U.S. DEPARTMENT
OF TRANSPORTATION

FEDERAL TRANSIT
ADMINISTRATION

Capital Investment Grants
Policy Guidance
Federal Transit Administration

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INTRODUCTION

The Capital Investment Grants (CIG) statute, 49 U.S.C. § 5309 (Section 5309), outlines a multi-year, multi-step process that proposed projects must go through to be eligible for and receive discretionary CIG program funding from the Federal Transit Administration (FTA). Section 5309 establishes three categories of eligible projects under the CIG program, 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. In addition, Section 5309 specifies that a project sponsor pursuing multiple projects may submit a bundle of CIG projects to FTA for consideration. Each individual project within a bundle is required to prove eligibility as either a New Starts, Small Starts, or Core Capacity project. Section 5309 also allows joint intercity passenger rail and public transportation projects. These too must prove eligibility as either a New Starts, Small Starts or Core Capacity project. CIG funding may only be used on the public transportation component of these projects.

In conjunction with the Major Capital Investments Projects Final Rule published 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 CIG Policy Guidance is used to implement the CIG program.

BACKGROUND

FTA implements the CIG program, in part, through CIG policy guidance. In July 2021, FTA published a Request for Information (RFI) in the Federal Register seeking input on potential changes it may consider for CIG program implementation (see https://www.federalregister.gov/documents/2021/07/15/2021-15079/request-for-information-concerning-the-capital-investment-grants-program). In November 2021, the Infrastructure Investment and Jobs Act (IIJA) (Public Law 117-58, also known as the "Bipartisan Infrastructure Law") was enacted, which made changes to the CIG program framework. In March 2022, FTA published for public comment proposed initial CIG policy guidance updates related to changes made to the CIG program by IIJA [www.regulations.gov/document/FTA-2021-0010-0073]. After review and consideration of the comments received on those proposals, FTA issued initial final CIG policy guidance in January 2023 (see https://www.federalregister.gov/documents/2023/01/12/2023-00533/notice-of-availability-of-final-initial-updated-policy-guidance-for-the-capital-investment-grants).

CIG policy guidance contains binding obligations, which 49 U.S.C. § 5334(k) defines as "a substantive policy statement, rule, or guidance document issued by the Federal Transit Administration that grants rights, imposes obligations, produces significant effects on private interests, or effects a significant change in existing policy." Under 49 U.S.C. § 5334(k) FTA may issue binding obligations if it follows notice and comment rulemaking procedures under 5 U.S.C. § 553. Prior to making any amendments to the CIG Policy Guidance that would create a new binding obligation or modify an existing one, FTA follows the notice and comment rulemaking procedures.

Accordingly, in April 2024, FTA published for public comment proposed changes to the CIG Policy Guidance [https://www.regulations.gov/docket/FTA-2021-0010]. This document is the final version of the CIG policy guidance after review and consideration of the public comments received on the FTA proposals published in April 2024. It replaces the January 2023 CIG Policy Guidance.

STRUCTURE OF THIS DOCUMENT

1) This document is arranged in self-contained, stand-alone chapters outlining the requirements associated with each type of eligible CIG project – New Starts, Small Starts, Core Capacity, and Bundles. Each of the chapters 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 CIG process; 4) information on each of the CIG 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.

I. NEW STARTS

INTRODUCTION

Whenever possible throughout this document FTA uses simple eligibility parameters, simplified evaluation measures, and "warrants" based on readily available, easily verifiable information to make the CIG process less burdensome for both FTA and CIG 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 CIG APPLICANTS, PROJECTS, AND COSTS

The law 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. FTA can only sign grant agreements with FTA approved grant recipients. Project sponsors who are not already FTA approved grant recipients should discuss the procedures for becoming an FTA approved grant recipient early in the CIG process with the relevant FTA Regional Office.

As defined in the law, proposed New Starts projects must be new fixed guideway projects or extensions to existing fixed guideway systems [Section 5309(a)(5)] that have a total estimated capital cost of $400 million or more or that are seeking $150 million or more in CIG program funds.

Fixed guideway projects are defined 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(8)] This definition in law 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 (BRT), gondolas, and ferries. The law does not allow corridor-based BRT projects without a separated right-of-way dedicated for public transportation along most of the route to be eligible as New Starts projects.

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

- Most 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 has adopted a more detailed definition for fixed guideway BRT. It specifies characteristics fixed guideway BRT projects must contain to meet the definition in law and be eligible for CIG funding. The definition includes 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 service must have 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 CIG project if 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. 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.

The law allows joint intercity passenger rail and public transportation projects to be eligible as New Starts projects if they meet the statutory requirements of being a fixed guideway project with the cost and CIG request parameters noted above [Section 5309(q)]. The law specifies that eligible costs are limited to the "net capital costs of the public transportation costs attributable to the project based on projected use of the new segment . . . not including project elements designed to achieve or maintain a state of good repair." During Project Development, the project sponsor must propose a methodology to FTA to differentiate intercity passenger rail costs from public transportation costs based on projected usage. FTA does not require a specific methodology to be used and instead considers proposals from project sponsors on a case-by-case basis. This is because each project may have unique circumstances that help differentiate intercity passenger rail from public transportation costs.

The law includes definitions that apply to all FTA grant programs including one outlining eligible capital project costs [Section 5302(4)]. Additionally, the law specifies 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" [Section 5309(b)(1)] as well as "interest and other financing costs of efficiently carrying out a part of the project within a reasonable time" [Section 5309(k)(2)(D)(iii)].

FTA encourages all project sponsors seeking CIG funds to incorporate climate resilient infrastructure elements in their project design, provided the project continues to meet the criteria in law for receipt of CIG funding. For more information, please see Executive Order (E.O.) 14008, Tackling the Climate Crisis at Home and Abroad and other USDOT resources and tools found at https://www.transportation.gov/priorities/climate-and-sustainability/climate-adaptation-resources-and-tools. Project sponsors are encouraged to consider current and future climate change risk in project planning, siting, design, and operation and to make use of climate change projections and emission scenarios that are reflective of the infrastructure's anticipated service life.

GETTING INTO AND THROUGH THE STEPS IN THE CIG PROCESS

As required under Section 5309(d), New Starts projects must complete two phases to be eligible for consideration for a CIG construction grant agreement. The first phase is called Project Development and the second phase is called Engineering.

Prior to Project Development

The law 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 are not eligible for future reimbursement from the CIG program should a construction grant be awarded in the future. In other words, costs incurred prior to entry into PD are not considered by FTA to be part of the project cost that would be included in a CIG construction grant should one be awarded in the future. Please consult FTA's Annual Apportionment Notice where pre-award authority for the CIG program is discussed in more detail [https://www.transit.dot.gov/funding/apportionments].

Requesting Entry into Project Development

FTA requires that CIG 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 law):
    - 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 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 the future does not qualify as available and committed

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

for entry into PD, even if it is programmed in a Transportation Improvement Plan, agency Capital Improvement Program, or future fiscal year budget document. The law intends projects to make quick progress and not linger in the CIG 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 for the Capital Investment Grant Program and the Expedited Project Delivery Pilot Program (Annual Report),* 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.

Upon receipt of a request to enter PD, FTA reviews the request to ensure it contains all 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 in law.

As soon as FTA notifies a project sponsor that it has been given entry into PD, the project is displayed on FTA's webpage making it visible to Congress and any others who may be interested in learning about projects in the CIG program. Additionally, FTA briefs congressional staff monthly on all projects in the CIG program, including notifying them of new entrants to the CIG program.

During Project Development

The law 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 capital funding for the project
- 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 (ADA) and Section 504 of the Rehabilitation Act of 1973, 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 Section 504; 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 the statute is to ensure projects make sufficient progress and move quickly through the CIG process. Therefore, project sponsors should complete all the PD activities listed above within the two-year timeframe specified in the law. 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. The letter must be submitted no later than three months prior to the end of the two-year PD period to give FTA time to review the request. There is no required format for the PD extension request letter, but it must 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. FTA limits PD extensions to no more than one year in length to ensure that projects move quickly through the CIG process.

If a PD extension is not granted by FTA, the project is withdrawn from PD. Project sponsors must complete the work activities listed above before they are allowed to apply for re-entry into the CIG program via a request to enter the Engineering phase. Any work performed after withdrawal from PD and prior to re-entry into the CIG program into the Engineering phase is not covered by pre-award authority and is ineligible for reimbursement at a future date should FTA ultimately award a CIG 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 at entry into Engineering the CIG dollar amount it is willing to provide should a CIG construction grant be awarded in the future.

Project sponsors that may have completed the PD requirements within the two years but wish to stay in PD longer to continue advancing the design before seeking entry into Engineering and locking in the CIG dollar amount must request an extension to PD no later than three months prior to the end of the two-year period. As noted above, FTA is limiting PD extensions to no more than one year in length.

FTA begins 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. FTA encourages project sponsors to begin working with FTA 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;
- Financial plan and cash flow statement, including supporting documentation demonstrating at least 30 percent of the non-CIG funding is committed;
- Project cost estimate provided using the Standard Cost Category worksheets (which includes cost of PD, Engineering, Construction, and Financing);
- 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 all third-party agreements with schedule for completion;
- A preliminary geotechnical report;
- A draft value engineering report;
- 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;
- A statement signed by the CEO describing the progress the agency has made toward meeting Transit Asset Management (TAM) plan State of Good Repair (SGR) targets and including as supporting documentation an up-to-date TAM plan and narrative report from the National Transit Database; and
- Draft Information Collection and Analysis plan (formerly known as Before-and-After Study plan).

The law requires that FTA evaluate and rate the New Starts project prior to allowing it into the Engineering phase. 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 a Medium or better overall rating under the statutory evaluation criteria to be eligible for entry into the Engineering phase. 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 reviews may be expedited based on factors including the complexity of the project and the project sponsor's management capacity and capability.

FTA locks in the Section 5309 CIG funding amount (not share, the actual dollar amount) at entry into Engineering. Should the project cost change after a project has entered Engineering but before it reaches the construction grant award stage, additional Section 5309 CIG funding will not be considered. 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 CIG program. Thus, FTA requires that project sponsors obtain commitments of at least 50 percent of the non-CIG capital 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 withdraws the project from the CIG program. The project sponsor then needs 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 CIG program and before re-entry is not eligible under pre-award authority for future reimbursement should a CIG 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 capital funding commitments, complete all critical third-party agreements, demonstrate progress toward meeting TAM plan SGR targets, and meet other FTA readiness requirements related to technical capacity, staffing, and oversight to be eligible for a CIG construction grant agreement.

The law directs FTA to utilize Letters of Intent (LOI) to the extent practicable in advance of awarding CIG construction grant agreements. According to statute, 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, contractors, political leaders, and other entities that are being asked to provide project matching funds.

There is no set format for an LOI request. The project sponsor should simply submit a short letter to the FTA Associate Administrator for Planning and Environment explaining the reasons an LOI is being sought and by when the project sponsor hopes to receive the LOI. The request letter should provide a status update on the project sponsor's completion of the requirements for receipt of a CIG construction grant agreement.

Receipt of CIG Construction Grant

Being Recommended for CIG Funding

Generally, FTA does not begin negotiating a CIG construction grant agreement with a project sponsor until a project is recommended for funding by FTA in the *Annual Report* [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* 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 CIG 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 late summer of the year prior to the release of the President's budget.

CIG Early Systems Work Agreements

The law directs FTA to utilize Early Systems Work Agreements (ESWA) to the extent practicable in advance of awarding New Starts projects CIG construction grant agreements, which are called 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 CIG funds for the project. The law specifies an ESWA cannot be entered into unless the NEPA review is complete and "the Secretary finds there is reason to believe an FFGA for the project will be made." It 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.

There is no set format for an ESWA request. The project sponsor should simply submit a short letter to the FTA Associate Administrator for Planning and Environment explaining the reasons an ESWA is being sought and by when the project sponsor hopes to receive the ESWA. The request letter should provide a status update on the project sponsor's completion of the requirements for receipt of an FFGA.

Completing CIG Construction Grant Award Requirements

Even after a project has been recommended in the President's budget for a CIG construction grant agreement as described above, 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 capital funding commitments, complete all critical third party agreements, demonstrate progress toward meeting the TAM plan SGR targets, and meet other FTA readiness requirements related to technical capacity, staffing, and oversight before submitting a request to FTA for a CIG construction grant agreement.

In Section 5309(c)(1)(C), FTA is required to determine that the CIG grant applicant has made progress toward meeting the SGR performance targets required by Section 5326(c)(2) before a CIG construction grant can be awarded. All FTA recipients and subrecipients are required to set these performance targets annually based on SGR performance measures established by FTA in 49 CFR Part 625. The regulation can be found at https://www.govinfo.gov/content/pkg/FR-2016-07-26/pdf/2016-16883.pdf. For more complete information, please see the FTA webpage at https://www.transit.dot.gov/TAM.

In the regulation, FTA established SGR performance measures for four areas:

- Rolling stock. The performance measure for rolling stock is the percentage of revenue vehicles within a particular asset class that have either met or exceeded their useful life.
- Infrastructure: rail fixed-guideway, track, signals, and systems. The performance measure for rail fixed guideway, track, signals, and systems is the percentage of track segments with performance restrictions.
- Facilities. The performance measure for facilities is the percentage of facilities within an asset class, rated below condition three on the TERM scale.

- Equipment: (non-revenue) service vehicles. The performance measure for non-revenue, support-service and maintenance vehicles equipment is the percentage of those vehicles that have either met or exceeded their useful life.

The targets based on the above SGR measures are set each year by the transit agencies and reported to FTA through the National Transit Database (NTD). Agencies also report their progress toward meeting the performance targets each year to the NTD. NTD reporting deadlines are based on each agency's fiscal year end date, with submittals to the NTD due four months after the agency's fiscal year ends. Reporting on the SGR targets and performance to the NTD began in fiscal year 2018, with complete data for all reporters to the NTD required in FY 2021.

When a project sponsor submits a CIG Engineering request or a CIG FFGA request, the sponsor must include a statement signed by the CEO describing the progress the agency has made toward meeting SGR targets. The statement must include as supporting documentation an up-to-date TAM plan and the narrative report submitted to NTD to explain the agency's progress towards achieving the TAM goals for all asset classes in the TAM plan.

CIG grant applicants that do not yet own, operate, or manage capital assets used for providing public transportation subject to the TAM requirements of 49 CFR Part 625 are not required to meet this requirement.

SGR targets and performance can vary widely from year to year for an individual asset type, while an agency is still improving upon its overall state of good repair. For example, an agency may have a target in one year of 10 percent or less of its standard bus fleet being beyond its useful life, but in the following year that target can be changed to a much higher or lower percentage. One reason for this is because transit agencies often purchase vehicles in bulk periodically to gain better pricing rather than purchasing in a more steady and consistent annual flow. The annual targets established by transit agencies, therefore, take into consideration the age of their fleets and the anticipated timeframe of when resources may be available to replace those vehicles with another bulk purchase.

Submitting a CIG Construction Grant Request

When requesting a CIG construction grant agreement, project sponsors should submit the following information to the FTA Associate 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;
- Financial plan and cash flow statement, including supporting documentation demonstrating all the non-CIG funding is committed;
- Project cost estimate provided using the Standard Cost Category worksheets (which includes cost of PD, Engineering, Construction, and Financing);
- 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;
- Information Collection and Analysis plan (formerly known as Before-and-After Study 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 critical third-party agreements and permits are completed and in place;
- A statement signed by the CEO describing the progress the agency has made toward meeting SGR targets and including as supporting documentation an up-to-date TAM plan and the narrative report submitted to the NTD; and
- Documentation showing all critical issues identified in prior FTA reviews are resolved.

The law requires that FTA evaluate and rate the CIG project prior to awarding a CIG 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 a Medium or better overall rating under the statutory evaluation criteria to receive a CIG 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 CIG 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, the law requires that the construction grant agreement be sent for a 15-day congressional notification period. Only then may FTA and the project sponsor sign the CIG construction grant.

NEW STARTS EVALUATION CRITERIA AND RATING PROCESS

CIG projects are evaluated and rated according to two types of criteria set forth in law – project justification criteria and local financial commitment criteria. The project justification criteria outlined in law for New Starts projects include: mobility improvements, environmental benefits, congestion relief, economic development effects, land use, and cost-effectiveness. The law 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 measures to be used for each statutory evaluation criterion.

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 breakpoints based on the performance measures available from projects previously and currently in the program. FTA revisits 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 or 20 years in the future. Horizon years are based on available socioeconomic forecasts from metropolitan planning organizations (MPO), which are generally prepared in five-year increments.

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 to the current year information and a weight of 50 percent to 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 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 uses 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) is the point of comparison. When a project sponsor chooses 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) serves 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 CIG policy guidance 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 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 are necessary to ensure compliance with FTA policies and procedures. Project sponsors should contact the FTA Office of Planning and Environment 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 criteria, the sponsor is expected to also use STOPS for calculating the vehicle miles traveled (VMT) changes used in the environmental benefits criterion. If a sponsor chooses instead to calculate trips for the mobility, congestion relief, and cost effectiveness criteria 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 criterion. Should a project sponsor choose to use the local travel model, FTA needs to review the validity of the model to assure the validity of the results.

Project Justification

In addition to the specific project justification criteria and measures discussed below that are used in the CIG evaluation process, FTA encourages project sponsors to use the USDOT Equitable Transportation Community (ETC) Explorer for their own purposes to understand how their community or project area is experiencing disadvantage related to lack of transportation investments or opportunities. (https://experience.arcgis.com/experience/0920984aa80a4362b8778d779b090723/page/Homepage/). Similarly, FTA encourages project sponsors to examine walkability in the project corridor for their own purposes using readily available tools such as the EPA walkability index.

Land Use

The land use criterion includes a quantitative examination of what exists today in the proposed CIG project corridor including:

1. average existing population density across all station areas in the project corridor;
2. total existing employment served by the project;
3. the proportion of existing legally binding affordability restricted (LBAR) housing within a ½ mile of station areas to the proportion of LBAR housing in the counties through which the project travels;
4. the level of community risk based on certain census data characteristics; and
5. access to essential services.

Measures

The land use criterion includes five quantitative measures: 1) average existing population density across all station areas; 2) total existing employment served by the project; 3) the proportion of existing LBAR housing units within a ½ mile of station areas to the proportion of LBAR housing units in the counties through which the project travels; 4) community risk; and 5) essential services within one mile of stations.

For purposes of the affordable housing measure, 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 LBAR housing units to renters with household incomes at or below 60 percent of the area median income (AMI) and/or owners with household incomes at or below AMI that are within a ½-mile radius of stations 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 displacement and gentrification that can occur over time is the presence of LBAR housing units. These units have protections in place to ensure that they continue to be available to low- and moderate-income households as changes in the station areas occur.

FTA believes the affordable housing measure encourages project sponsors to locate projects where a higher share of LBAR housing exists in their area. The metric evaluates the proportional share of existing LBAR housing in the station areas 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 LBAR housing. Therefore, FTA boosts the rating for this subfactor one level if the denominator shows the surrounding counties to have greater than a five percent share of LBAR housing.

Note that FTA's affordable housing measure is not intended in any way to serve as a "federally endorsed" definition of acceptable levels of LBAR or other types of affordable housing and is unique to this CIG project evaluation process.

The measure of community risk in the land use evaluation uses the Census Bureau's Community Resilience Estimates (CRE) tool. The tool uses American Community Survey (ACS) and Population Estimates Program data to determine how socially vulnerable the population within each census tract is to impacts of disasters. The CRE tool examines ten different risk factors that measure the population's vulnerability as shown in the table on

the next page. The data set from the CRE tool provides an estimate of the at-risk population based on the cumulative number of risk factors experienced by census tract residents: zero risks out of the ten (Low Risk), 1-2 risks out of the ten (Medium Risk), and three or more risks out of the ten (High Risk).

FTA examines the percent of the total population within a ½-mile radius of stations that is designated high risk (meaning the population has three or more risks out of the ten). This community risk measure encourages project sponsors to locate projects near communities that might benefit from transit investments to mitigate, reverse, or alleviate transportation burden and other related causes of disadvantage.

Census Bureau CRE Tool Risk Factors

Risk Factor #	Risk Factor	Household or Individual
1	Income-to-Poverty Ratio (IPR) < 130 percent	Household
2	Single or zero caregiver household – only one or no individuals living in the household who are 18-64	Household
3	Unit-level crowding defined as > 0.75 persons per room	Household
4	Communication barrier defined as either: (a) Limited English-speaking households; or (b) No one in the household over the age of 16 with a high school diploma	Household
5	No one in the household is employed full-time, year-round (flag is not applied if all residents of the household are aged 65 years or older)	Household
6	Disability posing constraint to significant life activity (persons who report having any one of the six disability types: hearing difficulty, vision difficulty, cognitive difficulty, ambulatory difficulty, self-care difficulty, or independent living difficulty)	Individual
7	No health insurance coverage	Individual
8	Being aged 65 years or older	Individual
9	Households without a vehicle	Household
10	Households without broadband internet access	Household

FTA wants to encourage transit in locations with key essential services to provide better access. In this context, essential services are basic human needs services such as health and education. FTA examines essential services in station areas using data from the Department of Homeland Security's (DHS) Homeland Infrastructure Foundation-Level Data (HIFLD) (see https://hifld-geoplatform.hub.arcgis.com/). FTA requires project sponsors to use Geographic Information System (GIS) locational data from the HIFLD website on medical and educational facilities — specifically hospitals, urgent care, Veterans Administration centers, colleges/universities, supplemental colleges, and public schools – within a one-mile radius of stations. The number of essential services located within a one-mile radius of stations areas is totaled for all station areas (avoiding double counting where the radii overlap) and then is divided by the number of stations to arrive at the average number of essential services per station area.

