to the following:
 - 11.3.1.1 Maintenance has defined support equipment, personnel and procedure for responding to bus collision with another vehicle or fixed object.
 - 11.3.1.2 Maintenance defines support equipment, personnel and procedure for responding to fire or smoke on bus.
 - 11.3.1.3 Maintenance defines support equipment, personnel and procedure for responding to struck pedestrian.
 - 11.3.2 Operations/transportation develops procedures for abnormal and failure recovery conditions including but not limited to the following:
 - 11.2.3.1 Operating procedure for inclement weather (snow, fog, etc.,) is developed by operations/transportation.
 - 11.2.3.2 Operating procedure of collision in garage or storage area is developed by operations/transportation.
 - 11.3.3 Maintenance takes steps to identify unsafe practices and procedures throughout the transit system.
 - 11.3.4 Maintenance helps investigate unsafe practices and procedures.

- 11.3.5 Maintenance helps investigate accidents and incidents.
- 11.3.6 Maintenance establishes disciplinary procedures for unsafe acts, practices or rule violations (part of the union contract).
- 11.3.7 Maintenance defines safety critical elements and establishes maintenance priorities for them.
- 11.3.8 Maintenance helps establish safety training requirements for maintenance activities and areas including but not limited to the following:
 - 11.3.8.1 Maintenance helps establish safety training requirements related to bus equipment.
 - 11.3.8.2 Maintenance helps establish safety training requirements related to wrecker and mobile repair unit.
 - 11.3.8.3 Maintenance helps establish safety training requirements related to mechanical systems (HVAC, fire suppression systems).
 - 11.3.8.4 Maintenance helps establish safety training requirements related to communications.
 - 11.3.8.5 Maintenance helps establish safety training requirements related to garages.
- 11.3.9 Maintenance participates in drills and simulations to validate procedures and training.
- 11.3.10 Maintenance procedures for safety critical systems are in place.
- 11.3.11 Safety performance is part of employee evaluation at the maintenance.
- 11.4 Engineering responsibilities include but are not limited to the following:
 - 11.4.1 Bus design (flammability, braking, doors) is an engineering responsibility.
 - 11.4.2 Facilities design (egress, construction, fire prevention and protection) is an engineering responsibility.
 - 11.4.3 Communications, AVL design is an engineering responsibility.
 - 11.4.4 Engineering evaluates proposed engineering changes for safety impact and coordinates with the safety department.
 - 11.4.5 Engineering helps validate design performance and effectiveness.
 - 11.4.6 Engineering maintains configuration management system for systems/equipment/facilities.
- 11.5 Transit police responsibilities include but are not limited to the following:

- 11.5.1 Transit police reviews safety requirements and interfaces with the Safety Department.
- 11.5.2 Transit police reports unsafe acts and conditions.
- 11.5.3 Transit police helps establish safety training requirements.
- 11.5.4 Transit police helps define roles and responsibilities in abnormal and emergency situations, including but not limited to the following:
 - 11.5.4.1 Transit police help define roles and responsibilities in case of bus collision with another vehicle or fixed object.
 - 11.5.4.2 Transit police help define roles and responsibilities in case of struck pedestrian.
 - 11.5.4.3 Transit police help define roles and responsibilities in case of a disruption/incident on a bus.
 - 11.5.4.4 Transit police helps define roles responsibilities in case of intrusion into maintenance facility or garage.
- 11.6 Training responsibilities include but are not limited to the following:
 - 11.6.1 Training integrates safety requirements into training programs.
 - 11.6.2 Training provides feedback on procedures, rules, designs and operating conditions.
 - 11.6.3 Training helps validate safety training effectiveness.
 - 11.6.4 Training participates in emergency drills and simulations.
 - 11.6.5 Training program incorporates the requirements of NYSDMV Article I9A, Special Requirements for Bus Drivers.
- 11.7 Personnel responsibilities include but are not limited to the following:
 - 11.7.1 Personnel establish hiring procedures, which includes the requisites of NYSDMV Article 19A.
 - 11.7.2 Personnel incorporate safety qualifications into job requirements and reviews applicant history prior to hiring.
 - 11.7.2.1 Personnel define minimum qualifications.
 - 11.7.2.2 Personnel uses UMTA-approved test for operators to determine qualifications of new operators.
 - 11.7.2.3 Personnel administers proficiency exam to applicants to rate qualifications and experience in appropriate field.

- 11.7.2.4 Personnel requires pre-employment physical exam, medical, mental and physical conditions established.
- 11.7.2.5 Personnel verify driving record statewide, nationwide.
- 11.7.2.6 Personnel verify previous employment record.
- 11.7.2.7 Personnel verify required licenses and certificates prior to hiring.
- 11.7.3 Personnel ensure new hires receive safety training during indoctrination program.
 - 11.7.3.1 Personnel ensure new hires receive a rule book.
 - 11.7.3.2 Personnel verify new hires sign a receipt acknowledging rulebook received and read.
- 11.7.4 Personnel continually review personnel compliance with job requirements.
 - 11.7.4.1 Personnel investigate employee's driving record with NYSDMV.
 - 11.7.4.2 Personnel reviews employee record of preventable accidents/mishaps on the job and initiates retraining.
 - 11.7.4.3 Personnel requires physical exam as required.
 - 11.7.4.4 Personnel require operators to show their chauffeur's license periodically.
 - 11.7.4.5 Personnel require drivers of all vehicles to show their driver's license periodically.
- 11.7.5 Personnel verify that property conforms to requirements of the Commercial Motor Vehicle Safety Act of 1986, (Commercial Drivers License).
- 11.7.6 Personnel administer an in house drug and alcohol abuse program.
 - 11.7.6.1 Personnel require pre-employment drug and alcohol test.
 - 11.7.6.2 Personnel administers an employee assistance program (EAP) for drug and alcohol abuse.
 - 11.7.6.3 Personnel requires drug and alcohol annual test.
- 11.8 Procurement responsibilities include but are not limited to the following:
 - 11.8.1 Procurement coordinates with safety the purchase of safety critical/hazardous items including but not limited to the following:
 - 11.8.1.1 Procurement coordinates with safety the purchase of new buses.
 - 11.8.1.2 Procurement coordinates with safety the purchase of systems and equipment.

