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U.S. Department  
of Transportation

**Federal Transit  
Administration**

# COMPLIANCE GUIDELINES FOR STATES WITH NEW STARTS PROJECTS

U.S. Department of Transportation  
Research and Special Programs Administration  
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Cambridge, MA 02142-1093

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Final Report



**FTA OFFICE OF SAFETY AND SECURITY**

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13. ABSTRACT (Maximum 200 words)  The Federal Transit Administration’s (FTA) State Safety Oversight Rule (49 CFR Part 659) requires oversight for all rail transit agencies in revenue operation after January 1, 1997. States with “New Start” systems, funded through FTA’s discretionary New Starts program, must address 49 CFR Part 659 requirements with the initiation of New Start revenue service. The Rule also requires that submissions made to FTA for States with existing oversight programs must be updated to reflect major operational changes, which include extensions funded through the New Start program.  These requirements place a great deal of responsibility on States with New Start projects to make provisions for the amount of time it takes to develop a fully compliant oversight program. This document has been prepared to guide States through the process of developing a safety oversight program that meets FTA requirements and ensures effective oversight from the initiation of revenue service for new start projects. These guidelines also describe an approach for addressing safety and security during New Start planning, design and construction.					
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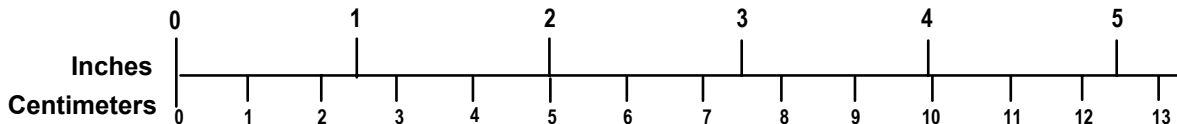
# METRIC/ENGLISH CONVERSION FACTORS

## ENGLISH TO METRIC

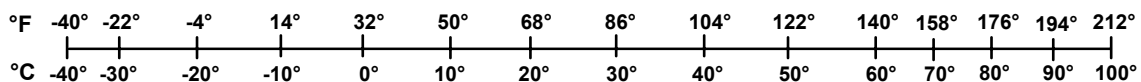
## METRIC TO ENGLISH

<p><b>LENGTH (APPROXIMATE)</b></p> <p>1 inch (in) = 2.5 centimeters (cm)</p> <p>1 foot (ft) = 30 centimeters (cm)</p> <p>1 yard (yd) = 0.9 meter (m)</p> <p>1 mile (mi) = 1.6 kilometers (km)</p>	<p><b>LENGTH (APPROXIMATE)</b></p> <p>1 millimeter (mm) = 0.04 inch (in)</p> <p>1 centimeter (cm) = 0.4 inch (in)</p> <p>1 meter (m) = 3.3 feet (ft)</p> <p>1 meter (m) = 1.1 yards (yd)</p> <p>1 kilometer (km) = 0.6 mile (mi)</p>
<p><b>AREA (APPROXIMATE)</b></p> <p>1 square inch (sq in, in<sup>2</sup>) = 6.5 square centimeters (cm<sup>2</sup>)</p> <p>1 square foot (sq ft, ft<sup>2</sup>) = 0.09 square meter (m<sup>2</sup>)</p> <p>1 square yard (sq yd, yd<sup>2</sup>) = 0.8 square meter (m<sup>2</sup>)</p> <p>1 square mile (sq mi, mi<sup>2</sup>) = 2.6 square kilometers (km<sup>2</sup>)</p> <p>1 acre = 0.4 hectare (he) = 4,000 square meters (m<sup>2</sup>)</p>	<p><b>AREA (APPROXIMATE)</b></p> <p>1 square centimeter (cm<sup>2</sup>) = 0.16 square inch (sq in, in<sup>2</sup>)</p> <p>1 square meter (m<sup>2</sup>) = 1.2 square yards (sq yd, yd<sup>2</sup>)</p> <p>1 square kilometer (km<sup>2</sup>) = 0.4 square mile (sq mi, mi<sup>2</sup>)</p> <p>10,000 square meters (m<sup>2</sup>) = 1 hectare (ha) = 2.5 acres</p>
<p><b>MASS - WEIGHT (APPROXIMATE)</b></p> <p>1 ounce (oz) = 28 grams (gm)</p> <p>1 pound (lb) = 0.45 kilogram (kg)</p> <p>1 short ton = 2,000 pounds (lb) = 0.9 tonne (t)</p>	<p><b>MASS - WEIGHT (APPROXIMATE)</b></p> <p>1 gram (gm) = 0.036 ounce (oz)</p> <p>1 kilogram (kg) = 2.2 pounds (lb)</p> <p>1 tonne (t) = 1,000 kilograms (kg) = 1.1 short tons</p>
<p><b>VOLUME (APPROXIMATE)</b></p> <p>1 teaspoon (tsp) = 5 milliliters (ml)</p> <p>1 tablespoon (tbsp) = 15 milliliters (ml)</p> <p>1 fluid ounce (fl oz) = 30 milliliters (ml)</p> <p>1 cup (c) = 0.24 liter (l)</p> <p>1 pint (pt) = 0.47 liter (l)</p> <p>1 quart (qt) = 0.96 liter (l)</p> <p>1 gallon (gal) = 3.8 liters (l)</p> <p>1 cubic foot (cu ft, ft<sup>3</sup>) = 0.03 cubic meter (m<sup>3</sup>)</p> <p>1 cubic yard (cu yd, yd<sup>3</sup>) = 0.76 cubic meter (m<sup>3</sup>)</p>	<p><b>VOLUME (APPROXIMATE)</b></p> <p>1 milliliter (ml) = 0.03 fluid ounce (fl oz)</p> <p>1 liter (l) = 2.1 pints (pt)</p> <p>1 liter (l) = 1.06 quarts (qt)</p> <p>1 liter (l) = 0.26 gallon (gal)</p> <p>1 cubic meter (m<sup>3</sup>) = 36 cubic feet (cu ft, ft<sup>3</sup>)</p> <p>1 cubic meter (m<sup>3</sup>) = 1.3 cubic yards (cu yd, yd<sup>3</sup>)</p>
<p><b>TEMPERATURE (EXACT)</b></p> <p><math>[(x-32)(5/9)]\text{ }^{\circ}\text{F} = y\text{ }^{\circ}\text{C}</math></p>	<p><b>TEMPERATURE (EXACT)</b></p> <p><math>[(9/5)y + 32]\text{ }^{\circ}\text{C} = x\text{ }^{\circ}\text{F}</math></p>

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# 1. Introduction

In response to congressional concern regarding the potential for catastrophic accidents and security incidents on rail transit systems, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) added Section 28 to the Federal Transit Act (codified at 49 U.S.C. Section 5330). This section required the Federal Transit Administration (FTA) to issue a rule creating the first state-managed oversight program for rail transit safety and security.

FTA published *Rail Fixed Guideway Systems: State Safety Oversight* on December 27, 1995 (codified at 49 CFR Part 659), subsequently referred to as the State Safety Oversight Rule or Part 659. This rule sets forth FTA's requirements to improve rail transit safety and security. Only those states with rail fixed guideway systems (RFGS) meeting the following definition must comply with FTA's State Safety Oversight Rule:

“Any light, heavy or rapid rail system, monorail, inclined plane, funicular, trolley, or automated guideway that is included in FTA's calculation of fixed guideway route miles or receives funding under FTA's formula program for urbanized areas and is not regulated by the Federal Railroad Administration (FRA).” (§659.5)

Safety requirements for 49 CFR Part 659 went into effect on January 1, 1997. Security requirements went into effect 1 year later. Since January 1997, 22 State Oversight Agencies have been designated to implement Part 659 requirements for 35 rail transit systems operating in 21 states and the District of Columbia (see Table 1 and Map for details). These Oversight Agencies were created to address safety and security requirements at RFGS providing revenue service as of January 1, 1997.