Calculation

Project sponsors obtain population and employment within a ½-mile radius of the stations from census data.

To develop information on LBAR housing units located within a ½-mile radius of proposed stations and the counties through which the project travels, project sponsors are encouraged to consult with area housing agencies. For this purpose, FTA is seeking LBAR housing units to renters with household incomes at or below

60 percent of the AMI and/or owners with household incomes at or below the AMI. 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 LBAR 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 LBAR housing units in the station areas and the surrounding counties is then compared to total residential housing units in the station areas and the surrounding counties. Total residential housing units should come from the ACS five-year forecasts at the county and census tract levels.

FTA assigns a value to the affordable housing measure by comparing (a) the percent of total units within a ½-mile radius of stations that are LBAR housing units to (b) the percent of total units in the counties in which the stations are located that are LBAR housing units. FTA boosts the rating for this subfactor one level if the denominator shows the surrounding counties through which the project travels have at least a five percent share of LBAR housing units.

To calculate the community risk measure, project sponsors download the CRE dataset (https://www.census.gov/programs-surveys/community-resilience-estimates/data.html). Project sponsors then calculate the percent of each census tract within a ½-mile radius of station areas. Next, sponsors multiply the percentage of the census tract within a station area by the estimated high-risk population for that census tract from the CRE dataset. Similarly, sponsors multiply the percent of the census tract within a station area by the total population in the census tract as reported in the CRE dataset. Sponsors then tally the high-risk population across all station areas and divide by the total population within a ½-mile radius of all station areas to arrive at the percent of the population designated high risk within a ½-mile radius of all stations.

To calculate the essential services measure that examines medical and educational facilities within a one-mile radius of project stations, project sponsors, must download specific GIS data sets from the HIFLD website (https://hifld-geoplatform.hub.arcgis.com/) on medical and educational facilities – specifically for hospitals, urgent care centers, Veterans Administration centers, colleges/universities, supplemental colleges, and public schools. Using GIS, the project sponsor then calculates the total number of essential services within a one-mile radius of all stations, avoiding overlapping radii and double counting. The total is then divided by the number of stations to arrive at the average number of essential services per station area.

Each of the five measures is calculated and rated according to the breakpoints for each measure and given equal weight in developing the overall land use rating (20 percent weight for each).

Breakpoints
The table below provides breakpoints for the five land use measures.

Rating	Average population density (persons/ square mile)[2]	Employment served by system[3]	Proportion of LBAR housing in the station areas compared to the proportion in the counties through which the project travels	Community Risk	Average Essential Services per Station Area
High	≥ 15,000	≥ 220,000	≥ 2.50	≥ 50%	> 7
Medium-High	9,600 – 14,999	140,000-219,999	2.25 – 2.49	40 – 49.9%	5 – 7
Medium	5,760 – 9,599	70,000-139,999	1.50 – 2.24	18 – 39.9%	3 - 4
Medium-Low	2,560 – 5,759	40,000-69,999	1.10 – 1.49	5 – 17.9%	1 - 2
Low	≤ 2,559	≤ 39,999	≤ 1.09	≤ 4.99%	< 1

Cost Effectiveness

Measures
The law 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 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 cost 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.

[2] 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.
[3] 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 at station areas along the entire line on which a no-transfer ride from the proposed project's stations can be reached.

"Enrichments" are based on costs associated with certain categories in the FTA Standard Cost Category worksheets. FTA, through its Project Management Oversight Contractors verifies "enrichments" claimed by project sponsors. FTA allows only the "enrichments" noted in CIG policy guidance to be excluded from the New Starts cost effectiveness calculation. It is a finite and specific list that includes:

- Standard Cost Categories 20.01 through 20.04 and 30.01 through 30.04 Sustainable Building Design Features –FTA allows seven 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) to be removed from the cost effectiveness calculation. This is based on research from the 2021 American Society of Civil Engineers report, *Green Building Construction Cost Surcharge: An Overview*[4], which estimates that the average incremental capital cost associated with pursuing green, sustainable buildings is seven percent higher than conventional buildings. 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. FTA does not credit the professional services cost of sustainable building design because studies completed in 2003 and 2004 by the General Administration Service and the State of California indicated that this is a very small fraction of a capital project's cost (0.1 to 0.3 percent).
- Standard Cost Category 20.05 Joint Development – This category identifies items eligible for Federal participation per Section 5302(4)(A)(G) of Chapter 49 U.S.C. 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. FTA hopes this encourages project sponsors to undertake joint development efforts as part of New Starts projects; few to date have included joint development-related costs.
- Standard Cost Categories 30.01 through 30.04 Zero Emissions Fueling Stations – FTA allows the full cost of zero emissions fueling stations to be excluded from the cost effectiveness calculation. This incentivizes the inclusion of such infrastructure in CIG projects consistent with the U.S. National Blueprint for Transportation Decarbonization.
- Standard Cost Category 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.
- Standard Cost Category 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.

[4] Hu, Ming and Skibniewski, Miroslaw *Green Building Construction Cost Surcharge: An Overview.* Journal of Architectural Engineering Volume 27, Issue 4. https://doi.org/10.1061/(ASCE)AE.1943-5568.00005

- 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 developed these breakpoints based on an analysis of project cost data from past and current projects in the CIG program, including consideration of post-COVID transit ridership trends as reported to FTA's National Transit Database and cost inflation that has occurred since the breakpoints were first established in 2015. FTA intends to update the breakpoints annually to account for inflation using the Gross Domestic Product Deflator as recommended in OMB Circular A-94. The breakpoints will be published in the yearly New Starts Reporting Instructions found on the FTA website.

Cost Effectiveness Breakpoints (for use in 2025)

Rating	Cost per Trip Range
High	< $8.00
Medium-High	Between $8.00 and $9.99
Medium	Between $10.00 and $19.99
Medium-Low	Between $20.00 and $34.99
Low	> $35.00

Mobility Improvements

Measures

FTA evaluates mobility improvements as the total number of linked trips using the proposed project, with extra weight given in the calculation 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 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 increases the weight given to estimated trips made on the project by transit dependent persons when evaluating mobility benefits. Specifically, FTA gives a weight of five to trips made by transit dependent

persons. This supports the goals identified in the DOT Equity Action Plan,[5] the Justice40 Initiative (Executive Order 14008), and Executive Order 14096. [6] Transit dependent persons may face transportation insecurity, defined by DOT as the "condition in which people are unable to regularly and reliably satisfy the travel necessary to meet the needs of daily life," due to transportation costs, lacking transit options, or both. The majority of U.S. households in the lowest income quintile have limited to no access to transit, while spending more than 25 percent of their annual income on transportation. CIG projects can significantly expand access to reliable, affordable transportation and in turn, access to key destinations such as employment, education, grocery stores, and health care. By increasing the weight given to trips made by transit dependent persons and examining transportation access and cost burden characteristics of the census tracts along the alignment, FTA is emphasizing the project's anticipated benefits to riders facing transportation insecurity.

If a project sponsor chooses to develop ridership 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 calculated by adding the estimated number of linked transit trips on the project taken by non-transit dependent persons with the number of linked transit trips taken by transit dependent persons multiplied by a factor of five, thereby giving extra weight to these trips. The resulting value is compared to the breakpoints and a rating is assigned.

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, whichever the project sponsor chooses to use. Local travel models stratify trips taken in one of two ways – based on household income level or household auto ownership. Trips made by transit dependents would be lowest the stratum (lowest income level or households that have no cars). 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.

[5] The DOT Equity Action Plan is available at https://www.transportation.gov/priorities/equity/equity-action-plan
[6] Information about the Justice40 Initiative is available at https://www.transportation.gov/equity-Justice40 or Justice40 Initiative | Environmental Justice | The White House.

Breakpoints

FTA developed these breakpoints based on an analysis of mobility benefits data from past and current projects in the CIG program, including consideration of post-COVID transit ridership trends as reported to FTA's National Transit Database and the extra weight for trips made by transit dependent persons.

Mobility Improvements Trips by Non-Transit Dependent Persons plus Trips by Transit Dependent Persons multiplied by 5	
High	≥ 30 Million
Medium-High	12 Million – 29.9 Million
Medium	3 Million – 11.9 Million
Medium-Low	2 Million – 2.9 Million
Low	< 2 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

FTA evaluates 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. However, no specific measure for human health is currently used.

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. The safety, energy, and air quality 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 then monetized based on the standard factors shown below.

All the estimated monetized environmental benefits are then summed 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 used to calculate environmental benefits are found in the tables below. See the Appendix for the sources from where FTA found these factors.

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 to not double count. Thus, the valuation of energy use reductions is based only on the economic cost of petroleum dependence identified in Brown, S. "New estimates of the security costs of U.S. oil consumption," Energy Policy, Elsevier, vol. 113(C), pages 171-192 (2018).
- The subfactors are calculated from forecasts of changes in automobile and transit VMT. Forecasts of changes in VMT come from either the local travel model or 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. The subfactors are converted from VMT into their native units (e.g., tons of emissions or total accidents) using national-level standard conversion factors.

- 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 then 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.
- 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 the conversion factors necessary to calculate changes in air quality, energy use, greenhouse gas emissions and safety. The project sponsor is required only to input a few data points (whether the project is in an attainment, maintenance, or non-attainment area; the changes in highway and transit VMT resulting from implementation of the project; and estimated new transit trips) and the environmental benefits are automatically calculated in the templates. The factors to be 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	3.34	0.22	0.05	0.009	1.98	0.05	0.01	0.007	1.20	0.01	0.01	0.006
Bus — Diesel	2.18	3.78	0.18	0.064	1.89	2.80	0.07	0.031	1.77	2.42	0.03	0.021
Bus — Hybrid	2.18	3.78	0.18	0.064	1.89	2.80	0.07	0.031	1.77	2.42	0.03	0.021
Bus — CNG	24.96	2.05	0.73	0.035	31.41	1.12	0.76	0.027	32.92	0.75	0.76	0.024
Bus — Electric	0.402	0.721	0.114	0.071	0.27	0.48	0.08	0.050	0.24	0.40	0.07	0.044
Heavy Rail	0.01	0.01	0.002	0.001	0.01	0.01	0.002	0.001	0.01	0.01	0.001	0.001
Light Rail and Streetcar	0.03	0.05	0.01	0.005	0.03	0.04	0.01	0.004	0.02	0.04	0.01	0.003
Commuter Rail - Diesel locomotive (new) and DMU	20.26	15.83	0.60	0.240	20.26	15.83	0.60	0.240	20.26	15.83	0.60	0.240
Commuter Rail - Diesel locomotive (used) and DMU	20.26	99.62	4.42	3.120	20.26	99.62	4.42	3.120	20.26	99.62	4.42	3.120
Commuter Rail – Electric and EMU	0.03	0.05	0.01	0.004	0.02	0.04	0.01	0.004	0.02	0.04	0.01	0.003

Change in Air Quality Monetization Factors – Attainment Areas

Mode	For Current Year Estimates				For 10-year Horizon Estimates				For 20-year Horizon Estimates			
	($/kg)											
	CO	NO_x	VOC	$PM_{2.5}$	CO	NO_x	VOC	$PM_{2.5}$	CO	NO_x	VOC	$PM_{2.5}$
Automobile	$0.08	$7.09	$9.38	$650.36	$0.08	$7.09	$10.43	$650.36	$0.08	$7.09	$12.57	$650.36
Bus — Diesel	$0.08	$6.72	$9.38	$451.95	$0.08	$6.72	$10.43	$451.95	$0.08	$6.72	$12.57	$451.95
Bus — Hybrid	$0.08	$6.72	$9.38	$595.25	$0.08	$6.72	$10.43	$595.25	$0.08	$6.72	$12.57	$595.25
Bus — CNG	$0.08	$6.72	$9.38	$595.25	$0.08	$6.72	$10.43	$595.25	$0.08	$6.72	$12.57	$595.25
Bus — Electric	$0.08	$7.05	$14.55	$151.02	$0.08	$7.83	$16.09	$169.76	$0.08	$8.65	$19.51	$196.21
Heavy Rail	$0.08	$7.05	$14.55	$151.02	$0.08	$7.83	$16.09	$169.76	$0.08	$8.65	$12.57	$196.21
Light Rail and Streetcar	$0.08	$7.05	$14.55	$151.02	$0.08	$7.83	$16.09	$169.76	$0.08	$8.65	$12.57	$196.21
Commuter Rail - Diesel locomotive (new) and DMU	$0.08	$6.83	$9.38	$275.58	$0.08	$6.83	$10.43	$275.58	$0.08	$6.83	$12.57	$275.58
Commuter Rail - Diesel locomotive (used) and DMU	$0.08	$6.83	$9.38	$275.58	$0.08	$6.83	$10.43	$275.58	$0.08	$6.83	$12.57	$275.58
Commuter Rail – Electric and EMU	$0.08	$7.05	$14.55	$151.02	$0.08	$7.83	$16.09	$169.76	$0.08	$8.65	$19.51	$196.21

Change in Air Quality Monetization Factors – Nonattainment Areas (1.5 times the value of attainment)

Mode	For Current Year Estimates				For 10-year Horizon Estimates				For 20-year Horizon Estimates			
	($/kg)											
	CO	NO_x	VOC	$PM_{2.5}$	CO	NO_x	VOC	$PM_{2.5}$	CO	NO_x	VOC	$PM_{2.5}$
Automobile	$0.12	$10.64	$14.07	$975.55	$0.12	$10.64	$15.64	$975.55	$0.12	$10.64	$18.85	$975.55
Bus — Diesel	$0.12	$10.08	$14.07	$677.92	$0.12	$10.08	$15.64	$677.92	$0.12	$10.08	$18.85	$677.92
Bus — Hybrid	$0.12	$10.08	$14.07	$892.87	$0.12	$10.08	$15.64	$892.87	$0.12	$10.08	$18.85	$892.87
Bus — CNG	$0.12	$10.08	$14.07	$892.87	$0.12	$10.08	$15.64	$892.87	$0.12	$10.08	$18.85	$892.87
Bus — Electric	$0.12	$10.58	$21.83	$226.52	$0.12	$11.75	$24.14	$254.63	$0.12	$12.98	$29.27	$294.32
Heavy Rail	$0.12	$10.58	$21.83	$226.52	$0.12	$11.75	$24.14	$254.63	$0.12	$12.98	$18.85	$294.32
Light Rail and Streetcar	$0.12	$10.58	$21.83	$226.52	$0.12	$11.75	$24.14	$254.63	$0.12	$12.98	$18.85	$294.32
Commuter Rail - Diesel locomotive (new) and DMU	$0.12	$10.25	$14.07	$413.37	$0.12	$10.25	$15.64	$413.37	$0.12	$10.25	$18.85	$413.37
Commuter Rail - Diesel locomotive (used) and DMU	$0.12	$10.25	$14.07	$413.37	$0.12	$10.25	$15.64	$413.37	$0.12	$10.25	$18.85	$413.37
Commuter Rail – Electric and EMU	$0.12	$10.58	$21.83	$226.52	$0.12	$11.75	$24.14	$254.63	$0.12	$12.98	$29.27	$294.32

Change in Air Quality Monetization Factors – Maintenance Areas (1.25 times the value of attainment)

Mode	For Current Year Estimates				For 10-year Horizon Estimates				For 20-year Horizon Estimates			
	($/kg)											
	CO	NO_x	VOC	$PM_{2.5}$	CO	NO_x	VOC	$PM_{2.5}$	CO	NO_x	VOC	$PM_{2.5}$
Automobile	$0.10	$8.86	$11.73	$812.95	$0.10	$8.86	$13.03	$812.95	$0.10	$8.86	$15.71	$812.95
Bus — Diesel	$0.10	$8.40	$11.73	$564.93	$0.10	$8.40	$13.03	$564.93	$0.10	$8.40	$15.71	$564.93
Bus — Hybrid	$0.10	$8.40	$11.73	$744.06	$0.10	$8.40	$13.03	$744.06	$0.10	$8.40	$15.71	$744.06
Bus — CNG	$0.10	$8.40	$11.73	$744.06	$0.10	$8.40	$13.03	$744.06	$0.10	$8.40	$15.71	$744.06
Bus — Electric	$0.10	$8.81	$18.19	$188.77	$0.10	$9.79	$20.12	$212.19	$0.10	$10.81	$24.39	$245.26
Heavy Rail	$0.10	$8.81	$18.19	$188.77	$0.10	$9.79	$20.12	$212.19	$0.10	$10.81	$15.71	$245.26
Light Rail and Streetcar	$0.10	$8.81	$18.19	$188.77	$0.10	$9.79	$20.12	$212.19	$0.10	$10.81	$15.71	$245.26
Commuter Rail - Diesel locomotive (new) and DMU	$0.10	$8.54	$11.73	$344.47	$0.10	$8.54	$13.03	$344.47	$0.10	$8.54	$15.71	$344.47
Commuter Rail - Diesel locomotive (used) and DMU	$0.10	$8.54	$11.73	$344.47	$0.10	$8.54	$13.03	$344.47	$0.10	$8.54	$15.71	$344.47
Commuter Rail – Electric and EMU	$0.10	$8.81	$18.19	$188.77	$0.10	$9.79	$20.12	$212.19	$0.10	$10.81	$24.39	$245.26

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	6,738	5,007	4,303
Bus – Diesel	34,002	32,815	31,800
Bus – Hybrid	27,202	26,252	25,440
Commuter Rail - Diesel (new) and DMU	93,906	94,845	94,845
Commuter Rail - Diesel (used)	93,906	94,845	94,845

FTA then monetizes the change in energy use based on the economic cost of dependence on imported petroleum for fuels. To convert from Btu to gallons of petroleum fuel, FTA uses conversion factors from the GREET model of 79,581 Btu per gallon of gasoline and 128,450 Btu per gallon of diesel fuel, except for Diesel-Bus. For Diesel-Bus, FTA uses 127,567 Btu per gallon, calculated by using 90 percent of conventional diesel (128,450 Btu/gallon) and 10 percent of biodiesel (119,624 Btu/gallon). The monetization factors are $0.29 per million Btu for gasoline and $0.26 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

Mode	Current Year	10-year Horizon	20-year Horizon
	(g CO2e/VMT)		
Automobile	500	371	319
Bus – Diesel	2,647	2,555	2,476
Bus – Hybrid	2,118	2,044	1,980
Bus – CNG	3,174	3,079	2,986
Bus - Electric	2,664	1,999	1,775
Heavy Rail	2,176	1,632	1,449
Light Rail and Streetcar	3,243	2,433	2,160
Commuter Rail - Diesel (new) and DMU	7,310	7,384	7,384
Commuter Rail - Diesel (used)	7,310	7,384	7,384
Commuter Rail - Electric and EMU	3,582	2,687	2,386

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

To capture the monetary value of changes in GHG emissions, FTA uses the $51 midrange estimate of the social cost of carbon dioxide (CO_2) obtained from the Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990 (February 2021), which is a document developed and updated periodically by an Interagency Working Group (IWG) comprised of several Federal agencies. The $51 value is the 2020 midrange estimate based on a three percent discount rate. FTA also used the IWG's midrange estimate in the previous CIG policy guidance (obtained from the Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866 (May 2013)); the value given here is merely adjusted for inflation and the emissions year.

FTA notes updated social cost of GHG values in EPA's "Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances" (https://www.epa.gov/environmental-economics/scghg), which were developed in response to recent recommendations from the National Academies of Sciences, Engineering, and Medicine. The updated values are larger in magnitude than the IWG's February 2021 interim estimates. For example, the updated central estimate of the social cost of CO_2 is $190 for 2020 based on a two percent near-term discount rate. The scientific advances reflected in the updated estimates, together with the numerous unquantified categories of damages discussed in EPA's Report, highlight that the IWG's interim values may be an underestimate of the monetary value of changes in GHG emissions. Although FTA has not adopted EPA's updated values in this document and continues to use the value as was proposed for public comment, FTA expects to consider them in future updates to the CIG policy guidance.

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 Factors

Mode	Current Year		10-year Horizon		20-year Horizon	
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries
	(per million VMT)					
Automobile	0.011	0.821	0.011	0.821	0.011	0.821
Bus – Diesel	0.005	0.716	0.005	0.716	0.005	0.716
Bus – Hybrid	0.005	0.716	0.005	0.716	0.005	0.716
Bus – CNG	0.005	0.716	0.005	0.716	0.005	0.716
Bus - Electric	0.005	0.716	0.005	0.716	0.005	0.716
Heavy Rail	0.004	0.350	0.004	0.350	0.004	0.350
Light Rail and Streetcar	0.013	0.441	0.013	0.441	0.013	0.441
Commuter Rail - Diesel (new) and DMU	0.015	0.069	0.015	0.069	0.015	0.069
Commuter Rail - Diesel (used)	0.015	0.069	0.015	0.069	0.015	0.069
Commuter Rail - Electric and EMU	0.015	0.069	0.015	0.069	0.015	0.069

To monetize the estimated changes in safety, FTA uses U.S. DOT guidance on the value of a statistical life and injuries. For the value of a statistical life, FTA uses the 2022 USDOT estimated value of $12.5 million. The value FTA uses for "level A – incapacitating injuries" for both transit and automobiles is $554,800 (in 2020 dollars), which is based on the KABCO scale in the U.S. DOT publication, "Benefit-Cost Analysis Guidance for Discretionary Grant Programs" (see Table A-1: Value of Reduced Fatalities and Serious Injuries).