11.8.1.3 Procurement coordinates with safety the purchase of hazardous materials.

11.8.1.4 Procurement coordinates with safety the purchase of combustible vs. noncombustible material.

11.9 Construction management and engineering responsibilities include but not limited to the following:

11.9.1 Construction management and engineering coordinates with final designers and safety, inclusion of safety requirements in new construction contracts.

11.9.2 Construction management and engineering verifies contractor's compliance with safety requirements for all construction/procurement projects.

11.9.3 Construction management and engineering monitors/ audits contractors' activities on and off-site for compliance with safety and code requirements.

11.9.4 Construction management and engineering participates in hazard identification, assessment and resolution during construction/procurement projects.

11.9.5 Construction management and engineering participates in hazard identification, assessment and resolution during construction/procurement projects.

11.10 Quality assurance responsibilities including but are not limited to the following:

11.10.1 Quality assurance responsibilities include but are not limited to the following:

11.10.1.1 Quality assurance participates in safety compliance audits in the operations/ transportation.

11.10.1.2 Quality assurance participates in safety compliance audits in the maintenance.

11.10.1.3 Quality assurance participates in safety compliance audits in the construction management and engineering.

11.10.1.4 Quality assurance participates in safety compliance audits in the security/ transit police department.

11.10.1.5 Quality assurance participates in safety compliance audits in the training department.

11.10.1.6 Quality assurance participates in safety compliance audits in the personnel department.

11.10.1.7 Quality assurance participates in safety compliance audits in the procurement department.

11.10.1.8 Quality assurance participates in safety compliance audits of contractors'/ suppliers' on and off-site activities.

SECTION 12 - HAZARD ANALYSIS, ASSESSMENT AND IDENTIFICATION

Hazard Assessment Policy - Hazard Analysis is an analysis performed to identify hazardous conditions for the purpose of their elimination or control. This is a systematic approach to identify hazards that start with basic parts and subsystems and interprets the possible hazards or failures which could occur. Once hazards are identified, they should be assessed to determine their impact on the total system. This is whether to accept the hazard or to determine the extent of corrective measures to eliminate the hazard or reduce its severity.

Describe the hazard assessment policy as it effects the entire operation of your company (In describing hazards, use Hazardous Assessment Form HA-1 (05-24-88). (See attachments)

- a. Categorize level of severity.
 1. Catastrophic - may cause death.
 2. Critical - may cause severe illness, severe injury or major system loss.
 3. Marginal - may cause minor injury, illness or loss.
 4. Negligible - will not result in injury, illness or system damage.
- b. Categorize the likelihood of occurrence
 1. Highly likely - frequent reoccurrence.
 2. Likely - expected occurrence.
 3. Unlikely - occurrence not expected.

12.1 Plan and procedures in place for hazard identification.

12.1.1 Formulate a policy for hazard identification.

12.1.2 Establish a plan for hazard identification.

12.1.3 Establish procedures for hazard identification.

12.1.4 Assign responsibility for hazard identification.

12.1.5 Define internal safety data sources for hazard identification. Data sources include but are not limited to the following:

12.1.5.1 Safety analyses are used as data sources for hazard identification.

12.1.5.2 Testing (See Section 17) is used as a data source for hazard identification.

12.1.5.3 Inspections by safety/others are used as data sources for hazard identification.

12.1.5.4 Audits by safety/others are used as data sources for hazard identification.

12.1.5.5 Quality assurance non-conformance reports are used as data sources for hazard identification.

- 12.1.5.6 Unusual occurrence reports are used as data sources for hazard identification.
- 12.1.5.7 Accident/incident reports are used as data sources for hazard identification.
- 12.1.5.8 Pre/post inspection and malfunction reports (bus equipment, facilities) are used as data sources for hazard identification.
- 12.1.5.9 Preventive maintenance reports are used as data sources for hazard identification.
- 12.1.5.10 Corrective maintenance reports are used as data sources for hazard identification.
- 12.1.5.11 Dispatcher/traffic control center's daily logs used as data source for hazard identification.
- 12.1.5.12 Passenger reports are used as data sources for hazard identification.
- 12.1.6 Define external safety data sources routed to safety department (or to an individual responsible for safety) for evaluation of potential hazards.
- 12.1.7 Data sources routed to safety department (or to an individual responsible for safety) for evaluation of potential hazards.
- 12.1.8 Field personnel have access to hazard identification and reporting process.
- 12.1.9 On-going operations monitored and reviewed for identification of potential hazards.
- 12.1.10 Line departments participate in hazard identification.
- 12.2 Safety analysis used for hazard identification encompasses areas including but not limited to the following:
 - 12.2.1 Safety analysis conducted on the existing elements of the operational system.
 - 12.2.2 Safety analysis conducted by consultants/contractors on new construction/procurement programs.
 - 12.2.3 Safety analysis conducted for engineering change proposals.
 - 12.2.4 The type of safety analysis conducted for hazard identification includes but are not limited to the following:
 - 12.2.4.1 Preliminary hazard analysis is used for hazard identification.
 - 12.2.4.2 Subsystem (or fault) hazard analysis is used for hazard identification.
 - 12.2.4.3 System (or interface) hazard analysis is used for hazard identification.