Ongoing expansion of rail service in the nation's major metropolitan areas has created considerable challenges for the State Safety Oversight Program. Six States without previous safety oversight programs will have New Starts initiating service in their jurisdictions between 2001 and 2006. New RFGS and expansion lines to existing RFGS are also being constructed in states with existing oversight programs, including California, Colorado, Florida, Georgia, Illinois, Massachusetts, New Jersey, New York, Ohio, Texas, and Washington.

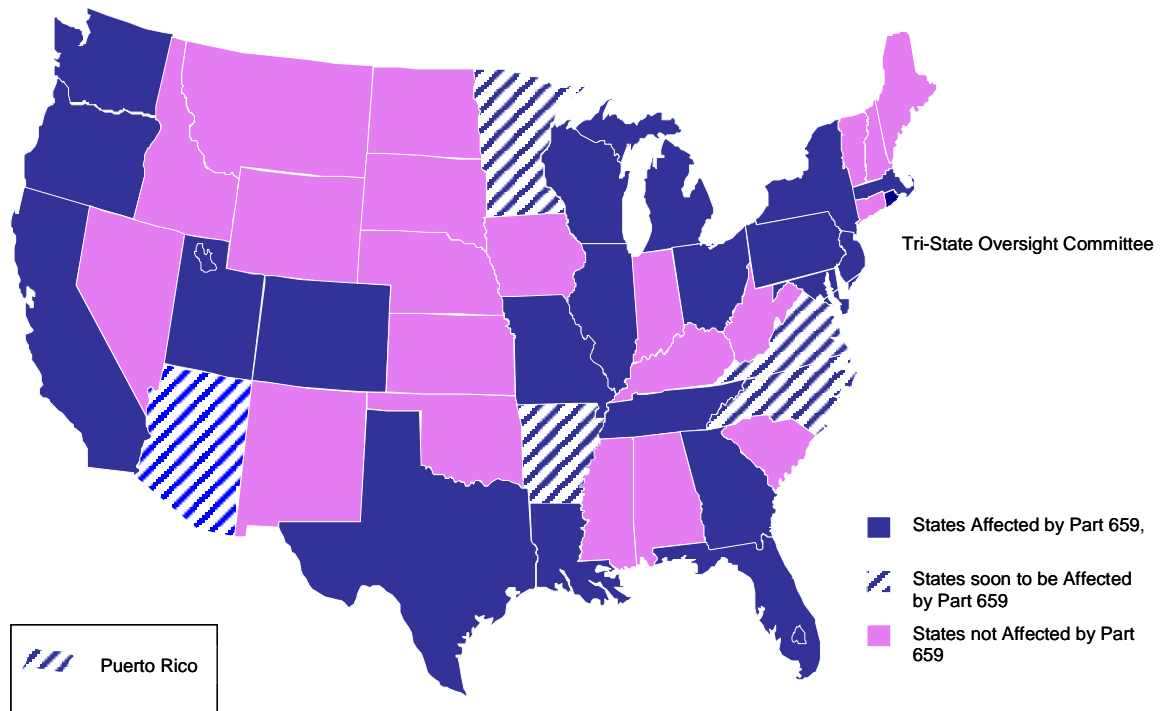
State	Project	Projected Revenue Service
Arizona	Central Phoenix-East Valley LRT	September 2006
Arkansas	River Rail Trolley	December 2001
Minnesota	Hiawatha Corridor Light Rail	March 2003
North Carolina	Triangle Transit Regional Rail	December 2004
Puerto Rico	Tren Urbano Heavy Rail	August 2002
Virginia	Norfolk-Virginia Beach LRT	June 2005

**Table 1. States and RFGS Affected by Part 659**

STATE	SOA	TRANSIT SYSTEM	RAPID RAIL	LIGHT RAIL	CABLE CAR	AUTO. GUIDEWAY	INCLINED PLANE
California	CPUC	BART	♦				
		LACMTA	♦	♦			
		Muni		♦	♦		
		SDTI		♦			
		SRTD		♦			
		SCVTA		♦			
Colorado	CPUC	RTD		♦			
D.C., Maryland & Virginia	TOC	WMATA	♦				
Florida	FDOT	JTA				♦	
		MDTA	♦			♦	
Georgia	GDOT	MARTA	♦				
Illinois	RTA	CTA	♦				
Louisiana	LDOTD	RTA		♦			
Maryland	MDOT	MTA	♦	♦			
Massachusetts	DTE	MBTA	♦	♦			
Michigan	CIS	DTC				♦	
Missouri, Illinois	DMCRS	BSDA		♦			
New Jersey	NJDOT	NCS/LR		♦			
		HBLRS		♦			
New Jersey, Pennsylvania	DRPA	PATCO	♦				
New York	PTSB	NFTA		♦			
		NYCT	♦				
Ohio	ODOT	GCRTA	♦	♦			
Oregon	ODOT	Tri-Met		♦			
Pennsylvania	Penn-DOT	CCTA					♦
		PAT		♦			♦
		SEPTA	♦	♦			
Tennessee	TDOT	CARTA					♦
		MATA		♦			
Texas	TxDOT	DART		♦			
		IT		♦			
Utah	UDOT	UTA		♦			
Washington	WDOT	KCT		♦			
		Monorail				♦	
Wisconsin	WisDOT	Kenosha		♦			



**Figure 1. Map of Affected States**



The State Safety Oversight Rule places special requirements on those States and localities receiving funding from FTA's discretionary New Start program. These *Compliance Guidelines for States with "New Start" Projects* have been prepared to guide States through the process of developing a safety oversight program that meets FTA requirements and ensures effective oversight from the initiation of revenue service for new start projects.

## 2. Background

FTA's discretionary New Starts program is the Federal government's primary financial resource for supporting rail fixed guideway capital investments. Projects eligible for New Starts funding include any fixed guideway system that utilizes and occupies a separate right-of-way, or rail line, or uses a fixed catenary system and a right-of-way usable by other forms of transportation, for the exclusive use of mass transportation. New Starts funding is available for the design, construction, and testing of new rail transit systems and extensions to existing systems. FTA, utilizing decision criteria defined in 49 U.S.C. 5309(e), selects those projects for funding which have demonstrated the greatest potential for improving urban mobility. New Starts systems must meet a variety of requirements in the preliminary engineering, final design, and construction phases to become fully operational. Traditionally, these requirements have focused on environmental, mobility, and financial obligations. However, with the passage of ISTEA, states with New Starts projects must now meet FTA's State Safety Oversight requirements.

To date, FTA's New Starts program has funded nearly 100 projects. The Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) has authorized \$8.44 billion in New Starts funding through fiscal year 2003. While the level of New Starts funding has never been higher, neither has the demand for these discretionary resources. TEA-21 authorized over 190 projects nationwide to compete for New Starts funding.

FTA's Rule requires State Safety Oversight for all RFGS in revenue operation after January 1, 1997. Therefore, states with New Starts systems must have a functional Oversight Program in place that is in full compliance with 49 CFR Part 659 requirements with the initiation of rail revenue service. The Rule also requires that submissions made to FTA for existing oversight programs must be updated to reflect major operational changes, which include extensions funded through the New Starts program.

These requirements place a great deal of responsibility on states with New Starts projects to make provisions for the amount of time it takes to develop a fully compliant program prior to the placement of the New Starts project into revenue service. FTA understands the effort involved with establishing a successful and compliant State Safety Oversight Program and had developed these guidelines to assist states with New Starts projects in meeting 49 CFR Part 659 requirements.

### 3. Rule Requirements

FTA's Final Rule for State Safety Oversight requires each state with an RFGS operating within its borders to designate an Oversight Agency with sufficient legal authority and technical capacity to comply with the minimum requirements established in Part 659. Specifying the exact details of how the Oversight Agency operates is beyond the scope of Part 659, and is left for each Oversight Agency to determine. FTA does not require a single approach to establishing the legal, financial, or procedural mechanisms used to provide oversight.