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. Using data from past and current CIG projects located in all parts of the country and representing all modes of transit, FTA calculated the environmental benefits measures to determine a reasonable range for the breakpoints.

Environmental Benefits Breakpoints	
Rating	Range
High	≥ 100%
Medium-High	50.0 - 99.9%
Medium	1.0 - 49.9%
Medium-Low	0.0 - 0.9%
Low	< 0.0%

Economic Development

FTA evaluates economic development by considering 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. FTA evaluates the following under economic development: 1) supportive zoning in station areas; 2) performance and impacts of transit-supportive plans and policies; and 3) tools to maintain or increase the share of affordable housing in station areas.

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.

Under both the zoning and the transit-supportive corridor policy measures, FTA considers whether local plans and policies encourage universal design. Universal design is a strategy for making products, environments, operational systems, and services welcoming and usable to the most diverse range of people possible. Its key principles are simplicity, flexibility, and efficiency. It increases ease of access to products, places, and services for multiple, diverse populations.

In accordance with the goals of the White House Housing Supply Action Plan (2022) to ease the burden of housing costs and boost the supply of quality housing, FTA considers local plans and policies that encourage and incentivize the creation and preservation of affordable housing under the examination of "Tools to Maintain or Increase the Share of Affordable Housing in Station Areas. FTA also examines local plans to see if they include reformed zoning and policies that reduce regulatory barriers to housing production and supply; new financing tools that can be leveraged to close the gap in financing construction and rehabilitation of the jurisdiction's housing stock; or increased residential density benefiting low- and middle-income renters and homebuyers.

Measures

FTA gives equal weight to each of the three subfactors under economic development when developing the overall economic development rating.

Calculation

FTA assigns a rating to the "Supportive Zoning in Station Areas" subfactor by quantitatively evaluating the existing and proposed residential and commercial densities and parking ratios in station areas as evidenced by zoning codes. FTA also qualitatively assesses the enforceability of those densities and ratios. FTA also considers whether universal design is reflected in the zoning codes.

FTA assigns a rating to the "Performance and Impact of Transit-Supportive Plans and Policies" subfactor by quantitatively evaluating development plans and transit-supportive urban design characteristics in station areas, favoring plans and policies demonstrating smart growth and complete street planning principles and universal design. In addition, FTA evaluates evidence of demonstrated cases of development and development proposals in station areas affected by transit-supportive plans and policies. This measure qualitatively considers real estate market conditions favoring development and redevelopment in station areas and development around other recent high-capacity transit projects in the region.

FTA assigns a measure to the "Tools to Maintain or Increase the Share of Affordable Housing in Station Areas" measure by qualitatively evaluating the creation, preservation, and long-term availability of affordable housing in the station areas and region. This measure qualitatively assesses affordable housing need and supply, plans and policies, zoning, financial incentives and tools, and evidence of developer activity to preserve and increase affordable housing. Projects score higher if the sponsor can demonstrate long-term restrictions or programs favoring very and extremely low-income households (earning at or below 50 percent and 30 percent of AMI, respectively). Consistent with the White House *Housing Supply Action Plan*, projects score higher if the documentation demonstrates adopted zoning and land use reforms that reduce the regulatory barriers for affordable housing production and supply, financial tools that can be leveraged to finance construction and rehabilitation of affordable housing, and increased residential density for low- and medium-income renters and homebuyers. FTA emphasizes LBAR housing over "naturally occurring" or "market rate" affordable housing to preserve long-term affordability. FTA favors unique local and/or state affordable housing programs and incentives over typical federal programs and incentives such as U.S. Department of Housing and Urban Development (HUD) Section 8 Housing.

Sources of information

- Supportive Zoning in Station Areas:
    - Supportive Zoning in Station Areas (including zoning for universal design)
- Performance and Impacts of Transit-Supportive Plans and Policies:
    - Growth Management;

- Transit-Supportive Corridor Policies (including policies that support universal design);
- Tools to Implement Transit-Supportive Plans and Policies;
- Performance of Transit-Supportive Plans and Policies; and
- Potential Impact of Transit Project on Station Area Development.

- Tools to Maintain or Increase the Share of Affordable Housing in Station Areas:
  - Evaluation of Affordable Housing Needs and Supply Specific to Station Areas, 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
    - Anti-displacement policies
    - Permanently affordable housing
    - Enforceable local or state LBAR housing quotas
  - 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 station areas, including:
      - Low Income Housing Tax Credits
      - Ongoing local or state affordable housing operating subsidies
      - Weatherization and utilities support program
      - Local or state tax abatements for low-income or senior housing
      - Local or State programs that provide mortgage or other home ownership assistance for lower income and senior households
      - Streamlined state requirements for environmental planning for projects that include LBAR housing
    - 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

Breakpoints

Supportive Zoning in Station Areas Breakpoints
The following items are examined under the supportive zoning subfactor to arrive at a combined rating for this subfactor which is given a 1/3 weight in the economic development evaluation.

Rating	Residential Dwelling Units per acre (maximum)	Central Business District (CBD) Floor Area Ratio (maximum)	Other Floor Area Ratio (maximum)[7]	CBD spaces per 1,000 square feet (minimum)	Other spaces per 1,000 square feet (minimum)
High	≥ 25.0	≥ 10.0	≥ 2.50	≤ 1.00	≤ 1.50
Medium-High	15.0 – 24.9	8.0 – 9.9	1.75 – 2.49	1.01 – 1.75	1.51 – 2.25
Medium	10.0 – 14.9	6.0 – 7.9	1.00 – 1.74	1.76 – 2.50	2.26 – 3.00
Medium-Low	5.0 – 9.9	4.0 – 5.9	0.50 – 0.99	2.51 – 3.25	3.01 – 3.75
Low	≤ 4.9	≤ 3.9	≤ 0.49	≥ 3.26	≥ 3.76

Supportive Zoning in Station Areas (continued)

Supportive Zoning in Station Areas	
HIGH	Local jurisdictions have adopted zoning that strongly supports a major transit investment in all transit station areas.
MEDIUM	Local jurisdictions have adopted zoning that moderately or strongly supports 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 transit-supportive station area zoning. Existing station area zoning is 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, including requirements for universal design; and • Zoning allowances for reduced parking and traffic mitigation.	

[7] Elsewhere in station areas (typical for commercial districts).

Performance and Impacts of Transit-Supportive Plans and Policies

The following items are examined under the performance and impacts of transit-supportive plans and policies subfactor to arrive at a combined rating for this subfactor which is given a 1/3 weight in the economic development evaluation.

Growth Management	
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 station areas 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	
HIGH	Conceptual plans for the station areas have been developed. Local jurisdictions have adopted or drafted transit-supportive 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 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.
Ratings based on assessment of the following: • Plans and policies to increase station area development; • Plans and policies to enhance transit-friendly character of station area development, including policies promoting or requiring universal design; • Plans to improve pedestrian facilities, including facilities for persons with disabilities; and • Parking policies.	

Tools to Implement Transit-Supportive Plans and Policies	
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 and local jurisdictions have adopted effective regulatory and financial incentives to promote transit-oriented development. Public and private capital improvements are being programmed in the 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.
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	
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 moderately 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.
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 Station Area Development	
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 at transit-supportive densities. 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 • Regional and station area economic environment.	

Tools to Maintain or Increase the Share of Affordable Housing in Station Areas
The following items are examined under the tools to maintain or increase the share of affordable housing subfactor to arrive at a combined rating for this subfactor which is given a 1/3 weight in the economic development evaluation.

Tools to Maintain or Increase the Share of Affordable Housing in Station Areas	
HIGH	Comprehensive affordable housing plans have been developed and are being implemented that identify and address the current and prospective housing affordability needs in station areas. The plans include efforts to preserve existing LBAR housing. The plans also explicitly address the housing affordability and quality needs of very and extremely low-income households (earning at or below 50 percent and 30 percent of AMI, respectively). Financing commitments and/or sources of funding and robust financial incentives are secured and available at the local and/or regional level and in station areas 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 and/or state policies and zoning codes support and encourage significant LBAR housing development and/or preservation in station areas. Developers are actively working in station areas 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 in station areas. The plans include efforts to preserve existing LBAR housing. The plans also explicitly address the needs of very and extremely low-income households (earning at or below 50 percent and 30 percent of AMI, respectively). Some financial incentives are available in station areas 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 and/or preservation in station areas to a moderate extent. Developers are starting to work in the corridor to secure 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 (earning at or below 50 percent and 30 percent of AMI, respectively). Few or no local or state financial incentives are available to support affordable housing development and preservation in station areas. Local and/or state policies and zoning codes support only limited affordable housing development in station areas. There is little or no affordable housing development/preservation activity in the station areas.
Ratings based on assessment of the following: • Evaluation of affordable housing needs and supply specific to station areas; • Plans and policies to preserve and increase affordable housing including anti-displacement policies in region and/or station areas; • Adopted local and/or state financing tools and strategies targeted to preserving and increasing affordable housing in the region and/or station areas; • Evidence of developer activity to preserve and increase affordable housing in station areas; 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 station areas.	

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 if the CIG share of the project does not exceed 50 percent. The law also specifies the 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.

If the project is determined to be eligible for warrants, FTA assigns automatic Medium ratings on the Mobility Improvements, Congestion Relief, and Cost-Effectiveness criteria if the cost of the proposed New Starts project and existing transit ridership in the corridor today fit within certain thresholds. FTA developed the warrant thresholds below based on an examination of data from past and current projects in the CIG program, consideration of national transit ridership trends post-COVID, and cost inflation that has occurred since the thresholds were first established in 2015.

Project Justification Warrant Thresholds
< $60 million and 2,100 Transit Riders
$60 - $120 million and 4,200 Transit Riders
$120 - $210 million and 6,300 Transit Riders
$210 - $300 million and 8,400 Transit Riders
$300 - $600 million and 10,500 Transit Riders
> $600 million not eligible for warrants

FTA believes proposed projects that have a 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 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 higher capital costs are of a size and scale that FTA believes merit a more careful and detailed analysis before proceeding with investment of significant taxpayer dollars.

If a project is determined to be eligible for project justification 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.

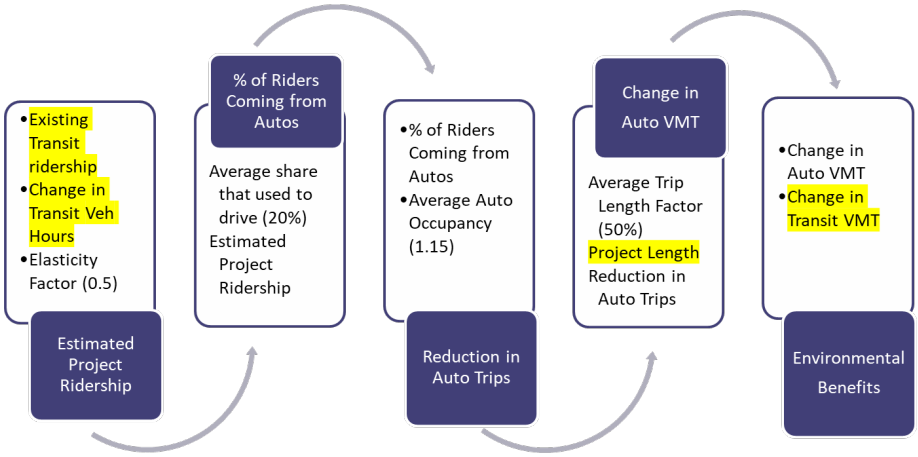
Warranted New Starts projects are still subject to the normal rating process for the remaining Project Justification criteria of Economic Development and Land Use because those criteria are related to highly individualized aspects of each project that cannot be determined to be acceptable solely because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

Project sponsors may request consideration for project justification 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 use 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 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 resulting from 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.



Yellow highlight indicates simple data entry by sponsor, everything else automatically calculated

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 CIG project, and continue to maintain and operate the entire public transportation system without requiring a reduction in existing services. The law also requires availability of reasonable amounts of contingency funding to cover unanticipated cost increases or funding shortfalls.

New Starts project sponsors must prepare a financial plan and a 10- or 20-year cash flow statement in accordance with FTA's Guidance for Transit Financial Plans found on found on the FTA website at: https://www.transit.dot.gov/funding/funding-finance-resources/guidance-transit-financial-plans unless they can qualify for the highly simplified financial evaluation discussed further below in this section. Project sponsors that do not qualify for the highly simplified evaluation are generally required to submit a 20-year cash flow statement. However, a sponsor may submit a 10-year financial plan and cash flow statement if the following conditions are applicable to the project:

- The project construction period plus five years of operations is less than 10 years in length; AND
- The project sponsor is not submitting 20-year horizon year information for the other CIG evaluation and rating criteria (the sponsor is submitting 10-year horizon data or no horizon year data).

The measures FTA uses for the evaluation of local financial commitment 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.

New Starts projects with a capital cost of less than $400 million can qualify for a highly simplified financial evaluation [financial warrants] if the project sponsor can demonstrate the following:

- A reasonable plan to secure funding for the local share of project capital costs or sufficient available funds for the local share;
- The additional operating and maintenance cost to the agency of the proposed project is less than ten 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.

New Starts projects that meet the items above and request greater than 50 percent CIG funding would receive a local financial commitment rating of Medium. Proposed projects that meet the items above and request 50 percent or less in CIG funding would receive a High rating for local financial commitment.

Calculation

Individual ratings are given to each of the following measures if a project is not eligible for financial warrants:

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).

2. In arriving at a current condition rating, FTA places the most emphasis 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.
3. 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 would increase 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. For example, private contributions could include outside investments that result in cost-effective project delivery, financial partnering, joint development revenue streams and other value capture methods, 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.
4. 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 handle unexpected cost increases or funding shortfalls.

The summary local financial commitment rating also takes 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 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.	• 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.	• 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.	• 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.	• 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.
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 30% of estimated project cost and 30% (3.5 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 20% of estimated project cost and 20% (2.5 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 12% 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 CIG Project Rating

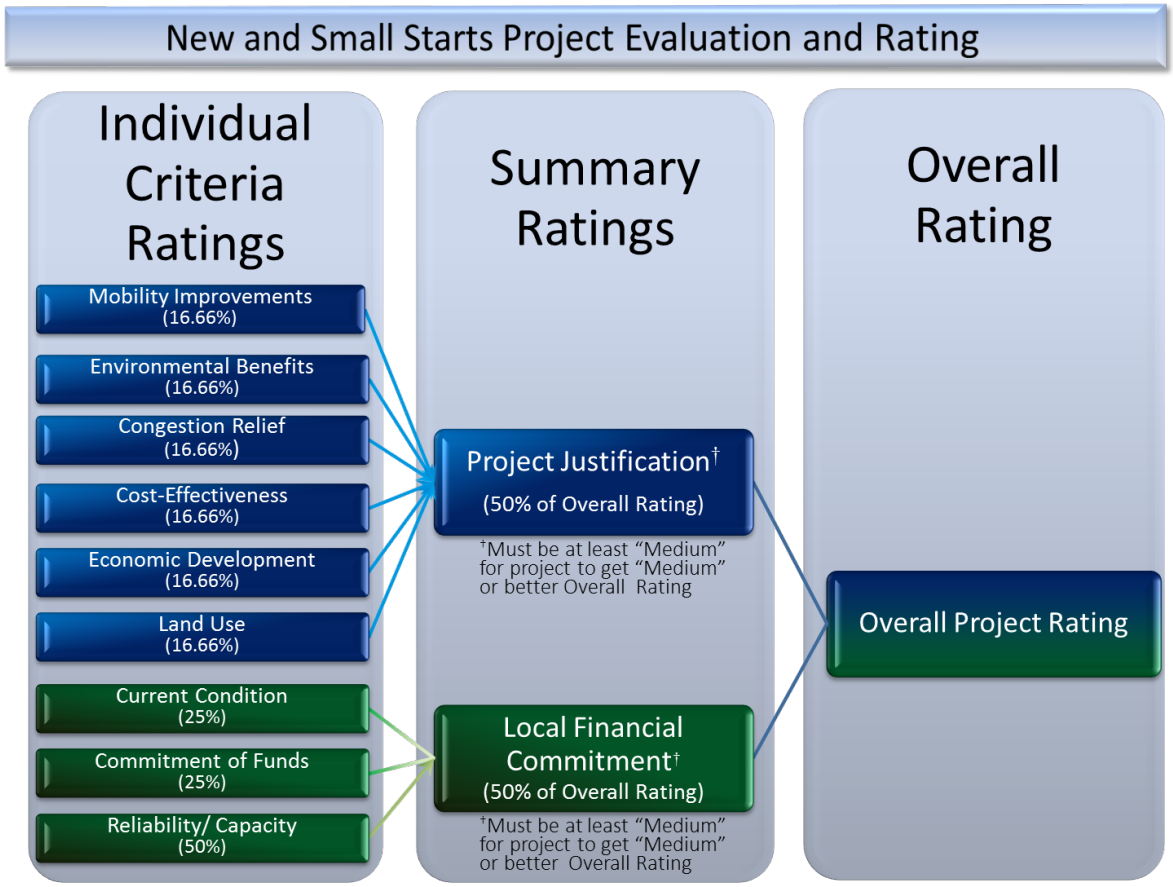
The law requires that FTA evaluate and rate a project on a 5-point scale from low to high based on the combined summary ratings for project justification and local financial commitment. It also requires that FTA evaluate the six project justification criteria and give "comparable, but not necessarily equal" weight to each when determining a summary project justification rating. The law 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 against all 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

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	MOVES3 – runs using national default inputs for 2021, 2030, 2040
Emission rates – commuter rail (diesel) and DMU	New locomotives: U.S. EPA Tier 4 emissions standards (U.S. EPA 2009) Reused locomotives: Average of U.S. EPA Tiers 0, 1, 2, 3 emission standards (U.S. EPA 2009)
Emission rates – electric modes	Argonne National Laboratory Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model (GREET 2021)
Value of change in emissions	CO: Delucchi (2004) midpoint value for urban areas EGUs: U.S. EPA. October 2021. Estimating the Benefit per Ton of Reducing Directly-Emitted PM2.5, PM2.5 Precursors and Ozone Precursors from 21 Sectors. Mobile Sources: Wolfe et al. 2019. Monetized health benefits attributable to mobile source emissions reductions across the United States in 2025. Sci. Total Environ. 650(Pt 2):2490-2498. 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)	Argonne National Laboratory Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model (GREET 2021)
Automobile fuel economy	Projections from AEO 2021 (including Model Years 2021–2026 standards)
Transit vehicle energy intensity (Btu per mile) – (2020)	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 bus (2% by 2030, 5% by 2040) Diesel rail - AEO average efficiency improvement for passenger rail (-1% by 2030, no change in 2040).

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)	EIA CO2 Emissions Coefficients, by fuel (November 18, 2021 Release)
GHG emission factors for electricity generation (kg/kWh)	AEO Reference Case (33% improvement by 2040)
CO_2 equivalent to CO_2 scale factors by fuel type	Argonne National Laboratory Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model (GREET 2021)
Full fuel-cycle GHG factors (ratio of fuel-cycle to operating GHG emissions)	Argonne National Laboratory Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model (GREET 2021)

Change in Safety Data Sources and Assumptions

Factor	Data Source or Assumption
Fatality rates – automobiles	NHTSA - Fatal Accident Reporting System, 2011–2019
Injury rates – automobiles	Bureau of Transportation Statistics (BTS) reported motor vehicle safety data, 2011–2019
Fatality rates – transit (except commuter rail)	National Transit Database (NTD) 2011-2020 for bus, light rail, heavy rail, and streetcar Electric bus, 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 DMU and EMU based on most similar corresponding mode from NTD
Fatality and injury rates – transit (commuter rail)	BTS reporting for commuter rail, 2011 – 2019
Value of a statistical life	2022 U.S. DOT guidance on Value of a Statistical Life
Value of an injury by severity level	2022 BCA Analysis Guidance for Discretionary Grant Programs, based on KABCO injury severity scale
Distribution of injuries by severity level – automobile	NHTSA Traffic Safety Facts, National Statistics, Table 54
Distribution of injuries by severity level – transit	Disabling injuries only, based on NTD reporting requirements

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II. SMALL STARTS

INTRODUCTION

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 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 CIG APPLICANTS, PROJECTS, AND COSTS

The law that authorizes the CIG program 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. FTA can only sign grant agreements with FTA approved grant recipients. Project sponsors who are not already FTA approved grant recipients should discuss the procedures for becoming an FTA grant recipient early in the CIG process with the relevant FTA Regional Office.

The law specifies that proposed Small Starts projects must be new fixed guideway projects, extensions to existing fixed guideway systems, or corridor-based bus rapid transit (BRT) projects. It further specifies that Small Starts projects must have a total estimated capital cost of less than $400 million and must be seeking less than $150 million in CIG program funds.

The law 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(8)] This definition 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, BRT, and ferries.

