



INVEST

ECONOMIC • SOCIAL • ENVIRONMENTAL

Version 1.3

Sustainable Highways Self-Evaluation Tool



INVEST
ECONOMIC • SOCIAL • ENVIRONMENTAL

INVEST Version 1.3

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Introduction to the Compendium

INVEST (Infrastructure Voluntary Evaluation Sustainability Tool) was developed by FHWA as a practical, web-based, collection of voluntary best practices, called criteria, designed to help transportation agencies integrate sustainability into their programs (policies, processes, procedures, and practices) and projects. This compendium includes user selected criteria from INVEST 1.2 as of September 2015. It includes System Planning for States (SPS), System Planning for Regions (SPR), Project Development (PD), and Operations and Maintenance (OM) criteria. It is not intended to be an instructional manual or guidebook; the website, located at www.sustainablehighways.org, provides thorough information and instruction on how to use INVEST.

Short excerpts from the website are featured in this compendium. For more information, visit the INVEST website.

INVEST Version 1.0

INVEST Version 1.0 (v1.0) was the first full release of the INVEST tool and criteria in October 2012. It was developed through research and analysis of sustainability best practices in the transportation field. The original Beta Version criteria, released in the fall of 2010, were written by subject matter experts, and then were reviewed, modified, and vetted through valuable stakeholder feedback. After revising based on this feedback, the Pilot Test Version was released in the spring of 2011 for testing and evaluation across a broad spectrum of agencies, projects, programs, and geographies. INVEST 1.0 reflects substantial revisions made to the criteria and web-based tool based on the pilot testing.

INVEST Versions 1.1, 1.2, and 1.3

Development of Version 1.1

After the release of INVEST v1.0, the Federal Highway Administration (FHWA) launched an implementation program that provided grants to teams from DOTs, MPOs, and a Tollway desiring to implement INVEST v1.0. These teams used INVEST to evaluate a project or program, and in some cases, their entire portfolio of projects. Each provided a final report to FHWA that included comments and suggestions for the online tool and the criteria. These comments were combined with comments received during the development of version 1.0 that were deferred for consideration in future versions of INVEST. After reviewing the comments, it was decided to make two updates to INVEST, Version 1.1 and 1.2.

The release of Version 1.1 in January 2015 introduced minor edits, formatting changes, and tool enhancements that did not affect scoring of projects or programs. That is, in terms of scoring projects and programs, Version 1.0 = Version 1.1 and no translation was required.

Modifications Included in Version 1.2

With the release of Version 1.2 in September 2015, FHWA completed the responses to comments that required more substantial changes than Version 1.1. Version 1.2 included significant changes to criteria, scorecards, modules, and scoring in INVEST and did significantly affect the scoring of all existing projects and programs. The changes introduced include the following:

Changes to Criteria

- Adding an Innovative Criterion to all modules that users can define to take credit for sustainable innovations and emerging technologies not already included in INVEST.

- Adding five new criteria to the Project Development module, including: Low-Impact Development (separated from Stormwater), Infrastructure Resiliency in Planning and Design, Permeable Pavement, Light Pollution, and Noise Abatement.
- Removing the Contractor Warranty criterion and adding similar concepts to the Long-Life Pavement criterion.
- Modifying existing criteria to clarify scoring, adding new methods of achieving credit, and adding more opportunities to earn partial credit.

Other Changes

- Separating the System Planning module into two modules: System Planning for States (or infrastructure owners), and System Planning for Regions (and MPOs). This allows modifications to the criteria to make each module more applicable to the types of activities that the respective types of organizations perform.
- Adding a Recreational/Scenic scorecard to better represent criteria applicable to projects such as those designed by Federal Lands.
- Linking Case Studies to online criteria write-ups, making the case-studies searchable and adding the ability to share user examples of Innovative Criteria.
- Introducing a new guide to applying INVEST in the real world called *Using INVEST to Accomplish Your Goals*.
- Reorganizing the website and renaming tabs to aid in navigation.
- Launching scoring tool enhancements that include streamlined Program/ Project Registration Fields, new sortable fields in My Workspace, consolidation of actions in My Workspace into graphical icons, display of status and rating of evaluations in My Workspace, improved tools to manage collaborators, scoring status icons and the ability to lock criteria already scored, and an improved process to customize a scorecard.

The website includes a page under ABOUT called [Version 1.2](#) that describes changes made to INVEST in Version 1.2.

Modifications Included in Version 1.3

After 2-1/2 years of continued testing and use of Version 1.2, FHWA launched another set of updates to INVEST including Version 1.3 (this version) and an upcoming update, Version 2.0 (expected early 2019). Version 1.3 includes minor edits, criteria clarifications, and fixes to broken resource hyperlinks. Version 1.3 **does not affect scoring**, and therefore replaces Version 1.2.

Project and Program Scoring in Version 1.3

New Projects and Programs

All new project and program evaluations started will be in Version 1.3 and it is no longer possible to start a new project or program evaluation using Version 1.1 of INVEST.

Existing Projects and Programs

Existing evaluations (prior to the launch of Versions 1.2 and 1.3) remain in Version 1.1 until the user makes the decision to translate them to Version 1.3, which can be done when scoring the project by selecting the option and confirming the user's intent.

Users choosing to leave their existing scorecards in Version 1.1 will be able to continue scoring and will have access to the Version 1.1 scoring tool by selecting to continue scoring the existing project or program. It is anticipated that this

access will be available for several years. Users will be notified when this option is phased out before changes are made.

Translating a Project or Program to Version 1.3

When choosing to translate a project or program to Version 1.3, all relevant scores will be maintained (that is, response to questions that have not changed will remain unchanged). In addition, all notes, collaborators, and uploads will remain. The user will need to rescore items in many of the existing criteria to reflect changes included in Version 1.3 and will need to score new criteria; a matrix describing the changes to each of the criteria and necessary scoring updates is available for download at <http://www.sustainablehighways.com/1811/version-12.html>.

INVEST Background

Transportation and Sustainability

Transportation projects and programs serve many different, and sometimes competing, objectives. “Sustainability” is a concept that enables decision-makers to make balanced choices around these objectives. The three principles of the “triple bottom line” upon which sustainability is based—social, economic, and environmental—capture the broad range of transportation goals and objectives. Highway project development (including project planning, design, and construction) should seek to apply these principles. These principles are useful because they begin to define specific results that can be achieved by improving highway sustainability. They begin to provide distinct reasons for highway project development to incorporate such diverse concepts as climate change, environmental protection, judicious use of funds, regional air quality improvement, construction quality incentives, recycling promotion, social equity, and environmental management system use. If done effectively, the result should be more sustainable highways. Using sustainable approaches in transportation infrastructure will help us to continue to enhance quality of life and serve the transportation needs of the present without compromising the ability of future generations to meet their needs.

What is the Purpose and Intent of this Tool?

FHWA's INVEST is designed to provide information and techniques to help agencies integrate sustainability best practices into their projects and programs. INVEST is intended to provide guidance for practitioners to evaluate the sustainability of their transportation projects and programs and to encourage sustainability progress within the field of transportation. **It is not required and it is not intended to encourage comparisons** between transportation agencies. INVEST was developed with input from state and local transportation agency officials and staff and professional organizations such as AASHTO and ASCE. FHWA will continue to update INVEST as the transportation sustainability field continues to advance. While the use of INVEST is voluntary, it can be used by transportation agencies, such as DOTs, MPOs, Council of Governments, public works departments, and their consultants and partners, to evaluate and aid the integration of sustainability into their programs and projects.

Modules and Scorecards

INVEST considers the full lifecycle of projects and has four modules to self-evaluate the entire lifecycle of transportation services, including System Planning for States or Regions (SPS or SPR), Project Development (PD), and Operations and Maintenance (OM). Each of these modules is based on a separate collection of criteria and can be evaluated separately. INVEST 1.3 includes a total of eighty-one criteria organized into these four modules.

1. **System Planning for States (SPS) and System Planning for Regions (SPR)** cover the first step in the lifecycle of a transportation project. This is where an agency's system-wide network is analyzed and assessed to identify projects that will improve the safety, capacity, access, operations, or other key features of the system. The SP module includes sixteen criteria and one bonus criteria that agencies are eligible for based on their scores on

the first three criteria. There is one scorecard for each of the System Planning modules that includes all of the criteria.

2. **Project Development (PD)** is the second step in the lifecycle of a transportation project. This is where specific projects conceptualized and programmed in the System Planning processes are planned, designed, and constructed. The PD module includes a total of thirty-three criteria that are generally organized from planning to design to construction. The criteria are further organized into seven scorecards for the evaluation of projects. The scorecards are designed to identify applicable criteria based on the project type and location. Six of these scorecards pre-identify criteria that are most likely to be applicable for the project type and location. The seventh scorecard is a custom scorecard option, which is a dynamic scorecard that allows the user to select criteria:

- Paving – for projects that are devoted exclusively to pavement preservation; restoration projects that extend the service life of existing facilities and enhance safety; or pavement restoration projects that restore pavement structure, ride quality, and spot safety. Use this scorecard for paving projects in both rural and urban locations.
- Basic Rural – for small, rural reconstruction or rural bridge replacement projects that do not expand capacity of the roadway.
- Basic Urban – for small urban reconstruction or urban bridge replacement projects that do not expand capacity of the roadway.
- Extended Rural – for rural projects for a new roadway facility; structure projects where nothing of its type currently exists; and major reconstruction projects that add travel lanes to an existing roadway or bridge.
- Extended Urban – for urban projects for a new roadway facility; structure projects where nothing of its type currently exists; and major reconstruction projects that add travel lanes to an existing roadway or bridge.
- Scenic and Recreational – for typically rural scenic and recreational projects, such as those developed by Federal Lands.
- Custom - for projects that do not fit any of the pre-defined scorecard options or that want to use the self-defined Innovative Criterion, the Custom Scorecard will allow the user to develop a unique set of criteria that is most appropriate for the project being evaluated. The Custom Scorecard starts with a core set of 11 criteria that must be included as part of the score. There are not achievement levels associated with the custom scorecard.

Table 1 on the next page shows the criteria included in each of the PD scorecards. Each PD scorecard includes a different combination of the thirty-three PD criteria based on the type project. The custom scorecard includes eleven core criteria plus user-selected criteria to make a custom self-evaluation for projects that don't fit well into the six defined scorecards.

Table 1 - Project Development Criteria by Scorecard

Project Development by Criteria Scorecard							
	Paving	Urban Basic	Urban Extended	Rural Basic	Rural Extended	Scenic and Recreational	Custom Core Criteria ¹
PD-01: Economic Analyses			✓		✓		
PD-02: Life-Cycle Cost Analyses	✓	✓	✓	✓	✓		✓
PD-03: Context Sensitive Project Development		✓	✓	✓	✓	✓	
PD-04: Highway and Traffic Safety	✓	✓	✓	✓	✓	✓	✓
PD-05: Educational Outreach		✓	✓	✓	✓	✓	
PD-06: Tracking Environmental Commitments	✓	✓	✓	✓	✓	✓	✓
PD-07: Habitat Restoration		✓	✓	✓	✓	✓	
PD-08: Stormwater Quality and Flow Control		✓	✓	✓	✓	✓	
PD-09: Ecological Connectivity			✓	✓	✓	✓	
PD-10: Pedestrian Facilities		✓	✓			✓	
PD-11: Bicycle Facilities		✓	✓			✓	
PD-12: Transit and HOV Facilities		✓	✓			✓	
PD-13: Freight Mobility			✓		✓		
PD-14: ITS for System Operations		✓	✓		✓		
PD-15: Historic, Archaeological, and Cultural Preservation		✓	✓	✓	✓	✓	
PD-16: Scenic, Natural, or Recreational Qualities			✓	✓	✓	✓	
PD-17: Energy Efficiency		✓	✓	✓	✓		
PD-18: Site Vegetation, Maintenance and Irrigation		✓	✓	✓	✓	✓	
PD-19: Reduce, Reuse, and Repurpose Materials	✓	✓	✓	✓	✓	✓	✓
PD-20: Recycle Materials	✓	✓	✓	✓	✓	✓	✓
PD-21: Earthwork Balance			✓		✓	✓	
PD-22: Long-Life Pavement	✓	✓	✓	✓	✓	✓	✓
PD-23: Reduced Energy and Emissions in Pavement Materials	✓	✓	✓	✓	✓	✓	✓
PD-24: Permeable Pavement	✓	✓	✓	✓	✓	✓	✓
PD-25: Construction Environmental Training		✓	✓	✓	✓	✓	
PD-26: Construction Equipment Emission Reduction	✓	✓	✓	✓	✓	✓	✓
PD-27: Construction Noise Mitigation		✓	✓			✓	
PD-28: Construction Quality Control Plan	✓	✓	✓	✓	✓	✓	✓
PD-29: Construction Waste Management	✓	✓	✓	✓	✓	✓	✓
PD-30: Low Impact Development		✓	✓	✓	✓	✓	
PD-31: Infrastructure Resiliency Planning and Design			✓		✓	✓	
PD-32: Light Pollution		✓	✓	✓	✓		
PD-33: Noise Abatement		✓	✓				
Total Number of Criteria in Scorecard	11	27	34	23	29	27	11

¹ – Indicates the core criteria that must be included in the custom scorecard. The user may choose as many additional criteria as desired.

3. **Operations & Maintenance (OM)** is the third step in the lifecycle of a transportation project. This is where infrastructure planned, designed, and constructed in prior steps is operated and maintained, data is collected, and new project needs identified are passed back to the System Planning step to complete the lifecycle of projects. The OM module includes fourteen criteria including four aimed at internal operations and ten focused on maintenance and operations of the highway system. There is one scorecard for the OM module that includes all of the criteria.

Website and Tool

Website Organization

The INVEST website, at www.sustainablehighways.org is the primary source of INVEST information and contains the self-assessment scoring tool. The site is organized into the following three primary sections, which are described in more detail below:

- **ABOUT** – Provides background information about INVEST and its goals and benefits
- **LEARN** – Provides a guided tour through the INVEST website to learn about sustainable highways and integrating sustainability best practices into projects and programs.
- **CRITERIA** – Provides an interface to browse the complete set of criteria that can be used to evaluate the sustainability of projects and programs.
- **SCORE** – Is the self-evaluation tool that allows users to evaluate the sustainability of projects and programs. One of the key pages under
- **RESOURCES** – Consolidates resources including a library, case studies and cost narratives, and other links and support documents that provide valuable information for users.

In addition to these primary sections, the website also contains a links to **My Workspace** in the header of each page.

About

The **ABOUT** section provides background information on the following topics:

- **Goals** – INVEST Goals
- **History** – Development and history of INVEST
- **Benefits** – The benefits of using INVEST
- **Version 1.1** – A summary of revisions made in Version 1.1.
- **Version 1.2** – A summary of revisions made in Version 1.2.
- **Version 1.3** – A summary of revisions made in Version 1.3.

Learn

The **LEARN** section contains more information on multiple sustainability topics as well as more information about INVEST and using it to evaluate projects and programs. The following topics are covered:

- **Sustainability and Highways** –discusses definitions of sustainability, sustainable highways, and why and how to measure sustainability
 - When Does INVEST Measure Sustainability?
 - What is Sustainability?
 - What is a Sustainable Highway?
 - Why Measure Sustainability?
 - How is Sustainability Measured?

- **Getting to Know INVEST** – defines sustainability, the triple bottom line, and the need to measure sustainability were all elements that contributed to the structure and organization of INVEST
 - What is INVEST?
 - How Does INVEST Measure Sustainability?
 - How are the Criteria Organized?
 - How are the Criteria Presented?
 - Are the Criteria Weighted?
- **System Planning** – discusses the basics of the System Planning modules.
 - About the System Planning Module
 - Why and When would I Score a System Planning Program?
 - Who Can Use the System Planning Modules?
 - How Do I Use INVEST to Score a System Planning Program?
 - What Does the System Planning Score Mean?
- **Project Development** – discusses the basics of the Project Development module.
 - About the Project Development Module– discusses the basics of the Project Development module.
 - Why and When would I Score a Project?
 - Who Can Use the Project Development Module?
 - Which Scorecard Should I Use?
 - Understanding the Context of a Project
 - How Do I Use INVEST to Score a Project?
 - What Does the Project Development Score Mean?
- **Operations and Maintenance** – discusses the basics of the Operations and Maintenance module.
 - About the Operations and Maintenance Module
 - Why and When Would I Score an Operations and Maintenance Program?
 - Who Can Use the Operations and Maintenance Module?
 - How Do I Use INVEST to Score an Operations and Maintenance Program?
 - What Does the Operations and Maintenance Score Mean?
- **Using INVEST to Accomplish Your Goals** –includes examples of how transportation agencies are using INVEST.
 - Advance Better Business Practices
 - Integrate Sustainability into Projects and Programs
 - Improve Education and Understanding of Sustainability
 - Facilitate Internal and External Communication and Outreach
 - INVESTing Time
 - Relating INVEST to other Sustainability Tools

Criteria

The **CRITERIA** section is essentially an online compendium. Users start by selecting a module to explore and can then select individual criteria to review and/or download. The Project Development criteria can be filtered to show only the criteria included in each scorecard.

Score

There are 2 operations under the **SCORE** section, including:

- **My Workspace** – this is where all scoring begins and can also be launched from the top menu bar on any page
- **Translate to Version 1.2** – this is an information page that explains the basics of the translation and how to proceed

Resources

The **RESOURCES** section provides additional information useful to INVEST users, including:

- **INVEST Library** – provides downloadable copies of compendia and printed portions of *Using INVEST to Accomplish Your Goals* from **LEARN**
- **Case Studies and Examples** – provides searchable database of case studies and Innovative Criterion examples
- **Cost Savings** – provides cost narratives that explore building a business case for implementing some practices of the INVEST tool
- **Innovative Criterion** – interface for developing and submitting an Innovative Criterion for use in the Project Development custom scorecard
- **FHWA Sustainability Highways Initiative** – link to FHWA’s website
- **Webinars & Events** – provides current and past INVEST webinar and other event information
- **FAQ** – Frequently Asked Questions
- **Provide Comments** – interface tool for users to submit questions and comments to the INVEST team
- **Privacy** – FHWA’s privacy notice

My Workspace

My Workspace is the primary interface to begin all project and program scoring. From this page you can launch the following services:

- **Scoring Tutorial** – this is an illustrated guide to using the scoring functions
- **Start a New Project or Program** – to create a project or program to score, you begin here to enter the basic information
- **Continue Working on an Existing Project or Program** – contains a sortable list, organized by module of all of your existing project and programs that are being scored, provides basic information about each, and allows you to quick launch the following actions:
 - Edit – editing existing project or program Information, including the scorecard being used
 - Duplicate – to duplicate a project or program
 - Print – to print a copy of the current score
 - Score – launches the scoring tool for the project or program
 - Delete – requires confirmation to delete a project or program
 - Collaborate – allows you to add or remove other users that can help score a project

Criteria

The remainder of this document contains the criteria write-ups for all eighty (80) criteria contained in the System Planning (for States and Regions), Project Development, and Operations & Maintenance modules of INVEST v1.2. However, if users download the compendium from the library, this may contain only the modules selected.