FTA's State Safety Oversight Program outlines *eight* distinct functions that must be performed for compliance:

- Oversight Agency Designation and Authority (§659.21)
- Oversight Agency Program Management (§659.47, §659.23, §659.31, and §659.45)
- System Safety/Security Program Standard Preparation and Adoption and RFGS System Safety/Security Program Plan Review and Approval Process (§659.31 and §659.33)
- Accident/Unacceptable Hazardous Conditions Investigations and Corrective Actions (§659.39, §659.41, and §659.43)
- Three-year Safety Reviews (§659.37)
- Requiring and Reviewing RFGS Internal Safety Audit Process Reporting (§659.35)
- Oversight Agency Certification and Reporting to FTA (§659.45 and §659.49).

The requirements are further subdivided as follows:

- The obligation of the *state* to designate the Oversight Agency.
- The authorities and responsibilities of the *Oversight Agency* in developing the requirements and programs necessary to comply with FTA's State Safety Oversight Program.
- The role of the *rail transit system* in complying with the program developed by the Oversight Agency.

#### 3.1 The State

The primary responsibility of the state is to designate an Oversight Agency (or Agencies) to oversee the safety of the rail transit systems operating within its borders. When the rail system operates within only a single state, that entity must be an agency of the state; when it operates in more than one state, the affected states may designate a single entity to oversee that system. In neither case may the state designate the rail transit system as the Oversight Agency.

### 3.2 The Oversight Agency

The designated State Oversight Agency is required by Part 659 to perform several distinct functions, as discussed below. These activities constitute the core of FTA's State Safety Oversight Rule. The Oversight Agency must:

- **Develop a System Safety Program Standard (Program Standard).** This written document defines the relationship between the Oversight Agency and the rail transit system and guides the rail transit system in developing its System Safety Program Plan (SSPP).
  - The Program Standard must, at a minimum, comply with the American Public Transit Association's Manual for the Development of Rail Transit System Safety Program Plans (APTA Manual) and include specific provisions addressing the personal security of passengers and employees.
- **Require, review and approve, and monitor the implementation of an SSPP and Security Plan that complies with the Oversight Agency's Program Standard at each rail transit system.** The Oversight Agency must review and approve, in writing, the rail transit system's SSPP. The Oversight Agency must also review and approve, in writing, the RFGS Security Plan, whether this document is part of the SSPP or a separate plan. After the initial approvals, the Oversight Agency must review and approve, as necessary, updates to the rail transit system's SSPP and Security Plan.
- **Require each rail transit system to report the occurrence of accidents and unacceptable hazardous conditions within a period of time specified by the Oversight Agency.** The Oversight Agency must investigate such events in accordance with established procedures. The Oversight Agency may conduct its own investigation, use a contractor to conduct an investigation, or review and approve the investigation conducted by the rail transit system or the National Transportation Safety Board (NTSB), or use a combination of these methods.
- **Require the rail transit system to implement a Corrective Action Plan.** The Oversight Agency must require the rail transit system to minimize, control, correct, or eliminate, hazardous conditions identified during investigations, in accordance with a Corrective Action Plan drafted by the rail transit system and approved by the Oversight Agency. The Oversight Agency must monitor implementation of Corrective Action Plans.
- **Conduct on-site visits at each rail transit system at a minimum of every 3 years to perform a formal Safety Review.** In a Safety Review, the Oversight Agency must assess whether the rail transit system's actual safety and security practices and procedures comply with its SSPP and Security

Plan. Once this Review is completed, the Oversight Agency must prepare a report containing its findings and recommendations, an analysis of the efficacy of the rail transit system's SSPP, and a determination of whether the SSPP should be updated.

- **Require the rail transit system to conduct safety audits according to the Internal Safety Audit Process detailed in the APTA Manual (Checklist Number 9).** In addition, the Oversight Agency must require the rail transit system to compile and submit an Annual Audit Report for review.
- **Report to FTA.** The Oversight Agency must submit three kinds of reports to FTA: an Initial Submission; an Annual Submission, and a Periodic Submission.

### 3.3 The Rail Transit System

While the requirements in Part 659 are directed at the states and the Oversight Agencies, the rail transit agencies play an important role in the State Safety Oversight Program.

To comply with Part 659, the Oversight Agency must require each rail transit system within its jurisdiction to perform the following activities (at a minimum):

- Develop an SSPP that complies with the Oversight Agency's Program Standard.
- Classify hazardous conditions according to the **APTA Manual Hazard Resolution Matrix.**
- Report, within the time frame specified by the Oversight Agency, any accident or unacceptable hazardous condition.
- Obtain the Oversight Agency's approval of a Corrective Action Plan and then implement the Plan so as to minimize, control, correct, or eliminate the particular unacceptable hazardous condition.
- Conduct safety audits that comply with the **Internal Safety Audit Process, APTA Manual (Checklist Number 9).**
- Draft and submit to the Oversight Agency a report summarizing the results of the safety audit process.

Figure 2 presents a graphical representation of FTA's State Safety Oversight Program.

# STATE SAFETY OVERSIGHT DEVELOPMENT PROCESS

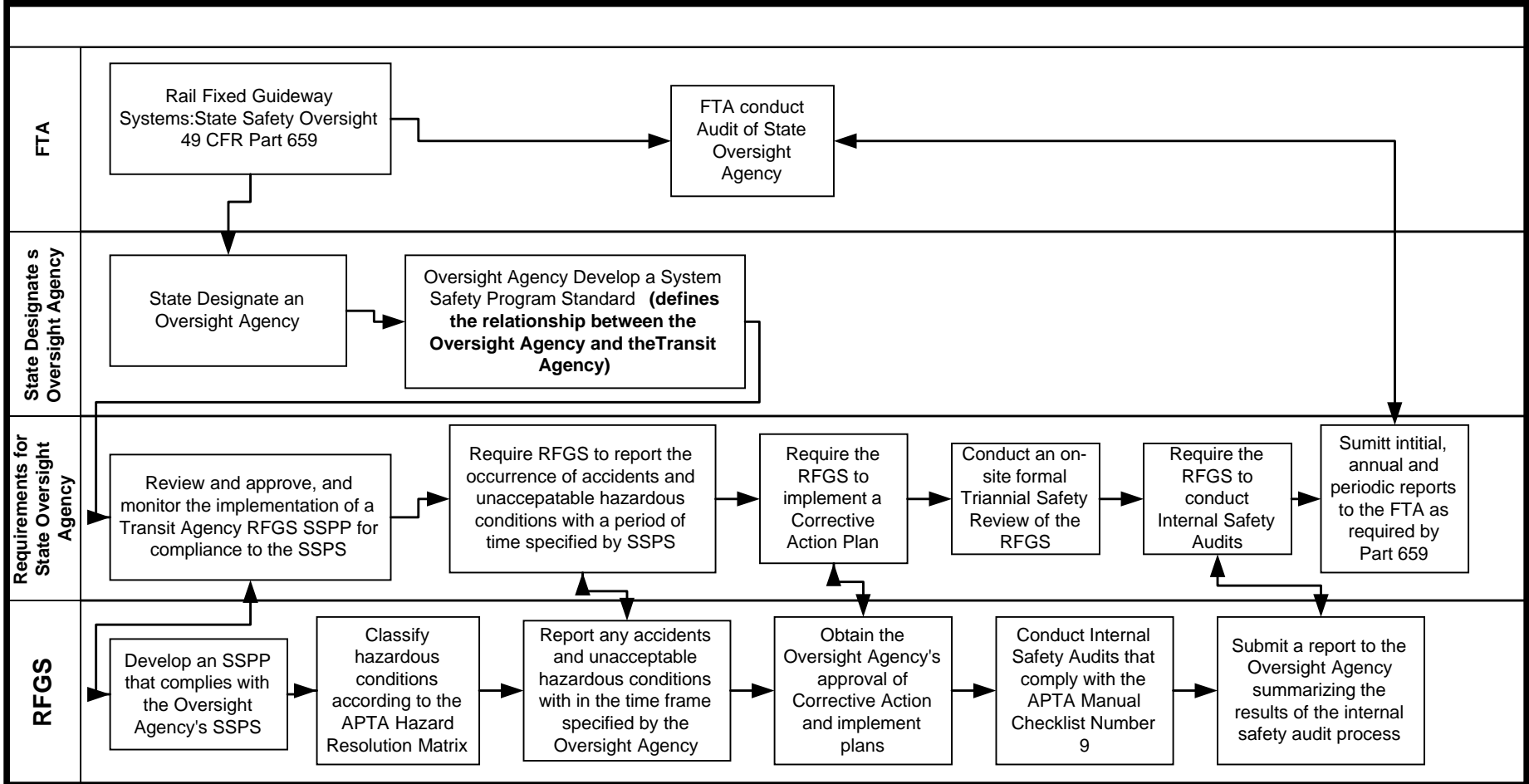


Figure 2. State Safety Oversight Program

## 4. New Starts States with No Existing Oversight Program

For New Starts states with no existing oversight program, each state must designate an Oversight Agency with sufficient authority to implement the Rule's minimum requirements. Prior to the initiation of New Starts revenue service, the newly designated Oversight Agency must make its Initial Submission to FTA.

