

Systems Engineering for ITS Website

March 13, 2024

Systems Engineering for ITS



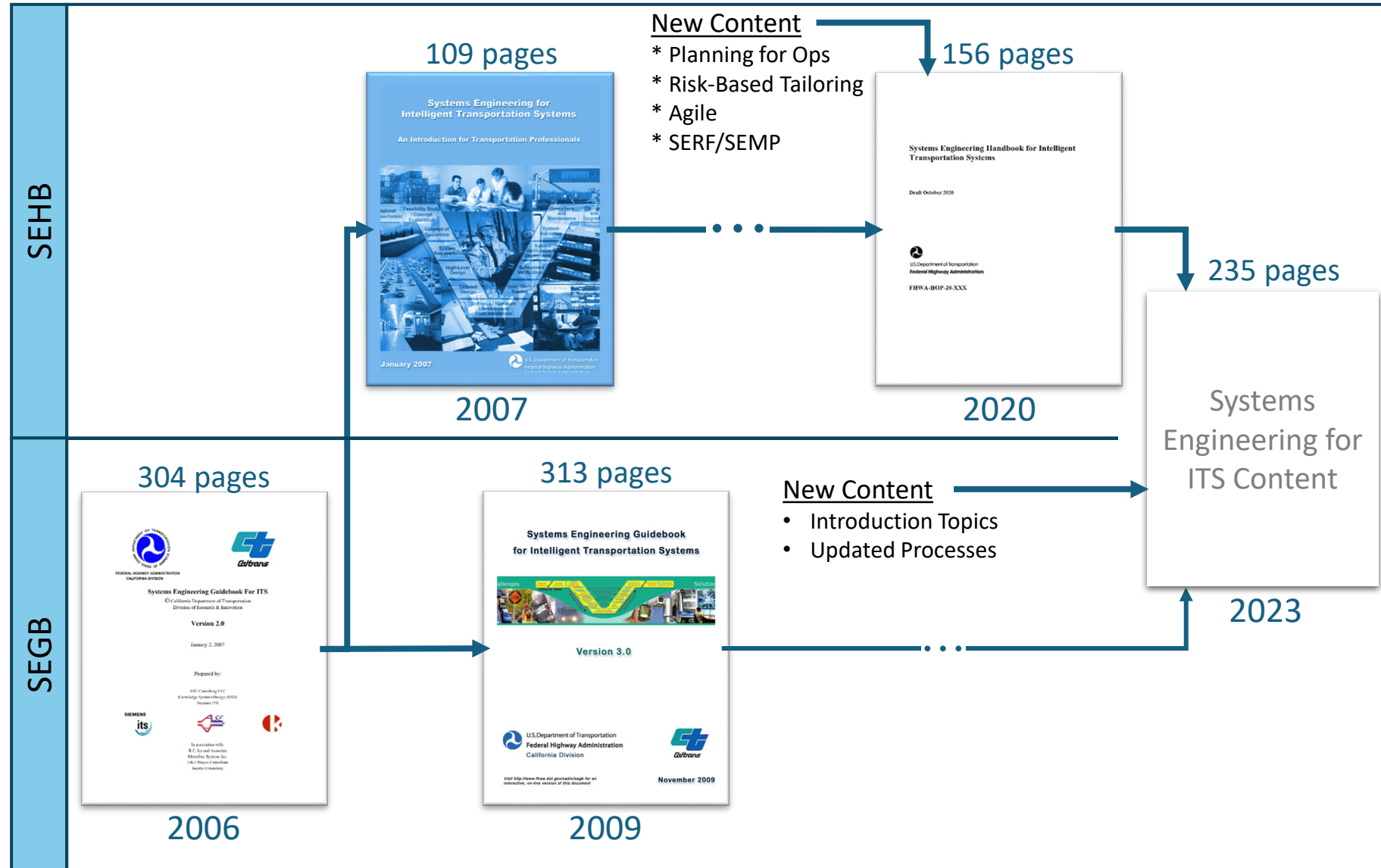
Topics for Today

- Project Overview
- Evolution
- Major Features of the SE for ITS Website
- Discussion – potential uses of the website
- Discussion – next steps to roll-out, expand conversation

Project Overview

- Project was initiated in 2021
- Task 1: Project Management
- Task 2: Systems Engineering Analysis
- Task 3: Website Tool Port and Assessment
- Task 4: Data Gathering and Stakeholder Interviews
- Task 5: Content Revision and Restructure
- Task 6: Web Tool Revision
- Task 7: Website Restructure
- Task 8: USDOT Website Hosting Coordination