System Planning for States

SPS-01: Integrated Planning: Land Use and Economic Development	SPS-01
SPS-02: Integrated Planning: Natural Environment.....	SPS-02
SPS-03: Integrated Planning: Social	SPS-03
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SPS-05: Access and Affordability	SPS-05
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SPS-12: Financial Sustainability.....	SPS-12
SPS-13: Analysis Methods	SPS-13
SPS-14: Transportation Systems Management & Operations	SPS-04
SPS-15: Linking Asset Management and Planning	SPS-15
SPS-16: Infrastructure Resiliency	SPS-16
SPS-17: Planning and Environmental Linkages	SPS-17

SPS-01: Integrated Planning: Economic Development and Land Use

State

1-15 points

Goal: Integrate statewide and metropolitan Long Range Transportation Plans (LRTP) with statewide, regional, and/or local land use plans and economic development forecasts and goals. Proactively encourage and facilitate sustainability through the coordination of transportation, land use, and economic development planning.



Sustainability Linkage

Integrating transportation planning with economic development and land use supports the economic principle by creating opportunities to improve access and mobility, and increase the social, environmental, and economic returns on both public and private investments in transportation projects and programs.

Background and Scoring Requirements

Background

This criterion recognizes that each state has different regulatory, policy, and institutional frameworks, plans, and goals related to economic development, land use, or the interaction of transportation with economic development or land use. The criterion allows for flexibility in the activities and types of plans agencies use to forward economic development and land use goals. The intent of this criterion is to encourage agencies to integrate sustainability into transportation, land use, and economic development planning.

For the purposes of this criterion, the key terms are defined as follows:

- **“Above and beyond”** means incorporating language in the goals and objectives that is stronger than federal requirements to “consider” the likely effect of transportation policy decisions on land use and development.
- **“Applicable economic development and land use plans”** include any local, metropolitan or statewide plans that address land use and/or economic development within the agency’s jurisdiction.
- **“Consistent”** refers to the relationship between the types and intensities of permitted development and the types and intensities of planned transportation investments.
- **“Institutional mechanisms”** refers to an agreed-upon, two-way communication process for sharing information and collecting feedback.
- **“Integration”** means developing transportation, land use, and economic development plans consistently and collaboratively.
- **“Land use and economic development plans”** include policies, plans, maps, regulations, or programs that focus on the use, design, location, density, or related features of land. These include growth strategies, comprehensive plans, zoning plans, downtown revitalization plans, visioning plans, urban renewal plans, and economic overlay zones, among others.

- **“Regularly engages”** means going above and beyond consulting once; it means successfully involving and interacting with land use and economic development agencies early, often, and on an on-going basis throughout the planning process.
- **“Sustainable Actions”** maintain or enhance our capacity to endure. The goal of sustainability is the satisfaction of basic social and economic needs, both present and future, and the responsible use of natural resources, all while maintaining or improving the well-being of the environment on which life depends.
- **“Sustainability Principles”** refers to the economic, environmental, and social principles of the triple bottom line.

Agencies are encouraged to work with their stakeholders and the broader community to define what sustainability means for their jurisdiction in the context of land use and economic development. Examples of actions that typically promote sustainability principles include those that result in the efficient use of land near existing transportation infrastructure and/or those that enhance accessibility within and to existing communities. Other examples include policies that enhance the efficiency of goods movement (e.g., dedicated freight corridors or lanes), and policies that facilitate economic development goals near planned transportation improvements, such as job creation or business retention.

Scoring Requirements

Requirement SPS-01.1

1-2 points. Develop and Adopt Goals and Objectives

Scoring for this requirement is based on the following, cumulative requirements. The first requirement must be accomplished to earn the second.

- **Requirement SPS-01.1a**

1 point. Develop Goals and Objectives

The agency has developed goals and objectives for the integration of metropolitan and/or statewide transportation planning with economic development and land use planning above and beyond current federal, state, regional and/or local requirements. The goals and objectives should further the integration of land use and economic development considerations into regional or local decision-making.

- **Requirement SPS-01.1b**

1 additional point. Goals and Objectives Consistent with Economic Development and Land Use Plans

The goals and objectives are consistent with applicable economic development and land use plans above and beyond current requirements. If existing local, metropolitan, and/or statewide economic development and land use plans cannot be said to further sustainability principles, the agency may earn the point by working with its partner jurisdictions to establish a joint vision for land use and economic development within the planning area that supports sustainability principles.

Requirement SPS-01.2

2-3 points. Engage Partner Agencies

Scoring for this requirement is based on the following cumulative requirements. The first requirement must be accomplished to earn the second.

- **Requirement SPS-01.2a**

2 points. Engage Land Use and Economic Development Agencies

The agency regularly engages land use and economic development agencies, such as MPOs, in its jurisdiction throughout the transportation planning process, to reduce barriers and further the prospects for implementation of its goals and objectives as identified above.

- **Requirement SPS-01.2b**

1 additional point. Utilize Institutional Mechanisms

The agency utilizes institutional mechanisms (such as ad hoc or standing technical advisory committees) to facilitate the engagement.

Requirement SPS-01.3

2 points. Use Best Practice Quantitative Methods

The agency uses best practice quantitative methods (e.g. integrated land use and transportation models, Strategic Highway Research Program (SHRP2) economic analysis tools, and other proprietary economic assessment tools) to analyze and evaluate the performance of alternative land use/transportation scenarios. The agency incorporates the results into the LRTP. Technical assistance and resources are available through FHWA's [Travel Model Improvement Program website](#)¹, FHWA's [Toolkit for Integrating Land Use and Transportation Decision-Making website](#)², and FHWA's [Toolbox for Regional Policy Analysis website](#)³, and FHWA's [Strategic Highway Research Program \(SHRP2\) Economic Analysis Tools](#)⁴.

Requirement SPS-01.4

2 points. Provide Leadership

The agency provides institutional leadership in encouraging transportation planning that is consistent with land use and economic development plans and that supports sustainability principles. Examples include the provision of incentives for partner jurisdictions (such as leveraging funds to provide planning grants, capital grants, model/tool development and/or technical assistance).

Requirement SPS-01.5

1-6 points. Demonstrate Sustainable Outcomes

Scoring for this requirement is based on the following, cumulative requirements. The first two requirements must be accomplished to earn the third.

- **Requirement SPS-01.5a**

1 point. LRTP Integrated with Land Use and Economic Development Plans

The LRTP is integrated with land use and economic development plans, and the agency is implementing transportation investments that support sustainability principles.

- **Requirement SPS-01.5b**

2 points. LRTP Includes Sustainability Performance Measures

The LRTP includes sustainability-related performance measures for the integration of transportation planning with economic development and land use planning. Examples of sustainability-related performance measures can be found in NCHRP [Report 708: A Guidebook for Sustainability Performance Measurement for Transportation Agencies](#)⁵.

- **Requirement SPS-01.5c**

3 additional points. Monitor Progress and Demonstrate Sustainable Outcomes

Monitor progress towards goals for at least one year after goal establishment using the performance measures established in SPS-01.5b and show measurable advancement towards stated goals.

Resources

Above-Referenced Resources

The following resources are referenced in this criterion and consolidated here:

1. FHWA, Travel Model Improvement Program website, <https://www.fhwa.dot.gov/planning/tmip/>
2. FHWA, Toolkit for Integrating Land Use and Transportation Decision-Making website, https://www.fhwa.dot.gov/planning/processes/land_use/toolkit.cfm
3. FHWA's Toolbox for Regional Policy Analysis website, <https://www.fhwa.dot.gov/planning/processes/tools/toolbox/bibliography.cfm>
4. FHWA, SHRP2 Economic Analysis Tools, https://www.fhwa.dot.gov/goshrp2/Solutions/Capacity/C03_C11/Economic_Analysis_Tools
5. NCHRP, *Report 708: A Guidebook for Sustainability Performance Measurement for Transportation Agencies*⁴ at http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_708.pdf.

Additional Resources

In addition to many other widely used references and information sources, the following may be useful:

6. FHWA's Planning Tools and Practices for Land Use Integration at https://www.fhwa.dot.gov/planning/processes/land_use/land_use_tools/index.cfm
7. The Transportation Planning Process: A Briefing Book for Transportation Decision-makers, Officials, and Staff, FHWA, Sept 2007 at <http://www.planning.dot.gov/documents/BriefingBook/BBook.htm>
8. Transportation Impacts of Smart Growth and Comprehensive Planning Initiatives, NCHRP Report 25-25 Task 02, May 2004 at [http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25\(2\)_FR.pdf](http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25(2)_FR.pdf)
9. Travel Model Improvement Program Clearinghouse: Land Use at https://www.environment.fhwa.dot.gov/nepa/Travel_LandUse/travel_landUse_rpt.aspx
10. AASHTO Center for Environmental Excellence: Land Use at https://environment.transportation.org/teri_database/view_ideas.aspx?focus_filter=8
11. NCHRP Report 582: Best Practices to Enhance the Transportation- Land Use Connection in the Rural United States at http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_582.pdf

Scoring Sources

The program is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following documentation sources (or equal where not available):

1. Adopted state or metropolitan transportation plans and supporting documentation that demonstrate how economic development and land use goals and objectives, stakeholder input, quantitative methods, and/or sustainability-related performance measures were integrated into the LRTP.
2. Documentation of regular land use and economic development agency engagement, and the incorporation of their feedback into transportation plans and programs. Documentation may include technical advisory committee membership rosters, meeting agendas and minutes, and interview summaries, among others.

3. Documentation of the use of best practice quantitative tools and analysis methods that enable the evaluation of integrated transportation, land use, and economic development scenarios.
4. The presence of statewide or metropolitan leadership and incentive programs for integrated transportation, land use, and economic development planning (e.g., state legislation, grant programs, and/or technical assistance, etc.)
5. Documentation of the agency's monitoring process and progress to date at meeting the agency's goals and objectives for integrating transportation planning with economic development and land use planning and for implementing transportation investments that support sustainability principles.

SPS-02: Integrated Planning: Natural Environment

State

1-15 points

Goal: Integrate ecological considerations into the transportation planning process, including the development of long range transportation plans (LRTP), corridor plans, and the STIP. Proactively support and enhance long-term ecological function through the coordination of transportation and natural resource planning.



Sustainability Linkage

Integrating transportation planning with natural resource planning supports the environmental principle by ensuring the transportation system supports and enhances sustainable ecological function.

Background and Scoring Requirements

Background

The agency conducts transportation planning activities in a comprehensive and integrated manner, and incorporates ecological considerations into the transportation planning process. The agency's LRTP is consistent with, and supports, applicable environmental plans, policies, and goals.

For the purposes of this criterion, the key terms are defined as follows:

- **"Applicable environmental plans, policies, and goals"** include any local, metropolitan or statewide plan that addresses ecological considerations and natural resources within the agency's jurisdiction.
- **"Consistent"** Transportation plans are consistent with ecological sustainability when planned transportation projects support and enhance sustainable ecological function and support local, metropolitan and/or state natural resource plans, policies, and goals.
- **"Ecological"** refers to the natural environment—specifically the ecosystems and natural resources on which life depends.
- **"Engage"** means to successfully involve and interact with an institution or stakeholder.
- **"Environmental plans, policies, and goals"** include air quality management plans, watershed and/or stormwater management plans, integrated natural resource management plans, climate change and energy plans, and/or habitat conservation or connectivity plans, among others.
- **"Institutional mechanisms"** refers to an agreed-upon, two-way communication process for sharing information and collecting feedback.
- **"Integrated"** plans and planning means and ends are consistent, internally and with each other, and when they are developed in a collaborative manner.
- **"Regularly"** Early, often, and on an on-going basis throughout the planning process.
- **"Sustainable Actions"** maintain or enhance our capacity to endure. The goal of sustainability is the satisfaction of basic social and economic needs, both present and future, and the responsible use of natural resources, all while maintaining or improving the well-being of the environment on which life depends.

- **“System or landscape-scale”** refers to the geographic extent of the system under study. Implies a level of detail sufficient for making decisions at that scale (note: the detail needed for a corridor level analysis is not required).

Scoring Requirements

An agency can achieve points under this criterion through developing goals and objectives, engaging natural resource agency stakeholders, applying system or landscape-scale evaluation techniques, and demonstrating sustainable outcomes. Both the content of LRTP and the transportation planning process may be considered for points. An agency can achieve points under this criterion according to the following scoring requirements:

Requirement SPS-02.1

1-2 points. Develop and Adopt Goals and Objectives

Scoring is based on the following, cumulative requirements. The first requirement must be accomplished to earn the second.

- **Requirement SPS-02.1a**

1 point. Develop Goals and Objectives

The agency has developed goals and objectives for the integration of metropolitan and/or statewide transportation planning with applicable environmental plans, policies, and goals. The goals and objectives are incorporated into the LRTP and encourage transportation investments that support and enhance long-term ecological function. Examples of transportation investments that support and enhance ecological function include those that improve surface water quality, maintain or enhance groundwater recharge (e.g., through innovative stormwater design features), or improve habitat connectivity (e.g., by increasing wildlife crossings, etc.), among others.

- **Requirement SPS-02.1b**

1 additional point. Goals and Objectives Consistent with Environmental Plans, Policies, and Goals

The goals and objectives are consistent with or surpass local, metropolitan, and/or statewide environmental plans, policies, and goals, as applicable.

Requirement SPS-02.2

2-3 points. Engage Natural Resource and Regulatory Agencies

Scoring is based on the following, cumulative requirements.

- **Requirement SPS-02.2a**

2 points. Engage Natural Resource and Regulatory Agencies

The agency goes above and beyond current consultation requirements by regularly engaging natural resource and regulatory agencies throughout the transportation planning process and incorporates their feedback into the creation of transportation plans and programs.

- **Requirement SPS-02.2b**

1 additional point. Utilize Institutional Mechanisms

The agency utilizes institutional mechanisms (such as ad hoc or standing technical advisory committees) to facilitate the engagement.

Requirement SPS-02.3

2 or 4 points. Apply System or Landscape-Scale Evaluation Techniques

The agency has applied system or landscape-scale evaluation techniques using natural resource data to (1) assess ecological conditions throughout the system, (2) identify opportunities to avoid and/or minimize potential impacts

of planned transportation projects to the natural environment (such as participating in mitigation banking, etc.), and (3) identify opportunities to support and enhance long-term ecological function through planned transportation investments. Note that landscape-level natural resource data is collected at a higher resolution than project-level data and may be available through natural resource and regulatory agencies and/or non-profit organizations, such as the Nature Conservancy. An example of a landscape-level evaluation technique includes, but is not limited to, the regional ecosystem framework methodology as described in FHWA's [Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects website](#)¹.

Conducting system or landscape-level evaluations during the planning process has many benefits, including potentially identifying major environmental issues before project-level TIP/STIP decisions are made. Additionally, a system or landscape-level analysis can help lay the groundwork for satisfying future project-level federal environmental review requirements (see SPS-17 Linking Planning and NEPA). Note that doing project-level NEPA analyses on transportation projects does not meet the intent of this requirement.

One of the following scores applies:

- **0 points.** The agency does not apply system or landscape-scale evaluation techniques using natural resource data during the transportation planning process.
- **2 points.** The agency applies system or landscape-scale evaluation techniques using natural resource data during the transportation planning process and has completed the first two items cited in the paragraph above.
- **4 points.** The agency applies system or landscape-scale evaluation techniques using natural resource data during the transportation planning process and has completed all three of the items cited in the paragraph above.

Requirement SPS-02.4

1-6 points. Demonstrate Sustainable Outcomes

Scoring is based on the following, cumulative requirements:

- **Requirement SPS-02.4a**
1 point. Integrate LRTP with Environmental Plans, Policies, and Goals
The LRTP is integrated with applicable environmental plans, policies, and goals, and the agency implements transportation investments that support and enhance long-term ecological function.
- **Requirement SPS-02.4b**
2 points. LRTP Includes Performance Measures for Long-Term Ecological Function
The LRTP includes performance measures for long-term ecological function. Examples of sustainability-related ecological performance measures include, but are not limited to, “the number of projects programmed consistent with regional ecosystem framework(s)” and the “the number of projects programmed to maintain or improve water quantity or quality,” among others. Additional examples of sustainability-related performance measures can be found in NCHRP's [Report 708: A Guidebook for Sustainability Performance Measurement for Transportation Agencies](#)².
- **Requirement SPS-02.4c**
3 points. Monitor Progress and Demonstrate Sustainable Outcomes
Monitor progress towards goals for at least one year after goal establishment using the performance measures established in SPR-02.4b and show measurable advancement towards stated goals.

Resources

The following resources are referenced in this criterion and consolidated here:

1. FHWA, Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects website, http://www.environment.fhwa.dot.gov/ecological/eco_index.asp
2. NCHRP, *Report 708: A Guidebook for Sustainability Performance Measurement for Transportation Agencies*, http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_708.pdf

Scoring Sources

The program is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following documentation sources (or equal where not available):

1. Adopted state or metropolitan transportation plans and supporting documentation that demonstrate how ecological considerations were integrated into the transportation planning process, including the development of the LRTP, corridor plans, and the TIP/STIP.
2. Documentation of regular natural resource and regulatory agency engagement and the incorporation of their feedback into transportation plans and programs. Documentation may include technical advisory committee membership rosters, meeting agendas and minutes, and interview summaries, among others.
3. Evaluation results that document the use of system or landscape-scale natural resource data, and system or landscape-scale evaluation techniques, and how the results of the assessment influenced project-level TIP/STIP decisions.
4. Documentation of the use of ecological criteria for the prioritization and selection of transportation projects included in the LRTP and/or TIP/STIP.
5. Documentation of the agency's monitoring process and progress to date at meeting the agency's goals and objectives for long-term ecological function.

SPS-03: Integrated Planning: Social

State

1-15 points

Goal: The agency's Long Range Transportation Plan (LRTP) is consistent with and supportive of the community's vision and goals. When considered in an integrated fashion, these plans, goals and visions support sustainability principles. The agency applies context-sensitive principles to the planning process to achieve solutions that balance multiple objectives to meet stakeholder needs.



