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of Transportation
**Federal Transit
Administration**

Reporting Instructions for the Section 5309 New Starts Criteria

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*Prepared by:
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Office of Planning and Environment*

NOTICE

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For additional guidance on the Section 5309 New Starts Criteria, and for specific questions related to this document, contact Beth Day, Director, Office of Project Planning, Federal Transit Administration, Washington, DC, 202.366.5159, or e-mail at elizabeth.day@dot.gov.

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I. Introduction

The Federal Transit Administration (FTA) has developed and annually updates these *Reporting Instructions for the Section 5309 New Starts Criteria* to guide local project sponsors of proposed New Starts projects in the submittal of data and supporting information addressing the Section 5309 New Starts criteria.

FTA reviews and evaluates the information developed according to these instructions to:

- Decide whether proposed New Starts projects may advance into the preliminary engineering (PE) or final design phases of project development;
- Assign ratings to proposed New Starts projects for the *Annual Report on Funding Recommendations* in support of funding recommendations for the Administration's annual budget request; and,
- Determine final ratings for New Starts projects at the time of the execution of a Full Funding Grant Agreement.

FTA is publishing these *Reporting Instructions for the Section 5309 New Starts Criteria* to identify reporting requirements for the submittal of New Starts information to be evaluated for the FY 2010 *Annual Report on Funding Recommendations*, as well as for all requests to enter PE and final design throughout calendar years 2008 and 2009 (until FTA releases a revised set of instructions). In tandem with the associated templates developed for reporting the New Starts criteria and supporting information, these *Reporting Instructions* should be used by local project sponsors for the reporting of New Starts information.

Sponsors of Small Starts projects should continue to follow the requirements included in FTA's *Updated Interim Guidance and Instructions for Small Starts*, issued July 2007. A consolidated checklist of New Starts, Small Starts, Very Small Starts, and "exempt" project reporting requirements is posted on FTA's website to facilitate a comprehensive understanding of the reporting requirements for each type of project.

http://www.fta.dot.gov/planning/newstarts/planning_environment_2619.html

Finally, FTA will be revising its document entitled *New Starts and Small Starts Evaluation and Rating Process* to include recent changes resulting from the April 2008 proposed policy guidance and incorporate the requirements of the SAFETEA-LU Technical Corrections Act of 2008, once FTA's evaluation process proposals to comply with the law have been through a public comment process. The revised document will be available later this year on FTA's website for *New Starts Project Planning and Development* at

http://www.fta.dot.gov/planning/planning_environment_5221.html.

The information outlined in these *Reporting Instructions* is not all submitted at the same time. Information that supports the estimation of project costs and benefits should be submitted in advance of any formal submittal of the New Starts criteria, for either the *Annual Report* or for approval of PE and final design requests. This "phased" submission of information enables FTA to understand and better ensure the acceptability of the technical methodologies and assumptions – and subsequent results - used by the project sponsor(s) in the development of the measures

which support the New Starts project justification criteria. For New Starts projects nearing advancement into PE or final design, the project sponsor should coordinate the timing for submitting necessary information to support a PE/final design request with FTA.

The formal deadline for reporting information on the New Starts and Small Starts project justification and local financial commitment criteria – i.e., the New and Small Starts templates and supporting land use and financial information – for evaluation in the *FY 2010 Annual Report on Funding Recommendations* is September 5, 2008. In addition, FTA requests, for projects already in the New Starts or Small Starts “pipeline” (projects in preliminary engineering, final design, or Small Starts project development), that information related to travel forecasts, operating and maintenance cost methodologies, and service annualization factors be submitted *as appropriate* by July 30, 2008 *if this information is different from what was submitted last year*. This advanced submission of information helps FTA staff to understand the information underlying the New or Small Starts project justification criteria, and helps to ensure that the information reported in the formal New or Small Starts templates is sufficient for FTA’s evaluation and rating of candidate projects. Both the “advanced” and formal submission of information should be sent electronically on CDs to the FTA Office of Planning and Environment (TPE), 1200 New Jersey Avenue SE, East Building, Washington, DC, 20590. When submitting electronic files, FTA requests that they be transmitted in both their original format (Excel/Microsoft Word/etc.) and as PDF files.

I.1. Overview of Updates and Revisions to the Reporting Instructions

These instructions update the June 2007 *Reporting Instructions for the Section 5309 New Starts Criteria*. **There are no changes to the data or materials required to be submitted by project sponsors in this year’s Reporting Instructions.** The changes incorporated herein are intended to clarify and provide further guidance on how to develop the requested information and how FTA will use the information. Enhancements to this year’s *Reporting Instructions* include:

- **Adjusted Cost Effectiveness Breakpoints:** As announced in the April 29, 2005 Dear Colleague letter, FTA has adjusted the breakpoints for rating the cost effectiveness of proposed New Starts projects based on the Gross Domestic Product deflator. The new breakpoints are presented in Section III of these *Reporting Instructions*.
- **Adjusted Baseline Alternative Cost Parameters:** FTA defines prototypical capital costs for specific elements in New Starts Baseline alternatives in order to ensure a “level playing field” when evaluating projects nationally. These cost parameters have been adjusted upward since last year to reflect 4 percent inflation. The new parameters are presented in Section IV of these *Reporting Instructions*.
- **Guidance on documenting The Case for the Project:** These reporting instructions provide enhanced guidance on developing a document that presents The Case for the Project.

Templates for reporting the New Starts criteria have not changed since last year, and are available on the web at http://www.fta.dot.gov/planning/newstarts/planning_environment_2619.html. New Starts project sponsors should use the most recent Standard Cost Categories (SCC) worksheets issued by FTA and available at http://www.fta.dot.gov/planning/newstarts/planning_environment_2580.html

for reporting the capital costs (including the annualized costs of the build and baseline alternatives) and schedule of their proposed New Starts projects. Please note that FTA has made every effort to minimize duplicative reporting. In the very limited instances where duplicative information is requested in different templates and SCC worksheets, New Starts project sponsors need only report the information once so long as reference is made to the appropriate template.