To qualify as a fixed guideway BRT project, the law 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 has adopted a more detailed definition for fixed guideway BRT. It specifies characteristics fixed guideway BRT's must contain to meet the definition in law and be eligible for various FTA funding programs. The definition includes the following elements:

"A bus system that meets all 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. The law 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 other facilities under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, 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.

FTA generally considers a core trunk line BRT with several branches to qualify as a single Small Starts project if 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. 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.

The law allows joint intercity passenger rail and public transportation projects to be eligible as Small Starts projects if they meet the statutory requirements of being a fixed guideway project or a corridor--based BRT project with the cost and CIG request parameters noted above [Section 5309(q)]. The law specifies that eligible costs are limited to the "net capital costs of the public transportation costs attributable to the project based on projected use of the new segment . . . not including project elements designed to achieve or maintain a state of good repair." To implement this provision, during Project Development the project sponsor must propose a methodology to FTA to differentiate intercity passenger rail costs from public transportation costs based on projected usage. FTA does not require a specific methodology to be used and instead considers proposals from project sponsors on a case-by-case basis. This is because each project may have unique circumstances that help differentiate intercity passenger rail from public transportation costs.

The law includes definitions that apply to all FTA grant programs including one outlining eligible capital project costs [Section 5302(4)]. Additionally, the law specifies 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" [Section 5309(b)(1)].

FTA encourages project sponsors seeking CIG funds to incorporate climate resilient infrastructure elements in their project design, provided the project continues to meet the criteria in law for receipt of funding. For more information, please see Executive Order (E.O.) 14008, Tackling the Climate Crisis at Home and Abroad and other USDOT resources and tools found at https://www.transportation.gov/priorities/climate-and-sustainability/climate-adaptation-resources-and-tools. Project sponsors are encouraged to consider current and future climate change risk in planning, siting, design, and operation and to make use of climate change projections and emission scenarios that are reflective of the infrastructure's anticipated service life.

GETTING INTO AND THROUGH THE STEPS IN THE CIG PROCESS

The law outlines one phase of the CIG process entitled Project Development that Small Starts projects must complete to be eligible for a CIG construction grant agreement.

Prior to Project Development

Unlike for New Starts and Core Capacity projects, the law 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 early scoping where appropriate 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 are not eligible for future reimbursement from the CIG program should a construction grant be awarded in the future. In other words, costs incurred prior to entry into PD are not considered by FTA to be part of the project cost that would be included in a construction grant should one be awarded in the future. Please consult FTA's Annual Apportionment Notice where pre-award authority for the CIG program is discussed in more detail [https://www.transit.dot.gov/funding/apportionments].

Requesting Entry into Project Development

FTA requires that project sponsors seeking to enter PD submit 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[8]
    - 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 the 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. The law 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.

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

Upon receipt of a request to enter PD, FTA reviews the request to ensure it contains all 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 requirement in law.

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 in learning about projects in the CIG program. FTA briefs congressional staff monthly on all projects in the CIG program, including notifying them of new entrants to the program.

During Project Development

The law 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 CIG 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 withdraws the project from the CIG program.

If a 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 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 is not 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 applies 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, demonstrate progress toward meeting TAM plan SGR targets, 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 CIG Construction Grant

Being Recommended for CIG 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 late summer of the year prior to the release of the President's budget.

Completing CIG Construction Grant Award Requirements

Once a proposed CIG 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, demonstrate progress toward meeting TAM SGR targets, and meet other FTA readiness requirements related to technical capacity, staffing, and oversight before submitting an application for a CIG construction grant agreement.

In Section 5309(c)(1)(C), FTA is required to determine that the CIG grant applicant has made progress toward SGR targets required by Section 5326(c)(2) before a CIG construction grant can be awarded. All FTA recipients and subrecipients are required to set SGR performance targets annually based on FTA established measures outlined in the regulation found at 49 CFR Part 625 https://www.govinfo.gov/content/pkg/FR-2016-07-26/pdf/2016-16883.pdf. For more complete information, please see the FTA webpage at https://www.transit.dot.gov/TAM.

In the regulation, FTA established SGR performance measures for four areas:

- Rolling stock. The performance measure for rolling stock is the percentage of revenue vehicles within a particular asset class that have either met or exceeded their useful life.
- Infrastructure: rail fixed-guideway, track, signals, and systems. The performance measure for rail fixed guideway, track, signals, and systems is the percentage of track segments with performance restrictions.

- Facilities. The performance measure for facilities is the percentage of facilities within an asset class, rated below condition three on the TERM scale.
- Equipment: (non-revenue) service vehicles. The performance measure for non-revenue, support-service and maintenance vehicles equipment is the percentage of those vehicles that have either met or exceeded their useful life.

The targets based on the above SGR measures are set each year by the transit agencies and reported to FTA through the National Transit Database (NTD). Agencies also report their progress toward meeting the SGR performance targets each year to the NTD. NTD reporting deadlines are based on each agency's fiscal year end date, with submittals to the NTD due four months after the agency's fiscal year ends. Reporting on the SGR targets and performance to the NTD began in a limited fashion in fiscal year 2018, with complete data reported for FY 2021.

Given the nature of NTD reporting deadlines and the fact that SGR targets for FY 2021 and FY 2022 were set by transit agencies with no advanced notice that the targets and performance against those targets would be used in this fashion for CIG grant determinations, FTA is using an interim approach to make these CIG grant determinations. When a Small Starts project sponsor seeks a construction grant award, the sponsor must include a statement signed by the CEO describing the progress the agency has made toward meeting SGR targets. The statement should include as supporting documentation an up-to-date TAM plan and the narrative report submitted to the NTD to explain the agency's progress towards achieving the SGR goals for all asset classes in the TAM plan. FTA encourages project sponsors to discuss this requirement well in advance of the CIG construction grant award with FTA.

CIG grant applicants that do not yet own, operate, or manage capital assets used for providing public transportation subject to the TAM requirements of 49 CFR Part 625 are not required to meet this requirement.

SGR targets and performance can vary widely from year to year for an individual asset type. For example, an agency may have a target in one year of 10 percent or less of its standard bus fleet being beyond its useful life but in the following year that target can be changed to a much higher or lower percentage. One reason for this is because transit agencies often purchase vehicles in bulk periodically to gain better pricing rather than purchasing in a more steady and consistent annual flow. The annual targets established by transit agencies, therefore, take into consideration the age of vehicles in the fleet and the anticipated timeframe of when resources may be available to replace those vehicles with another bulk purchase.

Submitting a CIG Construction Grant Request

The project sponsor must submit the following information to the FTA Associate 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 and cash flow statement (if the project is not warranted for finance), including supporting documentation demonstrating all of the non-CIG funding is committed;
- Project cost estimate using the Standard Cost Category Worksheets (which includes cost of PD, Construction, and Financing);
- 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;
- A statement signed by the CEO describing the progress the agency has made toward meeting SGR targets and including as supporting documentation an up-to-date TAM plan and the narrative report submitted to the NTD; and
- Completion of all critical third-party agreements and permits.

The law requires that FTA evaluate and rate the project prior to awarding a construction grant. 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 statutory 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, the law 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.

SMALL STARTS EVALUATION CRITERIA AND RATING PROCESS

CIG 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. Horizon years are based on available socioeconomic forecasts from metropolitan planning organizations (MPO), which are generally prepared in five-year increments.

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 uses 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) is the point of comparison. When a project sponsor chooses 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) serves 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 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 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. This tool can significantly streamline the length of time required to generate ridership estimates and vehicle miles traveled (VMT) for use in calculating the CIG evaluation measures. Use of STOPS is optional. Project sponsors may choose instead to use their local travel forecasting model. 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 needs to continue to review the validity of the model to assure the validity of the results.

Project Justification

In addition to the specific project justification criteria and measures discussed below that are used in the CIG evaluation process, FTA encourages project sponsors to use the USDOT Equitable Transportation Community (ETC) Explorer for their own purposes to understand how their community or project area is experiencing disadvantage related to lack of transportation investments or opportunities. (https://experience.arcgis.com/experience/0920984aa80a4362b8778d779b090723/page/Homepage/). Similarly, FTA encourages project sponsors to examine walkability in the project corridor for their own purposes using readily available tools such as the EPA walkability index.

Land Use

The land use criterion includes a quantitative examination of what exists today in the proposed project corridor:

1. average existing population density across all station areas in the project corridor;
2. total existing employment served by the project;
3. the proportion of existing legally binding affordability restricted (LBAR) housing within a ½ mile of station areas to the proportion of LBAR housing in the counties through which the project travels;
4. community risk; and
5. access to essential services.

Measures

The land use criterion includes five measures: 1) average existing population density across all station areas; 2) total existing employment served by the project; 3) the proportion of existing LBAR housing units within a ½ mile of station areas to the proportion of LBAR housing units in the counties through which the project travels; 4) community risk; and 5) essential services within one mile of stations.

For purposes of the affordable housing measure, 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 LBAR housing units to renters with household incomes at or below 60 percent of the area median income (AMI) and/or owners with household incomes at or below AMI that are within a ½-mile radius of stations 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 displacement and gentrification that can occur over time is the presence of LBAR housing 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 station areas occur.

FTA believes the affordable housing measure encourages project sponsors to locate projects where a higher share of LBAR housing exists in their area. The metric evaluates the proportional share of existing LBAR housing in the station areas 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 LBAR housing. Therefore, FTA boosts the rating for this subfactor one level if the denominator shows the surrounding counties to have greater than a five percent share of LBAR housing.

Note that FTA's affordable housing measure is not intended in any way to serve as a "federally endorsed" definition of acceptable levels of LBAR or other types of affordable housing and is unique to this CIG project evaluation process.

The measure of community risk in the land use evaluation uses the Census Bureau's Community Resilience Estimates (CRE) tool. The tool uses American Community Survey (ACS) and Population Estimates Program data to determine how socially vulnerable the population within each census tract is to impacts of disasters. The CRE tool examines ten different risk factors that measure the population's vulnerability as shown in the table below. The data set from the CRE tool provides an estimate of the at-risk population based on the cumulative number of risk factors experienced by census tract residents: zero risks out of the ten (Low Risk), 1-2 risks out of the ten (Medium Risk), and three or more risks out of the ten (High Risk). FTA considers the percent of the total population within a ½-mile radius of stations that is designated high risk. This community risk measure encourages project sponsors to locate projects near communities that might benefit from transit investments to mitigate, reverse, or alleviate transportation burden and other related causes of disadvantage.

Census Bureau CRE Tool Risk Factors

Risk Factor #	Risk Factor	Household or Individual
1	Income-to-Poverty Ratio (IPR) < 130 percent	Household
2	Single or zero caregiver household – only one or no individuals living in the household who are 18-64	Household
3	Unit-level crowding defined as > 0.75 persons per room	Household
4	Communication barrier defined as either: (a) Limited English-speaking households; or (b) No one in the household over the age of 16 with a high school diploma	Household
5	No one in the household is employed full-time, year-round (flag is not applied if all residents of the household are aged 65 years or older)	Household
6	Disability posing constraint to significant life activity (persons who report having any one of the six disability types: hearing difficulty, vision difficulty, cognitive difficulty, ambulatory difficulty, self-care difficulty, or independent living difficulty)	Individual
7	No health insurance coverage	Individual
8	Being aged 65 years or older	Individual
9	Households without a vehicle	Household
10	Households without broadband internet access	Household

FTA wants to encourage transit in locations with key essential services to improve access. In this context, essential services are basic human needs services such as health and education. FTA includes an examination of essential services in station areas using data from the Department of Homeland Security's (DHS) Homeland Infrastructure Foundation-Level Data (HIFLD) (see https://hifld-geoplatform.hub.arcgis.com/). Specifically, FTA requires project sponsors to use Geographic Information System (GIS) locational data from the HIFLD website on medical and educational facilities – – specifically hospitals, urgent care, Veterans Administration centers, colleges/universities, supplemental colleges and public schools – within a one-mile radius of stations. The number of essential services located within one mile of stations areas is totaled for all station areas (avoiding double counting where the radii overlap) and then divided by the number of stations to arrive at an average essential service per station area.

Calculation

Project sponsors obtain population and employment within a ½-mile radius of the stations from census data.

To develop information on LBAR housing units located within a ½-mile radius of proposed stations and the counties through which the project travels, project sponsors are encouraged to consult with area housing agencies. For this purpose, FTA is seeking LBAR housing units to renters with household incomes at or below 60 percent of the AMI and/or owners with household incomes at or below the AMI. 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 LBAR 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 LBAR housing units in the station areas and the surrounding counties is then compared to total residential housing units in the station areas and the surrounding counties. Total residential housing units should come from the ACS five-year forecasts at the county and census tract levels.

FTA assigns a value to the affordable housing measure by comparing (a) the percent of total units within a ½-mile radius of stations that are LBAR housing units to (b) the percent of total units in the counties in which the stations are located that are LBAR housing units. FTA boosts the rating for this subfactor one level if the denominator shows the surrounding counties through which the project travels have at least a five percent share of LBAR housing units.

The community risk measure uses data from the Census Bureau CRE tool. To calculate the measure, project sponsors download the CRE dataset (https://www.census.gov/programs-surveys/community-resilience-estimates/data.html). Project sponsors then calculate the percent of each census tract within a ½--mile radius of station areas. Next, sponsors multiply the percentage of the census tract within a station area by the estimated high-risk population for that census tract from the CRE dataset. Similarly, sponsors multiply the percent of the census tract within a station area by the total population in the census tract as reported in the CRE dataset. The high-risk population across all station areas is then totaled and divided by the total population within a ½- mile radius of all station areas to arrive at the percent of the population designated high risk within a ½- mile radius of all stations.

FTA also examines essential services (medical and educational facilities) within a one-mile radius of project stations using locational data sets from DHS's HIFLD website (see https://hifld-geoplatform.**hub.**arcgis.com/). The measure requires project sponsors to download specific GIS data sets from the HIFLD website on medical and educational facilities – specifically for hospitals, urgent care centers, Veterans Administration centers, colleges/universities, supplemental colleges, and public schools. Using GIS, the project sponsor calculates the total number of essential services within a one-mile radius of all stations, avoiding overlapping radii and double counting. The total is then divided by the number of stations to arrive at the average number of essential services per station area.

Each of the five measures is calculated and rated according to the breakpoints for each measure. FTA gives each measure equal weight in developing the overall land use rating (20 percent weight for each).

Breakpoints
The table below provides breakpoints for the five land use measures.

Rating	Average population density (persons/ square mile)[9]	Employment served by system[10]	Proportion of LBAR housing in the station areas compared to the proportion in the counties through which the project travels	Community Risk	Average Essential Services per Station Area
High	≥ 15,000	≥ 220,000	> 2.50	≥ 50%	> 7
Medium-High	9,600 – 14,999	140,000-219,999	2.25 – 2.49	40 – 49.9%	5 – 7
Medium	5,760 – 9,599	70,000-139,999	1.50 – 2.24	18 – 39.9%	3 – 4
Medium-Low	2,560 – 5,759	40,000-69,999	1.10 – 1.49	5 – 17.9%	1 – 2
Low	≤ 2,559	≤ 39,999	≤ 1.09	≤ 4.99%	< 1

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.

Calculation
For Small Starts projects the cost effectiveness measure is 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.

[9] 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.
[10] 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 at station areas along the entire line on which a no-transfer ride from the proposed project's stations can be reached.

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 developed these breakpoints based on an analysis of project cost data from past and current projects in the CIG program, including consideration of post-COVID transit ridership trends as reported to FTA's National Transit Database and cost inflation that has occurred since the breakpoints were first established in 2015.FTA intends to update the breakpoints annually to account for inflation using the Gross Domestic Product Deflator as recommended in OMB Circular A-94. The breakpoints will be published in the yearly Reporting Instructions found on the FTA website.

Cost Effectiveness Breakpoints

Rating	Annualized Federal Share Per Trip
High	< $1.00
Medium-High	Between $1.00 and $1.99
Medium	Between $2.00 and $4.99
Medium-Low	Between $5.00 and $5.99
Low	> $6.00

Mobility Improvements

Measures

FTA evaluates mobility improvements as the total number of linked trips using the proposed project, with extra weight 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 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 assigns a weight of five to trips made by transit dependent persons. This supports the goals identified in the DOT Equity Action Plan[11], and the Justice 40 Initiative (Executive Order 14008), and Executive Order 14096. [12] Transit dependent persons may face transportation insecurity, defined by DOT as the "condition in which people are unable to regularly and reliably satisfy the travel necessary to meet the needs of daily life," due to transportation costs, lacking transit options, or both. The majority of U.S. households in the lowest income quintile have limited to no access to transit, while spending more than 25 percent of their annual income on transportation. CIG projects can significantly expand access to reliable, affordable transportation and in turn, access to key destinations such as employment, education, grocery stores, and health care. By increasing the weight given to trips made by transit dependent persons, FTA is emphasizing the project's anticipated benefits to riders facing transportation insecurity.

[11] The DOT Equity Action Plan is available at https://www.transportation.gov/priorities/equity/equity-action-plan
[12] Information about the Justice40 Initiative is available at https://www.transportation.gov/equity-Justice40 or Justice40 Initiative | Environmental Justice | The White House.

If a project sponsor chooses to develop ridership 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 calculated by adding the estimated number of linked transit trips on the project taken by non-transit dependent persons with the number of linked transit trips taken by transit dependent persons multiplied by a factor of five, thereby giving extra weight to these trips. The resulting value is compared to the breakpoints and a rating is assigned.

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

FTA developed these breakpoints based on an analysis of mobility benefits data from past and current projects in the CIG program, including consideration of post-COVID transit ridership trends as reported to FTA's National Transit Database and the extra weight for trips made by transit dependent persons.

Mobility Improvements Trips by Non-Transit Dependent Persons plus Trips by Transit Dependent Persons multiplied by 5	
High	$\geq$ 30 Million
Medium-High	12 Million – 29.9 Million
Medium	3 Million – 11.9 Million
Medium-Low	2 Million – 2.9 Million
Low	< 2 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

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 annualized Federal share of the project. However, no specific measure for human health is currently included.

Measures

For Small Starts projects, the law 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.

For the safety, energy, and air quality measures, the 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 then monetized based on the proposed updated standard factors discussed below.

All the estimated monetized environmental benefits are then summed 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 used for calculating environmental benefits are found in the tables below. See the Appendix for the data sources used to develop the factors.