SE for ITS Roadmap



Goals for Systems Engineering for ITS

- Help agencies use common, consistent and well-established tools and processes to:
 - Improve the quality of intelligent transportation systems
 - Reduce the risk of cost and schedule overruns
 - Gain participation of multiple agencies and a diverse set of stakeholders
 - Maintain consistency with regional ITS architectures
 - Provide flexibility in procurement options for agencies
 - Keep current with rapid evolution in technology and needs of transportation

Site Organization

Access to the Systems Engineering for ITS content is available through the following views:



[Introduction](#)



[Process](#)



[Deliverable](#)



[Examples](#)



[Document](#)



[PDF](#)

Plus:

- About page
- Resources
- Glossary
- Contact

Systems Engineering for ITS Website Walkthrough

<https://ops.fhwa.dot.gov/seits/>

U.S. Department of Transportation
Federal Highway Administration

About Programs Resources Briefing Room Contact

Search FHWA

Systems Engineering for ITS **SE ITS**

ABOUT VIEWS RESOURCES GLOSSARY CONTACT

Search SE for ITS Go

Systems Engineering for ITS

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- [Introduction](#)
- [Process](#)
- [Deliverable](#)
- [Examples](#)
- [Document](#)
- [PDF](#)

Privacy Policy | Freedom of Information Act (FOIA) | Accessibility | Web Policies & Notices | No Fear Act | Report Waste, Fraud and Abuse
U.S. DOT Home | FHWA Home | FHWA Operations Home
Federal Highway Administration | 1200 New Jersey Avenue, SE | Washington, DC 20590 | 202-366-4000

INTRODUCTION VIEW



If you are new to systems engineering, this is the place to start. Click the topics below to learn about basic concepts and get a gentle introduction to the systems engineering process. For more information, click the bottom two topics for systems engineering training resources and information about systems engineering regulations for Intelligent Transportation Systems. Within each introductory topic, you can click links to access more detailed information. You can also access [the same introductory content in PDF](#).

Introduction View

Place to Start

- Basic concepts
- Links to larger topics

<i>The Basics</i>	What is a System?	What is Systems Engineering (SE)?	Why Use SE?	When to Use SE?	Key SE Principles
<i>The Process</i>	High-Level SE Overview	Know Your Needs	Developing Requirements	Validation vs. Verification	
<i>Life Cycles</i>	SE Life Cycle Models	Traditional Vs. Vee Life Cycles	System Vs. Project Life Cycles		
<i>Management</i>	SERF, SEMP and PMP				
<i>For More Info</i>	SE Training				
	SE Regulations				

Process View

- Three high level entry points
 - Process Overview (including Life Cycle Approaches)
 - Selectable process steps
 - Dive into the details
 - Cross-cutting activities

