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SAFETY ASSESSMENTS FOR LOCAL TRANSPORTATION FACILITIES IN NEW YORK STATE

Quick Reference Guide

Safety Assessments can save lives in New York State. They have been proven **effective** in practice, **easy** to administer, and **low cost** to implement. What follows is a brief introduction to what you should know about this new and important program.

Sixty percent of New York's reported crashes occur on locally controlled (county, city, town, or village) roadways, including over half of the state's fatal crashes. Communities now have a cost effective and reliable tool to address this situation. Completed in the fall of 2008 as a product of the NYS Metropolitan Planning Organizations' Safety Working Group, the Safety Assessment Guidelines deliver a process to improve safety on all types of local transportation facilities statewide.

Simply put, a **Safety Assessment is a formal safety performance examination of an existing or planned transportation facility** (e.g. road, intersection, sidewalk, multi-use path, or access to land use development) by an independent, qualified, and multidisciplinary team. An assessment team considers the safety of all users, qualitatively estimates and reports on safety issues, and suggests opportunities for safety improvement.

The goal of each Safety Assessment is to answer the following questions:

- What elements of the transportation system present a safety issue?
- What opportunities exist to reduce or mitigate those identified safety issues?
- Are there low cost solutions or countermeasures to improve safety?

Though the Safety Assessment Guidelines **set a defined process,** they are **flexible enough to allow all jurisdictions throughout New York State to meet their own specific challenges and needs.** The Safety Assessment Guidelines are presented in a **convenient, step-by-step format** so that practitioners can establish and monitor an effective, ongoing program within the boundaries of their Metropolitan Planning Organization or other local jurisdiction. The Safety Assessment Guidelines are also specifically designed to guide assessment teams through the process from site selection to the implementation of suggested improvements.

This program provides the guidance and tools necessary to achieve positive results in transportation safety. To download a copy of the Safety Assessment Guidelines or for additional information regarding the Safety Working Group, please visit nysmpos.org/safety_working_group.html.

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Inside this Guide

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A. INTRODUCTION

Road Safety Audits (RSAs) or Safety Assessments (SA) are widely recognized as a proactive, low-cost tool to improve safety at each stage in the lifecycle of a transportation facility. Experience with SAs across the United States have yielded positive results and suggest that implementation of an SA program can result in cost effective safety improvements for the transportation system.

The Safety Assessment (SA) Guidelines are designed to be used both by Metropolitan Planning Organizations (MPO's) and local municipal agencies on local transportation systems within New York State. An MPO, if available to a local jurisdiction, may serve as a resource in helping an agency implement a Safety Assessment Program.

You will discover that this process leads to positive results in addressing safety concerns.

This summary document is meant to be a quick reference. The reader is encouraged to read the entire SA Guidelines for detailed information on the "who, what, where, when, and how" of conducting a Safety Assessment.

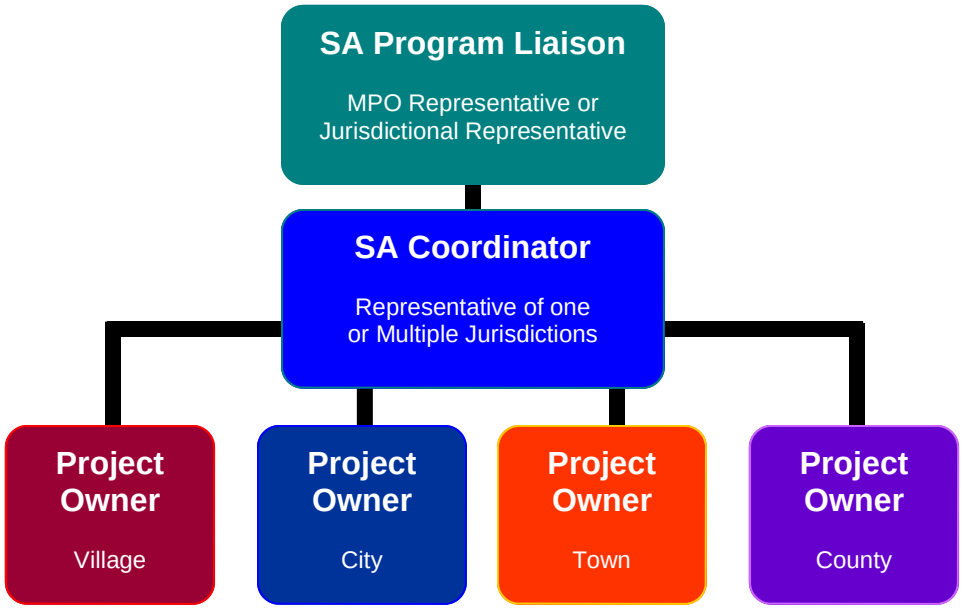
What's required?