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.
- All subfactors are calculated from estimates of changes in automobile and transit vehicle miles traveled (VMT). These measures are converted from VMT into their native units (e.g., tons of emissions or total accidents) using national-level standard conversion factors. Forecasts of changes in VMT come from either the local travel model or 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.
- Values for change in energy use and greenhouse gas emissions have been established to not double count. Thus, the evaluation of energy use reductions is based only on the economic cost of petroleum dependence identified in Brown, S. "New estimates of the security costs of U.S. oil consumption," Energy Policy, Elsevier, vol. 113(C), pages 171-192 (2018).
- 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 Federal share of the proposed project as is used in the cost-effectiveness calculation.
- 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 the conversion factors necessary to calculate changes in air quality, energy use, greenhouse gas emissions and safety. The project sponsor is required only to input a few data points (whether the project is in an attainment, maintenance, or non-attainment area; the changes in highway and transit VMT resulting from implementation of the project; and estimated new transit trips) and the environmental benefits are automatically calculated in the templates. The factors to be 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	3.34	0.22	0.05	0.009	1.98	0.05	0.01	0.007	1.20	0.01	0.01	0.006
Bus - Diesel	2.18	3.78	0.18	0.064	1.89	2.80	0.07	0.031	1.77	2.42	0.03	0.021
Bus - Hybrid	2.18	3.78	0.18	0.064	1.89	2.80	0.07	0.031	1.77	2.42	0.03	0.021
Bus - CNG	24.96	2.05	0.73	0.035	31.41	1.12	0.76	0.027	32.92	0.75	0.76	0.024
Bus - Electric	0.402	0.721	0.114	0.071	0.27	0.48	0.08	0.050	0.24	0.40	0.07	0.044
Heavy Rail	0.01	0.01	0.002	0.001	0.01	0.01	0.002	0.001	0.01	0.01	0.001	0.001
Light Rail and Streetcar	0.03	0.05	0.01	0.005	0.03	0.04	0.01	0.004	0.02	0.04	0.01	0.003
Commuter Rail - Diesel locomotive (new) & DMU	20.26	15.83	0.60	0.240	20.26	15.83	0.60	0.240	20.26	15.83	0.60	0.240
Commuter Rail - Diesel locomotive (used) & DMU	20.26	99.62	4.42	3.120	20.26	99.62	4.42	3.120	20.26	99.62	4.42	3.120
Commuter Rail – Electric & EMU	0.03	0.05	0.01	0.004	0.02	0.04	0.01	0.004	0.02	0.04	0.01	0.003

Change in Air Quality Monetization Factors – Attainment Areas

Mode	For Current Year Estimates				For 10-year Horizon Estimates				For 20-year Horizon Estimates			
	($/kg)											
	CO	NO_x	VOC	$PM_{2.5}$	CO	NO_x	VOC	$PM_{2.5}$	CO	NO_x	VOC	$PM_{2.5}$
Automobile	$0.08	$7.09	$9.38	$650.36	$0.08	$7.09	$10.43	$650.36	$0.08	$7.09	$12.57	$650.36
Bus - Diesel	$0.08	$6.72	$9.38	$451.95	$0.08	$6.72	$10.43	$451.95	$0.08	$6.72	$12.57	$451.95
Bus - Hybrid	$0.08	$6.72	$9.38	$595.25	$0.08	$6.72	$10.43	$595.25	$0.08	$6.72	$12.57	$595.25
Bus - CNG	$0.08	$6.72	$9.38	$595.25	$0.08	$6.72	$10.43	$595.25	$0.08	$6.72	$12.57	$595.25
Bus - Electric	$0.08	$7.05	$14.55	$151.02	$0.08	$7.83	$16.09	$169.76	$0.08	$8.65	$19.51	$196.21
Heavy Rail	$0.08	$7.05	$14.55	$151.02	$0.08	$7.83	$16.09	$169.76	$0.08	$8.65	$12.57	$196.21
Light Rail and Streetcar	$0.08	$7.05	$14.55	$151.02	$0.08	$7.83	$16.09	$169.76	$0.08	$8.65	$12.57	$196.21
Commuter Rail - Diesel locomotive (new) and DMU	$0.08	$6.83	$9.38	$275.58	$0.08	$6.83	$10.43	$275.58	$0.08	$6.83	$12.57	$275.58
Commuter Rail - Diesel locomotive (used) and DMU	$0.08	$6.83	$9.38	$275.58	$0.08	$6.83	$10.43	$275.58	$0.08	$6.83	$12.57	$275.58
Commuter Rail – Electric and EMU	$0.08	$7.05	$14.55	$151.02	$0.08	$7.83	$16.09	$169.76	$0.08	$8.65	$19.51	$196.21

Change in Air Quality Monetization Factors – Nonattainment Areas (1.5 times the value of attainment)

Mode	For Current Year Estimates				For 10-year Horizon Estimates				For 20-year Horizon Estimates			
	($/kg)											
	CO	NO_x	VOC	$PM_{2.5}$	CO	NO_x	VOC	$PM_{2.5}$	CO	NO_x	VOC	$PM_{2.5}$
Automobile	$0.12	$10.64	$14.07	$975.55	$0.12	$10.64	$15.64	$975.55	$0.12	$10.64	$18.85	$975.55
Bus - Diesel	$0.12	$10.08	$14.07	$677.92	$0.12	$10.08	$15.64	$677.92	$0.12	$10.08	$18.85	$677.92
Bus - Hybrid	$0.12	$10.08	$14.07	$892.87	$0.12	$10.08	$15.64	$892.87	$0.12	$10.08	$18.85	$892.87
Bus - CNG	$0.12	$10.08	$14.07	$892.87	$0.12	$10.08	$15.64	$892.87	$0.12	$10.08	$18.85	$892.87
Bus - Electric	$0.12	$10.58	$21.83	$226.52	$0.12	$11.75	$24.14	$254.63	$0.12	$12.98	$29.27	$294.32
Heavy Rail	$0.12	$10.58	$21.83	$226.52	$0.12	$11.75	$24.14	$254.63	$0.12	$12.98	$18.85	$294.32
Light Rail and Streetcar	$0.12	$10.58	$21.83	$226.52	$0.12	$11.75	$24.14	$254.63	$0.12	$12.98	$18.85	$294.32
Commuter Rail - Diesel locomotive (new) and DMU	$0.12	$10.25	$14.07	$413.37	$0.12	$10.25	$15.64	$413.37	$0.12	$10.25	$18.85	$413.37
Commuter Rail - Diesel locomotive (used) and DMU	$0.12	$10.25	$14.07	$413.37	$0.12	$10.25	$15.64	$413.37	$0.12	$10.25	$18.85	$413.37
Commuter Rail – Electric and EMU	$0.12	$10.58	$21.83	$226.52	$0.12	$11.75	$24.14	$254.63	$0.12	$12.98	$29.27	$294.32

Change in Air Quality Monetization Factors – Maintenance Areas (1.25 times the value of attainment)

Mode	For Current Year Estimates				For 10-year Horizon Estimates				For 20-year Horizon Estimates			
	($/kg)											
	CO	NO_x	VOC	$PM_{2.5}$	CO	NO_x	VOC	$PM_{2.5}$	CO	NO_x	VOC	$PM_{2.5}$
Automobile	$0.10	$8.86	$11.73	$812.95	$0.10	$8.86	$13.03	$812.95	$0.10	$8.86	$15.71	$812.95
Bus - Diesel	$0.10	$8.40	$11.73	$564.93	$0.10	$8.40	$13.03	$564.93	$0.10	$8.40	$15.71	$564.93
Bus - Hybrid	$0.10	$8.40	$11.73	$744.06	$0.10	$8.40	$13.03	$744.06	$0.10	$8.40	$15.71	$744.06
Bus - CNG	$0.10	$8.40	$11.73	$744.06	$0.10	$8.40	$13.03	$744.06	$0.10	$8.40	$15.71	$744.06
Bus - Electric	$0.10	$8.81	$18.19	$188.77	$0.10	$9.79	$20.12	$212.19	$0.10	$10.81	$24.39	$245.26
Heavy Rail	$0.10	$8.81	$18.19	$188.77	$0.10	$9.79	$20.12	$212.19	$0.10	$10.81	$15.71	$245.26
Light Rail and Streetcar	$0.10	$8.81	$18.19	$188.77	$0.10	$9.79	$20.12	$212.19	$0.10	$10.81	$15.71	$245.26
Commuter Rail - Diesel locomotive (new) and DMU	$0.10	$8.54	$11.73	$344.47	$0.10	$8.54	$13.03	$344.47	$0.10	$8.54	$15.71	$344.47
Commuter Rail - Diesel locomotive (used) and DMU	$0.10	$8.54	$11.73	$344.47	$0.10	$8.54	$13.03	$344.47	$0.10	$8.54	$15.71	$344.47
Commuter Rail – Electric and EMU	$0.10	$8.81	$18.19	$188.77	$0.10	$9.79	$20.12	$212.19	$0.10	$10.81	$24.39	$245.26

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	6,738	5,007	4,303
Bus – Diesel	34,002	32,815	31,800
Bus – Hybrid	27,202	26,252	25,440
Commuter Rail - Diesel (new) and DMU	93,906	94,845	94,845
Commuter Rail - Diesel (used)	93,906	94,845	94,845

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 $0.033 per gallon of petroleum fuel (Brown 2018). To convert from Btu to gallons of petroleum fuel, FTA uses conversion factors (from the GREET model) of 79,581 Btu per gallon of gasoline and 128,450 Btu per gallon of diesel fuel, except for Diesel – Bus. For Diesel-Bus FTA uses 127,567 Btu per gallon, calculated by using 90 percent of conventional diesel (128,450 Btu/gallon) and 10 percent of biodiesel (119,624 Btu/gallon). Therefore, the monetization factors are $0.29 per million Btu for gasoline and $0.26 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

Mode	Current Year	10-year Horizon (g CO2e/VMT)	20-year Horizon
Automobile	500	371	319
Bus – Diesel	2,647	2,555	2,476
Bus – Hybrid	2,118	2,044	1,980
Bus – CNG	3,174	3,079	2,986
Bus - Electric	2,664	1,999	1,775
Heavy Rail	2,176	1,632	1,449
Light Rail and Streetcar	3,243	2,433	2,160
Commuter Rail - Diesel (new) and DMU	7,310	7,384	7,384
Commuter Rail - Diesel (used)	7,310	7,384	7,384
Commuter Rail - Electric and EMU	3,582	2,687	2,386

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

To capture the monetary value of changes in GHG emissions, FTA uses the $51 midrange estimate of the social cost of carbon dioxide (CO_2) obtained from the Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990 (February 2021), which is a document developed and updated periodically by an Interagency Working Group (IWG) comprised of several Federal agencies. The $51 value is the 2020 midrange estimate based on a three percent discount rate. FTA also used the IWG's midrange estimate in the previous CIG policy guidance (obtained from the Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866 (May 2013)); the value given here is merely adjusted for inflation and the emissions year.

FTA notes updated social cost of GHG values in EPA's "Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances" (https://www.epa.gov/environmental-economics/scghg), which were developed in response to recent recommendations from the National Academies of Sciences, Engineering, and Medicine. The updated values are larger in magnitude than the IWG's February 2021 interim estimates. For example, the updated central estimate of the social cost of CO_2 is $190 for 2020 based on a two percent near-term discount rate. The scientific advances reflected in the updated estimates, together with the numerous unquantified categories of damages discussed in EPA's Report, highlight that the IWG's interim values may be an underestimate of the monetary value of changes in GHG emissions. Although FTA has not adopted EPA's updated values in this document and continues to use the value as was proposed for public comment, FTA expects to consider them in future updates to the CIG policy guidance.

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	0.011	0.821	0.011	0.821	0.011	0.821
Bus – Diesel	0.005	0.716	0.005	0.716	0.005	0.716
Bus – Hybrid	0.005	0.716	0.005	0.716	0.005	0.716
Bus – CNG	0.005	0.716	0.005	0.716	0.005	0.716
Bus - Electric	0.005	0.716	0.005	0.716	0.005	0.716
Heavy Rail	0.004	0.350	0.004	0.350	0.004	0.350
Light Rail and Streetcar	0.013	0.441	0.013	0.441	0.013	0.441
Commuter Rail - Diesel (new) and DMU	0.015	0.069	0.015	0.069	0.015	0.069
Commuter Rail - Diesel (used)	0.015	0.069	0.015	0.069	0.015	0.069
Commuter Rail - Electric and EMU	0.015	0.069	0.015	0.069	0.015	0.069

To monetize the estimated changes in safety, FTA uses U.S. DOT guidance on the value of a statistical life and injuries. For the value of a statistical life, FTA uses the estimated value of $12.5 million for 2022. The value FTA uses for "level A – incapacitating injuries" for both transit and automobiles is $554,800 (in 2020 dollars), which is based on the KABCO scale in the U.S. DOT publication, "Benefit-Cost Analysis Guidance for Discretionary Grant Programs" (see Table A-1: Value of Reduced Fatalities and Serious Injuries).

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. The breakpoints were developed using data from CIG projects located in all parts of the country and representing all modes of transit.

Rating	Range
High	≥ 100%
Medium-High	50.0 - 99.9%
Medium	1.0 - 49.9%
Medium-Low	0.0 - 0.9%
Low	< 0.0%

Economic Development

FTA evaluates economic development by considering 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. FTA evaluates the following under economic development: 1) supportive zoning in station areas;2) performance and impacts of transit-supportive plans and policies; and 3) tools to maintain or increase the share of affordable housing in station areas.

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.

Under both the zoning and the transit-supportive corridor policy measures, FTA considers whether local plans and policies encourage universal design. Universal design is a strategy for making products, environments, operational systems, and services welcoming and usable to the most diverse range of people possible. Its key principles are simplicity, flexibility, and efficiency. It increases ease of access to products, places, and services for multiple, diverse populations.

In accordance with the goals of the White House Housing Supply Action Plan (2022) to ease the burden of housing costs and boost the supply of quality housing, FTA considers local plans and policies that encourage and incentivize the creation and preservation of affordable housing under the examination of "Tools to Maintain or Increase the Share of Affordable Housing in Station Areas." FTA also examines local plans to see if they include reformed zoning and policies that reduce regulatory barriers to housing production and supply; new financing tools that can be leveraged to close the gap in financing construction and rehabilitation of the jurisdiction's housing stock; or increased residential density benefiting low- and middle-income renters and homebuyers.

Measures

When developing the overall economic development rating, FTA gives equal weight to each of three subfactors under economic development - supportive zoning in station areas; performance and impacts of transit-supportive plans and policies; and tools to maintain or increase the share of affordable housing in station areas.

Calculation

FTA assigns a rating to the "Supportive Zoning in Station Areas" subfactor by quantitatively evaluating the existing and proposed residential and commercial densities and parking ratios in station areas evidenced by zoning codes. FTA also qualitatively assesses the enforceability of those densities and ratios. FTA also considers whether universal design is reflected in the zoning codes.

FTA assigns a rating to the "Performance and Impact of Transit-Supportive Plans and Policies" subfactor by quantitatively evaluating development plans and transit-supportive urban design characteristics in station areas, favoring plans and policies demonstrating smart growth and complete street planning principles and universal design. In addition, FTA evaluates evidence of demonstrated cases of development and development proposals in station areas affected by transit-supportive plans and policies. This measure qualitatively considers real estate market conditions favoring development and redevelopment in station areas and development around other recent high-capacity transit projects in the region.

FTA assigns a measure to the "Tools to Maintain or Increase the Share of Affordable Housing in Station Areas" measure by qualitatively evaluating the creation, preservation, and long-term availability of affordable housing in the station areas and region. This measure qualitatively assesses affordable housing need and supply, plans and policies, zoning, financial incentives and tools, and evidence of developer activity to preserve and increase affordable housing. Projects score higher if the sponsor can demonstrate long-term restrictions or programs favoring very and extremely low-income households (earning at or below 50 percent and 30 percent of AMI, respectively). Consistent with the White House *Housing Supply Action Plan*, projects score higher if the documentation demonstrates adopted zoning and land use reforms that reduce the regulatory barriers for affordable housing production and supply, financial tools that can be leveraged to finance construction and rehabilitation of affordable housing, and increased residential density for low- and medium-income renters and homebuyers. FTA emphasizes LBAR housing over "naturally occurring" or "market rate" affordable housing to preserve long-term affordability. FTA favors unique local and/or state affordable housing programs and incentives over typical federal programs and incentives such as U.S. Department of Housing and Urban Development (HUD) Section 8 Housing.

Sources of information

- Supportive Zoning in Station Areas:
    - Supportive Zoning in Station Areas (including zoning for universal design); and
- Performance and Impacts of Transit-Supportive Plans and Policies:
    - Transit-Supportive Corridor Policies (including policies that support universal design);
    - Tools to Implement Transit-Supportive Plans and Policies;
    - Performance of Transit-Supportive Plans and Policies; and
    - Potential Impact of Transit Project on Station Area Development.
- Tools to Maintain or Increase the Share of Affordable Housing in Station Areas:
    - Evaluation of Affordable Housing Needs and Supply Specific to Station Areas, 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
        - Anti-displacement policies
        - Permanently affordable housing
        - Enforceable local or state LBAR housing quotas
    - 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 station areas, including:
            - Low Income Housing Tax Credits
            - Ongoing local or state affordable housing operating subsidies
            - Weatherization and utilities support program
            - Local or state tax abatements for low-income or senior housing
            - Local or State programs that provide mortgage or other home ownership assistance for lower income and senior households
            - Streamlined state requirements for environmental planning for projects that include LBAR housing
        - 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

Breakpoints

Supportive Zoning in Station Areas Breakpoints
The following items are examined under the supportive zoning subfactor to arrive at a combined rating for this subfactor which is given a 1/3 weight in the economic development evaluation.

Rating	**Residential Dwelling Units per acre (maximum)**	**Central Business District (CBD) Floor Area Ratio (maximum)**	**Other FAR (maximum)[13]**	**CBD spaces per 1,000 square feet (minimum)**	**Other spaces per 1,000 square feet (minimum)**
High	≥ 25.0	≥ 10.0	≥ 2.50	≤ 1.00	≤ 1.50
Medium-High	15.0 – 24.9	8.0 – 9.9	1.75 – 2.49	1.01 – 1.75	1.51 – 2.25
Medium	10.0 – 14.9	6.0 – 7.9	1.00 – 1.74	1.76 – 2.50	2.26 – 3.00
Medium-Low	5.0 – 9.9	4.0 – 5.9	0.50 – 0.99	2.51 – 3.25	3.01 – 3.75
Low	≤ 4.9	≤ 3.9	≤ 0.49	≥ 3.26	≥ 3.76

Supportive Zoning in Station Areas	
HIGH	Local jurisdictions have adopted zoning that strongly supports a major transit investment in all transit station areas.
MEDIUM	Local jurisdictions have adopted zoning that moderately or strongly supports 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 transit-supportive station area zoning. Existing station area zoning is 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, including requirements for universal design; and • Zoning allowances for reduced parking and traffic mitigation.	

[13] Elsewhere in station areas (typical for commercial districts).

Performance and Impacts of Transit-Supportive Plans and Policies
The following items are examined under the performance and impacts of transit-supportive plans and policies subfactor to arrive at a combined rating for this subfactor which is given a 1/3 weight in the economic development evaluation.

Transit-Supportive Corridor Policies	
HIGH	Conceptual plans for the station areas have been developed. Local jurisdictions have adopted or drafted transit-supportive 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 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.
Ratings based on assessment of the following: • Plans and policies to increase station area development; • Plans and policies to enhance transit-friendly character of station area development, including policies promoting or requiring universal design; • Plans to improve pedestrian facilities, including facilities for persons with disabilities; and • Parking policies.	

Tools to Implement Transit-Supportive Plans and Policies	
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 and local jurisdictions have adopted effective regulatory and financial incentives to promote transit-oriented development. Public and private capital improvements are being programmed in the 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.
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	
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 moderately 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.
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 Station Area Development	
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 at transit-supportive densities. 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 • Regional and station area economic environment.	

Tools to Maintain or Increase the Share of Affordable Housing in Station Areas

The following items are examined under the tools to maintain or increase the share of affordable housing subfactor to arrive at a combined rating for this subfactor which is given a 1/3 weight in the economic development evaluation. Tools to Maintain or Increase the Share of Affordable Housing in Station Areas	
HIGH	Comprehensive affordable housing plans have been developed and are being implemented that identify and address the current and prospective housing affordability needs in station areas. The plans include efforts to preserve existing LBAR housing. The plans also explicitly address the housing affordability and quality needs of very and extremely low-income households (earning at or below 50 percent and 30 percent of AMI, respectively). Financing commitments and/or sources of funding and robust financial incentives are secured and available at the local and/or regional level and in station areas 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 and/or state policies and zoning codes support and encourage significant LBAR housing development and/or preservation in station areas. Developers are actively working in station areas 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 in station areas. The plans include efforts to preserve existing LBAR housing. The plans also explicitly address the needs of very and extremely low-income households (earning at or below 50 percent and 30 percent of AMI, respectively). Some financial incentives are available in station areas 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 and/or preservation in station areas to a moderate extent. Developers are starting to work in the corridor to secure 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 (earning at or below 50 percent and 30 percent of AMI, respectively). Few or no local or state financial incentives are available to support affordable housing development and preservation in station areas. Local and/or state policies and zoning codes support only limited affordable housing development in station areas. There is little or no affordable housing development/preservation activity in station areas.
Ratings based on assessment of the following: • Evaluation of affordable housing needs and supply specific to station areas; • Plans and policies to preserve and increase affordable housing including anti-displacement policies in region and/or station areas; • Adopted local and/or state financing tools and strategies targeted to preserving and increasing affordable housing in the region and/or station areas; • Evidence of developer activity to preserve and increase affordable housing in the station areas; 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 station areas.	

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.

To take advantage of warrants, project sponsors submit a letter to the FTA Associate Administrator for Planning and Environment requesting the use of warrants. The letter documents 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 reviews the eligibility of the project for warrants on a case-by-case basis.

If the project is determined to be eligible for warrants, FTA assigns automatic Medium ratings on the Mobility Improvements, Congestion Relief, and Cost-Effectiveness criteria if the cost of the proposed project and existing transit ridership in the corridor today fit within certain thresholds. FTA developed the warrant thresholds based on an examination of data from past and current projects in the CIG program, consideration of national transit ridership trends post-COVID, and cost inflation that has occurred since the thresholds were first established in 2015.

Project Justification Warrants Thresholds
< $60 million and 2,100 Transit Riders
$60 - $120 million and 4,200 Transit Riders
$120 - $210 million and 6,300 Transit Riders
$210 - $300 million and 8,400 Transit Riders
$300 - $400 million and 10,500 Transit Riders

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 significant, time-consuming, and costly 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 project justification 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 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 project.

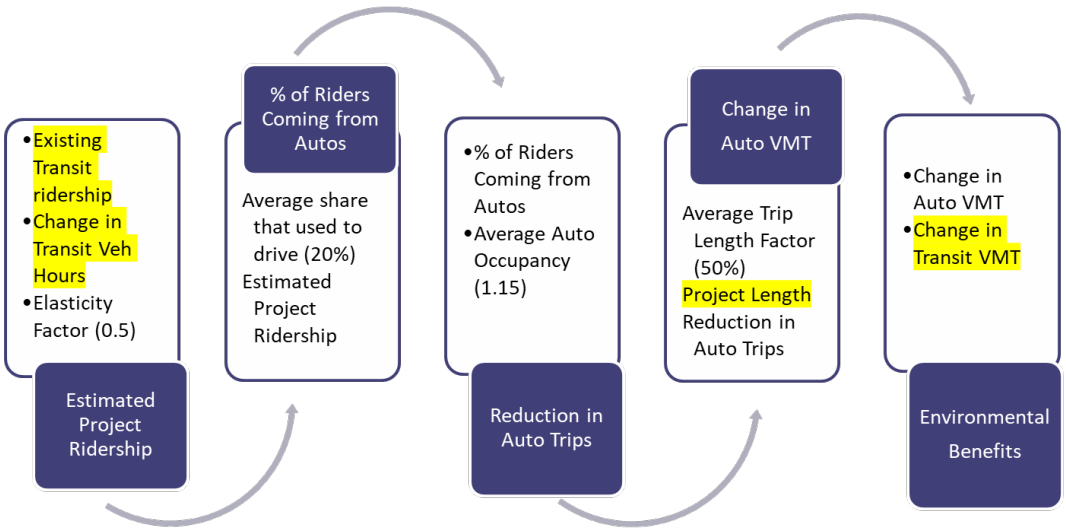
Project sponsors may request consideration for project justification warrants at any time during the Project Development phase. It is most advantageous for the project sponsor to determine eligibility for warrants prior to engaging in significant ridership estimation work. FTA reminds project sponsors 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 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 resulting from 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.