With issuance of these *Reporting Instructions*, New Starts project sponsors should report costs for the purposes of calculating cost effectiveness in 2008 constant dollars, and, for New Starts projects, transportation benefits and systemwide operations and maintenance (O&M) costs reflecting a 2030 forecast year.

Additional materials and guidance documents related to major investment planning and the New Starts program are also available at FTA's website for *New Starts Project Planning and Development* at http://www.fta.dot.gov/index_5221.html, or by contacting your FTA Regional Office or the FTA Office of Planning and Environment.

II. Overview of the New Starts Criteria

FTA evaluates each project sponsor's submittal of information addressing specific project justification and local financial commitment criteria which are defined by law. The ratings assigned to these criteria are used by FTA to develop overall project ratings, make decisions for advancing proposed projects in the New Starts project development process, and for recommending projects for funding.

II.1. Project Justification Criteria

FTA considers the following criteria contained in SAFETEA-LU in its evaluation of proposed New Starts projects:

- Mobility improvements;
- Environmental benefits;
- Cost-effectiveness;
- Operating efficiencies;
- Economic development effects; and
- Public transit supportive land use policies and future patterns.

The SAFETEA-LU Technical Corrections Act of 2008 specifies that the criteria should be given comparable but not necessarily equal weighting by FTA in its evaluation process. The measures for these criteria and how they will be used by FTA in its evaluation of New Starts and Small Starts projects is the subject of formal rulemaking, which may take some time to complete. However, FTA expects to publish proposed policy guidance later this year describing an interim evaluation and rating procedure complying with the Technical Corrections Act that will include a formal public review and comment period. The interim procedure is not expected to require additional data submissions from project sponsors outside what is required in these reporting instructions.

II.2. Local Financial Commitment Criteria

Section 5309(d)(2)(C) of SAFETEA-LU requires that proposed projects be supported by an acceptable degree of local financial commitment, including evidence of stable and dependable financing sources to construct, maintain and operate the project, and to maintain and operate the entire public transportation system without requiring a reduction in existing public transportation services or level of service to operate the proposed project. The criteria used in making this determination are:

- The proposed share of total project costs from sources other than Section 5309 New Starts funding;
- The strength of the proposed capital funding plan; and
- The strength of the proposed operating funding plan.

The measures that FTA uses to evaluate the local financial commitment criteria for New Starts projects are presented in Figure 1. Each of the local financial commitment measures is described in greater detail in Section VII. *Local Financial Commitment Criteria* of these instructions.

Figure 1: Local Financial Commitment Criteria and Measures

Criterion	Measures
Share of Non-Section 5309 New Starts Funds	<ul style="list-style-type: none"> • Share of other Federal funds, including formula and flexible funds; • Required local match; and • Additional capital funding.
Strength of Capital Funding Plan	<ul style="list-style-type: none"> • Capital financial condition of the sponsoring agency and funding partners; • Commitment and availability of Non-Section 5309 New Starts funds for construction of the project; and • Reasonability of capital planning assumptions (including rehabilitation and replacement costs for the existing system) and capital cost estimates and financial capacity to cover capital cost increases or funding shortfalls.
Strength of Operating Funding Plan	<ul style="list-style-type: none"> • Operating financial condition; • Commitment of O&M funds needed to fund the transit system's subsidy; and • Reasonability of operating planning assumptions and O&M cost estimates and financial capacity to operate and maintain all proposed, existing and planned transit services.

III. Overview of the New Starts Evaluation and Rating Process

New Starts project evaluation is an on-going process. As projects proceed through project development, the estimates of costs, benefits, and impacts are refined. FTA's evaluation process reflects these changes, and ratings are updated to reflect new and improved information.

FTA expects to publish proposed policy guidance later in 2008, describing an interim evaluation and rating procedure reflective of the requirements of the SAFETEA-LU Technical Corrections Act.

Each project will continue to receive three primary ratings: (1) Project Justification Rating; (2) Local Financial Commitment Rating; and (3) Overall Project Rating. The SAFETEA-LU Technical Corrections Act does not require an alteration to FTA's methodology for assigning an overall project rating, nor does it require an alteration to FTA's methodology for assigning a local financial commitment rating. These are described below. The methodology for assigning a project justification rating is affected by the SAFETEA-LU Technical Corrections Act and will be the subject of future FTA proposed policy guidance this summer. Hence a discussion of this is omitted from this document.

Overall Project Rating

FTA uses the project justification and local financial commitment ratings to determine an overall project rating of "High," "Medium-High," "Medium," "Medium-Low" or "Low" for each proposed New Starts project. This overall project rating is the average of the rating for project justification and local financial commitment, which follows the same "High"-to-"Low" rating scale. When the average between the project justification and local financial commitment ratings is not clear (e.g. "Medium-High" rating for project justification and "Medium" rating for local financial commitment), the overall rating is determined by rounding up the average rating (e.g. "Medium-High" rating for project justification and "Medium" rating for local financial commitment yields an overall rating of "Medium-High"). In addition, the following decision rules apply to the determination of a project's overall rating:

- A "Medium" overall project rating requires a rating of at least "Medium" for project justification and for local financial commitment, and
- If a project receives a "Low" rating for either project justification or local financial commitment, it will receive a "Low" overall rating.

A project must receive an overall rating of at least "Medium" to be admitted into preliminary engineering or final design, or receive a funding recommendation.

Local Financial Commitment Rating

FTA weighs the proposed non-New Starts share as 20 percent of the summary financial rating; the strength and reliability of the capital plan counts as 50 percent of the rating; and the strength and reliability of the operating plan accounts for 30 percent of the rating. However, failure to achieve at least a "Medium" rating on both the capital and the operating plan will result in an overall financial rating of not greater than "Medium-Low."