Sustainability Linkage

Integrating transportation planning with the community's vision and goals for sustainability supports the social principle by ensuring transportation investments reflect the unique vision, goals, and values of the community.

Background and Scoring Requirements

Background

The agency conducts transportation planning activities in a comprehensive and integrated manner, and incorporates the community's vision and goals for sustainability and stakeholder input into the transportation planning process. If community visions and goals for sustainability do not already exist, the agency works with stakeholders and the broader community to create visions and goals as they apply to the role of transportation in achieving sustainability outcomes. The agency successfully identifies a diverse range of stakeholders and public participants, engages them regularly throughout the transportation planning process, and demonstrates how their input informed and affected transportation planning decisions. The end result is a context-sensitive transportation system plan that is consistent with and supports the community's vision and goals for sustainability.

For the purposes of this criterion, the key terms are defined as follows:

- **"Community"** refers to persons, public agencies, and private or non-profit organizations within the agency's jurisdiction that are affected by changes to the transportation system.
- **"Consistent"** means that planned transportation improvements support the achievement of the community's vision and goals for sustainability.
- **"Integrated"** means developing transportation plans consistently with community vision and goals for sustainability.
- **"Regularly engages"** means going above and beyond consulting once; it means successfully involving and interacting with an institution or stakeholder early, often, and on an on-going basis throughout the planning process.
- **"Sustainable Actions"** maintain or enhance our capacity to endure. The goal of sustainability is the satisfaction of basic social and economic needs, both present and future, and the responsible use of natural resources, all while maintaining or improving the well-being of the environment on which life depends.
- **"Sustainability Principles"** refers to the economic, environmental, and social principles of the triple bottom line.
- **"Vision and Goals"** refers to desired outcomes for the future that are determined by the community through an inclusive, comprehensive, and collaborative process.

Scoring Requirements

Requirement SPS-03.1

2 points. Work toward a Shared Vision

Statewide transportation planning agencies establish a vision for overall sustainability efforts, and transportation-related goals and objectives are consistent with that vision. The vision should reflect the values of stakeholders and citizens within the state. The agency may also earn the points by working with its stakeholders and the broader community to create visions and goals (if they do not already exist) and to determine the role of transportation in helping to achieve sustainability outcomes.

Requirement SPS-03.2

1-4 points. Engage a Diverse Range of Stakeholders and Public Participants

Scoring is based on the following, cumulative requirements:

- **Requirement SPS-03.2a**

1 point. Identify Diverse Range of Stakeholders

The agency successfully identifies a diverse range of stakeholders and public participants, which include, at a minimum, all interested parties (as defined by current regulations), in addition to all other parties potentially affected by changes to the transportation system. The agency regularly engages the identified stakeholders and public participants throughout the transportation planning process.

According to FHWA's [Archived Participation by Interested Parties website](#)¹, interested parties for a Statewide LRTP include:

- Citizens
- Affected public agencies
- Representatives of public transportation employees
- Freight shippers
- Providers of freight transportation services
- Private providers of transportation
- Representatives of users of public transportation
- Representatives of users of pedestrian walkways & bicycle transportation facilities
- Representatives of the disabled
- Other interested parties

- **Requirement SPS-03.2b**

2 points. Give Special Consideration to Engagement of Diverse Populations

The agency gives special consideration and attention to the engagement of low-income, minority, disabled, and linguistically isolated populations, and uses a diverse and innovative range of public involvement techniques to ensure the engagement process is inclusive. Examples include, but are not limited to, conducting outreach in multiple languages, ensuring public meetings are coordinated with transit schedules, and using web-based surveys and/or social media to collect input, among others.

- **Requirement SPS-03.2c**

1 point. Include Educational Component

The agency includes an education component so that stakeholders understand the transportation planning process and are able to better provide informed and meaningful input.

Requirement SPS-03.3

1-3 points. Use a Transparent Process and Demonstrate the Incorporation of Stakeholder Input

Scoring is based on the following, cumulative requirements:

- **Requirement SPS-03.3a**

1 point. Use Transparent Process

The agency uses a transparent process to inform stakeholders how their input will be used and then follows through accordingly. An example of a transparent process includes the use of an established hierarchy of public participation, such as the International Association for Public Participation (IAP2) [Public Participation Spectrum](#)² or Arnstein's [Ladder of Citizen Participation](#)³.

- **Requirement SPS-03.3b**

2 points. Demonstrate How Input was Used

The agency demonstrates to stakeholders how their input was used to inform and affect transportation planning decisions.

Requirement SPS-03.4

1-6 points. Demonstrate Sustainable Outcomes

Scoring is based on the following, cumulative requirements:

- **Requirement SPS-03.4a**

1 point. Implement Investments that Support Vision and Goals

The agency is implementing transportation investments that support statewide vision and goals and help achieve sustainability outcomes.

- **Requirement SPS-03.4b**

2 points. Include Performance Measures for Effectiveness of Public Involvement

The LRTP includes sustainability-related performance measures to assess the effectiveness of its public involvement process. Examples of sustainability-related performance measures can be found in NCHRP's [Report 708: A Guidebook for Sustainability Performance Measurement for Transportation Agencies](#)⁴.

- **Requirement SPS-03.4c**

3 points. Monitor Progress and Demonstrate Sustainable Outcomes

Monitor progress towards goals for at least one year after goal establishment using the performance measures established in SPS-03.4b and show measurable advancement towards stated goals.

Resources

Above-Referenced Resources

The following resources are referenced in this criterion and consolidated here:

1. FHWA's Archived Participation by Interested Parties website,
http://www.fhwa.dot.gov/planning/public_involvement/archive/interparties_table.cfm
2. IAP2, Public Participation Spectrum,
http://c.ymcdn.com/sites/www.iap2.org/resource/resmgr/foundations_course/IAP2_P2_Spectrum_FINAL.pdf
3. Arnstein, Sherry R., *Ladder of Citizen Participation*, JAIP, Vol.35, No.4, July 1969,
<https://www.tandfonline.com/doi/abs/10.1080/01944366908977225>
4. NCHRP, *Report 708: A Guidebook for Sustainability Performance Measurement for Transportation Agencies*,
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_708.pdf

Additional Resources

The following resources provide information on this criterion topic in addition to the sources directly referenced:

5. FHWA, *Transportation Planning Process: Key Issues*, https://www.planning.dot.gov/documents/briefingbook/bbook_07.pdf
6. FHWA, Context Sensitive Solutions website, <http://contextsensitivesolutions.org>
7. FHWA, Transportation Planning Capacity Building: Public Involvement Techniques website, http://www.planning.dot.gov/PublicInvolvement/pi_documents/toc-foreword.asp
8. HUD, EPA & US DOT, Partnership for Sustainable Communities website, <http://www.sustainablecommunities.gov>
9. NCHRP, *Synthesis 407: Effective Public Involvement Using Limited Resources*, http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_407.pdf
10. FHWA, *How to Engage Low-Literacy and Limited-English-Proficiency Populations in Transportation Decision-making*, http://www.fhwa.dot.gov/planning/publications/low_limited/webbook.pdf
11. International Association for Public Participation (IAP2), IAP2 primary website, <http://iap2usa.org>
12. American Planning Association, *Journal of the American Planning Association* (JAPA), <https://www.planning.org/japa/>

Scoring Sources

The program is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following documentation sources (or equal where not available):

1. Adopted state or metropolitan transportation plans and supporting documentation that demonstrate how community vision and goals for sustainability and public input were integrated into the LRTP.
2. Documentation of the regular engagement of a diverse array of stakeholders, including low-income, minority, disabled, and linguistically isolated populations, throughout the transportation planning process. Example documentation sources include committee membership rosters, survey summaries, stakeholder interview summaries, and the times, locations, languages, and attendance of public meetings, among others.
3. Documentation of the use of a transparent public involvement process and the use of public input to inform and affect transportation planning decisions. Example documentation sources include a public involvement plan, project evaluation criteria, project prioritization processes, and comment response summaries that demonstrate how stakeholder input informed and affected the decisions made.
4. Documentation of the agency's monitoring process and the results of its evaluation of the effectiveness of its public involvement process.
5. A commendation for public participation planning in an FHWA/FTA TMA Planning Certification Review.

SPS-04: Integrated Planning: Bonus

State

0-10 points

Goal: The agency has a continuing, cooperative, and comprehensive (3-C) transportation planning process. Planners and professionals from multiple disciplines and agencies (e.g., land use, transportation, economic development, energy, natural resources, community development, equity, housing, and public health) work together to incorporate and apply all three sustainability principles when preparing and evaluating plans.



Sustainability Linkage

Long-range, integrated planning at the state and metropolitan levels provides the most robust framework for responding to sustainability goals. This integration supports all of the triple bottom line principles.

Background and Scoring Requirements

Scoring Requirements

Prerequisite SPS-04.1P

0 points. Achieve 10 points on each SPS-01, SPS-02, and SPS-03

To gain points under this criterion, an agency must have achieved a score of 10 points or higher on each of the first three INVEST System Planning criteria (SPS-01 through SPS-03).

High-performing states must move beyond linking each sustainability criterion (economy, environment, and social) separately to transportation. In addition, states must incorporate and evaluate the linkages and tradeoffs *between* the sustainability principles. States that qualify for points will be able to show how their transportation planning process and its tangible products (long-range plans, statewide plans, STIP) support this broader understanding of sustainability.

Requirement SPS-04.1

5 or 10 points. Transportation Planning Occurs within an Integrated and Collaborative Planning Process

As noted by FHWA's [Planning Processes – Metropolitan Transportation Planning website](#)¹, "since the 1962 Federal-aid Highway Act, federal authorizing legislation for expenditure of surface transportation funds has required metropolitan area transportation plans and programs to be developed through a continuing, cooperative, and comprehensive (3-C) planning process." While Federal legislation and regulations have required this at the metropolitan level, the 3-C principles support the intent of the INVEST system well. Statewide planning for sustainable transportation outcomes is well served by following the 3-C process.

Thus, to achieve points under this criterion, the agency's transportation planning should occur within a 3-C planning process that is interdisciplinary, and that considers all three sustainability principles at the same time. Agencies will have brought interdisciplinary stakeholders from outside the agency to evaluate its planning process through a sustainability lens and will have developed approaches that integrate the three sustainability principles into the plan(s) for their state or region. Such work is not easily reduced to a formula. Examples include, but are not limited to:

- FHWA's *Case Study on Sacramento's Blueprint*²: Integrating community participation, urban planning and design, and quantitative analysis in the public involvement process.
- FHWA's *Case Study on Florida DOT's ETDM Process*³: The development of a process for early and continuous resource agency input, and GIS analysis, into the agency's planning and decision making process.
- The active involvement of representatives of multiple agencies, stakeholders, and disciplines in the Agency's INVEST self-evaluation scoring process.

One of the following scores apply:

- **0 points.** The agency assembles separate plans produced from different disciplines without interacting or collaborating with each other.
- **5 points.** The agency is making progress toward conducting its transportation planning within an interdisciplinary planning process; however, the three sustainability principles have not yet been fully integrated into the plan(s) for its jurisdiction.
- **10 points.** The agency's transportation planning occurs within an interdisciplinary planning process. Interdisciplinary stakeholders from outside the agency have evaluated the agency's planning process through a sustainability lens and the agency has developed approaches that integrate the three sustainability principles into the plan(s) for its jurisdiction.

Resources

Above-Referenced Resources

The following resources are referenced in this criterion and consolidated here:

1. FHWA, Planning Processes – Metropolitan Transportation Planning website, http://www.fhwa.dot.gov/planning/processes/metropolitan/legislation_and_regulations/
2. FHWA, *Case Study on Sacramento's Blueprint*, http://www.fhwa.dot.gov/planning/processes/land_use/case_studies/sacramento_ca/index.cfm
3. FHWA, *Case Study on Florida DOT's ETDM Process*, http://environment.fhwa.dot.gov/integ/case_florida.asp

Additional Resources

The following resources provide information on this criterion topic in addition to the sources directly referenced:

4. Godschalk and Rouse, *Sustaining Places: Best Practices for Comprehensive Plans*, American Planning Association, PAS 578, 2015, <https://www.planning.org/publications/report/9026901/>

Scoring Sources

The program is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following sources (or equivalent), as appropriate:

1. Documentation that transportation planning occurs within an interdisciplinary, 3-C planning process (e.g., a Statewide planning framework, Sustainability Plan, or General Plan, among others).
2. Documentation of interdisciplinary collaboration and the evaluation of the agency's planning process through a sustainability lens (e.g., documentation of input, meeting minutes, or a summary report).

SPS-05: Access and Affordability

For States

1-15 points

Goal: Enhance accessibility and affordability of the transportation system to all users and by multiple modes.

Sustainability Linkage

Improved access and affordability benefit the social and economic sustainability principles by improving employment opportunities and enhancing opportunities to interact with the community. Increasing the modal choices available to the public supports the environmental principle by offering alternatives to motorized travel.



Background and Scoring Requirements

Background

This criterion is related to *SPS-08: Freight and Goods Access and Mobility*. This criterion includes a focus on access for people, while SPS-08 includes a focus on access for freight and goods access and mobility. As explained below, in the context of this self-evaluation tool, accessibility refers to three distinct and complementary issues—physical access, equitable access, and affordable access. To support and inform decision-making, agencies should conduct evaluations and analyses with regard to accessibility and affordability, and should use the results in the programming of transportation improvements.

The following are examples of accessibility issues that might be considered in a transportation planning context:

- **Complete Streets:** The transportation facility provides access to community destinations and public places—whether walking, driving, bicycling, or taking public transportation.
- **Jobs to Housing Imbalance:** Jobs and housing are concentrated in separate areas and jobs are not located adjacent to appropriate workers due to land development patterns.
- **Reverse commutes:** A community has high unemployment due in part to an inability to access service and retail jobs which are on the periphery of the metropolitan area. An accessibility analysis is performed to determine what highway or transit investments or improvements are needed to enhance the accessibility of these workers to job sites. The analysis considers the mismatches between the skills of the unemployed and locally available jobs, as well as auto ownership rates.
- **Economically depressed/isolated rural communities:** A specific region of a state is economically depressed and isolated and wants additional highway investment to spur economic growth and enhance access to services (e.g., hospitals, airports, grocery stores). The political leadership requests that the State transportation agency evaluate whether a lack of accessibility is contributing to the area's economic woes and isolation. The agency conducts an accessibility analysis to determine the extent to which the area needs additional access and scopes specific projects/programs. These programs address both time and cost barriers to access.
- **Access for people with limited mobility or disabilities:** An older metropolitan area has many transportation facilities that are not accessible to users with limited mobility or disabilities. This issue has been raised by the MPO's constituency as a primary concern that should be addressed in the transportation plan. In cooperation with the appropriate implementing agencies, the MPO conducts a study of areas where accessible facilities are

lacking and needed, and creates a plan for strategically implementing projects/programs to enhance access to the transportation system for these populations. The results of the study are incorporated into its LRTP.

As these examples show, the terms access and accessibility have a number of dimensions. In developing plans, agencies should consider the following (the associated details are illustrative only):

Physical Access

- Compliance with the [Americans with Disabilities Act of 1990](#)¹ (ADA), and more broadly to the principles of universal design, which go above and beyond ADA requirements.
- The [Rehabilitation Act of 1973](#)² as signed into law on September 26, 1973. Section 504 of the Act provides that no otherwise qualified individual with a disability in the United States shall, solely by reason of his or her disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.
- The ability to reach desired goods, services, activities, and destinations (collectively called opportunities). Providing a broad range of transportation choices increases accessibility.
- Trip connectivity which allows convenient, seamless, and intuitive connections between modes.
- Connected streets, traditional street patterns that facilitate walking and shorter trip length (not cul-de-sacs).

Access and Equity

- Executive Order 12898, called the [Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations](#)³ states that "Each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."
- The availability of road, rail, bus, bike, and pedestrian facilities and transit service for all members of the public and specifically for minority and low-income communities.
- The impacts of transportation on all members of the public and specifically on minority communities and low-income communities.
- The cumulative opportunities afforded by access to jobs, education, food, recreation, health care, social services, places of worship, libraries, retail centers, etc. Good access is especially important for:
 - Rural isolated and/or poor communities
 - Transit-dependent households
 - Other zero-car households
 - Low-income households
 - Persons with disabilities
 - Older adults
 - Children

Affordability

Increase the affordability of the transportation system as a whole through the following transportation planning projects and programs:

- Planning and programming that specifically addresses the minimization of transportation costs, particularly for those that are poor or disadvantaged.

- Conduct planning activities that are focused on minimizing the cost of transportation:
 - Encourage non-motorized access
 - Encourage higher density and mixed-use developments in close proximity to existing transportation services or in conjunction with the development of new services
 - Allow flexibility for non-traditional transportation modes of transportation structures (e.g., jitneys, personal car-sharing, etc.)
- Specific outreach and communication strategies focused on the transportation needs of the disadvantaged.

Scoring Requirements

To achieve points, the agency must demonstrate that it effectively evaluates and monitors the distribution of user benefits and relative accessibility through planned transportation improvements to communities and areas/populations of concern. Points can be earned for increasing levels of activity in the planning process as follows:

Requirement SPS-05.1

1-6 points. Discussion/Consideration in Planning Documents

Scoring is based on the following, cumulative requirements. The first requirement must be accomplished to earn the second.

- **Requirement SPS-05.1a**

1 point. Aggregate and Synthesize Physical Access Data

Aggregate and synthesize available and relevant physical access data and analyses from state and partner agencies, such as MPOs or COGs, into system planning documents. To achieve points, the data from partner agencies must include:

- Identification of specific population groups or areas where physical access is an issue,
- A discussion of time and cost barriers, as well as their consequences, and
- Specific, planned programs or improvements that address physical access issues.

- **Requirement SPR-05.1b**

1 point. Aggregate and Synthesize Access and Equity Data

Aggregate and synthesize available and relevant access and equity data and analyses from state and partner agencies, such as MPOs or COGs, into system planning documents. To achieve points, the data from partner agencies must include:

- Identification of specific population groups or areas where access and equity is an issue,
- A discussion of time and cost barriers, as well as their consequences, and
- Specific, planned programs or improvements that address access and equity issues.

- **Requirement SPR-05.1c**

2 points. Aggregate and Synthesize Affordability Data

Aggregate and synthesize available and relevant affordability data and analyses from state and partner agencies, such as MPOs or COGs, into system planning documents. To achieve points, the data from partner agencies must include:

- Identification of specific population groups or areas where affordability is an issue,
- A discussion of time and cost barriers, as well as their consequences, and
- Specific, planned programs or improvements that address affordability issues.

