U.S. DEPARTMENT OF TRANSPORTATION

FEDERAL TRANSIT ADMINISTRATION

Final Interim Policy Guidance Federal Transit Administration Capital Investment Grant Program

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INTRODUCTION

The Fixing America's Surface Transportation Act (FAST), enacted on December 4, 2015, builds upon the changes to the Capital Investment Grant (CIG) program instituted by the Moving Ahead for Progress in the 21st Century Act (MAP-21) that was enacted on July 6, 2012, and took effect on October 1, 2012. The laws outline a multi-year, multi-step process that proposed transit construction projects must go through to be eligible for and receive discretionary CIG program funding from the Federal Transit Administration (FTA). They establish three categories of eligible projects under the CIG program, which are known as New Starts, Small Starts, and Core Capacity projects. Each type of project has a unique set of requirements, although many similarities exist among them.

BACKGROUND

Starting in 2010, prior to enactment of MAP-21, FTA undertook an extensive outreach process to examine ways to streamline and improve the New and Small Starts process as it existed at the time. This outreach included publication of an Advanced Notice of Proposed Rulemaking in June 2010, and a Notice of Proposed Rulemaking in January 2012. Although MAP-21 changed some of the requirements of the program, much of the previous outreach remained useful and relevant, so FTA published a Major Capital Investment Projects final rule on January 9, 2013 [49 CFR Part 611, 78 *Federal Register* 1992-2037 and http://www.gpo.gov/fdsys/pkg/FR-2013-01-09/pdf/2012-31540.pdf] that governs how FTA evaluates and rates projects seeking funding under the CIG program authorized by Section 5309 of Title 49, U.S. Code. In the Major Capital Investments Projects final rule, only the evaluation criteria for New and Small Starts projects were defined. All other CIG items in MAP-21 that had not been part of the earlier outreach were left open to be discussed in future updates to the Major Capital Projects rule, including the measure to be used for the congestion relief criterion, warrants, getting into and through the steps in the CIG process, and Core Capacity.

This interim policy guidance document will serve as a guide for running the CIG program through approximately FY 2016 until FTA completes the updates to the Major Capital Investment Projects final rule to fully implement MAP-21 and now FAST.

STRUCTURE OF THIS DOCUMENT

This document is arranged in self-contained, stand-alone chapters, with each chapter outlining the requirements associated with a different type of eligible project – New Starts, Small Starts, and Core Capacity. Each chapter is then organized to include: 1) a brief introduction, 2) a discussion of eligibility for the program, 3) a discussion of the requirements for getting into and through the steps in the process; 4) information on each of the project evaluation criteria including how they are calculated and the breakpoints for the various rating thresholds; and 5) a summary of how FTA arrives at an overall project rating.

CHAPTER I
NEW STARTS
FINAL INTERIM POLICY GUIDANCE

NEW STARTS FINAL INTERIM POLICY GUIDANCE

INTRODUCTION

From 2010 through 2012, FTA undertook a multi-year effort to revise and revamp the evaluation and rating process for projects seeking Section 5309 Capital Investment Grant (CIG) funding as New Starts projects. This included new measures for the various evaluation criteria to better represent all the benefits transit projects provide. That extensive outreach effort resulted in publication of the Major Capital Investments Projects Final Rule in January 2013 [49 CFR Part 611, 78 *Federal Register* 1992-2037 January 9, 2013 and http://www.gpo.gov/fdsys/pkg/FR-2013-01-09/pdf/2012-31540.pdf.]

This document updates the Final Interim Policy Guidance dated August 2015 to incorporate statutory changes made in FAST. It does not change any FTA policies or procedures or impose any new requirements from those outlined in the 2015 Final Interim Policy Guidance. Therefore, FTA is not soliciting public comment on this document.

This document provides interim guidance on items not included in the Major Capital Investment Projects Final Rule until such time as an update to the rule can be completed, including: 1) steps for getting into and through the phases in the New Starts process; 2) a congestion relief measure; and 3) ways that projects can qualify for automatic ratings on some of the evaluation criteria, otherwise known as "warrants."

Whenever possible, FTA is using simple eligibility parameters, simplified evaluation measures, and expanded "warrants" based on readily available, easily verifiable information to make the process less burdensome for both FTA and New Starts project sponsors. FTA believes the items described herein maintain an appropriate degree of analytic rigor as a basis on which to make CIG program funding decisions.

ELIGIBLE APPLICANTS, PROJECTS, AND COSTS

The Fixing America's Surface Transportation Act (FAST), enacted on December 4, 2015, is the law that authorizes the Capital Investment Grant Program. It specifies that eligible applicants for the CIG program are State or local governmental authorities. Throughout this document we refer to such applicants as project sponsors.

FAST specifies that proposed New Starts projects must be new fixed guideway projects or extensions to existing fixed guideway systems. FAST further specifies that New Starts projects are those with a total estimated capital cost greater than $300 million or that are seeking $100 million or more in Section 5309 CIG program funds.

FAST defines fixed guideway as projects "using and occupying a separate right-of-way for the exclusive use of public transportation; using rail; using a fixed catenary system; for a passenger ferry system; or for a bus rapid transit system." [Section 5302(7)] This definition in FAST eliminates bus service operating on high occupancy vehicle lanes or high occupancy toll lanes from qualifying as fixed guideway service. Under the definition in law, eligible New Starts projects can include heavy rail, light rail, commuter rail, streetcars, trolleybus, fixed guideway bus rapid transit, and ferries. The law does not allow corridor-based bus rapid transit projects without a separated right-of-way dedicated for public transportation along the majority of the route to be eligible as New Starts projects.

To qualify as a fixed guideway BRT project, FAST specifies that the BRT service must include the following elements [Section 5309(a)(4)]:

- The majority of the project operates in a separated right-of-way dedicated for public transportation use during peak periods;
- The project represents a substantial investment in a single route in a defined corridor or subarea;

- The project includes features that emulate the services provided by rail fixed guideway public transportation systems including: defined stations; traffic signal priority for public transportation vehicles; short headway bidirectional services for a substantial part of weekdays and weekend days; and any other features the Secretary of USDOT may determine are necessary to produce high quality public transportation services that emulate the services provided by rail fixed guideway public transportation systems.

FTA published a more detailed definition for fixed guideway BRT in its State of Good Repair Circular that underwent a public comment period and was finalized in March 2014 (https://www.transit.dot.gov/regulations-and-guidance/fta-circulars/state-good-repair-grant-program-guidance-and-application). It specified characteristics fixed guideway BRT projects must contain to meet the definition in law and be eligible for various FTA funding programs. The definition included the following elements:

(1) Over 50 percent of the route must operate in a separated right-of-way dedicated for transit use during peak periods. Other traffic can make turning movements through the separated right-of-way.
(2) The route must have defined stations that are accessible for persons with disabilities, offer shelter from the weather, and provide information on schedules and routes.
(3) The route must provide faster passenger travel times through congested intersections by using active signal priority in separated guideway, and either queue-jump lanes or active signal priority in non-separated guideway.
(4) The route must provide short headway, bidirectional service for at least a fourteen-hour span of service on weekdays and a ten-hour span of service on weekends. Short headway service on weekdays consists of either (a) fifteen-minute maximum headways throughout the day, or (b) ten-minute maximum headways during peak periods and twenty-minute maximum headways at all other times. Short headway service on weekends consists of thirty-minute maximum headways for at least ten hours a day.
(5) The provider must apply a separate and consistent brand identity to stations and vehicles.

Note that FTA generally considers a trunk line BRT with several branches to qualify as a single New Starts project as long as the other eligibility requirements listed in the definition above are met. FTA works with project sponsors and considers such requests on a case-by-case basis. Note also that FTA does not specify in the definition above a particular number of intersections that must have signal priority or queue jump lanes as this will differ from project to project based on the characteristics of the corridor and alignment being contemplated.

FAST includes definitions that apply to all FTA grant programs including one outlining eligible capital project costs [5302(3)]. Additionally, FAST specifics that New Starts projects may include:
"acquisition of real property, the initial acquisition of rolling stock for the system, the acquisition of rights-of-way, and relocation" [5309(b)(1)] as well as "interest and other financing costs of efficiently carrying out a part of the project within a reasonable time" [5309(k)(2)(D)(iii)].

FTA encourages all project sponsors seeking CIG funds to incorporate resilience elements in their project design, provided the project continues to meet the criteria in law for receipt of funding.

GETTING INTO AND THROUGH THE STEPS IN THE PROCESS

FAST outlines two phases New Starts projects must go through to be eligible for a construction grant agreement under the Section 5309 CIG program. The first phase is called Project Development and the second is called Engineering.

Prior to Project Development

FAST indicates that New Starts project sponsors must complete the Project Development (PD) phase within two years, which may be challenging for proposed projects that have significant environmental impacts, complicated financial arrangements, or complex engineering and design elements. Therefore, FTA encourages project

sponsors to perform whatever work they feel is necessary prior to requesting entry into PD to facilitate their ability to complete PD for a proposed New Starts project within the two-year timeframe. For example, prior to requesting entry into PD, project sponsors may wish to conduct early planning work and initiate the environmental review process under the National Environmental Policy Act (NEPA) including, where appropriate, early scoping.

Project sponsors should be aware that any activities undertaken prior to a project entering PD are not covered by automatic pre-award authority and will not be eligible for future reimbursement from the CIG program should a construction grant be awarded in the future. Please consult page 7920 of FTA's Annual Apportionment's Notice where pre-award authority for the CIG program is discussed in more detail [https://www.gpo.gov/fdsys/pkg/FR-2016-02-16/pdf/2016-02821.pdf].

Requesting Entry into Project Development

FTA requires that project sponsors seeking to enter PD submit as their application a short letter addressed to the FTA Associate Administrator for Planning and Environment that includes the following information:

- The name of the study sponsor, any partners involved in the study, and the roles and responsibilities of each
- Identification of a project manager and other key staff that will perform the PD work
- A brief description and clear map of the corridor being studied, including its length and key activity centers
- A brief description of the transportation problem in the corridor or a statement of purpose and need
- Electronic copies of or weblinks to prior studies done in the corridor, if any
- Identification of a proposed project if one is known and alternatives to that project if any are being considered
- A brief description of current levels of transit service in the corridor today
- Identification of a cost estimate for the project, if available
- The anticipated cost to complete PD, not including the cost of any work done prior to officially entering the PD phase
- Identification of the non-CIG funding available and committed to conduct the PD work
- Documentation demonstrating commitment of funds for the PD work (e.g. Board resolutions, adopted budgets, approved Capital Improvement Programs, approved Transportation Improvement Programs, letters of commitment)
- An anticipated draft timeline for completing the following activities (which should demonstrate the ability to complete the PD work within two years as prescribed in FAST):
    - compliance with NEPA and related environmental laws[1]
    - selection of a locally preferred alternative (LPA)
    - adoption of the LPA in the fiscally constrained long range transportation plan
    - completion of the activities required to obtain a project rating under the evaluation criteria outlined in the law
    - completion of the readiness requirements for entry into Engineering as described further below in this guidance
    - anticipated receipt of a construction grant agreement from FTA
    - anticipated start of revenue service

Project sponsors should not submit a large, lengthy submittal to FTA as that is not necessary to address the above items. Rather, a relatively short letter (2 to 5 pages) is sufficient. There is no specific format the letter must follow. It simply must address each of the items listed above. Electronic submissions are preferred by FTA. Mailed submissions can get delayed due to security steps in place at USDOT.

As mentioned in the bulleted list above, requests to enter PD must demonstrate to FTA that funding is available and committed to perform the PD work. Given the two year timeframe for completing PD specified in law for

[1] Information on compliance with these requirements can be found on FTA's website at the following link: https://www.fta.dot.gov/regulations-and-guidance/environmental-programs/national-environmental-policy-act.

New Starts projects, project sponsors must have money available to begin the PD work immediately upon entry into the program. Funding available one or more years in future does not qualify as available and committed for entry into PD, even if it is programmed in a Transportation Improvement Plan, agency Capital Improvement Program, or future fiscal year budget document. FAST intends projects to make quick progress and not linger in the program, which can only happen if funding is available to begin performing the PD work immediately upon entry into the CIG program.

Requests to enter PD may be submitted to FTA at any time throughout the year, whenever the project sponsor believes the project is ready for entry. FTA discourages project sponsors from submitting PD requests during the early fall, which is the production time for FTA's *Annual Report on Funding Recommendations*, because processing could get delayed due to the large workload being handled by FTA at that time. Importantly, there is no advantage to a project sponsor in submitting a PD request during the *Annual Report* cycle since projects just entering the program are not considered candidates for funding recommendations because they are not being evaluated and rated. Often project sponsors believe being shown in the *Annual Report* as one of the projects in the program, even though the project has not yet been evaluated or rated by FTA, gives the project credibility. Thus, they push to submit their request during the production cycle for the *Annual Report*. FTA maintains a webpage listing all current projects in the program. As soon as FTA notifies a project sponsor that it has been granted entry into PD, the project is displayed on FTA's webpage making it visible to Congress and any others who may be interested. Additionally, FTA briefs congressional staff monthly on all projects in the program, including notifying them of new entrants to the program.

Upon receipt of a request to enter PD, FTA reviews the request to ensure it contains all of the information listed above. FTA communicates via email with the project sponsor, identifying any missing information or specifying the request is considered complete. Upon receipt of complete information, FTA processes the request and notifies Congress and the project sponsor in writing within 45 days whether the information was deemed sufficient for entry into PD per the requirements of FAST.

During Project Development

FAST specifies that during PD, and not later than two years after the date the project enters PD, the following activities must be completed:

- The project sponsor must select a locally preferred alternative (LPA);
- The project sponsor must get the LPA adopted into the fiscally constrained metropolitan transportation plan;
- The environmental review process required under NEPA must be completed as signified by a final FTA environmental decision (e.g., categorical exclusion, finding of no significant impact, combined final environmental impact statement/record of decision, or record of decision) covering all aspects of the project proposed for FTA funding; and
- The project sponsor must develop sufficient information for FTA to develop a project rating.

During PD, FTA also requires project sponsors complete the following activities:

- Obtain commitment of at least 30 percent of the non-CIG funding
- Complete at least 30 percent design and engineering. At this level FTA expects the project sponsor to provide documents at the following level of detail:
    - Project Management Plan (PMP) and sub-plans -- should include processes and procedures to continuously manage the project during Engineering and a staffing plan that identifies key personnel and demonstrates the sponsor's management capacity and capability;
    - Project definition – key elements are identified and reasonably defined;
    - Cost Estimate – addresses key items within the project's work breakdown structure at an appropriate level. Includes both the basis for the estimate and required contingency based on the level of design and in accordance with FTA and industry best practices;
    - Schedule – addresses key activities, milestones and elements within the project's work breakdown structure and incorporates proposed delivery methodology;

- Third Party Agreements and Right-of-Way – are identified with a plan and schedule for completion;
- Geotechnical – a preliminary geotechnical report has been completed and provided to FTA where applicable (for example this may not be needed when no geotechnical work is required - such as for most BRT projects);
- Project Delivery Method – the delivery method is identified (with related methodologies, activities, and milestones reflected throughout the other required products);
- Value Engineering (VE) Report – the report is substantially complete and a draft report shared with FTA where applicable (for example, a separate VE report may not be needed for some project delivery methods such as design-build, since bidders may be required to provide the VE options as part of their proposals.) Additional value engineering products may be developed during the Engineering phase.
- Safety – a preliminary safety hazard analysis and a preliminary threat and vulnerability analysis have been completed and the development of safety and security design criteria has been initiated;
- Accessibility – the sponsor demonstrates steps that will be taken to ensure compliance with DOT regulations and standards issued under the Americans with Disabilities Act, including a preliminary analysis of accessibility features such as accessible routes to, from, and within the station sites or boarding locations; detectable warnings; signage and communications; curb ramps; and other accessibility features required under the ADA; and
- Constructability Review Report– a draft report is submitted, where applicable (for example, for very simple projects, a constructability review early in the project development process might not yield great benefits). The report includes at a minimum the general construction approach, a discussion of site access, and other potential constraints. A more detailed Constructability Review is to be performed during the Engineering phase that may focus on the bid documents, among other aspects, that would affect procurement of the construction contracts.

FTA believes the intent of FAST is for projects to make sufficient progress and move quickly through the process. Therefore, project sponsors should complete all of the PD activities listed above within the two-year timeframe specified in FAST. If the above mentioned activities cannot be completed within the two-year timeframe due to unforeseen circumstances, the project sponsor should submit a written request for an extension of PD addressed to the FTA Associate Administrator for Planning and Environment. There is no required format for the PD extension request letter, but it should contain an explanation of the reasons an extension is needed and a revised estimated schedule for completing the above listed PD activities. FTA will consider requests for PD extensions on a case-by-case basis, and respond in writing whether an extension is granted or not. FTA anticipates such requests will occur infrequently since project sponsors are advised to be cautious about timing their entry into PD only when they feel confident they can complete the above listed activities within the two year timeframe.

If a PD extension is not granted by FTA, the project will automatically be withdrawn from PD. Project sponsors must complete the work activities listed above before they would be allowed to apply for entry into the Engineering phase of the CIG program. Any work performed after withdrawal from PD and prior to re-entry into Engineering would not be covered by pre-award authority and would be ineligible for reimbursement at a future date should FTA ultimately award a construction grant agreement.

FTA requires that at a minimum the design and engineering work described in the bulleted list above (equivalent to a 30 percent design level) be completed during PD. However, FTA encourages project sponsors to complete as much engineering and design work on the locally preferred alternative as needed to feel comfortable with the reliability of the project cost, scope, and schedule because FTA intends to lock in the CIG amount at the level requested with entry into Engineering. Therefore, if a project sponsor has completed all of the PD activities listed above within the two year timeframe specified in FAST, but wishes to perform additional engineering and design before seeking entry into Engineering and locking in the CIG amount, the sponsor may submit a written request addressed to the FTA Associate Administrator for Planning and Environment requesting that FTA postpone consideration of the project for advancement into Engineering. The letter should provide FTA with

documentation verifying the above PD activities have been completed and an estimated schedule for when the project sponsor believes the project will be ready to seek entry into Engineering. FTA will consider requests to postpone entry into Engineering on a case-by-case basis.

FTA will begin formal oversight of the project no later than six months prior to entry into Engineering or six months prior to the end of the two year PD timeframe specified in law, whichever is earlier. Thus, project sponsors must notify FTA of their intent to enter Engineering at least six months prior to when they hope to enter that phase. FTA encourages project sponsors to begin working with FTA in advance of this notification date to establish an oversight plan and roadmap for entry into Engineering.

Requesting Entry into Engineering

Project sponsors seeking to enter the Engineering phase should submit the following information with a letter to the FTA Associate Administrator for Planning and Environment:

- New Starts templates used for developing the evaluation criteria and ratings;
- 20-year financial plan, including supporting documentation demonstrating at least 30 percent of the non-CIG funding is committed;
- Cost estimate provided using the Standard Cost Category worksheets;
- Project Management Plan and Subplans;
- Integrated project schedule;
- Documentation of project definition and scope;
- Contracting plans and documents;
- Project delivery method identified and reflected throughout the other required products;
- Identification of third party agreements with schedule for completion;
- A preliminary geotechnical report;
- A draft value engineering report;
- Preliminary safety hazard analysis a preliminary threat and vulnerability analysis as well as initial safety and security design criteria;
- The draft constructability review report; and
- Draft Before and After Study data collection plan.

FAST requires that FTA evaluate and rate the New Starts project prior to allowing it into the Engineering phase. Thus, FTA will use the information provided above to develop ratings for the project justification and local financial commitment criteria. By law, a project must receive at least a Medium overall rating under the FAST evaluation criteria to be eligible for entry into the Engineering phase. FTA will also review the Project Management Plan and subplans to ensure that the project sponsor has the capacity and capability to carry out the project. Lastly, FTA will review the project definition, scope, cost, and schedule for reasonableness and undertake other appropriate oversight. These reviews may be expedited based on factors including the complexity of the project and the project sponsor's management capacity and capability.

FTA will lock in the Section 5309 CIG funding amount (not share, the actual amount) at the level requested by the project sponsor with entry into Engineering. Should the project cost change after a project has entered Engineering, additional Section 5309 CIG funding will not be provided. Thus, FTA encourages project sponsors to perform as much engineering and design as they feel necessary during PD before requesting entry into Engineering to feel comfortable with the project cost and scope. Project sponsors wishing to proceed into Engineering who have not completed extensive engineering and design but rather the minimum 30 percent level allowed should accordingly increase project contingencies in the budget to account for the unknowns.

During Engineering

Because of the desire by Congress and the industry to ensure the CIG process moves quickly, FTA believes project sponsors should demonstrate sufficient progress to remain in the program. Thus, FTA requires that

project sponsors obtain commitments of at least 50 percent of the non-CIG funds and make sufficient progress advancing the level of design within three years of a project's advancement into Engineering. This does not mean project sponsors must complete the Engineering phase within three years. Rather, while the Engineering phase might reasonably take longer than three years to complete in its entirety, FTA is simply requiring that continuing progress be made during Engineering rather than allowing a project to remain stagnant indefinitely.

If a sponsor does not make sufficient progress on obtaining funding commitments or advancing the level of design of the project within three years of entry into Engineering, FTA will withdraw the project from the New Starts program. The project sponsor would then need to reapply for re-entry into the Engineering phase after gaining the necessary funding commitments and/or demonstrating design on the project is advancing and not stagnant. Any work performed by the project sponsor after being withdrawn from the program and before re-entry would not be eligible under pre-award authority for future reimbursement should a construction grant ultimately be awarded.

To complete the Engineering phase, project sponsors must complete sufficient engineering and design to develop a firm and reliable cost, scope, and schedule for the project, obtain all non-CIG funding commitments, complete all critical third party agreements, and meet other FTA readiness requirements related to technical capacity, staffing, and oversight to be eligible for a construction grant agreement.

FAST directs FTA to utilize Letters of Intent (LOI) to the extent practicable in advance of awarding construction grant agreements. According to FAST, a LOI announces "an intention to obligate . . . an amount from future available budget authority . . . sufficient to complete at least an operable segment." It does not include a firm commitment of FTA funds for the project and is not considered an obligation of Federal funds. FTA determines the applicability of a LOI during the Engineering phase on a case-by-case basis. Although not a firm commitment of FTA funds, a LOI could be useful to a project sponsor in discussions with lenders, political leaders, and other entities that are being asked to provide project matching funds.

Receipt of Construction Funding

Generally, FTA does not begin negotiating a construction grant agreement with a project sponsor until a project is recommended for funding by FTA in the *Annual Report on Funding Recommendations* [http://www.fta.dot.gov/12304_2618.html], which is a companion document to the President's budget sent to Congress each year. FTA decides whether to include a project as a funding recommendation in the *Annual Report on Funding Recommendations* based on:

- the evaluation and rating of the project under the criteria specified in law;
- the availability of CIG program funds; and
- considerations related to project readiness including whether:
    - an advanced level of engineering and design has been completed so that the project scope, cost, and schedule are considered reliable (taking into consideration the project delivery method selected); and
    - generally, at least 50 percent of the non-CIG funds for the project are committed.

To have a project considered for a funding recommendation in the President's budget, project sponsors must submit information to FTA for evaluation and rating of the project. Each year FTA publishes Reporting Instructions, templates, and Standard Cost Category worksheets that are used by project sponsors to develop and report the necessary information to FTA. Typically the submittals are due to FTA in early fall of the year prior to the February release of the President's budget.

FAST directs FTA to utilize Early Systems Work Agreements (ESWA) to the extent practicable in advance of awarding Full Funding Grant Agreement (FFGAs). Generally, an ESWA is a contract similar to an FFGA but that covers only a portion of the project rather than the full project. It includes a firm commitment of FTA funds for the project. According to FAST, an ESWA cannot be entered into unless NEPA is complete and "the

Secretary finds there is reasons to believe a FFGA for the project will be made." FAST further specifies the ESWA must "promote ultimate completion of the project more rapidly and at less cost." The project sponsor must repay all Federal funds awarded in an ESWA if the sponsor does not carry out the project for reasons within the sponsor's control. FTA determines the applicability of ESWAs during the Engineering phase on a case-by-case basis.

Even after a project has been recommended in the President's budget for a construction grant agreement, as described in the previous section, project sponsors must complete sufficient engineering and design to develop a firm and reliable cost, scope, and schedule for the project, obtain all non-CIG funding commitments, complete all critical third party agreements, and meet other FTA readiness requirements related to technical capacity, staffing, and oversight before submitting a request to FTA for a construction grant agreement.

When requesting a construction grant agreement, project sponsors should submit the following information to the FTA Associated Administrator for Planning and Environment with a cc: to the FTA Regional Administrator so that FTA may complete the evaluation and rating of the project required by law:

- New Starts templates used for developing the evaluation criteria and ratings;
- 20-year financial plan, including supporting documentation demonstrating all of the non-CIG funding is committed;
- Cost estimated provided using the Standard Cost Category worksheets;
- Draft FFGA contract and attachments;
- Draft grant application in FTA's electronic grant making system;
- Project definition that has been refined and updated to support the level of design;
- Updated cost and integrated project schedule reflecting the level of design;
- Contracting plans and documents;
- Value Engineering Reports as applicable;
- Constructability Review Report;
- Before and After Study data collection plan;
- Updated Project Management Plans and Subplans for the FFGA phase including:
  - Risk and Contingency Management Plan;
  - Documented processes and procedures to manage the project during FFGA/Construction;
  - Staffing plans addressing, but not limited to the following areas: Real Estate, Schedule and Cost controls, Risk Management, Construction Management, Quality Assurance/Quality Control, Safety and Security;
- Documentation showing all major third party agreements and permits are completed and in place; and
- Documentation showing all critical issues identified in prior FTA reviews are resolved.

FAST requires that FTA evaluate and rate the project prior to awarding a construction grant agreement. Thus, FTA uses the information provided above to develop ratings for the project justification and local financial commitment criteria, including a review of the project definition, scope, cost, and schedule for reasonableness. By law, a project must receive at least a Medium overall rating under the FAST evaluation criteria to receive a construction grant agreement. FTA also reviews the Project Management Plan and subplans to ensure that the project sponsor has the capacity and capability to carry out the project. Lastly, FTA undertakes other appropriate oversight. These oversight reviews may be expedited based on factors including the complexity of the project and the project sponsor's management capacity and capability.

Once FTA has completed its review and evaluation of the project and negotiated and prepared the construction grant agreement with the project sponsor, the package of information must be reviewed and approved by FTA executive leadership, USDOT leadership, and others within the Administration. After their concurrences are received, FAST requires that the construction grant agreement be sent for a 30-day congressional notification period. Only then may FTA and the project sponsor sign the construction grant.

EVALUATION CRITERIA AND RATING PROCESS

New Starts projects are evaluated and rated according to CIG criteria set forth in law. The project justification criteria outlined in law include: mobility improvements, environmental benefits, congestion relief, economic development effects, land use, and cost-effectiveness. The law also requires FTA to examine the following when evaluating and rating local financial commitment: availability of reasonable contingency amounts, availability of stable and dependable capital and operating funding sources, and availability of local resources to recapitalize, maintain, and operate the overall existing and proposed public transportation system without requiring a reduction in existing services. By law, each criterion is to be rated on a five point scale, from low to high. Summary project justification and local financial commitment ratings are prepared and combined to arrive at an overall project rating.

Guiding Principles

Below are some guiding principles FTA used when developing the evaluation criteria.

Establishing Breakpoints for Ratings

When possible, FTA established the breakpoints for ratings based on available research that recommended the values. When such research was not available for a particular criterion or measure, FTA established an initial set of breakpoints based on the performance measures available from projects previously and currently in the program. FTA will revisit the breakpoints as performance measures are accumulated from additional projects over time. Any changes in the breakpoints will be proposed in future policy guidance for public comment.

Time Horizons for Calculating Measures

FTA believes project evaluation based on existing conditions provides the most easily understood, most reliable, and most readily available information for decision-making. Thus, FTA requires all project sponsors to calculate the measures for the evaluation criteria based on current year inputs of population and employment and the opening year service plan of the proposed project. Use of current year data increases the reliability of the projected future performance of the proposed project by avoiding reliance on future population, employment, and transit service levels that are themselves forecasts. FTA defines “current year” as close to today as the data (including the American Community Survey) will permit.

FTA recognizes these projects are long term investments. Additionally, because some projects are designed to address and accommodate future growth more so than current congestion problems, they may not generate sufficient benefits to rate well based only on current year conditions. Thus, FTA allows project sponsors, at their option, to calculate the evaluation criteria using horizon year based forecasts as well as current year forecasts. FTA allows project sponsors to choose the horizon year they wish to use -- either 10 years in the future (2025) or 20 years in the future (2035).

Given the need to balance the enhanced reliability of short-term forecasts with the need to account for longer term benefits, when a project sponsor chooses to quantify the measures in both the current year and a horizon year, FTA computes each criterion rating as a weighted average that considers both years. FTA gives a weight of 50 percent for the current year information and a weight of 50 percent for the horizon year information.

Basis for Comparison

To simplify and streamline the process project sponsors go through to develop materials for submittal to FTA, where possible, FTA adopted measures that use absolute values rather than incremental values requiring a basis for comparison. However, in some cases, incremental measures remain necessary. When a basis for comparison is required because a measure is based on an incremental value, FTA will use the existing system as a point of comparison when developing current year information. When a project sponsor chooses to submit 10-year

horizon information, the no-build alternative (which includes the existing transportation system as well as those transportation investments committed in the Transportation Improvement Plan (TIP) pursuant to 23 CFR Part 450) will be the point of comparison. When a project sponsor choses to submit 20-year horizon information, the existing transportation network plus all projects identified in the Metropolitan Planning Organization's fiscally constrained long range plan (excluding the proposed build alternative) will serve as the point of comparison.

Use of Standard Factors Rather than Detailed Analysis

One of FTA's goals in the development of the Major Capital Investment Projects Final Rule and this Interim Policy Guidance was to establish measures that support streamlining of the New Starts process while maintaining an appropriate degree of analytic rigor as a basis on which to make CIG program funding decisions. Thus, some of the measures are calculated using simplified factoring approaches in order to eliminate undue burden on project sponsors. FTA based the factors on national data.

Simplified Estimation of Ridership and Vehicle Miles Traveled

FTA has made available to project sponsors a tool called Simplified Trips-on-Projects Software (STOPS) that can be used to estimate trips on the project. FTA believes this tool can significantly streamline the length of time required to generate ridership forecasts and vehicle miles traveled information for use in the evaluation measures. Use of STOPS is optional. Project sponsors may choose instead to continue to use their local travel forecasting model if they wish, with the understanding that FTA review of the forecasts and model will be necessary to ensure compliance with FTA policies and procedures. Project sponsors should contact FTA for assistance in obtaining and using STOPS.