Table 2 lists what each submission must include::

**Table 2. Initial Submission Items**

<b>Initial Submission Item</b>	<b>49 CFR Part 659 Reference</b>
Oversight Agency Name and Address	§659.45(a)(1)
RFGS Name and Address	§659.45(a)(2)
Certification of Compliance	§659.49
System Safety Program Standard	§659.45(a)(3)(i) and §659.31(a)(1)
System Safety Program Standard (Security Component)	§659.45(a)(3)(i) and §659.31(a)(2)
Oversight Agency Procedures	§659.45(a)(3)
<ul style="list-style-type: none"> <li>• Description of Program</li> </ul>	§659.45(a)(3)
<ul style="list-style-type: none"> <li>• Process for Reviewing and Approving RFGS SSPP</li> </ul>	§659.45(a)(3)(ii) and §659.33
<ul style="list-style-type: none"> <li>• Process for Investigating Accidents and</li> <li>• Unacceptable Hazardous Conditions</li> </ul>	§659.45(a)(3)(iii) and §659.39 and §659.41
<ul style="list-style-type: none"> <li>• Process for Ensuring the Correction, Elimination, Minimization, or Control of Investigated Hazardous Conditions</li> </ul>	§659.45(a)(3)(iv) and §659.43
Completed SSPP Review Checklist	§659.33
Completed Security Plan Review Checklist	§659.33

These submissions are required by 49 CFR Part 659 and must be received and approved by FTA with the initiation of New Starts revenue service. These submissions define the state's Oversight Program and must be implemented, as documented, by a State Safety Oversight Agency with sufficient authority to carry out the Rule's minimum requirements.

Each of these requirements is explained in greater detail in table 3.

**Table 3. FTA 49 CFR Part 659 Requirements for New Starts**

<b>Initial Submission</b>	<b>FTA Requirement</b>
<b>Oversight Agency Name and Address</b>	A certification submitted to FTA that identifies the state, the Oversight Agency Name and Department designated to implement Part 659 requirements, the Oversight Agency Contact person, and the Oversight Agency Address, including phone and fax numbers, and email (if applicable).
<b>RFGS Name and Address</b>	A certification submitted to FTA that identifies the RFGS in the Oversight Agency's jurisdiction, the RFGS Contact person, and the RFGS Address, including phone and fax numbers, and email (if applicable).
<b>Certification of Compliance</b>	A signed certification submitted to FTA identifying the Oversight Agency Representative and Title, the Oversight Agency Name, and providing statements that the Oversight Agency (1) has implemented 49 CFR Part 659 Requirements, (2) has no conflict of interest with the RFGS or its contractors, and (3) that the individual managing the Oversight Program has no personal conflict of interest with the RFGS or its contractors.
<b>System Safety Program Standard</b>	<p>A formally adopted System Safety Program Standard, that, at a minimum, meets the following requirements:</p> <ul style="list-style-type: none"> <li>➤ Identifies Oversight Agency and RFGS</li> <li>➤ Requires RFGS to Develop and Implement a System Safety Program Plan, Reviewed and Approved by the Oversight Agency</li> <li>➤ Describes Relationship between Oversight Agency and RFGS</li> <li>➤ References the <i>APTA Manual for the Development of Rail System Safety Program Plans</i> or Military Standard 882B, 882C, or 882D</li> <li>➤ Requires the RFGS to Implement the Hazard Analysis Process Specified in <i>APTA Manual, Checklist Number 7</i></li> <li>➤ Requires the RFGS to Implement the Internal Safety Audit Process Specified in <i>APTA Manual, Checklist Number 9</i></li> <li>➤ Includes Checklist Used by Oversight Agency to Evaluate RFGS SSPP</li> <li>➤ Requires RFGS to Address all 23 Items Specified in the APTA Manual</li> </ul>
<b>System Safety Program Standard (Security Component)</b>	<p>A formally adopted System Security Program Standard, that, at a minimum, meets the following requirements:</p> <ul style="list-style-type: none"> <li>➤ Requires RFGS to Address the Personal Security of Passengers and Employees</li> <li>➤ Requires RFGS to Develop and Implement a System Security Program Plan, Reviewed and Approved by Oversight Agency</li> <li>➤ Describes Relationship between Oversight Agency and RFGS</li> <li>➤ References FTA's <i>Transit System Security Program Planning Guide and Transit Security Procedures*</i></li> <li>➤ Includes Checklist Used by Oversight Agency to Evaluate RFGS SSPP</li> <li>➤ Includes State Authority to Prohibit the Public Release of the RFGS System Security Program Plan*</li> </ul> <p><i>*Indicates activity referenced, and not required, by 49 CFR Part 659.</i></p>



**Table 3. FTA 49 CFR Part 659 Requirements for New Starts (cont.)**

<b>Initial Submission</b>	<b>FTA Requirement</b>
<b><i>Oversight Agency Procedures</i></b>	<p>A formal set of procedures that describe how the Oversight Agency will conduct its program. These procedures must outline following required activities:</p> <ul style="list-style-type: none"> <li>➤ Describe Oversight Agency and RFGS Roles and Responsibilities for Implementing 49 CFR Part 659 Requirements</li> <li>➤ Document Program Authority</li> <li>➤ Specify Definitions and Terms of Oversight</li> <li>➤ Specify Process for the Requiring, Review, and Approval of RFGS System Safety Program Plan</li> <li>➤ Specify Process for the Requiring, Review, and Approval of RFGS System Security Program Plan</li> <li>➤ Specify Process for the Requiring, Review, and Approval of System Safety Program Plan Updates</li> <li>➤ Specify Process for the Requiring, Review, and Approval of System Security Program Plan Updates</li> <li>➤ Specify Process for the Notification of Accidents Meeting 49 CFR Part 659 Requirements</li> <li>➤ Specify Process for the Investigation of Accidents Meeting 49 CFR Part 659 Requirements</li> <li>➤ Specify Process for the Notification of Unacceptable Hazardous Conditions Meeting 49 CFR Part 659 Requirements</li> <li>➤ Specify Process for the Investigation of Unacceptable Hazardous Conditions Meeting 49 CFR Part 659 Requirements</li> <li>➤ Specify Process for Ensuring the Correction, Minimization, Elimination, or Control of Investigated Hazardous Conditions</li> <li>➤ Specify Process for the Formal Review and Approval of RFGS Accident/Unacceptable Hazardous Condition Investigation Procedures</li> <li>➤ Specify Process for the Formal Review and Approval of RFGS Corrective Action Plans</li> <li>➤ Specify Process for the Conduct of Three-year Safety Reviews</li> <li>➤ Require RFGS to Perform Hazard Identification and Resolution Process Specified in APTA Manual, Checklist Number 7</li> <li>➤ Require RFGS to Perform Internal Safety Audit Process Specified in APTA Manual, Checklist Number 9</li> <li>➤ Require RFGS to Submit Annual Report Documenting RFGS Internal Safety Audit and Other Safety Activities</li> <li>➤ Specify Oversight Agency Reporting to FTA</li> </ul>