Project Justification Rating (note on cost-effectiveness thresholds)

As mentioned above, the methodology for assigning a project justification rating is affected by the SAFETEA-LU Technical Corrections Act and will be the subject of future FTA proposed policy guidance this summer. However, as announced in the April 29, 2005 Dear Colleague letter, FTA has adjusted the breakpoints for rating the cost effectiveness of proposed New Starts projects based on the Gross Domestic Product deflator. The breakpoints to be used through the FY 2010 reporting cycle and subsequent preliminary engineering and final design requests (until new breakpoints are issued) are presented in Figure 2 below:

Figure 2: FY 2010 Cost-Effectiveness Breakpoints

Cost Effectiveness Rating	Cost Effectiveness Value
High	less than or equal to \$11.99
Medium-High	between \$12.00 and \$15.99
Medium	between \$16.00 and \$24.49
Medium-Low	between \$24.50 and \$30.49
Low	Greater than or equal to \$30.51

Funding Recommendations

It is important to note that project ratings are distinct from project funding recommendations.

An overall project rating of “High”, “Medium-High”, or “Medium” does not translate directly into a funding recommendation or commitment. Several Administration and Congressional directives guide FTA funding decisions. Beginning in FY 2006, the Administration has targeted its funding recommendations to those proposed New Starts projects that achieve a “Medium” or higher rating for cost-effectiveness. Hence, any proposed New Start receiving a “Medium-Low” rating for cost-effectiveness or lower will generally not be recommended for funding by FTA, although its overall project rating may be “Medium” or higher, unless the project has been exempted from this requirement.

Consistent with Administration policy and statutory requirements, FTA will recommend multi-year Federal financial commitments (Full Funding Grant Agreements) only for those New Starts projects that:

- Are rated overall as “Medium” or higher;
- Are rated “Medium” or higher for cost-effectiveness;
- Are in the final design phase of project development and have demonstrated “readiness” to utilize the funds based on a reasonable implementation schedule; and
- Can be implemented with Section 5309 New Starts funding that is within available program resources.

IV. Technical Requirements

FTA requires a very specific set of information for its evaluation and rating of New Starts projects. Many of the required data inputs and qualitative assessments used by FTA in its evaluation of candidate projects are based upon information developed by local project sponsors during alternatives analysis and other planning/project development activities. FTA will work with local agencies to address questions and issues regarding individual data items and reporting of specific criteria and measures.

This section summarizes the key policy and planning principles that must be followed for the development of all New Starts project justification criteria to ensure that FTA can give the project an adequate evaluation and a fair rating. These items will be described in greater detail in the following sections. New Starts project sponsors are reminded to visit FTA's website for *New Starts Project Planning and Development* at http://www.fta.dot.gov/index_5221.html for additional guidance on the planning and development of major transit capital investments.

IV.1. Key Policy and Planning Principles

The Section 5309 New Starts criteria are used to evaluate and rate a wide variety of proposed projects nationally. In order to ensure a "level playing field" upon which to evaluate candidate New Starts projects, project sponsors must develop the information that supports their New Starts submissions according to FTA policy. This section describes the basic technical approach related to the definition of both the New Starts "Build" and "Baseline" alternatives; the assumptions to be used in the travel forecasting of these alternatives; and the self-certification that FTA requires of each sponsoring agency, which is intended to ensure compliance with these technical principles.

The information needed to address the New Starts criteria should be a normal product of the planning and project development process. Project sponsors are strongly encouraged to recognize and address the substance of this information at the earliest stages of corridor planning. Otherwise, additional time and expense may be incurred before project sponsors can submit their requests to enter PE and certify that they have followed these guidelines.

FTA notes that any methods and assumptions that differ from those described in this section should be discussed with FTA before they are used. FTA's intent is not to totally preclude approaches that depart from this guidance, but for FTA and project sponsors to reach a mutual decision on approaches that may vary from these instructions.

Definition of Alternatives

The definition of the alternatives to be studied in alternatives analysis is an extremely important element in the development of major transit capital projects. FTA has issued a range of guidance on the definition of alternatives, including *Advancing Major Transit Investments Through Planning and Project Development (Version 1.1)* (http://www.fta.dot.gov/planning/newstarts/planning_environment_2591.html) and a chapter on the subject in the revised *Procedures and Technical Methods for Transit Project Planning*, available on FTA's website at http://www.fta.dot.gov/planning/newstarts/planning_environment_2396.html. Please refer to these documents for detailed guidance on the development of alternatives for the alternatives analysis study and for FTA's subsequent evaluation of the proposed New Starts project.

New Starts Baseline Alternative Guiding Principles

The New Starts Baseline shares its definition with that of the transportation system management (TSM) alternative: that is, the “best that can be done” to improve transit service in the project corridor without a major capital investment in new guideway infrastructure. If developed correctly – and except in rare cases where the No-Build alternative may suffice – the TSM *is* the New Starts Baseline. The New Starts Baseline is designed to demonstrate the extent to which the transportation needs in the New Starts project’s service area could be met without a guideway investment. At a minimum, the New Starts Baseline must include relatively low cost actions such as traffic engineering, enhanced bus service and other transit operational changes, traffic signal priority, and user information as well as modest capital improvements like reserved lanes and park-and-ride lots. While low in cost relative to the proposed New Starts project, the New Starts Baseline may still involve substantial capital and operating costs, particularly in complex study areas with significant transportation problems, and where the Build alternative is particularly high in cost.