If a sponsor chooses to use STOPS to calculate trips for the mobility, congestion relief, and cost effectiveness measures, the sponsor is expected to also use STOPS for calculating the VMT changes used in the environmental benefits measure. If a sponsor chooses instead to calculate trips for the mobility, congestion relief, and cost effectiveness measures using its local travel model, the sponsor is expected to also use its local travel model to calculate the change in VMT used in the environmental benefits measure. Should a project sponsor choose to use the local travel model, FTA expects to continue to review the validity of the model, as in past practice, to assure the validity of the results.

Project Justification

Land Use

Measures

The land use measure includes an examination of existing corridor and station area development; existing corridor and station area development character; existing station area pedestrian facilities, including access for persons with disabilities; existing corridor and station area parking supply; and the proportion of existing "legally binding affordability restricted" housing within ½ mile of station areas to the proportion of "legally binding affordability restricted" housing in the counties through which the project travels.

A legally binding affordability restriction is a lien, deed of trust or other legal instrument attached to a property and/or housing structure that restricts the cost of housing units to be affordable to households at specified income levels for a defined period of time and requires that households at these income levels occupy these units. This definition, includes, but is not limited to, state or federally supported public housing, and housing owned by organizations dedicated to providing affordable housing. For the land use measure looking at existing affordable housing, FTA is seeking legally binding affordability restricted units to renters with incomes below 60 percent of the area median income and/or owners with incomes below the area median that are within ½ mile of station areas and in the counties through which the project travels.

One reason FTA chose to include affordable housing in the land use criterion was to ensure that neighborhoods surrounding proposed transit stations have the fundamentals in place to ensure that as service is improved over

time there is a mix of housing options for existing and future residents. One measure of the readiness of a community to accept a new transit investment and avoid significant gentrification that can occur over time is the presence of "legally binding affordability restricted" units. These units have protections in place to ensure that they will continue to be available to low and moderate income households as changes in the corridor occur.

In this context FTA believes this to be a first step in developing a worthwhile measure that encourages project sponsors to locate projects where a higher share of "legally binding affordability restricted" housing exists in their area. The metric selected evaluates the proportional share of existing "legally binding affordability restricted" housing in the corridor compared to the share in the surrounding county or counties. FTA believes use of this ratio is appropriate to help normalize the results since we are not comparing projects to one another but rather to the circumstances in each local area where projects are proposed. However, FTA recognizes the use of a ratio for this measure can have some drawbacks, particularly where the surrounding county or counties are quite large in land area and/or have quite large amounts of "legally binding affordability restricted" housing. Therefore, FTA intends to boost the rating for this subfactor one level if the denominator shows the surrounding counties to have greater than a five percent share of "legally binding affordability restricted" housing.

Note that this metric is not intended in any way to serve as a "federally endorsed" definition of acceptable levels of legally binding affordability restricted or other types of affordable housing, and is unique to this CIG project evaluation process. FTA aims to improve and refine the measure as information is gathered from project sponsors on its application and its impacts are examined.

Calculation

FTA bases the rating primarily on quantitative measures, including station area population densities, total employment served by the project, and the proportion of "legally binding affordability restricted" housing within ½ mile of stations areas to the proportion of "legally binding affordability restricted" housing in the counties through which the project travels. Poor pedestrian accessibility may reduce the rating, as it reduces the effective amount of population and employment directly served by the system. Otherwise, the presence of high trip generators, a pedestrian-accessible and friendly station area environment, and limited availability of parking all serve to support the rating.

Project sponsors should obtain population and employment information from census data.

A station area encompasses a ½ mile radius of the station.

To develop information on "legally binding affordability restricted" housing located in the proposed corridor and the counties through which the project travels, project sponsors should consult with area housing agencies. For this purpose, FTA is seeking legally binding affordability restricted units to renters with incomes below 60 percent of the area median income and/or owners with incomes below the area median. Project sponsors should also obtain and submit to FTA signed certifications by the heads of the housing agencies or other entities from where the information was gathered attesting to the accuracy of the numbers provided.

While FTA believes contacting area housing authorities will provide the best and most comprehensive information on "legally binding affordability restricted housing", some statistics on affordable housing can be found in the National Housing Preservation Database (http://www.preservationdatabase.org/). This database includes an address-level inventory of federally assisted rental housing. It does not contain information on affordable units supported only by state and local programs. The amount of "legally binding affordability restricted" units in the corridor and the surrounding counties is then compared to total residential housing units in the corridor and the surrounding counties. Total residential housing units should come from the American Community Survey (ACS) five year forecasts at the County and Census Tract levels.

FTA assigns a value to this measure by comparing (a) the percent of total units in the transit corridor (defined as 1/2 mile around each proposed station) that are legally binding affordability restricted housing to (b) the percent

of total units in the counties in which the stations are located that are legally binding affordability restricted housing. FTA boosts the rating for this subfactor one level if the denominator shows the surrounding counties through which the project travels have greater than a five percent share of "legally binding affordability restricted" housing.

The measurement of housing affordability as part of the project evaluation criteria is something only recently added by FTA in 2013 after completion of an extensive public comment process. Since it is still a fairly new measure, project sponsors may submit additional information to supplement the calculation described above, that FTA may consider, on a case by case basis, in assigning a final rating for this metric.

Breakpoints

The breakpoints for station area population, employment density, and Central Business District parking are:

	Station Area Development		Parking Supply	
Rating	Employment served by system[2]	Avg. Population density (persons/square mile)[3]	CBD typical cost per day[4]	CBD spaces per employee[5]
High	> 220,000	> 15,000	> $16	< 0.2
Medium-High	140,000-219,999	9,600 - 15,000	$12 - $16	0.2 – 0.3
Medium	70,000-139,999	5,760 – 9,599	$8 - $12	0.3 – 0.4
Medium-Low	40,000-69,999	2,561 – 5,759	$4 - $8	0.4 – 0.5
Low	<40,000	< 2,560	< $4	> 0.5

The breakpoints for the proportion of "legally binding affordability restricted" housing in the corridor compared to the proportion of "legally binding affordability restricted" housing in the counties through which the project travels are shown in the table below.

Rating	Proportion of legally binding affordability restricted housing in the project corridor compared to the proportion in the counties through which the project travels
High	≥ 2.50
Medium-High	2.25 – 2.49
Medium	1.50 - 2.24
Medium-Low	1.10 - 1.49
Low	< 1.10

(For example, a low rating indicates the share of affordable housing units within the project corridor is lower than 110 percent of the share within the corresponding counties.)

Cost Effectiveness

Measures

FAST requires that the cost-effectiveness criterion for New Starts projects be based on a cost per trip measure. Therefore, the cost effectiveness measure for New Starts projects is the annual capital and operating and

[2] The employment breakpoints are based on the Institute for Transportation Engineer's document entitled "A Toolbox for Alleviating Traffic Congestion," which suggests minimum non-residential development concentrations of 20 million square feet for frequent local bus service and 35 million square feet for light rail service. At 500 square feet per employee, these figures are equivalent to 40,000 and 70,000 employees, respectively. The total employment served includes employment along the entire line on which a no-transfer ride from the proposed project's stations can be reached.

[3] The average population density breakpoints are based on the Institute for Transportation Engineer's document entitled "A Toolbox for Alleviating Traffic Congestion," which suggests light rail and frequent bus service requires a minimum of 9 to 15 dwelling units per acre. This data has been used to inform the medium breakpoint shown.

[4] CBD core (not fringe parking)

[5] Average across CBD

maintenance (O&M) cost per trip on the project. The number of trips on the project is not an incremental measure but simply total estimated trips on the project.

The cost part of the New Starts cost-effectiveness calculation is an incremental measure requiring a point of comparison. For current year calculations, the annualized capital and O&M cost for the proposed project is compared to the existing transit system. If a project sponsor also chooses to calculate the measure based on 10-year horizon forecasts, the annualized capital and O&M cost of the proposed project is compared to the no-build transit system (which includes the existing transportation system as well as those transportation investments committed in the Transportation Improvement Plan (TIP) pursuant to 23 CFR Part 450.) If a project sponsor chooses to calculate the measure based on 20-year horizon forecasts, the annual capital and O&M cost of the proposed project is compared to the annual capital and O&M cost of the projects identified in the Metropolitan Planning Organization's fiscally constrained long range plan (excluding the proposed build alternative.)

Calculation

For New Starts projects, the cost-effectiveness measure is computed as the annualized capital cost plus annual O&M cost of the project divided by the annual number of forecasted trips on the project. For calculation of this measure, the capital costs of scope elements considered "enrichments" are either reduced by an FTA defined percentage or eliminated entirely from the annualized capital cost calculation. "Enrichments" are improvements to the transit project that are desired by the project sponsor but are non-integral to the planned functioning of the project, and whose benefits are not captured in whole by the criteria. "Enrichments" are allowable expenses for reimbursement under a future New Starts construction grant. FAST includes a special rule related to "enrichments" that states FTA "shall not reduce or eliminate the capital costs of art and non-functional landscaping elements from the annualized capital cost calculation."

"Enrichments" are based on costs associated with certain Activity Line Items (ALIs) in the FTA Standard Cost Category worksheets. FTA, through its Project Management Oversight Contractors verifies "enrichments" claimed by project sponsors. FTA allows only the following "enrichments" to be excluded from the New Starts cost effectiveness calculation. This is a finite list that may be revisited through future proposed policy guidance:

- ALIs 20.01 through 20.04 and 30.01 through 30.04 Sustainable Building Design Features -- Up to 2.5 percent of the cost of facilities designed to achieve U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) or a comparable third-party certification (i.e., ENERGY STAR, BREEAM) may be removed from the cost effectiveness calculation. Projects that include buildings optimized to use less energy, consume less water and reduce greenhouse gas emissions may also claim the credit, even if the improvements do not lead directly to an official certification. Examples of eligible improvements include landscape and exterior site designs that improve water efficiency and management, and renewable and alternative energy technologies that support greenhouse gas emissions reduction. The 2.5 percent factor is based on studies completed in 2003 and 2004 by the General Services Administration (GSA) and State of California that estimated the average incremental construction cost associated with achieving LEED certification. FTA does not propose to credit the professional services cost of sustainable building design because the studies indicated that this is a very small fraction of a capital project's cost (0.1 to 0.3 percent).
- ALI 20.05 Joint Development – This ALI identifies items eligible for Federal participation per Section 5302(3)(A)(G) of Chapter 49 USC and FTA's Joint Development Circular found on the FTA website. All costs on this line item may be removed from the cost effectiveness calculation. Per FTA's Joint Development Circular, "Joint development is any income-producing activity with a transit nexus related to a real estate asset in which FTA has an interest. Joint development projects are commercial, residential, industrial, or mixed-use developments that are induced by or enhance the effectiveness of transit projects. . ." FTA hopes that the credit will encourage sponsors to undertake joint development efforts as part of New Starts projects; few to date have included joint development-related costs.
- ALI 40.06 Pedestrian/Bike Access and Accommodation and Functional Landscaping – All costs of this line item may be removed from the cost effectiveness calculation. All proposed bicycle and pedestrian improvements must be consistent with FTA's Bicycle and Pedestrian policy.

- ALI 70.04 Alternative Energy Bus Vehicles. Fifty percent of the purchase cost of "green" buses may be removed from the cost effectiveness calculation. Any type of clean fuel bus is eligible for the credit, including buses with compressed natural gas (CNG), hybrid, electric, or fuel cell propulsion. This allowance is based on a 2007 TCRP report, *Assessing and Comparing Environmental Performance of Major Transit Investment*, that found the average cost difference between a conventional diesel bus and a CNG or hybrid bus is approximately 50 percent.

If the project sponsor chooses to develop ridership forecasts for a horizon year in addition to the current year, the overall measure of cost effectiveness is a weighted average that considers both calculations. FTA weights each 50 percent.

Sources of Information

Annualized capital costs for New Starts projects are taken directly from the FTA Standard Cost Categories (SCC) workbook, specifically the "Build Annualized" worksheet.

- Capital costs are expressed in the current year's dollar value.
- The annualization worksheet of the SCC workbook converts the capital cost of individual scope items into their equivalent annual capital cost based on their economic lifetimes and a 2.0 percent discount rate. Enrichments are deducted from the annualized cost calculation automatically in the SCC "Build Annualized" sheet once the project sponsor indicates through simple yes or no answers the enrichments that are applicable and the amount of eligible base cost for each.

Annual operating and maintenance (O&M) costs for New Starts projects are taken directly from the O&M cost model(s) of current and proposed transit facilities and services.

- O&M costs from the model(s) for the current system in the current year are required to match the current O&M budget and reflect any changes anticipated in the existing transit system to integrate the project into the system, as documented in the transit service plan for the project.
- If the project sponsor chooses to calculate the measure in a horizon year as well, the O&M cost estimates are required to reflect the transit service plans for both the point of comparison and the project, including changes made to the point of comparison service plan needed to integrate the project into the system. Horizon-year O&M costs are expressed in the current year's dollars.

For the cost-effectiveness criterion, trips on the project are the number of linked trips using the project, with no extra weight given to trips by transit dependent persons. Trips may be calculated using either STOPS or the local travel model at the project sponsor's option.

Breakpoints

FTA examined data from projects currently in the New Starts process and developed the breakpoints below based on that information. FTA further compared the proposed New Starts breakpoints below to data contained on average annual capital and operating cost per trip of various modes in the National Transit Database and determined them to be reasonable and in line with expectations.

Cost Effectiveness Breakpoints

Rating	Range
High	< $4.00
Medium-High	Between $4.00 and $5.99
Medium	Between $6.00 and $9.99
Medium-Low	Between $10.00 and $14.99
Low	> $15.00

Mobility Improvements

Measures

FTA evaluates mobility improvements for New Starts projects as the total number of linked trips using the proposed project, with a weight of two given to trips that would be made on the project by transit dependent persons. Linked trips using the proposed project include all trips made on the project whether or not the rider boards or alights on the project or elsewhere in the transit system. If a project sponsor chooses to estimate trips using STOPS, then trips made by transit dependent persons are trips made by persons in households that do not own a car. If a project sponsor chooses to estimate trips using their local travel forecasting model, trips made by transit dependent persons are defined in local travel models generally in one of two ways: as trips made by persons in households having no cars or as trips made by persons living in households in the lowest income bracket as defined locally.

FTA assigned a weight of two to trips by transit dependent persons based on information from the 2009 National Household Transportation Survey, which indicates that 8.7 percent of U.S. Households own zero vehicles but make only 4.3 percent of the nation's person trips. If zero-car households had equal opportunity to make trips, i.e., if their mobility was not limited by the existing public transportation system, one could infer that these zero-car households would make more than 4.3 percent of the nation's person trips. To ensure that federal investments in major capital investment transit projects address the travel demand of zero car households equitably, FTA uses a factor of two for the number of trips made by transit dependent persons (8.7 percent ÷ 4.3 percent = 2.02).

If a project sponsor chooses to develop project trip forecasts based on inputs for a horizon year in addition to forecasts based on current year inputs, each is given 50 percent weight when establishing the overall mobility improvements rating. The trips measure is an absolute value rather than an incremental value, so a basis for comparison is not required.

Calculation

The mobility improvements measure is computed by adding together the estimated number of linked transit trips on the project taken by non-transit dependent persons and the number of linked transit trips taken by transit dependent persons multiplied by a factor of two, thereby giving extra weight to these trips.

Sources of Information

Number of Transit Trips Using the Project:

- The number of linked transit trips estimated on the project using current year inputs is generated either by STOPS (which uses census data and ridership experience on existing fixed guideway systems to estimate trips) or the local travel model at the project sponsor's option.
- If the project sponsor wishes to calculate a horizon year forecast of linked transit trips for consideration in the rating, the number of linked transit trips in the horizon year is based upon either STOPS or the local travel model at the project sponsor's option.
- If the project sponsor chooses to calculate a horizon year forecast in addition to a current year forecast, the mobility improvements rating is based on a weighted average that gives 50 percent weight to each.

Number of Trips by Transit Dependents Using the Project:

- The number of trips on the project made by transit dependent persons using current year inputs is generated either by STOPS or the local travel model at the project sponsor's option. Local travel models stratify trips taken in one of two ways – based on household income level or household auto ownership. STOPS uses auto ownership to stratify trips. Thus, trips made by transit dependent persons estimated by STOPS will be those made by households with no cars.

Breakpoints

Rating	Mobility Improvements: Estimated Annual Trips (Trips by Non-Transit Dependent Persons plus Trips by Transit Dependent Persons multiplied by 2)
High	≥ 30 Million
Medium-High	15 Million – 29.9 Million
Medium	5 Million – 14.9 Million
Medium-Low	2.5 Million – 4.9 Million
Low	< 2.5 Million

Congestion Relief

Measure

FTA evaluates congestion relief based on the number of new weekday linked transit trips resulting from implementation of the proposed project. FTA recognizes that this is an indirect measure of roadway congestion relief resulting from implementation of a transit project, but it serves as an indicator of potential cars taken off the road. Additionally, it keeps FTA from double counting the total transit trips evaluated under the mobility criterion or the vehicle miles traveled evaluated under the environmental benefits criterion. FTA believes its virtues are that it is simple to calculate, simple to explain to various decision-makers, and easily understood. Additionally, it continues to allow project sponsors the option of using FTA's simplified ridership forecasting tool entitled STOPS, which can save considerable time and expense.

Because the measure of new weekday linked transit trips is an incremental value, a basis for comparison is required. For forecasts prepared using current year inputs of population and employment, the proposed project is compared to the existing transit system. If a project sponsor also chooses to prepare 10-year horizon forecasts, the proposed project is compared to the no-build transit system (which includes the existing transportation system as well as those transportation investments committed in the Transportation Improvement Plan (TIP) pursuant to 23 CFR Part 450.) If a project sponsor chooses instead to prepare 20-year horizon forecasts, the proposed project is compared to a no-build transit system that includes the projects identified in the Metropolitan Planning Organization's fiscally constrained long range plan (excluding the proposed build alternative.)

If a project sponsor chooses to develop new weekday linked transit trips based on a horizon year in addition to current year, each is given 50 percent weight when establishing the overall congestion relief rating.

Calculation

New weekday linked transit trips are calculated by comparing total weekday linked transit trips for the no-build alternative with total weekday linked transit trips once the proposed project is implemented.

Breakpoints

Congestion Relief Breakpoints

Rating	New Weekday Linked Transit Trips
High	18,000 and above
Medium-High	10,000 to 17,999
Medium	2,500 to 9,999
Medium-Low	500 to 2,499
Low	0 to 499

Environmental Benefits

Measures

FTA evaluates and rates the environmental benefits criterion for New Starts projects based upon the dollar value of the anticipated direct and indirect benefits to human health, safety, energy, and the air quality environment scaled by the annualized capital and operating cost of the project. These benefits are computed based on the change in vehicle miles traveled (VMT) resulting from implementation of the proposed project. Because change in VMT is an incremental measure, a point of comparison is necessary to calculate environmental benefits. To calculate the measures for the current year, the point of comparison is the existing transit system. If the project sponsor also opts to calculate the measures based on 10-year horizon forecasts, the point of comparison is the no-build transit system (which includes the existing transportation system as well as those transportation investments committed in the Transportation Improvement Plan (TIP) pursuant to 23 CFR Part 450). If the project sponsor chooses to calculate the measures based on 20-year horizon forecasts, the point of comparison is the projects identified in the Metropolitan Planning Organization's fiscally constrained long range plan (excluding the proposed build alternative.) The estimated environmental benefits are monetized and compared to the same annualized capital and operating cost of the proposed New Starts project as used in the cost effectiveness calculation.

The standard factors that FTA uses for calculating environmental benefits and data sources are found in the tables below. (See the Appendix for the sources that FTA used to develop the factors.) FTA used data from the Transit Cooperative Research Program study on environmental benefits, "Assessing and Comparing Environmental Performance of Major Transit Investments", and other Federal government data sources to the greatest extent possible.

Calculation

- Environmental benefits include the following subfactors: change in air quality criteria pollutants, change in energy use, change in greenhouse gas emissions, and change in safety. Values for change in energy use and greenhouse gas emissions have been established so as to not double count. (Thus, the valuation of energy use reductions is based only on the economic cost of petroleum dependence identified in Paul N. Leiby, "Estimating the U.S. Oil Security Premium for the 2017-2025 Light -Duty Vehicle GHG/Fuel Economy Rule", Oak Ridge National Laboratory (ORNL), July 15, 2012.) The subfactors are calculated from forecasts of changes in automobile and transit vehicle miles traveled (VMT). All measures are converted from VMT into their native units (e.g., tons of emissions or total accidents) using national-level standard conversion factors. The native units are monetized based on standard dollar values. For air quality subfactors, weights are applied to reflect FTA judgment that higher priority be given to projects achieving reductions in nonattainment and maintenance areas. The monetized and weighted values of the various environmental benefits are summed and compared to the same annualized capital and operating cost of the proposed project as is used in the cost effectiveness calculation for New Starts projects.
- Forecasts of changes in VMT come from either the local travel model or the simplified national model developed by FTA (STOPS). The change in auto VMT is calculated based upon the change in the number of auto trips between the no-build and build alternatives, multiplied by the difference in auto travel distance between the no-build and build alternatives.
- If the project sponsor chooses to calculate a horizon year forecast in addition to a current year forecast, the environmental benefits rating is based on a weighted average that gives 50 percent weight to each.

Sources of Information

The New Starts templates include all of the conversion factors necessary to calculate changes in air quality, energy use, greenhouse gas emissions, and safety resulting from the changes in highway and transit VMT. The project sponsor is required only to input a few data points and the environmental benefits are automatically calculated in the templates. The factors used in the templates are shown below.

Change in Total Air Quality Criteria Pollutants – Carbon Monoxide (CO), Mono-Nitrogen Oxides (NOx), Particulate Matter (PM2.5), and Volatile Organic Compounds (VOC). For the change in air quality measure, FTA uses emission rates per VMT for automobiles (cars and light trucks) and transit vehicles including buses (diesel, hybrid-electric, and CNG), diesel commuter rail and diesel multiple unit vehicles (DMU), light rail transit vehicles, streetcars, electric commuter rail and electric multiple unit (EMU) vehicles, heavy rail vehicles, and electric buses. Because of the potential for double counting the value in reductions of PM2.5 and PM10, FTA includes only PM2.5 in the air quality measure.

Change in Air Quality Emissions Factors

	For Current Year Estimates				**For 10-year Horizon Estimates**				**For 20-year Horizon Estimates**			
	(grams/VMT)											
Mode	CO	NO_x	VOC	$PM_{2.5}$	CO	NO_x	VOC	$PM_{2.5}$	CO	NO_x	VOC	$PM_{2.5}$
Automobile	16.77	0.91	0.60	0.010	11.46	0.28	0.27	0.010	10.26	0.20	0.21	0.010
Bus - Diesel	5.83	8.67	0.73	0.48	3.26	2.08	0.24	0.09	2.89	1.14	0.16	0.03
Bus - Hybrid	5.83	8.67	0.73	0.480	3.26	2.08	0.24	0.09	2.89	1.14	0.16	0.03
Bus - CNG	39.62	3.84	1.46	0.010	20.30	3.41	1.15	0.010	17.16	3.35	1.11	0.010
Bus - Electric	6.45	5.83	0.12	0.378	5.39	4.39	0.10	0.313	5.04	3.98	0.10	0.299
Heavy Rail	7.06	6.38	0.13	0.413	6.85	5.58	0.13	0.398	6.73	5.32	0.13	0.399
Light Rail and Streetcar	10.51	9.50	0.19	0.615	10.20	8.31	0.19	0.593	10.01	7.91	0.20	0.593
Commuter Rail - Diesel locomotive (new) and DMU	16.80	13.20	0.55	0.190	16.80	13.20	0.55	0.190	16.80	13.20	0.55	0.190
Commuter Rail - Diesel locomotive (used) and DMU	16.80	93.00	4.36	4.600	16.80	43.00	1.26	1.330	16.80	20.90	0.44	0.470
Commuter Rail – Electric and EMU	12.81	11.57	0.24	0.750	12.43	10.12	0.23	0.722	12.19	9.64	0.24	0.723

Change in Air Quality Monetization Factors

	Year	CO	NOx – Mobile	NOx – EGU	VOC	PM2.5 - Mobile	PM2.5 - EGU
				$ / KG			
Attainment	Current Year	$0.08	$12.96	$18.36	$3.02	$680.40	$561.60
	10-Year Horizon	$0.08	$15.66	$22.95	$3.75	$861.30	$688.50
	20-Year Horizon	$0.08	$16.20	$23.76	$3.89	$896.40	$712.80
Nonattainment 1.5 times value of attainment	Current Year	$0.12	$19.44	$27.54	$4.53	$1,020.60	$842.40
	10-Year Horizon	$0.12	$23.49	$34.43	$5.63	$1,291.95	$1,032.75
	20-Year Horizon	$0.12	$24.30	$35.64	$5.84	$1,344.60	$1,069.20
Maintenance area 1.25 times value of attainment	Current Year	$0.10	$16.20	$22.95	$3.78	$850.50	$702.00
	10-Year Horizon	$0.10	$19.58	$28.69	$4.69	$1,076.63	$860.63
	20-Year Horizon	$0.10	$20.25	$29.70	$4.86	$1,120.50	$891.00

Change in Energy Use

A significant part of the benefits that come from reducing energy use is already accounted for by the resulting reduction in pollutant and greenhouse gas emissions. In this measure, FTA is attempting to capture the benefit coming from reduced reliance on foreign fuels. Thus, the change in energy use is only computed for modes that use petroleum fuel. The measure estimates the change in energy consumption rates for transit and automobile modes based on the forecasted change in VMT.

Change in Energy Use Factors

	Current Year	10-year Horizon	20-year Horizon
MODE	Btu/VMT		
Automobile	7,559	6,167	5,633
Bus – Diesel	41,436	35,635	33,978
Bus – Hybrid	33,149	28,508	27,182
Commuter Rail - Diesel (new) and DMU	96,138	96,138	96,138
Commuter Rail - Diesel (used)	96,138	96,138	96,138

FTA then monetizes the change in energy use based on the economic cost of dependence on imported petroleum for fuels. FTA uses a value of $0.20 per gallon of petroleum fuel (Leiby/ORNL 2012). To convert from Btu to gallons of petroleum fuel, FTA uses conversion factors (from the GREET model) of 116,090 Btu per gallon of gasoline and 128,450 Btu per gallon of diesel fuel. Therefore, the monetization factors are $1.72 per million Btu for gasoline and $1.56 per million Btu for diesel fuel. Gasoline is assumed to be the sole fuel for changes in automobile VMT for simplicity in the computation.

Change in Greenhouse Gas Emissions

The calculation of the proposed unit rates for GHG emissions includes the application of emissions factors by fuel type.

Change in Greenhouse Gas (CO2e) Emissions Factors

	Current Year	10-year Horizon	20-year Horizon
Mode	(g CO2e/VMT)		
Automobile	532	434	397
Bus – Diesel	3319	2854	2721
Bus – Hybrid	2655	2283	2177
Bus – CNG	2935	2524	2406
Bus - Electric	2934	2441	2303
Heavy Rail	3211	3106	3073
Light Rail and Streetcar	4779	4623	4574
Commuter Rail - Diesel (new) and DMU	7970	7970	7970
Commuter Rail - Diesel (used)	7970	7970	7970
Commuter Rail - Electric and EMU	5821	5632	5572

NOTE: The factor is CO2 equivalents (CO2e). This means that other greenhouse gas emissions (other than CO2) that have different rates of affecting global warming are converted into CO2 terms because that is the most prevalent greenhouse gas emission.

To capture the monetary value of change in GHG emissions, FTA uses the $38 midrange estimate of the social cost of carbon obtained from the Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866 (May 2013), which is a document developed and updated periodically by an Interagency Working Group comprised of a number of Federal agencies. The $38 value is the 2015 midrange

estimate based on a 3 percent discount rate. FTA will update the value based on the latest information available from the Interagency Working Group or other Federal government sources, as appropriate.

Change in Safety
To measure change in safety, FTA uses the change in VMT to calculate changes in disabling injuries and fatalities for automobiles and transit. FTA does not attempt to capture the changes in pedestrian or bicyclist accidents or injuries resulting from changes in VMT because of the difficulty in accounting for such changes using readily available national data.

Change in Safety Factor

Mode	Current Year		10-year Horizon		20-year Horizon	
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries
	(per million VMT)					
Automobile	0.013	0.195	0.013	0.195	0.013	0.195
Bus – Diesel	0.004	1.824	0.004	1.824	0.004	1.824
Bus – Hybrid	0.004	1.824	0.004	1.824	0.004	1.824
Bus – CNG	0.004	1.824	0.004	1.824	0.004	1.824
Bus - Electric	0.004	1.458	0.004	1.458	0.004	1.458
Heavy Rail	0.007	0.155	0.007	0.155	0.007	0.155
Light Rail and Streetcar	0.009	1.696	0.009	1.696	0.009	1.696
Commuter Rail - Diesel (new) and DMU	0.012	1.746	0.012	1.746	0.012	1.746
Commuter Rail - Diesel (used)	0.012	1.746	0.012	1.746	0.012	1.746
Commuter Rail - Electric and EMU	0.012	1.746	0.012	1.746	0.012	1.746

To monetize the estimated changes in safety, FTA uses U.S. DOT guidance on the value of a statistical life and injuries. According to the most recent guidance, published in 2014, the current U.S. DOT value of a statistical life is $9.2 million. The value FTA uses for a disabling injury for both transit and automobiles is $490,000, which is 5.39 percent of the U.S. DOT value of a statistical life, based on the KABCO scale in the 2009 Highway Safety Manual published by the American Association of State Highway and Transportation Officials in coordination with the Federal Highway Administration. FTA plans to update these figures whenever U.S. DOT publishes revised values.

Breakpoints

The environmental benefits measure for New Starts projects is the sum of the monetized value of the benefits resulting from the changes in air quality and GHG emissions, energy use, and safety divided by the same annualized capital and operating cost of the project as used in the cost effectiveness measure. FTA multiplies the resulting ratio by 100 and expresses the environmental benefit measure as a percentage.

Rating	Range
High	> 10%
Medium-High	5 to 10%
Medium	0 to 5%
Low-Medium	0 to -10%
Low	< -10%

Economic Development

Measures

The measure of economic development effects is the extent to which a proposed project is likely to induce additional, transit-supportive development in the future based on a qualitative examination of the existing local plans and policies to support economic development proximate to the project.