- **Requirement SPS-05.1d**

2 points. Include Documentation of Outreach Communications

For all dimensions of accessibility included in SPR-05.1a, SPR-05.1b and SPR-05.1c, the planning document includes documentation of outreach with partner agencies and stakeholders as appropriate to coordinate information and analyses sharing. In addition, information collected from partner agencies shall include documentation of targeted, enhanced outreach or communications that was used to engage interested and affected population groups or areas in the planning process.

Requirement SPS-05.2

2-5 points. Use Quantitative Analysis in the Development of Plans and Policies

Scoring is based on the following, cumulative requirements:

- **Requirement SPS-05.2a**

2 points. Integrate Quantitatively Evaluated Accessibility and Affordability Concerns

The agency integrates travel model, census, geospatial, and other data that has quantitatively evaluated the nature and distribution of accessibility and affordability concerns in its jurisdiction into the development of plans and policies. For a statewide plans and policy development, this data will typically be collected and evaluated by partner agencies, such as other state agencies or MPOs.

- **Requirement SPS-05.2b**

3 points. Integrate Quantitative Analysis of How System Addresses Concerns

The agency integrates a quantitative analysis of how its system plan or program addresses or improves concerns/issues into the development of plans and policies. These concerns and issues might include:

- Access to commercial centers, jobs, hospitals, schools, and other civic institutions and social and emergency services,
- The equitable cost of access,
- The affordability of travel choices, and
- The affordability of housing through its relationship to transportation investments.

For a statewide plans and policy development, this analysis will typically be performed by partner agencies, such as other state agencies or MPOs.

Requirement SPS-05.3

2 or 4 points. Regular Monitoring of Plans and Programs

Scoring is based on the following, cumulative requirements. The first requirement must be accomplished to earn the second.

- **Requirement SPS-05.3a**

2 points. Include Sustainability Performance Measures

The system plan or program includes sustainability-related performance measures that can be used to monitor the effects of plan implementation on transportation accessibility and affordability.

- **Requirement SPS-05.3b**

2 additional points. Monitor Progress and Demonstrate Sustainable Outcomes

The agency is monitoring progress against the performance measures and adjusts its program efforts as necessary to meet its goals.

Resources

Above-Referenced Resources

The following resources are referenced in this criterion and consolidated here:

1. U.S. Department of Justice, *Americans with Disabilities Act of 1990*, <https://www.eeoc.gov/eeoc/history/35th/1990s/ada.html>
2. U.S. Department of Justice, *Rehabilitation Act of 1973*, <http://www.dol.gov/oasam/regs/statutes/sec504.htm>
3. U.S. Department of Justice, *Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (1994), <https://www.federalregister.gov/articles/1994/02/16/94-3685/federal-actions-to-address-environmental-justice-in-minority-populations-and-low-income-populations>

Additional Resources

The following resources provide information on this criterion topic in addition to the sources directly referenced:

1. Yingling Fan and Arthur Huang, *How Affordable is Transportation? An Accessibility-Based Evaluation* (2011), CTS Report 11-12, Transitway Impacts Research Program, Center for Transportation Studies, <http://www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2024>
2. Todd Litman, *Transportation Affordability: Evaluation and Improvement Strategies* (2013), Victoria Transport Policy Institute, <http://www.vtpi.org/affordability.pdf>
3. Todd Litman, *Evaluating Accessibility for Transportation Planning: Measuring People's Ability to Reach Desired Goods and Activities* (2015), Victoria Transport Policy Institute, <http://www.vtpi.org/access.pdf>
4. EPA, GeoPlatform Online, <http://epa.maps.arcgis.com/home/webmap/viewer.html?webmap=cb6ee8434c054e3bba37995f06e644d3#>

Scoring Sources

The program is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following sources (or equivalent), as appropriate:

1. LRTP and STIP include accessibility and affordability content.
2. Supplemental documentation of accessibility and affordability analyses and evaluations.
3. Documentation of targeted and enhanced communication and outreach to “traditionally underserved” populations.
4. Documentation of implemented projects or activities to improve access and affordability in response to discussion/analysis.
5. Documentation of the agency’s performance measures, monitoring process, and progress to date.

SPS-06: Safety Planning

For States

1-15 points

Goal: Agency integrates quantitative measures of safety into regional planning policies, ordinances, activities, projects, and programs, and across all modes and jurisdictions.

Sustainability Linkage

Reducing fatalities and serious injuries contributes to the social and economic principles by reducing the impacts associated with personal and public property damage, injury, and loss of life.



Background and Scoring Requirements

Background

The purpose of this criterion is to recognize the efforts of agencies to reduce fatalities and serious injuries by integrating quantitative measures of safety into the transportation planning process, thereby assuring that consideration of meaningful measures of safety influences program development and implementation.

For the purposes of this criterion, the key terms are defined as follows:

- **“Reflects intention to cooperate and collaborate across all levels of government”** indicates that all levels of government, from executive level management to the management of day-to-day field operations and maintenance are aligned and will work together to implement strategies to achieve a common goal. These disciplines may be aligned to different organizations (e.g. MPOs and DOTs).
- **“Use multi-disciplinary and integrated approaches”** means combining and leveraging approaches from relevant disciplines to develop collaborative solutions to address a common issue. In this case, approaches for reducing fatalities and serious injuries in crashes would likely combine elements from geometric, structural, ITS, and other disciplines. These disciplines may be aligned to different organizations (e.g. MPOs and DOTs).
- **“System-wide”** means statewide for DOTs.

Scoring Requirements

Requirement SPS-06.1

1-2 points. Engage and Collaborate with Partner Agencies in the Update and Implementation of the State Strategic Highway Safety Plan (SHSP)

To earn credit for this scoring requirement, DOT's must engage and collaborate with partner agencies throughout the state during the update and implementation of the statewide SHSP.

One of the following scores applies:

- **0 points.** Does not engage or collaborate with partner agencies in the update and implementation of the SHSP.
- **1 point.** Actively engages and collaborates with partner agencies in the update of the SHSP but is not implementing the SHSP as part of agency-specific planning and programming activities.
- **2 points.** Actively engages and collaborates in the update and implementation of the SHSP and implements the SHSP in agency-specific planning and programming activities.

Requirement SPS-06.2

1-3 points. Integrate and Develop Strategies to Support a Vision of Zero Traffic Fatalities (e.g. Toward Zero Death Vision, Target Zero, or Vision Zero, etc.)

Scoring is based on the following, cumulative requirements:

- **Requirement SPS-06.2a**

1 point. Integrate the Vision of Zero Traffic Fatalities into the Agency's Vision for Planning

Agency or office incorporates the vision of zero traffic fatalities. Implements this vision as part of planning activities (i.e., use multi-disciplinary and integrated approaches to reduce fatalities and serious injuries in crashes). The agency vision for planning reflects intention to cooperate and collaborate across all levels of government.

- **Requirement SPS-06.2b**

2 points. Develop Strategies to Support Toward Zero Death Vision

Develop strategies/plan to support the vision of zero traffic fatalities (plan similar to one in SPS 06.3 but specifically calls out strategies to support the vision of zero traffic fatalities).

Requirement SPS-06.3

1 point. Develop a Plan that Incorporates Safety into Short- and Long-Range Planning

Develop a plan that incorporates safety into short- and long-range planning that:

- Presents a system-wide approach to reduce the risk of fatalities and serious injuries based on data-driven, systematic, and scientific methods and approaches. These methods and approaches account for regression-to-the-mean and incorporate performance thresholds (quantify base performance).
- Includes safety-specific strategies and lead agencies.
- Supports integrated and multidisciplinary approaches to reduce the number of fatalities and serious injuries on all public roads in the region.
- Demonstrates a commitment from the agency to include quantitative safety into programming of projects and activities.

The plan could be a single statewide plan or a combination of SOPs at headquarters and district/regional levels, or a plan for a county, metropolitan area, or regional council area.

One of the following scores applies:

- **0 points.** No plan exists. The other safety plans for the state (LRTP, HSP, HSIP, CVSP) do not align with the SHSP.
- **1 point.** Develop a system-wide approach to identify expenditure on programs, projects, and activities targeting a reduction in fatalities and serious injuries in the region (could be a single statewide or regional safety plan as part of a collaborative effort across all, or a combination of SOPs at headquarters and district/regional levels of government [federal, state, and local]).

Requirement SPS-06.4

1 point. Integrate Quantitative Safety Performance Measures into Performance-Based Planning Processes

One of the following scores applies:

- **0 points.** Safety is not integrated into a performance-based planning process or the agency only uses crash rates as a measure to identify system needs.

- **1 point.** Integrate quantitative safety performance measures into a performance-based planning process. Use quantitative safety performance measure(s) to quantify safety performance in terms of the number of crashes or severity. For example, the number of fatalities and serious injury crashes, the number of fatalities and serious injuries, or the number of fatalities and injury crashes involving vulnerable users (e.g. pedestrians, bicyclists, motorcyclists, older users, children). Network screening, as presented in Chapter 4 of the AASHTO [*Highway Safety Manual*¹](#), presents advanced measures that account for regression to the mean and offer higher statistical reliability than, for example, crash rate methods.

Requirement SPS-06.5

1 or 2 points. Integrate Quantitative Safety Considerations in the Selection and Evaluation of Strategies in the Planning Process

Scoring is based on the following, cumulative requirements:

- **Requirement SPS-06.5a**
1 point. Integrate Quantitative Safety Performance Measures in Project Prioritization
 Incorporate and integrate quantitative safety performance measures into the selection and evaluation of strategies for different user groups (for example, pedestrians, bicyclists, motorcyclists, vehicle occupants).
- **Requirement SPS-06.5b**
1 point. Select Systemic Treatment Strategies with Proven Safety Effectiveness
 Select strategies that include systemic treatments with proven effectiveness in reducing fatalities and serious injuries (may be operational or safety-specific in nature).

Requirement SPS-06.6

3 points. Integrate Statistically Sound Approaches to Determine Projected Safety Performance as Part of the Long-Range Transportation Planning Process

Adopt and integrate advanced, statistically sound quantitative methods to set performance baselines and estimate the anticipated future safety performance during the long-range transportation planning process. The agency is using tools that rely on macro-level predictive models to provide a quantitative and statistically reliable forecast of crashes for a given future travel demand (using output from travel demand models), and socio-demographics if no particular improvements in safety culture, infrastructure, EMS, and other areas occur other than what exists at the base year of the analysis.

Requirement SPS-06.7

1-3 points. Collect, Maintain and Use Data (Safety and Non-Crash Information) for all public roads for use in Activities Related to Planning for Safety and to Incorporate Safety into Long-Range Transportation Planning

Scoring is based on the following, cumulative requirements:

- **Requirement SPS-06.7a**
1 point. Actively Participate in State Traffic Records Coordinating Committee
 Actively participates and supports the state Traffic Records Coordinating Committee (TRCC) and jointly funds initiatives related to improvement of data management and linkage initiatives.
- **Requirement SPS-06.7b**
1 point. Develop, Maintain, and Use GIS-based Data
 Develops, maintains, and uses GIS-based data files for the entire public roadway system, crash and noncrash information in planning for safety and incorporating safety into long-range transportation planning.

- **Requirement SPS-06.7c**

1 point. Routinely Join Roadway, Operations, Asset Management, Medical and Other Datasets

Routinely joins roadway, operations, asset management, medical, and other datasets spatially with crash data in the analysis for identification of potential safety improvements and prioritization of planning programs, projects, and activities.

Resources

The following resources are referenced in this criterion and consolidated here:

1. AASHTO, *Highway Safety Manual*, First Edition with 2014 Supplement,
https://bookstore.transportation.org/collection_detail.aspx?ID=135

Scoring Sources

The project is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following documentation sources (or equal where not available):

1. Documentation of agency vision statements and vision statements for planning and planning-related programs that reflect adoption and inclusion of a Toward Zero Death vision into the planning process and related activities.
2. Requirements set for safety project funding (e.g., HSIP).
3. Project reports documenting the evaluation of future anticipated safety performance for short-, medium-, and long-range transportation plans as part of the planning process.
4. Documentation on the processes the agency uses to select, evaluate, and prioritize projects for inclusion into short-, medium-, and long-range transportation planning activities.
5. Documentation to identify alignment across different state and regional plans (SHSP, STIP, CVSP, and HSIP), regardless of whether these plans have a safety focus or not.
6. Relevant agency policies or manuals.
7. Documentation of evaluation of policies, projects, and activities to assess the impact on fatal and serious injury crashes and fatal and serious injury crashes involving vulnerable users.
8. NHTSA State Traffic Records Assessment Report and FHWA State Data Capability Assessment Report for assessments performed within the last 3 years.

SPS-07: Multimodal Transportation and Public Health

State

1-15 points

Goal: Expand travel choices and modal options by enhancing the extent and connectivity of multimodal infrastructure. Support and enhance public health by investing in active transportation modes.

Sustainability Linkage

A multimodal transportation network supports the social and economic principles by increasing transportation options, reducing traffic congestion and emissions, and encouraging the use of active modes to enhance public health.



Background and Scoring Requirements

Background

The agency provides choices and opportunities for multimodal, active transportation networks while meeting access and mobility needs. In rural areas, the agency examines the viability of the system as a whole in providing choices and opportunities for multimodal and active transportation networks.

For the purpose of this criterion, the key terms are defined as follows:

- **“Active transportation modes”** refer to modes of transportation that increase levels of physical activity and are considered to primarily include biking, walking, and transit (Approximately 30% of transit users receive the Center for Disease Control’s recommended amount of daily physical activity. Source: *Walking to Public Transit: Steps to Help Meet Physical Activity Recommendations*¹.)
- **“Multimodal”** refers to a transportation system that provides travelers with well-connected and integrated bicycle, pedestrian, and transit networks, in addition to automobile infrastructure. Multimodal can also refer to the provision of travel options for inter-city passenger travel, such as rail, train, bus, or ferry as alternatives to passenger car or air travel.
- **“Public Health”** in this context means negative or positive impacts on human health due to transportation planning, programming and design, typically in the areas of safety, air quality, physical activity, access to goods, services and opportunities, or noise.

Scoring Requirements

To achieve points, the agency must demonstrate that it produces, monitors, and maintains an integrated multimodal transportation plan that emphasizes active modes. Points are awarded for this criterion based on the following requirements.

Requirement SPS-07.1

1-2 points. Develop Goals and Objectives

Scoring for this requirement is based on the following, cumulative requirements.

- **Requirement SPS-07.1a**

- 1 point. Develop Goals and Objectives for Enhancing Multimodal Infrastructure**

- The agency has developed goals and objectives for enhancing the extent and connectivity of multimodal infrastructure within its jurisdiction, including transit and non-motorized modes.

- **Requirement SPS-07.1b**

- 1 point. Develop Goals and Objectives Related to Transportation and Public Health**

- The agency has developed goals and objectives related to active transportation and the improvement of public health.

Requirement SPS-07.2

3 points. Engage Stakeholders

The agency regularly engages the public and includes public health officials and active mode stakeholders throughout the transportation planning process and incorporates their feedback into the creation of transportation plans and programs. Public Involvement successfully involves and interacts with an institution or stakeholder early, often, and on an on-going basis throughout the planning process.

Requirement SPS-07.3

1-4 points. Develop a System-wide Program

The agency's planning process integrates multimodal and active mode infrastructure needs, projects, and programs. Scoring for this requirement is based on the following, cumulative requirements. The first requirement must be accomplished to earn the requirement. The third requirement is independent.

- **Requirement SPS-07.3a**

- 1 point. Include Active, Non-Motorized Projects, and Programs in Plan**

- The agency includes and prioritizes active, non-motorized transportation projects and programs as a component of the LRTP. Examples of projects include the expansion of transit, pedestrian, bicycle, light or heavy rail, and ferry infrastructure, facilities, and services. Examples of programs include the implementation of Safe Routes to School.

- **Requirement SPS-07.3b**

- 1 additional point. Integrate Transit, Pedestrian, Bicycle, and Roadway Networks**

- The agency's LRTP integrates transit, pedestrian, bicycle, and roadway networks so that intermodal connections are safe and convenient.

- **Requirement SPS-07.3c**

- 2 points. Evaluate Health Impacts of the Plan**

- The agency considers health impacts during system and scenario planning processes to determine whether the planned transportation investments will help the agency to meet its public health and active transportation goals. For Example, the Centers for Disease Control conducted a Health Impact Assessment pilot project in coordination with the [Nashville area MPO 2035 Regional Transportation Plan](#)² to intercept and alter health outcomes such as obesity, physical inactivity, asthma, injuries, and social equity in conjunction with the Northeast Corridor Study proposed Transit Oriented Development (TOD) sites.

Requirement SPS-07.4

1-6 points. Measure Progress and Demonstrate Sustainable Outcomes

The agency evaluates its progress toward meeting its multimodal and public health goals and makes adjustments as necessary. Scoring for this requirement is based on the following, cumulative requirements:

- **Requirement SPS-07.4a**
1 point. Implement Investments that Expand Travel Choices and Support Public Health
 The agency is implementing transportation investments that expand travel choices and modal options and support and enhance public health.
- **Requirement SPS-07.4b**
2 points. Address Jurisdictional Issues Related Multimodal Facilities
 The agency addresses jurisdictional issues related to multimodal design that facilitate project programming and project development. For example, using intergovernmental agreements to multimodal design issues are addressed for STIP projects.
- **Requirement SPS-07.4c**
1 points. Incorporate Sustainable Performance Measures
 The agency has incorporated sustainable, multimodal and public health-related performance measures into its LRTP and can demonstrate ongoing monitoring of its progress toward meeting its goals.
- **Requirement SPS-07.4d**
2 points. Measure Progress and Demonstrate Sustainable Outcomes
 Monitor progress towards goals for at least one year after goal establishment using the performance measures established in SPS-07.4b and show measurable advancement towards stated goals.