Yellow highlight indicates simple data entry by sponsor, everything else automatically calculated

Local Financial Commitment

Measures

The law requires that proposed Small Starts projects be supported by an acceptable degree of local financial commitment, including evidence of stable and reliable funding sources that are available within the proposed project timetable.

Unless the project qualifies for a streamlined financial evaluation (financial warrants) as described further below, Small Starts project sponsors must prepare a financial plan and cash flow statement in accordance with FTA's *Guidance for Transit Financial Plans* found on the FTA website at: https://www.transit.dot.gov/funding/funding-finance-resources/guidance-transit-financial-plans. Typically, project sponsors are required to provide a 20-year financial plan and cashflow statement. However, a shorter 10-year financial plan and cash flow statement is allowed if the following conditions are applicable to the Small Starts project:

- The project construction period plus five years of operations is less than 10 years in length; AND
- The project sponsor is not submitting 20-year horizon year information for the other CIG evaluation and rating criteria (the sponsor is submitting 10-year horizon data or no horizon year data).

The measures FTA uses for the evaluation of the local financial commitment for proposed 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; and
- The reasonableness of the financial plan, including planning assumptions, cost estimates, and the capacity to withstand funding shortfalls or cost overruns.

A project can qualify for a highly simplified financial evaluation [financial warrants] 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 (O&M) cost of the proposed project represents less than 10 percent of the project sponsor's most recently 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 projects that meet the financial warrants items noted above and request greater than 50 percent CIG funding will receive a local financial commitment rating of Medium. Proposed projects that meet the items above and request 50 percent or less in CIG funding will receive a High rating for local financial commitment.

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, and the current ratio as shown in the

project sponsor's most recent audited financial statement (ratio of current assets to current liabilities).

2. In arriving at a current condition rating, FTA places the most emphasis on the fleet age and current ratio. The bond ratings have less emphasis. Temporary aberrations in any of these measures have less of an effect than ongoing systemic concerns.
3. 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 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. For example, private contributions could include outside investments that result in cost-effective project delivery, financial partnering, joint development revenue streams and other value capture methods, 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.
4. 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.	• 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.	• 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.	• 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.	• 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.
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 30% of estimated project cost and 30% (3.5 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 20%of estimated project cost and 20% (2.5 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 12% 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

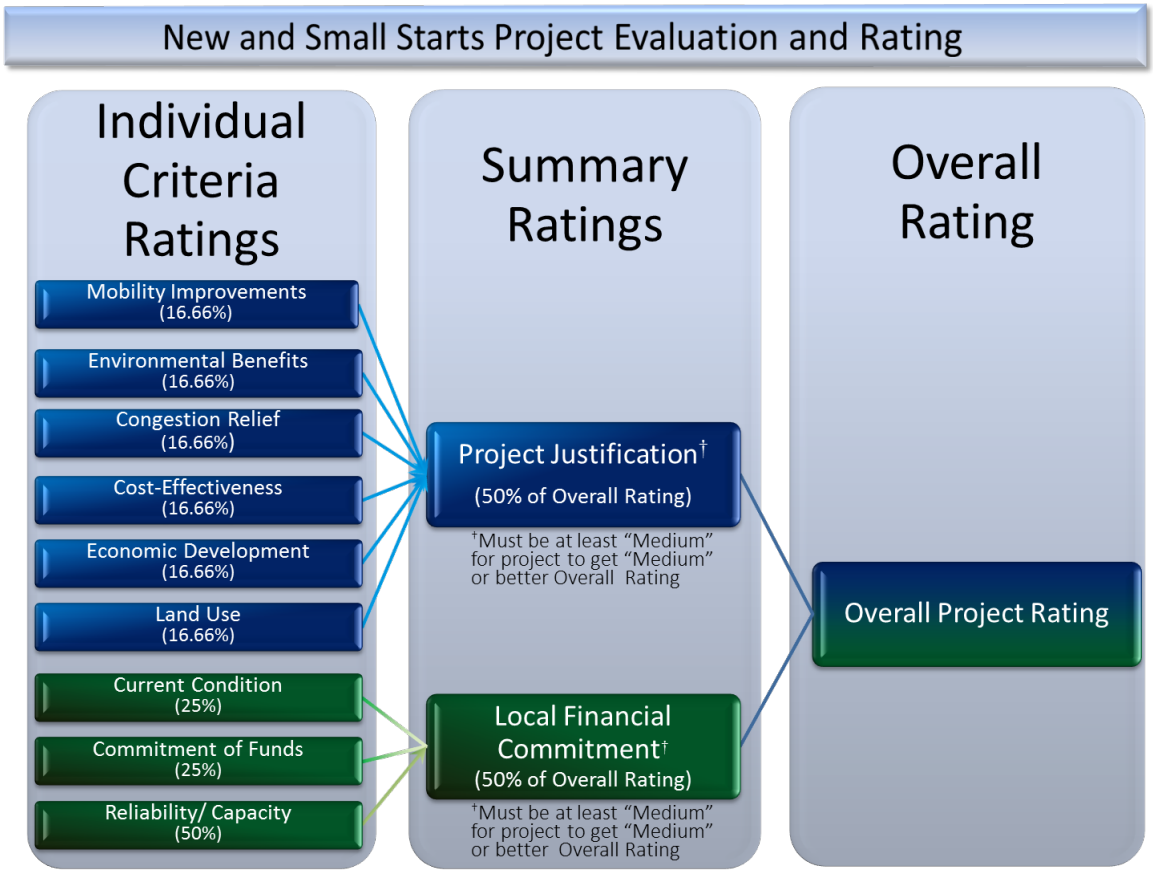
The law requires that FTA evaluate and rate a project on a 5-point scale from low to high based on the combined summary ratings for project justification and local financial commitment. It also requires that FTA evaluate the six project justification criteria and give "comparable, but not necessarily equal" weight to each when determining a summary project justification rating. The law 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 against all the project justification criteria 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

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	MOVES3 – runs using national default inputs for 2021, 2030, 2040
Emission rates – commuter rail (diesel) and DMU	New locomotives: U.S. EPA Tier 4 emissions standards (U.S. EPA 2009) Reused locomotives: Average of U.S. EPA Tiers 0, 1, 2, 3 emission standards (U.S. EPA 2009)
Emission rates – electric modes	Argonne National Laboratory Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model (GREET 2021)
Value of change in emissions	CO: Delucchi (2004) midpoint value for urban areas EGUs: U.S. EPA. October 2021. Estimating the Benefit per Ton of Reducing Directly-Emitted PM2.5, PM2.5 Precursors and Ozone Precursors from 21 Sectors. Mobile Sources: Wolfe et al. 2019. Monetized health benefits attributable to mobile source emissions reductions across the United States in 2025. Sci. Total Environ. 650(Pt 2):2490-2498. 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)	Argonne National Laboratory Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model (GREET 2021)
Automobile fuel economy	Projections from AEO 2021 (including Model Years 2021–2026 standards)
Transit vehicle energy intensity (Btu per mile) – (2020)	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 bus (2% by 2030, 5% by 2040) Diesel rail - AEO average efficiency improvement for passenger rail (-1% by 2030, no change in 2040).

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)	EIA CO2 Emissions Coefficients, by fuel (November 18, 2021 Release)
GHG emission factors for electricity generation (kg/kWh)	AEO Reference Case (33% improvement by 2040)
CO_2 equivalent to CO_2 scale factors by fuel type	Argonne National Laboratory Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model (GREET 2021)
Full fuel-cycle GHG factors (ratio of fuel-cycle to operating GHG emissions)	Argonne National Laboratory Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model (GREET 2021)

Change in Safety Data Sources and Assumptions

Factor	Data Source or Assumption
Fatality rates – automobiles	NHTSA - Fatal Accident Reporting System, 2011–2019
Injury rates – automobiles	Bureau of Transportation Statistics (BTS) reported motor vehicle safety data, 2011–2019
Fatality rates – transit (except commuter rail)	National Transit Database (NTD) 2011-2020 for bus, light rail, heavy rail, and streetcar Electric bus, 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 DMU, and EMU based on most similar corresponding mode from NTD
Fatality and injury rates – transit (commuter rail)	BTS reporting for commuter rail, 2011 – 2019
Value of a statistical life	2022 U.S. DOT guidance on Value of a Statistical Life
Value of an injury by severity level	2022 BCA Analysis Guidance for Discretionary Grant Programs, based on KABCO injury severity scale
Distribution of injuries by severity level – automobile	NHTSA Traffic Safety Facts, National Statistics, Table 54
Distribution of injuries by severity level – transit	Disabling injuries only, based on NTD reporting requirements

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III. CORE CAPACITY

INTRODUCTION

Although the text in law for Core Capacity is very similar to that for New Starts, FTA believes Core Capacity projects can be treated a bit differently because, by definition, they are located in established, proven successful transit corridors. Therefore, 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 Grants (CIG) program funding decisions.

ELIGIBLE CIG APPLICANTS

The law 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. FTA can only sign grant agreements with FTA approved grant recipients. Sponsors who are not already FTA approved grant recipients should discuss the procedures for becoming an FTA grant recipient early in the CIG process with the relevant FTA Regional Office.

ELIGIBLE CIG PROJECT COSTS

The law includes definitions that apply to all FTA grant programs including one outlining eligible capital project costs [5302(4)]. Additionally, the law specifies 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" [Section 5309(b)(2)] as well as "interest and other financing costs of efficiently carrying out a part of the project within a reasonable time" [Section 5309(k)(2)(D)(iii)].

DETERMINING CORE CAPACITY PROJECT ELIGIBILITY

The law specifies several eligibility parameters for Core Capacity projects seeking CIG funding. First and foremost, according to the definition in law, 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, the law specifies:

- the proposed project corridor must be at or over capacity currently or will be within ten years, without regard to any temporary measures employed by the applicant expected to increase short-term capacity within the next ten years [Section 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 [Section 5309(a)(2)]
- the proposed project does not include project elements designed to maintain a state of good repair [Section 5309(a)(2)]
- the proposed project cannot include elements to improve general station facilities or parking, or acquisition of rolling stock alone [Section 5309(b)(2)].

Note that while vehicles, station facilities, or parking by themselves are not eligible as Core Capacity projects, any or all 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 climate resilient infrastructure elements in their project design, provided the project continues to meet the criteria in law for receipt of funding. For more information, please see Executive Order (E.O.) 14008, Tackling the Climate Crisis at Home and Abroad and other USDOT resources and tools found at https://www.transportation.gov/priorities/climate-and-sustainability/climate-adaptation-resources-and-tools. Project sponsors are encouraged to consider current and future climate change risk in planning, siting, design, and operation and to make use of climate change projections and emission scenarios that are reflective of the infrastructure's anticipated service life.

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

Light Rail and Heavy Rail Projects
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 ten 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 usable space per passenger in the corridor during the peak hour going in the peak direction and compares it to a comfortable loading level of 10.8 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 10.8 square feet of space per passenger is a comfortable loading level on U.S. rail transit systems.

The following describes more specifically how FTA determines eligibility:

Current Average Usable Space Per Passenger in the Corridor Today During the Peak Hour Going in the Peak Direction – Light Rail and Heavy Rail

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 10.8 square feet	Corridor is anticipated to be at capacity within ten years and is eligible for the program
Greater than 10.8 square feet	Corridor is not at capacity today or anticipated to be at capacity in ten 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 x width of railcar) - space used for the driver cab compartment = usable passenger 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 usable passenger space per car = total usable passenger space per peak hour in the peak direction
- Total usable passenger space per peak hour in the peak direction ÷ ridership per hour on the line = usable space per passenger in the peak hour in the peak direction

Project sponsors provide FTA information on the usable passenger space per railcar, multiplying length times width of the rail car and subtracting out space consumed by driver cab compartments. Sponsors provide FTA with supporting documentation confirming the space calculations including a vehicle specification diagram and/or photographs.

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. However, those factors are very system specific and not easily verifiable by FTA without extensive analysis and review. For streamlining and time-savings purposes, FTA believes the simple calculations shown above represent an acceptable method for determining a project is at capacity today or will be in ten years. Please note the above calculations are peak hour peak direction 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.

FTA has not proposed or defined what it considers "temporary measures employed by the applicant expected to increase short-term capacity within the next ten years" that the law states should be considered when determining Core Capacity eligibility. Instead, FTA intends to make such determinations on a case-by-case basis. Project sponsors should include in their submittals a description of any temporary measures to increase short-term capacity that have been implemented along with an explanation of why they are only temporary or short-term in nature.

Commuter Rail Projects

The 10.8 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 many of the 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 80 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 ten years.

Other Modes

The law defines ferry projects as fixed guideway transit service, making them eligible for core capacity. FTA has not implemented a ferry project capacity calculation. Instead, given the rarity of ferry projects

seeking CIG funding, FTA intends to work with ferry project sponsors on a case-by-case basis to determine whether a proposed project is eligible for Core Capacity.

Likewise, fixed guideway BRT projects are also eligible under Core Capacity. FTA has not implemented a fixed guideway BRT capacity calculation. Instead, FTA intends to work with fixed guideway BRT project sponsors on a case-by-case basis to determine whether the proposed project is eligible for Core Capacity.

Other fixed guideway modes such as gondola, inclined plane, cable car, monorail, etc. are seldom proposed to FTA for CIG funding. Therefore, FTA has not implemented Core Capacity eligibility calculations for these types of proposed projects. FTA intends to work with project sponsors of these modes on a case-by-case basis as necessary to determine Core Capacity eligibility.

Lastly, FTA recognizes none of the measures shown above account for capacity issues brought on by inadequate station facilities. While the law 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 intends to continue to work with the industry to determine a simple national standard calculation for station capacity that could be used.

Verifying Proposed Project Increases Capacity by at Least 10 Percent

Light Rail and Heavy Rail Projects
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 usable space per existing passenger in the peak hour in the peak direction by at least 10 percent.

Commuter Rail Projects
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 the law requires that Core Capacity projects not fund elements related to SGR, FTA and the project sponsor must differentiate the costs.

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. FTA and the project sponsor then agree on a reasonable accounting approach, and the percentages agreed upon are used for the evaluation and rating required for entry of the project into the Engineering phase. During Engineering, the project sponsor and FTA can discuss any adjustments of the percentages that might be necessary based on furtherance of design, any changes in project scope, etc. The percentage for each SCC line item would be "locked-in" during Engineering. This is to guard against continuous recalculations that could delay a project from moving forward to a construction grant, and from recalculations meant solely to try to improve an evaluation criterion calculation.

Joint Intercity Passenger Rail and Public Transportation Projects
The law allows joint intercity passenger rail and public transportation projects to be eligible as Core Capacity projects if they meet the eligibility requirements noted above [Section 5309(q)]. The law specifies that eligible costs are limited to the "the net capital costs of the public transportation costs attributable to the project based on projected use of the . . . expanded capacity of the project corridor, not including project elements designed to achieve or maintain a state of good repair." During Project Development, the project sponsor must propose a methodology to FTA based on projected usage that differentiates intercity passenger rail costs from public transportation costs. FTA does not require a specific methodology and instead considers proposals from project sponsors on a case-by-case basis. This is because each project may have unique circumstances that help differentiate intercity passenger rail from public transportation.

GETTING INTO AND THROUGH THE STEPS IN THE CIG PROCESS

The law outlines two phases Core Capacity projects must complete to be eligible for a CIG construction grant agreement. The first phase is Project Development (PD) and the second is Engineering.

Prior to Project Development

The law 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 are not eligible for future reimbursement from the CIG program should a construction grant be awarded in the future. Please consult FTA's Annual Apportionment Notice [https://www.transit.dot.gov/funding/apportionments] where pre-award authority for the CIG program is discussed in more detail.

Requesting Entry into Project Development

Project sponsors seeking to enter 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 ten 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 law):
    - compliance with NEPA and related environmental laws[14]
    - 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

[14] Information on compliance with these requirements can be found on FTA's website at the following link: https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/environmental-programs
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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 the law 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 the 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. The law 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.

Upon receipt of a request to enter PD, FTA reviews the request to ensure it contains all 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 in law.

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 in learning about projects in the CIG program. FTA briefs congressional staff monthly on all projects in the CIG program, including notifying them of new entrants to the program.

During Project Development

The law 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.

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;
- Project 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 (ADA) and Section 504 of the Rehabilitation Act of 1973 (Section 504), 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 Section 504; and
- Constructability Review Report– a draft report is submitted, where applicable (for example, for very simple projects, a constructability review early in the PD 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 Engineering that may focus on the bid documents, among other aspects, that would affect procurement of the construction contracts.

The law indicates projects should make sufficient progress and move quickly through the CIG process. Therefore, project sponsors should complete all the PD activities listed above within the two-year timeframe specified in law. If the above-mentioned activities cannot be completed within the two-year timeframe due to unforeseen circumstances, the project sponsor must submit a written request for an extension of PD addressed to the FTA Associate Administrator for Planning and Environment. The letter must be submitted no later than three months prior to the end of the two-year period to give FTA time to review the request. There is no required format for the PD extension request letter, but it must contain an explanation of the reasons an extension is needed and a revised estimated schedule for completing the above listed PD activities. FTA considers requests for PD extensions on a case-by-case basis and responds in writing whether an extension is granted or not. Such requests are expected to occur infrequently since project sponsors are advised to be cautious about timing their entry into PD only when they are confident they can complete the above listed activities within the two-year timeframe. FTA limits PD extensions to no more than one year in length to ensure that projects move quickly through the CIG process.

If a PD extension is not granted by FTA, the project is automatically withdrawn from PD. Project sponsors must complete the work activities listed above before they are allowed to re-apply for entry into the CIG program with a request for entry into Engineering. Any work performed prior to approval into Engineering is not covered by pre-award authority and is 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.

Project sponsors that wish to stay in PD longer to continue advancing the design of the project before seeking entry into Engineering and locking in the CIG dollar amount should request an extension to PD. The request letter must be submitted to FTA no later than three months prior to the end of the two-year PD timeframe. FTA limits PD extensions to no more than one year in length.

FTA begins 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. FTA encourages project sponsors to begin working with FTA early in PD 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;
- Financial plan and cash flow statement, including supporting documentation demonstrating at least 30 percent of the non-CIG funding is committed;
- Project cost estimate provided using the Standard Cost Category worksheets that includes 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;
- A statement signed by the CEO describing the progress the agency has made toward meeting SGR targets and including as supporting documentation an up-to-date TAM plan and the narrative report submitted to the NTD; and
- Draft Information Collection and Analysis plan (formerly known as Before-and-After Study plan).

The law requires that FTA evaluate and rate the Core Capacity project prior to allowing it into the Engineering phase. 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 statutory evaluation criteria to be eligible for entry into the Engineering phase. 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.

FTA locks in the Section 5309 CIG funding amount (not share, the actual dollar amount) at entry into Engineering. Should the project cost change after a project has entered Engineering, additional CIG funding is not provided. Thus, FTA encourages project sponsors to perform as much engineering and design as they feel necessary during PD before requesting entry into the Engineering phase 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 withdraws the project from the CIG program. The project sponsor then needs 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 is not eligible under pre-award authority for future reimbursement should a CIG 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, demonstrate progress toward meeting TAM SGR targets, and meet other FTA readiness requirements related to technical capacity, staffing, and oversight to be eligible for a construction grant agreement.

The law directs FTA to utilize Letters of Intent (LOI) to the extent practicable in advance of awarding construction grant agreements. As per the statute, 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.

There is no set format for an LOI request. The project sponsor simply submits a short letter to the FTA Associate Administrator for Planning and Environment explaining the reasons an LOI is being sought and by when the project sponsor hopes to receive the LOI. The request letter should provide a status update on the project sponsor's completion of the requirements for receipt for a construction grant agreement.

Receipt of CIG Construction Grant

Being Recommended for CIG 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* [https://www.transit.dot.gov/funding/grant-programs/capital-investments/annual-report-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 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 release of the President's budget.

Early Systems Work Agreements

The law 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 statute, an ESWA cannot be entered into unless the NEPA review is complete and "the Secretary finds there is reason to believe a FFGA for the project will be made." The law 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.

There is no set format for an ESWA request. The project sponsor should simply submit a short letter to the FTA Associate Administrator for Planning and Environment explaining the reasons an ESWA is being sought and by when the project sponsor hopes to receive the ESWA. The request letter should provide a status update on the project sponsor's completion of the requirements for receipt of an FFGA.

Completing CIG Construction Grant Award Requirements

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, demonstrate progress toward meeting TAM SGR targets, 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 law requires FTA to determine that the CIG grant applicant has made progress toward the SGR targets required by Section 5326(c)(2) before a CIG construction grant can be awarded [Section 5309(c)(1)(C)]. All FTA recipients and subrecipients are required to set TAM performance targets annually based on FTA established State of Good Repair (SGR) measures outlined in the regulation found at https://www.govinfo.gov/content/pkg/FR-2016-07-26/pdf/2016-16883.pdf. For more complete information, please see the FTA webpage at https://www.transit.dot.gov/TAM.