Calculation

- FTA evaluates transit supportive plans and policies, the demonstrated performance of those plans and policies, and the policies and tools in place to preserve or increase the amount of affordable housing in the project corridor. FTA also reports the project sponsor's estimate of the number of U.S. jobs related to design, construction, operation and maintenance of the project although this is not used in developing the rating.
- At the project sponsor's option, an additional quantitative analysis (scenario based estimate) may be undertaken that considers:
    - The extent to which the proposed project would produce changes in development patterns around the transit investment and the resulting magnitude of changes in population and employment, considering:
        - the economic conditions in the project corridor;
        - the mechanisms by which the project would improve those conditions;
        - the availability of land in station areas for development and redevelopment;
        - an evaluation of policies that enable or inhibit housing in transit-supportive development; and
        - a pro forma assessment of the feasibility of specific development scenarios.
    - The estimated change in VMT attributable to the estimated changes in development patterns.
    - The estimated environmental benefits that would come from the VMT change attributable to the estimated change in development patterns. Note that these benefits are counted in the economic development criterion and not added to the benefits assessed in the environmental benefits criterion. These benefits are above and beyond the benefits that come from changes in mode choice that are addressed in the environmental benefits criterion.

The environmental benefits derived from the optional quantitative economic development scenario analysis are then monetized and compared to the same annualized capital and operating cost of the proposed project as used in the cost-effectiveness calculation. FTA multiplies the resulting ratio by 100 and expresses the environmental benefits derived from the optional quantitative economic development scenario as a percentage.

Sources of information

- Transit Supportive Plans and Policies
    - Growth Management;
    - Transit Supportive Corridor Policies;
    - Supportive Zoning Regulations Near Transit Stations; and
    - Tools to Implement Land Use Policies.
- Performance and Impacts of Policies:
    - Performance of Land Use Policies; and
    - Potential Impact of Transit Project on Regional Land Use.
- Tools to maintain or increase the share of affordable housing in the project corridor:
    - Evaluation of Corridor-Specific Affordable Housing Needs and Supply including an examination of local plans or policies that enable or inhibit housing development in the area
    - Plans and Policies to Preserve and Increase Affordable Housing such as:
        - Inclusionary zoning and/or density bonuses for affordable housing
        - Employer assisted housing policies
        - Voluntary or mandatory inclusionary housing policies

        - Rent controls or condominium conversion controls
        - Zoning to promote housing diversity
        - Affordability covenants
    - Adopted Financing Tools and Strategies to Preserve and Increase Affordable Housing such as:
        - Target property acquisition, rehabilitation, and development funding for low-income housing within the corridor, including:
            - Low Income Housing Tax Credits
            - Ongoing affordable housing operating subsidies
            - Weatherization and utilities support program
            - Local tax abatements for low-income or senior housing
            - Local of State programs that provide mortgage or other home ownership assistance for lower income and senior households
        - Established land banking programs or transfer tax programs
        - Local or regional affordable housing trust funds
        - Targeted tax increment financing or other value-capture strategies for low-income housing
    - Developer Activity to Preserve and Increase Affordable Housing

The optional scenario analysis could include, but is not required to include, information such as change in regional work force access to transit:

- U.S. Census data analyzed with a Geographic Information System to estimate the work-force population within a 40 minute transit commute of the proposed station locations.

Breakpoints

Below is a brief, high level summary of the breakpoints that will be used in evaluating the plans and policies in place. For more detailed information that further clarifies exactly how FTA establishes the ratings, please see our "Guidelines for Land Use and Economic Development Effects for New and Small Starts Projects" on the FTA website.

Growth Management		
Engineering and FFGA	HIGH	Adopted and enforceable growth management and land conservation policies are in place throughout the region. Existing and planned densities and market trends in the region and corridor are strongly compatible with transit.
	MEDIUM	Significant progress has been made toward implementing growth management and land conservation policies. Strong policies may be adopted in some jurisdictions but not others, or only moderately enforceable policies (e.g., incentive-based) may be adopted region-wide. Existing and/or planned densities and market trends are moderately compatible with transit.
	LOW	Limited consideration has been given to implementing growth management and land conservation policies; adopted policies may be weak and apply to only a limited area. Existing and/or planned densities and market trends are minimally or not supportive of transit.
Ratings based on assessment of the following: • Concentration of development around established activity centers and regional transit; and • Land conservation and management.		

Transit-Supportive Corridor Policies		
FFGA/SSGA	HIGH	Conceptual plans for the corridor and station areas have been developed. Local jurisdictions have adopted or drafted revisions to comprehensive and/or small area plans in most or all station areas. Development patterns proposed in conceptual plans and local and institutional plan revisions are strongly supportive of a major transit investment.
	MEDIUM	Conceptual plans for the corridor and station areas have been developed. Local jurisdictions have initiated the process of revising comprehensive and/or small area plans. Development patterns proposed in conceptual plans and local and institutional plan revisions are at least moderately supportive of a major transit investment.
	LOW	Limited progress, to date, has been made toward developing station area conceptual plans or revising local comprehensive or small area plans. Station area uses identified in local comprehensive plans are marginally or not transit-supportive.
Engineering	HIGH	Conceptual plans for the corridor and station areas have been developed. Discussions have been undertaken with local jurisdictions about revising comprehensive plans. Development patterns proposed in conceptual plans for station areas (or in existing comprehensive plans and institutional master plans throughout the corridor) are strongly supportive of a major transit investment.
	MEDIUM	Conceptual plans for the corridor and station areas are being developed. Discussions have been undertaken with local jurisdictions about revising comprehensive plans. Development patterns proposed in conceptual plans for station areas (or existing in local comprehensive plans and institutional master plans) are at least moderately supportive of a major transit investment.
	LOW	Limited progress, to date, has been made toward developing station area conceptual plans or working with local jurisdictions to revise comprehensive plans. Existing station area uses identified in local comprehensive plans are marginally or not transit-supportive.
Ratings based on assessment of the following: • Plans and policies to increase corridor and station area development; • Plans and policies to enhance transit-friendly character of corridor and station area development; • Plans to improve pedestrian facilities, including facilities for persons with disabilities; and • Parking policies.		

Supportive Zoning Near Transit		
FFGA/SSGA	HIGH	Local jurisdictions have adopted zoning changes that strongly support a major transit investment in most or all transit station areas.
	MEDIUM	Local jurisdictions are in the process of adopting zoning changes that moderately or strongly support a major transit investment in most or all transit station areas. Alternatively, strongly transit-supportive zoning has been adopted in some station areas but not in others.
	LOW	No more than initial efforts have begun to prepare station area plans and related zoning. Existing station area zoning is marginally or not transit supportive.
Engineering	HIGH	A conceptual planning process is underway to recommend zoning changes for station areas. Conceptual plans and policies for station areas are recommending transit-supportive densities and design characteristics. Local jurisdictions have committed to examining and changing zoning regulations where necessary. Alternatively, a "high" rating can be assigned if existing zoning in most or all transit station areas is already strongly transit supportive.
	MEDIUM	A conceptual planning process is underway to recommend zoning changes for station areas. Local jurisdictions are in the process of committing to examining and changing zoning regulations where necessary. Alternatively, a "medium" rating can be assigned if existing zoning in most or all transit station areas is already moderately transit supportive.
	LOW	Limited consideration has been given to preparing station area plans and related zoning. Existing station area zoning is marginally or not transit supportive.
Ratings based on assessment of the following: • Zoning ordinances that support increased development density in transit station areas; • Zoning ordinances that enhance transit-oriented character of station area development and pedestrian access; and • Zoning allowances for reduced parking and traffic mitigation.		

Tools to Implement Transit-Supportive Plans and Policies		
FFGA/SSGA	HIGH	Transit agencies and/or regional agencies are working proactively with local jurisdictions, developers, and the public to promote transit-supportive planning and station area development. The transit agency has established a joint development program and identified development opportunities. Agencies have adopted effective regulatory and financial incentives to promote transit-oriented development. Public and private capital improvements are being programmed in the corridor and station areas which implement the local policies and which leverage the Federal investment in the proposed major transit investment corridor.
	MEDIUM	Transit agencies and/or regional agencies have conducted some outreach to promote transit-supportive planning and station area development. Regulatory and financial incentives to promote transit-oriented development are being developed, or have been adopted but are only moderately effective. Capital improvements are being identified that support station area plans and leverage the Federal investment in the proposed major transit corridor.
	LOW	Limited effort has been made to reach out to jurisdictions, developers, or the public to promote transit-supportive planning; to identify regulatory and financial incentives to promote development; or to identify capital improvements.
Engineering	HIGH	Transit agencies and/or regional agencies are working proactively with local jurisdictions, developers, and the public to promote transit-supportive planning and station area development. Local agencies are making recommendations for effective regulatory and financial incentives to promote transit-oriented development. Capital improvement programs are being developed that support station area plans and leverage the Federal investment in the proposed major transit corridor.
	MEDIUM	Transit agencies and/or regional agencies have conducted some outreach to promote transit-supportive planning and station area development. Agencies are investigating regulatory and financial incentives to promote transit-oriented development. Capital improvements are being identified that support station area plans and leverage the Federal investment in the proposed major transit corridor.
	LOW	Limited effort has been made to reach out to jurisdictions, developers, or the public to promote transit-supportive planning; to identify regulatory and financial incentives to promote development; or to identify capital improvements.
Ratings based on assessment of the following: • Outreach to government agencies and the community in support of land use planning; • Regulatory and financial incentives to promote transit-supportive development; and • Efforts to engage the development community in station area planning and transit-supportive development.		

Performance of Transit-Supportive Plans and Policies		
FFGA/SSGA	HIGH	A significant number of development proposals are being received for transit-supportive housing and employment in station areas. Significant amounts of transit-supportive development have occurred in other, existing transit corridors and station areas in the region.
	MEDIUM	Some development proposals are being received for transit-supportive housing and employment in station areas. Moderate amounts of transit-supportive development have occurred in other, existing transit corridors and station areas in the region.
	LOW	A limited number of proposals for transit-supportive housing and employment development in the corridor are being received. Other, existing transit corridors and station areas in the region lack significant examples of transit-supportive housing and employment development.
Engineering	HIGH	Transit-supportive housing and employment development is occurring in the corridor. Significant amounts of transit-supportive development have occurred in other, existing transit corridors and station areas in the region.
	MEDIUM	Station locations have not been established with finality, and therefore development would not be expected. Moderate amounts of transit-supportive housing and employment development have occurred in other, existing transit corridors and station areas in the region.
	LOW	Other, existing transit corridors and station areas in the region lack significant examples of transit-supportive housing and employment development.
Ratings based on assessment of the following: • Demonstrated cases of development affected by transit-oriented policies; and • Station area development proposals and status.		

Potential Impact of Transit Project on Regional Development		
Engineering and FFGA/SSGA	HIGH	A significant amount of land in station areas is available for new development or redevelopment at transit-supportive densities. Local plans, policies, and development programs, as well as real estate market conditions, strongly support such development.
	MEDIUM	A moderate amount of land in station areas is available for new development or redevelopment at transit-supportive densities. Local plans, policies, and development programs, as well as real estate market conditions, moderately support such development.
	LOW	Only a modest amount of land in station areas is available for new development or redevelopment. Local plans, policies, and development programs, as well as real estate market conditions, provide marginal support for new development in station areas.
Ratings based on assessment of the following: • Adaptability of station area land for development; and • Corridor economic environment.		

Plans and Policies to Maintain or Increase Affordable Housing in Corridor		
FFGA/SSGA	HIGH	• Comprehensive affordable housing plans have been developed and are being implemented that identify and address the current and prospective housing affordability needs along the corridor. The plans include efforts to preserve existing affordable housing (both legally binding affordability restricted housing and market-rate affordable housing.) The plans also explicitly address the housing affordability and quality needs of very- and extremely-low income households. • Financing commitments and/or sources of funding and robust financial incentives are secured and available at the local and/or regional level and along the proposed corridor to support affordable housing acquisition (including acquisition of land and/or properties intended to be converted to affordable housing), development and/or preservation consistent with adopted plans and policies. These commitments may include early phase or acquisition financing as well as permanent financing. • Local policies and zoning codes support and encourage significant affordable housing development in transit corridors. • Developers are actively working in the corridor to secure priority development sites and/or maintain affordability levels in existing housing units.
	MEDIUM	• Affordable housing plans have been developed and are being implemented that identify and address the current and prospective housing affordability needs along the corridor. The plans include efforts to preserve existing subsidized housing. The plans also explicitly address the needs of very- and extremely-low income households. • Some financial incentives are available along the proposed corridor to support affordable housing acquisition (including acquisition of land and/or properties intended to be converted to affordable housing), development and/or preservation consistent with adopted plans and policies. These commitments may include early phase or acquisition financing as well as permanent financing. • Local policies and zoning codes support affordable housing development in and near transit corridors to a moderate extent. • Developers are starting to work in the corridor to secure priority development sites and/or maintain affordability levels in existing housing units.
	LOW	• Affordable housing plans and policies are in development or non-existent, or fail to address key elements such as length of affordability, preservation of existing affordable housing, and the needs of very- and extremely-low income households. • Little or no financial incentives are available to support affordable housing development and preservation. • Local policies and zoning codes support only limited affordable housing development in and near transit corridors. • There is little or no affordable housing development/preservation activity in the corridor.

<table>
<tr><td colspan="3">Plans and Policies to Maintain or Increase Affordable Housing in Corridor (continued)</td></tr>
<tr><td rowspan="3">Engineering</td><td>HIGH</td><td>Plans and policies are in place in most of the jurisdictions covered by the project corridor that identify and address the current and prospective housing affordability needs along the corridor. The plans outline a strategy to preserve existing affordable housing (both legally binding affordability restricted housing and market-rate affordable housing.) The plans also explicitly address the housing affordability and quality needs of very- and extremely-low income households.
Financing commitments and/or sources of funding and robust financial incentives are identified and secured to support affordable housing acquisition (including acquisition of land and/or properties intended to be converted to affordable housing), development and/or preservation consistent with adopted plans and policies. These commitments may include early phase or acquisition financing as well as permanent financing.
A strategy is in place to encourage jurisdictions to adopt local policies and zoning codes that support and encourage affordable housing development in transit corridors.
Developers are actively working in the corridor to secure priority development sites and/or maintain affordability levels in existing housing units.</td></tr>
<tr><td>MEDIUM</td><td>Affordable housing plans are being prepared in most of the jurisdictions covered by the project corridor that identify and address the current and prospective housing affordability needs along the corridor. The plans outline a strategy to preserve existing affordable housing (both legally binding affordability restricted housing and market-rate affordable housing). The plans also explicitly address the housing affordability and quality needs of very- and extremely-low income households.
Some financing commitments and/or sources of funding and have been identified and secured to support affordable housing acquisition (including acquisition of land and/or properties intended to be converted to affordable housing), development and/or preservation. These commitments may include early phase or acquisition financing as well as permanent financing.
A strategy is in place to encourage jurisdictions to adopt local policies and zoning codes that support and encourage affordable housing development in transit corridors.
Developers are starting to work in the corridor to secure priority development sites and/or maintain affordability levels in existing housing units.</td></tr>
<tr><td>LOW</td><td>Plans and policies are not in place or being prepared that identify and address the specific housing affordability needs along the corridor.
Financing commitments and/or sources of funding have not been identified and secured to preserve and/or build new affordable housing consistent with adopted plans.
There is no strategy to encourage jurisdictions to adopt local policies and zoning codes that support and encourage affordable housing development in transit corridors.
There is little or no affordable housing development/preservation activity in the corridor</td></tr>
<tr><td colspan="3">Ratings based on assessment of the following:
Evaluation of corridor-specific affordable housing needs and supply;
Plans and policies to preserve and increase affordable housing in region and/or corridor;
Adopted financing tools and strategies targeted to preserving and increasing affordable housing in the region and/or corridor;
Evidence of developer activity to preserve and increase affordable housing in the corridor; and
The extent to which the plans and polices account for long-term affordability and the needs of very- and extremely-low income households in the corridor.</td></tr>
</table>

Optional Quantitative Economic Development Scenario
FTA is not specifying a methodology for the optional quantitative economic development scenario. Thus, FTA is not establishing breakpoints at this time. As information is submitted by project sponsors over time, and methodologies are proposed, breakpoints may be established in the future that would be subject to public comment before being finalized. At least initially, FTA intends to examine any optional analyses prepared by project sponsors and assign ratings based on FTA's qualitative assessment of the reasonableness of the analysis and the magnitude of the numbers presented in it.

Project Justification Warrants

Warrants are pre-qualification approaches that allow a proposed project to automatically receive a satisfactory rating on a given criterion based on the project's characteristics or the characteristics of the project corridor. The law specifies in Section 5309(g)(3) that FTA develop and use warrants when evaluating project justification criteria to the maximum extent practicable as long as the CIG share of the project does not exceed $100 million or 50 percent. The law also specifies the New Starts project sponsor must request the use of warrants and certify its existing system is in a state of good repair.

To take advantage of warrants, project sponsors should submit a letter to the FTA Associate Administrator for Planning and Environment requesting the use of warrants. The letter should document the estimated project cost, the requested CIG amount and share, and the current existing transit ridership in the corridor today following instructions provided on FTA's website at https://www.transit.dot.gov/funding/grant-programs/capital-investments/how-apply. The letter should also include a signed statement by the Chief Executive Officer of the transit agency that the existing public transportation system is in a state of good repair as demonstrated by: 1) a description of the process in place to assess the condition of the transit system's assets; and 2) submittal of information demonstrating progress has been made toward improving asset conditions across the system. FTA will review the eligibility of the project for warrants on a case by case basis until such time as it completes the rulemaking process associated with the Transit Asset Management requirements of FAST.

If the project is determined to be eligible for warrants, FTA will give automatic Medium ratings on the Mobility Improvements, Congestion Relief, and Cost-Effectiveness criteria if the cost of the proposed New Starts project and current existing transit ridership in the corridor today fit within the levels identified in the chart below.

Total Proposed New Starts Project Capital Cost		**Existing Weekday Transit Trips in the Corridor**	**Mobility Rating Automatically Assigned**	**Cost Effectiveness Rating Automatically Assigned**	**Congestion Relief Rating Automatically Assigned**
$0 to < $50 million	And	3,000 or more	Medium	Medium	Medium
$50 to <$100 million	And	6,000 or more	Medium	Medium	Medium
$100 million to <$175 million	And	9,000 or more	Medium	Medium	Medium
$175 to < $250 million	And	12,000 or more	Medium	Medium	Medium
$250 to < $500 million	And	15,000 or more	Medium	Medium	Medium
$500 million or more	And	Not applicable	Not Warranted		

FTA developed these proposed warrant values based on an examination of data on past and current projects in the program. Those projects that met the existing ridership and cost thresholds described above generally fell within the cost per trip breakpoints currently used to assess cost-effectiveness, thus FTA believes them to be reasonable. FTA believes proposed projects that have capital costs proportionate to the level of existing transit ridership in a strong, established transit corridor have a high likelihood of success. Thus, FTA believes they can be advanced without time-consuming and costly analysis.

FTA is not suggesting that projects unable to meet the warrants thresholds above are bad projects. Rather, FTA believes they simply need to be analyzed more fully before investment decisions are made. For example, projects with a capital cost of greater than $500 million are of a size and scale that FTA believes merits a more careful and detailed analysis before proceeding with investment of significant taxpayer dollars.

If a project is determined to be eligible for these warrants, the project sponsor is relieved of the need to prepare detailed ridership forecasts. Furthermore, the project sponsor may use a simplified approach to compute the Environmental Benefits criterion as described further below.

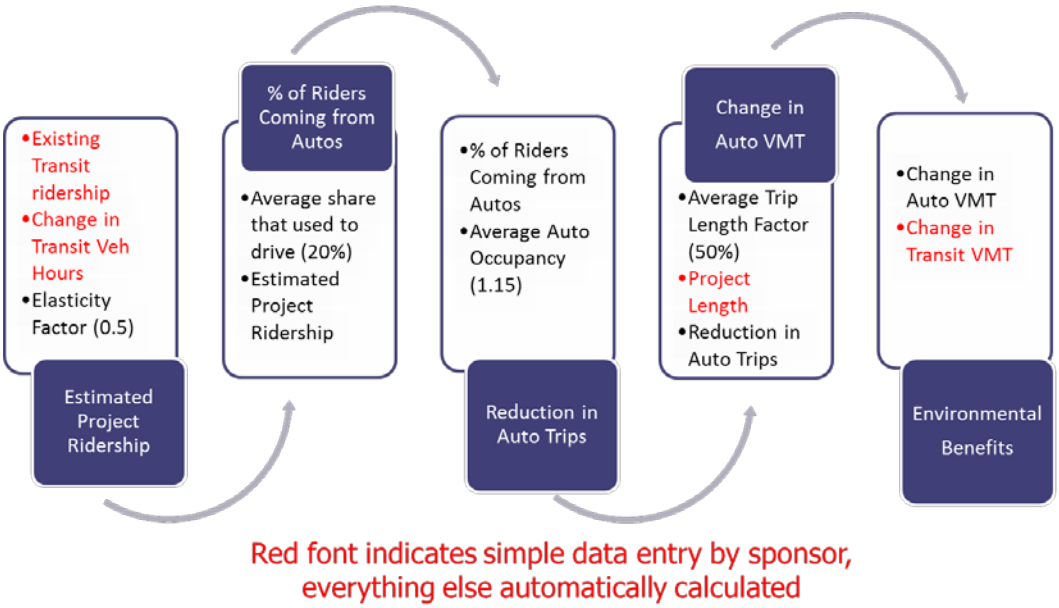
Warranted New Starts projects are still subject to the normal rating process for the remaining Project Justification criteria of Economic Development and Land Use because those criteria are related to highly individualized aspects of each particular project that cannot be determined to be acceptable solely because existing ridership in a corridor may meet the FTA threshold.

Project sponsors may request consideration for warrants at any time during the Project Development phase. However, it is most advantageous for the project sponsor to determine eligibility for warrants prior to engaging in significant ridership forecasting work. FTA reminds project sponsors that if significant changes to the project cost occur or the project scope is shortened or realigned, the project will need to be re-examined to ensure it still meets the eligibility requirements for warrants.

Warrants are optional. Even if a project qualifies for warrants, project sponsors may wish to calculate the criteria themselves using the templates FTA provides if they believe ratings higher than "medium" may be possible. If, based on the results of the project sponsor calculations and a comparison to the breakpoints, the sponsor believes better than "medium" ratings are possible, the sponsor can request that FTA evaluate and rate the criteria rather than using warrants. If a sponsor chooses to submit information for evaluation and rating by FTA, the sponsor cannot then go back to choosing warrants as an option if the sponsor does not like the results of FTA's evaluation.

If a sponsor chooses to be warranted, the project will be warranted for all three of the criteria mentioned above and will use the simplified environmental benefits calculation discussed below. Selective use of the warrants for one criterion but not the others is not allowed. Warrants help eliminate the need for costly and time-consuming ridership forecasting by project sponsors and verification by FTA. Unless all three criteria are warranted, these time-savings would not be realized. Allowing a pick and choose approach might actually increase the workload required of project sponsors and FTA, eliminating any potential time-savings.

Because the Environmental Benefits criterion uses estimated change in auto VMT as a result of the implementation of the project for many of its measures, and that is an output of the ridership forecasting process, a simplified approach for developing this information for warranted projects is needed. Therefore, FTA uses a simplified computation to estimate Environmental Benefits for warranted projects based on information project sponsors should have on hand, such as existing corridor ridership, change in transit vehicle-hours, vehicle-miles from the proposed project's service plan, and the length of the proposed project. When combined with standardized factors for ridership (elasticity), share of transit riders shifting from automobiles, average auto occupancy, and average trip length, this information is used by FTA to estimate auto VMT for use in the Environmental Benefits measures. The chart below explains the calculations and shows the standard factors FTA uses.



Local Financial Commitment

Measures

The law requires that proposed New Starts projects be supported by an acceptable degree of local financial commitment, including evidence of stable and dependable financing sources to construct, maintain and operate the transit system or extension, and maintain and operate the entire public transportation system without requiring a reduction in existing services.

Project sponsors must prepare a financial plan and 20-year cash flow statement in accordance with FTA's Guidance for Transit Financial Plans found on our website.

The measures FTA uses for the evaluation of local financial commitment for proposed New Starts projects are:

- The proposed share of total project capital costs from sources other than the Section 5309 CIG program;
- The current financial condition, both capital and operating, of the project sponsor and/or relevant project partners when more than one entity is involved in construction or operations;
- The commitment of funds for both the capital cost of the proposed project and the ongoing transit system operation and maintenance, including consideration of whether there is significant private participation;
- The reasonableness of the financial plan, including planning assumptions, cost estimates, and the capacity to withstand funding shortfalls or cost overruns.

Calculation

Individual ratings will be given to each of the following measures:

1. The rating for the current capital and operating condition will be based upon the average fleet age, bond ratings if given within the last two years, the current ratio as shown in the project sponsor's most recent audited financial statement (ratio of current assets to current liabilities), and recent service history including whether there have been significant cuts in service. In arriving at a current condition rating, the majority of the emphasis will be placed on the fleet age and current ratio. The bond rating and service history will have less emphasis. Temporary aberrations in any of these measures would have less of an effect than ongoing systemic concerns.

2. The rating for commitment of funds will be based on the percentage of funds (both capital and operating) that are committed or budgeted versus those considered only planned or unspecified. If there are significant private contributions, such involvement would increase the commitment of funds rating one level. FTA will determine on a case by case basis whether private contributions are significant based on the unique arrangements that may be presented. Private contributions can include outside investments that result in cost-effective project delivery, financial partnering, and other public-private partnership strategies. Note that the rating for the commitment of funds subfactor is separate and distinct from the proposed required level of committed funds necessary to get into and through the steps in the process described elsewhere in this document.
3. The rating for the reasonableness of the financial plan will be based upon whether capital and operating planning assumptions are comparable to historical experience, the reasonableness of the capital cost estimate of the project, adequacy of meeting state of good repair needs, and the project sponsor's financial capacity to withstand cost increases or funding shortfalls.

The summary local financial commitment rating will also take into consideration the share of CIG funding requested. If the summary local financial commitment rating is rated at least Medium and the CIG share is less than 50 percent of the project's capital cost (i.e., the project sponsor is providing significant overmatch), then the summary local financial commitment rating will be raised one level.

	High	Medium-High	Medium	Medium-Low	Low
Current Capital and Operating Condition (25% of local financial commitment rating)	• Average bus fleet age under 6 years. • Current ratio exceeding 2.0 • Bond ratings less than 2 years old (if any) of AAA (Fitch/S&P) or Aaa (Moody's) • Historical positive cash flow. No cash flow shortfalls. • No service cutbacks in recent years.	• Average bus fleet age under 6 years. • Current ratio exceeding 1.5 • Bond ratings less than 2 years old (if any) of AA (Fitch/S&P) or Aa3 (Moody's) or better • Historical positive cash flow. No cash flow shortfalls. • No service cutbacks in recent years.	• Average bus fleet age under 8 years. • Current ratio exceeding 1.2 • Bond ratings less than 2 years old (if any) of A (Fitch/S&P) or A3 (Moody's) or better • Historical positive cash flow. No cash flow shortfalls. • Only minor service adjustments in recent years	• Average bus fleet age under 12 years. • Current ratio exceeding 1.0 • Bond ratings less than 2 years old (if any) of BBB+ (Fitch/S&P) or Baa (Moody's) or better • Historical positive cash flow. No cash flow shortfalls. • Major service cutbacks in recent years.	• Average bus fleet age of 12 years or more. • Current ratio less than1.0 • Bond ratings less than 2 years old (if any) of BBB (Fitch/S&P) or Baa3 (Moody's) or below • Recent historical cash flow problems. • Major service cutbacks in recent years.
Commitment of capital and operating funds (25% of local financial commitment rating)	• At least 75% of the Non-Section 5309 capital funds are committed or budgeted. • At least 75% of the funds needed to operate and maintain the proposed transit system in the opening year of the project are committed or budgeted.	• At least 50% of the Non-Section 5309 capital funds are committed or budgeted. • At least 50% of the funds needed to operate and maintain the proposed transit system in the opening year of the project are committed or budgeted.	• At least 30% of the Non-Section 5309 capital funds are committed or budgeted. • At least 30% of the funds needed to operate and maintain the proposed transit system in the opening year of the project are committed or budgeted.	• At least 10% of the Non-Section 5309 capital funds are committed or budgeted. • While no additional operating and maintenance funding has been committed, a reasonable plan to secure funding commitments has been presented.	• Less than 10% of the Non-Section 5309 capital funds are committed or budgeted. • The applicant does not have a reasonable plan to secure operating and maintenance funding.
Reasonableness of capital and operating cost estimates and planning assumptions/capital funding capacity (50% of local financial commitment rating)	• Financial plan contains very conservative planning assumptions and cost estimates when compared with recent historical experience. • The applicant has access to funds via additional debt capacity, cash reserves, or other committed funds to cover cost increases or funding shortfalls equal to at least 50% of estimated project cost and 50% (6 months) of annual system wide operating expenses.	• Financial plan contains conservative planning assumptions and cost estimates when compared with recent historical experience. • The applicant has access to funds via additional debt capacity, cash reserves, or other committed funds to cover cost increases or funding shortfalls equal to at least 25% of estimated project cost and 25% (3 months) of annual system wide operating expenses.	• Financial plan contains planning assumptions and cost estimates that are consistent with recent historical experience. • The applicant has access to funds via additional debt capacity, cash reserves, or other committed funds to cover cost increases or funding shortfalls equal to at least 15% of estimated project cost and 12% (1.5 months) of annual system wide operating expenses.	• Financial plan contains optimistic planning assumptions and cost estimates when compared to recent historical experience. • The applicant has access to funds via additional debt capacity, cash reserves, or other committed funds to cover cost increases or funding shortfalls equal to at least 10% of estimated project cost and 8% (1 month) of annual system wide operating expenses.	• Financial plan contains planning assumptions and cost estimates that are far more optimistic than recent history suggests. • The applicant has a reasonable plan to cover only minor (< 10%) capital cost increases or funding shortfalls. • Projected operating cash balances are insufficient to maintain balanced budgets.