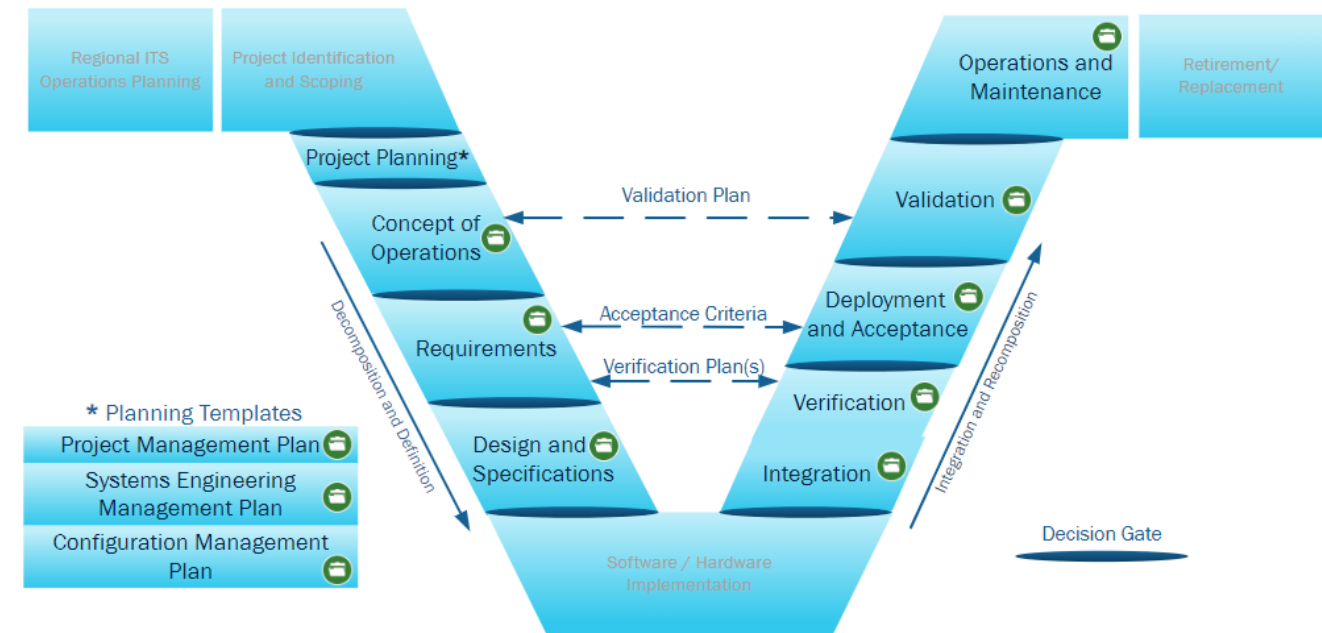


Deliverable View

- Templates for SE Deliverables
- Each Template has
 - Purpose
 - How to tailor
 - Checklist
 - Detailed outline

DELIVERABLE VIEW (TEMPLATES)

A system is only as good as its documentation. This view provides guidance on the preparation of some of the most commonly used systems engineering documents. Select a deliverable to view a discussion of the deliverable and a suggested template that explains each major part or section of the document.



Example View

- Library of Collected Examples
 - Organized by sections of documents
 - Complete documents or excerpts

EXAMPLE VIEW BY DELIVERABLE



[Click to Sort by Project](#)

Example systems engineering documents were collected from many different ITS projects to support development of this website. This view provides access to the collected examples, organized by deliverable. Note that these real world examples are not perfect, but you still may find them helpful. We are always looking for good examples, so please Contact Us if you or your agency may have additional examples to share.

[Show All](#)

Process Guidance (Complete documents)

Process Checklists (Complete documents)

Alternatives Analysis/Trade Study (Complete documents)

Requests for Proposal (Complete documents)

Project Management Plans (Project Scope Excerpts)

Project Management Plans (Risk Identification Excerpts)

Project Management Plans (Complete documents)

Systems Engineering Management Plans (Systems Engineering Processes Excerpts)

Systems Engineering Management Plans (Complete documents)

Configuration Management Plans (Configuration Management Excerpts)

Document View

Takes all the content and organizes by section

The screenshot shows the top of the SE ITS website. The header includes the logo "SE ITS" (Systems Engineering for ITS) and navigation links: ABOUT, VIEWS, RESOURCES, GLOSSARY, CONTACT. A search bar contains the text "Search SE for ITS" and a "Go" button. Below the header is a dark red banner with the text "DOCUMENT VIEW" and a document icon. The main content area has a white background with a paragraph: "This website was generated from a document. Document view provides access to all document sections in a expandable outline, including a few sections that are included in no other view." To the right of this paragraph is a "Show All" link. Below the paragraph is a list of document sections, each in a light red box: "1 Introduction", "2 What Is Systems Engineering?", "3 The Systems Engineering Process", "4 Managing SE Projects", "5 Systems Engineering Resources", "6 Systems Engineering Documentation", and "7 Glossary and Acronyms". Under section 4, there are five sub-sections listed as blue links: "4.1 Intro to the Agency Perspective", "4.2 Risk Evaluation", "4.3 Process Tailoring", "4.4 ITS Procurement", and "4.5 Agency Implementation of Systems Engineering Processes".