**Table 3. FTA 49 CFR Part 659 Requirements for New Starts (cont.)**

<b>Initial Submission</b>	<b>FTA Requirement</b>
<p><b>Completed SSPP Review Checklist</b></p>	<p>A formal checklist documenting the Oversight Agency’s review and approval of the RFGS SSPP, including the following components:</p> <ul style="list-style-type: none"> <li>➤ Referenced System Safety Program Plan Title, Revision Number, and Date</li> <li>➤ Name of State Reviewer(s) and Date of Review</li> <li>➤ Formal Approval Signature by State Official</li> <li>➤ Date of Its Transmittal to the RFGS</li> <li>➤ Specifies Date of Resubmission (If Initial Submission Is Not Approved)</li> <li>➤ Summary Sheet</li> <li>➤ Addresses All Program Standard Requirements</li> <li>➤ References System Safety Program Plan Page/Section Numbers for All Program Standard Requirements</li> <li>➤ “Comments” for Program Standard Requirements</li> <li>➤ Formally Approval of RFGS System Safety Program Plan</li> </ul>
<p><b>Completed Security Plan Review Checklist</b></p>	<p>A formal checklist documenting the Oversight Agency’s review and approval of the RFGS Security Plan, including the following components:</p> <ul style="list-style-type: none"> <li>➤ Referenced System Security Program Plan Title</li> <li>➤ System Security Program Plan Revision Number</li> <li>➤ System Security Program Plan Date</li> <li>➤ Name of State Reviewer(s)</li> <li>➤ Date of State Review</li> <li>➤ Formal Approval Signature by State Official</li> <li>➤ Date of Its Transmittal to the RFGS</li> <li>➤ Specifies Date of Resubmission (If Initial Submission Is Not Approved)</li> <li>➤ Summary Sheet</li> <li>➤ Addresses All Security Program Standard Requirements</li> <li>➤ References System Security Program Plan Page/Section Numbers for All Program Standard Requirements</li> <li>➤ “Comments” for Program Standard Requirements</li> <li>➤ Formally Approval of RFGS System Security Program Plan</li> </ul>

FTA’s “Implementation Guidelines for State Safety Oversight of Rail Fixed Guideway Systems” provides assistance for states meeting these minimum requirements. Additional information can be obtained from FTA’s web site (<http://transit-safety.volpe.dot.gov>) or the Office of Safety and Security.

ccc

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 Federal Transit Administration  
 Office of Safety and Security  
 400 Seventh Street, SW  
 Washington, DC 20590  
 Phone: 202-366-0197  
 Fax: (202) 366-7951  
 Email: [roy.field@fta.dot.gov](mailto:roy.field@fta.dot.gov)

## 5. FRA Petition for Waiver Process for New Starts

For light rail transit operations initiating revenue operations on the general railroad system, additional requirements may be imposed on the operator by the Federal Railroad Administration (FRA) as specified in that agency's joint policy with FTA. FRA may grant a petition for waiver of some of its safety rules subject to the following conditions:

- ◆ FRA is in receipt of documentation indicating that the state has implemented an approved State Safety Oversight Program, which fulfills the minimum requirements of Part 659.
- ◆ The petition satisfactorily addresses the safety concerns that underlie the FRA rules from which waiver is sought. For example:

Requirements for accident and incident reporting to both FRA and the State Safety Oversight Agency are satisfactorily resolved through appropriate procedures.

Hours of Service record keeping and reporting issues are satisfactorily resolved.

Additional operational practices, including communication and coordination with affected freight operator(s), the use of flaggers at crossings, recording keeping, equipment requirements, and emergency features, are successfully developed to address FRA concerns and the intent of FRA regulation 49 CFR Part 211.

Additional information on the waiver process can be obtained from the following sources:

Grady C. Cothen, Jr.  
Chairman, Railroad Safety Board  
Federal Railroad Administration, RCC-10  
RRS-3, Mail Stop 25  
1120 Vermont Avenue, N.W.  
Washington, D.C. 20590  
Telephone: (202) 493-6029

Jerry A. Fisher  
Member, Railroad Safety Board  
Federal Transit Administration  
TPM-30, Room 9305F  
400 Seventh Street, S.W.  
Washington, D.C. 20590  
Telephone: (202) 366-2896

## 6. State Oversight Issues: Recommended Process

The biggest issue confronting the New Starts state with no existing Oversight Agency is when, during the New Starts planning, design, construction, and testing process, to designate the Oversight Agency, to issue the Program Standard, and to require, review and approve the SSPP and Security Plan.

An additional issue to be resolved is how involved the Oversight Agency should be in the planning, design, construction, and testing process. For example, should the Oversight Agency require safety certification prior to revenue service? Should the Oversight Agency attend quarterly Project Management Oversight (PMO) meetings? Should the Oversight Agency perform a pre-revenue review of the New Starts to assess compliance with the SSPP and Security Plan? For those light rail New Starts projects relying on the shared use of the National Railroad System, additional safety oversight activities may be required by FRA to grant the waiver allowing the New Starts to operate revenue service over FRA-regulated tracks. How should these activities be integrated into the oversight process?

This section of the *Compliance Guidelines for States with "New Starts" Projects* outlines FTA's recommended process for Oversight Agency designation and program development in a state with no existing Oversight Agency. These recommendations are not required by 49 CFR Part 659 but provide a logical and effective process for ensuring that required submissions are made to FTA prior to the initiation of New Starts revenue service. Additional activities discussed in this section, such as safety certification and participation in the PMO process, are not required by 49 CFR Part 659, but serve to greatly enhance the Oversight Agency's contribution to the safety of RFGS.

As indicated in Figure 3, the first point in New Starts capital investment process that requires FTA decision making is the approval granted by FTA for the capital investment project to enter preliminary engineering. Consistent with 49 U.S.C. 5309(e)(6) and 5328(a)(2), FTA will approve entry of a proposed project into preliminary engineering based on prescribed evaluation criteria. Additional factors "relevant to local and national priorities and relevant to the success for the project" also support this evaluation. It is possible that the designation of an Oversight Agency could influence this evaluation as an "additional factor."

An Oversight Agency designated at this point could develop safety certification requirements in its Program Standard and participate actively in the planning and design of the system. While there is some risk that a project approved for preliminary engineering may not be selected to proceed to final design or may not receive a full funding grant agreement (FFGA), FTA believes that the benefits of safety oversight during this period outweigh the possibility that a bureaucracy will be created for a project that will never be constructed. Further, it may be possible for FTA, state, or local resources to provide funding to support oversight

activities during this phase, reducing the burden required to implement safety oversight. For these reasons, FTA recommends that the Oversight Agency be designated as early in the New Starts process as possible – by preliminary engineering at the latest.

As depicted in Figure 3, FTA must also perform an evaluation to approve the New Starts project for final design. Consistent with 49 U.S.C. 5309(e)(6) and 5328(a)(2), FTA will approve entry of a proposed project into final design based on prescribed evaluation criteria. As is the case with approval for the preliminary engineering phase, FTA could specify the designation of an Oversight Agency as an “additional factor” in this evaluation process. However, FTA believes that this phase may be too late in the process to receive the full benefits of oversight agency involvement in New Starts planning and design.