Overall Project Rating

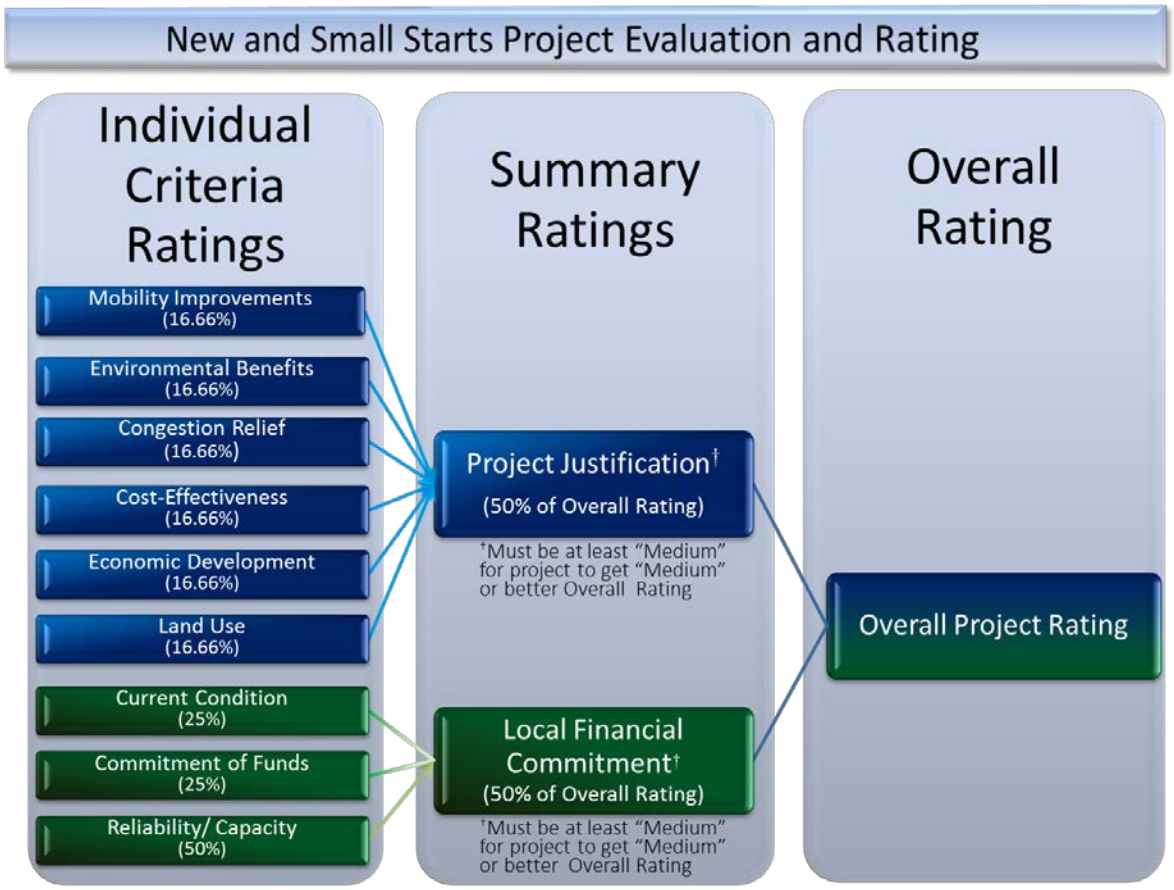
FAST requires that FTA evaluate and rate a project as a whole on a 5-point scale from low to high based on the combined summary ratings for project justification and local financial commitment. FAST also requires that FTA evaluate the six project justification criteria and give "comparable, but not necessarily equal" weight to each when determining a summary project justification rating. FAST does not specify how the local financial commitment criteria should be weighted when arriving at a summary local financial commitment rating.

As an interim approach until rulemaking is complete, FTA gives 50 percent weight to the summary project justification rating and 50 percent weight to the summary local financial commitment rating to arrive at an overall rating. FTA requires at least a Medium rating on both project justification and local financial commitment to obtain a Medium or better rating overall.

FTA gives equal weight to each of the project justification criteria to arrive at a summary project justification rating, meaning each of the six is given a weight of 16.66 percent. FTA believes that each of the project justification criteria provides important information about project merit and thus, feels that equal weights are appropriate. Some types of projects may do well on some of the criteria, but not as well on other criteria. Examining the merits of the project as a whole against all of the project justification criteria combined balances what can sometimes be competing policy goals.

FTA gives a 25 percent weight to the current financial condition of the project sponsor, a 25 percent weight to the commitment of non-CIG funds, and a 50 percent weight to the reasonableness of the financial plan submitted by the project sponsor. The proposed CIG share of the total project capital cost, and whether a project sponsor is providing significant overmatch, is considered after the above weights are applied. If a project sponsor provides a significant overmatch the summary local financial commitment rating be raised one level.

The charts below describe the weights of the various criteria and how they are combined into summary ratings and an overall rating.


New and Small Starts Project Evaluation and Rating
Individual Criteria Ratings
Mobility Improvements (16.66%)
Environmental Benefits (16.66%)
Congestion Relief (16.66%)
Cost-Effectiveness (16.66%)
Economic Development (16.66%)
Land Use (16.66%)
Current Condition (25%)
Commitment of Funds (25%)
Reliability/ Capacity (50%)
Summary Ratings
Project Justification† (50% of Overall Rating)
†Must be at least "Medium" for project to get "Medium" or better Overall Rating
Local Financial Commitment† (50% of Overall Rating)
†Must be at least "Medium" for project to get "Medium" or better Overall Rating
Overall Rating
Overall Project Rating

New Starts Project Justification Criteria and Subfactors

Mobility Improvements 16.66%	•Total linked trips on the proposed project, with a weight of two given to trips made by transit dependent persons
Environmental Benefits 16.66%	•Dollar value of the anticipated direct and indirect benefits to human health, safety, energy, and the air quality environment scaled by the annualized capital and operating cost of the project (computed based on the change in vehicle miles travelled resulting from implementation of the proposed project)
Congestion Relief 16.66%	•New transit trips resulting from implementation of the project
Cost-Effectiveness 16.66%	•Annual capital and operating and maintenance cost per trip on the project
Economic Development 16.66%	•Transit supportive plans and policies •Demonstrated performance of plans and policies •Policies and tools in place to preserve or increase the amount of affordable housing
Land Use 16.66%	•Existing corridor and station area development and character •Existing station area pedestrian facilities, including access for persons with disabilities •Existing corridor and station area parking supply •Proportion of existing "legally binding affordability restricted" housing within ½ mile of station areas to the proportion of "legally binding affordability restricted" housing in the counties through which the project travels

Local Financial Commitment Criteria and Subfactors

Current Condition 25%	• Average Fleet Age • Bond ratings (within last 2 years) • Current ratio (current assets/current liabilities) • Recent service history
Commitment of Funds 25%	• Amount of committed, budgeted, or planned funds • Whether there are significant private contributions to the project
Financial Capacity and Reasonableness of Assumptions 50%	• Assumptions about revenue and expense growth comparable to historical experience • Reasonableness of project capital cost estimate • Adequacy of meeting state of good repair needs • Financial capacity to withstand funding shortfalls or cost overruns (above and beyond contingency included in the cost estimate)

APPENDIX

Data Sources

Change in Air Quality Factors Data Sources and Assumptions

Factor	Data Source or Assumption
Emission rates – automobiles, diesel and CNG transit buses	MOVES2010a – runs using national default inputs for 2013, 2025, 2035
Emission rates – commuter rail (diesel) and DMU	New locomotives: U.S. EPA Tier 4 emissions standards (U.S. EPA 2009) Reused locomotives: Average emission factor for U.S. passenger locomotives by year from U.S. EPA
Emission rates – electric modes	NO_x emissions forecasts based U.S. Department of Energy (DOE) Annual Energy Outlook (AEO) 2012 Reference Scenario PM, VOC, and CO forecasts based on current emission levels Argonne National Laboratory Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model (GREET) and forecast generating mix from AEO
Value of change in emissions	U.S. EPA (2012) health damage using PM2.5 and precursor (VOC and NOx) costs by source type – adjusted for horizon year estimates based on EPA estimates for 2015, 2020, 2030 Delucchi (2004) midpoint value for urban areas for CO Adjusted 50% upwards for nonattainment areas and 25% upwards for maintenance areas to account for the higher value of a change in emissions in an area with worse air quality, based on FTA judgment.

Change in Energy Use Data Sources and Assumptions

Factor	Data Source or Assumption
Assumed fuel blends for gasoline and diesel	Gasoline: 10% ethanol Diesel: 10% biodiesel
Full fuel-cycle energy factors (measure of energy consumed by the transportation vehicle and energy associated with the extraction, transmission, and processing of fuels)	GREET model for 2020
Automobile fuel economy	Projections from AEO 2012 (including Model Year 2012-2016 standards)
Transit vehicle energy intensity (Btu per mile) – (2010)	NTD averages by mode for diesel bus and commuter rail Hybrid bus = 20% improvement vs. diesel DMU = commuter rail diesel
Transit vehicle energy intensity – improvement factors (current year, 10-year horizon, 20-year horizon)	Buses - AEO average efficiency improvement for heavy duty vehicles (HDV) (18% by 2035) Diesel rail - AEO average efficiency improvement for freight rail (3% by 2035)

Change in Greenhouse Gas Emissions Data Sources and Assumptions

Factor	Data Source or Assumption
CO_2 emission factors by fuel type – liquid fuels and natural gas (kg/gal)	U.S. Energy Information Administration (EIA), Voluntary Reporting of Greenhouse Gases Program
GHG emission factors for electricity generation (kg/kWh)	AEO Reference Case (11% improvement by 2035)
CO_2 equivalent to CO_2 scale factors by fuel type	GREET model
Full fuel-cycle GHG factors (ratio of fuel-cycle to operating GHG emissions)	GREET model for 2020

Change in Safety Data Sources and Assumptions

Factor	Data Source or Assumption
Fatality rates – automobiles	National Highway Traffic Safety Administration (NHTSA) - Fatal Accident Reporting System, 2000 – 2009
Injury rates – automobiles	Bureau of Transportation Statistics (BTS) reported motor vehicle safety data, 2000 - 2009
Fatality rates – transit (except commuter rail)	National Transit Database (NTD) 2000-2011 for bus, light rail, and heavy rail Electric bus, streetcar, DMU and EMU rates based on most similar corresponding mode from NTD
Injury rates – transit (except commuter rail)	NTD 2000-2011 for all reporting modes Streetcar, DMU, and EMU based on most similar corresponding mode from NTD
Fatality and injury rates – transit (commuter rail)	BTS reporting for passenger rail, 2000 – 2010
Value of a statistical life	2014 U.S. DOT memorandum on Value of a Statistical Life
Value of an injury by severity level	Federal Highway Administration (FHWA) Highway Safety Manual (2009), based on KABCO scale
Distribution of injuries by severity level – automobile	NHTSA General Estimates System 2010 crash data, disabling injuries only to match what is available through NTD reporting requirements
Distribution of injuries by severity level – transit	Disabling injuries only, based on NTD reporting requirements

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U.S. Environmental Protection Agency's Motor Vehicle Emission Simulator (MOVES). MOVES2010 a runs performed by Cambridge Systematics, Inc. using national default parameters. "Automobile" includes passenger cars and light trucks. Volatile Organic Compounds (VOC) is reported for automobile and diesel bus and Non-methane hydrocarbons (NMHC) for CNG bus.

CHAPTER II
SMALL STARTS
FINAL INTERIM POLICY GUIDANCE

SMALL STARTS FINAL INTERIM POLICY GUIDANCE

INTRODUCTION

From 2010 through 2012, FTA undertook a multi-year effort to revise and revamp the evaluation and rating process for projects seeking Section 5309 Capital Investment Grant (CIG) funding as Small Starts projects. This included new measures for the various evaluation criteria to better represent all the benefits transit projects provide. That extensive outreach effort resulted in publication of the Major Capital Investment Projects Final Rule in January 2013 [49 CFR Part 611, 78 *Federal Register* 1992-2037 January 9, 2013 and http://www.gpo.gov/fdsys/pkg/FR-2013-01-09/pdf/2012-31540.pdf.]

This document updates the Final Interim Policy Guidance dated August 2015 to incorporate statutory changes made in FAST. It does not change any FTA policies or procedures or impose any new requirements from those outlined in the 2015 Final Interim Policy Guidance. Therefore, FTA is not soliciting public comment on this document.

This document provides interim guidance on items not included in the Major Capital Investment Projects Final Rule until such time as an update to the rule can be completed, including: 1) steps for getting into and through the phases in the New Starts process; 2) a congestion relief measure; and 3) ways that projects can qualify for automatic ratings on some of the evaluation criteria, otherwise known as "warrants."

Whenever possible, FTA uses simple eligibility parameters, simplified evaluation measures, and expanded "warrants" based on readily available, easily verifiable information to make the process less burdensome for both FTA and Small Starts project sponsors. FTA believes the items described herein maintain an appropriate degree of analytic rigor as a basis on which to make CIG program funding decisions.

ELIGIBLE APPLICANTS, PROJECTS, AND COSTS

The Fixing America's Surface Transportation Act (FAST), enacted on December 4, 2015, is the law that authorizes the Capital Investment Grant program. It specifies that eligible applicants for the CIG program are State or local governmental authorities. Throughout this document we refer to such applicants as project sponsors.

FAST specifies that proposed Small Starts projects must be new fixed guideway projects, extensions to existing fixed guideway systems, or corridor-based bus rapid transit projects. FAST further specifies that Small Starts projects must have a total estimated capital cost of $300 million or less and must be seeking less than $100 million in Section 5309 CIG program funds.

FAST defines fixed guideway as projects "using and occupying a separate right-of-way for the exclusive use of public transportation; using rail; using a fixed catenary system; for a passenger ferry system; or for a bus rapid transit system." [Section 5302(7)] This definition in FAST eliminates bus service operating on high occupancy vehicle lanes or high occupancy toll lanes from qualifying as fixed guideway service. Under the definition in law, eligible Small Starts projects can include heavy rail, light rail, commuter rail, streetcars, trolleybus, bus rapid transit, and ferries.

To qualify as a fixed guideway BRT project, FAST specifies that the BRT service must include the following elements [Section 5309(a)(4)]:

- The majority of the project operates in a separated right-of-way dedicated for public transportation use during peak periods;
- The project represents a substantial investment in a single route in a defined corridor or subarea;
- The project includes features that emulate the services provided by rail fixed guideway public transportation systems including: defined stations; traffic signal priority for public transportation vehicles; short headway bidirectional services for a substantial part of weekdays and weekend days; and any other features the Secretary of USDOT may determine are necessary to produce high quality public transportation services that emulate the services provided by rail fixed guideway systems.

FTA published a more detailed definition for fixed guideway BRT in its State of Good Repair Circular that underwent a public comment period and was finalized in March 2014 [https://www.transit.dot.gov/regulations-and-guidance/fta-circulars/state-good-repair-grant-program-guidance-and-application]. It specified characteristics fixed guideway BRT's must contain to meet the definition in law and be eligible for various FTA funding programs. The definition included the following elements:

"A bus system that meets all of the following criteria:

(1) Over 50 percent of the route must operate in a separated right-of-way dedicated for transit use during peak periods. Other traffic can make turning movements through the separated right-of-way.
(2) The route must have defined stations that are accessible for persons with disabilities, offer shelter from the weather, and provide information on schedules and routes.
(3) The route must provide faster passenger travel times through congested intersections by using active signal priority in separated guideway, and either queue-jump lanes or active signal priority in non-separated guideway.
(4) The route must provide short headway, bidirectional service for at least a fourteen-hour span of service on weekdays and a ten-hour span of service on weekends. Short headway service on weekdays consists of either (a) fifteen-minute maximum headways throughout the day, or (b) ten-minute maximum headways during peak periods and twenty-minute maximum headways at all other times. Short headway service on weekends consists of thirty-minute maximum headways for at least ten hours a day.
(5) The provider must apply a separate and consistent brand identity to stations and vehicles."

A corridor based BRT project is also eligible as a Small Starts project. FAST defines a corridor based BRT project as [Section 5309(a)(3)] "a substantial investment in a defined corridor as demonstrated by features that emulate the services provided by rail fixed guideway public transportation systems including defined stations; traffic signal priority for public transportation vehicles; short headway bidirectional services for a substantial part of weekdays; and any other features the Secretary of USDOT may determine support a long-term corridor investment but the majority of which does not operate in a separated right-of-way dedicated for public transportation use during peak periods."

Because the definitions in law for fixed guideway BRT and corridor based BRT are nearly identical other than the requirement that the majority of the route be in a fixed guideway and the need for weekend service, FTA requires corridor based BRT projects to include all of the same characteristics defined for fixed guideway BRT except the separated right-of-way for the exclusive use of public transportation along 50 percent or more of the route during peak periods and the weekend service. Thus, corridor based BRT projects must contain the following elements:

(1) The route must have defined stations that comply with DOT standards for buildings and facilities under the Americans with Disabilities Act, offer shelter from the weather, and provide information on schedules and routes.

(2) The route must provide faster passenger travel times through congested intersections by using active signal priority in separated guideway if it exists, and either queue-jump lanes or active signal priority in non-separated guideway.
(3) The route must provide short headway, bidirectional service for at least a fourteen-hour span of service on weekdays. Short headway service on weekdays consists of either (a) fifteen-minute maximum headways throughout the day, or (b) ten-minute maximum headways during peak periods and twenty-minute maximum headways at all other times.
(4) The provider must apply a separate and consistent brand identity to stations and vehicles.

Note that FTA generally considers a core trunk line BRT with several branches to qualify as a single Small Starts project as long as the other eligibility requirements listed in either the fixed guideway BRT or corridor based BRT definitions above are met. FTA works with project sponsors and considers such requests on a case-by-case basis. Note also that FTA does not specify in the definitions above a particular number of intersections that must have signal priority or queue jump lanes as this will differ from project to project based on the characteristics of the corridor and the alignment being contemplated.

FAST includes definitions that apply to all FTA grant programs including one outlining eligible capital project costs [5302(3)]. Additionally, FAST specifics that Small Starts projects may include: "acquisition of real property, the initial acquisition of rolling stock for the system, the acquisition of rights-of-way, and relocation" [5309(b)(1)] as well as "interest and other financing costs of efficiently carrying out a part of the project within a reasonable time" [5309(k)(2)(D)(iii)].

FTA encourages project sponsors seeking CIG funds to incorporate resilience elements in their project design, provided the project continues to meet the criteria in law for receipt of funding.

GETTING INTO AND THROUGH THE STEPS IN THE PROCESS

FAST outlines one phase entitled Project Development that Small Starts projects must go through to be eligible for a construction grant agreement under the Section 5309 CIG program.

Prior to Project Development

Unlike for New Starts and Core Capacity projects, FAST does not specify a timeframe within which Small Starts project sponsors must complete the Project Development (PD) phase. However, sponsors may wish to conduct early planning work and initiate the environmental review process under the National Environmental Policy Act (NEPA) including, where appropriate, early scoping prior to requesting entry into PD to ensure they can meet FTA's requirements for making sufficient progress during PD.

Project sponsors should be aware that any activities undertaken prior to a project entering PD are not covered by automatic pre-award authority and will not be eligible for future reimbursement from the Small Starts program should a construction grant be awarded in the future. Please consult page 7920 of FTA's Annual Apportionment's Notice where pre-award authority for the CIG program is discussed in more detail [https://www.gpo.gov/fdsys/pkg/FR-2016-02-16/pdf/2016-02821.pdf].

Requesting Entry into Project Development

FTA requires that project sponsors seeking to enter PD submit as their application a short letter to the FTA Associate Administrator for Planning and Environment that includes the following information:

- The name of the study sponsor, any partners involved in the study, and the roles and responsibilities of each
- Identification of a project manager and other key staff that will perform the PD work
- A brief description and clear map of the corridor being studied, including its length and key activity centers
- The brief description of the transportation problem in the corridor or a statement of purpose and need
- Electronic copies of or weblinks to prior studies done in the corridor, if any
- Identification of a proposed project if one is known and alternatives to that project if any are being considered
- A brief description of current levels of transit service in the corridor today
- Identification of a cost estimate for the project, if available
- The anticipated cost to complete PD, not including the cost of any work done prior to officially entering the PD phase
- Identification of the non-CIG funding available and committed to conduct the PD work
- Documentation demonstrating commitment of funds for the PD work (e.g. Board resolutions, adopted budgets, approved Capital Improvement Programs, approved Transportation Improvement Programs, letters of commitment)
- An anticipated draft timeline for completing the following activities:
    - compliance with NEPA and related environmental laws[6]
    - selection of a locally preferred alternative (LPA)
    - adoption of the LPA in the fiscally constrained long range transportation plan
    - completion of the activities required to obtain a project rating under the evaluation criteria outlined in the law
    - anticipated receipt of a construction grant agreement from FTA
    - anticipated start of revenue service

Project sponsors should not submit a large, lengthy submittal to FTA as that is not necessary to address the above items. Rather, a relatively short letter (2 to 5 pages) is sufficient. There is no specific format the letter must follow. It simply must address each of the items listed above. Electronic submissions are preferred by FTA. Mailed submissions can get delayed due to security steps in place at USDOT.

As mentioned in the bulleted list above, requests to enter PD must demonstrate to FTA that funding is available and committed to perform the PD work. Project sponsors must have money available to begin the PD work immediately upon entry into the program. Funding available one or more years in future does not qualify as available and committed for entry into PD, even if it is programmed in a Transportation Improvement Plan, agency Capital Improvement Program, or future fiscal year budget document. FAST intends projects to make quick progress and not linger in the program, which can only happen if funding is available to begin performing the PD work immediately upon entry into the CIG program.

Requests to enter PD may be submitted to FTA at any time throughout the year, whenever the project sponsor believes the project is ready for entry. FTA discourages project sponsors from submitting PD requests during the early fall, which is the production time for FTA's *Annual Report on Funding Recommendations*, because processing could get delayed due to the large workload being handled by FTA at that time. Importantly, there is no advantage to a project sponsor in submitting a PD request during the *Annual Report* cycle since projects just entering the program are not considered candidates for funding recommendations because they are not being evaluated and rated. Often project sponsors believe being shown in the *Annual Report* as one of the projects in the program, even though the project has not

[6] Information on compliance with these requirements can be found on FTA's website at the following link: https://www.fta.dot.gov/regulations-and-guidance/environmental-programs/national-environmental-policy-act.

yet been evaluated or rated by FTA, gives the project credibility. Thus, they push to submit their request during the production cycle for the *Annual Report*. FTA maintains a webpage listing all current projects in the program. As soon as FTA notifies a project sponsor that it has been granted entry into PD, the project is displayed on FTA's webpage making it visible to Congress and any others who may be interested. Additionally, FTA briefs congressional staff monthly on all projects in the program, including notifying them of new entrants to the program.

Upon receipt of a request to enter PD, FTA reviews the request to ensure it contains all of the information listed above. FTA communicates via email with the project sponsor, identifying any missing information or specifying the request is considered complete. Upon receipt of complete information, FTA processes the request and notifies Congress and the project sponsor in writing within 45 days whether the information was deemed sufficient for entry into PD per the requirements of FAST.

During Project Development

FAST specifies that during PD, the following activities must be completed:

- The project sponsor must select a locally preferred alternative (LPA);
- The project sponsor must get the LPA adopted into the fiscally constrained metropolitan transportation plan;
- The environmental review process required under NEPA must be completed as signified by a final FTA environmental decision (e.g., categorical exclusion, finding of no significant impact, combined final environmental impact statement/record of decision, or record of decision) covering all aspects of the project proposed for FTA funding; and
- The project sponsor must develop sufficient information for FTA to develop a project rating.

Because of the desire by Congress and the industry to ensure the CIG process moves quickly, FTA believes project sponsors should demonstrate sufficient progress to remain in the program. Thus, FTA requires that project sponsors obtain commitments of at least 50 percent of all non-CIG funds within three years of a Small Starts project's advancement into PD and continue to make sufficient progress on advancing the level of design of the project during that time. If a sponsor does not meet these requirements, FTA would withdraw the project from the Small Starts program.

If a Small Starts project is withdrawn from the program, the project sponsor must perform the work necessary to gain at least 50 percent of all non-CIG funding commitments and/or advance the level of design on the project. The Small Starts project sponsor must formally apply in writing to the FTA Associate Administrator for Planning and Environment seeking re-entry into PD after the necessary work described above is completed. The request should include documentation of the necessary non-CIG funding commitments and information demonstrating engineering and design on the project has progressed. FTA considers the applications for re-entry into PD on a case-by-case basis.

The work performed after a project is withdrawn from the CIG program before it re-enters will not be eligible for pre-award authority and will not be reimbursed should a construction grant agreement ultimately be awarded by FTA. Upon re-entry into the CIG program, pre-award authority will apply to any work conducted from that point forward.

To complete the PD phase, project sponsors must complete sufficient engineering and design to develop a firm and reliable cost, scope and schedule for the project, obtain all non-CIG funding commitments, complete all critical third party agreements, and meet other FTA readiness requirements related to technical capacity, staffing, and oversight to be eligible for a construction grant agreement.

Receipt of Construction Funding

Generally, FTA does not begin negotiating a construction grant agreement with a project sponsor until a project is recommended for funding by FTA in the *Annual Report on Funding Recommendations*, which is a companion document to the President's budget sent to Congress each year. FTA decides whether to include a project as a funding recommendation in the *Annual Report* based on:

- the evaluation and rating of the project under the criteria specified in law;
- the availability of CIG program funds; and
- considerations related to project readiness including whether:
    - an advanced level of engineering and design has been completed so that the project scope, cost, and schedule are considered reliable (taking into consideration the project delivery method selected); and
    - generally, at least 50 percent of the non-CIG funds for the project are committed.

Including a project as a funding recommendation in the President's budget is an executive branch prerogative. FTA includes the above text only as helpful information for project sponsors to understand as a necessary step before a project may proceed to a construction grant agreement.

To have a project considered for a funding recommendation in the President's budget, project sponsors must submit information to FTA for evaluation and rating of the project. This is because FTA cannot recommend a project for funding in the budget unless we know the project will receive at least a Medium overall rating as required in law to be eligible for CIG funds and is a good investment of taxpayer dollars.

Each year FTA publishes Reporting Instructions, templates, and Standard Cost Category worksheets that are used by project sponsors to develop and report the necessary information to FTA. Typically the submittals are due in early fall of the year prior to the February release of the President's budget.

Once a proposed project has been recommended in the *Annual Report on Funding Recommendations*, the project sponsor must complete sufficient engineering and design to develop a firm and reliable cost, scope and schedule for the project, obtain all non-CIG funding commitments, complete all critical third party agreements, and meet other FTA readiness requirements related to technical capacity, staffing, and oversight before submitting an application for a construction grant agreement. The project sponsor must submit the following information to the FTA Associated Administrator for Planning and Environment with a cc: to the FTA Regional Administrator when requesting a construction grant agreement:

- Small Starts Templates used for developing the evaluation criteria and ratings;
- Financial plan, including supporting documentation demonstrating all of the non-CIG funding is committed;
- Cost estimate provided using the Standard Cost Category Worksheets;
- Draft single year grant agreement or SSGA as applicable (consult with FTA for guidance);
- Documentation of project definition and scope with key elements identified and defined to support the level of design;
- Cost and integrated project schedule to reflect the level of design;
- Contracting plans and documents;
- Project Management Products such as Constructability Review and Value Engineering Reports as applicable;
- Project Management Plans and Subplans including the following:
    - Risk and Contingency Management Plan;
    - Documented processes and procedures to manage the project during SSGA/Construction;
    - Staffing pans addressing, but not limited to, the following areas: Real Estate, Schedule and Cost controls, Risk Management, Construction Management, Quality Assurance/Quality Control, and Safety and Security; and

- Completion of all major third party agreements and permits.

FAST requires that FTA evaluate and rate the Small Starts project prior to awarding a construction grant. FAST also specifies that after the completion of NEPA project sponsors may request an operational early rating from FTA. FTA uses the information provided above to develop ratings for the project justification and local financial commitment criteria, including a review of the project definition, scope, cost, and schedule for reasonableness. By law, a project must receive at least a Medium overall rating under the FAST evaluation criteria to receive a construction grant agreement. FTA also reviews the Project Management Plan and subplans to ensure that the project sponsor has the capacity and capability to carry out the project. Lastly, FTA undertakes other appropriate oversight. These oversight reviews may be expedited based on factors including the complexity of the project and the project sponsor's management capacity and capability.

Once FTA has completed its review and evaluation of the project and negotiated and prepared the construction grant agreement documents with the project sponsor, the package of information must be reviewed and approved by FTA executive leadership, USDOT leadership, and others within the Administration. After their concurrences are received, FAST requires that the grant be sent for a 10-day congressional notification period. Only then may FTA and the project sponsor sign the construction grant.

EVALUATION CRITERIA AND RATING PROCESS

Small Starts projects are evaluated and rated according to criteria set forth in law. The statutory project justification criteria include: mobility improvements, environmental benefits, congestion relief, economic development effects, land use, and cost-effectiveness. The law also requires FTA to examine the following when evaluating and rating local financial commitment: availability of reasonable contingency amounts, availability of stable and dependable capital and operating funding sources, and availability of local resources to recapitalize, maintain, and operate the overall existing and proposed public transportation system without requiring a reduction in existing services. Each criterion is to be rated on a five point scale, from low to high. Summary project justification and local financial commitment ratings are prepared and combined to arrive at an overall project rating.

Guiding Principles

Below are some guiding principles FTA used when developing the evaluation criteria.

Establishing Breakpoints for Ratings

When possible, FTA established the breakpoints for ratings based on available research that recommended the values. When such research was not available for a particular criterion or measure, FTA established an initial set of breakpoints based on the performance measures available from projects previously and currently in the program. FTA will revisit the breakpoints as performance measures are accumulated from additional projects over time. Any changes in the breakpoints will be proposed in future policy guidance for comment by the public.

Time Horizons for Calculating Measures

FTA believes project evaluation based on existing conditions provides the most easily understood, most reliable, and most readily available information for decision-making. Thus, FTA is requiring all project sponsors to calculate the measures for the evaluation criteria based on current year inputs of population and employment and the opening year service plan of the proposed project. Use of current year data increases the reliability of the projected future performance of the proposed project by avoiding reliance on future population, employment, and transit service levels that are themselves forecasts. Consequently,

FTA is defining "current year" as close to today as the data (including the American Community Survey) will permit.

FTA recognizes these projects are long term investments. Additionally, because some projects are designed to address and accommodate future growth more so than current congestion problems, they may not generate sufficient benefits to rate well based only on current year conditions. Thus, FTA is allowing project sponsors, at their option, to calculate the evaluation criteria using horizon year based estimates as well as current year estimates. FTA is allowing project sponsors to determine the horizon year they wish to use -- either 10 years in the future or 20 years in the future.

Given the need to balance the enhanced reliability of short-term estimates with the need to account for longer term benefits, when a project sponsor chooses to calculate the measures in both the current year and a horizon year, FTA will compute each criterion rating as a weighted average that considers both years. FTA will give a weight of 50 percent for the current year and a weight of 50 percent for the horizon year.