In the regulation, FTA established SGR performance measures for four areas:

- Rolling stock. The performance measure for rolling stock is the percentage of revenue vehicles within a particular asset class that have either met or exceeded their useful life.
- Infrastructure: rail fixed-guideway, track, signals, and systems. The performance measure for rail fixed guideway, track, signals, and systems is the percentage of track segments with performance restrictions.
- Facilities. The performance measure for facilities is the percentage of facilities within an asset class, rated below condition three on the TERM scale.
- Equipment: (non-revenue) service vehicles. The performance measure for non-revenue, support-service and maintenance vehicles equipment is the percentage of those vehicles that have either met or exceeded their useful life.

TAM targets based on the above SGR measures are set each year by the transit agencies and reported to FTA through the National Transit Database (NTD). Agencies also report their progress toward meeting the SGR performance targets each year to the NTD. NTD reporting deadlines are based on each agency's fiscal year end date, with submittals to the NTD due four months after the agency's fiscal year ends. Reporting on the SGR targets and performance to the NTD began in a limited fashion in fiscal year 2018, with complete data for all reporters to the NTD in FY 2021.

Given the nature of NTD reporting deadlines, the limited NTD data currently available, and the fact that SGR targets for FY 2021 and FY 2022 were set by transit agencies with no advanced notice that the targets and performance against those targets would be used in this fashion for CIG grant determinations, FTA is using an interim approach for making these CIG grant determinations. When a project sponsor submits a CIG Engineering request or a CIG FFGA request, the sponsor must include a statement signed by the CEO describing the progress the agency has made toward meeting SGR targets. The statement should include as supporting documentation an up-to-date TAM plan and the narrative report submitted to the NTD to explain the agency's progress.

CIG grant applicants that do not yet own, operate, or manage capital assets used for providing public transportation subject to the TAM requirements of 49 CFR Part 625 are not required to meet this requirement.

SGR targets and performance can vary widely from year to year for an individual asset type. For example, an agency may have a target in one year of 10 percent or less of its standard bus fleet being beyond its useful life but in the following year that target can be changed to a much higher or lower

percentage. One reason for this is because transit agencies often purchase vehicles in bulk periodically to gain better pricing rather than purchasing in a more steady and consistent annual flow. The annual targets established by transit agencies, therefore, take into consideration the age of vehicles in the fleet and the anticipated timeframe of when resources may be available to replace those vehicles with another bulk purchase.

Submitting a CIG Construction Grant Request

The project sponsor must submit the following information to the FTA Associate 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;
- Financial plan and cash flow statement, including supporting documentation demonstrating all of the non-CIG funding is committed;
- Project cost estimated provided using the Standard Cost Category worksheets that includes a delineation of Core Capacity elements from any SGR elements;
- 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;
- Information Collection and Analysis plan (formerly known as Before-and-After Study 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;
- A statement signed by the CEO describing the progress the agency has made toward meeting TAM targets and including as supporting documentation an up-to-date TAM plan and NTD Narrative Report; and
- Documentation showing all critical issues identified in prior FTA reviews are resolved.

The law requires that FTA evaluate and rate the 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 statutory 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, the law requires that the FFGA be sent for a 15-day congressional notification period. Only then may FTA and the project sponsor sign the FFGA.

CORE CAPACITY 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. This data may come from automatic passenger counters, sampling, or other methods the project sponsor may use. Project Sponsors should discuss available existing ridership data with the FTA Office of Planning and Environment. 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

In addition to the specific project justification criteria and measures discussed below that are used in the CIG evaluation process, FTA encourages project sponsors to use the USDOT Equitable Transportation Community (ETC) Explorer for their own purposes to understand how their community or project area is experiencing disadvantage related to lack of transportation investments or opportunities. (https://experience.arcgis.com/experience/0920984aa80a4362b8778d779b090723/page/Homepage/). Similarly, FTA encourages project sponsors to examine walkability in the project corridor for their own purposes using readily available tools such as the EPA walkability index.

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 x width of railcar) minus space used for the driver cab compartment = useable passenger 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 passenger space per car = total useable passenger space per peak hour in the peak direction
- Total useable passenger space per peak hour in the peak direction ÷ ridership per peak hour in the peak direction on the line = useable space per passenger

Project sponsors provide FTA information on the useable passenger space per railcar, multiplying length times width of the rail car and subtracting out space consumed by driver cab compartments. Sponsors provide FTA with supporting documentation confirming the space calculations including a vehicle specification diagram and/or photographs.

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 law, Core Capacity projects must be corridors at capacity today or that will be at capacity within ten 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 C, D, E, and F. FTA does not anticipate assigning medium-low or low ratings equivalent to LOS B or 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 sq ft
Medium-High [TCRP Manual LOS E]	Between 3.2 and 5.3 sq ft
Medium [TCRP Manual LOS C or D]	Between 5.4 and 10.8 sq ft
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	> 100%
Medium-High	90 – 99%
Medium	80 – 89%
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

The table below provides breakpoints for the Cost Effectiveness criterion. FTA intends to update the breakpoints annually to account for inflation using the Gross Domestic Product Deflator as recommended in OMB Circular A-94. The breakpoints will be published in the yearly Reporting Instructions found on the FTA website.

Rating	Annualized CIG Share per Trip
High	< $1.00
Medium-High	Between $1.00 and $1.99
Medium	Between $2.00 and $4.99
Medium-Low	Between $5.00 and $5.99
Low	> $6.00

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 five times the weight given to trips made by transit dependent persons. Linked trips include all trips made on the existing line in the project corridor whether 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.

The weight given to trips made on the project by transit dependent persons supports the goals identified in the DOT Equity Action Plan[15], the Justice 40 Initiative (Executive Order 14008), and Executive Order 14096. [16] Transit dependent persons may face transportation insecurity, defined by DOT as the "condition in which people are unable to regularly and reliably satisfy the travel necessary to meet the needs of daily life," due to transportation costs, lacking transit options, or both. The majority of U.S. households in the lowest income quintile have limited to no access to transit, while spending more than 25 percent of their annual income on transportation. CIG projects can significantly expand access to reliable, affordable transportation and in turn, access to key destinations such as employment, education, grocery stores, and health care. By increasing the weight given to trips made by transit dependent persons, FTA is emphasizing the project's anticipated benefits to riders facing transportation insecurity.

Calculation

The mobility improvements measure is computed by adding the number of existing (not forecast) linked transit trips in the project corridor taken by non-transit dependent persons with the number of existing (not forecast) linked transit trips taken by transit dependent persons multiplied by a factor of five, 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.

[15] The DOT Equity Action Plan is available at https://www.transportation.gov/priorities/equity/equity-action-plan.
[16] Information about the Justice40 Initiative is available at https://www.transportation.gov/equity-Justice40 or Justice40 Initiative | Environmental Justice | The White House.

Breakpoints

FTA developed these breakpoints based on an analysis of mobility benefits data from past and current projects in the CIG program, including consideration of post-COVID transit ridership trends as reported to FTA's National Transit Database and the extra weight for trips made by transit dependent persons.

Mobility Improvements Trips by Non-Transit Dependent Persons plus Trips by Transit Dependent Persons multiplied by 5	
High	≥ 30 Million
Medium-High	12 Million – 29.9 Million
Medium	3 Million – 11.9 Million
Medium-Low	2 Million – 2.9 Million
Low	< 2 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 in law 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. 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

The law requires that proposed Core Capacity 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. The law also requires availability of reasonable amounts of contingency funding to cover unanticipated cost increases or funding shortfalls.

FTA uses the following measures to evaluate local financial commitment:

- 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.

Unless a project qualifies for a streamlined financial evaluation as described further below (financial warrants), Core capacity project sponsors must prepare a financial plan and cash flow statement in accordance with FTA's Guidance for Transit Financial Plans found on the FTA website at: https://www.transit.dot.gov/funding/funding-finance-resources/guidance-transit-financial-plans. FTA generally requires project sponsors to provide a 20-year financial plan and cashflow statement. Project sponsors may submit a 10-year financial plan and cash flow statement if the following conditions are applicable to the Core Capacity project:

- The project construction period plus five years of operations is less than 10 years in length; AND
- The project sponsor is not submitting 20-year horizon year information for the other CIG evaluation and rating criteria (the sponsor is submitting 10-year horizon data or no horizon year data).

Projects with a total capital cost of less than $400 million may qualify for a simplified financial evaluation [financial warrants] 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 (O&M) cost of the proposed Core Capacity project represents less than ten percent of the project sponsor's most recently 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.

Projects that meet the simplified financial evaluation terms and request greater than 50 percent Section 5309 CIG funding receive a local financial commitment rating of Medium. Projects that meet the simplified financial evaluation terms and that request 50 percent or less in Section 5309 CIG funding receive a High rating for local financial commitment.

Calculation

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

1. 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).
2. In arriving at a current condition rating, FTA places the most emphasis 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.
3. 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. For example, private contributions could include outside investments that result in cost-effective project delivery, financial partnering, joint development revenue streams and other value capture methods, 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.
4. 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.	• 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.	• 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.	• 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.	• 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.
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 50% of the Non-Section 5309 capital funds are committed or budgeted.	• At least 30% of the Non-Section 5309 capital funds are committed or budgeted.	• At least 10% of the Non-Section 5309 capital funds are committed or budgeted.	• Less than 10% 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 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 funds needed to operate and maintain the proposed transit system in the opening year of the project are committed or budgeted.	• While no additional operating and maintenance funding has been committed, a reasonable plan to secure funding commitments has been presented.	• 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 30% of estimated project cost and 30% (3.5 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 20% of estimated project cost and 20% (2.5 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 12% 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 CIG Project Rating

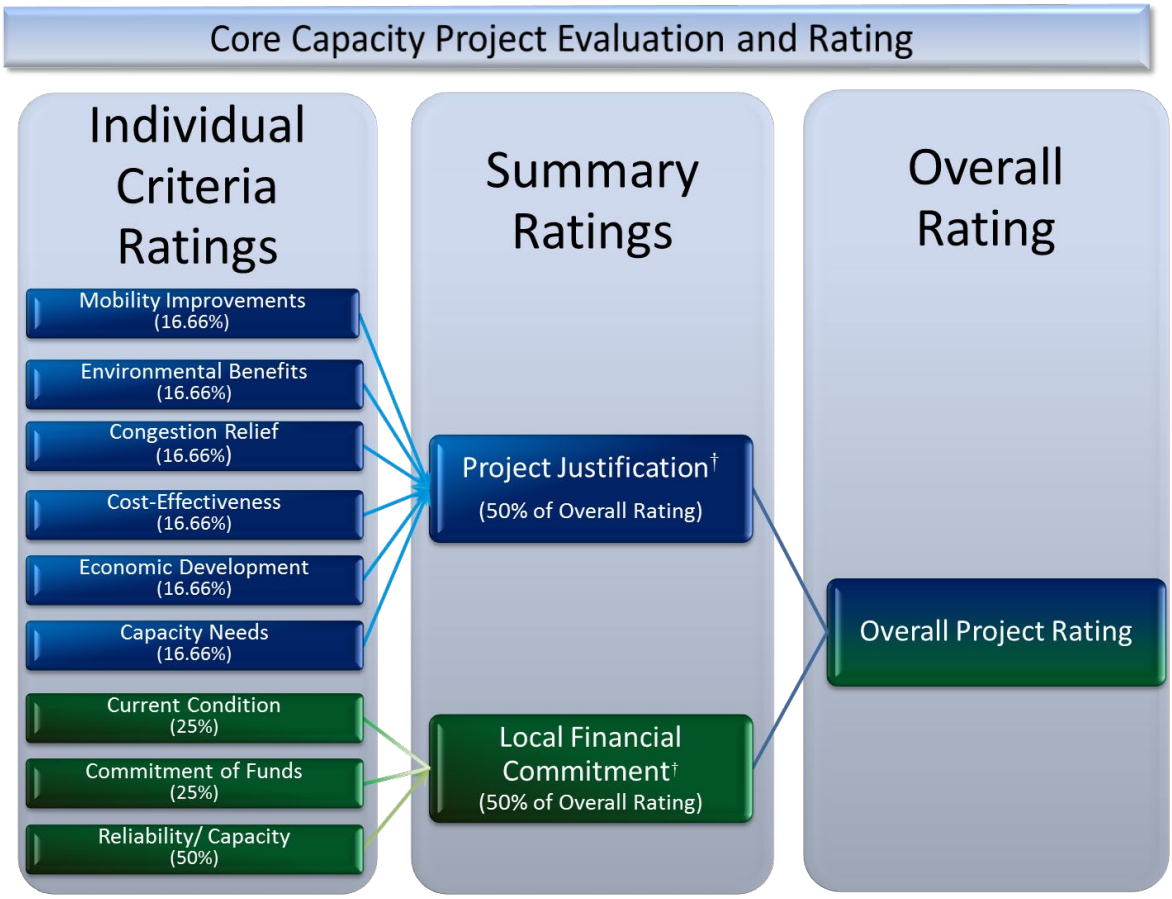
The law requires that FTA evaluate and rate a project on a 5-point scale from low to high based on the combined summary ratings for project justification and local financial commitment. The law also requires that FTA evaluate the six project justification criteria and give "comparable, but not necessarily equal" weight to each when determining a summary project justification rating. It 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 against all 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

IV. BUNDLES OF CIG PROJECTS

INTRODUCTION

The Infrastructure Investment and Jobs Act (IIJA) [Public Law 117–58, 2021] also known as the Bipartisan Infrastructure Law, created a new eligibility under the CIG program for bundles of multiple CIG projects being pursued by the same project sponsor.

ELIGIBLE APPLICANTS, BUNDLES OF CIG PROJECTS, AND COSTS

The law specifies that eligible applicants for the CIG program are State or local governmental authorities. FTA can only sign grant agreements with FTA approved grant recipients. Sponsors who are not already FTA approved grant recipients should discuss the procedures for becoming an FTA grant recipient early in the CIG process with the relevant FTA Regional Office. Throughout this document we refer to such applicants as project sponsors.

There are two types of CIG bundles outlined in the law – future bundles and immediate bundles.

- Section 5309(i)(1) - a future bundle of CIG projects comprises an initial CIG project seeking entry into Project Development as well as other CIG projects being proposed by the same project sponsor, that will be ready to enter the Project Development phase within five years.
- Section 5309(i)(2) - an immediate bundle of CIG projects comprises multiple CIG projects being proposed by a single project sponsor who is seeking entry of the projects into the Project Development phase at the same time.

Each of the projects in a future or immediate bundle must be individually eligible as a New Starts, Small Starts, and/or Core Capacity project as discussed in the earlier chapters of this guidance. A bundle can include any combination and number of New Starts, Small Starts, and/or Core Capacity projects. Multiple phases of a line can qualify as a CIG Bundle if each phase qualifies for CIG as a New Starts, Small Starts, or Core Capacity project, including that it is a minimum operable segment and has independent utility.

The law includes definitions that apply to all FTA grant programs including one outlining eligible capital project costs [Section 5302(4)]. In the earlier chapters of this guidance the unique eligible costs of individual New Starts, Small Starts, and Core Capacity projects are discussed.

The law says the bundling of CIG projects must enhance or increase the capacity of the transportation system of the applicant or the region the applicant serves and must streamline procurements for the applicant or enable time or cost savings for the projects [Section 5309(i)(1)(G) and Section 5309(i)(2)(G)]. Project sponsors are required to describe how the bundling of projects accomplishes these things.

GETTING INTO AND THROUGH THE STEPS IN THE CIG PROCESS

The law outlines specific steps that CIG project sponsors must complete to be eligible for a construction grant agreement under the Section 5309 CIG program. These steps differ based on whether the project is a New Starts, Small Starts or Core Capacity project. New Starts and Core Capacity projects must complete two phases before they can be considered for a construction grant agreement. The first phase is called Project Development and the second is called Engineering. Small Starts have only one phase to complete before they can be considered for a construction grant agreement, which is called Project Development. Each project in a bundle of CIG projects follows the steps in the process for that type of CIG project.

Prior to Project Development

The law indicates that New Starts and Core Capacity projects 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 for an individual project in a bundle to facilitate their ability to complete PD within the two-year timeframe. Further details are contained in the New Starts and Core Capacity chapters in this guidance. Project sponsors of future bundles must keep in mind that all projects in the bundle must enter the Project Development phase within five years of the initial project.

Project sponsors should be aware that any activities undertaken prior to a project within a bundle entering PD are not covered by automatic pre-award authority and are not eligible for future reimbursement from the CIG program should a construction grant be awarded in the future. Please consult FTA's Annual Apportionment Notice where pre-award authority for the CIG program is discussed in more detail.

The law specifies that all projects in a future or immediate bundle seeking entry into Project Development must be included in the fiscally constrained metropolitan transportation plan as required by Section 5303(i). Thus, a project sponsor must take the steps necessary to get the projects in the bundle included in the metropolitan transportation plan prior to applying to FTA for entry into Project Development.

Requesting Entry into Project Development for a Bundle

The law states that a Project Development request submitted to FTA by a project sponsor for a future or immediate bundle of CIG projects must include each proposed project's estimated cost and amount of CIG funding requested [Section 5309(i)(1)(B) and Section 5309(i)(2)(B)]. FTA is aware that these cost estimates and CIG funding requests are preliminary estimates made by the project sponsor and may change as the projects in the bundle are further developed.

FTA requires that a project sponsor seeking entry of a future or immediate bundle of CIG projects into the Project Development phase submit a short letter addressed to the FTA Associate Administrator for Planning and Environment describing the items listed below. This mirrors very closely the information that FTA currently requires a project sponsor to submit when seeking entry into Project Development for an individual New Start, Small Start, or Core Capacity project. However, there are a few key differences due to requirements outlined in law related to CIG bundles and these differences are in bold text below. All other information contained in the list below is similar to the information currently required of individual New Starts, Small Starts, and Core Capacity projects seeking entry into Project Development:

- The name of the project sponsor, any partners involved in the project corridor studies, and the roles and responsibilities of each;

- Identification of a project manager and other key staff that will perform the PD work for each corridor in the bundle;
- A brief description and clear map of the project corridors being studied, including their length and key activity centers;
- Electronic copies of or weblinks to prior studies done in the corridors, if any;
- A brief description of current levels of transit service in the corridors today;
- A brief description of the transportation problem in the project corridors or a statement of purpose and need for transportation improvements in the corridors;
- Identification of the proposed CIG projects and any alternatives if any are being considered;
- **Identification of the type of CIG project for each project in the bundle – New Starts, Small Starts, or Core Capacity – and the information needed to demonstrate eligibility for that type of project. See the New Starts, Small Starts and Core Capacity chapters earlier in this guidance document for further details.**
- **Identification of the estimated capital cost for each project in the bundle and the requested CIG amount for each project in the bundle as required by law;**
- The anticipated cost to complete PD, not including the cost of any work done prior to officially entering the PD phase:
    - **For a future bundle the request need only specify the cost of the PD work for the initial project in the bundle. As future projects seek to enter PD, the request to add those projects to a bundle must include the cost of the PD work for the new project(s); or**
    - **For an immediate bundle the request should specify the cost of the PD work for each project in the bundle.**
- Identification of the non-CIG funding available and committed to conduct the PD work, including 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)
    - **For a future bundle this involves documenting funding committed for the PD work for the initial project in the bundle. As future projects seek to enter PD, the request add those projects to a bundle must include documenting showing funding is committed for the PD work for the new project(s);**
    - **For an immediate bundle this involves documenting funding committed for the PD work for all projects in the bundle.**
- An anticipated draft timeline for completing the following activities for each project in the bundle (which should demonstrate the ability to complete the PD work within two years as prescribed in law for New Starts and Core Capacity projects in the bundle):
    - Compliance with NEPA and related environmental laws;
    - Selection of a locally preferred alternative (LPA);
    - Completion of the activities required to obtain a project rating under the evaluation criteria outlined in Section 5309;
    - Completion of the readiness requirements for entry into Engineering as described further below in this guidance for any New Starts or Core Capacity projects in the bundle;
    - Anticipated receipt of a construction grant agreement from FTA; and
    - Anticipated start of revenue service.
- **A narrative, and any supporting information, of how the proposed bundle of CIG projects meets the eligibility requirements noted in law:**
    - **How it streamlines procurements or enables cost or time savings; AND**

- **How it enhances or increases the capacity of project sponsor's total transportation system or the transportation system of the region the applicant serves.**

FTA does not require a specific format for the request letter. The request must address each of the items listed above. A large, lengthy submittal is not required. Electronic submissions are preferred by FTA. Mailed submissions can get delayed due to security steps in place at USDOT.

As noted in the bulleted list above, FTA requires that the project sponsor have funds available and committed to begin the PD work for the initial project in a future bundle and for all projects included in an immediate bundle. Funding available one or more years in the 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. The law makes clear the intent is for projects to make quick progress and not linger in the CIG program, which can happen only if funding is available to begin performing the PD work immediately upon entry into the program.

Requests for a future or immediate bundle of CIG projects may be submitted to FTA at any time throughout the year, whenever the project sponsor believes the bundle is ready. FTA discourages project sponsors from submitting 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 request during the Annual Report cycle, as projects just entering the CIG program are not considered candidates for funding recommendations because they are not being evaluated and rated. Often project sponsors believe being listed in the Annual Report as one of the projects in the CIG program gives the project credibility, even though the project has not yet been evaluated or rated by FTA. 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 a bundle of projects has been entered into Project Development, information on the bundle 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 bundles.