The New Starts Baseline must be defined so that comparisons between the New Starts project and the New Starts Baseline will isolate the costs and benefits of the proposed New Starts investment. Thus, the New Starts project and the New Starts Baseline should be “consistent” with each other, and each should be “optimized” to represent its transit technology in the most favorable way. Consistency requires that underlying assumptions – land use and development, parking availability and cost, fare levels, vehicle loading standards, highway networks, and the like – should be comparable for both the New Starts project and the New Starts Baseline. Defining the New Starts Baseline alternative is an iterative process. Initially, both the New Starts project and the New Starts Baseline should be derived from a common service strategy with the same coverage, span of service and initial headway assumptions. Through the process of equilibration, the operating plans for the New Starts project and the New Starts Baseline may change in order to optimize performance. The final operating plans may consequently reflect different headway assumptions due to inherent differences in mode, alignment, speed, dwell times, and vehicle capacity.

It is important to note that the New Starts Baseline alternative should not necessarily “mimic” the New Starts project if non-guideway transit can more efficiently serve important corridor travel markets in different ways. For example, a TSM alternative may include a combination of skip-stop, express, and other services in the corridor which are developed with the intent of optimizing performance in terms of both cost and travel time. Consequently, the New Starts Build and the New Starts Baseline alternatives may differ not only in terms of the presence or absence of a guideway but also in terms of:

1. Vehicle miles and hours of service;
2. Location of stations or stops;
3. The amount of redundant local bus that is replaced by higher order services; and
4. Final headways and park-and-ride capacities that have been equilibrated against predicted transit demand.

In the past, New Starts project sponsors have varied widely in their assumptions regarding the scope – and costs - of the New Starts Baseline alternative. Some sponsors have simply assumed standard 40-foot buses, and their costs, in the New Starts Baseline alternative. Others have assumed advanced technology buses and elaborate stations in the New Starts Baseline, even though such vehicles and facilities could not be justified as meeting the definition of a modestly-priced TSM. A few sponsors ascribed unreasonably high costs of “professional services” to the New Starts Baseline alternative – in essence, loading the alternative with costs attributable to the planning and engineering of the Build alternative - while others did not include such costs at all. To the extent that FTA intends that the New Starts Baseline alternative help it maintain a level playing field in terms of measuring the costs and benefits of proposed New Starts projects, these differences may result in either an over- or under-estimation of projects’ cost effectiveness.

Consequently, these *Reporting Instructions* – and the Standard Cost Categories (SCC) worksheets which are used to report project capital cost information - define prototypical capital costs for specific elements in New Starts Baseline alternatives. These cost parameters are shown in Figure 3 below, and have been adjusted upward since last year to reflect inflation. Costs for roadway improvements, stations, sitework, systems, and buses were derived from actual costs incurred by local transit agencies that have implemented TSM improvements in Los Angeles, Kansas City, and Boston. Allowable percentages for professional services and unallocated contingency were derived from estimated costs for projects in the New Starts pipeline and as-built costs from the Light Rail and Heavy Rail Cost studies by Booz Allen Hamilton for 2003 and 2004. Consequently, use of these cost parameters is appropriate for New Starts Baseline alternatives which result in “rapid” service characteristics similar to the proposed New Starts project. New Starts Baseline alternatives which operate as “local” service would not typically warrant investment in roadway improvements and stations, so such costs should not be assumed.

Deviation from these assumptions may be permitted, but must be discussed with the FTA Office of Planning and Environment prior to formal submission of annualized cost information. Except where advised otherwise by FTA, sponsors of projects approved into preliminary engineering or final design prior to May 2006 (when these parameters were first published) have the option to either use these new standards or to continue to report their New Starts Baseline alternative annualized costs as assumed in previous New Starts evaluations. In the latter case, however, project sponsors may not pick and choose to take advantage of any more favorable cost and/or scope assumptions provided for above. Projects entering PE in the upcoming year should follow these parameters or provide justification for any deviations.

FTA reminds candidate New Starts project sponsors that the *New Starts Final Rule* requires that FTA approve the New Starts Baseline alternative before projects can be approved to advance to preliminary engineering. This approval is based upon a review of the operating plans, travel forecasts, scope definition, capital costs, and operating costs for the proposed New Starts Baseline alternative. Sponsors of local alternatives analysis studies that are considering a potential New Starts project should engage FTA in the process of defining and analyzing alternatives to determine an appropriate New Starts Baseline. Defining a New Starts Baseline may require iterative analysis and discussions with FTA over a period of time. FTA commits to the provision of timely technical assistance in the development of alternatives and other aspects of New Starts planning and project development.

Figure 3: New Starts Baseline Cost Parameters

Prototypical costs for specific elements in Baseline Alternatives			
10 GUIDEWAY & TRACK ELEMENTS		(X000)	
10.02	Guideway: At-grade semi-exclusive (allows cross-traffic)	1,082 per route mile	Prototypical cost for roadway improvements applies to "rapid" and "express" bus service, not "local" bus service. Local bus service would not typically warrant such investment.
10.03	Guideway: At-grade in mixed traffic	1,082 per route mile	
20 STATIONS, STOPS, TERMINALS, INTERMODAL			
20.01	At-grade station, stop, shelter, mall, terminal, platform	216 per station	Prototypical cost for stations applies to "rapid" and "express" bus service, not "local" bus service. Local bus service would not typically warrant such investment.
40 SITEWORK & SPECIAL CONDITIONS			
40.07	Automobile, bus, van accessways including roads, parking lots	5.4/on-grade space	
50 SYSTEMS			
50.02	Traffic signals and crossing protection	27 per intersection	Signal Priority for buses is provided via wireless communication. Receiver equipment is attached to the traffic signals along the bus route and is wired into the traffic signal controller. Each bus is outfitted with a traffic signal priority emitter. When a bus is behind schedule, its emitter sends a signal to the receiver on the traffic signal. The receiver transmits to the controller a request to hold the green traffic light longer. An interconnect between traffic signals along the route can provide continuous green lights for the bus.
50.05	Communications	13 / bus; 13 / sign at station	Passenger Communications consisting of the following: 1) detection of bus location via GPS (Global Positioning System -- a network of satellites transmitting high-frequency radio signals containing time and distance data picked up by a receiver to identify precise locations) 2) announcement of next stop locations to passengers on the bus; 3) computation of bus arrival time at the next station; 4) radio relaying of the arrival time to the electronic display at the next station (passenger information sign); 5) displaying arrival time on passenger information sign.
50.06	Fare collection system and equipment	10.8 per bus	On-bus fare collection for passes and cash; integrated with communications system;
50.07	Central Control	16.2 - 27 per bus	Dispatch center, control center for systems; mobile radios on vehicles, dispatch software, transmissions equipment, monitors, schedule adherence software
70 VEHICLES			
70.04	Bus	433 per conventional bus or 703 per articulated bus	
80 PROFESSIONAL SERVICES		35% of Construction Subtotal (10-50)	
90 UNALLOCATED CONTINGENCY		5% of Subtotal (10-80)	