Resources

Above-Referenced Resources

The following resources are referenced in this criterion and consolidated here:

1. Besser, L. and A. Dannenberg, Walking to Public Transit: Steps to Help Meet Physical Activity Recommendations (2005), American Journal of Preventative Medicine,
https://www.cdc.gov/healthyplaces/articles/besser_dannenberg.pdf
2. Nashville Area MPO, Nashville Area MPO 2035 Regional Transportation Plan (2010), pp. 201-205,
http://www.nashvillempo.org/docs/lrtp/2035rtp/Docs/2035_Doc/2035Plan_Complete.pdf

Additional Resources

The following resources provide information on this criterion topic in addition to the sources directly referenced:

3. American Association of State Highway and Transportation Officials (AASHTO), *Guide for the Planning, Design, and Operation of Pedestrian Facilities*, 1st Edition
 (2004), https://bookstore.transportation.org/item_details.aspx?id=119
4. AASHTO, *Guide for the Development of Bicycle Facilities*, 4th Edition
 (2012), https://bookstore.transportation.org/item_details.aspx?ID=1943
5. Institute of Transportation Engineers, Designing Walkable Urban Thoroughfares: A Context Sensitive Approach (March 2010), <http://library.ite.org/pub/e1cff43c-2354-d714-51d9-d82b39d4dbad>
6. Federal Highway Administration, A Resident's Guide for Creating Safe and Walkable Communities (February 2008), http://safety.fhwa.dot.gov/PED_BIKE/ped_cmnty/ped_walkguide/index.cfm
7. Center for Disease Control, Transportation Recommendations website,
<http://www.cdc.gov/transportation/recommendation.htm>
8. American Public Health Association, The Hidden Health Costs of Transportation (February 2010),
https://www.apha.org/-/media/files/pdf/factsheets/hidden_health_costs_transportation_backgrounder.ashx
9. FHWA, Metropolitan Area Transportation Planning for Healthy Communities, https://www.fhwa.dot.gov/planning/health_in_transportation/resources/healthy_communities/

Scoring Sources

The program is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following documentation sources (or equal where not available):

1. Adopted state or metropolitan transportation plans that incorporate multimodal and active mode projects and programs.
2. Documentation of regular public health and active mode stakeholder engagement, and the incorporation of their feedback into transportation plans and programs. Documentation may include technical advisory committee membership rosters, meeting agendas and minutes, and interview summaries, among others.
3. A programming and prioritization evaluation framework that demonstrates the prioritization of multimodal and active mode projects and programs.
4. The results of transportation plan evaluations that estimate the public health impacts of the proposed transportation projects and programs.
5. Progress reports and analyses of the agency's progress at meeting its multimodal and public health goals.

SPS-08: Freight and Goods Access and Mobility

State

1-15 points

Goal: Implement a transportation plan that meets freight access and mobility needs while also supporting triple bottom line sustainability principles.

Sustainability Linkage

Freight and goods movement planning benefits all of the triple bottom line principles by supporting economic prosperity through improved freight efficiency and reliability, reducing fuel consumption and related emissions, and reducing adverse impacts of freight on communities.



Background and Scoring Requirements

Background

This criterion is related to SPS-05: Access and Affordability. This criterion includes a focus on access for freight and goods, while SPS-05 includes a focus on access for people.

For the purposes of this criterion, the key terms are defined as follows:

- **“Engage”** means to successfully involve and interact with an institution or stakeholder.
- **“Institutional mechanisms”** refers to an agreed-upon, two-way communication process for sharing information and collecting feedback.
- **“Planning Process”** is a series of steps taken early in a project life cycle or decision-making process to define solutions for an issue or multiple issues (common examples include system-level plans and policies, long-range transportation plans, statewide plans, corridor plans, facility plans, area plans). A planning process typically contains the following steps: establish the plan purpose; develop goals, objectives, evaluation criteria, and performance measures and targets; analyze existing conditions; determine needs (based on scenarios or trends); develop and evaluate options; set priorities; develop a funding program; develop the plan; implement and monitor effectiveness of the plan.
- **“Regularly”** means early, often, and on an on-going basis throughout the planning process.
- **Freight stakeholders** include shippers, carriers, third party logistics providers, facility operators, governments, universities and communities near freight facilities.

Sustainable Freight System

A more sustainable freight system provides convenient access to goods and markets, allows for multiple freight modes, reduces congestion on roadways, and reduces freight inefficiencies and adverse impacts on communities (noise, emissions, vibrations, etc.).

Examples of goods movement issues that may be considered in a state transportation planning context are described below:

- **Economic sector analysis:** States may review different economic sectors important to the state and the transportation routes and modes critical for maximizing efficiencies or other state goals, and identify investment priorities based on those routes and modes. For example, examination of a specific agricultural

sector would review the access of farmers to food/product markets. If the current transportation system provides inferior access to markets from specific farming regions in the state, The State DOT could collect data and perform a planning-level accessibility analysis. The analysis would then help the State identify and program specific improvements to enhance access to these areas. This type of analysis could be done for any economic sector important to the state.

- **Freight Mobility Study:** A State may conduct a comprehensive, systems-level mobility study specifically addressing freight movement needs, issues, and potential solutions within a state or a region of the state (can be urban or rural). The State identifies key freight bottlenecks and examines quality of truck access to intermodal terminals, and uses data and tools to evaluate alternative solutions. The State engages freight and other stakeholders throughout the study.
- **Reliability Analysis:** A State may conduct an analysis that examines key routes to understand where there are issues with travel time reliability, and during what time periods (peak hour, mid-day, etc.) these issues occur. Solutions could then be focused on the most critical locations.

Mobility and Access

Mobility and access are both important for freight movement. Mobility relates to the ability and efficiency of moving goods from Point A to Point B. Access relates to the ability and ease of transferring goods (e.g. ability and ease of getting to a Port; ability and ease for producers to access transport opportunities for their goods).

Scoring Requirements

To achieve points, the agency must demonstrate that it has evaluated or improved freight mobility, reliability, and/or intermodal freight connections. Agencies can earn points according to the following; each of the scoring options is independent and can be achieved without prerequisites:

Requirement SPS-08.1

1-2 points. Develop Goals and Objectives

Scoring for this requirement is based on the following, cumulative requirements:

- **Requirement SPS-08.1a**

1 points. Consider Freight Access Goals

The agency includes in the LRTP or other appropriate plan (e.g. a freight rail plan) specific goals for maintaining and improving freight connectivity between modes and to freight generators for both inter- and intra-city freight, in ways that enhance sustainability (e.g., improve safety and fuel economy and/or reduce noise and emissions). Examples include systematic elimination of bottlenecks through infrastructure investments, using technology to ease port access, and anti-idling goals.

- **Requirement SPS-08.1b**

1 points. Consider Freight Mobility Goals

The agency considers multimodal freight mobility needs (aviation, marine, rail, interstate, pipeline, and intermodal) in the planning process. Freight mobility goals (such as freight reliability) and evaluation criteria are included in project prioritization and selection for the development of the STIP or Statewide Long Range Plan.

Requirement SPS-08.2

2-3 points. Engage Stakeholders

Scoring for this requirement is based on the following, cumulative requirements. The first requirement must be accomplished to earn the second.

- **Requirement SPS-08.2a**

2 points. Engage a Wide Variety of Stakeholders

The agency regularly engages a variety of freight stakeholders in creating plans and programs. This helps to ensure the transportation system supports freight movement and sustainable economic activity as appropriate. The State would develop a stakeholder involvement plan.

- **Requirement SPS-08.2b**

1 additional point. Utilize Institutional Mechanisms

The agency utilizes institutional mechanisms to facilitate the engagement. Examples of institutional mechanisms include freight representatives serving on a decision-making board or advisory committee. The decision-makers may use freight model data or use freight mobility or access as a criterion for solution prioritization in a planning process.

Requirement SPS-08.3

2 or 4 points. Develop Performance Measures and Monitor Progress

Scoring for this requirement is based on the following, cumulative requirements:

- **Requirement SPS-08.3a**

2 points. Include Freight Access Performance Measures

The agency includes and monitors sustainability-related freight access performance measures in planning documents (e.g. intermodal connections or linkages to freight generators).

- **Requirement SPS-08.3b**

2 points. Include Freight Mobility Performance Measures

The agency includes and monitors sustainability-related freight mobility performance measures (e.g. truck delay, travel time reliability, other national or state freight goals) in planning documents. Other examples of performance measures can be found in NCHRP [*Report 708: A Guidebook for Sustainability Performance Measurement for Transportation Agencies*](#)¹.

Requirement SPS-08.4

2-6 points. Demonstrate Sustainable Outcomes/Implementation

Scoring for this requirement is based on the following, cumulative requirements:

- **Requirement SPS-08.4a**

2 points. Freight Access - Provide for Planning, Evaluating, Maintaining, and Improving Intermodal Freight Connections and Linkages to Freight Generators

Intermodal freight connectors are the public roads leading to major intermodal terminals. Although they account for less than 1 percent of National Highway System mileage, they are key conduits for the timely and reliable delivery of goods. The agency provides for planning, evaluating, maintaining, and improving intermodal freight connectors and linkages to freight generators at all levels (interstate, state, and local). Measures and criteria to encourage coordination among the freight modes (e.g., rail, port, airport, and others) in ways that enhance sustainability are included.

- **Requirement SPS-08.4b**

2 points. Provide for Planning, Evaluating, Maintaining and Improving Freight Mobility

Freight mobility can be measured in a variety of ways, including reliability, travel time, through-put or volumes. The agency provides for planning, evaluating, maintaining and enhancing freight mobility utilizing appropriate quantitative measures and monitoring for freight modes.

- **Requirement SPS-08.4c**

2 points. Monitor Progress and Demonstrate Sustainable Outcomes

Monitor progress towards goals for at least one year after goal establishment using the performance measures established in SPR-08.3a and SPR-08.3b and show measurable advancement towards stated goals.

Resources

The following resources are referenced in this criterion and consolidated here:

1. NCHRP, *Report 708: A Guidebook for Sustainability Performance Measurement for Transportation Agencies* at http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_708.pdf

Scoring Sources

The program is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following documentation sources (or equal where not available):

1. A stakeholder involvement/public involvement plan or a similar description of the efforts used to engage the freight community in creating regional transportation plans and programs.
2. Documentation of freight mobility goals, objectives, and policies.
3. A freight section in plans (or a freight plan) that includes freight performance measures and implementation strategies/actions.
4. Plan and program recommendations that address sustainable freight and goods movement best practices.

SPS-09: Travel Demand Management

State

1-15 points

Goal: Reduce vehicle travel demand throughout the system.

Sustainability Linkage

Transportation Demand Management (TDM) supports all of the triple bottom line principles by reducing energy consumption and related emissions, improving awareness of available travel choices, and reducing costs of travel and congestion.



Background and Scoring Requirements

Background

This criterion relates to SPS-14: Transportation Systems Management & Operations; while both can help to mitigate congestion, SPS-09 focuses primarily on reducing SOV travel demand and SPS-14 focuses on optimizing the efficiency of the transportation system. Accordingly, the spatial or temporal shifting of travel demand to off-peak periods and less congested facilities is covered in SPS-14.

It is important to clarify that this criterion is specific to planning for the transportation facilities that an agency owns and operates. Criterion OM-01 includes Travel Demand Management options specific to an agency's internal staff and operations. For the purposes of this criterion, the key terms are defined as follows:

- **“Transportation Management Organization (TMO)”** refers to an independent entity dedicated to solving transportation problems in a particular geographic area through actively managing transportation demand and encouraging alternate travel modes.
- **“TDM Program”** means the coordinated & consistent implementation of strategies that aim to reduce SOV travel demand and/or redistribute that demand in space and time.

TDM is a tool that seeks to reduce vehicle travel by making it easier for travelers to elect travel options other than driving alone (such as transit, bicycle, walking, ridesharing, and teleworking). Common types of TDM strategies that might be implemented by a DOT include, but are not limited to:

1. Education and outreach programs on Travel options (can include integrating programs developed by regional agencies)
2. Rideshare and car-sharing programs
3. Road/vehicle pricing policies
4. Land use policies that promote a mixed-use, transit-oriented development, pedestrian-friendly built environment (coordination with partner agencies)

In addition, regional agencies may implement some of the following TDM strategies:

5. Challenge/incentive programs for non-auto modes
6. Parking pricing and policies
7. Employer trip reduction programs (e.g., transit benefits, trip end facilities, parking cash-out programs, teleworking, etc)
8. Transportation Management Organizations (TMO), among others

These strategies represent a range of approaches to TDM, including those that are more appropriate for implementation at the state level (e.g., road/vehicle pricing policies, etc.) and those that are more appropriate for

implementation at the MPO and/or local government level (e.g., land use policies, parking policies, etc.). Additionally, some of these strategies may work best in urban contexts (e.g., TMOs), while others are well suited to either urban or rural settings (e.g., rideshare programs). Additional TDM guidance and reference materials are available on FHWA's [Travel Demand Management Website](#)¹.

The requirements for earning points under this criterion are described below. To achieve the most points, TDM performance measures and a means of quantifiably assessing outcomes is required. It should be noted that for all the scoring requirements below, an agency may earn the points for implementing the requirements themselves or for providing support/funding (such as grants or technical assistance) to other agencies within its jurisdiction (e.g., transit agencies, MPOs, councils of governments (COGs), public-private partnerships, and/or non-profit agencies, etc.) for achieving the requirements. This may often be the case for state DOTs.

Scoring Requirements

Requirement SPS-09.1

1-3 points. Set TDM Goals and Objectives

Scoring is based on the following, cumulative requirements:

- **Requirement SPS-09.1a**

1 point. Develop TDM Goal and Objective Supportive of Metropolitan Goals and Objectives

The statewide agency includes a goal and objective to coordinate and support TDM activities of its regional and metropolitan partner agencies.

- **Requirement SPS-09.1b**

2 additional points. Develop Quantifiable TDM Goals and Objectives

The agency has developed quantifiable TDM goals and objectives for reducing travel demand for the transportation network within its jurisdiction in coordination with partner agencies. Examples of TDM goals and objectives include vehicle miles of travel (VMT) reduction goals, transportation options goals, and/or mode split targets.

Requirement SPS-09.2

3 or 6 points. Implement a TDM Program

The agency is implementing a comprehensive TDM program that includes several of the various types of TDM strategies described in the Background paragraph above. One of the following scores applies:

- **0 points.** The agency is implementing less than two of the TDM strategies described in the Background paragraph above.
- **3 points.** The agency is implementing a TDM program that includes two or three of the TDM strategies described in the Background paragraph above.
- **6 points.** The agency is implementing a comprehensive TDM program that includes several (four or more) of the TDM strategies described in the Background paragraph above.

Requirement SPS-09.3

2 or 4 points. Develop TDM Performance Measures & Monitor Progress

The agency has quantifiable TDM performance measures and can demonstrate ongoing monitoring of its TDM program. Examples of common TDM performance measures include non-SOV mode share, VMT reduced, and vehicle trips reduced. Additionally, TDM performance measures may assess the success of TDM education and outreach programs by tracking the number of participants in various TDM programs or surveys. Additional

examples of performance measures can be found in NCHRP's *Report 708: A Guidebook for Sustainability Performance Measurement for Transportation Agencies*³. One of the following scores applies:

- **0 points.** The agency does not have TDM performance measures and is not conducting ongoing monitoring of their TDM program.
- **2 points.** The agency has quantifiable TDM performance measures, but is not conducting ongoing monitoring of their TDM program.
- **4 points.** The agency has quantifiable TDM performance measures and can demonstrate ongoing monitoring of their TDM program.

Requirement SPS-09.4

2 points. Demonstrate Sustainable Outcomes

Monitor progress towards goals for at least one year after goal establishment using the performance measures established in SPSR-09.3 and show measurable advancement towards stated goals.

Resources

The following resources are referenced in this criterion and consolidated here:

1. FHWA, Travel Demand Management Website, <http://ops.fhwa.dot.gov/tdm/index.htm>
2. NCHRP, Report 708: A Guidebook for Sustainability Performance Measurement for Transportation Agencies, http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_708.pdf

Scoring Sources

The program is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following documentation sources (or equal where not available):

1. Agency transportation plans (long range, corridor, CMP, non-motorized, project-selection criteria, etc.) that include a TDM component.
2. A published document, website, brochure, and/or administrative report (or equivalent) that provides evidence of the agency's TDM goals and objectives.
3. Documentation of the implementation of the TDM strategies described in the Background section above.
4. An annual or periodically updated report of TDM program progress, which includes the TDM performance measures, baseline data collection, and the results from ongoing monitoring of the TDM program over time. This can be done independently or as part of an existing regular reporting cycle.
5. An independent review or TDM program evaluation.

SPS-10: Air Quality & Emissions

State

1-15 points

Goal: To plan, implement, and monitor multimodal strategies to reduce emissions and to establish a process to document emissions reductions.

Sustainability Linkage

Reducing emissions and improving air quality supports the environmental and social principles by reducing emissions and improving quality of life.



Scoring Requirements

Background

This criterion is related to SPS-07: Multi-Modal Transportation and Public Health, SPS-09: Travel Demand Management, SPS-11: Energy and Fuels, and SPS-14: Transportation Systems Management and Operations. While the strategies in this criterion help serve multiple goals, this criterion is focused primarily on the reduction of criteria air pollutants.¹

This criterion is specific to the planning process. Strategies for the State's own fleet/internal operations are covered in the Operations and Maintenance criteria of INVEST.

Air quality issues are expected to be addressed based on the implementation of emissions reducing transportation strategies. To obtain credit for this criterion, the agency should perform the following process steps:

- Through interagency consultation, discuss what emissions reduction strategies or programs are to be included in transportation planning documents and implemented.
- Establish or participate in the selected strategies or programs.
- Develop measures for the prioritization of transportation projects or strategies in the Statewide Transportation Plan and STIP, based on their emission reduction potential.
- Communicate findings and emissions reduction results to stakeholders

Scoring Requirements

Requirement SPS-10.1

2 points. Develop and Adopt Goals and Objectives

The agency has developed goals and objectives consistent with partner agencies (MPOs and other) for the reduction of air emissions in transportation planning documents, such as the Statewide Transportation Plan, STIP and others. Examples of goals and objectives include: coordinate with MPOs, regional councils of government, state environmental agencies and others to help implement measures designed to enhance air quality; provide for a variety of projects or transportation control measures that positively impact air emissions (e.g. TSMO, TDM, transit, bicycle, pedestrian); educate the public about air quality issues and transportation choices or preferences

Requirement SPS-10.2

4 points. Coordinate with Partner Agencies

The agency regularly coordinates with partner agencies throughout the transportation planning process, to reduce barriers and further the prospects for implementation of strategies to improve air quality. This coordination utilizes institutional mechanisms such as ad hoc or standing committees.

Requirement SPS-10.3

1-5 points. Implement Strategies to Reduce Emissions

Partner with the MPO, other regional planning organizations or state environmental agencies and local jurisdictions through planning documents or processes to coordinate and implement strategies consistent with their strategies as part of a transportation plan to reduce emissions. NCHRP [Report 25-25: Evaluate the Interactions between Transportation-Related Particulate Matter, Ozone, Air Toxics, Climate Change, and Other Air Pollutant Control Strategies](#)¹ provides good background information on these strategies. Strategies for the State's own fleet are covered in the Operations and Maintenance criteria.

Scoring for this requirement is based on the following, cumulative requirements:

- **Requirement SPS-10.3a**

1 point. Implement Transportation Demand Management Strategies

Partner with the state environmental agency, MPO or other regional planning organization and/or local jurisdictions to coordinate and implement transportation demand management strategies.