Basis for Comparison

To simplify and streamline the process project sponsors go through to develop materials for submittal to FTA, where possible, FTA has adopted measures that use absolute values rather than incremental values requiring a basis for comparison. However, in some cases, incremental measures remain necessary. When a basis for comparison is required because a measure is based on an incremental value, FTA will use the existing system as a point of comparison when developing current year information. When a project sponsor chooses to submit 10-year horizon information, the no-build alternative (which includes the existing transportation system as well as those transportation investments committed in the Transportation Improvement Plan (TIP) pursuant to 23 CFR Part 450) would be the point of comparison. When a project sponsor choses to submit 20-year horizon information, the existing transportation network plus all projects identified in the Metropolitan Planning Organization's fiscally constrained long range plan (excluding the proposed build alternative) will serve as the point of comparison.

Use of Standard Factors Rather than Detailed Analysis

One of FTA's goals in the development of the Major Capital Investment Projects Final was to establish measures that support streamlining of the CIG process, while maintaining an appropriate degree of analytic rigor as a basis on which to make CIG program funding decisions. Thus, some of the measures are calculated using simplified factoring approaches in order to eliminate undue burden on project sponsors. FTA based the factors on national data.

Simplified Estimation of Ridership and Vehicle Miles Traveled

FTA has made available to project sponsors a tool called Simplified Trips-on-Projects Software (STOPS) that can be used to estimate trips on the project. FTA believes this tool can significantly streamline the length of time required to generate ridership estimates and vehicle miles traveled (VMT) for use in calculating the evaluation measures. Use of STOPS is optional. Project sponsors may choose instead to continue to use their local travel forecasting model if they wish. Project sponsors should contact FTA for assistance in obtaining and using STOPS.

If a sponsor chooses to use STOPS to calculate trips for the mobility, congestion relief, and cost effectiveness measures, the sponsor is expected to also use STOPS for calculating the VMT changes used in the environmental benefits measure. If a sponsor chooses instead to calculate trips for the mobility, congestion relief, and cost effectiveness measures using its local travel model, the sponsor is expected to also use its local travel model to calculate the change in VMT used in the environmental benefits measure. Should a project sponsor choose to use the local travel model, FTA expects to continue to review the validity of the model, as in past practice, to assure the validity of the results.

Project Justification

Land Use

Measures

The land use measure for Small Starts projects includes an examination of existing corridor and station area development; existing corridor and station area development character; existing station area pedestrian facilities, including access for persons with disabilities; existing corridor and station area parking supply; and the proportion of existing "legally binding affordability restricted" housing within ½ mile of station areas to the proportion of "legally binding affordability restricted" housing in the counties through which the project travels.

A legally binding affordability restriction is a lien, deed of trust or other legal instrument attached to a property and/or housing structure that restricts the cost of housing units to be affordable to households at specified income levels for a defined period of time and requires that households at these income levels occupy these units. This definition, includes, but is not limited to, state or federally supported public housing, and housing owned by organizations dedicated to providing affordable housing. For the land use measure looking at existing affordable housing, FTA is seeking legally binding affordability restricted units to renters with incomes below 60 percent of the area median income and/or owners with incomes below the area median that are within ½ mile of station areas and in the counties through which the project travels.

One reason FTA chose to include affordable housing in the land use criterion was to ensure that neighborhoods surrounding proposed transit stations have the fundamentals in place to ensure that as service is improved over time there is a mix of housing options for existing and future residents. One measure of the readiness of a community to accept a new transit investment and avoid significant gentrification that can occur over time is the presence of "legally binding affordability restricted" units. These units have protections in place to ensure that they will continue to be available to low and moderate income households as changes in the corridor occur.

In this context FTA believes this to be a first step in developing a worthwhile measure that encourages project sponsors to locate projects where a higher share of "legally binding affordability restricted" housing exists in their area. The metric selected evaluates the proportional share of existing "legally binding affordability restricted" housing in the corridor compared to the share in the surrounding county or counties. FTA believes use of this ratio is appropriate to help normalize the results since we are not comparing projects to one another but rather to the circumstances in each local area where projects are proposed. However, FTA recognizes the use of a ratio for this measure can have some drawbacks, particularly where the surrounding county or counties are quite large in land area and/or have quite large amounts of "legally binding affordability restricted" housing. Therefore, FTA intends to boost the rating for this subfactor one level if the denominator shows the surrounding counties to have greater than a five percent share of "legally binding affordability restricted" housing.

Note that this metric is not intended in any way to serve as a "federally endorsed" definition of acceptable levels of legally binding affordability restricted or other types of affordable housing, and is unique to this CIG project evaluation process. FTA aims to improve and refine the measure as information is gathered from project sponsors on its application and its impacts are examined.

Calculation

FTA bases the rating primarily on quantitative measures, including station area population densities, total employment served by the project, and the proportion of "legally binding affordability restricted" housing within ½ mile of stations areas to the proportion of "legally binding affordability restricted" housing in

the counties through which the project travels. Poor pedestrian accessibility may reduce the rating, as it reduces the effective amount of population and employment directly served by the system. Otherwise, the presence of high trip generators, a pedestrian-accessible and friendly station area environment, and limited availability of parking all serve to support the rating.

Project sponsors will obtain population and employment information from census data.

A station area encompasses a ½ mile radius of the station.

To develop information on "legally binding affordability restricted" housing located in the proposed corridor and the counties through which the project travels, project sponsors should consult with area housing agencies. For this purpose, FTA is seeking legally binding affordability restricted units to renters with incomes below 60 percent of the area median income and/or owners with incomes below the area median. Project sponsors should also obtain and submit to FTA signed certifications by the heads of the housing agencies or other entities from where the information was gathered attesting to the accuracy of the numbers provided.

While FTA believes contacting area housing authorities will provide the best and most comprehensive data on "legally binding affordability restricted housing", some statistics on affordable housing can be found in the National Housing Preservation Database (http://www.preservationdatabase.org/). This database includes an address-level inventory of federally assisted rental housing. It does not contain information on affordable units supported only by state and local programs. The amount of "legally binding affordability restricted" units in the corridor and the surrounding counties is then compared to total residential housing units in the corridor and the surrounding counties. Total residential housing units should come from the American Community Survey (ACS) five year estimates at the County and Census Tract levels.

FTA assigns a value to this measure by comparing (a) the percent of total units in the transit corridor (defined as 1/2 mile around each proposed station) that are legally binding affordability restricted housing to (b) the percent of total units in the counties in which the stations are located that are legally binding affordability restricted housing. FTA boosts the rating for this subfactor one level if the denominator shows the counties through which the project travels to have greater than a five percent share of "legally binding affordability restricted" housing.

The measurement of housing affordability as part of the project evaluation criteria is something only recent added by FTA in 2013 after completion of an extensive public comment process. Since it is still a fairly new measure, project sponsors may submit additional information to supplement the calculation described above, that FTA may consider, on a case by case basis, in assigning a final rating for this metric.

Breakpoints

The breakpoints for station area population, employment densities, and Central Business District (CBD) parking are shown in the table below.

	Station Area Development		Parking Supply	
Rating	Employment served by system[7]	Avg. Population density (persons/square mile)[8]	CBD typical cost per day[9]	CBD spaces per employee[10]
High	> 220,000	> 15,000	> $16	< 0.2
Medium-High	140,000-219,999	9,600 - 15,000	$12 - $16	0.2 – 0.3
Medium	70,000-139,999	5,760 – 9,599	$8 - $12	0.3 – 0.4
Medium-Low	40,000-69,999	2,561 – 5,759	$4 - $8	0.4 – 0.5
Low	<40,000	< 2,560	< $4	> 0.5

The breakpoints for the proportion of "legally binding affordability restricted" housing in the corridor compared to the proportion of "legally binding affordability restricted" housing in the counties through which the project travels are shown in the table below.

Rating	Proportion of legally binding affordability restricted housing in the project corridor compared to the proportion in the counties through which the project travels
High	≥ 2.50
Medium-High	2.25 – 2.49
Medium	1.50 - 2.24
Medium-Low	1.10 - 1.49
Low	< 1.10

(For example, a low rating indicates the share of affordable housing units within the project corridor is lower than 110 percent of the share within the corresponding counties.)

Cost Effectiveness

Measures

The law requires FTA to evaluate cost effectiveness for Small Starts projects based on a federal share per trip measure. Therefore, the cost effectiveness measure for Small Starts projects is the annualized capital federal share of the project per trip on the project. The federal share is all federal funding not just CIG funding. The number of trips on the project is not an incremental measure but simply total estimated trips on the project.

[7] The employment breakpoints are based on the Institute for Transportation Engineer's document entitled "A Toolbox for Alleviating Traffic Congestion," which suggests minimum non-residential development concentrations of 20 million square feet for frequent local bus service and 35 million square feet for light rail service. At 500 square feet per employee, these figures are equivalent to 40,000 and 70,000 employees, respectively. The total employment served includes employment along the entire line on which a no-transfer ride from the proposed project's stations can be reached.

[8] The average population density breakpoints are based on the Institute for Transportation Engineer's document entitled "A Toolbox for Alleviating Traffic Congestion," which suggests light rail and frequent bus service requires a minimum of 9 to 15 dwelling units per acre. This data has been used to inform the medium breakpoint shown.

[9] CBD core (not fringe parking)

[10] Average across CBD

Calculation
For Small Starts projects the cost-effectiveness measure will be computed as the annualized capital federal share of the project divided by the annual number of trips using the project.

If the project sponsor chooses to calculate the measure based on a horizon year in addition to a current year, the overall measure of cost effectiveness is a weighted average that considers both years. FTA weights each 50 percent.

Sources of Information
Annualized capital Federal share for Small Starts projects is calculated within the Standard Cost Category (SCC) workbook.

- Capital costs are expressed in the current year's dollar value.
- The "Build Annualized" worksheet of the SCC workbook converts the capital cost of individual scope items into their equivalent Federal share based on the overall capital Federal share for the project. The Federal share for each individual scope item is converted into its equivalent annualized Federal share based on the item's economic lifetime and a 2.0 percent discount rate.

For the cost-effectiveness criterion, trips on the project are the number of linked trips using the project, with no extra weight given to trips by transit dependent persons. Trips may be calculated using either STOPS or the local travel model at the project sponsor's option.

Breakpoints
FTA examined data from projects currently in the Small Starts process and developed the breakpoints below based on that information.

Cost Effectiveness Breakpoints

Rating	Range
High	< $1.00
Medium-High	Between $1.01 and $1.99
Medium	Between $2.00 and $3.99
Medium-Low	Between $4.00 and $5.00
Low	> $5.00

Mobility Improvements

Measures
FTA evaluates mobility improvements for Small Starts projects as the total number of linked trips using the proposed project, with a weight of two given to trips that would be made on the project by transit dependent persons. Linked trips using the proposed project include all trips made on the project whether or not the rider boards or alights on the project or elsewhere in the transit system. If a project sponsor chooses to estimate trips using STOPS, then trips made by transit dependent persons are trips made by persons in households that do not own a car. If a project sponsor chooses to estimate trips using their local travel forecasting model, trips made by transit dependent persons are defined in local travel models generally in one of two ways: as trips made by persons in households having no cars or as trips made by persons living in households in the lowest income bracket as defined locally.

FTA assigned a weight of two to trips by transit dependent persons based on information from the 2009 National Household Transportation Survey, which indicates that 8.7 percent of U.S. Households own zero vehicles but make only 4.3 percent of the nation's person trips. If zero-car households had equal opportunity to make trips, i.e., if their mobility was not limited by the existing public transportation

system, one could infer that these zero-car households would make more than 4.3 percent of the nation's person trips. To ensure that federal investments in major capital investment transit projects address the travel demand of zero car households equitably, FTA uses a factor of two for the number of trips made by transit dependent persons (8.7 percent ÷ 4.3 percent = 2.02).

If a project sponsor chooses to develop project trip forecasts based on inputs for a horizon year in addition to forecasts based on current year inputs, each is given 50 percent weight when establishing the overall mobility improvements rating. The trips measure proposed is an absolute value rather than an incremental value, so a basis for comparison is not required.

Calculation

The mobility improvements measure is computed by adding together the estimated number of linked transit trips on the project taken by non-transit dependent persons and the number of linked transit trips taken by transit dependent persons multiplied by a factor of two, thereby giving extra weight to these trips.

Sources of Information

Number of Transit Trips Using the Project:

- The number of linked transit trips forecast on the project using current year inputs is generated either by STOPS (which uses census data and ridership experience on existing fixed guideway systems to estimate trips) or the local travel model at the project sponsor's option.
- If the project sponsor wishes to prepare a horizon year forecast of trips for consideration in the rating, the number of linked transit trips in the horizon year is based upon either STOPS or the local travel model at the project sponsor's option.
- If the project sponsor chooses to prepare a horizon year forecast in addition to a current year forecast, the mobility improvements rating is based on a weighted average that gives 50 percent weight to each.

Number of Trips by Transit Dependents Using the Project:

- The number of trips on the project made by transit dependent persons using current year inputs is generated either by STOPS or the local travel model at the project sponsor's option. Local travel models stratify trips taken in one of two ways – based on household income level or household auto ownership. STOPS uses auto ownership to stratify trips. Thus, trips made by transit dependent persons estimated by STOPS will be those made by households with no cars.

Breakpoints

Rating	Mobility Improvements: Estimated Annual Trips (Trips by Non-Transit Dependent Persons plus Trips by Transit Dependent Persons multiplied by 2)
High	≥ 30 Million
Medium-High	15 Million – 29.9 Million
Medium	5 Million – 14.9 Million
Medium-Low	2.5 Million – 4.9 Million
Low	< 2.5 Million

Congestion Relief

Measure

FTA evaluates congestion relief based on the number of new weekday linked transit trips resulting from implementation of the proposed project. FTA recognizes that this is an indirect measure of roadway congestion relief resulting from implementation of a transit project, but it serves as an indicator of potential cars taken off the road. Additionally, it keeps FTA from double counting the total transit trips evaluated under the mobility criterion or the vehicle miles traveled evaluated under the environmental benefits criterion. FTA believes its virtues are that it is simple to calculate, simple to explain to various decision-makers, and easily understood. Additionally, it continues to allow project sponsors the option of using FTA's simplified ridership forecasting tool entitled STOPS, which can save considerable time and expense.

Because the measure of new weekday linked transit trips is an incremental value, a basis for comparison is required. For current year calculations, the proposed project is compared to the existing transit system. If a project sponsor also chooses to calculate the measure based on 10-year horizon forecasts, the proposed project is compared to the no-build transit system (which includes the existing transportation system as well as those transportation investments committed in the Transportation Improvement Plan (TIP) pursuant to 23 CFR Part 450.) If a project sponsor chooses instead to calculate the measure based on 20-year horizon forecasts, the proposed project is compared to a no-build transit system that includes the projects identified in the Metropolitan Planning Organization's fiscally constrained long range plan (excluding the proposed build alternative.)

If a project sponsor chooses to forecast new weekday linked transit trips for a horizon year in addition to a current year, each is given 50 percent weight when establishing the overall congestion relief rating.

Calculation

New weekday linked transit trips are calculated by comparing total weekday linked transit trips for the no-build alternative with total weekday linked transit trips once the proposed project is implemented.

Breakpoints

Congestion Relief Breakpoints

Rating	New Weekday Linked Transit Trips
High	18,000 and above
Medium-High	10,000 to 17,999
Medium	2,500 to 9,999
Medium-Low	500 to 2,499
Low	0 to 499

Environmental Benefits

Measures

For Small Starts projects, FAST requires that the benefits be compared to the Federal share of the project rather than the total cost. Thus, FTA evaluates and rates the environmental benefits criterion for Small Starts projects based upon the dollar value of the anticipated direct and indirect benefits to human health, safety, energy, and the air quality environment scaled by the Federal share of the project. These benefits are computed based on the change in vehicle miles traveled (VMT) resulting from implementation of the proposed project. Because change in VMT is an incremental measure, a point of comparison is necessary to calculate environmental benefits. To prepare current year calculations of the measures, the point of

comparison is the existing transit system. If the project sponsor also opts to calculate the measures based on 10-year horizon forecasts, the point of comparison is the no-build transit system (which includes the existing transportation system as well as those transportation investments committed in the Transportation Improvement Plan (TIP) pursuant to 23 CFR Part 450). If the project sponsor chooses to calculate the measures based on 20-year horizon forecasts, the point of comparison is the existing transportation network plus all projects identified in the Metropolitan Planning Organization's fiscally constrained long range plan (excluding the proposed build alternative.) The estimated environmental benefits are monetized and compared to the proposed annualized Federal share of the project. The Federal share includes not only the Small Starts funds being sought, but also any other capital sources of Federal funding.

The standard factors that FTA uses for calculating environmental benefits and data sources are found in the tables below. (See the Appendix for the sources that FTA used to develop the factors.) FTA used data from the Transit Cooperative Research Program study on environmental benefits, "Assessing and Comparing Environmental Performance of Major Transit Investments", and other Federal government data sources to the greatest extent possible.

Calculation

Environmental benefits include the following subfactors: change in air quality criteria pollutants, change in energy use, change in greenhouse gas emissions, and change in safety. Values for change in energy use and greenhouse gas emissions have been established so as to not double count. (Thus, the valuation of energy use reductions is based only on the economic cost of petroleum dependence identified in Paul N. Leiby, "Estimating the U.S. Oil Security Premium for the 2017-2025 Light -Duty Vehicle GHG/Fuel Economy Rule", Oak Ridge National Laboratory (ORNL), July 15, 2012.) The subfactors are calculated from estimates of changes in automobile and transit vehicle miles traveled (VMT). All measures are converted from VMT into their native units (e.g., tons of emissions or total accidents) using national-level standard conversion factors. The native units are monetized based on standard dollar values. For air quality subfactors, weights are applied to reflect FTA judgment that higher priority be given to projects achieving reductions in nonattainment and maintenance areas. The monetized and weighted values of the various environmental benefits are summed and compared to the annualized Federal share of the proposed project.

Forecasts of changes in VMT come from either the local travel model or the simplified national model developed by FTA (STOPS). The change in auto VMT is calculated based upon the change in the number of auto trips between the no-build and build alternatives, multiplied by the difference in auto travel distance between the no-build and build alternatives.

If the project sponsor chooses to prepare a horizon year forecast in addition to a current year forecast, the environmental benefits rating is based on a weighted average that gives 50 percent weight to each.

Sources of Information

The Small Starts templates include all of the conversion factors necessary to calculate changes in air quality, energy use, greenhouse gas emissions, and safety resulting from the forecasted changes in highway and transit VMT. The project sponsor is required only to input a few data points and the environmental benefits are automatically calculated in the templates. The factors used in the templates are shown below.

Change in Total Air Quality Criteria Pollutants – Carbon Monoxide (CO), Mono-Nitrogen Oxides (NOx), Particulate Matter (PM2.5), and Volatile Organic Compounds (VOC).

For the change in air quality measure, FTA uses emission rates per VMT for automobiles (cars and light trucks) and transit vehicles including buses (diesel, hybrid-electric, and CNG), diesel commuter rail and

diesel multiple unit vehicles (DMU), light rail transit vehicles, streetcars, electric commuter rail and electric multiple unit (EMU) vehicles, heavy rail vehicles, and electric buses. Because of the potential for double counting the value in reductions of PM2.5 and PM10, FTA includes only PM2.5 in the air quality measure.

Change in Air Quality Emissions Factors

Mode	For Current Year Estimates				For 10-year Horizon Estimates				For 20-year Horizon Estimates			
	(grams/VMT)											
	CO	NO_x	VOC	$PM_{2.5}$	CO	NO_x	VOC	$PM_{2.5}$	CO	NO_x	VOC	$PM_{2.5}$
Automobile	16.77	0.91	0.60	0.010	11.46	0.28	0.27	0.010	10.26	0.20	0.21	0.010
Bus - Diesel	5.83	8.67	0.73	0.48	3.26	2.08	0.24	0.09	2.89	1.14	0.16	0.03
Bus - Hybrid	5.83	8.67	0.73	0.480	3.26	2.08	0.24	0.09	2.89	1.14	0.16	0.03
Bus - CNG	39.62	3.84	1.46	0.010	20.30	3.41	1.15	0.010	17.16	3.35	1.11	0.010
Bus - Electric	6.45	5.83	0.12	0.378	5.39	4.39	0.10	0.313	5.04	3.98	0.10	0.299
Heavy Rail	7.06	6.38	0.13	0.413	6.85	5.58	0.13	0.398	6.73	5.32	0.13	0.399
Light Rail and Streetcar	10.51	9.50	0.19	0.615	10.20	8.31	0.19	0.593	10.01	7.91	0.20	0.593
Commuter Rail - Diesel locomotive (new) and DMU	16.80	13.20	0.55	0.190	16.80	13.20	0.55	0.190	16.80	13.20	0.55	0.190
Commuter Rail - Diesel locomotive (used) and DMU	16.80	93.00	4.36	4.600	16.80	43.00	1.26	1.330	16.80	20.90	0.44	0.470
Commuter Rail – Electric and EMU	12.81	11.57	0.24	0.750	12.43	10.12	0.23	0.722	12.19	9.64	0.24	0.723

Change in Air Quality Monetization Factors

	Year	CO	NOx - Mobile	NOx – EGU	VOC	PM2.5 - Mobile	PM2.5 - EGU
				$ / KG			
Attainment	Current Year	$0.08	$12.96	$18.36	$3.02	$680.40	$561.60
	10-Year Horizon	$0.08	$15.66	$22.95	$3.75	$861.30	$688.50
	20-Year Horizon	$0.08	$16.20	$23.76	$3.89	$896.40	$712.80
Nonattainment 1.5 times value of attainment	Current Year	$0.12	$19.44	$27.54	$4.53	$1,020.60	$842.40
	10-Year Horizon	$0.12	$23.49	$34.43	$5.63	$1,291.95	$1,032.75
	20-Year Horizon	$0.12	$24.30	$35.64	$5.84	$1,344.60	$1,069.20
Maintenance area 1.25 times value of attainment	Current Year	$0.10	$16.20	$22.95	$3.78	$850.50	$702.00
	10-Year Horizon	$0.10	$19.58	$28.69	$4.69	$1,076.63	$860.63
	20-Year Horizon	$0.10	$20.25	$29.70	$4.86	$1,120.50	$891.00

Change in Energy Use

A significant part of the benefits that come from reducing energy use is already accounted for by the resulting reduction in pollutant and greenhouse gas emissions. In this measure, FTA is attempting to capture the benefit coming from reduced reliance on foreign fuels. Thus, the change in energy use is only computed for modes that use petroleum fuel. The measure estimates the change in energy consumption rates for transit and automobile modes based on the change in VMT.

Change in Energy Use Factors

	Current Year	10-year Horizon	20-year Horizon
MODE	Btu/VMT		
Automobile	7,559	6,167	5,633
Bus – Diesel	41,436	35,635	33,978
Bus – Hybrid	33,149	28,508	27,182
Commuter Rail - Diesel (new) and DMU	96,138	96,138	96,138
Commuter Rail - Diesel (used)	96,138	96,138	96,138

FTA then monetizes the change in energy use based on the economic cost of dependence on imported petroleum for fuels. FTA uses a value of $0.20 per gallon of petroleum fuel (Leiby/ORNL 2012). To convert from Btu to gallons of petroleum fuel, FTA uses conversion factors (from the GREET model) of 116,090 Btu per gallon of gasoline and 128,450 Btu per gallon of diesel fuel. Therefore, the monetization factors are $1.72 per million Btu for gasoline and $1.56 per million Btu for diesel fuel. Gasoline is assumed to be the sole fuel for changes in automobile VMT for simplicity in the computation.

Change in Greenhouse Gas Emissions

The calculation of the proposed unit rates for GHG emissions includes the application of emissions factors by fuel type.

Change in Greenhouse Gas (CO2e) Emissions Factors

	Current Year	10-year Horizon	20-year Horizon
Mode	(g CO2e/VMT)		
Automobile	532	434	397
Bus – Diesel	3319	2854	2721
Bus – Hybrid	2655	2283	2177
Bus – CNG	2935	2524	2406
Bus - Electric	2934	2441	2303
Heavy Rail	3211	3106	3073
Light Rail and Streetcar	4779	4623	4574
Commuter Rail - Diesel (new) and DMU	7970	7970	7970
Commuter Rail - Diesel (used)	7970	7970	7970
Commuter Rail - Electric and EMU	5821	5632	5572

NOTE: The factor is CO2 equivalents (CO2e). This means that other greenhouse gas emissions (other than CO2) that have different rates of affecting global warming are converted into CO2 terms because that is the most prevalent greenhouse gas emission.

To capture the monetary value of change in GHG emissions, FTA uses the $38 midrange estimate of the social cost of carbon obtained from the Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866 (May 2013), which is a document developed and updated periodically by an Interagency Working Group comprised of a number of Federal agencies. The $38 value

is the 2015 midrange estimate based on a 3 percent discount rate. FTA will update the value based on the latest information available from the Interagency Working Group or other Federal government sources.

Change in Safety

To measure change in safety, FTA uses the change in VMT to estimate changes in disabling injuries and fatalities for automobiles and transit. FTA does not attempt to capture the changes in pedestrian or bicyclist accidents or injuries resulting from changes in VMT because of the difficulty in accounting for such changes using readily available national data.

Change in Safety Factor

Mode	Current Year		10-year Horizon		20-year Horizon	
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries
	(per million VMT)					
Automobile	0.013	0.195	0.013	0.195	0.013	0.195
Bus – Diesel	0.004	1.824	0.004	1.824	0.004	1.824
Bus – Hybrid	0.004	1.824	0.004	1.824	0.004	1.824
Bus – CNG	0.004	1.824	0.004	1.824	0.004	1.824
Bus - Electric	0.004	1.458	0.004	1.458	0.004	1.458
Heavy Rail	0.007	0.155	0.007	0.155	0.007	0.155
Light Rail and Streetcar	0.009	1.696	0.009	1.696	0.009	1.696
Commuter Rail - Diesel (new) and DMU	0.012	1.746	0.012	1.746	0.012	1.746
Commuter Rail - Diesel (used)	0.012	1.746	0.012	1.746	0.012	1.746
Commuter Rail - Electric and EMU	0.012	1.746	0.012	1.746	0.012	1.746

To monetize the estimated changes in safety, FTA uses U.S. DOT guidance on the value of a statistical life and injuries. According to the most recent guidance, published in 2014, the current U.S. DOT value of a statistical life is $9.2 million. The value FTA uses for a disabling injury for both transit and automobiles is $490,000, which is 5.39 percent of the U.S. DOT value of a statistical life, based on the KABCO scale in the 2009 Highway Safety Manual published by the American Association of State Highway and Transportation Officials in coordination with the Federal Highway Administration. FTA plans to update these figures whenever U.S. DOT publishes revised values.

Breakpoints

The environmental benefits measure for Small Starts projects is the sum of the monetized value of the benefits resulting from the changes in air quality and GHG emissions, energy use, and safety divided by the annualized Federal share of the project. FTA multiplies the resulting ratio by 100 and expresses the environmental benefit measure as a percentage.

Rating	Range
High	> 10%
Medium-High	5 to 10%
Medium	0 to 5%
Low-Medium	0 to -10%
Low	< -10%

Economic Development

Measures

The measure of economic development effects is the extent to which a proposed project is likely to induce additional, transit-supportive development in the future based on a qualitative examination of the existing local plans and policies to support economic development proximate to the project.

Calculation

FTA evaluates transit supportive plans and policies, the demonstrated performance of those plans and policies, and the policies and tools in place to preserve or increase the amount of affordable housing in the project corridor. FTA also reports the project sponsor's estimate of the number of U.S. jobs related to design, construction, operation and maintenance of the project although this is not used in developing the rating.

At the project sponsor's option, an additional quantitative analysis (scenario based estimate) may be undertaken that considers:

- The extent to which the proposed project would produce changes in development patterns around the transit investment and the resulting magnitude of changes in population and employment, considering:
  - the economic conditions in the project corridor;
  - the mechanisms by which the project would improve those conditions;
  - the availability of land in station areas for development and redevelopment;
  - an evaluation of policies that enable or inhibit housing in transit-supportive development; and
  - a pro forma assessment of the feasibility of specific development scenarios.
- The estimated change in VMT attributable to the estimated changes in development patterns.
- The estimated environmental benefits that would come from the VMT change attributable to the estimated change in development patterns. Note that these benefits are counted in the economic development criterion and not added to the benefits assessed in the environmental benefits criterion. These benefits are above and beyond the benefits that come from changes in mode choice that are addressed in the environmental benefits criterion.

The environmental benefits derived from the optional quantitative economic development scenario analysis are then monetized and compared to the same annualized capital and operating cost of the proposed project as used in the cost-effectiveness calculation. FTA multiplies the resulting ratio by 100 and expresses the environmental benefits derived from the optional quantitative economic development scenario as a percentage.

Sources of information

- Transit Supportive Plans and Policies
  - Transit Supportive Corridor Policies;
  - Supportive Zoning Regulations Near Transit Stations; and
  - Tools to Implement Land Use Policies.
- Performance and Impacts of Policies:
  - Performance of Land Use Policies; and
  - Potential Impact of Transit Project on Regional Land Use.
- Tools to maintain or increase the share of affordable housing in the project corridor:
  - Evaluation of Corridor-Specific Affordable Housing Needs and Supply, including an examination of local plans or policies that enable or inhibit housing development in the area
  - Plans and Policies to Preserve and Increase Affordable Housing such as:
    - Inclusionary zoning and/or density bonuses for affordable housing
    - Employer assisted housing policies

        - Voluntary or mandatory inclusionary housing policies
        - Rent controls or condominium conversion controls
        - Zoning to promote housing diversity
        - Affordability covenants

    - Adopted Financing Tools and Strategies to Preserve and Increase Affordable Housing such as:
        - Target property acquisition, rehabilitation, and development funding for low-income housing within the corridor, including:
            - Low Income Housing Tax Credits
            - Ongoing affordable housing operating subsidies
            - Weatherization and utilities support program
            - Local tax abatements for low-income or senior housing
            - Local of State programs that provide mortgage or other home ownership assistance for lower income and senior households
        - Established land banking programs or transfer tax programs
        - Local or regional affordable housing trust funds
        - Targeted tax increment financing or other value-capture strategies for low-income housing
    - Developer Activity to Preserve and Increase Affordable Housing

The optional scenario analysis could include, but is not required to include, information such as change in regional work force access to transit.