Build Alternative

The Build alternative is the project that the sponsoring agency is or will be seeking FTA New Starts funding to construct. The New Starts project should be evaluated as a stand-alone project. In some instances, the preferred multi-modal alternative that is adopted into the MPO's long range transportation plan following a corridor study will include a variety of elements, such as highway and HOV improvements, as well as transit. When addressing the New Starts criteria,

those elements of the preferred alternative that are not proposed for New Starts funding should be treated as separate and distinct projects from the New Starts project. This is necessary to accurately identify the transit benefits that the New Starts project will produce.

If the project sponsor intends to build the New Starts project in phases, starting with a minimum operable segment (MOS), then it is the MOS that should be evaluated using the New Starts criteria and advanced through New Starts project development. Local project sponsors considering implementation of an MOS should discuss this with their FTA Regional Office and the FTA Office of Planning and Environment.

FTA notes that the capital costs of any feeder bus services or other project elements that contribute to the performance of the Build alternative but which are outside of the scope to be funded under a Full Funding Grant Agreement must be included in the calculation of project cost effectiveness.

Additional Guidance for Multimodal Projects

Defining alternatives for projects that contain more than one mode is more complex. The FTA New Starts evaluation process is designed to analyze the impact of the New Starts project alone. When Build alternatives include highway or high-occupancy vehicle (HOV) elements, FTA needs the project sponsor to identify alternatives that isolate the impacts of the proposed New Starts project. The New Starts Baseline alternative and the Build alternative will need to assume the existence of the highway or HOV elements within the corridor to provide a consistent basis of comparison for the New Starts ratings.

This highway-only New Starts Baseline alternative may, in some cases, be a reasonable alternative that addresses the purpose and need for Federal action that underlies the NEPA evaluation. In this case, the NEPA scoping process would be expected to advance such highway-only alternatives for evaluation during the NEPA process. However, it is expected that, in many cases, the highway-only alternative created to serve as the New Starts Baseline alternative will not sufficiently address the established purpose and need for the proposed project. In this instance, the scoping process would not retain the highway-only alternative for NEPA evaluation. The highway-only alternative would be developed only for use in the New Starts rating process but would not be included in the NEPA evaluation.

Travel Forecasting Assumptions

There is significant variability in the travel forecasting models maintained by agencies across the country so that inputs and model assumptions are different in different places. Nevertheless, a number of good practices have evolved that ensure consistent treatment of alternatives. The basic guiding principle in developing model input assumptions is to make sure that the travel forecasting approach does not bias the results in favor of any particular alternative. By following this important and overarching principal, which should be manifest in both travel forecasting procedures *and* the definition of transportation alternatives for which travel forecasts are being generated, it is FTA's expectation that the resulting forecasts will reliably convey the transportation benefits and impacts of the alternatives, rather than their underlying fare, service, and/or other policy assumptions.

As previously noted, New Starts project sponsors should use a 2030 horizon year for the development of travel forecasts and systemwide operating costs used in the calculation of the project justification criteria. For New Starts projects located in areas whose metropolitan planning organization (MPO) uses a 2025 planning horizon, the project sponsor should extrapolate its 2025 land use forecasts to 2030. Where such extrapolation occurs, the process for determining the resulting land use forecasts must be endorsed by the MPO. Project sponsors should also assume 2030 for the estimation of systemwide operations and maintenance costs.

Alternative-Specific Effects for Different Transit Modes

Beginning in 2007, FTA adopted a method for crediting projects with mobility benefits associated with project attributes that are not recognized by conventional travel models. The approach recognizes three categories of attributes that are not included in current travel models: guideway-like characteristics, span of good service, and passenger amenities. Depending on the characteristics of a project in each of these three categories, FTA assigns a lump-sum credit – expressed as equivalent minutes of travel time savings – to each trip on the project and a discount on the weight used to describe the onerousness of each minute of in-vehicle time on the project. The maximum values of these adjustments are 15 minutes of time savings for each project rider and a 20 percent discount on the travel time weight. Proposed projects that have few of the unincluded attributes (little separation from mixed traffic, limited span of good service, and few guideway-like features) will be assigned much smaller adjustments. Whatever the adjustments for a particular project, the approach makes the full adjustments for guideway-only trips and reduced adjustments for guideway trips that depend on local buses for either access or egress. These adjustments are made to the forecasts derived from local travel models. Consequently, they yield additional user benefits for the riders predicted to use the proposed project, but do not change the predicted number of riders.

Implementation of this approach requires that: (1) the project sponsor documents carefully the attributes of both the build and baseline alternatives in terms of the three categories of unrecognized characteristics; (2) FTA determines the appropriate adjustments for the two alternatives based on their attributes; and (3) the project sponsor applies the adjustments to the existing forecasts for the two alternatives.