- **Requirement SPS-10.3b**

1 point. Implement Transportation System Management Strategies

Partner with the state environmental agency, MPO or other regional planning organization and/or local jurisdictions to coordinate and implement transportation system management strategies to reduce emissions, including congestion relief and traffic management strategies such as signal systemization.

- **Requirement SPS-10.3c**

1 point. Implement Vehicle Technologies

Partner with the state environmental agency, MPO or other regional planning organization(s) to coordinate and implement vehicle technologies including diesel emissions reduction strategies, such as funding school bus retrofits, retrofits of state or local maintenance and construction equipment, and clean vehicle strategies such as retrofitting or replacing diesel buses or engines with CNG or hybrid or other clean technology buses. Support of policies and investments that support the development of infrastructure for vehicle technologies.

- **Requirement SPR-10.3d**

2 points. Implementing Fuel Technologies

Fuel technologies including alternative fuels (such as biodiesel, bioalcohol, batteries and fuel cells, vegetable oil, solar, other biomass sources) for vehicles or infrastructure. Support of policies and investments that support the development of infrastructure for fuel technologies.

Requirement SPS-10.4

2 points. Develop Performance Measures

The agency has quantifiable air emissions performance measures incorporated into its transportation planning documents. Examples of performance measures can be found in NCHRP [Report 708: A Guidebook for Sustainability Performance Measurement for Transportation Agencies](#)².

Requirement SPS-10.5

2 points. Demonstrate Sustainable Outcomes

Monitor progress towards goals for at least one year after goal establishment using the performance measures established in SPS-10.4 and show measurable advancement towards stated goals.

Resources

The following resources are referenced in this criterion and consolidated here:

1. NCHRP, *Report 25-25 (Task 59): Evaluate the Interactions between Transportation-Related Particulate Matter, Ozone, Air Toxics, Climate Change, and Other Air Pollutant Control Strategies*, [http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP25-25\(59\)_FR.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP25-25(59)_FR.pdf)
2. NCHRP, *Report 708: A Guidebook for Sustainability Performance Measurement for Transportation Agencies*⁴s at http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_708.pdf

Sources

The program is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following documentation sources (or equal where not available):

1. Plan and policy review that demonstrates emissions reduction transportation strategies or programs are included in transportation planning documents.
2. Documentation of the transportation strategies or programs implemented.
3. Methodology documentation for estimating emissions.
4. Calculations and/or documentation showing that the transportation strategies reduced the emissions of at least one criteria pollutant.

SPS-11: Energy and Fuels

For States

1-15 points

Goal: Reduce the energy and fossil fuel consumption from the transportation sector and document it in the transportation planning process.

Sustainability Linkage

Reducing energy and fossil fuel consumption from the transportation sector provides multiple sustainability benefits and supports all of the triple bottom line principles by reducing fuel spending, greenhouse gas emissions, and energy dependence.



Background and Scoring Requirements

Background

It is important to clarify that **this criterion is specific to planning for the transportation system that an agency manages**. The Operations & Maintenance (OM) criteria include various approaches that an agency could leverage to affect the reduction of energy and fossil fuel consumption related to its internal staff and the maintenance and operations of its facilities and fleet.

There are many ways an agency can reduce the energy and fossil fuel consumption in the transportation system within its jurisdiction. Types of strategies include improving the fuel efficiency of vehicles (for autos, transit, trucks, etc.), as well as encouraging the switch to alternative fuels. Examples of the types of strategies that are implementable by states and/or MPOs include, but are not limited to:

- Providing incentives for the purchase and/or use of high fuel efficiency or alternatively fueled vehicles (e.g., through construction specifications, incentives for vehicle sharing, incentives for switches to high fuel efficiency vehicles, etc.)
- Implementing public eco-driving and anti-idling campaigns. Eco-driving is a technique that refers to the behaviors and practices that individual drivers can use to improve the fuel economy of their vehicles. Research has shown that ample opportunity exists to reduce fuel consumption by increasing eco-driving practices (Source: [Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions](#)¹). Examples of eco-driving techniques include: avoiding rapid acceleration and braking, not exceeding 55 mph, and avoiding idling (including vehicle “warm-ups”), among others.
- Providing alternative fueling infrastructure (e.g., electric vehicle charging corridors, Truck-Stop Electrification (TSE) programs, preferential parking for electric vehicles at park & ride lots, etc.)

Additional strategies include shifting travel to less energy-intensive modes, reducing travel demand, and optimizing travel speeds for fuel-efficiency. Examples of these types of strategies are described in more detail in SPS-07: Multimodal Transportation and Public Health, SPS-09: Travel Demand Management, and OM-13: Transportation Management and Operations, respectively. Additionally, while this criterion is primarily focused on reducing on-road energy and fossil-fuel consumption, the use of renewable energy for system-wide operations (solar variable message signs, solar highways, etc.) also reduces transportation energy use.

Scoring Requirements

Requirement SPS-11.1

1-2 points. Set Goals and Objectives

Scoring is based on the following, cumulative requirements. The first requirement must be accomplished to earn the second.

- **Requirement SPS-11.1a**

1 point. Develop Energy and Fossil Fuel Reduction Goals and Objectives

The agency has developed quantitative energy and/or fossil fuel reduction goals and objectives for the transportation system.

- **Requirement SPS-11.1b**

1 additional point. Goals and Objectives Consistent with other State Goals and Objectives

The goals and objectives are consistent with other relevant state goals and objectives for reducing energy and fossil fuel consumption (e.g. climate strategy).

Requirement SPS-11.2

2 or 4 points. System-Level Data Collection and Forecasting

Scoring is based on the following, cumulative requirements. The first requirement must be accomplished to earn the second.

- **Requirement SPS-11.2a**

2 points. Develop and Maintain Baseline Inventory of Energy and Fossil Fuel Consumption

Cooperate with partner agencies to develop and maintain a baseline inventory of current energy and/or fossil-fuel consumption (for all fuel types and modes) from transportation.

- **Requirement SPS-11.2b**

2 additional points. Forecast Energy and Fuel Consumption

Cooperate with partner agencies (e.g. state department of energy) that use an appropriate model or method to forecast energy and fuel consumption (based upon on-road VMT) associated with its LRTP, including business-as-usual and alternative scenarios (as appropriate), or conduct such forecasting. Use this information to inform transportation decision-making and the development of the statewide LRTP and corridor plans. Resources related to conducting transportation energy data, inventories, and forecasts can be found on the USDOT's [Transportation and Climate Change website](#)².

Requirement SPS-11.3

2 or 4 points. Develop a Plan and Implement Strategies to Reduce Transportation-related Energy and/or Fossil Fuel Usage

Scoring is based on the following, cumulative requirements:

- **Requirement SPS-11.3a**

2 points. Include Energy and Fossil Fuel Reduction Strategies in Plan

Coordinate with partner agencies and integrate energy and fossil fuel reduction strategies in the LRTP, corridor plans, and scenario planning, as appropriate. Transportation planning documents include a discussion of the impacts of including these strategies.

- **Requirement SPS-11.3b**

2 points. Implement Strategies to Reduce Energy and Fossil Fuel Consumption

Coordinate with partner agencies and integrate transportation strategies to reduce transportation-related energy and fossil fuel consumption and related emissions (such as those described in the Background section above). These may include strategies implemented primarily to reduce energy use, as well as strategies implemented primarily for other purposes (e.g., congestion relief, air quality, motorized travel demand reduction, etc.)

Requirement SPS-11.4

1-5 points. Develop Performance Measures, Monitor Progress, and Demonstrate Sustainable Outcomes

Scoring is based on the following, cumulative requirements:

- **Requirement SPS-11.4a**

2 points. Incorporate Energy and Fossil Fuel Performance Measures

The agency has incorporated energy and fossil fuel reduction performance measures into the transportation planning process. Examples of performance measures include fuel expenditure reductions, gallons of fuel consumed, and greenhouse gases reduced, among others. Additional examples of performance measures can be found in NCHRP's *Report 708: A Guidebook for Sustainability Performance Measurement for Transportation Agencies*³.

- **Requirement SPS-11.4b**

3 points. Monitor Progress and Demonstrate Sustainable Outcomes

Monitor progress towards goals for at least one year after goal establishment using the performance measures established in SPS-11.4a and show measurable advancement towards stated goals.

Resources

Above-Referenced Resources

The following resources are referenced in this criterion and consolidated here:

1. Urban Land Institute (ULI), *Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions* (July 2009), <https://www.transit.dot.gov/about/moving-cooler-analysis-transportation-strategives-reducing-greenhouse-gas-emissions> and <https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/MovingCoolerExecSummaryULI.pdf>
2. USDOT, Transportation and Climate Change website, <https://www.transportation.gov/climate-change-clearinghouse>
3. NCHRP, *Report 708: A Guidebook for Sustainability Performance Measurement for Transportation Agencies*, http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_708.pdf

Additional Resources

The following resources provide information on this criterion topic in addition to the sources directly referenced:

4. AASHTO Center for Environmental Excellence: Energy/Greenhouse Gas Emissions, https://environment.transportation.org/environmental_topics/energy_greenhouse/
5. TRB, *Special Report 307: Policy Options for Reducing Energy Use and Greenhouse Gas Emissions from U.S. Transportation* (2011), <http://www.trb.org/Publications/Blurbs/165535.aspx>
6. FHWA, *Transportation's Role in Reducing U.S. Greenhouse Gas Emissions Volume 1 and Volume 2* (April 2010), <https://rosap.ntl.bts.gov/view/dot/17789>

7. FHWA, *Integrating Climate Change into the Transportation Planning Process* (July 2008), https://www.fhwa.dot.gov/environment/sustainability/energy/publications/integrating_climate_change/index.cfm
8. Union of Concerned Scientists, *State of Charge: Electric Vehicles' Global Warming Emissions and Fuel Cost Savings Across the United States* (2012), http://www.ucsusa.org/clean_vehicles/smart-transportation-solutions/advanced-vehicle-technologies/electric-cars/emissions-and-charging-costs-electric-cars.html
9. UC Davis, *Potential Design, Implementation, and Benefits of a Feebate Program for New Passenger Vehicles in California: Interim Statement of Research Findings* (2010), <https://gsm.ucdavis.edu/research/potential-design-implementation-and-benefits-feebate-program-new-passenger-vehicles> and https://gsm.ucdavis.edu/sites/main/files/file-attachments/2010_ucd-its-rr-10-13.pdf
10. US Environmental Protection Agency, *Study of Exhaust Emissions from Idling Heavy-Duty Diesel Trucks and Commercially Available Idle Reducing Devices* (October 2002), <http://www.epa.gov/smartway/documents/publications/epaidlingtesting.pdf>
11. US Department of Energy, *Idle Reduction Technology Demonstrations* (November 2004), <http://www.nrel.gov/vehiclesandfuels/fleetttest/pdfs/36717.pdf>

Scoring Sources

The project is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following types of documentation (or equal where not available):

1. A published document, website, brochure, and/or administrative report (or equivalent) that provides evidence of the agency's energy goals and objectives.
2. Transportation-related energy and fossil fuel inventories, forecasts, and/or methodology reports that quantify energy and fossil fuel consumption.
3. Plan contents (in STIP, LRTP, and/or corridor planning) that include strategies/programs addressing energy and fossil fuel use.
4. Documentation of the implementation of the strategies described in the Background/Introduction section of this criterion.
5. An annual or periodically updated report of progress, which includes the results from ongoing monitoring over time.

SPS-12: Financial Sustainability

State

1-15 points

Goal: Evaluate and document that financial commitments made across transportation system plans are reasonable and affordable.

Sustainability Linkage

Financial sustainability supports the economic principle by improving economic prosperity for current and future generations, and ensuring that there are sufficient financial resources to advance the projects and program goals of the community.



Background and Scoring Requirements

Background

The intent of this criterion is to encourage the use of advanced best practices in cost estimating and revenue forecasting.

Fiscal Constraint

"Fiscal constraint has remained a key component of transportation plan and transportation improvement program since enactment of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991. FHWA and FTA developed and issued the Final Rule on statewide and metropolitan transportation planning and programming processes, published in the Federal Register on February 14, 2007 with an effective date of March 16, 2007." Source: FHWA's [Financial Planning and Fiscal Constraint for Transportation Plans and Programs Questions & Answers website](#)¹.

Fiscal constraint in the context of sustainability goes beyond formulaically meeting regulatory requirements; it should ensure that the estimated capital or project costs and operating expenditures of the transportation system are reliable, are in line with anticipated revenues, and are available. In addition, subsequent plan implementation should adhere to the constraints imposed by anticipated revenues and costs. This ensures that future generations are able to continue to benefit affordably from future transportation investments.

Reasonable Revenue Funding

According to FHWA's [Financial Planning and Fiscal Constraint for Transportation Plans and Programs Questions & Answers website](#)¹,

"Revenue forecasts that support a Statewide Transportation Improvement Program (STIP), metropolitan transportation plan, or a metropolitan Transportation Improvement Program (MTIP) may take into account new funding sources and levels of funding not currently in place, but which are "reasonably expected to be available" (see 23 CFR 450.216(m), 23 CFR 450.322(f)(10)(ii), and 23 CFR 450.324(h), respectively). New funding sources are revenues that do not currently exist or that may require additional actions before the State DOT, MPO, or public transportation operator can commit such funding to transportation projects. In addition, future revenues may be projected based on historic trends, including consideration of past legislative or executive actions. To be considered "reasonable," the financial information and financial plans that accompany the TIP, STIP, and metropolitan transportation plan must identify strategies for ensuring the availability of these new revenue sources in the years when they are needed for project development and implementation [see 23 CFR 450.216(m)].

Determining whether a future funding source is "reasonable" requires a judgment decision. Two important considerations in determining whether an assumption is "reasonable" are: (a) evidence of review and support of the new revenue assumption by State and local officials and (b) documentation of the rationale and procedural steps to be taken with milestone dates for securing the funds. Source: FHWA's [Financial Planning and Fiscal Constraint for Transportation Plans and Programs Questions & Answers website](#)¹.

Some examples of "reasonable" and "not reasonable" assumptions from FHWA's [Financial Planning and Fiscal Constraint for Transportation Plans and Programs Questions & Answers website](#)¹, are shown in Table 1. Note that the examples labeled "reasonable" do not necessarily meet the special test of "available funds" or "committed funds" as discussed on the website.

TABLE SPS-12.1. FHWA Examples of Reasonable/Not Reasonable Revenue Assumptions (continued on next page)

Example Type	Revenue Assumption Example
Reasonable	A new toll or other user fee dedicated to a particular project or program may be reasonable if there is clear evidence of support by the Governor, legislature, and/or other appropriate local/regional decision-makers and a strategy exists with milestones for securing those approvals within the time period for implementing the affected projects.
Reasonable	A new tax for transportation purposes requiring local and/or State legislation and/or support from the Governor is reasonable if there is clear evidence of sufficient support (both governmental and public) to enact the new tax and a strategy exists for securing those approvals within the time period for implementing the affected projects.
Reasonable	If a State or local jurisdiction has past historical success in incrementally increasing gas taxes for transportation purposes, it is reasonable to assume that this trend (and the historic rate of increase) over a comparable period of time will continue.
Reasonable	A new bond issue for a particular project or program may be reasonable if there is clear evidence of support by the legislature, Governor and/or other appropriate decision-makers and a strategy exists with milestones for securing those approvals within the time period for implementing the affected projects or program.
Not Reasonable	Assuming new funds from an upcoming Statewide, regional, or local ballot initiative would not be reasonable if polls indicate a strong likelihood of defeat or there is a history of repeated defeat of similar ballot initiatives in recent years. However, this assumption could be reasonable if a new strategy has been developed to achieve success where past attempts have failed, and is supported by State and/or local decision-makers.
Not Reasonable	A 25 percent increase in gas tax revenues over five years is not reasonable if the growth over the previous five years was only 15 percent. However, special circumstances may justify and support a significantly higher increase than the historic rate, provided there is clear evidence of support from State and/or local decision-makers.

Example Type	Revenue Assumption Example
Not Reasonable	An assumption that a single metropolitan area will receive funding for multiple large-scale transportation projects under a federal discretionary program (e.g., FTA's New Starts) is not reasonable if the assumption would result in that one metropolitan area receiving a disproportionately high percentage of the total national program dollars.

Scoring Requirements

Agencies can earn points according to the following; each of the scoring options is independent and can be achieved without prerequisites:

Requirement SPS-12.1

2-7 points. Advanced Revenue Forecasting

Use an inter-agency, cooperative approach for advanced revenue forecasting practices to develop a reasonable finance plan that considers risk and includes contingencies. Advanced revenue forecasting is a dynamic process that considers a wide range of sources, “nontraditional” financing mechanisms, risk management techniques, and forecasts that are updated on a regular basis. Include cost estimations and actual costs of ongoing operations and maintenance of systems in LRTPs and TIPs/STIPs.

Evidence of the use of advanced revenue forecasting practices could include the following (Source: Best Practices in Managing STIPs, TIPs, and Metropolitan Transportation Plans in Response to Fiscal Constraints):

- Evidence of leadership emphasis on rigorous fiscal discipline;
- Incorporation of risk management techniques into revenue forecasts;
- Inclusion of local and state sources as part of the revenue forecast and coordination with other potential funding sources;
- Involvement of appropriately qualified revenue estimating organizations for the state or local unit of government responsible to elected officials for overall revenue estimates;
- Coordination of STIP and Metropolitan Transportation Plan development with state budget development to mirror respective fiscal constraints;
- Involvement of a professional economist in revenue forecasting;
- Use of committees to establish consensus regarding the revenue forecast;
- Evidence of policies or guidelines for monitoring and updating forecasts, especially at major decision points for projects and plans;
- Objective analysis of “nontraditional”, innovative financing mechanisms and the expected revenues from those approaches; and
- Evaluation of past revenue forecasts and understanding why they did or did not turn out as expected.

Scoring is based on the following, cumulative requirements:

- **Requirement SPS-12.1a**

2 points. Engage in Regular and Comprehensive Coordination and Information Sharing

The agency engages in regular and comprehensive coordination and information sharing among affected agencies (including State DOTs, MPOs, and transit operators) during the development of revenue forecasts.

- **Requirement SPS-12.1b**

3 points. Undertake Systemic Forecast Updates

The agency undertakes systematic forecast updates using reasonable revenue projections per the Background discussion above and updated traffic modeling and analyses. Significant changes in forecast revenues are addressed in a planning process to prevent unsustainable deficits or funding gaps.