- 12.2.4.4 Operating and support hazard analysis is used for identification.
- 12.2.4.5 Fault tree analysis is use for hazard analysis is used for identification.
- 12.2.4.6 Software hazard analysis is used for hazard identification.
- 12.2.4.7 Sneak circuit analysis is used for hazard analysis is used for identification.
- 12.2.4.8 Identified hazards are maintained and updated on a safety critical items list (SCIL).
- 12.2.5 Defect card reports are used as data sources for hazard identification.
- 12.2.6 Incident and accident reports are used as data sources for hazard identification.
- 12.2.7 Preventive and corrective maintenance reports are used as data sources for hazard identification.
- 12.2.8 Dispatcher daily logs used as data source for hazard identification.
- 12.2.9 Passenger reports are used as data sources for hazard identification.
- 12.3 Fixed facilities inspected/analyzed for potential safety hazards include but are not limited to the following:
 - 12.3.1 Bus shelters are inspected/analyzed for potential safety hazards.
 - 12.3.2 Bus stops and surrounding areas are inspected/ analyzed for potential safety hazards.
 - 12.3.3 Routes, road conditions are inspected/analyzed for potential safety hazards.
 - 12.3.4 Systems and equipment rooms inspected/analyzed for potential safety hazards include but not limited to the following:
 - 12.3.4.1 Communications, AVL are inspected/analyzed for potential safety hazards.
 - 12.3.4.2 Substations are inspected/analyzed for potential safety hazards.
 - 12.3.4.3 Facilities signage-graphics, lighting are inspected/analyzed for potential safety hazards.
 - 12.3.5 Central Control (traffic control center) is inspected/analyzed for potential safety hazards.
 - 12.3.6 Garage facilities inspected/analyzed for potential safety hazards include but are not limited to the following:
 - 12.3.6.1 Pits, cranes, hoists are inspected/analyzed for potential safety hazards.

- 12.3.6.2 Servicing and inspection area are inspected/analyzed for potential safety hazards.
- 12.3.6.3 Offices and training facilities are inspected/analyzed for potential safety hazards.
- 12.3.7 Storage and parking areas are inspected/analyzed for potential safety hazards.
- 12.3.8 Bus wreckers, mobile repair units are inspected/ analyzed for potential safety hazards.
- 12.3.9 Shop personnel protective equipment is inspected/ analyzed for potential safety hazards.
- 12.3.10 Shop maintenance equipment is inspected/analyzed for potential safety hazards.
- 12.3.11 Fire detection and alarm systems are inspected/ analyzed for potential safety hazards.
- 12.3.12 Fire suppression (deluge, Halon, etc.) is inspected/analyzed for potential safety hazards.
- 12.3.13 Electrical systems, UPS is inspected/analyzed for potential safety hazard.
- 12.3.14 Fare collection equipment is inspected/analyzed for potential safety hazards, reprotecting patrons for falling against the fare box.
- 12.4 Equipment inspected/analyzed for potential safety hazards includes but not limited to the following:
 - 12.4.1 Communications (Radio/Automatic Vehicle Locator) is inspected/analyzed for potential safety hazards.
 - 12.4.2 Security systems are inspected/analyzed for potential safety hazards.
- 12.5 Operating and maintenance procedures analyzed for potential safety hazards.
- 12.6 Personnel proficiency evaluated for operating and support hazard analysis.

SECTION 13 - HAZARD RESOLUTION

The purpose of this task is to identify, on a priority basis, resolutions or controls to prevent potential hazards from becoming incidents or accidents. Those hazards which have been identified and assessed as to severity and likelihood of occurrence should be prioritized for resolution action. The following activities should be carried out in performing this task, describe how they are carried out on your property:

- 13.1 Methodology and procedures for hazard assessment and resolution established.

- 13.1.1 Procedures for hazard assessment and resolution established.
- 13.1.2 Responsibility for hazard assessment and resolution assigned.
- 13.1.3 Hazard assessment coordinator function staffed in line organizations.
- 13.1.4 Hazard reports routed to safety coordinator.
- 13.2 Hazard reports routed to safety.
- 13.3 Tracking system for identified hazards in place.
 - 13.3.1 Hazard severity categories identified for hazard analysis and risk assessment.
 - 13.3.2 Hazard probability categories identified for hazard analysis and risk assessment.
- 13.4 Other risk assessment methods utilized for priority/rating for risk assessment.
- 13.5 Priority of hazards based on hazard severity, probability of occurrence and if able, the cost of corrective action.
- 13.6 Acceptable level of risk established and approved.
- 13.7 Analysis conducted as required (per section 12).
- 13.8 Responsibility for hazard assessment, analysis and resolution is assigned within the organization.
- 13.9 The function responsible for hazard resolution is staffed/committee designated.
- 13.10 Safety critical items list (SCIL) for identified CAT.I and CAT.II hazards is maintained and updated.
- 13.11 Tracking system for status of (unacceptable) risk in place.
- 13.12 Close-out of corrected/resolved items is signed-off by all involved departments and proper authority.
- 13.13 Open items may be placed in deferred status based on documented rational and alternative solutions including but not limited to the following:
 - 13.13.1 Items are placed in deferred/retained as-is status with alternative measures ("work-around") in place.
 - 13.13.2 Alternative measures acceptable to system safety are coordinated with safety department.

- 13.13.3 Alternative measure for temporarily deferred items is replaced with permanent solutions in a timely manner.
- 13.13.4 Procedure in place for coordination/implementation/ approval of permanent solution fix to deferred items.
- 13.14 Documentation of rational and proper sign-off for retention of acceptable risk is on file.
- 13.15 Corrective action/hazard resolution follows system safety precedence and includes design, safety, warning devices, training and personal protection equipment.
- 13.16 Corrective actions to identified hazards are monitored for effectiveness.

SECTION 14 - ACCIDENT/INCIDENT INVESTIGATIONS

The plan should address the concept of accident/incident investigation and if a procedure exists. The procedure should define what constitutes an accident and incident, internal and external notification procedures, participants, reporting and the required follow-up action with assigned responsibilities.

- 14.1 Plan and procedures in place; all recordable injuries, illnesses and property damage losses investigated.
 - 14.1.1 Responsibilities of safety personnel are defined and personnel are trained in accident investigation.
 - 14.1.2 Responsibilities of organizations other than safety are defined (Operations, Traffic, Maintenance, etc.) for accident investigations.
 - 14.1.3 Criteria for conducting investigation are defined.
 - 14.1.4 Intra organization coordination defined.
 - 14.1.5 Criteria for notifying external organizations are defined.
- 14.2 Equipment, e.g. camera, recorder, witness forms, checklists are provided.
- 14.3 Previous investigation records meet the following requirements:
 - 14.3.1 Investigation fully documented with recommendations to management.
 - 14.3.1.1 Accident/incident classified according to hazardous condition, unsafe action etc.
 - 14.3.1.2 Cost of accident analyzed and categorized.
 - 14.3.1.3 Accident recommendations prioritized.