The specific application of this general approach for an individual project will reflect the structure of the local travel models, the computer software used to apply those models, and the nature of the guideway components of the build and baseline alternatives. In general, application of the adjustments requires four pieces of information for each trip predicted to use the guideway components: (1) the locations (“zones”) of both ends of the trip, (2) the access mode (walk or drive), (3) travel time on the guideway, and (4) travel time on local buses. The adjustments will result in zone-to-zone estimates of additional user benefits for the build alternative that will be included in the Summit reporting (both tables and maps) of the forecasts.

Because this policy applies to very few projects that would introduce new transit modes to an area, FTA is providing case-by-case technical assistance on its implementation. Sponsors of starter projects who want to take advantage of the policy this year should contact the FTA Office of Planning and Environment for assistance.

Cost Estimating Assumptions

A project's capital cost estimate includes costs for planning, design and construction. It includes labor and material for construction of the improvement – guideways, stations, support facilities, sitework, special conditions, systems – as well as costs for vehicle design and procurement, right-of-way acquisition, relocation of existing households and businesses, planning, facility design, construction management, project administration, finance charges, and contingencies. To support the evaluation of costs, cost estimates must cover “knowns,” uncertainties, and even make provisions for unknowns.

FTA expects that New Starts (both Build and New Starts Baseline) project cost estimates be up-to-date, based on unit costs that apply to expected conditions during construction, and specifically identify remaining uncertainties in those unit costs. Similarly, estimates of operations and maintenance costs should be based on current local experience, adjusted for differences in vehicle and service characteristics, and, for any transit modes new to the system, are consistent with experience in similar settings elsewhere.

IV.2 Certification of Technical Methods, Planning Assumptions, and Project Development Procedures

The use of consistent and defensible measures, data inputs, and analytical assumptions is intended to improve the information provided by project sponsors and support FTA's decision-making process. Therefore, project sponsors must include with their submission a statement certifying that the technical approaches and assumptions used in the analysis were in accordance with the principles outlined in Section IV.1 of these instructions, as well as other FTA guidance and best professional practices.

The statement reflects not only assumptions supporting the project's travel forecasts but the estimation of capital and operating costs. The statement further requests that any deviation from these instructions and/or FTA guidance and procedures be identified and discussed with FTA in advance of FTA's acceptance of the New Starts project justification criteria for evaluation. Finally, the project sponsor is asked to complete the statement with dates regarding the collection of data which support the travel forecasts.

FTA's *Certification of Technical Methods, Planning Assumptions, and Project Development Procedures* is provided below. The Chief Executive Officer (CEO) of the sponsoring agency signs the certification statement. FTA strongly encourages both the agency CEO and his/her staff to carefully read the certification and understand the items to which it attests. Any questions regarding the certification statement should be directed to the FTA Office of Planning and Environment.

Certification of Technical Methods and Planning Assumptions

As Chief Executive Officer of _____, I understand that FTA's Reporting Instructions for Section 5309 New Starts Criteria, dated July 2008, establish common conventions for the development of information on proposed New Starts projects that are crucial to the fair and evenhanded evaluation of projects. These conventions include:

1. The horizon year used for the travel forecasts is 2030.
2. The ridership forecasts are based on a single set of projections and policies consistent with the regional transportation plan and are held constant for the preparation of travel forecasts for the New Starts Baseline and New Starts Build alternatives, including:
 - land use, demographics, socio-economic characteristics, and travel patterns;
 - the highway network, except as modified for changes inherent to the Build alternative (such as the conversion of traffic lanes to transit-only rights-of-way);
 - transit service policies regarding geographic coverage, span of service, and headways, modified where necessary to integrate transit guideways into the bus system;
 - pricing policies (fares, highway tolls, and parking costs); and
 - transit capacity provided given projected transit volumes, productivity standards, and loading standards.
3. The travel models used to prepare the forecasts have been developed and tested with the best available data on current conditions in the urban area, including:
 - Highway speed data collected in the year _____;
 - Transit travel-time data collected in _____;
 - Home-interview/travel-diary data collected in _____; and
 - Transit on-board survey data collected in _____.
4. Except for the impacts of physical changes introduced by the alternatives themselves, the performance of the highway and transit systems is held constant between the New Starts Baseline and New Starts Build alternatives, including:
 - highway congestion levels;
 - transit operating speeds in mixed traffic; and
 - maximum access and egress distances to/from transit services, as well as representations of walking, waiting, and transfer times.
5. Transit-mode-specific constants describing the unmeasurable attributes of individual modes are either the same across all transit line-haul modes or are derived from ridership experience on existing transit modes in the metropolitan area, and have magnitudes that are within acceptable ranges as reviewed and approved by FTA.
6. Service levels in both the New Starts Baseline and New Starts Build alternatives have been adjusted to meet projected ridership levels using consistent vehicle-loading standards.
7. The forecasts of ridership and transportation benefits have been subjected to quality-assurance reviews designed to identify and correct large errors that would threaten the usefulness of the information in project evaluation.
8. The forecast of ridership using park/ride access to an individual transit stop/station does not exceed the capacity of the associated park/ride lot as reported in the current planning and/or environmental documents for the alternatives.

Certification of Technical Methods and Planning Assumptions (continued)

9. Opening-year forecasts for the New Starts Build alternative are based on the same methodology as the out-year forecasts and are presented without adjustment.
10. The definitions of the New Starts Baseline and New Starts Build alternatives are up-to-date, include all items known to be part of the proposed scopes, and specifically identify any remaining sources of uncertainty in the scope of the project.
11. The capital cost estimates for the New Starts Baseline and New Starts Build alternatives are up-to-date, are based on unit costs that apply to expected conditions during construction, and specifically identify remaining uncertainties in those unit costs.
12. Estimates of operating and maintenance costs for the New Starts Baseline and New Starts Build alternatives are based on current local experience, are adjusted for differences in vehicle and service characteristics, and for any transit modes new to the system, are consistent with experience in similar settings elsewhere. All cost components are variable, not fixed. Costs vary with changes in service levels.
13. Annualization factors used to convert daily ridership and operating/maintenance costs into yearly totals are consistent with local experience and are the same for the New Starts Baseline and New Starts Build alternatives.
14. The capital cost estimates are presented in 2008 base year dollars as well as YOES.
15. The financial plan has been updated with information from the most recent budget cycle.
16. Any financing costs incurred because of the project have been included in the total project cost as required by FTA, regardless of whether the project sponsor is seeking reimbursement of the costs from New Starts funds.
17. The full cost of preliminary engineering and final design has been included in the total project cost as required by FTA.