Figure 4 presents FTA’s recommended timeline for the designation of an Oversight Agency and the development of an oversight program in New Starts states with no existing programs. Activities identified and recommended in this Figure are discussed on the following pages, organized according to their chronological performance in the New Starts project development process:

- Initiation of New Starts Project
- New Starts Preliminary Engineering
- New Starts Final Design
- New Starts Safety Certification in Preliminary Engineering and Final Design
- Pre-Revenue Safety Review

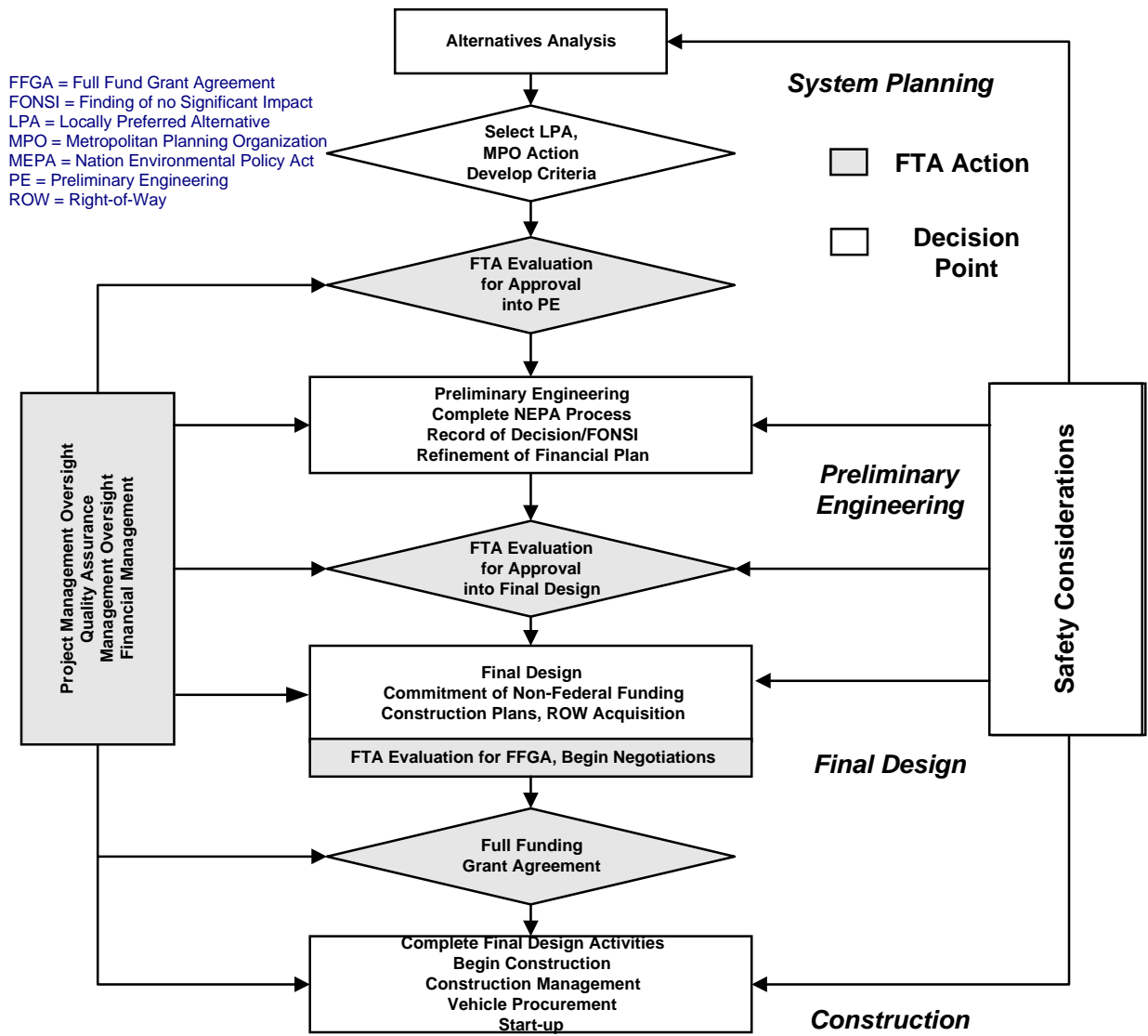
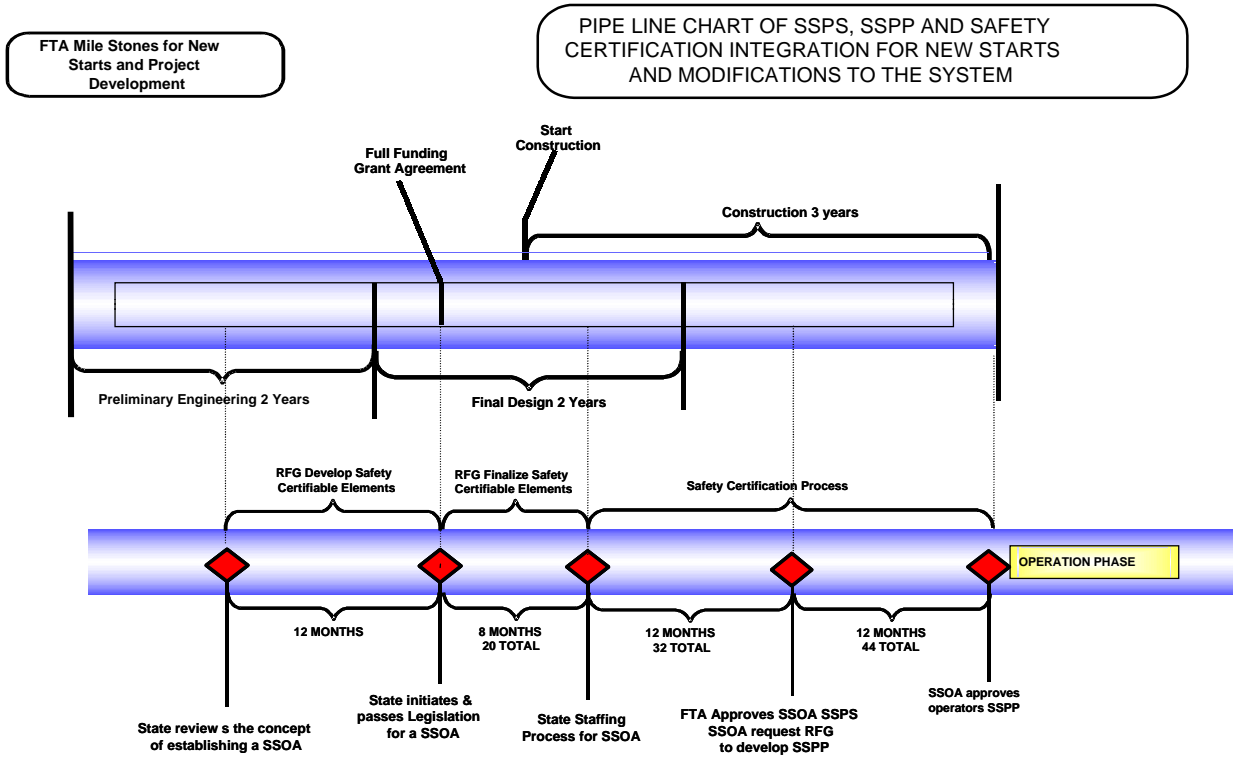


Figure 3. FTA New Starts Planning and Project Development Process



**Figure 4. Pipe Line Chart of SSPS, SSPP, and Safety Certification Integration for New Starts and Modifications to the System**

## **6.1 Initiation of the New Starts Project**

New Starts projects, like all transportation investments in metropolitan areas, must emerge from a regional multimodal transportation planning process in order to be eligible for Federal funding. In addition, 49 U.S.C. 5309(e)(1) specifies that discretionary grants or loans for New Starts may be approved only if a proposed project is based on the results of alternatives analysis and preliminary engineering, and that certain project justification and financial criteria have been met. Local officials must perform a corridor-level analysis of mode and alignment alternatives. This alternatives analysis will provide information on the benefits, costs, and impacts of alternative strategies, leading to the selection of a locally-preferred solution to the community's mobility needs. Alternatives analysis is the key planning tool, supplemented by subsequent project development analyses, for determining appropriate solutions to transportation issues.