- 14.3.2 Recommendations implemented or rationale as to why not.
- 14.3.3 Follow-up checks performed on the effectiveness of recommendations.
- 14.3.4 Provisions to amend/revise accident/incident investigation plan are established.
- 14.4 Accident investigation plan is tied into an accident prevention program.
- 14.5 Results and recommendations of accident/incident investigation are distributed.
- 14.6 Analysis of accidents including cost, injury, lost work days and property loss are reported on scheduled basis (e.g., quarterly) to management.
 - 14.6.1 Management reviews accident/incident reports, analysis and recommendation and takes corrective action.
- 14.7 Accident/incident investigation reports and/or recommendations are part of safety data file.
 - 14.7.1 Records are maintained in accordance with federal and state laws.
 - 14.7.2 Reports are retained at least three years.
 - 14.7.3 Records are readily accessible.

SECTION 15 - SAFETY TRAINING

The plan should clearly explain the responsibilities and authority of the several organizations, such as safety and transportation, in helping establish and define safety requirements as part of the overall training program.

- 15.1 Training program plan is in place and reviewed biennially, or more frequently as required.
 - 15.1.1 Lesson plans current; reflect correct operating procedures and training requirements.
 - 15.1.2 Training program incorporates the requirements of NYS V&T Article 19A, and Federal Motor Vehicle Safety Act of 1986, (Commercial Drivers License).
- 15.2 Safety is part of the overall training program.
 - 15.2.1 Safety training is integrated into the overall training program, with inputs provided or approved by safety.
 - 15.2.2 Instructors meet selection standards which include safety training or safety personnel used.

15.2.3 Current standardized lesson plans used which include training requirements.

15.3 Safety training goals, objectives and requirements documented.

15.3.1 As part of the training program, students are provided manuals, safety rules and a rule book.

15.3.2 In order to satisfactorily complete the training, students must demonstrate familiarity with the safety rules.

15.3.3 In order to satisfactorily complete the training, students must demonstrate familiarity with the procedure to identify, assess and report hazards.

15.3.4 Training has in place a process to obtain feedback from students completing the program of the effectiveness of the instruction.

15.3.5 Records are maintained on the numbers of students who have completed or do not complete the training and reasons why students do not finish.

15.3.6 Safety periodically audits the training and the quality and effectiveness in meeting the safety related goals and objectives.

15.4 Training requirements are established for each trade in the organization.

15.5 Training requirements are established for the bus operator to include but not limited to the following:

15.5.1 General orientation program with the property.

15.5.2 Defines the scope of the program, including what is covered in the classroom and on the road.

15.5.3 An explanation of management policies, including management's attitude towards safety.

15.5.4 The state and any specific local safety rules and regulations (also federal, if applicable).

15.5.5 Familiarization with the property's facilities and the local area.

15.5.6 Thorough coverage of the role of safety in the overall organization and in operations.

15.5.7 Route training, map reading (if applicable) and the location of medical, police and fire facilities.

15.5.8 Instruction on operation of safety related equipment, to include but not limited to the following:

- 15.5.8.1 Safe operation of the doors, door interlocks and other safety features.
- 15.5.8.2 Safe operation of the kneeling system and safety features.
- 15.5.8.3 Safe operation of wheelchair lift and its safety features and tie downs or locking devices.
- 15.5.8.4 Safe operation of brakes and safe acceleration and deceleration rates.
- 15.5.8.5 Use of seat belt and the operator's seat.
- 15.5.8.6 Use of the mirrors, wipers and sun visor.
- 15.5.8.7 Use of the communication systems such as the radio and bus security alarm.
- 15.5.9 Passenger safety to include but not limited to the following:
 - 15.5.9.1 Use of special equipment, such as tie downs or wheel chair locking devices.
 - 15.5.9.2 On-board causes of accidents, injuries, safe acceleration and deceleration rates.
 - 15.5.9.3 Physical limitations of the elderly and disabled persons and sensitivity training.
 - 15.5.9.4 Passenger safety included bus overcrowding and on altercations/altercations.
 - 15.5.9.5 Passenger safety includes weather effects.
 - 15.5.9.6 Passenger safety includes effects of interior environmental conditions, such as temperature and humidity.
 - 15.5.9.7 Night driving and expressway driving.
 - 15.5.9.8 Safety procedures at railway crossings.
- 15.5.10 Operator training on passenger safety includes emergency operations and includes but is not limited to the following:
- 15.5.11 Emergency/standard operating procedures (ESOP) to include but not limited to the following:
 - 15.5.11.1 Traffic accident bus up right.
 - 15.5.11.2 Traffic accident bus overturned.
 - 15.5.11.3 Collision with fixed objects.

15.5.11.4 On-board fire or smoke.

15.5.11. Passenger injury.

15.5.11.6 Passenger illness.

15.5.11.7 On-board theft, fight or improper conduct.

15.5.11.8 Flooding of route, severe weather.

15.5.11.9 Operator provided accident kit, (e.g., witness forms).

15.5.12 A formal defensive driver training school. Describe defensive driver training program (DDT). Include all written instructional material used in training programs in appendices. Describe type, length of training.

15.5.13 Frequent safety meetings conducted for operators and the topics are scheduled and planned safety bulletins are posted.

15.5.14 New hires/newly assigned bus operators receive safety training prior to performing job.

15.5.15 Retraining procedures in place for operators.

15.5.15.1 Retraining bus operators for cause, including violations of defensive driving, passenger relations, emergency operating procedures, federal, state, local regulations, company rules and regulations and bus orientation.

15.6 Training requirements established for personnel.

15.6.1 Training requirements established for dispatcher functions.

15.6.1.1 New hires/newly assigned dispatcher receives safety training prior to performing job.

15.6.1.2 Procedure in place for the retraining of dispatcher.

15.6.1.3 Procedure in place for the retraining of dispatcher for cause.

15.6.1.4 Procedure in place to obtain feedback to evaluate the training given dispatcher.

15.6.1.5 Accident reporting data used to analyze the dispatcher training and perform trend analysis.

15.6.1.6 Personnel performing dispatcher functions receive training on responding to normal, abnormal and emergency situations.