Therefore, I hereby certify that _____ (agency) has followed FTA's *Reporting Instructions for Section 5309 New Starts Criteria* (July 2008) in general, and the above-listed conventions in particular, in the preparation of this submission except for item(s) _____ that _____ (agency) has discussed with FTA and that FTA has approved.

Chief Executive Officer

Date

V. General Reporting Information

This section summarizes the *general* information which must accompany and support the submission of the specific New Starts criteria and measures. This information provides FTA with an understanding of: a) the scope of the proposed New Starts project; b) the need for and benefits of the project; and c) the underlying policy and technical basis upon which each of the New Starts criteria is developed.

Information should be submitted electronically on CDs. When submitting electronic files, FTA requests that they be transmitted in both their original format (Excel/Microsoft Word/etc.) and as PDF files.

V.1 Project Background Information

The following summarizes the requested information that provides FTA with a general understanding of the project, its planning context, and how (and why) it addresses the identified transportation problems in the corridor.

Project Description Template

Project sponsors must provide descriptive information on the proposed New Starts project and the regional public transportation system. FTA uses the project description to understand the project, to develop a project profile for the *Annual Report on Funding Recommendations*, and to establish a database of project characteristics and local contact information. The *Project Description Template* should be used for reporting this information. FTA notes that all New Starts sponsors, even those of projects requesting less than \$25 million in Section 5309 New Starts funding (thus exempt from the New Starts criteria) must submit this template to FTA.

The *Project Description Template* is available at http://www.fta.dot.gov/planning/newstarts/planning_environment_2619.html.

The Case for the Project

Stakeholder scrutiny of the benefits of New Starts projects has never been greater. In an environment where the public and decision-makers demand a high return on taxpayers' investment in transit, more – and more rigorous – questions are being asked about the justification for New Starts projects. Therefore, it is increasingly important that project sponsors articulate the merits of their proposed transit improvements, and the reasons why these improvements represent the best possible solution to locally identified transportation problems.

FTA believes that a very valuable understanding of candidate New Starts projects can be gained from a simple, approximately 5-page narrative developed by the sponsoring agency, that succinctly describes the benefits of the proposed investment, particularly in comparison to the New Starts Baseline (and other lower cost) alternative(s). The intent of this narrative is to “make the case” for the New Starts project. This *Case for the Project* document should describe key substantiated project outcomes that justify the worthiness of the proposed New Starts investment. These outcomes should be drawn from the alternatives analysis or other studies performed by the project sponsor that were used as the basis for selecting the proposed investment being advanced through the New Starts project development process.

Importantly, the *Case for the Project* should identify substantive benefits backed by demonstrable analytical results – not assertions. Reasons for benefits should be explained, and evidence for such conclusions provided. The analysis should extend beyond a justification for why a given corridor is in need of improvement to why the proposed New Starts project is better than any other reasonable transportation investment in the corridor.

Below is an outline, including brief guidance, of what the *Case for the Project* should contain. FTA encourages project sponsors to submit the document early so that FTA may review and provide suggestions for improvement in advance of the final rating for the document.

- **Project identification** – Include just a few sentences describing the transit mode, whether the project is a starter line, an expansion, or an extension, the length of project, the location, etc.
- **Setting** – Provide a sense of the key jurisdictions and activity centers, significant geographical features, and major transportation facilities. A map highlighting these in relation to the proposed project is essential.
- **Current conditions in the corridor today** relevant to the project benefits - Describe key travel markets, congestion and highway travel times, transit services and transit travel times, and transit ridership with an emphasis on key markets.
- **Anticipated conditions in 2030** – Describe key changes between today and 2030 (for the No Build alternative) in travel markets, the highway system, transit facilities, services, and travel times, and transit ridership. This section should be well linked to the current conditions section.
- **Purpose** – Very briefly, state the specific transportation and economic development (if applicable) purpose(s) of the project. Whom is it intended to serve? From where to where? Where are the economic development locations? How does the project specifically contribute to economic development versus what might occur even if the project were not constructed?
- **The merits of the proposed project** – Describe first the low-cost approach (TSM), including a brief description of key TSM elements, the impact it has on transit service quality, transit ridership, and mobility benefits (time savings). Discuss the TSM’s cost-effectiveness versus the No-Build alternative, its success in addressing the purpose(s), and the limitations that make it an insufficient response to the purpose of the project. Then describe the proposed project, including a brief description of the project, the impact it has on transit service quality, transit ridership in key markets, and mobility benefits (time savings). Describe its success in achieving the purpose(s) and its cost-effectiveness versus the TSM.
- **Uncertainties** – If documentation is available on significant uncertainties in the forecasts of capital costs and ridership for the project, summarize the findings – focusing on the sources and nature of those uncertainties and the possible impacts on the forecasts should those uncertainties become realities.
- **Summary** – In one paragraph summarize the essential elements from above addressing the following questions:
 - What is the case for the project?
 - What is the purpose?
 - How urgent is the problem?
 - Why is a low-cost approach insufficient?

- How well does the project succeed?
- Are costs in scale with the benefits?
- How firm are the costs and benefits?

Overall, the project sponsor should make the best available case (with quantitative evidence) that the proposed New Starts project is better than other alternatives to address clearly identified problems in the corridor.