Federal financial support for the planning process is derived from a number of sources, including the Metropolitan Planning Program under 49 U.S.C. 5303, the State National Planning and Research Program under 49 U.S.C. 5313, and planning programs administered by the Federal Highway Administration. FTA Urbanized Area Formula funds under 49 U.S.C. 5307 and flexible funds under the Surface Transportation Program (STP) and the Congestion Mitigation and Air Quality (CMAQ) Program may also be used to support certain planning activities. Given the significant demands placed on the New Starts program, FTA does not support the use of 49 U.S.C. 5309 funds for initial planning activities. Moreover, as amended by TEA-21, 49 U.S.C. 5309(m)(2) limits the amount of New Starts funding that can be used for purposes other than final design and construction to not more than 8 percent of funds appropriated. In evaluating the local financial commitment to a proposed project, FTA will therefore consider the degree to which initial planning activities are conducted without funding from Section 5309.

## **6.2 New Starts Preliminary Engineering**

When the sponsoring agency for a New Starts project desires to initiate the preliminary engineering phase of project development, it must submit a request to the FTA regional office. The request must provide information on the metropolitan and/or statewide plan that identifies the project, including the adoption of the project into the metropolitan transportation plan and the programming of the preliminary engineering study in the Transportation Improvement Plan (TIP). The request must also address the project justification and local financial commitment criteria specified by FTA. FTA will then evaluate the proposed project as required by 49 U.S.C. 5309(e)(6) and determine whether or not to advance the project into preliminary engineering. FTA approval to initiate preliminary engineering is not a commitment to fund final design or construction.



During the preliminary engineering phase, local project sponsors refine the design of the proposal, taking into consideration all reasonable design alternatives. The process results in estimates of project costs, benefits and impacts in which there is a higher degree of confidence. In addition, NEPA requirements are completed (for New Starts, this will normally entail the completion of an environmental impact statement), project management concepts are finalized, and any required funding sources are put in place. Information on project justification and the degree of local financial commitment will be continually updated and reported as appropriate. As part of their preliminary engineering activities, localities are encouraged to consider policies and actions designed to enhance the benefits of the project and its financial feasibility.

With regard to rail projects that will be subjected to Federal Railroad (FRA) safety jurisdiction, FTA will notify FRA of pending New Starts because important decisions impacting rail safety should be made early in the planning and grant development process. FRA will forward any recommendations it has to FTA, which will forward them to the project sponsor.

A comprehensive preliminary engineering effort should address the evaluation criteria described in this rule. Preliminary engineering is typically financed with 49 U.S.C. 5303 and 5307 funds, local revenues, and flexible funds under the STP and CMAQ programs.

Project sponsors should ensure that safety considerations are weighed during the preliminary engineering phase. It is during this phase that New Starts safety issues typically are first addressed. Therefore, as part of this existing process, FTA recommends that states initiate their oversight programs. Such initiation may include the following steps:

1. Official State Recognition of Need to Comply with 49 CFR Part 659 Requirements
  - FTA Notification of New Starts and state
  - Review and approval of Program Management Plan (PMP)
  - Requirements that Operator Must Obtain FTA Approval before Entering Final Design Phase
  - State Participation in Major Investment Study Process
  - State Participation in Quarterly FTA/PMO Management Meetings
2. State Determination of Requirements for Oversight Agency Authority and Activity
3. Determination of Appropriate State Agency to Assume Oversight Responsibility

- Evaluation of Existing State Authority to Implement Part 659 Requirements (Need for Additional Authority)
4. Implementation of Formal Enabling Legislation
  5. Official Designation of Oversight Agency by State
  6. Designation of Oversight Agency Personnel and Staff to Manage Safety Oversight Activities during Planning, Design, Construction and Testing
  7. Development and Transmission of Safety Certification Requirements to the New Starts System

### **6.3 New Starts Final Design**

Final design is the last phase of project development, and includes right-of-way acquisition, utility relocation, and the preparation of final construction plans (including construction management plans), detailed specifications, construction cost estimates, and bid documents. The final design stage cannot be initiated until environmental requirements have been satisfied, as evidenced by a Record of Decision (ROD) or a Finding of No Significant Impact (FONSI). Consistent with 49 U.S.C. 5309(e)(6), FTA will approve entry into final design based on the results of the project evaluation process. Final design is typically eligible for 49 U.S.C. 5309 New Starts funds.

During the end of final design and the initiation of construction, FTA recommends that the New Starts state complete the oversight process:

1. Develop Oversight Agency organization for revenue operations
  - FTA and grantee negotiate a construction grant contract (Full Funding Grant Agreement - FFGA)
2. Develop Oversight Agency Internal Policies and Procedures
3. Make Initial Submission to FTA
4. Initiate Revenue Operation Oversight Activities

## 6.4 New Starts Safety Certification in Preliminary Engineering and Final Design

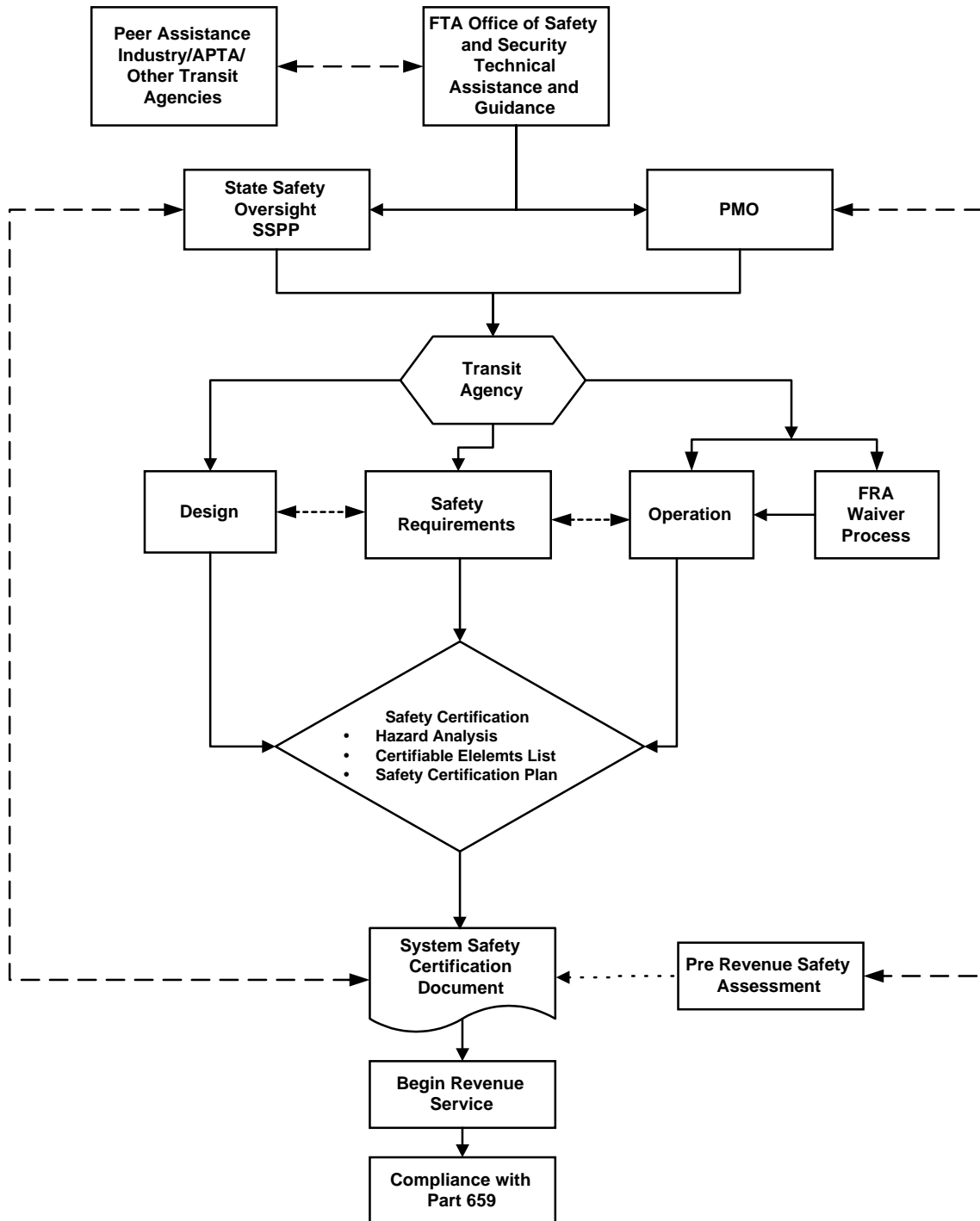
At the time of the original rule, FTA limited the scope of Part 659 requirements to transit agency operations. However, since the rule's inception, FTA has actively encouraged Oversight Agencies to address safety during all pre-revenue phases. Including safety in the rail transit planning, design and construction process is the most effective method for identifying and resolving hazards and ensuring the compliance of design and construction with pre-established safety requirements.

