

SAFE SYSTEM ALIGNMENT FRAMEWORKS

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To advance implementation of the Safe System Approach (SSA), Federal Highway Administration (FHWA) developed two (2) resources for measuring SSA alignment—the *Safe System PROJECT-BASED Alignment Framework* and the *Safe System POLICY-BASED Alignment Framework*. These frameworks were developed through extensive research of national and international best practices for measuring relative SSA alignment. They were introduced, applied, and refined through a series of focus groups and eight pilot workshops. Each of these frameworks aim to quantify alignment or integration across the Safe System elements and principles. Integrating equity is also included in the frameworks to address disparate fatal and serious injury crash outcomes impacting underserved communities and vulnerable road users.



Safe System PROJECT-BASED Alignment Framework

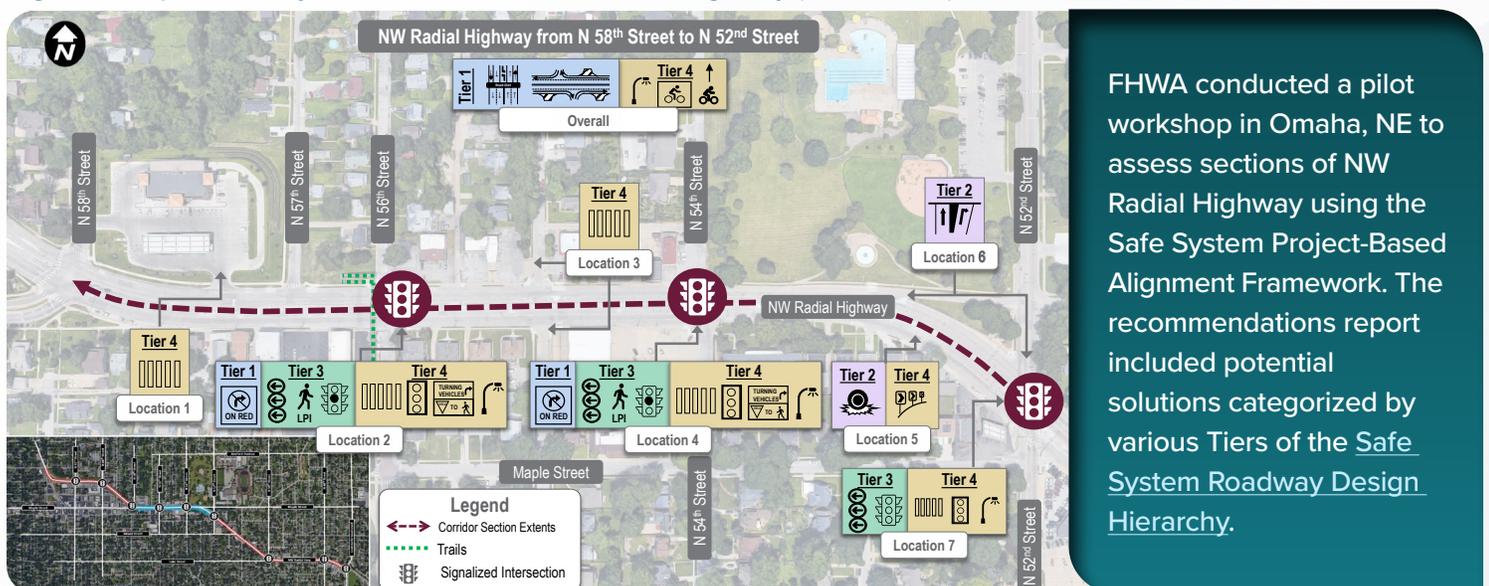
Practitioners can use the Safe System Project-Based Alignment Framework to assess roadway locations and potential improvements through a Safe System lens. The criteria and use of this framework lends itself to infrastructure projects and comparison among alternatives for specific locations, including those found in the [Safe System Roadway Design Hierarchy](#). The Safe System Project-Based Alignment Framework provides practitioners a means of contrasting improvements relative to one another through a quantitative scoring matrix and qualitative safety prompts. The scoring matrix captures Safe Roads and Safe Speeds SSA elements using Crash Exposure, Crash Likelihood, and Crash Severity for both vulnerable road users and motor vehicle occupants. The safety prompts capture the remaining three SSA Elements (Safe Road Users, Safe Vehicles, Post-Crash Care), as well as considerations for integrating equity.