15.6.1.7 Accident data used to help evaluate training effectiveness of personnel and to perform trend analysis.

15.7 Maintenance training for bus maintainers includes the following:

- 15.7.1 Training mechanics on the equipment for which they have a responsibility.
- 15.7.2 Bus maintenance program scope and objectives are defined.
- 15.7.3 Property's policies, including management's policy and attitude towards safety.
- 15.7.4 Covers applicable rules and regulations and how they are enforced.
- 15.7.5 Forms and procedures used by the maintenance department, their purpose and how to complete them.
- 15.7.6 The role of safety when performing normal tasks and when responding to other than normal duties.
- 15.7.7 Bus maintenance training program includes shop and overall facility familiarization.
- 15.7.8 Instruction on the operation and maintenance of onboard safety equipment, to include:
 - 15.7.8.1 Maintenance and safety operation of the doors, door interlocks and brakes.
 - 15.7.8.2 Maintenance and safe operation of kneeling system and its safety features.
 - 15.7.8.3 Maintenance and safety operation of the wheelchair lift and its safety features.
 - 15.7.8.4 Maintenance and safe operation of the brake system and its safety features.
 - 15.7.8.5 Maintenance and safe operation of the climatic control systems.
 - 15.7.8.6 Maintenance and safe operation of the electrical systems.
 - 15.7.8.7 Maintenance safe operation of engine and drive system.
 - 15.7.8.8 Maintenance and safe operation of the horn, interior and exterior lights and the wipers.
 - 15.7.8.9 Maintenance and safe operation of engine and drive systems, steering and suspension systems.

- 15.7.8.10 Use and care of personal protective equipment.
- 15.7.8.11 Safe use of welding equipment and protective measures to be taken during welding operations.
- 15.7.8.12 Maintenance training includes road call procedures.
- 15.7.8.13 Operation and safe use of shop equipment, such as air, jacks, lifts and cranes.
- 15.7.8.14 Maintenance training includes safe refueling procedures.
- 15.7.9 Maintenance training covers all bus types and non revenue equipment on the property.
- 15.7.10 Training manuals provided for each type bus and system/equipment maintained on the property such as:
 - 15.7.10.1 Maintenance manuals for training are complete and current.
 - 15.7.10.2 Updates/revisions are controlled with accountability.
 - 15.7.10.3 Maintenance training includes retrofit training that affects safety related equipment, operations and training is timely.
- 15.7.11 Maintenance training includes adequate devices and aids, such as mockups, job guides, video, and models.
- 15.7.12 In maintenance training the interface with manufactures if defined.
 - 15.7.12.1 Manufacturers participate in maintenance training whenever new equipment is brought on-board including retrofit program.
 - 15.7.12.2 Maintenance training includes manufacturers' responsibilities during warranty and keeping adequate documentation.
 - 15.7.12.3 Manufacturers' responsibilities during retrofits are included in maintenance training.
- 15.7.13 New hires/newly assigned bus maintainers receive safety training prior to performing job.
- 15.7.14 Procedure in place for retraining bus maintainers, for cause including driving training.
 - 15.7.14.1 Schedule for retraining/upgrading bus maintainers is in place and followed.

15.8 Training program is in place for facility maintainers.

- 15.8.1 New hires/newly assigned facility maintainers receive safety training prior to performing job.
- 15.8.2 Schedule in place for retraining facility maintainers and is followed.
- 15.8.3 Procedure in place for retraining facility maintainers for cause.
- 15.8.4 Procedure in place to evaluate the effectiveness of the facility maintainers through feedback.
- 15.8.5 Maintenance facility training is analyzed when accidents and incidents occur and trend analysis is performed.

15.9 Police/security attends a training program, which includes but is not limited to the following:

- 15.9.1 Police training program scope and purpose is defined.
- 15.9.2 Police training program covers property policies, including management's policy and attitude towards safety.
- 15.9.3 Police training program covers property rules and regulations and interfacing with local authorities.
- 15.9.4 Police training program covers property procedures and forms, their purpose and how to complete.
- 15.9.5 Police training program covers emergency/standard operating procedures, their roles and responsibilities.
- 15.9.6 Police training program includes familiarization with the equipment, the facilities and the bus routes.
- 15.9.7 New hires/newly assigned police/security receives safety training prior to being assigned duties.
- 15.9.8 Schedule in place for police/security retraining and schedule is followed.
- 15.9.9 Procedure in place for retraining police/security for cause.
- 15.9.10 Procedure in place to evaluate the effectiveness of the police/security training and to provide feedback.
- 15.9.11 Police/security is evaluated when accidents and incidents involving them occur and data used to perform trend analysis.
- 15.9.12 Police/security help coordinate safety training with outside agencies, such as the local law enforcement agencies, emergency response groups.

15.9.13 Police/security conduct in-house training seminars and demonstrations.

15.9.14 Police/security participate in emergency drills and simulations.

SECTION 16 - EMERGENCY DRILLS AND SIMULATIONS

16.1 Emergency response plan in place includes schedule for conducting drills and simulations.

16.2 Purpose, scope and participants defined for each of the drills and simulations.

16.3 Planning for the emergency drills and simulations coordinated with the following in house organizations.

16.3.1 Emergency planning coordinated with the operations/ transportation department and key sections within the department such as the control center.

16.3.2 Emergency planning coordinated with the maintenance departments.

16.3.3 Emergency planning coordinated with transit security/police department.

16.3.4 Emergency planning coordinated with the training department.

16.3.5 Emergency planning coordinated with public relations department or the organization responsible for the liaison with the news media.

16.3.6 Emergency planning for drills and simulations includes inputs from and participation of the safety committee.

16.4 Emergency operating procedures already in place prior to the conduct of drills and simulations, such as for the following:

16.4.1 Emergency operating procedures for vehicle rollover in place.

16.4.2 Emergency operating procedures for fire or smoke on bus in place.

16.5 Emergency support equipment functional and available to support the drills and simulations, such as the following:

16.5.1 Communications (dedicated frequencies) identified and available for use in an emergency by key organizations (i.e. security, maintenance, operations).

16.5.2 Vehicles and rescue equipment (air masks, stretcher) functional and available for use in drills. Designated personnel trained in use of the equipment.

16.5.3 Maintenance emergency support equipment functional and available for use in drills and simulations (e.g. wreckers).