Incorporating safety during the planning, design and construction phases is traditionally accomplished through the safety certification process. The goal of this process is to certify that all practical steps have been taken to optimize the operational safety of the rail system, modification, or extension before, during, and after construction, prior to the initiation of revenue service. FTA believes that incorporating this process into the oversight agency program standard will ensure that a higher level of safety is designed into new transit systems and extensions to existing transit agency operations.

The safety certification process recommended by FTA on depicted in Figure 5. This process has five steps:

<b>Recommended Safety Certification Process</b>		
<b>Step</b>	<b>Objective</b>	<b>Oversight Agency Activity</b>
1	Specify Safety Requirements to guide planning, design and construction	Issue a Pre-Revenue Service Program Standard that requires the RFGS to prepare and submit a list of all criteria, standards, codes, and recommended guidelines that should be used to guide the planning, design and construction of the New Starts Project
2	Performance of Hazard Analysis during all New Starts project development phases	The Pre-Revenue Service Program Standard should require that hazard analysis be performed during all New Starts Project development phases, appropriate to the complexity of the design and as specified in the agency's Safety Requirements
3	Identification of "Safety Critical Elements"	The Pre-Revenue Service Program Standard should require the identification, documentation and submission of all "safety-critical elements"
4	Development of Safety Certification Plan	The Pre-Revenue Service Program Standard should require that the transit agency specify a process for ensuring that safety-critical elements are appropriately planned, designed, constructed and tested in a formal Safety Certification Plan.
5	Safety Certification verifying that the New Starts is safe for passengers, employees, emergency responders and the general public.	The Pre-Revenue Program Standard should require that the rail transit agency submit to the Oversight Agency a formal safety certification for the New Starts Project, supported by appropriate documentation verifying the implementation of the Safety Certification Plan.

Each of these steps is discussed below.



**Figure 5. Safety Certification Process and PMO Assistance**

**Step 1.** First, the Oversight Agency must require the transit agency to specify safety requirements to direct the inclusion of safety in all planning, design, and construction activities for the new system. These requirements should include a statement of safety standards, specified by the transit agency, which must be met for any design accepted by the agency. This statement is often a clear,

comprehensive listing of major criteria that must be incorporated into any design or engineering design process developed by, or on behalf of, the transit agency. It often includes technical specifications for contracts, transit agency design and performance criteria, specific safety studies and hazard analyses that must be performed during the design process, and all applicable codes, standards, and regulations with which the new system must comply. The Oversight Agency should participate in the PMO process and monitor the inclusion of these safety requirements in the preliminary engineering and design process.

**Step 2.** Next, the Oversight Agency should require that the transit agency perform (or cause to be performed on its behalf), a hazard analysis. This analysis should be appropriate to the level of detail in the corresponding planning, design, and construction phases, as specified in the safety requirements (i.e., preliminary hazard analysis, subsystem hazard analysis, system hazard analysis, failure modes and effects analysis, fault tree analysis, etc.). Results from this analysis should be summarized in logs or checklists and tracked for resolution in the final design and construction. Again, the Oversight Agency should participate in the PMO process and monitor the inclusion of hazard analysis results in the preliminary engineering and design process.

**Step 3.** Based on both the transit agency safety requirements and the results of hazard analysis, the Oversight Agency should next require the transit agency to identify those elements that are critical to the safety of the new operation. These elements are usually documented in a “certifiable items list” or a “safety critical elements” list. While this process can vary depending on the scope of New Starts operations, elements critical to safety are usually defined as those items and processes whose proper recognition, control, performance, or tolerance is essential to safe system operation. Safety-criticality of each element is established through inductive and deductive hazard analysis, as defined by each transit agency’s safety requirements. The Safety Unit of each transit agency is generally responsible for performing the hazard analysis, or for causing such an analysis to be performed. The Oversight Agency should request this list and monitor its inclusion in the general design process.

**Step 4.** Next, the Oversight Agency should require that the transit agency develop a “safety certification plan.” The objective of this plan is to ensure that elements critical to safety are designed and constructed in compliance with agency safety requirements and the results of hazard analysis. This plan generally includes the tests, inspections, demonstrations, and other verification methods required to determine the compliance of all elements critical to safety with agency requirements, as well as agency procedures regarding the documentation of verification results and issuing of permits and certificates. The safety certification plan is generally prepared well in advance of the prerevenue testing phase during which it is actually implemented. The Oversight Agency should conduct a formal review and approval of the Safety Certification Plan.

**Step 5.** Finally, the Oversight Agency should require the transit agency to issue formal documentation, compiled according to the Safety Certification Plan, attesting to the safety of the New Starts. This documentation can include the issuance of a report, checklist, resolution, or other document, formally approved by the transit agency, stating that all elements critical to safety have been tested and that their compliance with transit agency safety requirements (and the results of hazard analysis) has been verified. Verification of elements critical to safety is generally tracked in checklists, forms, tables, and logs to ensure comprehensive coverage of all identified elements. Verification activities and subsequent documentation and certification cover both equipment and procedures. The Oversight Agency should formally review and approve this certification prior to the initiation of New Starts revenue service.

Using this process, New Starts will produce formal documentation that ensures, at the time of operation, that a particular system or system component is safe for passengers, employees, emergency responders, and the general public. Safety certification provides overall risk reduction by systematically addressing hazards prior to revenue service. FTA recommends that the safety certification process should be completed at least one month before New Starts is placed into revenue service.

The safety certification process should also outline the New Starts' approach for the development and implementation of corrective actions to address open items resulting from failures during design, construction and pre-revenue testing. Pre-established procedures for contract change orders, emergency procurements, and "work arounds" to address safety critical elements can save time and money as the system or subsystem approaches deadlines for revenue service.

## **6.5 Pre-Revenue Safety Review**

As part of its State Safety Oversight activities, the Oversight Agency may conduct a Pre-Revenue Safety Review of safety-critical elements and activities relating to the New Starts project. This Review is not a formal safety certification process (as this activity is being conducted by the New Starts agency), but rather an on-site evaluation focused on the New Starts' readiness for revenue service, including:

- An assessment of the New Starts' implementation of its safety certification process
- An independent review of the New Starts' planned operating and maintenance practices and procedures
- An evaluation of the New Starts' planned emergency operations and security practices.

The on-site review may consist of the following activities:

- Interviews and discussions with New Starts staff and contractors
- Review of procedures, checklists, databases, and other documentation
- Physical inspection of equipment and facilities

## **6.6 New Starts and Existing Oversight Agencies**

Oversight Agencies with existing programs must update their submissions and certification to FTA prior to the initiation of revenue service on a extension or modification funded through the New Starts program. This may involve no more than updating the RFGS Name and Address and the Annual Certification submitted to FTA, or it may require substantial revisions to the Oversight Agency Program Standard and subsequent activity to review and approve revised RFGS SSPPs and Security Plans.

FTA also recommends that the Oversight Agency require a safety certification process, similar to one the described above for New Starts systems, to guide the planning, design, construction, and testing of extension, modifications, or other projects funded through FTA's New Starts program. Safety certification is essential for transit agencies planning major modifications and extensions. The safety certification process for modifications and extensions may not need to be as detailed as the process specified for New Starts. However, incorporation of a standard safety certification process for all rail transit planning, design and construction activities offers benefits for oversight agency program management.