Breakpoints

Below is a brief, high level summary of the breakpoints that will be used in evaluating the plans and policies in place. For more detailed information that further clarifies exactly how FTA establishes the ratings, please see our "Guidelines for Land Use and Economic Development Effects for New and Small Starts Projects" on the FTA website.

Transit-Supportive Corridor Policies		
FFGA/SSGA	HIGH	Conceptual plans for the corridor and station areas have been developed. Local jurisdictions have adopted or drafted revisions to comprehensive and/or small area plans in most or all station areas. Development patterns proposed in conceptual plans and local and institutional plan revisions are strongly supportive of a major transit investment.
	MEDIUM	Conceptual plans for the corridor and station areas have been developed. Local jurisdictions have initiated the process of revising comprehensive and/or small area plans. Development patterns proposed in conceptual plans and local and institutional plan revisions are at least moderately supportive of a major transit investment.
	LOW	Limited progress, to date, has been made toward developing station area conceptual plans or revising local comprehensive or small area plans. Station area uses identified in local comprehensive plans are marginally or not transit-supportive.
Engineering	HIGH	Conceptual plans for the corridor and station areas have been developed. Discussions have been undertaken with local jurisdictions about revising comprehensive plans. Development patterns proposed in conceptual plans for station areas (or in existing comprehensive plans and institutional master plans throughout the corridor) are strongly supportive of a major transit investment.
	MEDIUM	Conceptual plans for the corridor and station areas are being developed. Discussions have been undertaken with local jurisdictions about revising comprehensive plans. Development patterns proposed in conceptual plans for station areas (or existing in local comprehensive plans and institutional master plans) are at least moderately supportive of a major transit investment.
	LOW	Limited progress, to date, has been made toward developing station area conceptual plans or working with local jurisdictions to revise comprehensive plans. Existing station area uses identified in local comprehensive plans are marginally or not transit-supportive.
Ratings based on assessment of the following: • Plans and policies to increase corridor and station area development; • Plans and policies to enhance transit-friendly character of corridor and station area development; • Plans to improve pedestrian facilities, including facilities for persons with disabilities; and • Parking policies.		

Supportive Zoning Near Transit		
FFGA/SSGA	HIGH	Local jurisdictions have adopted zoning changes that strongly support a major transit investment in most or all transit station areas.
	MEDIUM	Local jurisdictions are in the process of adopting zoning changes that moderately or strongly support a major transit investment in most or all transit station areas. Alternatively, strongly transit-supportive zoning has been adopted in some station areas but not in others.
	LOW	No more than initial efforts have begun to prepare station area plans and related zoning. Existing station area zoning is marginally or not transit supportive.
Engineering	HIGH	A conceptual planning process is underway to recommend zoning changes for station areas. Conceptual plans and policies for station areas are recommending transit-supportive densities and design characteristics. Local jurisdictions have committed to examining and changing zoning regulations where necessary. Alternatively, a "high" rating can be assigned if existing zoning in most or all transit station areas is already strongly transit supportive.
	MEDIUM	A conceptual planning process is underway to recommend zoning changes for station areas. Local jurisdictions are in the process of committing to examining and changing zoning regulations where necessary. Alternatively, a "medium" rating can be assigned if existing zoning in most or all transit station areas is already moderately transit supportive.
	LOW	Limited consideration has been given to preparing station area plans and related zoning. Existing station area zoning is marginally or not transit supportive.
Ratings based on assessment of the following: • Zoning ordinances that support increased development density in transit station areas; • Zoning ordinances that enhance transit-oriented character of station area development and pedestrian access; and • Zoning allowances for reduced parking and traffic mitigation.		

Tools to Implement Transit-Supportive Plans and Policies		
FFGA/SSGA	HIGH	Transit agencies and/or regional agencies are working proactively with local jurisdictions, developers, and the public to promote transit-supportive planning and station area development. The transit agency has established a joint development program and identified development opportunities. Agencies have adopted effective regulatory and financial incentives to promote transit-oriented development. Public and private capital improvements are being programmed in the corridor and station areas which implement the local policies and which leverage the Federal investment in the proposed major transit investment corridor.
	MEDIUM	Transit agencies and/or regional agencies have conducted some outreach to promote transit-supportive planning and station area development. Regulatory and financial incentives to promote transit-oriented development are being developed, or have been adopted but are only moderately effective. Capital improvements are being identified that support station area plans and leverage the Federal investment in the proposed major transit corridor.
	LOW	Limited effort has been made to reach out to jurisdictions, developers, or the public to promote transit-supportive planning; to identify regulatory and financial incentives to promote development; or to identify capital improvements.
Engineering	HIGH	Transit agencies and/or regional agencies are working proactively with local jurisdictions, developers, and the public to promote transit-supportive planning and station area development. Local agencies are making recommendations for effective regulatory and financial incentives to promote transit-oriented development. Capital improvement programs are being developed that support station area plans and leverage the Federal investment in the proposed major transit corridor.
	MEDIUM	Transit agencies and/or regional agencies have conducted some outreach to promote transit-supportive planning and station area development. Agencies are investigating regulatory and financial incentives to promote transit-oriented development. Capital improvements are being identified that support station area plans and leverage the Federal investment in the proposed major transit corridor.
	LOW	Limited effort has been made to reach out to jurisdictions, developers, or the public to promote transit-supportive planning; to identify regulatory and financial incentives to promote development; or to identify capital improvements.
Ratings based on assessment of the following: • Outreach to government agencies and the community in support of land use planning; • Regulatory and financial incentives to promote transit-supportive development; and • Efforts to engage the development community in station area planning and transit-supportive development.		

Performance of Transit-Supportive Plans and Policies		
FFGA/SSGA	HIGH	A significant number of development proposals are being received for transit-supportive housing and employment in station areas. Significant amounts of transit-supportive development have occurred in other, existing transit corridors and station areas in the region.
	MEDIUM	Some development proposals are being received for transit-supportive housing and employment in station areas. Moderate amounts of transit-supportive development have occurred in other, existing transit corridors and station areas in the region.
	LOW	A limited number of proposals for transit-supportive housing and employment development in the corridor are being received. Other, existing transit corridors and station areas in the region lack significant examples of transit-supportive housing and employment development.
Engineering	HIGH	Transit-supportive housing and employment development is occurring in the corridor. Significant amounts of transit-supportive development have occurred in other, existing transit corridors and station areas in the region.
	MEDIUM	Station locations have not been established with finality, and therefore development would not be expected. Moderate amounts of transit-supportive housing and employment development have occurred in other, existing transit corridors and station areas in the region.
	LOW	Other, existing transit corridors and station areas in the region lack significant examples of transit-supportive housing and employment development.
Ratings based on assessment of the following: • Demonstrated cases of development affected by transit-oriented policies; and • Station area development proposals and status.		

Potential Impact of Transit Project on Regional Development		
Engineering and FFGA/SSGA	HIGH	A significant amount of land in station areas is available for new development or redevelopment at transit-supportive densities. Local plans, policies, and development programs, as well as real estate market conditions, strongly support such development.
	MEDIUM	A moderate amount of land in station areas is available for new development or redevelopment at transit-supportive densities. Local plans, policies, and development programs, as well as real estate market conditions, moderately support such development.
	LOW	Only a modest amount of land in station areas is available for new development or redevelopment. Local plans, policies, and development programs, as well as real estate market conditions, provide marginal support for new development in station areas.
Ratings based on assessment of the following: • Adaptability of station area land for development; and • Corridor economic environment.		

Plans and Policies to Maintain or Increase Affordable Housing in Corridor		
FFGA/SSGA	HIGH	• Comprehensive affordable housing plans have been developed and are being implemented that identify and address the current and prospective housing affordability needs along the corridor. The plans include efforts to preserve existing affordable housing (both legally binding affordability restricted housing and market-rate affordable housing.) The plans also explicitly address the housing affordability and quality needs of very- and extremely-low income households. • Financing commitments and/or sources of funding and robust financial incentives are secured and available at the local and/or regional level and along the proposed corridor to support affordable housing acquisition (including acquisition of land and/or properties intended to be converted to affordable housing), development and/or preservation consistent with adopted plans and policies. These commitments may include early phase or acquisition financing as well as permanent financing. • Local policies and zoning codes support and encourage significant affordable housing development in transit corridors. • Developers are actively working in the corridor to secure priority development sites and/or maintain affordability levels in existing housing units.
	MEDIUM	• Affordable housing plans have been developed and are being implemented that identify and address the current and prospective housing affordability needs along the corridor. The plans include efforts to preserve existing subsidized housing. The plans also explicitly address the needs of very- and extremely-low income households. • Some financial incentives are available along the proposed corridor to support affordable housing acquisition (including acquisition of land and/or properties intended to be converted to affordable housing), development and/or preservation consistent with adopted plans and policies. These commitments may include early phase or acquisition financing as well as permanent financing. • Local policies and zoning codes support affordable housing development in and near transit corridors to a moderate extent. • Developers are starting to work in the corridor to secure priority development sites and/or maintain affordability levels in existing housing units.
	LOW	• Affordable housing plans and policies are in development or non-existent, or fail to address key elements such as length of affordability, preservation of existing affordable housing, and the needs of very- and extremely-low income households. • Little or no financial incentives are available to support affordable housing development and preservation. • Local policies and zoning codes support only limited affordable housing development in and near transit corridors. • There is little or no affordable housing development/preservation activity in the corridor.

Plans and Policies to Maintain or Increase Affordable Housing in Corridor (continued)		
Engineering	HIGH	Plans and policies are in place in most of the jurisdictions covered by the project corridor that identify and address the current and prospective housing affordability needs along the corridor. The plans outline a strategy to preserve existing affordable housing (both legally binding affordability restricted housing and market-rate affordable housing.) The plans also explicitly address the housing affordability and quality needs of very- and extremely-low income households. Financing commitments and/or sources of funding and robust financial incentives are identified and secured to support affordable housing acquisition (including acquisition of land and/or properties intended to be converted to affordable housing), development and/or preservation consistent with adopted plans and policies. These commitments may include early phase or acquisition financing as well as permanent financing. A strategy is in place to encourage jurisdictions to adopt local policies and zoning codes that support and encourage affordable housing development in transit corridors. Developers are actively working in the corridor to secure priority development sites and/or maintain affordability levels in existing housing units.
	MEDIUM	Affordable housing plans are being prepared in most of the jurisdictions covered by the project corridor that identify and address the current and prospective housing affordability needs along the corridor. The plans outline a strategy to preserve existing affordable housing (both legally binding affordability restricted housing and market-rate affordable housing). The plans also explicitly address the housing affordability and quality needs of very- and extremely-low income households. Some financing commitments and/or sources of funding and have been identified and secured to support affordable housing acquisition (including acquisition of land and/or properties intended to be converted to affordable housing), development and/or preservation. These commitments may include early phase or acquisition financing as well as permanent financing. A strategy is in place to encourage jurisdictions to adopt local policies and zoning codes that support and encourage affordable housing development in transit corridors. Developers are starting to work in the corridor to secure priority development sites and/or maintain affordability levels in existing housing units.
	LOW	Plans and policies are not in place or being prepared that identify and address the specific housing affordability needs along the corridor. Financing commitments and/or sources of funding have not been identified and secured to preserve and/or build new affordable housing consistent with adopted plans. There is no strategy to encourage jurisdictions to adopt local policies and zoning codes that support and encourage affordable housing development in transit corridors. There is little or no affordable housing development/preservation activity in the corridor
Ratings based on assessment of the following: • Evaluation of corridor-specific affordable housing needs and supply; • Plans and policies to preserve and increase affordable housing in region and/or corridor; • Adopted financing tools and strategies targeted to preserving and increasing affordable housing in the region and/or corridor; • Evidence of developer activity to preserve and increase affordable housing in the corridor; and • The extent to which the plans and polices account for long-term affordability and the needs of very- and extremely-low income households in the corridor.		

Optional Quantitative Economic Development Scenario

FTA is not specifying a methodology for the optional quantitative economic development scenario. Thus, FTA is not establishing breakpoints at this time. As information is submitted by project sponsors over time, and methodologies are proposed, breakpoints may be established in the future that would be subject to public comment before being finalized. At least initially, FTA intends to examine any optional analyses prepared by project sponsors and assign ratings based on FTA's qualitative assessment of the reasonableness of the analysis and the magnitude of the numbers presented in it.

Project Justification Warrants

Warrants are pre-qualification approaches that allow a proposed Small Starts project to automatically receive a satisfactory rating on a given criterion based on the project's characteristics or the characteristics of the project corridor.

To take advantage of warrants, Small Starts project sponsors should submit a letter to the FTA Associate Administrator for Planning and Environment requesting the use of warrants. The letter should document the estimated project cost, the requested CIG amount and share, and the current existing transit ridership in the corridor today following instructions provided on FTA's website at https://www.transit.dot.gov/funding/grant-programs/capital-investments/documentation-existing-transit-riders-prove-eligibility. FTA will review the eligibility of the project for warrants on a case by case basis.

If the project is determined to be eligible for warrants, FTA will give automatic Medium ratings on the Mobility Improvements, Congestion Relief, and Cost-Effectiveness criteria if the cost of the proposed Small project and current transit ridership in the corridor today fit within the levels identified in the chart below.

Total Proposed Small Starts Project Capital Cost		**Existing Weekday Transit Trips in the Corridor**	**Mobility Rating Automatically Assigned**	**Cost Effectiveness Rating Automatically Assigned**	**Congestion Relief Rating Automatically Assigned**
$0 to < $50 million	And	3,000 or more	Medium	Medium	Medium
$50 to <$100 million	And	6,000 or more	Medium	Medium	Medium
$100 million to <$175 million	And	9,000 or more	Medium	Medium	Medium
$175 to < $250 million	And	12,000 or more	Medium	Medium	Medium

FTA developed these proposed warrant values based on an examination of data on past and current projects in the program. Those projects that met the existing ridership and cost thresholds described above generally fell within the cost per trip ranges currently used to assess cost-effectiveness, thus FTA believes them to be reasonable. FTA believes proposed projects that have capital cost proportionate to the level of existing transit ridership in a strong, established transit corridor have a high likelihood of success. Thus, FTA believes they can be advanced without significant, time-consuming and cost analysis.

FTA is not suggesting that projects unable to meet the warrants thresholds are bad projects. Rather, FTA believes they simply need to be analyzed more fully before investment decisions are made.

If a project is determined to be eligible for these warrants, the project sponsor is relieved of the need to prepare detailed estimates of ridership. Furthermore, the project sponsor can use a simplified approach to compute the Environmental Benefits criterion as described further below.

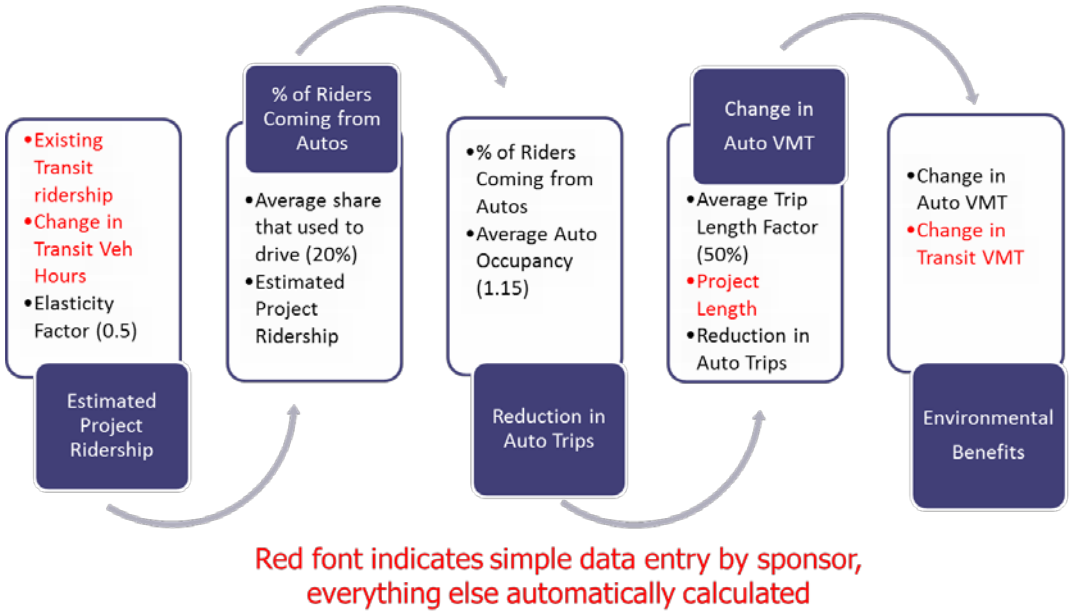
Warranted Small Starts projects would still be subject to the normal rating process for the remaining Project Justification criteria of Economic Development and Land Use because those criteria are more linked to highly individualized aspects of each particular project.

Project sponsors may request consideration for warrants at any time during the Project Development phase. It is most advantageous for the project sponsor to determine eligibility for warrants prior to engaging in significant ridership estimation work. FTA reminds project sponsors that if significant changes to the project cost occur or the project scope is shortened or realigned, the project will need to be re-examined to ensure it still meets the eligibility requirements for warrants.

Warrants are optional. Even if a project qualifies for warrants, project sponsors may wish to calculate the criteria themselves using the templates FTA provides if they believe ratings higher than "medium" may be possible. If, based on the results of the calculations and a comparison to the breakpoints, the sponsor believes better than "medium" ratings are possible, the sponsor can request that FTA evaluate and rate the criteria rather than using warrants. If a sponsor chooses to submit information for evaluation and rating by FTA, the sponsor cannot then go back to choosing warrants as an option if the sponsor does not like the results of FTA's evaluation.

If a sponsor chooses to be warranted, the project would be warranted for all three of the criteria mentioned above and must use the simplified environmental benefits calculation discussed below. Selective use of the warrants for one criterion but not the others is not allowed. Warrants help eliminate the need for costly and time-consuming ridership forecasting analysis by project sponsors and FTA. Unless all three criteria are warranted, these time-savings would not be realized. Allowing a pick and choose approach might actually increase the workload required of project sponsors and FTA, eliminating any potential time-savings.

Because the Environmental Benefits criterion uses estimated change in auto VMT as a result of the implementation of the project for many of its measures, and that is an output of the ridership forecasting process, a simplified approach for developing this information for warranted projects is needed. Therefore, FTA uses a simplified computation based on information project sponsors will have on hand, such as existing corridor ridership, change in transit vehicle-hours, vehicle-miles from the proposed project's service plan, and the length of the proposed project. When combined with standardized factors for ridership (elasticity), share of transit riders shifting from automobiles, average auto occupancy, and average trip length, this information is used by FTA to estimate auto VMT for use in the Environmental Benefits measures. The chart below explains the calculations and shows the standard factors FTA uses.



The Very Small Starts category implemented by FTA under SAFETEA-LU was a form of warrants. When the evaluation criteria changed with publication of the Major Capital Investment Projects Final Rule in 2013, the Very Small Starts category went away until such time as FTA could establish revised warrants based on the new criteria and measures. Given the expanded warrants described above, FTA does not intend to use the Very Small Starts moniker any further.

Local Financial Commitment

Measures

The law requires that proposed projects be supported by an acceptable degree of local financial commitment, including evidence of stable and dependable financing sources to construct, maintain and operate the transit system or extension, and maintain and operate the entire public transportation system without requiring a reduction in existing services.

Project sponsors must prepare a financial plan and 20-year cash flow statement in accordance with FTA's *Guidance for Transit Financial Plans* found on our website at https://www.transit.dot.gov/funding/funding-finance-resources/guidance-transit-financial-plans.

The measures FTA uses for the evaluation of the local financial commitment for proposed Small Starts projects are:

- The proposed share of total project capital costs from sources other than the Section 5309 CIG program;
- The current financial condition, both capital and operating, of the project sponsor and/or relevant project partners when more than one entity is involved in construction or operations;
- The commitment of funds for both the capital cost of the proposed project and the ongoing transit system operation and maintenance, including consideration of whether there is significant private participation;
- The reasonableness of the financial plan, including planning assumptions, cost estimates, and the capacity to withstand funding shortfalls or cost overruns.

Small Starts projects can qualify for a highly simplified financial evaluation if the project sponsor can demonstrate the following:

- A reasonable plan to secure funding for the local share of capital costs or sufficient available funds for the local share;
- The additional operating and maintenance cost to the agency of the proposed Small Starts project is less than five percent of the project sponsor's current year approved operating budget; and
- The project sponsor is in reasonably good financial condition, as demonstrated by the past three years' audited financial statements indicating a positive cash flow over the period, a reasonable current ratio, and no material findings.

Proposed Small Starts projects that meet the items above and request greater than 50 percent CIG funding will receive a local financial commitment rating of Medium. Proposed Small Starts projects that meet the items above and request 50 percent or less in CIG funding will receive a High rating for local financial commitment. Small Starts projects that cannot qualify for the simplified financial evaluation will be evaluated and rated per the discussion below.

Calculation

Individual ratings will be given to each of the following measures:

1. The rating for the current capital and operating condition will be based upon the average fleet age, bond ratings if given within the last two years, the current ratio as shown in the project sponsor's most recent audited financial statement (ratio of current assets to current liabilities), and recent service history including whether there have been significant cuts in service. In arriving at a current condition rating, the majority of the emphasis will be placed on the fleet age and current ratio. The bond rating and service history will have less emphasis. Temporary aberrations in any of these measures would have less of an effect than ongoing systemic concerns.
2. The rating for commitment of funds will be based on the percentage of funds (both capital and operating) that are committed or budgeted versus those considered only planned or unspecified. If there are significant private contributions, such involvement would increase the commitment of funds rating one level. FTA will determine on a case by case basis whether private contributions are significant based on the unique arrangements that may be presented. Private contributions can include outside investments that result in cost-effective project delivery, financial partnering, and other public-private partnership strategies. Note that the rating for the commitment of funds subfactor is separate and distinct from the proposed required level of committed funds necessary to get into and through the steps in the process described elsewhere in this document.
3. The rating for the reasonableness of the financial plan will be based upon whether capital and operating planning assumptions are comparable to historical experience, the reasonableness of the capital cost estimate of the project, adequacy of meeting state of good repair needs, and the project sponsor's financial capacity to withstand cost increases or funding shortfalls.

The summary local financial commitment rating will also take into consideration the share of Section 5309 CIG funding requested. If the summary local financial commitment rating is rated at least Medium and the Section 5309 CIG share is less than 50 percent of the project's capital cost (i.e., the project sponsor is providing significant overmatch), then the summary local financial commitment rating will be raised one level.

	High	Medium-High	Medium	Medium-Low	Low
Current Capital and Operating Condition (25% of local financial commitment rating)	• Average bus fleet age under 6 years. • Current ratio exceeding 2.0 • Bond ratings less than 2 years old (if any) of AAA (Fitch/S&P) or Aaa (Moody's) • Historical positive cash flow. No cash flow shortfalls. • No service cutbacks in recent years.	• Average bus fleet age under 6 years. • Current ratio exceeding 1.5 • Bond ratings less than 2 years old (if any) of AA (Fitch/S&P) or Aa3 (Moody's) or better • Historical positive cash flow. No cash flow shortfalls. • No service cutbacks in recent years.	• Average bus fleet age under 8 years. • Current ratio exceeding 1.2 • Bond ratings less than 2 years old (if any) of A (Fitch/S&P) or A3 (Moody's) or better • Historical positive cash flow. No cash flow shortfalls. • Only minor service adjustments in recent years	• Average bus fleet age under 12 years. • Current ratio exceeding 1.0 • Bond ratings less than 2 years old (if any) of BBB+ (Fitch/S&P) or Baa (Moody's) or better • Historical positive cash flow. No cash flow shortfalls. • Major service cutbacks in recent years.	• Average bus fleet age of 12 years or more. • Current ratio less than1.0 • Bond ratings less than 2 years old (if any) of BBB (Fitch/S&P) or Baa3 (Moody's) or below • Recent historical cash flow problems. • Major service cutbacks in recent years.
Commitment of capital and operating funds (25% of local financial commitment rating)	• At least 75% of the Non-Section 5309 capital funds are committed or budgeted. • At least 75% of the funds needed to operate and maintain the proposed transit system in the opening year of the project are committed or budgeted.	• At least 50% of the Non-Section 5309 capital funds are committed or budgeted. • At least 50% of the funds needed to operate and maintain the proposed transit system in the opening year of the project are committed or budgeted.	• At least 30% of the Non-Section 5309 capital funds are committed or budgeted. • At least 30% of the funds needed to operate and maintain the proposed transit system in the opening year of the project are committed or budgeted.	• At least 10% of the Non-Section 5309 capital funds are committed or budgeted. • While no additional operating and maintenance funding has been committed, a reasonable plan to secure funding commitments has been presented.	• Less than 10% of the Non-Section 5309 capital funds are committed or budgeted. • The applicant does not have a reasonable plan to secure operating and maintenance funding.
Reasonableness of capital and operating cost estimates and planning assumptions/capital funding capacity (50% of local financial commitment rating)	• Financial plan contains very conservative planning assumptions and cost estimates when compared with recent historical experience. • The applicant has access to funds via additional debt capacity, cash reserves, or other committed funds to cover cost increases or funding shortfalls equal to at least 50% of estimated project cost and 50% (6 months) of annual system wide operating expenses.	• Financial plan contains conservative planning assumptions and cost estimates when compared with recent historical experience. • The applicant has access to funds via additional debt capacity, cash reserves, or other committed funds to cover cost increases or funding shortfalls equal to at least 25% of estimated project cost and 25% (3 months) of annual system wide operating expenses.	• Financial plan contains planning assumptions and cost estimates that are consistent with recent historical experience. • The applicant has access to funds via additional debt capacity, cash reserves, or other committed funds to cover cost increases or funding shortfalls equal to at least 15% of estimated project cost and 12% (1.5 months) of annual system wide operating expenses.	• Financial plan contains optimistic planning assumptions and cost estimates when compared to recent historical experience. • The applicant has access to funds via additional debt capacity, cash reserves, or other committed funds to cover cost increases or funding shortfalls equal to at least 10% of estimated project cost and 8% (1 month) of annual system wide operating expenses.	• Financial plan contains planning assumptions and cost estimates that are far more optimistic than recent history suggests. • The applicant has a reasonable plan to cover only minor (< 10%) capital cost increases or funding shortfalls. • Projected operating cash balances are insufficient to maintain balanced budgets.

Overall Project Rating

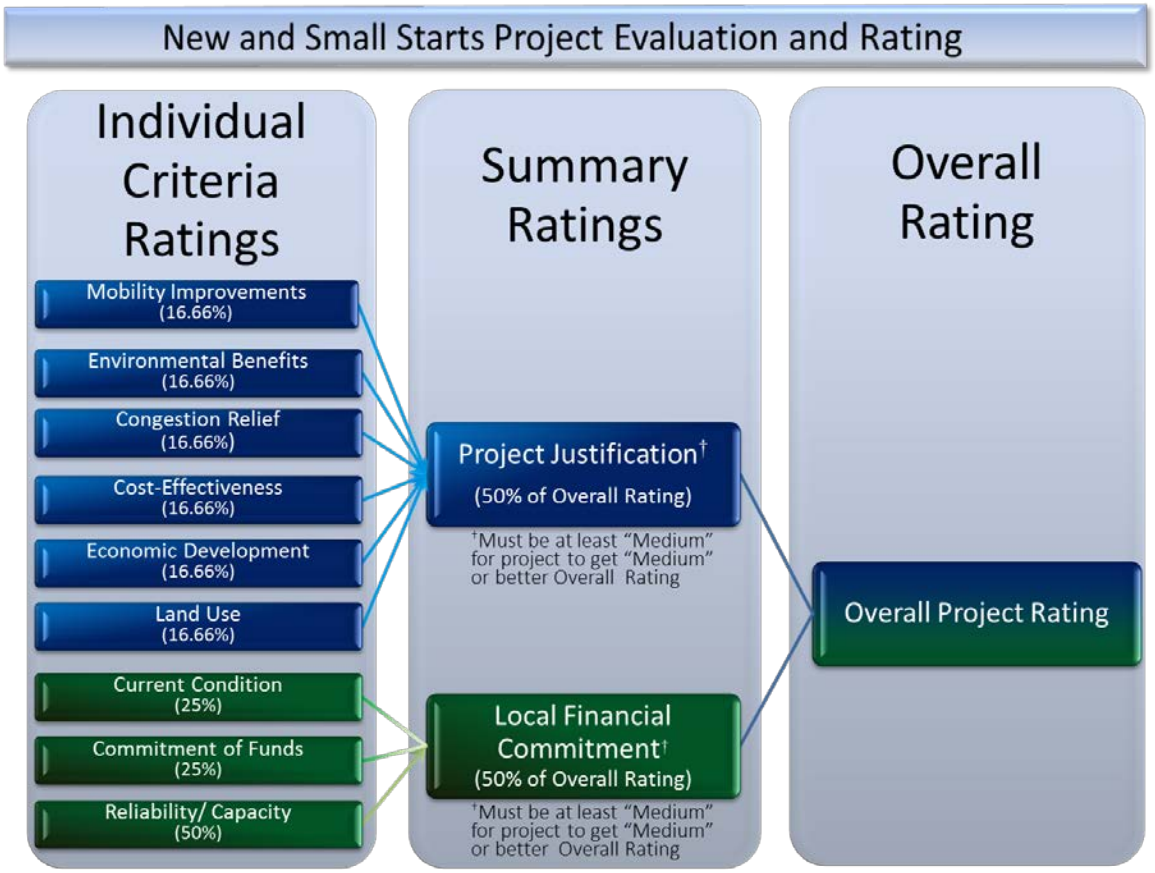
FAST requires that FTA evaluate and rate a project as a whole on a 5-point scale from low to high based on the combined summary ratings for project justification and local financial commitment. FAST also requires that FTA evaluate the six project justification criteria and give "comparable, but not necessarily equal" weight to each when determining a summary project justification rating. FAST does not specify how the local financial commitment criteria should be weighted when arriving at a summary local financial commitment rating.

As an interim approach until rulemaking is complete, FTA gives 50 percent weight to the summary project justification rating and 50 percent weight to the summary local financial commitment rating to arrive at an overall rating. FTA requires at least a Medium rating on both project justification and local financial commitment to obtain a Medium or better rating overall.

FTA gives equal weight to each of the project justification criteria to arrive at a summary project justification rating, meaning each of the six is given a weight of 16.66 percent. FTA believes that each of the project justification criteria provides important information about project merit and thus, feels that equal weights are appropriate. Some types of projects may do well on some of the criteria, but not as well on other criteria. Examining the merits of the project as a whole against all of the project justification criteria combined balances what can sometimes be competing policy goals.