- 16.6 Planning for emergency drills and simulations coordinated with outside agencies and organizations such as the following:
 - 16.6.1 Emergency planning coordinated with the fire department.
 - 16.6.2 Emergency planning coordinated with the police department.
 - 16.6.3 Emergency planning coordinated with the NYSPTSBS.
 - 16.6.4 Emergency planning may include the participation of other transit properties, PTSB.
 - 16.6.5 Emergency planning coordinated with medical response teams and local medical facilities.
- 16.7 Emergency drills and simulations critiqued by observers and participants and results turned into the safety department.
- 16.8 Results of each emergency drill and simulations are reviewed and a report prepared and distributed in a timely manner.
- 16.9 Recommendations developed as a result of a drill or simulation are incorporated into the EOP's. If not, rational provided.
- 16.10 Report of the results of the drill or simulation is provided to the NYSPTSBS.
- 16.11 Drill and simulation reports are filed in the safety data bank.

SECTION 17 - SAFETY TESTS AND INSPECTIONS

Operations and maintenance affect safety in that well maintained equipment and facilities will result in a reduction in potential hazards. Poor maintenance and poor routine safety checks lead to the likelihood of more accidents or unsafe conditions.

The plan should identify or reference the source of information on the types of tests and inspections that the different organizations perform (on a scheduled basis) to help ensure the safety of the passengers, and the general public.

This section should cover those operating rules and procedures and maintenance rules and procedures as they apply to safety. Unique situations which require special operating procedures should be highlighted, as in the case of snow emergency plans, civil defense emergencies, heavy traffic conditions, etc.

Safety-related maintenance procedures should be highlighted in this section. This would include all equipment and locations which require maintenance, the frequency in which this is carried out, the reports made on maintenance, flow of information and working schedules and responsibilities of maintenance personnel. Include a sample of all maintenance forms in appendices, including pre-trip and post-trip forms.

Such as the following:

- 17.1 Operator conducts pre-trip and post-trip inspections on bus equipment to include but not limited to the following:
 - 17.1.1 Brakes and air system.
 - 17.1.2 The door system.
 - 17.1.3 On-board communications systems, AVL and exterior and interior lights and reflectors.
 - 17.1.4 Tires, lug nuts and studs.
 - 17.1.5 Steering assembly.
 - 17.1.6 Wheelchair lift/kneeling systems and tie down systems.
 - 17.1.7 Windshield wipers, mirrors and horn.
 - 17.1.8 Bus exterior, bus interior and steps.
 - 17.1.9 Suspension system.
 - 17.1.10 On-board fire extinguisher, first-aid kit, fuses and triangle reflectors.
 - 17.1.11 Driver seat belt.
- 17.2 Preventive maintenance procedures and schedules are include but are not limited to the following tests and inspections:
 - 17.2.1 The brake and air system.
 - 17.2.2 The door system.
 - 17.2.3 On-board communication system and interior and exterior lights.
 - 17.2.4 Tires, lug nuts and studs.
 - 17.2.5 Steering assembly.
 - 17.2.6 Wheelchair lift/kneeling systems and tie down systems.
 - 17.2.7 Windshield wipers, sun visor and mirrors.
 - 17.2.8 Body exterior, interior and steps.
 - 17.2.9 Suspension system.

- 17.2.10 On-board fire extinguisher, first aid kit, fuses and triangle reflectors.
- 17.2.11 Seat belts.
- 17.3 Corrective maintenance procedures for equipment and systems in place to include but not limited to the following:
 - 17.3.1 Procedures are current and the revisions are controlled.
 - 17.3.2 Maintainers are provided current corrective maintenance procedures and procedure in place to verify that they are followed.
 - 17.3.3 Corrective maintenance actions are recorded and filed.
 - 17.3.4 Corrective maintenance data is used for analysis and performing trend evaluations.
- 17.4 Maintenance facility-elements periodically inspected and tested to include but not limited to the following:
 - 17.4.1 Maintenance facility-pre-trip/post-trip inspections and daily/shift inspection checklists followed for those items/systems identified as safety critical.
 - 17.4.2 Maintenance facility-housekeeping checklists in place and used, for such items as aisles marked and clear, spills cleaned up and cylinders secured.
 - 17.4.3 Maintenance facility-normal and emergency lighting periodically tested per in place procedure and schedule.
 - 17.4.4 Maintenance facility-alarm and detection systems periodically inspected and tested per in place procedure and schedule.
 - 17.4.5 Maintenance facility-suppression systems, such as sprinklers and halon, periodically inspected and tested per in place procedure and schedule.
 - 17.4.6 Maintenance facility-emergency exit routes clearly marked and kept clear of obstructions.
 - 17.4.7 Maintenance facility-normal lighting levels maintained, emergency lighting periodically tested per in place procedure and schedule.
 - 17.4.8 Maintenance facility-communication systems, such as P.A. and paging, periodically tested per in place procedure and schedule.
 - 17.4.9 Maintenance facility-fire extinguisher properly located, serviced and marked.
 - 17.4.10 Maintenance facility-inoperative systems/equipment tagged, reported and scheduled for repair per in place procedure.

- 17.4.11 Maintenance facility-approved workarounds in place and procedure in place to notify employees.
- 17.4.12 Maintenance facility-procedure in place to prioritize the repair of identified safety critical items.
- 17.4.13 Maintenance facility-inoperative, malfunctioning safety items noted in the shift report.
- 17.4.14 Maintenance facility-normal and emergency ventilation systems periodically inspected, serviced and tested per in place procedures and schedule.
- 17.4.15 Maintenance facility freight elevator(s) periodically inspected, serviced and tested per in place procedures and schedule.
- 17.5 Bus shelters elements inspected and tested to include but not limited to the following:
 - 17.5.1 Benches are provided in bus shelters at remote locations or at an infrequent stop.
 - 17.5.2 Bus shelters are periodically inspected for necessary repairs, which are reported and repaired per an in place schedule.
 - 17.5.3 Bus shelters are periodically inspected and cleaned and trash containers are provided.
 - 17.5.4 Bus shelters have adequate interior lighting or street lighting.
- 17.6 Bus stops-elements inspected and tested to include but not limited to the following:
 - 17.6.1 Current bus route and schedule information in place at bus stops.
 - 17.6.2 Bus stops located where adequate street exists.
 - 17.6.3 "No Parking" enforced at bus stops. Operators are required to report violations.
- 17.7 Parking and storage procedures and equipment testing and inspection therein to include but not limited to the following:
 - 17.7.1 Procedures in place for controlling movement, parking and storage of buses, maintenance and now revenue vehicles in the parking and storage areas.
 - 17.7.2 Housekeeping, such as keeping lanes marked and clear, and debris picked up throughout the parking and storage areas, per in place schedule.
 - 17.7.3 Periodic inspections made to keep emergency exits and access points clear, such as fire lanes, in parking storage, per in place schedule.
 - 17.7.4 Periodic inspection and testing of emergency and normal lighting in the parking and storage areas performed per in place procedures and schedule.