A typical SA will initially require three days of staff commitment to attend training, conduct the field assessment, prepare a findings report, and present suggestions. The time necessary to conduct an SA will be reduced as more members within a jurisdiction are trained and become familiar with the process.

A typical team is made up of 3-6 individuals from different disciplines and may include those from a Department of Public Works, Traffic Engineering Department, Police Agency, Emergency Services Agency, and a variety of others.

Once established, a Safety Assessment Program is typically assigned to an agency staff member who then serves as the SA Coordinator. This person can be a representative of one or multiple agencies, but more importantly will be a "Champion" for the program. A sample organizational chart for a typical program is shown in **Exhibit 1**.

Exhibit 1: Sample Organizational Structure for the SA process



B. PURPOSE OF THE GUIDELINES

More than 75% of roads in the United States are under local jurisdiction. The application of the SA process to local transportation systems has the potential to bring about substantive improvements in transportation safety across the country.

The SA Guidelines for **local transportation agencies**:

- Define the subject of SAs and their **key elements**;
- Define a standardized step-by-step SA process to **enable its easy use** by practitioners;
- Introduce SA stages;
- Define general **roles and responsibilities** for the conduct of SAs;
- Explain the **SA approach** to selected projects and locations;
- Define an **SA Team selection** process and the general requirements of an SA Team;
- Provide standardized **SA report formats**;
- Define procedures to **promote and monitor** the SA process; and
- Explain how to **overcome challenges** to the implementation of the SA process.

The **SA Guide** is a **practice-oriented document** intended to guide practitioners in the establishment and monitoring of an ongoing SA program.

C. WHAT IS A SAFETY ASSESSMENT?

A Safety Assessment (SA) is a **formal safety performance examination** of an existing or planned future transportation facility (e.g. road, intersection, sidewalk, multi-use path, or access to land use development) by an **independent (unbiased), trained SA Team**. The SA Team considers the **safety of all users**, qualitatively estimates and reports on safety issues, and **suggests opportunities for safety improvement**.

An SA is a low cost tool to review and improve safety.

The aim of an SA is to answer the following questions:

- What elements of the transportation system present a safety issue; to what extent, to which users, and under what circumstances?
- What opportunities exist to reduce or mitigate the identified safety issues?
- Are there low cost solutions or countermeasures to improve safety?

D. KEY ELEMENTS OF SAFETY ASSESSMENTS

Exhibit 2 lists the various stages in the life cycle of a transportation facility when an SA may be conducted. Most jurisdictions will choose to start with SAs of existing facilities.

Exhibit 2: Safety Assessment Stages

Exhibit 3 outlines key elements of the SA process which should be present for overall effectiveness. The exhibit may be used as a quick prompt list to ensure that an SA program or individual SA is properly structured and conducted.