This framework provides comparative analysis based on a series of data inputs and risk evaluations. It is a user-friendly spreadsheet tool that estimates Safe System alignment based on inputs and information typically available at the project planning stage available through online mapping, roadway inventory database systems, or by conducting a field review of a given location.

How to Use the Framework:

- ✓ **ASSESS EXISTING CONDITIONS** and supplement Road Safety Audits through a Safe System lens using quantitative (crash exposure, likelihood, severity) and qualitative (safety prompts) evaluations of the site.
- ✓ **EVALUATE AND COMPARE PROJECT ALTERNATIVES** that can help improve Safe System alignment (e.g., eliminating risks, reducing exposure, etc.) using the Safe System Roadway Design Hierarchy to determine the best (i.e., cost/benefit) solution for the site.

Figure 1. Map. Hierarchy solutions—Northwest Radial Highway (Omaha, NE).



FHWA conducted a pilot workshop in Omaha, NE to assess sections of NW Radial Highway using the Safe System Project-Based Alignment Framework. The recommendations report included tier potential solutions categorized by various Tiers of the [Safe System Roadway Design Hierarchy](#).

Source: FHWA.



Safe System *POLICY-BASED* Alignment Framework

Practitioners can use the Safe System Policy-Based Alignment Framework to help agencies assess policies, plans, processes, programs, and documents in a holistic manner through a Safe System lens. The Policy-Based Alignment Framework includes seven criteria:

1. Death and Serious Injuries are Unacceptable.
2. Humans Make Mistakes.
3. Humans are Vulnerable.
4. Responsibility is Shared.
5. Safety is Proactive.
6. Redundancy is Crucial.
7. Equity.

Agencies assess the level of Safe System alignment through a series of questions for each criterion.

The Safe System Policy-Based Alignment Framework was developed to be flexible and can be completed individually or as a group. The framework is most beneficial when conducted by an assessment team consisting of as many stakeholder representatives as possible, specifically those that are familiar with or have reviewed the policy under consideration. After completing the framework individually, a facilitator with indepth understanding of the SSA should lead the assessment team to review the results together. The team should examine and discuss the resulting scores for each of the criteria. These scores and discussion will provide an indication of areas of strength, as well as potential areas for improvement.

The method for scoring each question in the framework follows a five-phase adoption process including initiation, development, execution, evaluation, and integration.¹ When discussing the questions for the criteria, agencies should consider the degree or extent to which the policy, procedure, or plan aligns with the item under consideration.

WHERE TO START (examples):

- Highway Safety Improvement Program Manuals
- State, Regional, and Local Safety Plans
- Highway Safety Analysis Procedures
- Road Safety Audit Guides
- Roadway design manual
- Speed management policy

How to Use the Framework:

- ✓ **BENCHMARK AND TRACK PROGRESS** toward improving Safe System alignment of agency policies and documentation over the long term.
- ✓ **RAISE THE LEVEL OF AWARENESS** of SSA-related practices and strategies.
- ✓ **IDENTIFY GAPS** in existing policy and program efforts.
- ✓ **GENERATE STRATEGIES** to improve Safe System alignment in agency policies and procedures.
- ✓ **INFLUENCE CHANGES** in agency business practices.

¹ Modeled after the Highway Safety Improvement Program Self-Assessment Tool: <https://safety.fhwa.dot.gov/hsip/resources/fhwasa15014.pdf>.

SUMMARY

ZERO IS OUR GOAL. A SAFE SYSTEM IS HOW WE GET THERE. Using these frameworks to better align policies and infrastructure improvement projects with the SSA is one way to advance toward our goal. FHWA offers workshops to introduce agencies to the Safe System Roadway Design Hierarchy, Safe System Project-based Alignment Framework and Safe System Policy-based Alignment Framework. In addition, summaries of how other agencies have used these frameworks are available and can be used to for reference when applying these frameworks to your policies and projects. These, and other SSA resources, are available at <https://highways.dot.gov/safety/zero-deaths/resources>.

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