- 17.7.5 Periodic testing of communication systems, such as paging and P. A., in the parking and storage areas performed per in place procedures and schedule.
- 17.7.6 Procedures and schedule in place for the winterization of equipment.
- 17.8 Revenue service checks conducted to include but not limited to the following:
 - 17.8.1 To determine the operator's general performance and conformance to the standard operating procedures.
 - 17.8.2 To determine the operator's handling of elderly and disabled passengers and sensitivity to their situation.
 - 17.8.3 Revenue service checks for schedule adherence.
 - 17.8.4 Revenue service speed checks are performed at school zones and areas with a high citation rate.
 - 17.8.5 Defect report are prepared and submitted for the revenue service checks conducted.
- 17.7.4 Periodic inspection and testing of emergency and normal lighting in the parking and storage areas performed per in place procedures and schedule.
- 17.7.5 Periodic testing of communication systems, such as paging and P.A., in the parking and storage areas performed per in place procedures and schedule.
- 17.7.6 Procedures and schedule in place for the winterization of equipment.
- 17.8 Revenue service checks conducted to include but not limited to the following:
 - 17.8.1 To determine the operator's general performance and conformance to the standard operating procedures.
 - 17.8.2 To determine the operator's handling of elderly and disabled passengers and sensitivity to their situation.
 - 17.8.3 Revenue service checks for schedule adherence.
 - 17.8.4 Revenue service speed checks are performed at school zones and areas with a high citation rate.
 - 17.8.5 Defect report are prepared and submitted for the revenue service checks conducted.

SECTION 18 - INTERNAL REVIEWS

The property's safety staff should be performing its own internal audits to help ensure that all elements within the property are in compliance with the SSPP. The plan should include a schedule of the audits, objectives of the audits, other participants as applicable and how identified discrepancies are resolved.

Describe the following:

18.1 Plan in place for the conduct of internal reviews.

18.1.1 Internal review plan defines the purpose, scope and objectives.

18.1.2 The goals and objectives of the internal review defined.

18.1.3 Internal review schedule established with milestones.

18.2 Procedure in place to conduct the internal reviews and checklists are developed.

18.2.1 Specific audit/internal review steps and procedure described.

18.2.2 Itemized internal review checklists developed.

18.2.3 Audit sampling basis is defined for the conduct of internal reviews.

18.3 The roles and responsibilities of participants in internal review process are defined.

18.3.1 Participants identified who are responsible for conducting internal reviews by organizational unit or at an organizational unit or at an organizational level.

18.3.2 Roles of participants involved in conducting the internal reviews established.

18.4 Reporting requirements regarding the results of internal reviews established.

18.4.1 Internal review results are analyzed, applicable recommendations developed and filed.

18.4.2 Internal review report prepared in a predefined format and distributed per a report distribution list.

18.5 Process in place to maintain the internal review report status, with individuals assigned for corrective actions.

18.5.1 Internal review report status is maintained on file until the final resolution the comments generated in the review.

18.5.2 Process provides for the periodic review of the status of the internal review report and the actions being taken to resolve comments.

- 18.5.3 Internal review process documents the individual and organization responsible for the resolution and signing off on the corrective actions.
- 18.5.4 Procedure in place to follow up the effectiveness of the corrective actions resulting from the internal reviews.
- 18.5.5 Process in place to amend/revise plans and procedures based upon the recommendations from the internal review.
- 18.6 Process in place to receive, distribute and act upon public comments regarding service and operations safety in a timely, effective manner.
 - 18.6.1 Public comments relating to safety are routed to the system safety department and the appropriated organization(s) for response and action.
 - 18.6.2 Public comments relating to safer are responded to in a timely and effective fashion, with follow-up action to verify quality of action.
- 18.7 Internal reviews conducted of all organizations, including operations/transportation, department activities and functions.
 - 18.7.1 Bus operators are periodically tested on emergency procedures.
 - 18.7.1.1 Supervisor conducts check of bus operator announcements and operation of doors, handling of the elderly and the disabled, etc.
 - 18.7.1.2 Checks made of bus operations for schedule adherence.
 - 18.7.1.3 Bus operators checked for performing pre-trip inspection.
 - 18.7.1.4 Periodic check of operations to determine that employees are functioning in their proper capacity.
- 18.8 Internal review conducted of communications and control activities and functions.
 - 18.8.1 Check to determine that employees are functioning in their proper capacity.
 - 18.8.2 Communications and control personnel are periodically tested on emergency operating procedures.
- 18.9 Internal review conducted of maintenance department activities and functions.
 - 18.9.1 Maintenance performs daily pre and post-trip equipment inspections.
 - 18.9.2 Internal review conducted of preventive and corrective maintenance procedures and that personnel are following these procedures.
- 18.10 Internal review conducted of administrative activities and functions.

- 18.10.1 Internal reviews checks that safety reviews outside contracts during preparation of specifications and submittal, as applicable.
 - 18.10.2 Internal review determines if designated managers have copy of the SSPP.
 - 18.10.3 Administrative managers are familiar with the SSPP.
 - 18.10.4 Internal review determines if special studies have been performed relating to compliance with the SSPP.
- 18.11 Internal review conducted to determine that daily inspections of bus stations are performed for cleanliness, physical condition, etc.
- 18.11.1 Internal review determines if periodic inspections made to identify safety hazards, such as poor lighting, stairways damaged and exit signs missing.