Exhibit 3: Key Elements of the SA Process

Key Element of SA	Characteristics of Key Elements
Formal Examination	• Scope and objectives of an SA are formally defined and known as "Terms of Reference". • SA is properly documented in an SA report and officially submitted to the Project Owner. • Suggestions in the SA report are reviewed with the project owner and officially documented and delivered to the SA Team and other designated recipients. • Actions necessary to implement the suggestions made are documented. • Implementation actions taken are properly documented. • SA documentation is kept in a permanent project file.
Team Review	• At least three members participate (usually not less than six members for larger projects) with experts called in as necessary for specialist input. • Larger teams are acceptable for SA training. • Incorporate a variety of experience and expertise (e.g., transportation safety, design, traffic, maintenance, construction, public safety, local officials, enforcement personnel, first-responders, human factors) specifically tailored to the project. • Include a local representative.
Independent, Non Biased SA Team	• SA of design: SA Team members should be independent of the design team directly responsible for the development of the original plans. • SA of existing facility: SA Team members are ideally independent of the team directly responsible for operating and maintaining (O&M) the facility. Especially in smaller jurisdictions, it may be necessary to draw some team members from the local O&M staff. This is acceptable as long as those individuals can approach the task with an open mind. • The purpose of independence is to avoid any direct conflict of interest, agenda, or pre-existing biases which may adversely affect the SA team's findings and suggestions. For example, one can achieve independence for an SA on an existing facility by identifying an SA Team Leader independent of the facility owner but identifying SA Team members related to the facility owner who are not directly responsible for the design, operation or maintenance of the facility. Engineering, maintenance and other representatives from the agency may participate.

Key Element of SA	Characteristics of Key Elements
Safety Focus	• SA is focused on identification of potential transportation safety issues. • SA is not a check of compliance with standards since compliance alone does not assure optimal, or even adequate, safety. • SA does not consider issues that are not safety-related.
Includes all Users	• SA considers all types of potential users (elderly drivers, pedestrians of different age groups including children and the physically-challenged, bicyclists, etc). • SA considers all appropriate vehicle types/modes of travel including but not limited to commercial, recreational, agricultural traffic, and transit access.
Proactive Nature	• The team considers more than just those safety issues demonstrated by a pattern of crash occurrence. • The absence of high quality collision data can be a reason to conduct an SA. • Locations demonstrating a higher than average crash risk may be selected for an SA, but sites may also be selected for other reasons (e.g., sections scheduled for pavement overlay, reconstruction or rehabilitation). In the latter case, potential safety issues are identified proactively.
Qualitative Assessment	• SA team uses qualitative techniques (visualization of the design features, field visits, prompt lists, “seeing” the transportation system through the eyes of different users, brainstorming, RSA software, etc.) to identify safety issues. • While crash data is reviewed (if available) it may not be a driving force behind the SA.
Versatility of Proposed Safety Improvements	• The proposed improvements may include, but not be limited to: ⇒ short, medium or long term engineering solutions. ⇒ multi-modal considerations. ⇒ enforcement activities. ⇒ safety education.

Exhibit 4: Safety Assessment Process Step-by-step

Step 1: Identify project or existing facility to be assessed
As a result of this step, the project or existing facility to undergo an SA is determined and the parameters for the SA are set.

Step 2: Select Safety Assessment Team
As a result of this step, an independent, qualified, and multidisciplinary team suitable for the specific SA stage is selected.

Step 3: Conduct a Pre-assessment Meeting to Review Project Information
The meeting brings together the project owner, the design team (or traffic engineering/maintenance representatives of the agency for the SAs of existing roads) and the assessment team.

Step 4: Conduct Review of Project Data and Field Visit
The objective of project data review is to gain insight into the project or existing facility, to prepare for the field visit, and to identify preliminary areas of safety concern. The field visit is used to gain further insight into the project or existing facility, and to further verify/identify safety concerns.

Step 5: Conduct SA Analysis and Prepare Report of Findings
As a result of this step, the safety issues are identified and prioritized and suggestions are made for improving safety. The SA results are then summarized in the formal SA report.

Step 6: Present SA Findings
In this step, the SA team orally reports the key SA findings to the project owner and design team in order to facilitate the understanding of the SA findings.