FTA gives a 25 percent weight to the current financial condition of the project sponsor, a 25 percent weight to the commitment of non-CIG funds, and a 50 percent weight to the reasonableness of the financial plan submitted by the project sponsor. The proposed CIG share of the total project capital cost, and whether a project sponsor is providing significant overmatch, is considered after the above weights are applied. If a project sponsor provides a significant overmatch the summary local financial commitment rating be raised one level.

The charts below describe the weights of the various criteria and how they are combined into summary ratings and an overall rating.


New and Small Starts Project Evaluation and Rating
Individual Criteria Ratings
Mobility Improvements (16.66%)
Environmental Benefits (16.66%)
Congestion Relief (16.66%)
Cost-Effectiveness (16.66%)
Economic Development (16.66%)
Land Use (16.66%)
Current Condition (25%)
Commitment of Funds (25%)
Reliability/ Capacity (50%)
Summary Ratings
Project Justification† (50% of Overall Rating)
†Must be at least "Medium" for project to get "Medium" or better Overall Rating
Local Financial Commitment† (50% of Overall Rating)
†Must be at least "Medium" for project to get "Medium" or better Overall Rating
Overall Rating
Overall Project Rating

Small Starts Project Justification Criteria and Subfactors

Mobility Improvements 16.66%	•Total linked trips on the proposed project, with a weight of two given to trips made by transit dependent persons
Environmental Benefits 16.66%	•Dollar value of the anticipated direct and indirect benefits to human health, safety, energy, and the air quality environment scaled by the annualized federal share of the project (computed based on the change in vehicle miles travelled resulting from implementation of the proposed project)
Congestion Relief 16.66%	•New transit trips resulting from implementation of the project
Cost-Effectiveness 16.66%	•Annualized capital federal share of the project per trip on the project
Economic Development 16.66%	•Transit supportive plans and policies •Demonstrated performance of plans and policies •Policies and tools in place to preserve or increase the amount of affordable housing
Land Use 16.66%	•Existing corridor and station area development and character •Existing station area pedestrian facilities, including access for persons with disabilities •Existing corridor and station area parking supply •Proportion of existing "legally binding affordability restricted" housing within ½ mile of station areas to the proportion of "legally binding affordability restricted" housing in the counties through which the project travels

Local Financial Commitment Criteria and Subfactors

Current Condition 25%	• Average Fleet Age • Bond ratings (within last 2 years) • Current ratio (current assets/current liabilities) • Recent service history
Commitment of Funds 25%	• Amount of committed, budgeted, or planned funds • Whether there are significant private contributions to the project
Financial Capacity and Reasonableness of Assumptions 50%	• Assumptions about revenue and expense growth comparable to historical experience • Reasonableness of project capital cost estimate • Adequacy of meeting state of good repair needs • Financial capacity to withstand funding shortfalls or cost overruns (above and beyond contingency included in the cost estimate)

APPENDIX

Data Sources

Change in Air Quality Factors Data Sources and Assumptions

Factor	Data Source or Assumption
Emission rates – automobiles, diesel and CNG transit buses	MOVES2010a – runs using national default inputs for 2013, 2025, 2035
Emission rates – commuter rail (diesel) and DMU	New locomotives: U.S. EPA Tier 4 emissions standards (U.S. EPA 2009) Reused locomotives: Average emission factor for U.S. passenger locomotives by year from U.S. EPA
Emission rates – electric modes	NO_x emissions forecasts based U.S. Department of Energy (DOE) Annual Energy Outlook (AEO) 2012 Reference Scenario PM, VOC, and CO forecasts based on current emission levels Argonne National Laboratory Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model (GREET) and forecast generating mix from AEO
Value of change in emissions	U.S. EPA (2012) health damage using PM2.5 and precursor (VOC and NOx) costs by source type – adjusted for horizon year estimates based on EPA estimates for 2015, 2020, 2030 Delucchi (2004) midpoint value for urban areas for CO Adjusted 50% upwards for nonattainment areas and 25% upwards for maintenance areas to account for the higher value of a change in emissions in an area with worse air quality, based on FTA judgment.

Change in Energy Use Data Sources and Assumptions

Factor	Data Source or Assumption
Assumed fuel blends for gasoline and diesel	Gasoline: 10% ethanol Diesel: 10% biodiesel
Full fuel-cycle energy factors (measure of energy consumed by the transportation vehicle and energy associated with the extraction, transmission, and processing of fuels)	GREET model for 2020
Automobile fuel economy	Projections from AEO 2012 (including Model Year 2012-2016 standards)
Transit vehicle energy intensity (Btu per mile) – (2010)	NTD averages by mode for diesel bus and commuter rail Hybrid bus = 20% improvement vs. diesel DMU = commuter rail diesel
Transit vehicle energy intensity – improvement factors (current year, 10-year horizon, 20-year horizon)	Buses - AEO average efficiency improvement for heavy duty vehicles (HDV) (18% by 2035) Diesel rail - AEO average efficiency improvement for freight rail (3% by 2035)

Change in Greenhouse Gas Emissions Data Sources and Assumptions

Factor	Data Source or Assumption
CO_2 emission factors by fuel type – liquid fuels and natural gas (kg/gal)	U.S. Energy Information Administration (EIA), Voluntary Reporting of Greenhouse Gases Program
GHG emission factors for electricity generation (kg/kWh)	AEO Reference Case (11% improvement by 2035)
CO_2 equivalent to CO_2 scale factors by fuel type	GREET model
Full fuel-cycle GHG factors (ratio of fuel-cycle to operating GHG emissions)	GREET model for 2020

Change in Safety Data Sources and Assumptions

Factor	Data Source or Assumption
Fatality rates – automobiles	National Highway Traffic Safety Administration (NHTSA) - Fatal Accident Reporting System, 2000 – 2009
Injury rates – automobiles	Bureau of Transportation Statistics (BTS) reported motor vehicle safety data, 2000 - 2009
Fatality rates – transit (except commuter rail)	National Transit Database (NTD) 2000-2011 for bus, light rail, and heavy rail Electric bus, streetcar, DMU and EMU rates based on most similar corresponding mode from NTD
Injury rates – transit (except commuter rail)	NTD 2000-2011 for all reporting modes Streetcar, DMU, and EMU based on most similar corresponding mode from NTD
Fatality and injury rates – transit (commuter rail)	BTS reporting for passenger rail, 2000 – 2010
Value of a statistical life	2014 U.S. DOT memorandum on Value of a Statistical Life
Value of an injury by severity level	Federal Highway Administration (FHWA) Highway Safety Manual (2009), based on KABCO scale
Distribution of injuries by severity level – automobile	NHTSA General Estimates System 2010 crash data, disabling injuries only to match what is available through NTD reporting requirements
Distribution of injuries by severity level – transit	Disabling injuries only, based on NTD reporting requirements

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CHAPTER III
CORE CAPACITY
FINAL INTERIM POLICY GUIDANCE

CORE CAPACITY FINAL INTERIM POLICY GUIDANCE

INTRODUCTION

Although the text of FAST with regard to the Core Capacity program is very similar to that for the New Starts program, FTA believes Core Capacity projects can be treated a bit differently because they are located in established, proven successful transit corridors. Therefore, one of FTA's key objectives for implementing the Core Capacity Program is to create a simple, easy to understand process that can be easily administered by FTA. FTA uses simple eligibility parameters, simplified evaluation measures, and expanded "warrants" based on readily available, easily verifiable information whenever possible to make the process less burdensome for both FTA and Core Capacity project sponsors. FTA believes the process maintains an appropriate degree of analytic rigor as a basis on which to make Capital Investment Grant (CIG) program funding decisions.

This document updates the Final Interim Policy Guidance dated August 2015 to incorporate statutory changes made in FAST. It does not change any FTA policies or procedures or impose any new requirements from those outlined in the 2015 Final Interim Policy Guidance. Therefore, FTA is not soliciting public comment on this document.

FTA provides below proposed measures that the agency will ordinarily follow; however, as indicated where relevant below, project sponsors generally remain able to submit additional information for consideration, which FTA will evaluate on a case-by-case basis until the more formal rulemaking process fully implementing Core Capacity is complete.

ELIGIBLE APPLICANTS

The Fixing America's Surface Transportation Act (FAST), enacted on December 4, 2015, is the law that authorizes the Capital Investment Grant Program. It specifies that eligible applicants for the CIG program are State or local governmental authorities. Throughout this document we refer to such applicants as project sponsors.

ELIGIBLE COSTS

FAST includes definitions that apply to all FTA grant programs including one outlining eligible capital project costs [5302(3)]. Additionally, FAST specifics that Core Capacity projects may include: "acquisition of real property, the acquisition of rights-of-way, double tracking, signalization improvements, electrification, expanding system platforms, acquisition of rolling stock associated with corridor improvements increasing capacity, and construction of infill stations" [5309(b)(2)] as well as "interest and other financing costs of efficiently carrying out a part of the project within a reasonable time" [5309(k)(2)(D)(iii)].

DETERMINING CORE CAPACITY PROJECT ELIGIBILITY

FAST specifies several eligibility parameters for projects seeking core capacity funding. First and foremost, according to the definition in FAST, a proposed core capacity project must be, "a substantial corridor-based capital investment in an existing fixed guideway system." Therefore, FTA requires projects to be corridor specific rather than multiple corridors packaged together or system-wide improvements. FTA considers improvements along a trunk line with several branches to be an eligible core capacity corridor project.

Additionally, FAST specifies:

- the proposed project corridor must be at or over capacity currently or will be within five years [5309(e)(2)(A)(iii)]
- the proposed project must be a substantial, corridor-based capital investment in an existing fixed-guideway system that increases the capacity of a corridor by not less than 10 percent [5309(a)(2)]
- the proposed project does not include project elements designed to maintain a state of good repair [5309(a)(2)]
- the proposed project cannot include elements to improve general station facilities or parking, or acquisition of rolling stock alone [5309(b)(2)]

Note that while vehicles, station facilities, or parking by themselves are not eligible as core capacity projects, any or all of those elements may be combined with other elements as part of a larger core capacity project.

FTA encourages project sponsors seeking CIG funds to incorporate resilience elements in their project design, provided the project continues to meet the criteria in law for receipt of funding.

Demonstrating A Corridor Is At Capacity or Will Be Within Five Years

FTA uses a simple method to calculate peak hour, peak direction person capacity to determine whether a proposed light rail or heavy rail project corridor is at capacity today or will be within five years. When project sponsors submit a request to enter Project Development, they must provide FTA with existing peak hour ridership in the peak direction on the existing fixed guideway corridor, the number of trains currently operated in the peak hour in the peak direction, the number of cars per train in the peak direction, and the length and width of the rail cars used on the peak hour trains in the peak direction. Using this information, FTA calculates the existing average useable space per passenger in the corridor during the peak hour going in the peak direction, and compares it to a comfortable loading level of 5.4 square feet per passenger as defined in the industry-recognized Transit Capacity and Quality of Service Manual published through the Transit Cooperative Research Program (TRCP Report 165). TCRP research indicates 5.4 square feet of space per passenger is a comfortable loading level on U.S. rail transit systems and is close to the average loading on all trunk rail transit lines entering the central business district of U.S. cities.

The following describes more specifically how FTA determines eligibility:

Current Average Useable Space Per Passenger In the Corridor Today
During the Peak Hour Going the Peak Direction

If	Then
Less than or equal to 5.4 square feet	Corridor is considered at or above capacity today and is eligible for the program
Between 5.4 square feet and 5.7 square feet	Corridor is anticipated to be at capacity within five years and is eligible for the program
Greater than 5.7 square feet	Corridor is not at capacity today or anticipated to be at capacity in five years and is not eligible for the program

The specific calculations FTA uses in its eligibility determination for light rail and heavy rail projects include:

- (Length of railcar minus 6 feet 7 inches) x (width of railcar minus 8 inches) = useable space of each railcar

- Trains per peak hour in the peak direction x cars per train = cars per peak hour in the peak direction
- Cars per peak hour in the peak direction x useable space per car = total useable space per peak hour in the peak direction
- Total useable space per peak hour in the peak direction ÷ ridership per hour on the line = useable space per passenger in the peak hour in the peak direction

Rather than using a simple length multiplied by width calculation to determine the total area of each railcar in the calculations above, FTA uses information from the TCRP Transit Capacity Manual (TCRP Report 165) describing how to calculate the gross interior floor area of a railcar to determine the average useable space per railcar. It says for heavy and light rail cars to subtract 8 inches from the external width to account for wall thickness, and 6 feet 7 inches from the external length to account for a driver cab compartment. This takes into consideration that not all space on a railcar is useable by passengers. While FTA recognizes each vehicle configuration may be different, for simplicity of the calculation and verification by FTA, we are using this standard calculation for all projects rather than system specific and vehicle specific calculations.

While FTA recognizes there is a range of factors that play a role in determining the capacity of a line such as station configurations, control and signal systems, junctions, yards, dwell times, fare collection methods, vehicle configurations, etc., those factors are very system specific and not easily verifiable by FTA without extensive analysis and review. For streamlining and time-savings, FTA believes the simple calculations shown above represent an acceptable method for determining a project is at capacity today or will be in five years. Please note the above calculations are peak hour person capacity along the entire project corridor and are not based on a peak load point.

Additionally, FTA knows that each transit system establishes its own load standards that guide its decisions on service planning. To make eligibility determinations for a national funding program, however, FTA believes it is more appropriate to use a general industry-wide standard rather than system specific measures based on local preferences.

The 5.4 square feet per passenger comfortable load standard discussed in the TCRP Transit Capacity and Quality of Service Manual includes both seated and standing passengers. FTA recognizes the majority of commuter rail systems do not allow standees given the nature of the trips being much longer in length and due to safety considerations. Thus, FTA uses a different calculation to determine core capacity eligibility of commuter rail projects. A project sponsor of a proposed commuter rail core capacity project must provide information on equipment design, cars per train, trains per peak hour and current ridership to FTA with their PD request that shows at least 95 percent of available seats are used in the peak hour going the peak direction. In this way, FTA determines if the proposed commuter rail project is at capacity or will be within five years.

FAST defines ferry projects as fixed guideway transit service, making them eligible for core capacity. FTA is not implementing a ferry project capacity calculation, but will work with ferry project sponsors on a case-by-case basis to determine whether a proposed project is eligible.

FTA recognizes none of the measures shown above account for capacity issues brought on by inadequate station facilities. While FAST does not allow station improvements by themselves to be eligible as a core capacity project, FTA wishes for its process to account for station capacity needs in the evaluation process. FTA will continue to work with the industry to determine a simple national standard calculation for station capacity that could be used.

At this time, FTA is not implementing a fixed guideway BRT capacity calculation. Instead, FTA will work with fixed guideway BRT projects on a case-by-case basis to determine whether the proposed

project is eligible for core capacity. FTA will also continue to work with the industry to determine a simple national standard calculation for fixed guideway BRT projects that would be similar to the ones above used for rail projects.

Verifying Proposed Project Increases Capacity by at Least 10 Percent

For LRT or heavy rail projects, using a calculation method similar to the one described above, FTA evaluates peak hour person capacity in the peak direction in the corridor once the proposed project is completed and open for service to determine whether the project increases capacity by at least 10 percent. Project sponsors submit information on the estimated trains per peak hour in the peak direction, cars per train in the peak direction, and rail car dimensions that would be in place when construction on the proposed project is completed and opened for service. FTA then determines whether the proposed project improves the useable space per existing passenger in the peak hour in the peak direction by at least 10 percent.

Similarly, for commuter rail projects, using a calculation method similar to the one described above, FTA evaluates the peak hour peak direction seated load after the proposed project is completed and open for service to determine whether the project increase capacity by at least 10 percent. Project sponsors submit information on equipment design, train consists, and trains per peak hour that would be in place when construction on the proposed project is completed and opened for service.

For all proposed core capacity projects, service must increase when project construction is completed and not just at some point further in the future. In other words, the project must provide for near-term capacity improvements and not just provide for distant horizon year improvements that can result only if additional improvements apart from the core capacity project are undertaken. If the proposed core capacity improvements are being implemented by the project sponsor in distinct phases, each phase is considered a separate core capacity project. Each phase is evaluated on its own merits to verify it will result in service improvements that represent a capacity increase of at least 10 percent.

Differentiating Core Capacity from State of Good Repair

Core Capacity projects are likely to be intertwined with improvements to bring an existing line into a state of good repair (SGR). When a transit agency begins contemplating rehabilitation and replacement projects, it normally also considers upgrades and improvements. Because FAST requires that Core Capacity projects not fund elements related to SGR, FTA and the project sponsor must differentiate the costs.

FTA's SGR program circular (https://www.transit.dot.gov/regulations-and-guidance/fta-circulars/state-good-repair-grant-program-guidance-and-application) indicates SGR projects may include elements to replace and rehabilitate: rolling stock, track, line equipment, and structures, signals and communications, power equipment and substations, passenger stations and terminals, security equipment and systems, maintenance facilities and equipment, administration buildings, support vehicles, and operational support equipment (including computer hardware and software). SGR projects can also include preventative maintenance and the development and implementation of a transit asset management plan. SGR projects may not include expenditures that are needed for new or expanded service.

FTA believes there will often be cases where a project sponsor will propose to undertake a major construction project that involves both Core Capacity and SGR elements, and that the sponsor may seek both Section 5309 discretionary Core Capacity and Section 5339 formula SGR funds for the project. FTA allows such a combination of FTA funding for such projects. For purposes of determining what costs are eligible for which type of FTA funds, FTA requires project sponsors to differentiate early in

Project Development the percentage of costs in each Standard Cost Category line item associated with capacity improvements versus the percentage associated solely with SGR replacements and rehabilitations. For example, if the project includes straightening and relocating track in some places to improve travel speeds and increase train throughput but also rehabilitating track, the track being moved may be considered a core capacity element while the track remaining in its original location and simply being rehabilitated is considered an SGR element. Other examples include station expansions and relocations versus station rehabilitations and signal and control system upgrades that allow for additional train throughput or longer trains versus replacements that keep capacity at current levels.

During Project Development, the project sponsor must submit a proposed accounting of SGR elements versus core capacity elements for the project to FTA for review and approval. Once FTA and the project sponsor agree on a reasonable accounting approach, the percentages for each SCC line item would be "locked-in" with little opportunity to revise them in the future unless special extenuating circumstances arise. This is to guard against continuous recalculations that could delay a project from moving forward, and also from recalculations meant solely to try to improve an evaluation criterion calculation.

GETTING INTO AND THROUGH THE STEPS IN THE PROCESS

FAST outlines two phases Core Capacity projects must go through to be eligible for a construction grant agreement under the Section 5309 CIG program. The first phase is Project Development (PD) and the second is Engineering.

Prior to Project Development

FAST indicates that Core Capacity project sponsors must complete the PD phase within two years, which may be challenging for proposed projects that have significant environmental impacts, complicated financial arrangements, or complex engineering and design elements. Therefore, FTA encourages project sponsors to perform whatever work they feel is necessary prior to requesting entry into PD to facilitate their ability to complete PD within the two year timeframe. For example, sponsors may wish to conduct early planning work and initiate the environmental review process under the National Environmental Policy Act (NEPA) including, where appropriate, early scoping.

Project sponsors should be aware that any activities undertaken prior to a project entering PD are not covered by automatic pre-award authority and will not be eligible for future reimbursement from the Core Capacity program should a construction grant be awarded in the future. Please consult page 7920 of FTA's Annual Apportionment's Notice [https://www.gpo.gov/fdsys/pkg/FR-2016-02-16/pdf/2016-02821.pdf] where pre-award authority for the Section 5309 CIG program is discussed in more detail.

Requesting Entry into Project Development

Project sponsors seeking to enter into PD should submit as their application a short letter to the FTA Associate Administrator for Planning and Environment that includes the following information:

- The name of the study sponsor, any partners involved, and the roles and responsibilities of each
- Identification of a project manager and other key staff that will perform the PD work
- A brief description and clear map of the corridor being studied, including its length and key activity centers
- The transportation problem in the corridor or a statement of purpose and need
- Electronic copies of or weblinks to prior studies done in the corridor, if any
- Identification of a proposed project if one is known and alternatives to that project if any are being considered;

- A brief description of current levels of transit service in the corridor today, including the information supporting the calculations to demonstrate the corridor is at capacity today, or will be within five years as described in the eligibility section of this document
- Information that verifies how the project would increase capacity along the fixed guideway rail line by at least 10 percent using the calculations described in the eligibility section of this document
- Identification of a cost estimate for the project, if available
- The anticipated cost to complete PD, not including the cost of any work done prior to officially entering the PD phase
- Identification of the funding available and committed to conduct the PD work
- Documentation demonstrating commitment of funds for the PD work (e.g. Board resolutions, adopted budgets, approved Capital Improvement Programs, approved Transportation Improvement Programs, letters of commitment)
- An anticipated draft timeline for completing the following activities (which should demonstrate the ability to complete the PD work within two years as prescribed in FAST):
    - compliance with NEPA and related environmental laws[11]
    - selection of a locally preferred alternative (LPA)
    - adoption of the LPA in the fiscally constrained long range transportation plan
    - completion of the activities required to obtain a project rating under the evaluation criteria outlined in the law
    - completion of the readiness requirements for entry into Engineering
    - anticipated receipt of a construction grant agreement from FTA
    - anticipated start of revenue service

Project sponsors should not submit a large, lengthy submittal to FTA as that is not necessary to address the above items. Rather, a relatively short letter (2 to 5 pages) is sufficient. There is no specific format the letter must follow. It simply must address each of the items listed above. Electronic submissions are preferred by FTA. Mailed submissions can get delayed due to security steps in place at USDOT.

As mentioned in the bulleted list above, requests to enter PD must demonstrate to FTA that funding is available and committed to perform the PD work. Given the intent of FAST that projects move quickly and not linger in the program, project sponsors must have money available to begin the PD work immediately upon entry into the program. Funding available one or more years in future does not qualify as available and committed for entry into PD, even if it is programmed in a Transportation Improvement Plan, agency Capital Improvement Program, or future fiscal year budget document. FAST intends for projects to make quick progress and not linger in the program, which can only happen if funding is available to begin performing the PD work immediately upon entry into the CIG program.

Requests to enter PD may be submitted to FTA at any time throughout the year, whenever the project sponsor believes the project is ready for entry. FTA discourages project sponsors from submitting PD requests during the early fall, which is the production time for FTA's *Annual Report on Funding Recommendations*, because processing could get delayed due to the large workload being handled by FTA at that time. Importantly, there is no advantage to a project sponsor in submitting a PD request during the *Annual Report* cycle since projects just entering the program are not considered candidates for funding recommendations because they are not being evaluated and rated. Often project sponsors believe being shown in the *Annual Report* as one of the projects in the program, even though the project has not yet been evaluated or rated by FTA, gives the project credibility. Thus, they push to submit their request during the production cycle for the *Annual Report*. FTA maintains a webpage listing all current projects in the program. As soon as FTA notifies a project sponsor that it has been granted entry into PD, the

[11] Information on compliance with these requirements can be found on FTA's website at the following link: https://www.fta.dot.gov/regulations-and-guidance/environmental-programs/national-environmental-policy-act.

project is displayed on FTA's webpage making it visible to Congress and any others who may be interested. Additionally, FTA briefs congressional staff monthly on all projects in the program, including notifying them of new entrants to the program.

Upon receipt of a request to enter PD, FTA reviews the request to ensure it contains all of the information listed above. FTA communicates via email with the project sponsor, identifying any missing information or specifying the request is considered complete. Upon receipt of complete information, FTA processes the request and notifies Congress and the project sponsor in writing whether the information was deemed sufficient for entry into PD within 45 days per the requirements of FAST.

During Project Development

FAST specifies that during PD, the following must be completed:

- The project sponsor must select a locally preferred alternative (LPA);
- The project sponsor must get the LPA adopted into the fiscally constrained metropolitan transportation plan;
- The environmental review process required under NEPA must be completed as signified by final FTA environmental decisions (e.g., categorical exclusions, findings of no significant impact, or final environmental impact statements/records of decision, and/or records of decision) covering all aspects of the project proposed for FTA funding; and
- The project sponsor must develop sufficient information for FTA to develop a project rating.

FTA proposes that in addition to the statutorily required activities listed above, during PD project sponsors should complete the following activities:

- Obtain commitment of at least 30 percent of the non-CIG funding
- Complete at least 30 percent design and engineering. At this level FTA expects the project sponsor to provide documents at the following level of detail:
    - Project Management Plan (PMP) and sub-plans -- should include processes and procedures to continuously manage the project during Engineering and a staffing plan that identifies key personnel and demonstrates the sponsor's management capacity and capability;
    - Project definition – key elements are identified and reasonably defined;
    - Cost Estimate – addresses key items within the project's work breakdown structure at an appropriate level. Includes both the basis for the estimate and required contingency based on the level of design and in accordance with FTA and industry best practices;
    - Schedule – addresses key activities, milestones and elements within the project's work breakdown structure and incorporates proposed delivery methodology;
    - Third Party Agreements and Right-of-Way – are identified with a plan and schedule for completion;
    - Geotechnical – a preliminary geotechnical report has been completed and provided to FTA where applicable (for example this may not be needed when no geotechnical work is required - such as for most BRT projects);
    - Project Delivery Method – the delivery method is identified (with related methodologies, activities, and milestones reflected throughout the other required products);
    - Value Engineering (VE) Report – the report is substantially complete and a draft report shared with FTA where applicable (for example, a separate VE report may not be needed for some project delivery methods such as design-build, since bidders may be required to provide the VE options as part of their proposals.) Additional value engineering products may be developed during the Engineering phase.
    - Safety – a preliminary safety hazard analysis and a preliminary threat and vulnerability analysis have been completed and the development of safety and security design criteria has been initiated;

- Accessibility – the sponsor demonstrates steps that will be taken to ensure compliance with DOT regulations and standards issued under the Americans with Disabilities Act, including a preliminary analysis of accessibility features such as accessible routes to, from, and within the station sites or boarding locations; detectable warnings; signage and communications; curb ramps; and other accessibility features required under the ADA; and
- Constructability Review Report– a draft report is submitted, where applicable (for example, for very simple projects, a constructability review early in the project development process might not yield great benefits). The report includes at a minimum the general construction approach, a discussion of site access, and other potential constraints. A more detailed Constructability Review is to be performed during the Engineering phase that may focus on the bid documents, among other aspects, that would affect procurement of the construction contracts.

FTA believes the intent of FAST is for projects to make sufficient progress and move quickly through the process. Therefore, project sponsors should complete all of the PD activities listed above within the two-year timeframe specified in FAST. If the above mentioned activities cannot be completed within the two-year timeframe due to unforeseen circumstances, the project sponsor should submit a written request for an extension of PD addressed to the FTA Associate Administrator for Planning and Environment. There is no required format for the PD extension request letter, but it should contain an explanation of the reasons an extension is needed and a revised estimated schedule for completing the above listed PD activities. FTA will consider requests for PD extensions on a case-by-case basis, and respond in writing whether an extension is granted or not. FTA anticipates such requests will occur infrequently since project sponsors are advised to be cautious about timing their entry into PD only when they feel confident they can complete the above listed activities within the two year timeframe.

If a PD extension is not granted by FTA, the project will automatically be withdrawn from PD. Project sponsors must complete the work activities listed above before they would be allowed to re-apply for entry into the Engineering phase of the CIG program. Any work performed prior to re-entry into Engineering would not be covered by pre-award authority and would be ineligible for reimbursement at a future date should FTA award a construction grant agreement.

FTA requires that at a minimum the design and engineering work described in the bulleted list above (equivalent to a 30 percent design level) be completed during PD. However, FTA encourages project sponsors to complete as much engineering and design work on the locally preferred alternative as needed to feel comfortable with the reliability of the project cost, scope, and schedule because FTA intends to lock in the CIG amount at the level requested with entry into Engineering. Therefore, if a project sponsor has completed all of the PD activities listed above within the two year timeframe specified in FAST, but wishes to perform additional engineering and design before seeking entry into Engineering and locking in the CIG amount, the sponsor may submit a written request addressed to the FTA Associate Administrator for Planning and Environment requesting that FTA postpone advancement into Engineering. The letter should provide FTA with documentation verifying the above PD activities have been completed and an estimated schedule for when the project sponsor believes the project will be ready to advance into Engineering. FTA will consider requests to postpone advancement into Engineering on a case-by-case basis.

FTA will begin formal oversight of the project no later than six months prior to entry into Engineering or six months prior to the end of the two year PD timeframe, whichever is earlier. Thus, project sponsors must notify FTA of their intent to enter Engineering at least six months prior to when they hope to enter that phase. FTA encourages project sponsors to begin working with FTA in advance of this notification date to establish an oversight plan and roadmap for entry into Engineering.

Requesting Entry into Engineering

Project sponsors submit the following information with a letter to the FTA Associate Administrator for Planning and Environment requesting entry into the Engineering phase:

- Core Capacity Templates used for developing the evaluation criteria and ratings;
- 20-year financial plan, including supporting documentation demonstrating at least 30 percent of the non-CIG funding is committed;
- Cost estimate provided using the Standard Cost Category worksheets that include a delineation of Core Capacity elements from any SGR elements;
- Project Management Plan and Subplans;
- Integrated project schedule;
- Documentation of project definition and scope;
- Contracting plans and documents;
- Project delivery method identified and reflected throughout the other required products;
- Identification of third party agreements with schedule for completion;
- A preliminary geotechnical report;
- A draft value engineering report;
- A preliminary safety hazard analysis and a preliminary threat and vulnerability analysis as well as initial safety and security design criteria;
- The draft constructability review report; and
- Draft Before and After Study data collection plan.

FAST requires that FTA evaluate and rate the Core Capacity project prior to allowing it into the Engineering phase. Thus, FTA will use the information provided above to develop ratings for the project justification and local financial commitment criteria. By law, a project must receive at least a Medium overall rating under the FAST evaluation criteria to be eligible for entry into the Engineering phase. FTA will also review the Project Management Plan and subplans to ensure that the project sponsor has the capacity and capability to carry out the project. Lastly, FTA will review the project definition, scope, cost, and schedule for reasonableness and undertake other appropriate oversight. These oversight reviews may be expedited based on factors including the complexity of the project and the project sponsor's management capacity and capability.

FTA proposes to lock in the Section 5309 CIG funding amount (not share, the actual amount) at the level requested with entry into Engineering. Should the project cost change after a project has entered Engineering, additional CIG funding would not be provided. Thus, FTA encourages project sponsors to perform as much engineering and design as they feel necessary during PD before requesting entry into Engineering to feel comfortable with the project cost and scope.