Upon receipt of a request to enter PD for a bundle, FTA will review the request to ensure it contains all the information listed above. FTA will communicate via email with the project sponsor, identifying any missing information or specifying the request is considered complete. Upon receipt of complete information, FTA will process the request and notify Congress and the project sponsor in writing within 45 days whether the information was deemed sufficient for entry into PD for all projects in an immediate bundle or for the initial project in a future bundle.

If a project sponsor with one or more projects already in the CIG program wishes to be considered for a CIG bundle because that sponsor is pursuing multiple CIG projects either now or anticipates having additional projects enter PD within five years from the date the first project entered PD, the sponsor should submit the same letter as described above. The projects already in the CIG program would remain in the phase of the process they are in currently.

The process for a Bundle to get into and through the remaining steps in the CIG process mirrors very closely the existing requirements for an individual New Starts, Small Starts, or Core Capacity project. However, there are a few key differences due to requirements outlined in law related to CIG bundles, and these differences are noted in bold text.

During Project Development

During PD, the following activities must be completed for each project in the bundle:

- The project sponsor must select a locally preferred alternative (LPA);
- **The project sponsor must get the LPA re-adopted into the fiscally constrained metropolitan transportation plan if it differs significantly from the project definition that was previously adopted into the fiscally constrained metropolitan transportation plan prior to entry into PD;**
- The environmental review process required under NEPA[17] 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 projects proposed for FTA funding; and
- The project sponsor must develop sufficient information on the proposed project for FTA to develop a project rating under the criteria applicable to that type of project (New Starts, Small Starts, or Core Capacity).

As noted in law, New Starts and Core Capacity projects included in a bundle must complete these PD activities within two years. The two-year PD completion requirement does not apply to Small Starts projects in a bundle.

For New Starts and Core Capacity projects in a bundle, FTA also requires the project sponsor to complete the following activities:

- Obtain commitment of at least 30 percent of the non-CIG capital funding for the project;
- 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

[17] Regarding NEPA, the project sponsor should contact FTA to discuss whether or how to advance a bundle of projects, and to determine the appropriate environmental review and documentation for a bundle of CIG projects. The project sponsor should be ready to discuss each project's timing, location, and likely agency approvals or permits, as well as how the projects interact with each other, as applicable. FTA's NEPA decision could result from multiple environmental reviews that include the proposed project, from a programmatic review, or from a review of a larger group of projects that includes the proposed project, depending on environmental compliance needs.

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 (ADA) and Section 504 of the Rehabilitation Act of 1973 (Section 504), 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 Section 504; 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 the statute is to ensure projects make sufficient progress and move quickly through the CIG process. Therefore, a sponsor of a CIG bundle should make sure any New Starts or Core Capacity projects in the bundle can have all the PD activities listed above completed within two years after the project enters PD, as specified in the law. If the above-mentioned activities cannot be completed within the two-year PD timeframe for a New Starts or Core Capacity project in a bundle due to unforeseen circumstances, the project sponsor must submit a written request for an extension of PD for that project addressed to the FTA Associate Administrator for Planning and Environment no later than three months prior to the end of the two-year PD period to give FTA time to review the request. There is no required format for the PD extension request letter, but it must contain an explanation of the reasons an extension is needed and a revised estimated schedule for completing the above listed PD activities. FTA considers requests for PD extensions on a case-by-case basis and responds in writing whether an extension is granted or not. Such requests are expected to 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. As discussed in previous chapters of this guidance, FTA limits PD extensions to no more than one year in length to ensure that projects move quickly through the CIG process.

If a PD extension for a New Starts or Core Capacity project in a bundle is not approved by FTA, the project is withdrawn from PD **and the project is removed from the bundle. The project sponsor must provide FTA with a new narrative to demonstrate that the remaining bundle still meets statutory eligibility requirements. The narrative must explain how the revised bundle streamlines procurements or enables cost or time savings; and how it enhances or increases the capacity of the project sponsor's total transportation system or the transportation system of the region the applicant serves.** The project sponsor of the bundle must complete the work activities listed above before a New Starts or Core Capacity project withdrawn from the program is allowed to apply for re-entry into the CIG program via a request to enter the Engineering phase. Any work performed prior to re-entry into the Engineering phase on a New Starts or Core Capacity project after it is withdrawn from PD is not covered by pre-award authority and is ineligible for reimbursement at a future date should FTA ultimately award a CIG construction grant agreement for the project or the bundle. **Should the project sponsor wish to have a project re-enter the CIG program into Engineering and be placed back into the bundle, the project sponsor should follow the steps below for amending a bundle.**

For New Starts and Core Capacity projects in a bundle, 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 dollar amount at entry into Engineering. Sponsors that wish to stay in PD longer than two years to continue advancing the design before seeking entry into Engineering and locking in the CIG dollar amount must request an extension to PD. As discussed in previous chapters of this guidance, FTA is limiting PD extensions to no more than one year in length.

For New Starts and Core Capacity projects in a bundle, FTA begins 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. FTA encourages project sponsors to begin working with FTA early in Project Development to establish an oversight plan and roadmap for entry into Engineering.

The project sponsor must demonstrate that any Small Starts projects in a bundle are making sufficient progress during PD to remain in the CIG program in keeping with the intent in law that projects move quickly through the program. Thus, FTA requires that the project sponsor of a bundle obtain commitments of at least 50 percent of all non-CIG funds for a Small Starts project included in a bundle within three years of the 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 withdraws the project from the CIG program **and withdraws the project from the bundle. The project sponsor must provide FTA with a new narrative to demonstrate that the remaining bundle still meets statutory eligibility requirements. The narrative must explain how the revised bundle streamlines procurements or enables cost or time savings; and how it enhances or increases the capacity of the project sponsor's total transportation system or the transportation system of the region the applicant serves.**

If a Small Starts project in a bundle 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 applications for re-entry into PD on a case-by-case basis. **Should the project sponsor wish to have the project be re-entered back into a bundle, the project sponsor should follow the steps below for amending a bundle.**

The work performed after a Small Starts project in a bundle is withdrawn from the CIG program before it re-enters the program is not 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 applies to any work conducted from that point forward.

For a Small Starts project in a bundle to complete the PD phase, 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, demonstrate progress toward meeting TAM plan SGR targets, 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.

Amending a Bundle of Projects
Requirements outlined in law related to CIG bundles necessitate FTA gathering some additional information should a project sponsor wish to amend a bundle by adding or removing projects or separate the entire bundle into discrete CIG projects to be processed individually through the CIG program. These requirements apply only to bundles and are thus shown in bold font similar to other areas in this chapter where items unique to bundles are noted by bold text.

Projects can be added to a bundle at any time. Projects added to a bundle must meet the eligibility requirements discussed earlier in this chapter. The project sponsor must submit a short letter addressed to the FTA Associate Administrator for Planning and Environment describing the project(s) it is requesting be added to the bundle. The sponsor provides all the information noted earlier in this chapter when requesting entry in Project Development for the new project(s) and submits a revised bundle narrative to demonstrate that the revised bundle continues to meet the statutory eligibility requirements. Any addition of projects to a bundle must be made within five of years of the first project's entry into Project Development per the requirement in law. If the bundle was initially established as an immediate bundle and a project is added, it is reclassified as future bundle.

A project sponsor can also request to remove a project from a bundle. To do so, the project sponsor must submit a short letter addressed to the FTA Associate Administrator for Planning and Environment describing the project(s) to be removed from the bundle. The sponsor must also provide a revised narrative to demonstrate that the remaining bundle continues to meet the statutory eligibility requirements. The narrative explains how the revised bundle streamlines procurements or enables cost or time savings; and how it enhances or increases the capacity of the project sponsor's total transportation system or the transportation system of the region the applicant serves. The project sponsor specifies whether it wishes for the project removed from the bundle to remain as an individual CIG project in the program or whether it wishes to have the project withdrawn from the CIG program altogether.

A project sponsor can choose to dissolve a bundle at any time. To do so, the project sponsor must submit a short letter addressed to the FTA Associate Administrator for Planning and Environment requesting that the bundle be dissolved. The project sponsor specifies whether it wishes for the projects in the bundle to remain as individual CIG projects in the program or whether it wishes them to be withdrawn from the CIG program altogether.

Requesting Entry into Engineering

(Does not apply to Small Starts projects included in a bundle)
A project sponsor of a bundle that includes a New Starts or Core Capacity project must submit the following information with a letter to the FTA Associate Administrator for Planning and Environment requesting entry into Engineering:

- Templates used for developing the evaluation criteria and ratings;
- Financial plan and cash flow statement, including supporting documentation demonstrating at least 30 percent of the non-CIG funding is committed;
- Project cost estimate provided using the Standard Cost Category worksheets (which includes cost of PD, Engineering, Construction, and Financing);
- 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 all third-party agreements with schedule for completion;
- A preliminary geotechnical report;
- A draft value engineering report;
- 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;
- A statement signed by the CEO describing the progress the agency has made toward meeting TAM plan SGR targets and including as supporting documentation an up-to-date TAM plan and narrative report from the National Transit Database;
- Draft Information Collection and Analysis plan (formerly known as Before-and-After Study plan); and
- **An updated narrative demonstrating the bundle's continued eligibility. The narrative explains how the bundle streamlines procurements or enables cost or time savings; and how it enhances or increases the capacity of the project sponsor's total transportation system or the transportation system of the region the applicant serves.**

Projects within a bundle advance through the CIG process individually according to the process outlined for that type of CIG project (New Starts, Small Starts, or Core Capacity). However, project sponsors may seek entry into Engineering for multiple projects included in a bundle at one time if all the projects meet the requirements listed above. FTA evaluates and rates the projects individually according to the appropriate criteria. FTA may potentially be able to streamline the review process by conducting concurrent reviews.

The law requires that FTA evaluate and rate each project included in a bundle individually. By law, each New Starts or Core Capacity project in a bundle must receive a Medium or better overall rating under the statutory evaluation criteria to be eligible for entry into the Engineering phase. FTA also reviews the Project Management Plan and subplans for each project in a bundle seeking entry into Engineering 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 reviews may be expedited based on factors including the complexity of the project and the project sponsor's management capacity and capability.

FTA locks in the Section 5309 CIG funding amount (not share, the actual dollar amount) for each New Starts or Core Capacity project in a bundle at its entry into Engineering. Should the project cost change after a project has entered Engineering, additional Section 5309 CIG funding is not 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 a project sponsor of a New Starts or Core Capacity project included in a bundle obtain commitments of at least 50 percent of the non-CIG capital funds and make sufficient progress advancing the level of design within three years of the project's advancement into Engineering. This does not mean the project sponsor 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 New Starts or Core Capacity project in a bundle to remain stagnant indefinitely.

If a sponsor does not make sufficient progress on obtaining funding commitments or advancing the level of design of a New Starts or Core Capacity project in the bundle within three years of the project's entry into Engineering, FTA withdraws the project from the CIG program **and withdraws the project from the bundle. The sponsor must provide a new narrative to FTA demonstrating that the remaining bundle still meets statutory eligibility requirements. The narrative explains how the revised bundle streamlines procurements or enables cost or time savings; and how it enhances or increases the capacity of the project sponsor's total transportation system or the transportation system of the region the applicant serves.**

After gaining the necessary funding commitments and advancing design on a New Starts or Core Capacity project that was withdrawn, the project sponsor can apply for the project to be re-entered into the CIG program into the Engineering phase. In the request, the project sponsor should identify if it wishes for the project to be included in the bundle again. If the project sponsor wants the project included in a bundle, the project sponsor should follow the steps for amending a bundle.

Any work performed by the project sponsor after being withdrawn from the CIG program and before re-entry is not eligible under pre-award authority for future reimbursement should a CIG construction grant ultimately be awarded for the project or the bundle.

To complete the Engineering phase for a New Starts or Core Capacity project in a bundle, 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 capital funding commitments, complete all critical third-party agreements, demonstrate progress toward meeting TAM plan SGR targets, and meet other FTA readiness requirements related to technical capacity, staffing, and oversight.

Receipt of CIG Construction Grant

Being Recommended for CIG Funding

Generally, FTA does not begin negotiating a construction grant agreement with a project sponsor until a bundled 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* based on:

- the evaluation and rating of the bundled 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.

Individual projects in a bundle are recommended for funding based on their individual readiness like any other CIG project. If all projects in a bundle are ready at the same time, FTA may recommend the entire bundle for funding.

To have a project in a bundle considered for a funding recommendation in the President's budget, the project sponsor 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 a Medium or better 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 to be considered for a funding recommendation. Typically, the submittals are due in late summer of the year prior to the release of the President's budget.

Early Systems Work Agreements

For New Starts and Core Capacity projects, the law 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 CIG funds for the project. The law specifies an ESWA cannot be entered into unless the NEPA review is complete and "the Secretary finds there is reason to believe an FFGA for the project will be made." It 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. New Starts and Core Capacity projects in a bundle are considered individually for an ESWA on a case-by-case basis.

There is no set format for an ESWA request. The project sponsor should simply submit a short letter to the FTA Associate Administrator for Planning and Environment explaining the reasons an ESWA is being sought and by when the project sponsor hopes to receive the ESWA. The request letter should provide a status update on the project sponsor's completion of the requirements for receipt of an FFGA.

Completing CIG Construction Grant Award Requirements

Even after a project has been recommended in the President's budget for a CIG construction grant agreement, 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, demonstrate progress toward meeting TAM SGR targets, and meet other FTA readiness requirements related to technical capacity, staffing, and oversight before submitting an application for a CIG construction grant agreement.

The law requires FTA to determine that the CIG grant applicant has made progress toward meeting the SGR performance targets required by Section 5326(c)(2) before a CIG construction grant can be awarded. All FTA recipients and subrecipients are required to set these performance targets annually based on SGR performance measures established by FTA in 49 CFR Part 625. The regulation can be found at https://www.govinfo.gov/content/pkg/FR-2016-07-26/pdf/2016-16883.pdf. For more complete information, please see the FTA webpage at https://www.transit.dot.gov/TAM.

In the regulation, FTA established SGR performance measures for four areas:

- Rolling stock. The performance measure for rolling stock is the percentage of revenue vehicles within a particular asset class that have either met or exceeded their useful life.

- Infrastructure: rail fixed-guideway, track, signals, and systems. The performance measure for rail fixed guideway, track, signals, and systems is the percentage of track segments with performance restrictions.
- Facilities. The performance measure for facilities is the percentage of facilities within an asset class, rated below condition three on the TERM scale.
- Equipment: (non-revenue) service vehicles. The performance measure for non-revenue, support-service and maintenance vehicles equipment is the percentage of those vehicles that have either met or exceeded their useful life.

TAM targets based on the above SGR measures are set each year by the transit agencies and reported to FTA through the National Transit Database (NTD). Agencies also report their progress toward meeting the performance targets each year to the NTD. NTD reporting deadlines are based on each agency's fiscal year end date, with submittals to the NTD due four months after the agency's fiscal year ends. Reporting on the SGR targets and performance to the NTD began in fiscal year 2018, with complete data for all reporters to the NTD required in FY 2021.

Given the nature of NTD reporting deadlines and the fact that SGR targets for FY 2021 and FY 2022 were set by transit agencies with no advanced notice that the targets and performance against those targets would be used in this fashion for CIG grant determinations, FTA is using an interim approach to making these CIG grant determinations. When a project sponsor submits a CIG Engineering request or a CIG construction grant agreement request, the sponsor must include a statement signed by the CEO describing the progress the agency has made toward meeting SGR targets. The statement should include as supporting documentation an up-to-date TAM plan and the narrative report submitted to NTD to explain the agency's progress towards achieving the TAM goals for all asset classes in the TAM plan.

CIG grant applicants that do not yet own, operate, or manage capital assets used for providing public transportation subject to the TAM requirements of 49 CFR Part 625 are not required to meet this requirement.

SGR targets and performance can vary widely from year to year for an individual asset type. For example, an agency may have a target in one year of 10 percent or less of its standard bus fleet being beyond its useful life, but in the following year that target can be changed to a much higher or lower percentage. One reason for this is because transit agencies often purchase vehicles in bulk periodically to gain better pricing rather than purchasing in a more steady and consistent annual flow. The annual targets established by transit agencies, therefore, take into consideration the age of their fleets and the anticipated timeframe of when resources may be available to replace those vehicles with another bulk purchase.

Submitting a CIG Construction Grant Request

When requesting a CIG construction grant agreement for a project in a bundle, the project sponsor of the bundle should submit the following information to the FTA Associate 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, Small Starts or Core Capacity templates, as applicable, used for developing the evaluation criteria and ratings;
- Financial plan and cash flow statement, including supporting documentation demonstrating all the non-CIG funding is committed;
- Project cost estimate provided using the Standard Cost Category worksheets (which includes cost of PD, Engineering, Construction, and Financing);
- Draft construction grant agreement;

- 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;
- For New Starts and Core Capacity projects, an Information Collection and Analysis plan (formerly known as Before-and-After Study plan);
- Updated Project Management Plans and Subplans for the construction grant agreement phase including:
  - Risk and Contingency Management Plan;
  - Documented processes and procedures to manage the project during construction grant agreement/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 critical third-party agreements and permits are completed and in place;
- A statement signed by the CEO describing the progress the agency has made toward meeting SGR targets and including as supporting documentation an up-to-date TAM plan and the narrative report submitted to the NTD; and
- Documentation showing all critical issues identified in prior FTA reviews are resolved.

The law requires that FTA evaluate and rate each project in a bundle prior to awarding a CIG 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 a Medium or better overall rating under the statutory evaluation criteria to receive a CIG 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 CIG 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, the law requires that the construction grant agreement be sent for a congressional notification period. The length of time of the congressional notification period differs if the project is a New Starts or Core Capacity (15 days) versus a Small Starts (10 days). Only after the congressional notification period may FTA and the project sponsor sign the CIG construction grant.

The law allows a project sponsor of a bundle of projects to request a combined construction grant agreement covering multiple projects in the bundle. The sponsor must notify FTA in writing it is seeking a combined grant agreement for two or more projects in the bundle and include the required information for each project. Each project is evaluated individually, and each must meet the requirements for receipt of a construction grant agreement. The benefits of a combined construction grant are a potentially streamlined FTA review process, streamlined paperwork, and assistance with FTA oversight of the projects.

CIG Letter of Intent (LOI)

Upon entering into a CIG construction grant agreement for the first project in a bundle, the law allows FTA to issue a CIG Letter of Intent (LOI) that announces an intention to obligate an amount from future available budget authority sufficient to complete at least an operable segment for one or more additional projects in the bundle. An LOI is not a firm commitment of FTA funds for the project and is not considered an obligation of Federal funds. 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. There is no set format for an LOI request. The sponsor must notify the FTA Associate Administrator for Planning and Environment in writing at the time of application for a grant agreement for a project in the bundle that they are also seeking an LOI and must identify the projects in the bundle to be included in the LOI. Approval or denial of an LOI is determined on a case-by-case basis.

To be eligible for an LOI, the project(s) in the bundle must:

- **Have completed NEPA; and**
- **Have received a Medium or better rating.**

The LOI announces FTA's intent to obligate a specific amount of CIG funding for each project included in the LOI. The LOI may also include requirements or conditions that must be met prior to a CIG construction grant award. The law requires that the LOI be sent for a 15-day congressional notification period. Only then may FTA issue the LOI.

CIG Evaluation Criteria and Rating Process

As set forth in Section 5309(i)(1)(B) and Section 5309(i)(2)(B), each project submitted in a future or immediate bundle shall be subject to the applicable New Starts, Small Starts, or Core Capacity evaluation criteria. Please see the earlier chapters of this guidance for more information on the project justification and local financial commitment criteria, measures, and breakpoints for each type of eligible CIG project. **A few clarifications related to the evaluation and rating of projects in a bundle are included below in bold.**

Project Justification

Please see the earlier chapters of this guidance for more information on the project justification criteria, measures, and breakpoints for each type of eligible CIG project and the circumstances in which project justification warrants may be applicable.

Local Financial Commitment

Please see the earlier chapters of this guidance for more information on the local financial commitment criteria, measures, and breakpoints for each type of eligible CIG project.

Simplified Financial Evaluation

FTA allows projects in a bundle to take advantage of a simplified financial evaluation [financial warrants] if certain conditions are met. An individual project included in a bundle may qualify for a highly simplified financial evaluation if the sponsor can demonstrate the following:

- The capital cost of the project is less than $400 million;
- A reasonable plan to secure funding for the local share of the project capital cost or sufficient available funds for the local share;

- The additional operating and maintenance cost to the agency **of the entire proposed bundle of projects collectively does not exceed ten percent** of the project sponsor's current year approved system-wide 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.

A proposed project in a bundle that meets the items above and requests greater than 50 percent CIG funding receives a local financial commitment rating of Medium. A proposed project in a bundle that meets the items above and requests 50 percent or less in CIG funding receives a High rating for local financial commitment.

Projects included in a bundle that cannot qualify for the simplified financial evaluation will be evaluated and rated as described in the previous chapters of this guidance.

Overall CIG Project Rating

The law requires that FTA evaluate and rate each individual project included in a bundle on a five-point scale from low to high based on the combined summary ratings for project justification and local financial commitment. See details in earlier chapters.