Step 7: Prepare Formal Response
The formal response becomes an essential part of the project documentation. It outlines what actions the project owner and/or design team will take in response to each safety issue listed in the SA report and why, if any, some of the SA suggestions could not be implemented.

Step 8: Incorporate SA Findings when Appropriate
This final step ensures that the corrective measures outlined in the response report are completed as described and in the time frame proposed.

Exhibit 5: Data Recommended for an SA (Typical for Roadway Assessments)

- Note it is understood that not all the data below may be available.

Data	Specifics
Design Criteria	• Functional classification, land uses, control of access. • Design speeds, design vehicles (for road assessments). • List of non-standard and/or non-conforming features. • Justification for non-standard and/or non-conforming features.
Traffic Data	• Vehicular volume and composition on a facility being assessed as well as those on intersecting roads and the surrounding roadway network. • Pedestrian/bicycle volumes and mixes (children, elderly, disabled etc.) on the facility being assessed, on intersecting facilities, and the surrounding transportation network. • Operating speeds and points of congestion.
Environmental Characteristics	• Typical and unique weather conditions. • Topography.

Data	Specifics
Documents Showing the Existing or Proposed Facility	• For SAs of existing facilities: As-built drawings at a suitable scale (e.g. 1:40 US Customary, 1:500 Metric) and aerial photographs (which would be useful to have on hand during the field review). • For planning stage SAs: Conceptual drawings at a suitable scale (e.g. 1:1000 US Customary, 1:10000 Metric) showing all planning alternatives, adjacent land uses, the surrounding transportation network, connections to adjoining transportation facilities and topography. • For preliminary design stage SAs: Contract plans at a suitable scale (e.g. 1:40 US Customary, 1:500 Metric) showing horizontal and vertical alignment, typical section, connections to adjoining transportation facilities, proposed traffic control devices, basic ramp configurations and lane configurations for interchanges. • For detailed design stage and pre-opening stage SAs: Contract plans at a suitable scale (e.g. 1:20 US Customary, 1:250 Metric) showing all signs, delineation, illumination, pavement markings, lane configuration, landscaping, roadside appurtenances, traffic signal placement, phasing and timing, and roadside barriers.
Crash Data	• For SAs of existing facilities: Crash data detailing the location, type, and severity of each crash over at least the most recent three year period of data available. Crash diagrams and/or copies of New York State Department of Motor Vehicles (NYSDMV) crash reports (Form MV-104 or equivalent) should be included. • For pre-construction stage SAs on resurfacing, rehabilitation, or reconstruction projects: crash data help identify safety concerns and guide the recommendation of countermeasures. • For pre-construction stage SAs on new construction: Crash data for the surrounding transportation network are not as important. They do however, provide insights into prevailing crash patterns and safety issues in the study area. If several alternatives are under consideration at the planning stage SA, crash data may help qualitatively estimate the safety implications of the planning alternatives.

Data	Specifics
Other Pertinent Documents	• Maintenance histories. • Previous SA reports and formal responses, if available. • Minutes of public meetings, hearings, and/or stakeholder group meetings and any agreements with municipalities or individual property owners for the accommodation of transportation needs (e.g. access permits, etc.). • Listing of all relevant design standards, guidelines, manuals, and/or publications (e.g. New York State Highway Design Manual, Municipal Standard Details, the National Manual on Uniform Traffic Control Devices with New York State Supplement, etc.). • If applicable: Records of public complaints, law enforcement observations of speeding/unsafe behavior, etc.
Presentation	• Visual (e.g. Microsoft PowerPoint or equal) presentations on the project by its design team and of the anticipated SA (goals, objectives, scope, expectations, schedule, etc.) by the SA team leader might be useful for the pre-assessment meeting.

Detailed information and prompt lists for the Safety Assessment Process along with examples may be found in the appendices to the Safety Assessment Guidelines document.