During Engineering

Because of the desire by Congress and the industry to ensure the CIG process moves quickly, FTA believes project sponsors should demonstrate sufficient progress to remain in the program. Thus, FTA requires that project sponsors obtain commitments of at least 50 percent of the non-CIG funds and make sufficient progress advancing the level of design of the project within three years of a project's advancement into Engineering. This does not mean project sponsors must complete the Engineering phase within three years. Rather, while the Engineering phase might reasonably take longer than three years to complete in its entirety, FTA is simply requiring that continuing progress be made during Engineering rather than allowing a project to remain stagnant indefinitely.

If a sponsor does not make sufficient progress on obtaining funding commitments or advancing the level of design of the project within three years of entry into Engineering, FTA will withdraw the project from

the CIG program. The project sponsor would then need to reapply for entry into the Engineering phase after gaining the necessary funding commitments and/or demonstrating design on the project is advancing and not stagnant. Any work performed by the project sponsor after being withdrawn from the program and before reentry would not be eligible under pre-award authority for future reimbursement should a construction grant be awarded.

To complete the Engineering phase, project sponsors must complete sufficient engineering and design to develop a firm and reliable cost, scope, and schedule for the project, obtain all non-CIG funding commitments, complete all critical third party agreements, and meet other FTA readiness requirements related to technical capacity, staffing, and oversight to be eligible for a construction grant agreement.

FAST directs FTA to utilize Letters of Intent (LOI) to the extent practicable in advance of awarding construction grant agreements. According to FAST, a LOI announces "an intention to obligate . . . an amount from future available budget authority . . . sufficient to complete at least an operable segment." It does not include a firm commitment of FTA funds for the project and is not considered an obligation of Federal funds. FTA determines the applicability of a LOI during the Engineering phase on a case-by-case basis. Although not a firm commitment of FTA funds, a LOI could be useful to a project sponsor in discussions with lenders, political leaders, and other entities that are being asked to provide project matching funds.

Receipt of Construction Funding

FTA does not begin negotiating a construction grant agreement with a project sponsor until a project is recommended for funding by FTA in the *Annual Report on Funding Recommendations* (http://www.fta.dot.gov/12304_2618.html), which is a companion document to the President's budget sent to Congress each year. FTA decides whether to include a project as a funding recommendation in the *Annual Report on Funding Recommendations* based on:

- the evaluation and rating of the project under the criteria specified in law;
- the availability of CIG program funds; and
- considerations related to project readiness including whether:
    - an advanced level of engineering and design has been completed so that the project scope, cost, and schedule are considered reliable (taking into consideration the project delivery method selected); and
    - generally, at least 50 percent of the non-CIG funds for the project are committed.

Including a project as a funding recommendation in the President's budget is an executive branch prerogative. FTA includes the above text as helpful information for project sponsors to understand as a necessary step before a project may proceed to a construction grant agreement.

To have a project considered for a funding recommendation in the President's budget, project sponsors must submit information to FTA for evaluation and rating of the project. Each year FTA publishes Reporting Instructions, templates, and Standard Cost Category worksheets that are used by project sponsors to develop and report the necessary submittal of information to FTA. Typically the submittals are due in early fall of the year prior to the February release of the President's budget.

FAST directs FTA to utilize Early Systems Work Agreements (ESWA) to the extent practicable in advance of awarding Full Funding Grant Agreement (FFGAs). Generally, an ESWA is a contract similar to an FFGA but that covers only a portion of the project rather than the full project. It includes a firm commitment of FTA funds for the project. According to FAST, an ESWA cannot be entered into unless NEPA is complete and "the Secretary finds there is reasons to believe a FFGA for the project will be made." FAST further specifies the ESWA must "promote ultimate completion of the project more rapidly

and at less cost." The project sponsor must repay all Federal funds awarded in an ESWA if the sponsor does not carry out the project for reasons within the sponsor's control. FTA determines the applicability of ESWAs during the Engineering phase on a case-by-case basis.

Even after a project has been recommended in the President's budget for a construction grant agreement, project sponsors must complete sufficient engineering and design to develop a firm and reliable cost, scope and schedule for the project, obtain all non-CIG funding commitments, complete all critical third party agreements, and meet other FTA readiness requirements related to technical capacity, staffing, and oversight before submitting a request to FTA for a construction grant agreement. The project sponsor must submit the following information to the FTA Associated Administrator for Planning and Environment with a cc: to the Regional Administrator when requesting a construction grant agreement so that FTA may complete the evaluation and rating of the project required by law:

- Core Capacity templates used for developing the evaluation criteria and ratings;
- 20-year financial plan, including supporting documentation demonstrating all of the non-CIG funding is committed;
- Cost estimated provided using the Standard Cost Category worksheets;
- Draft FFGA contract and attachments;
- Draft grant application in FTA's electronic grant making system;
- Project definition that has been refined and updated to support the level of design;
- Updated cost and integrated project schedule reflecting the level of design;
- Contracting plans and documents;
- Value Engineering Reports as applicable;
- Constructability Review Report;
- Before and After Study data collection plan;
- Updated Project Management Plans and Subplans for the FFGA phase including:
    - Risk and Contingency Management Plan;
    - Documented processes and procedures to manage the project during FFGA/Construction; and
    - Staffing plans addressing, but not limited to the following areas: Real Estate, Schedule and Cost controls, Risk Management, Construction Management, Quality Assurance/Quality Control, Safety and Security;
- Documentation showing all major third party agreements and permits are completed and in place; and
- Documentation showing all critical issues identified in prior FTA reviews are resolved.

FAST requires that FTA evaluate and rate the Core Capacity project prior to awarding an FFGA. Thus, FTA uses the information provided above to develop ratings for the project justification and local financial commitment criteria. By law, a project must receive at least a Medium overall rating under the FAST evaluation criteria. FTA also reviews the Project Management Plan and subplans to ensure that the project sponsor has the capacity and capability to carry out the project. Lastly, FTA reviews the project definition, scope, cost, and schedule for reasonableness and undertakes other appropriate oversight. These oversight reviews may be expedited based on factors including the complexity of the project and the project sponsor's management capacity and capability.

Once FTA has completed its review and evaluation of the project and negotiated and prepared the FFGA documents with the project sponsor, the package of information must be reviewed and approved by FTA executive leadership, USDOT leadership, and others within the Administration. After their concurrences are received, FAST requires that the FFGA be sent for a 30-day congressional notification period. Only then may FTA and the project sponsor sign the FFGA.

EVALUATION CRITERIA AND RATING PROCESS

Guiding Principles

To the extent possible, FTA uses simplified evaluation measures and expanded warrants for Core Capacity projects based on readily available, easily verifiable information whenever possible to make the process less burdensome for both FTA and Core Capacity project sponsors. Below are some guiding principles used by FTA when developing the Core Capacity evaluation criteria.

Establishing Breakpoints for Ratings

When possible, FTA has established the proposed breakpoints for the core capacity criteria based on available research that recommends the value. When such research is not available for a particular measure, FTA has established an initial set of breakpoints based on the performance measures available from New Starts projects currently in FTA's pipeline of projects. FTA will revisit the breakpoints as performance measures are accumulated from Core Capacity projects over time. Any changes in the breakpoints will be proposed in future policy guidance for public comment.

Current Year Data

FTA evaluates and rates proposed Core Capacity projects based on existing ridership information only. Since Core Capacity projects are by definition projects in established fixed guideway rail transit corridors where strong transit usage is already occurring, there is no need to prepare and evaluate ridership forecasts to justify the project. Additionally, ridership forecasting models may not be sensitive enough to evaluate the changes resulting from implementation of some types of core capacity projects.

Basis for Comparison

To simplify and streamline the process project sponsors undertake to develop materials for submittal to FTA, where possible, FTA adopted measures that use absolute values rather than incremental values requiring a basis for comparison. However, in some cases, incremental measures are necessary. When a basis for comparison is required because a measure is based on an incremental value, the condition today in the corridor is used as the point of comparison.

Project Justification

Existing Capacity Needs of the Corridor

Measure

For this criterion, FTA evaluates existing peak hour useable space per passenger on the transit line compared to comfortable space per passenger levels outlined in the Transit Capacity and Quality of Service Manual (TCRP Report 165 and TCRP Report 100). FTA assigns ratings based on the severity of existing space conditions.

Calculation

Light rail and heavy rail project sponsors submit information to FTA on existing peak hour ridership in the peak direction on the line, the number existing trains per peak hour in the peak direction, cars per train in the peak direction, and rail car dimensions. FTA then calculates the existing useable space per passenger and compares it with the comfortable space per passenger values outlined in the TCRP Reports.

The specific calculations FTA uses are:

- (Length of railcar minus 6 feet 7 inches) x (width of railcar minus 8 inches) = useable space of each railcar
- Trains per peak hour in the peak direction x cars per train = cars per peak hour in the peak direction
- Cars per peak hour in the peak direction x useable space per car = total useable space per peak hour in the peak direction
- Total useable space per peak hour in the peak direction ÷ ridership per peak hour in the peak direction on the line = useable space per passenger

Rather than using a simple length multiplied by width calculation to determine the total area of each railcar in the calculations above, FTA uses information from the TCRP Transit Capacity Manual (TCRP Report 165) describing how to calculate the gross interior floor area of a railcar to determine the average useable space per railcar. It says for heavy and light rail cars to subtract 8 inches from the external width to account for wall thickness, and 6 feet 7 inches from the external length to account for a driver cab compartment. This takes into consideration that not all space on a railcar is useable by passengers. While FTA recognizes each vehicle configuration may be different, for simplicity of the calculation and verification by FTA, we are using this standard calculation for all projects rather than system specific and vehicle specific calculations.

Commuter rail project sponsors provide FTA information on equipment design (seats per car), cars per train, trains per peak hour and existing ridership in the corridor to show the number of available seats used in the peak hour going the peak direction.

Breakpoints

The breakpoints for light rail and heavy projects for the Existing Capacity Needs criterion are based on transit passenger levels of service (LOS) outlined in the previous edition of the TCRP Transit Capacity and Quality of Service Manual (TCRP Report 100). Because LOS is used by USDOT when discussing and evaluating highway projects, FTA believes it worthwhile to incorporate the past manual's information on transit service LOS into the breakpoints for this criterion even though the more recent TCRP Transit Capacity and Quality of Service Manual (TCRP Report 165) eliminated the transit LOS table. By definition Core Capacity projects must be located in corridors at capacity today or that will be at capacity within five years; therefore, existing LOS in the corridor by definition must be less than ideal. Consequently, FTA has established the breakpoints using the parameters outlined in TCRP Report 100 for LOS D, E, and F. FTA does not anticipate assigning medium-low or low ratings equivalent to LOS C, B, and A since the corridor would not be eligible for Core Capacity funding if it operated at those LOS.

Light Rail and Heavy Rail Capacity Needs Breakpoints

Rating	Capacity Needs (Existing space per passenger during the peak hour in the corridor)
High [TCRP Manual LOS F]	Less than 3.2
Medium-High [TCRP Manual LOS E]	Between 3.2 and 5.3
Medium [TCRP Manual LOS D]	Between 5.4 and 5.7
Medium-Low	NA
Low	NA

Commuter Rail Capacity Needs Breakpoints
The breakpoints for commuter rail projects for the Existing Capacity Needs criterion are based on the seated load during the peak hour in the peak direction in corridor. FTA does not anticipate assigning medium-low or low ratings since the corridor would not be eligible for Core Capacity funding if it operated at those seated loads.

Rating	Capacity Needs (Percent Seated Load in the Peak Hour in the Peak Direction)
High	> 105%
Medium-High	100 – 105%
Medium	95 – 100%
Medium-Low	NA
Low	NA

Cost Effectiveness

Measure
FTA evaluates cost effectiveness as the annualized Core Capacity share of the project cost per trip on the project. The number of trips on the project is not an incremental measure, but simply the total number of trips currently in the project corridor.

Calculation
The cost-effectiveness measure for Core Capacity projects is computed as the annualized Core Capacity share of the project cost divided by the annual number of trips in the project corridor. The annualized Core Capacity share is calculated in a manner similar to the way annualized federal share is calculated for Small Starts projects within the Standard Cost Category (SCC) workbook.

- Capital costs are reported in the current year's dollar value.
- In the "Build Annualized" worksheet of the SCC workbook, the Core Capacity share of the cost for each individual scope item is converted into its equivalent annualized share based on the item's economic lifetime and a 2.0 percent discount rate.

For the cost-effectiveness criterion, FTA uses the number of linked trips using the project, with no extra weight given to trips by transit dependent persons.

Breakpoints

Annualized CIG Core Capacity Share per Trip

Rating	Core Capacity Range
High	< $4.00
Medium-High	Between $4.00 and $5.99
Medium	Between $6.00 and $9.99
Medium-Low	Between $10.00 and $14.99
Low	> $15.00

Mobility Improvements

Measure

FTA evaluates mobility improvements for Core Capacity projects as the total number of linked trips on the existing line in the project corridor today, with a weight of two given to trips made by transit dependent persons. Linked trips include all trips made on the existing line in the project corridor whether or not the rider boards or alights on the project or elsewhere in the transit system. Trips made by transit dependent persons are defined in one of two ways: as trips made by persons in households having no cars or as trips made by persons living in households in the lowest income bracket as defined locally.

FTA assigns a weight of two to trips by transit dependent persons based on information from the 2009 National Household Transportation Survey, which indicates that 8.7 percent of U.S. households own zero vehicles, but make only 4.3 percent of the nation's person trips. If zero-car households had equal opportunity to make trips, i.e., if their mobility was not limited by the existing public transportation system, one could infer that these zero-car households would make more than 4.3 percent of the nation's person trips. To ensure that Federal investments in CIG projects address the travel demand of zero car households equitably, FTA uses a factor of two for the number of trips made by transit dependent persons (8.7 percent ÷ 4.3 percent = 2.02).

Calculation

The mobility improvements measure is computed by adding the number of linked transit trips on the existing line in the corridor today taken by non-transit dependent persons and the number of linked transit trips taken by transit dependent persons multiplied by a factor of two, thereby giving extra weight to these trips.

While project sponsors will have data available on existing linked trips on the line, they may not have readily available the number of those existing linked trips made by transit dependent persons. FTA allows sponsors to estimate the number of existing trips made by transit dependent persons by multiplying the total number of linked trips on the existing line in the corridor today by the percent of low income or zero car households located in the project corridor as shown in the annual American Community Survey.

Breakpoints

Rating	Trips by Non-Transit Dependent Persons plus Trips by Transit Dependent Persons multiplied by 2
High	≥ 30 Million
Medium-High	15 Million – 29.9 Million
Medium	5 Million – 14.9 Million
Medium-Low	2.5 Million – 4.9 Million
Low	< 2.5 Million

Congestion Relief

Measure

FTA uses the percent increase in capacity in the corridor resulting from the proposed project to evaluate congestion relief. Core Capacity projects by definition are intended to reduce congestion on the existing transit line by increasing capacity by at least 10 percent.

Calculation

The percent increase in capacity is an incremental measure comparing the existing capacity in the corridor today (as measured by useable space per passenger for light rail and heavy rail or as percent seated load for commuter rail) to capacity that will exist once the project is completed.

The calculations are described under the eligibility section of this guidance.

Light rail and heavy rail project sponsors submit information on the trains per peak hour, cars per train, rail car dimensions, and existing ridership in the corridor today to determine the current existing useable space per passenger. That is compared to the same calculation using estimated trains per peak hour once the project is complete, estimated cars per train once the project is complete, and rail car dimensions. The resulting difference between the two calculations is the percent increase in capacity.

Commuter rail projects sponsors submit information on equipment design (seats per car), cars per train, trains per peak hour and existing ridership in the corridor to show the number of available seats used in the peak hour going the peak direction. That is compared to the same calculation using estimated equipment design (seats per car) once the project is complete, estimated cars per train once the project is complete, and estimated trains per peak hour once the project is complete. The resulting difference is the percent increase in capacity.

Breakpoints

FTA does not anticipate assigning medium-low or low ratings since the corridor would not be eligible for Core Capacity funding if it did not improve capacity at least 10 percent.

Rating	Percent Improvement in Capacity
High	> 20%
Medium-High	15 – 20%
Medium	10 – 15%
Medium-Low	N/A
Low	N/A

Environmental Benefits

Measure
FTA believes that Core Capacity projects are proven environmentally beneficial by the fact that the existing fixed guideway corridor already has extensive ridership. Therefore, FTA uses a "warrants" approach that automatically assigns a Medium rating for the Environmental Benefits criterion to all proposed Core Capacity projects. At the project sponsor's option, information may be submitted to FTA for evaluation and rating in accordance with the requirements under the New Starts Environmental Benefits criterion. Please see that chapter of the guidance for more details.

Economic Development

Measure
FTA believes that existing development in a Core Capacity corridor must already be transit supportive otherwise there would not be current capacity constraints on the line resulting from high ridership. Therefore, FTA uses a "warrants" approach that automatically assigns a Medium rating for the Economic Development criterion to all proposed Core Capacity projects. At the project sponsor's option, information may be submitted to FTA for evaluation and rating in accordance with the requirements under the New Starts Economic Development criterion. Please see that chapter of the guidance for more details.

Local Financial Commitment

FAST requires that proposed Core Capacity projects be supported by an acceptable degree of local financial commitment. FTA uses the following measures to evaluate this:

- The proposed share of total project capital costs from sources other than the Section 5309 CIG program;
- The current financial condition, both capital and operating, of the project sponsor and/or relevant project partners when more than one entity is involved in construction or operations;
- The commitment of funds for both the capital cost of the proposed project and the ongoing transit system's operation and maintenance, including consideration of whether there is significant private participation;
- The reasonableness of the financial plan, including planning assumptions, cost estimates, and the capacity to withstand funding shortfalls or cost overruns.

Core Capacity projects may qualify for a highly simplified financial evaluation if they are less than $250 million in total cost, and the project sponsor can demonstrate the following:

- A reasonable plan to secure funding for the local share of capital costs or sufficient available funds for the local share;
- The additional operating and maintenance cost to the agency of the proposed Core Capacity project is less than five percent of the project sponsor's current year operating budget; and
- The project sponsor is in reasonably good financial condition, as demonstrated by the past three years' audited financial statements indicating a positive cash flow over the period, a reasonable current ratio, and no material findings.

Core Capacity projects that meet the items above and request greater than 50 percent Core Capacity funding receive a local financial commitment rating of Medium. Core Capacity projects that meet the items above and that request 50 percent or less in Core Capacity funding receive a High rating for local financial commitment.

Calculation

If a Core Capacity project sponsor does not qualify for the "warrants" described above, FTA assigns individual ratings to each of the following local financial commitment measures as described below and included in the following table:

- The rating for the current capital and operating condition is based upon the average fleet age, bond ratings if given within the last two years, the current ratio as shown in the project sponsor's most recent audited financial statement (ratio of current assets to current liabilities), and recent service history including whether there have been significant cuts in service. In arriving at a current condition rating, the majority of the emphasis is placed on the fleet age and current ratio. The bond rating and service history have less emphasis. Temporary aberrations in any of these measures have less of an effect than ongoing systemic concerns.
- The rating for commitment of funds is based on the percentage of funds (both capital and operating) that are committed or budgeted versus those considered only planned or unspecified. If there are significant private contributions, such involvement increases the commitment of funds rating one level. FTA determines on a case by case basis whether private contributions are significant based on the unique arrangements that may be presented. Private contributions can include outside investments that result in cost-effective project delivery, financial partnering, and other public-private partnership strategies. Note that the rating for the commitment of funds subfactor is separate and distinct from the proposed required level of committed funds necessary to get into and through the steps in the process described elsewhere in this document.
- The rating for the reasonableness of the financial plan is based upon whether capital and operating planning assumptions are comparable to historical experience, the reasonableness of the capital cost estimate of the project, adequacy of meeting state of good repair needs, and the project sponsor's financial capacity to withstand cost increases or funding shortfalls.

The summary local financial commitment rating also takes into consideration the share of Section 5309 CIG funding requested. If the summary local financial commitment rating is rated at least Medium and the Section 5309 CIG share is less than 50 percent of the project's capital cost (i.e., the project sponsor is providing significant overmatch), then the summary local financial commitment rating is raised one level.

	High	Medium-High	Medium	Medium-Low	Low
Current Capital and Operating Condition (25% of local financial commitment rating)	• Average bus fleet age under 6 years. • Current ratio exceeding 2.0 • Bond ratings less than 2 years old (if any) of AAA (Fitch/S&P) or Aaa (Moody's) • Historical positive cash flow. No cash flow shortfalls. • No service cutbacks in recent years.	• Average bus fleet age under 6 years. • Current ratio exceeding 1.5 • Bond ratings less than 2 years old (if any) of AA (Fitch/S&P) or Aa3 (Moody's) or better • Historical positive cash flow. No cash flow shortfalls. • No service cutbacks in recent years.	• Average bus fleet age under 8 years. • Current ratio exceeding 1.2 • Bond ratings less than 2 years old (if any) of A (Fitch/S&P) or A3 (Moody's) or better • Historical positive cash flow. No cash flow shortfalls. • Only minor service adjustments in recent years	• Average bus fleet age under 12 years. • Current ratio exceeding 1.0 • Bond ratings less than 2 years old (if any) of BBB+ (Fitch/S&P) or Baa (Moody's) or better • Historical positive cash flow. No cash flow shortfalls. • Major service cutbacks in recent years.	• Average bus fleet age of 12 years or more. • Current ratio less than1.0 • Bond ratings less than 2 years old (if any) of BBB (Fitch/S&P) or Baa3 (Moody's) or below • Recent historical cash flow problems. • Major service cutbacks in recent years.
Commitment of capital and operating funds (25% of local financial commitment rating)	• At least 75% of the Non-Section 5309 capital funds are committed or budgeted. • At least 75% of the funds needed to operate and maintain the proposed transit system in the opening year of the project are committed or budgeted.	• At least 50% of the Non-Section 5309 capital funds are committed or budgeted. • At least 50% of the funds needed to operate and maintain the proposed transit system in the opening year of the project are committed or budgeted.	• At least 30% of the Non-Section 5309 capital funds are committed or budgeted. • At least 30% of the funds needed to operate and maintain the proposed transit system in the opening year of the project are committed or budgeted.	• At least 10% of the Non-Section 5309 capital funds are committed or budgeted. • While no additional operating and maintenance funding has been committed, a reasonable plan to secure funding commitments has been presented.	• Less than 10% of the Non-Section 5309 capital funds are committed or budgeted. • The applicant does not have a reasonable plan to secure operating and maintenance funding.
Reasonableness of capital and operating cost estimates and planning assumptions/capital funding capacity (50% of local financial commitment rating)	• Financial plan contains very conservative planning assumptions and cost estimates when compared with recent historical experience. • The applicant has access to funds via additional debt capacity, cash reserves, or other committed funds to cover cost increases or funding shortfalls equal to at least 50% of estimated project cost and 50% (6 months) of annual system wide operating expenses.	• Financial plan contains conservative planning assumptions and cost estimates when compared with recent historical experience. • The applicant has access to funds via additional debt capacity, cash reserves, or other committed funds to cover cost increases or funding shortfalls equal to at least 25% of estimated project cost and 25% (3 months) of annual system wide operating expenses.	• Financial plan contains planning assumptions and cost estimates that are consistent with recent historical experience. • The applicant has access to funds via additional debt capacity, cash reserves, or other committed funds to cover cost increases or funding shortfalls equal to at least 15% of estimated project cost and 12% (1.5 months) of annual system wide operating expenses.	• Financial plan contains optimistic planning assumptions and cost estimates when compared to recent historical experience. • The applicant has access to funds via additional debt capacity, cash reserves, or other committed funds to cover cost increases or funding shortfalls equal to at least 10% of estimated project cost and 8% (1 month) of annual system wide operating expenses.	• Financial plan contains planning assumptions and cost estimates that are far more optimistic than recent history suggests. • The applicant has a reasonable plan to cover only minor (< 10%) capital cost increases or funding shortfalls. • Projected operating cash balances are insufficient to maintain balanced budgets.

Overall Project Rating

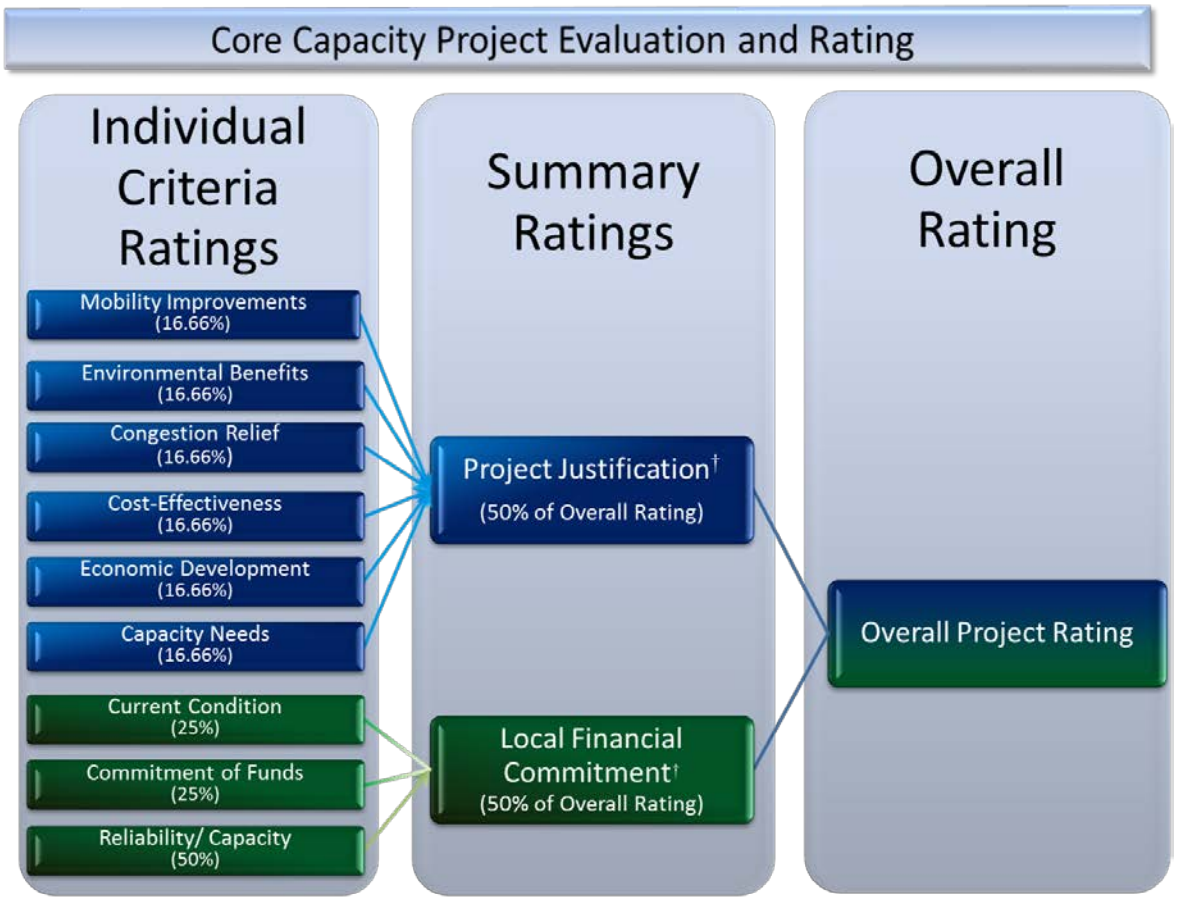
FAST requires that FTA evaluate and rate a project as a whole on a 5-point scale from low to high based on the combined summary ratings for project justification and local financial commitment. FAST also requires that FTA evaluate the six project justification criteria and give "comparable, but not necessarily equal" weight to each when determining a summary project justification rating. FAST does not specify how the local financial commitment criteria should be weighted when arriving at a summary local financial commitment rating.

FTA gives 50 percent weight to the summary project justification rating and 50 percent weight to the summary local financial commitment rating to arrive at an overall rating. FTA requires at least a Medium rating on both project justification and local financial commitment to obtain a Medium or better rating overall.

FTA gives equal weight to each of the project justification criteria to arrive at a summary project justification rating, meaning each of the six is given a weight of 16.66 percent. FTA believes that each of the project justification criteria provides important information about project merit and thus, feels that equal weights are appropriate. Some types of projects may do well on some of the criteria, but not as well on other criteria. Examining the merits of the project as a whole against all of the project justification criteria combined balances what can sometimes be competing policy goals.

If a proposed Core Capacity project does not qualify for the "warrants" approach for local financial commitment, FTA gives a 25 percent weight to the current financial condition of the project sponsor, a 25 percent weight to the commitment of non-CIG funds, and a 50 percent weight to the reasonableness of the financial plan submitted by the project sponsor. The proposed Section 5309 CIG share of the total project capital cost, and whether a project sponsor is providing significant overmatch, is considered after the above weights are applied. If a project sponsor provides a significant overmatch, the summary local financial commitment rating is raised one level.

The chart below describes the weights of the various criteria and how they are combined into summary ratings and an overall rating.


Core Capacity Project Evaluation and Rating
Individual Criteria Ratings
Mobility Improvements (16.66%)
Environmental Benefits (16.66%)
Congestion Relief (16.66%)
Cost-Effectiveness (16.66%)
Economic Development (16.66%)
Capacity Needs (16.66%)
Current Condition (25%)
Commitment of Funds (25%)
Reliability/ Capacity (50%)
Summary Ratings
Project Justification† (50% of Overall Rating)
Local Financial Commitment† (50% of Overall Rating)
Overall Rating
Overall Project Rating

Core Capacity Project Justification Criteria and Subfactors

Mobility Improvements 16.66%	• Total linked trips in the corridor, with a weight of two given to trips made by transit dependent persons
Environmental Benefits 16.66%	• Automatic rating, Core Capacity projects considered warranted
Congestion Relief 16.66%	• Percent increase in capacity resulting from the project
Cost-Effectiveness 16.66%	• Annualized Core Capacity share of the project cost per trip on the project
Economic Development 16.66%	• Automatic rating, Core Capacity projects considered warranted
Existing Capacity Needs 16.66%	• Existing peak hour space per passenger on the line

Local Financial Commitment Criteria and Subfactors

Current Condition 25%	• Average Fleet Age • Bond ratings (within last 2 years) • Current ratio (current assets/current liabilities) • Recent service history
Commitment of Funds 25%	• Amount of committed, budgeted, or planned funds • Whether there are significant private contributions to the project
Financial Capacity and Reasonableness of Assumptions 50%	• Assumptions about revenue and expense growth comparable to historical experience • Reasonableness of project capital cost estimate • Adequacy of meeting state of good repair needs • Financial capacity to withstand funding shortfalls or cost overruns (above and beyond contingency included in the cost estimate)