SECTION 19 - EXTERNAL REVIEWS

The plan should address how the property and specifically safety, respond to audit/investigations made by organizations external to the property, as follows:

- 19.1 External organizations identified. Purpose, scope and authority of organization defined such as:
 - 19.1.1 New York State Public Transportation Safety Board.
 - 19.1.1.1 Other New York State agency's (NYSDOT, Comptroller, I.G.)
 - 19.1.2 National Transportation Safety Board.
 - 19.1.3 Urban Mass Transportation Administration.
 - 19.1.4 American Public Transit Association.
- 19.2 Procedures in place for review and implementation, as applicable, of recommendations made by external auditing agency.
- 19.3 Comments/recommendations are filed with a rationale for actions.

SECTION 20 - COLLECT AND MAINTAIN DATA

The plan should identify the types of information collected on the property, how it is used to improve or verify the level of safety, where the information is filed and how is it retrieved. In addition the role of the Safety Department in analyzing and utilizing the data should be discussed.

- 20.1 Identify and Maintain Internal Safety Data Sources. Define objectives.

- 20.2 Accident/Incident/Defect Reports Collected and Maintained in areas including, but not limited, to the following:
 - 20.2.1 Fleet accident and incident reports are collected and maintained.
 - 20.2.2 Facilities discrepancy (code violations, disrepair, low light levels, etc.). Reports are collected and maintained.
- 20.3 Inspection reports are collected and maintained in various areas including, but not limited to the following:
 - 20.3.1 Scheduled maintenance reports are collected and maintained.
 - 20.3.2 Corrective maintenance reports are collected and maintained.
 - 20.3.3 Bus pre-trip and post-trip inspections or shift inspection reports are collected and maintained.
 - 20.3.4 Bus safety inspection reports are collected and maintained.
- 20.4 Facilities inspection reports are collected and maintained for various areas including but limited, to the following:
 - 20.4.1 Operating/central bus garage(s) inspection reports are collected and maintained.
 - 20.4.2 Individual maintenance-areas inspection reports are collected and maintained.
 - 20.4.3 Storage areas inspection reports are collected and maintained.
 - 20.4.4 Bus stops, bus shelters and surrounding area inspection reports are collected and maintained.
- 20.5 Other inspection reports are collected and maintained from various areas including, but not limited, to the following:
 - 20.5.1 Route inspection reports are collected and maintained.
 - 20.5.2 System equipment (PA, AVL, COM) inspection reports are collected and maintained.
 - 20.5.3 Fare collection inspection reports (re passenger protection from falling against the fare box) are collected and maintained.
 - 20.5.4 Central control, panels, consoles and recording equipment inspection reports are collected and maintained.
- 20.6 Data collected in standardized form. Used to identify safety trends.
- 20.7 Prepare periodic reports, analysis and studies for management to review, based on safety data collected.

- 20.8 Study/analysis of safety data collected is used as input to hazard resolution and control process.
- 20.9 Results of safety data analysis are reported to PTSB, in biennial amendment.
- 20.10 Results of safety data analysis reported to APTA.
- 20.11 Identify and maintain external safety data sources including, but not limited to the following:
 - 20.11.1 Other bus properties are identified and maintained as external safety data sources.
 - 20.11.2 NYSPTSB is identified and maintained as external safety data source.
 - 20.11.3 APTA is identified and maintained as external safety data source.
 - 20.11.4 NTSB is identified and maintained as external safety data source.
 - 20.11.5 UMTA is identified and maintained as external safety data source.
- 20.12 Professional material: i.e. magazines/publications/supplier's data, is collected and maintained.
- 20.13 External data collected is used to support analysis, hazard resolution.
- 20.14 Data collected is indexed, filed and readily retrievable.

SECTION 21 - PROFESSIONAL DEVELOPMENT

The plan should address the program in place to enhance the professional skills and personal development of the safety staff, to include the following:

- 21.1 Training and development plan in place for the safety personnel.
 - 21.1.1 Training and development plan identifies the short term and long term needs and the new skills and type(s) of personnel to meet these needs.
 - 21.1.2 Procedure in place to inform staff of new codes and regulations.
- 21.2 Safety staff encouraged to attend professionally accepted safety courses, such as at Transportation Safety Institute and universities for professional development.
- 21.3 Safety staff encouraged to attend safety seminars and symposia as part of professional development plan.

- 21.4 Safety staff encouraged to participate in industry wide organizations, such as APTA.
- 21.5 Safety staff encouraged to join professional safety organizations, such as the System Safety Society and the American Society of Safety Engineers.
- 21.6 Safety department subscribes to and circulates professional publications as part of the development plan.
- 21.7 Policy in place describing the employee assistance program

SECTION 22 - APPENDICES

The PTSB recognizes many police, procedures and forms used to safely operate your bus property are already in print format. Therefore it is allowable and suggested that printed documentation be appended to your SSPP and labeled to be identified with the corresponding section and subsection within your SSPP format.

SECTION 23 – CERTIFICATION

**SYSTEM SAFETY PROGRAM PLAN
CERTIFICATION STATEMENT**

I, _____, certify that the system safety
(name, title)

program plan for _____
(name of company)

Has been properly distributed, is currently in effect, functioning as stated, and will be fully enforced by company management.

Date

Signature

HAZARDOUS ASSESSMENT FORM

There are four types of severity; Catastrophic, Critical, Marginal, and Negligible. These types are to be coded using the following:

H - Highly Likely **L - Likely** **U - Unlikely**

Describe hazardous assessment and then code severity.

1. _____

CATASTROPHIC ____ CRITICAL ____ MARGINAL ____ NEGLIGIBLE ____

CATASTROPHIC ____ CRITICAL ____ MARGINAL ____ NEGLIGIBLE ____

3. _____

CATASTROPHIC ____ CRITICAL ____ MARGINAL ____ NEGLIGIBLE ____

4. _____

CATASTROPHIC ____ CRITICAL ____ MARGINAL ____ NEGLIGIBLE ____

5. _____

CATASTROPHIC ____ CRITICAL ____ MARGINAL ____ NEGLIGIBLE ____