Systems Engineering for ITS **SE ITS** ABOUT VIEWS RESOURCES GLOSSARY CONTACT Go

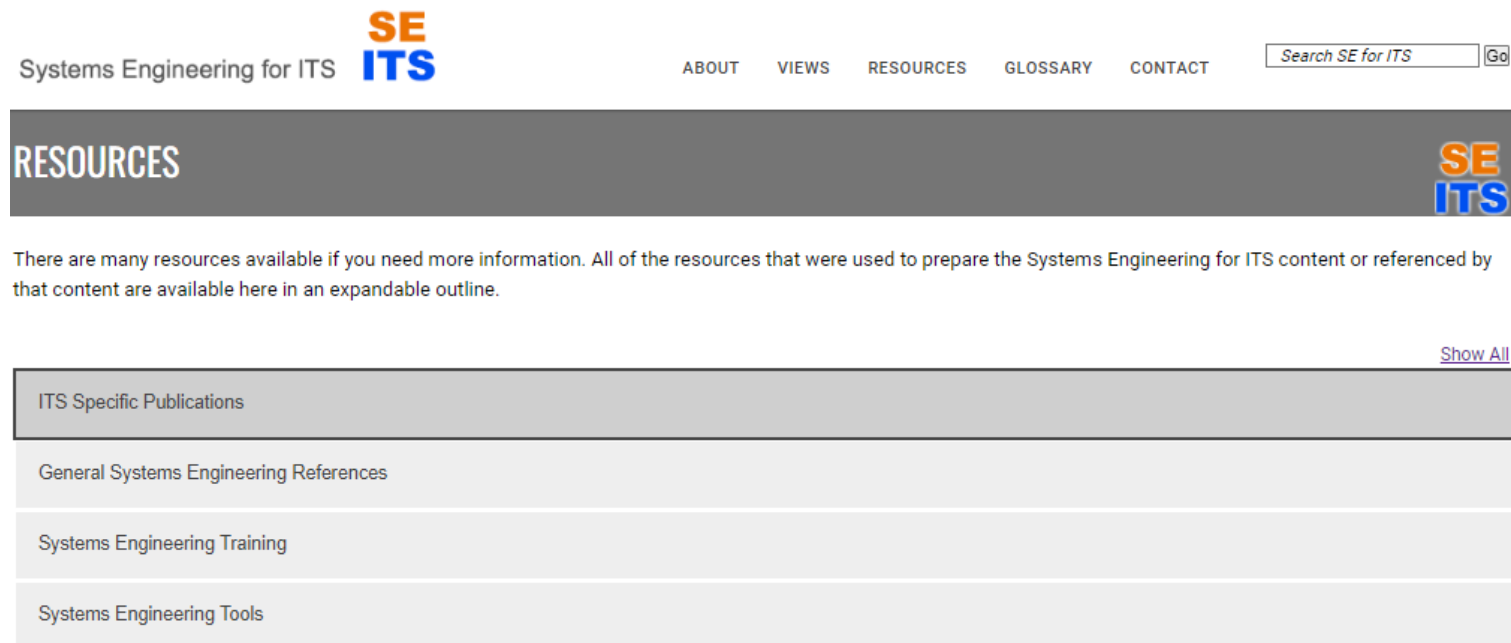
DOCUMENT VIEW

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 - [4.4 ITS Procurement](#)
 - [4.5 Agency Implementation of Systems Engineering Processes](#)
- 5 Systems Engineering Resources
- 6 Systems Engineering Documentation
- 7 Glossary and Acronyms

Resources Page

- ITS Specific Pubs
- General SE References
- SE Training
- SE Tools



The screenshot shows the 'Resources' page of the Systems Engineering for ITS website. At the top, there is a navigation bar with the text 'Systems Engineering for ITS' and the 'SE ITS' logo. To the right of the logo are links for 'ABOUT', 'VIEWS', 'RESOURCES', 'GLOSSARY', and 'CONTACT'. A search bar with the placeholder text 'Search SE for ITS' and a 'Go' button is also present. Below the navigation bar is a dark grey header with the word 'RESOURCES' in white and the 'SE ITS' logo on the right. The main content area contains a paragraph: 'There are many resources available if you need more information. All of the resources that were used to prepare the Systems Engineering for ITS content or referenced by that content are available here in an expandable outline.' Below this paragraph is a 'Show All' link. A list of resource categories is displayed in a light grey box with a thin border: 'ITS Specific Publications', 'General Systems Engineering References', 'Systems Engineering Training', and 'Systems Engineering Tools'.

Discussion

- Ways to Apply & Use SE for ITS Website
 - Help train new staff
 - Apply examples, templates for projects
 -
- Next Steps
 - Update links and pages referencing older resources
 - Socialize the website
 - Include in other training
 - Expand & Update – work with FHWA IT
 - Sunset the old CADIV SEGB website

Systems Engineering for ITS Website

For comments or questions about the Systems Engineering for ITS website,
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