- **Requirement SPS-12.1c**

2 points. Establish Processes for Engaging Stakeholders

The agency has established processes for engaging stakeholders in a dialogue about the implications of any changes in revenue forecasts.

Requirement SPS-12.2

2-8 points. Advanced Cost Estimating

Use an inter-agency, cooperative approach for advanced project cost estimating practices that considers both capital and lifecycle costs (which would include maintenance and operations), risks, and contingencies. An example of advanced cost estimating includes factoring in a variety of land use/transportation development scenarios and associated future infrastructure construction and maintenance costs.

Scoring is based on the following, cumulative requirements:

- **Requirement SPS-12.2a**

2 points. Keep Accurate Records of Changes to Project Scope

As projects progress through the planning process, preliminary engineering, and ultimately construction, the agency keeps accurate records of all changes to the project scope and documents their impact on costs.

- **Requirement SPS-12.2b**

3 points. Use Project-Specific Cost Estimating Procedures

As the project development process progresses, the agency avoids formula-driven cost estimating procedures in favor of project-specific methods.

- **Requirement SPS-12.2c**

3 points. Complete Systemic Cost Updates Regularly

The agency completes systematic cost updates regularly, including cost estimates for its ongoing system operations, and the maintenance and changes to costs as projects develop. Cumulative or major changes in project costs are reflected in updated financial plans/fiscal constraint determinations of subsequent transportation plans, Transportation Improvement Programs (TIPs), and STIPs.

Evidence of the use of advanced cost estimating practices could include:

- Evidence of leadership emphasis and commitment on fiscal discipline;
- Coordination between preconstruction and construction personnel in preparation of cost estimates;
- Evaluation the completed project cost estimation process, and feedback loops from lessons learned during construction for future cost estimating practices; and
- Practices for tracking changes in project scopes and subsequent relationship to cost estimating and revenue forecasting procedures.

Resources

Above-Referenced Resources

The following resources are referenced in this criterion and consolidated here:

1. FHWA's Financial Planning and Fiscal Constraint for Transportation Plans and Programs Questions & Answers Website, https://www.fhwa.dot.gov/planning/guidfinconstr_qa.cfm

Additional Resources

The following resources provide information on this criterion topic in addition to the sources directly referenced:

2. Federal Register, 49 CFR Part 613: Final Rule on statewide and metropolitan transportation planning and programming and congestion management processes/systems (February 14, 2007), <https://www.gpo.gov/fdsys/pkg/FR-2007-02-14/pdf/07-493.pdf>
3. NCHRP, Best Practices in Managing STIPs, TIPs, and Metropolitan Transportation Plans in Response to Fiscal Constraints (February 2010), <http://144.171.11.40/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=1570>
4. NCHRP, Guidance for Cost Estimation and Management for Highway Projects During Planning, Programming, and Preconstruction (2007), http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_574.pdf

Scoring Sources

The program is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following documentation sources (or equal where not available):

1. State or metropolitan TIPs (including project selection criteria)
2. State or metropolitan revenue forecasts or studies
3. Minutes of meetings of policy making or governing Boards, Committees, or Commissions
4. Major project-level financial plans and cost estimating reports
5. Independent reviews of agency construction or revenue estimates or procedures
6. Financial plan sections of long-range plans

SPS-13: Analysis Methods

State

1-15 points

Goal: Agencies adopt and incentivize best practices in land use, socioeconomic and transportation systems analysis methods.

Sustainability Linkage

The use of analysis methods can help an agency measure progress toward meeting its sustainability goals by providing the means to estimate, evaluate, and communicate the expected social, environmental, and economic outcomes of changes in transportation policies, services, and the built environment.



Background and Scoring Requirements

Background

Transportation planning includes numerous tools and practices within the profession to inform decisions regarding transportation infrastructure, policy, plans, management of the systems, or project implementation. The analytical framework for transportation planning and policy along with the relationship to comprehensive planning drives the development of the analytical tools and practices. Understanding the interplay between land use, socioeconomic systems, transport systems, and the environment is central to developing more sustainable transportation systems and communities. To assist in accomplishing this, tools and practices need to reflect these dynamics at the appropriate scale (national, state, local, etc.) and provide relevant performance measures as part of the decision-making process.

For the purposes of this criterion, the key terms are defined as follows:

- **“Analysis Methods”** include forecasting process tools such as land use and travel demand models, and the data associated with the development and implementation of those tools and methods.

Scoring Requirements

Requirement SPS-13.1

1 or 3 points. Quality of Data

The transportation data resources used as the basis for the analysis and the development of tools such as travel demand models are of a sufficient quality and coverage to support the conclusions. Scoring for this requirement is based on the following, cumulative requirements. The first requirement must be accomplished to earn the second.

- **Requirement SPS-13.1a**

1 point. Demonstrate Analysis Based on Suitable Data

The agency demonstrates that the analysis has a strong foundation in observed data suitable for developing tools which model the land use, socioeconomic, transport, and environmental systems.

- **Requirement SPS-13.1b**

2 additional points. Demonstrate Data Used is Evaluated and Updated Regularly

The agency demonstrates that the data used in planning analysis are evaluated and updated on an established evaluation and update cycle.

Requirement SPS-13.2

1-4 points. Program Framework and Funding

The agency has a strategic plan, analysis program, or equivalent that includes the areas listed in SPS-13.2a through SPS-13.2d. Scoring is based on the following, cumulative requirements:

- **Requirement SPS-13.2a**

1 point. Multi-year Development Program

Program includes a specific multi-year development program for maintaining transportation data resources and improving analysis methods.

- **Requirement SPS-13.2b**

1 point. Specifications that Address Sustainability Principles

Program includes specifications for the data resources and methods that explicitly address sustainability principles.

- **Requirement SPS-13.2c**

1 point. Adequate Funding to Implement Identified Work

Program includes identification of an adequate level of funding required to implement the data collection and modeling tasks, which is also reflected in the appropriate work plan.

- **Requirement SPS-13.2d**

1 point. Technical Resources

Program identifies and includes resources which include support for experienced technical management and a mix of technical staff and/or contract staff.

Requirement SPS-13.3

2-8 points. External Review

Scoring is based on the following, cumulative requirements:

- **Requirement SPS-13.3a**

2 points. Technical Committee

The agency's organizational structure includes a technical committee to ensure the technical review of data collection/quality, planning assumptions, and forecasting methods. This committee may be comprised of state and local transportation planning professionals, private consultants, academia, and/or other individuals having interest and expertise in the forecasting process. The technical committee's role is to provide review and feedback on the analytical methods and tools utilized by the agency.

- **Requirement SPS-13.3b**

3 points. Peer Review of Analysis Method, Tools and Practices

The agency has convened a peer review of its analysis methods (e.g., the peer review program offered by FHWA's [Travel Model Improvement Program \(TMIP\) Website](#)¹.) The review included an assessment of the primary data used to develop the analytical tools and an assessment of the calibration and validation results of the tools, methods, and practices. In addition, the review has demonstrated that the methods are sensitive to the actions being tested, such as the expected and desired changes in transportation policies, supply, services, and the built environment.

- **Requirement SPS-13.3c**

3 points. Peer Review of Travel Models

The agency has convened a peer review of its travel model (e.g., the peer review program offered by FHWA's [Travel Model Improvement Program \(TMIP\) Website](#)¹.) Results of the peer review are used as inputs to the plan and describe improvements to the actual analytical methods used.

Resources

The following resources are referenced in this criterion and consolidated here:

1. FHWA's Travel Model Improvement Program (TMIP) Website,
http://www.fhwa.dot.gov/planning/tmip/resources/peer_review_program/

Scoring Sources

The program is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following transportation documentation sources (or equal where not available):

1. Forecasting tools and methods documentation, including calibration, validation, and sensitivity results.
2. A technical committee charter, meeting schedules, and/or proceedings.
3. A forecasting methods or analysis tools strategic plan, program or equivalent which provides reference to the level of funding for analysis methods and data.
4. Documentation of the most recent peer review, including the stated purpose, a list of participants, recommendations arising from the review, and the agency's plan and/or schedule to address the peer review recommendations.

SPS-14: Transportation Systems Management and Operations

State

1-15 points

Goal: Optimize the efficiency of the existing transportation system.

Sustainability Linkage

Improving the efficiency of the existing transportation system supports all of the triple bottom line principles by improving mobility and reliability and reducing funding needs, congestion, and resource consumption. Optimizing the use of the existing transportation system also has safety benefits, because traffic flow is smoothed, often leading to less crashes.



Background and Scoring Requirements

Background

This criterion relates to SPS-09 Travel Demand Management; while both can help to mitigate congestion, SPS-09 focuses primarily on reducing travel demand and SPS-14 focuses on optimizing the use of the existing transportation system.

The intent of the Transportation Systems Management and Operations (TSMO) criterion is to encourage active management of the transportation system and to implement these strategies in lieu of, or strategically in conjunction with, capacity expansion. Common types of TSMO strategies include, but are not limited to:

1. Intelligent Transportation Systems (traveler information, transit signal priority, ramp metering)
2. Active Traffic Management (adaptive signal control, real-time message boards, variable speed displays, dynamic lane assignment)
3. Incident Management (collision notification and avoidance, emergency service patrols)
4. Event Management
5. Road Weather Management

These strategies can help to increase the efficiency of the system by shifting travel demand to off-peak periods and less congested facilities, optimizing travel speeds for fuel efficiency, and utilizing existing capacity to the greatest extent possible. Additional TSMO strategies can be found in OM-13: Transportation Management and Operations and PD-14: ITS for System Operations.

Scoring Requirements

Requirement SPS-14.1

1-2 points. Develop and Adopt TSMO Goals and Objectives

Scoring for this requirement is based on the following, cumulative requirements. The first requirement must be accomplished to earn the second.

- **Requirement SPS-14.1a**

1 point. Develop TSMO Goals and Objectives

The agency has developed clearly defined TSMO goals, and objectives for improving the efficiency and safety of the transportation system within its jurisdiction. The goals and objectives are incorporated into TSMO

policies and the Statewide Long Range Transportation Plan (LRTP) and encourage transportation investments that support and enhance long-term Transportation Systems Management and Operations.

- **Requirement SPS-14.1b**

1 additional point. TSMO Goals and Objectives Consistent with Planning Documents

The TSMO, goals and objectives are also consistent with or surpass relevant local, state and/or metropolitan goals and objectives for improving transportation system efficiency and safety.

Requirement SPS-14.2

1-4 points. Develop a Plan for TSMO Strategies

Scoring for this requirement is based on the following, cumulative requirements:

- **Requirement SPS-14.2a**

1 point. Include TSMO Strategies

TSMO strategies are included in the LRTP and STIP, or other planning documents, as appropriate.

- **Requirement SPS-14.2b**

1 point. Include Discussion of Impacts of TSMO Strategies

The Statewide LRTP, or equivalent, includes a discussion of the impacts of including TSMO strategies.

- **Requirement SPS-14.2c**

2 points. Consider and Prioritize TSMO Strategies

The TSMO strategies are considered and prioritized in the LRTP and STIP, or other planning documents. Where appropriate, these strategies are considered in lieu of, or strategically in conjunction with, capacity expansion.

Requirement SPS-14.3

2 or 4 points. Support or Implement TSMO Strategies

One of the following scores applies:

- **0 points.** TSMO strategies are not being implemented or funded by the agency.
- **2 point.** Some, but not all, TSMO strategies identified as priorities are being implemented by the agency or funded through inclusion in the Statewide transportation improvement program (STIP)
- **4 points.** All of the TSMO strategies identified as priorities are being implemented by the agency or funded through inclusion in the STIP for which the agency has responsibility.

Requirement SPS-14.4

2 points. Develop Performance Measures

The agency includes sustainability-related TSMO performance measures in planning documents. Examples of performance measures can be found in [NCHRP Report 708: A Guidebook for Sustainability Performance Measurement for Transportation Agencies](#)¹.

Requirement SPS-14.5

3 points. Monitor Progress and Demonstrate Sustainable Outcomes

Monitor progress towards goals for at least one year after goal establishment using the performance measures established in SPS-14.3 and show measurable advancement towards stated goals.

Resources

The following resources are referenced in this criterion and consolidated here:

1. NCHRP, *Report 708: A Guidebook for Sustainability Performance Measurement for Transportation Agencies* at http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_708.pdf

Scoring Sources

The program is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following documentation sources (or equal where not available):

1. Agency transportation plans that include a TSMO component (either integrated throughout or called out separately).
2. A STIP that includes a list of implementable TSMO strategies and technologies that are applicable to the system.
3. Plan and project selection documents showing early consideration of operational strategies and projects, such as the congestion management process for MPOs with populations over 200,000.
4. An annual or periodically updated report of progress, which includes the results from ongoing monitoring of the agency's progress towards meeting its TSMO goals and objectives over time.

SPS-15: Linking Asset Management and Planning

State

1-15 points

Goal: Leverage transportation asset management data and methods within the transportation planning process to make informed, cost-effective program decisions and better use existing transportation assets.



Sustainability Linkage

Incorporating transportation asset management data and economic analysis methods throughout system planning supports the environmental and economic triple bottom line principles by improving the cost effectiveness of decisions, extending the life of assets, and reducing the demand for raw materials.

Background and Scoring Requirements

Background

As defined by the American Association of State Highway and Transportation Officials' Subcommittee on Asset Management, "Transportation Asset Management is a strategic and systematic process of operating, maintaining, upgrading, and expanding physical assets effectively through their life cycle. It focuses on business and engineering practices for resource allocation and utilization, with the objective of better decision-making based upon quality information and well defined objectives." That is, it is focused on prioritizing maintenance and preventative activities in the most effective manner from a life cycle perspective rather than making "worst first" type decisions.

Scoring Requirements

Requirement SPS-15.1

2 points. Develop Goals and Objectives

The agency has developed clearly defined goals and objectives for linking asset management and planning in their planning documents, including their LRTP, STIP or other planning documents. These goals may be linked to infrastructure condition and should also be focused on the need and investment in maintenance and preservation activities. Examples of metrics that would accomplish this include:

- The percent completion of annual maintenance and preservation plan
- Pavement maintenance and/or preservation funding
- Funds for a preservation program—cash flow planned vs. actual expenditures
- The dollar value of deferred maintenance needs

Requirement SPS-15.2

4 or 8 points. Incorporate Asset Management Data and Economic Analysis to Prioritize Investments

Incorporate asset management data and leverage economic analyses, including Life-Cycle Cost Analyses (LCCA) and Benefit-Cost Analysis (BCA) to apply basic cost and performance data to screen a large number of potential project alternatives, assisting in the development of program budgets and areas of program emphasis.

Scoring is based on the following, cumulative requirements:

- **Requirement SPS-15.2a**

4 points. Leverage LCCA to Evaluate Project Alternatives and Prioritize Investments

Leverage LCCA to evaluate project alternatives and prioritize investments. LCCA is used to compare the life-cycle costs of two or more alternatives to accomplish a given project or objective, enabling the least cost alternative to be identified. LCCA is an engineering economic analysis tool that allows transportation officials to quantify the differential costs of alternative investment options for a given project. LCCA can be used to study either new construction projects or to examine preservation strategies for existing transportation assets. For more information, refer to FHWA's [Asset Management Life-Cycle Cost Analysis website](#)¹.

- **Requirement SPS-15.2b**

4 points. Leverage BCA to Compare Projects and Prioritize Investments

Leverage BCA to compare projects and prioritize investments. BCA attempts to capture all benefits and costs accruing to society from a project or course of action, regardless of which particular party realizes the benefits or costs, or the form these benefits and costs take. Used properly, BCA reveals the economically efficient investment alternative (i.e., the one that maximizes the net benefits to the public from an allocation of resources). For more information, refer to FHWA's [Asset Management Life-Cycle Cost Analysis website](#)¹.

Requirement SPS-15.3

2 points. Develop Performance Measures

Leverage performance-based planning and programming components of asset management to analyze and evaluate tradeoffs in long-range transportation planning processes. An agency has identified at least one performance measure for each asset management goal and objective in order to track progress over time. These performance measures should help evaluate and communicate the impacts and implications of different plan alternatives, and provide criteria for analyzing and evaluating tradeoffs. Examples of asset management related performance measures include, but are not limited to: pavement condition; bridge condition; remaining service life; percentage of total planned maintenance complete; cost-effectiveness; route continuity; corridor completion; state of good repair for transit rolling stock, signal systems, guideways, and facilities; and sidewalk and bicycle inventories.

Requirement SPS-15.4

1-3 points. Demonstrate Sustainable Outcomes

Scoring is based on the following, cumulative requirements:

- **Requirement SPS-15.4a**

1 points. Prioritize Maintenance and Preservation

The agency prioritizes transportation decisions that support the maintenance and good repair of existing transportation assets. Evidence includes the extent to which maintenance, preservation, and repair projects are included in the STIP, TIPs, and annual work plans are the direct result of the identification, prioritization, and selection of projects in the LRTP process and/or the extent to which those projects are completed.

- **Requirement SPS-15.4b**

2 points. Monitor Progress and Demonstrate Sustainable Outcomes

Monitor progress towards goals for at least one year after goal establishment using the performance measures established in SPS-15.3 and show measurable advancement towards stated goals.

Resources

Above-Referenced Resources

The following resources are referenced in this criterion and consolidated here:

1. FHWA, Asset Management Benefit-Cost Analysis website,
<https://www.fhwa.dot.gov/infrastructure/asstmgmt/lcca.cfm>

Additional Resources

The following resources provide information on this criterion topic in addition to the sources directly referenced:

2. FHWA, *Asset Management Position Paper*, <http://www.fhwa.dot.gov/infrastructure/asstmgmt/ampplan.cfm>
3. TRB, *Linking Asset Management to Strategic Planning Processes: Best Practices from State Departments of Transportation*, Publication 1924, <http://pubsindex.trb.org/view.aspx?id=775715>
4. FHWA, *Beyond the Short Term Transportation Asset Management for Long-Term Sustainability, Accountability and Performance*, Publication 806, http://www.fhwa.dot.gov/asset/10009/tam_topr806.pdf
5. NCHRP, *Report 551: Performance Measures and Targets for Transportation Asset Management*, http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_551.pdf
6. FHWA, *Integrating Asset Management into the Metropolitan Planning Process: A Peer Exchange*, https://www.fhwa.dot.gov/planning/processes/statewide/practices/asset_management/index.cfm
7. Midwest Transportation Knowledge Network, Data and Synthesis Report, <https://transportation.libguides.com/mtkn>
8. FTA, *Transit Asset Management Practices: A National and International Review* (June 2010), https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/TAM_A_National_and_International_Review_-_6.10_FINAL_0.pdf
9. TRB, *TCRP Synthesis publication 92: Transit Asset Condition Reporting: A Synthesis of Transit Practice*, http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_syn_92.pdf

Scoring Sources

The program is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following documentation sources (or equal where not available):

1. Agency policy on incorporating asset management goals and objectives into the transportation planning process and documentation of those goals and objectives in transportation planning documents.
2. Performance measures for each goal and objective.
3. Documentation of the process used to incorporate asset management data in making strategic resource allocation decisions.
4. Documentation that demonstrates monitoring and attainment of performance measures.

SPS-16: Infrastructure Resiliency

State

1-15 points

Goal: Anticipate, assess, and plan to respond to vulnerabilities and risks associated with current and future hazards (including those associated with climate change) to ensure multi-modal transportation system reliability and resiliency. Identify a range of vulnerability and risks to both existing and planned transportation infrastructure.



Sustainability Linkage

Planning for infrastructure resiliency in the face of potential hazards supports all of the triple bottom line principles by reducing spending on infrastructure replacement, improving the safety and security of multimodal transportation system users, and providing energy savings from long-lasting investments, among others.

Background and Scoring Requirements

Background

Helpful online references and tools for this criterion include FHWA's [Climate Adaptation Website](#)¹ and FHWA's [Vulnerability Assessment Framework Website](#)².

For the purposes of this credit, key terms are defined as follows:

- **"Climate variability and change"** refers to long-term variations in climate, such as changes in sea level, temperature, precipitation intensity, and coastal storms, among others. While sea level rise primarily affects coastal regions, changes in the frequency and intensity of warm/cold weather days, precipitation events (flooding/droughts), and storms can affect infrastructure throughout the United States.
- **"Extreme weather events"** refers to flooding, hurricanes, fires, droughts, and winter storms, for example.
- **"Hazards"** are conditions or circumstances that may result in undesirable outcomes. Natural hazards may include seismic and extreme weather events, and/or the effects of climate variability and change. Man-made hazards may include security threats or structural failures from terrorism.
- **"Risk"** is the potential for an unwanted outcome resulting from an event—in this case, a climate stressor or other hazard. It is determined by the product of (a) the likelihood of the impact, and (b) the consequence of the impact.
- **"Risk Assessment"** is an assessment of the likelihood and potential consequences of exposure to a hazard.
- **"Vulnerability"** in this context refers to the degree to which transportation infrastructure can be adversely affected by various hazards.
- **"Vulnerability Assessment"** is an assessment of the potential consequences of hazards on the durability and performance of specific transportation infrastructure (e.g., inundation of roads and enhanced scour of structures).

Climate Change and Resiliency Vulnerability and Risk Assessments

The following steps are part of a process of identifying potential climate change and natural hazards, evaluating the vulnerabilities of infrastructure posed by those hazards and performing a risk assessment to estimate the likelihood of such an event happening.

Hazard Identification

An important first step in evaluating and addressing infrastructure resiliency is the identification of potential hazards to the infrastructure system, such as seismic events, relative sea level rise, storm activity/intensity, temperature and heat waves, precipitation events, lake levels, stream flow, volcanism, etc. Subsequent to the identification of potential hazards, agencies typically perform an assessment of locations (and transportation infrastructure) and their respective severity of risk relative to the hazards identified. Severity is typically stated in terms of not vulnerable/at-risk, potentially vulnerable/at-risk, or vulnerable/at-risk assets, with potentially vulnerable and at-risk being the generally preferred terms.

Vulnerability Assessment

A vulnerability assessment focuses on how existing or planned transportation facilities may fare given current and future hazards. A vulnerability assessment should cover transportation assets in the planning area or a substantial subset of that area, as appropriate. Asset data on key existing and planned assets should be used. This could include elevations of the assets (not just the land), drainage capabilities, types of pavements and their ability to withstand excessive heat, more intense freeze-thaw cycles, and a variety of stress factors through time.

Investigating past events and resulting impacts can inform the assessment of vulnerabilities to seismic and storm events, and the impacts of long-term climate change effects. By comparing historical events with historical maintenance and repair needs, agencies can estimate how well specific assets might withstand certain stressors. For example, agencies could consider effects of past weather events on emergency response and evacuations required or on the services provided by an asset (e.g., changes in VMT and/or the value of goods transported).

The vulnerability assessment should include an assessment of all relevant natural hazards, not just climate related events. That said, FHWA's [Climate Adaptation website](#)¹ has a section dedicated to [Climate Change Vulnerability Assessment Framework website](#)² that has valuable tools and resources for performing this work.

Risk Assessment

A risk assessment is a method for estimating the likelihood of a particular impact resulting from a defined set of stressors, including climate change related impacts, and also assesses the consequences of the impact in terms of how they affect the surrounding community, metropolitan area, or state.

Scoring Requirements

Requirement SPS-16.1

1 point. Conduct System-Level Assessment of Potential Hazards

This scoring requirement incorporates the elements of the Hazard Identification topic discussed in the Background section of this criterion. The agency has conducted a system-level assessment of potential hazards such as seismic events, relative sea level rise, storm activity/intensity, temperature and heat waves, precipitation events, lake levels, changes in stream flow, volcanism, etc.

Requirement SPS-16.2

2 or 3 points. Vulnerability Assessment

This scoring requirement incorporates the elements of the Vulnerability topic discussed in the Background section of this criterion. One of the following scores applies:

- **0 points.** The agency has not conducted a vulnerability assessment of its assets.
- **2 points.** The agency has identified locations potentially vulnerable or at risk of current and future hazards and has conducted a vulnerability assessment and considered hazard consequences for some of its planned, programmed, and existing facilities that were identified in the vulnerability assessment as potentially vulnerable and/or at risk.
- **3 points.** The agency has identified locations potentially vulnerable or at risk of current and future hazards and has conducted a vulnerability assessment and considered hazard consequences on most of its planned, programmed, and existing facilities that were identified in the vulnerability assessment as potentially vulnerable and/or at risk.

Requirement SPS-16.3

2 or 3 points. Risk Assessment

This scoring requirement incorporates the elements of the Risk Assessment topic discussed in the Background section of this criterion. One of the following scores applies:

- **0 points.** The agency has not conducted a risk assessment of its assets.
- **2 points.** The agency has conducted a risk assessment for some of its planned, programmed, and existing facilities throughout the transportation system.
- **3 points.** The agency has conducted a risk assessment and considered the consequences on most of its planned, programmed, and existing facilities throughout the transportation system.

Requirement SPS-16.4

2-4 points. Develop and Implement Adaptation and Resilience Strategies

Adaption and Resilience strategies are actions taken to respond to the vulnerabilities and risks associated with current and future hazards to ensure transportation system reliability and resiliency. Examples of strategies include, but are not limited to the relocation of critical infrastructure, evacuation route planning, and disaster preparedness programs, among others. Additional examples are available on the USDOT's [Climate Change & Impacts website](#)³, in TRB's *E-C152: Adapting Transportation to the Impacts of Climate Change*⁴, and FEMA's [Hazard Mitigation Planning Risk Assessment website](#)⁵. This requirement may be scored in proportion to the agency's estimate of its progress toward meeting this requirement. One of the following scores applies:

- **0 points.** The agency has not developed adaptation strategies.
- **1 point.** The agency has developed, but not yet implemented, adaptation strategies to manage some of the impacts the agency can reasonably expect to occur.
- **2 points.** The agency has developed, but not yet implemented, adaptation strategies to manage most of the impacts the agency can reasonably expect to occur.
- **3 points.** The agency has developed and is implementing adaptation strategies to manage some of the impacts the agency can reasonably expect to occur based on its completed vulnerability and risk assessments.
- **4 points.** The agency has developed and is implementing adaptation strategies to manage most of the impacts the agency can reasonably expect to occur based on its completed vulnerability and risk assessments.

Requirement SPS-16.5

2 points. Coordinate with Partner Agencies

The agency regularly coordinates with partner agencies within its jurisdiction throughout the transportation planning process, to reduce barriers and further the prospects for implementation of strategies to address infrastructure resiliency. This coordination utilizes institutional mechanisms such as ad hoc or standing committees.

Requirement SPS-16.6

2 points. Prioritize Investments

The agency has a formal mechanism to evaluate and prioritize infrastructure improvements that are identified as part of the risks identified in SPS 16.2 and SPS-16.3 and the strategies identified in SPS-16.4.

Resources

The following resources are referenced in this criterion and consolidated here:

1. FHWA, Climate Adaptation website, http://www.fhwa.dot.gov/environment/climate_change/adaptation/
2. FHWA, Climate Change Vulnerability Assessment Framework website, http://www.fhwa.dot.gov/environment/climate_change/adaptation/adaptation_framework/
3. USDOT, Climate Change & Impacts website, <https://www.transportation.gov/sustainability/climate/climate-change-impacts>
4. TRB, E-C152: Adapting Transportation to the Impacts of Climate Change, <http://onlinepubs.trb.org/onlinepubs/circulars/ec152.pdf>
5. FEMA, Hazard Mitigation Planning Risk Assessment website, <http://www.fema.gov/hazard-mitigation-planning-risk-assessment>

Scoring Sources

The project is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following documentation sources (or equal where not available):

1. Transportation planning document(s) (LRTP, TIP/STIP, and/or UPWP) that contain evidence of the consideration of hazard identification, vulnerability assessment, risk assessment, and/or adaptation strategies.
2. Hazard Mitigation Plan(s).
3. Documentation of a vulnerability assessment of transportation infrastructure. This could include studies on the vulnerability of specific areas.
4. Documentation of a risk assessment of infrastructure. This should address the process used, an assessment of likelihood, and the resulting assessment of risk.

SPS-17: Planning and Environmental Linkages

State

15 points

Goal: Integrate system planning process information, analysis, and decisions with the project-level environmental review process, and reference it in NEPA documentation.

Sustainability Linkage

The NEPA process encompasses all of the triple bottom line principles, typically at the project level. This criterion ensures that information and decisions made in the system planning process generate useful information regarding sustainability impacts, and that data and those sources are consistent between system-level and project-level planning.



Background and Scoring Requirements

Background

The intent of this criterion is to ensure that transportation planning conducted at the system and programmatic level informs project-level implementation, specifically during the environmental review process. Because system-level planning leads to the programming of various projects, systems-level information should be consistent with the needs of project-level NEPA analysis and integrate without rework or with minimal updating.

This criterion is specifically focused on NEPA, however, an equivalent environmental review process is appropriate.

FHWA's Planning and Environmental Linkages (PEL) Program¹ represents a collaborative and integrated approach to transportation decision-making that 1) considers environmental, community, and economic goals early in the transportation planning process, and 2) uses the information, analysis, and products developed during planning to inform the environmental review process. The [PEL website](#)¹ is a resource that describes the connection between the goals and objectives of FHWA's Every Day Counts and their PEL program; includes a set of tools designed to help agencies identify areas where they can strengthen PEL; shares case studies that summarize state and metropolitan approaches to implementing PEL in transportation decision-making; provides an exhaustive set of resources on PEL legislation, regulations, guidance, and implementation; and provides links to available training and workshops.

The agency should have tools and processes in place to ensure analysis, decisions, and documents that are completed during the system planning process, such as corridor, subarea, or metropolitan plans, inform the environmental analysis conducted to meet NEPA requirements during project development. This prevents duplication of work, unnecessary expense, delays, and confusion for the public and policymakers. To successfully link planning to NEPA, it is vital to involve a wide range of partners, including resource and regulatory agencies, NEPA practitioners, planning and development partners, legal counsel, and the public.

Scoring Requirements

Requirement SPS-17.1

2 points. Develop Goals and Objectives

The agency has developed landscape-level goals and objectives for linking system and corridor planning with NEPA documentation and implementing PEL Best Practices.

Requirement SPS-17.2

1-2 points. Document Linkages between System Planning and NEPA

Document the following procedures that link system-level planning analyses to project-level NEPA analysis:

- The agency has formal agreements or procedures in place to consult with and involve resource/environmental agencies (including State, local, Tribal, and Federal agencies, including FHWA & FTA) at the systems-level.
- The agency provides public review of system-level planning studies. Both the public and agencies have a reasonable opportunity to comment during the transportation planning process.
- The agency utilizes data sources for system planning that is as consistent as possible with the needs of project-level NEPA analysis (e.g., GIS software, census year, etc.).
- The agency produces documentation of system planning decisions that assists in meeting NEPA documentation requirements. For example, purpose and need statements are developed for major projects recommended in the plan, or examination and elimination of alternatives are adequately assessed and documented at the planning level to meet NEPA needs in later phases.

Documented procedures could include official documentation such as policy and procedures manuals or similar guidance documents, or unofficial documentation such as flowcharts, best practices, or other similar documents.

One of the following scores applies:

- **0 points.** No documented procedures exist or undocumented procedures exist that do not cover all four of the bullets above.
- **1 point.** Undocumented procedures exist that cover all four of the bullets above, or documented procedures exist that cover one or two of the bullets above.
- **2 points.** Documented procedures exist that cover all four of the bullets above.

Requirement SPS-17.3

2 points. Executive Level Commitment

The agency can document communication from executive management to staff level regarding agency's commitment to strengthening planning and environment linkages. This might include, but is not limited to:

- Internal memoranda
- Management directives
- Policy statements
- Dedicated resources for integration (staff, funding, time, etc.)

Requirement SPS-17.4

2-3 points. Consult NEPA Practitioners

The agency consults with NEPA practitioners throughout the system-level planning process to ensure the material produced is consistent with the needs of downstream use (e.g., project-level NEPA) so that it:

- Can be incorporated into subsequent NEPA documents in accordance with CEQ regulations, and FHWA and FTA guidelines;
- Will aid in establishing or evaluating the purpose and need of the projects, reasonable alternatives, impacts on the built and natural environment, or mitigation measures; and
- Is in a form that is accessible during the NEPA scoping process and can be appended or referenced in the NEPA document.

One of the following scores applies:

- **0 points.** NEPA practitioners are not consulted during system-level planning.
- **2 points.** NEPA practitioners are consulted occasionally but not systematically to help ensure materials are consistent with downstream needs as noted above.
- **3 points.** NEPA practitioners are fully integrated in the planning process to help ensure materials are consistent with downstream needs as noted above.

Requirement SPS-17.5

2 or 4 points. Apply NEPA Principles and Methods during System Planning

Planning processes, including long-range, corridor, and sub-area studies, feature components that use NEPA principles and methods and agency successfully incorporates information (e.g., analyses, decisions, and documents) from the system-level planning process into project-level NEPA documents. In addition, clear documentation of conversations, meetings, and decisions is passed from system planning to the project manager of specific projects.

Examples of planning analysis and methods that could be incorporated into NEPA, include:

- Purpose and need or Goals and objectives statements
- Regional development and growth
- Local land use, growth management and development
- Population and employment
- general travel corridor and/or general mode(s) definition Basic description of the environmental setting Preliminary screening of alternatives and elimination of unreasonable alternatives Environmental mitigation activities
- Indirect and cumulative impacts assessment
- programmatic level mitigation system level measures to avoid, minimize or mitigate impacts of proposed transportation projects

One of the following scores applies:

- **0 points.** Planning processes, including long-range, corridor, and sub-area studies do not feature components that use NEPA principles and methods or include less than 4 of those listed above.
- **2 points.** Planning processes, including long-range, corridor, and sub-area studies, feature components that use NEPA principles and methods, including at least 4 of those listed above.

- **4 points.** Planning processes, including long-range, corridor, and sub-area studies, feature components that use NEPA principles and methods, including at least 6 of those listed above.

Requirement SPS-17.6

1-2 points. Demonstrate Sustainable Outcomes

Scoring is based on the following, cumulative requirements. The first requirement must be achieved to earn the second.

- **Requirement SPS-17.6a**

1 point. Include PEL Performance Measures

Planning and policy documents include PEL implementation performance measures such as decreased number of major design changes due to environmental factors; regulatory/resource agencies demonstrating a greater understanding of transportation planning process, etc. FHWA's *A Guide to Measuring Progress in Linking Transportation Planning and Environmental Analysis*² provides additional information on measuring PEL performance.

- **Requirement SPS-17.6b**

1 additional point. Monitor Progress and Demonstrate Sustainable Outcomes

Monitor progress towards goals for at least one year after goal establishment using the performance measures established in SPS-17.6a and show measurable advancement towards stated goals.

Resources

Above-Referenced Resources

The following resources are referenced in this criterion and consolidated here:

1. FHWA, Planning and Environmental Linkages Website, <http://www.environment.fhwa.dot.gov/integ/index.asp>
2. FHWA, *A Guide to Measuring Progress in Linking Transportation Planning and Environmental Analysis*, http://environment.fhwa.dot.gov/integ/meas_progress.asp

Additional Resources

The following resources provide information on this criterion topic in addition to the sources directly referenced:

3. Federal Register, 23 USC 168 Integration of Planning and the Environmental Review Process, <http://www.gpo.gov/fdsys/pkg/USCODE-2013-title23/pdf/USCODE-2013-title23-chap1-sec168.pdf>
4. Federal Register, 23 USC 169 Development of programmatic mitigation plans, <http://www.gpo.gov/fdsys/pkg/USCODE-2012-title23/pdf/USCODE-2012-title23-chap1-sec169.pdf>
5. Federal Register, 23 CFR 450.212 and 450.318 Transportation Planning Studies and Project Development, <http://www.gpo.gov/fdsys/pkg/CFR-2014-title23-vol1/pdf/CFR-2014-title23-vol1-sec450-212.pdf> and <http://www.gpo.gov/fdsys/pkg/CFR-2014-title23-vol1/pdf/CFR-2014-title23-vol1-sec450-318.pdf>
6. FHWA, Guidance on Using Corridor and Subarea Planning to Inform NEPA (April 2011), http://www.environment.fhwa.dot.gov/integ/corridor_nepa_guidance.pdf.
7. Federal Register, Appendix A to 23 CFR Part 450—Linking the Transportation Planning and NEPA processes (February 2007), <https://www.gpo.gov/fdsys/granule/CFR-2016-title23-vol1/CFR-2016-title23-vol1-part450-appA-493.pdf>
8. FHWA, Strategic Sustainability Performance Plan (SSPP) (2011) https://www.transportation.gov/sites/dot.gov/files/docs/SSPP_2011.pdf

Scoring Sources

The program is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following documentation sources (or equal where not available):

1. Agency program that specifies the consultation of a NEPA practitioner throughout the system-level transportation planning process.
2. Documentation of how the planning process supports subsequent project development and NEPA work.
3. Written agency procedures for linking the system-level planning process with NEPA.
4. Current case studies showing how transportation system planning results, designed to inform NEPA, were successfully incorporated into the NEPA process and included in the NEPA document, including how the agency can continue to improve that process.