Ultimately, the *Case for the Project* should provide an interpretation of the travel forecasts (most helpfully, Summit-produced reports and maps) and local analysis of other presumed outcomes and benefits of the proposed project. In summary, the document should strive to:

- Provide quantitative evidence of transportation and other problems in the project corridor, and how the proposed project will address these problems.
- Describe the markets (trip purposes, socioeconomic, geographic) that the project benefits, and how and why they benefit. These benefits should be quantitative.
- Provide evidence that this investment is better than all other strategies for meeting the identified corridor transportation problems. A comparison of how the proposed project performs against the Baseline and other alternatives in serving key travel markets and meeting identified needs should be included.
- Provide real evidence of non-transportation benefits and impacts, if such benefits are part of the purpose and need of the project.

One useful approach to preparing the *Case for the Project* would be to analyze the travel forecasts to determine how the project is meeting the goals and specific market needs identified in a well-crafted problem statement/purpose and need for the project, and to summarize the benefits occurring to each market. Summit reports and maps can provide some insight into this analysis. The document should further summarize how the project meets, as quantitatively and substantively as possible, other objectives such as economic development, improving the environment, etc. identified in the problem statement/purpose and need. There is no set format for the *Making the Case* document. The only requirement is that it be responsive to the items listed above. Time and attention should be paid to the analysis rather than on an elaborately produced document (i.e. “glossy,” with photographs). Because the focus of the *Making the Case* document is to justify a New Starts project’s transportation and - if backed by evidence, economic - benefits, a discussion of local financial commitment, public involvement, project schedule and milestones, and other attributes of proposed major capital transit investments is not relevant.

Finally, FTA reminds project sponsors that the *Case for the Project* will be formally evaluated and rated and incorporated into the project’s justification rating. While sponsors of exempt projects will not be expected to present the same level of analysis necessary to justify the benefits of non-exempt New Starts, a thoughtful summary, using available quantitative data, of how such improvements meet local goals and objectives will enhance FTA’s understanding of exempt projects.

Project Maps

FTA includes maps for each of the proposed New Starts projects in the *Annual Report on Funding Recommendations*. All New Starts sponsors must submit electronic maps of their proposed projects. To ensure compatibility, maps should be created in a geographic information system (GIS) program such as Map Info, Arc Info, Maptitude, or TransCAD. In lieu of a GIS formatted map, a clearly legible “hardcopy” map of the project may be submitted. To ensure consistency, maps must focus on the proposed New Starts investment and its relation to other major transportation facilities and major trip generators. Maps should be in black and white, and include a legend, compass and scale. Maps should fit on 8.5 by 11 inch paper, with one inch margins.

To the extent that they are available, sponsors are encouraged to provide other simple graphic diagrams (not construction documents) of their projects that help illustrate discrete segments of an alignment in terms of relationship to grade and horizontal alignment -- existing track, new track, retrofitted track; single track, double track, shared track; elevated, below-grade, on-grade; relationship to freight lines; number and location of stations; and character of the built and natural environment in which the project is situated. Accompanying these diagrams, sponsors are further encouraged to provide a brief narrative (one paragraph on each) describing major design or engineering challenges; unresolved scope, interagency and political issues; methods for complying with Americans with Disabilities Act; Federal Railroad Administration and railroad compliance provisions and agreements (where applicable); and real estate acquisition issues.

V.2 Travel Forecasts

The following summarizes the specific documentation that must be submitted to FTA in support of the travel forecasts and related information.

Travel Forecasts Template

The *Travel Forecasts Template* is the single-location point of entry for all travel forecast information used in the calculation of the mobility improvements and cost effectiveness criteria. This information is transferred automatically through spreadsheet links between the templates to simplify the calculation of the measures and avoid any double-entries of the same information.

The *Travel Forecasts Template* includes three major sections. The first is for entry of trip-purpose-specific information taken from the Summit reports of forecasts prepared by conventional travel-forecasting models. The second is for entries of market-specific information prepared “off-model” for special markets (such as air passengers, travelers to sports venues and other special events, and any other markets not considered by the local travel-forecasting procedures). The third is for entry of system-wide and project-wide information from both the conventional travel models and the “off-model” analyses. Finally, computation of several quality-control statistics for each of these sections is an integral part of the template.

The three sections of travel forecasting information are described below:

Entries of trip-purpose-specific information (lines 1 through 13 of the template). This block is for information taken directly from Summit reports, with separate columns for the individual trip purposes considered by the local travel forecasting procedures. Where these

procedures consider more than eight trip purposes (because they are stratified by time period, for example), FTA asks that the forecasts be aggregated rationally to eight categories. Project sponsors should change the column headings (Purpose 1, etc.) to an appropriate label for each trip purpose (i.e. HBW, NHB, HBO, etc). The first five lines are table totals that can be found in the table summary section of any Summit report file. Figure 5 illustrates the locations of this information. The sixth line is taken from the summary of capping effects reported in any Summit report file (also illustrated in Figure 5). The final line in the block is for entries from the district-to-district table produced by the standard Summit New Starts set-up that reports the share of user benefits accruing to transit dependents. FTA asks that sponsors use the lowest socio-economic category considered by the local travel models (usually either income or auto-ownership) as a proxy for transit dependency. Obviously, this information is available only for trip purposes that are stratified by socio-economic category in the local travel models. For non-stratified trip purposes, no entry is required. In this block of trip-purpose specific information, entries of user-benefits forecasts are in hours and therefore require re-scaling from the Summit reports to user benefits in minutes. Hence, the template indicates when you should divide by 60 (lines 8 through 10).

Entries of market-specific information for special markets (lines 14 through 20 of the template). This block is for information prepared “off model” for travel markets not considered by the local travel models. Project sponsors should change the column headings to an appropriate label for each special market. The first and second lines of the block ask for trips on the project and user benefits, respectively, for each travel market, per-event or per-day. Per-event markets include sports venues, concerts, and other intermittent activities. Per-day markets include air passengers, circulation travel, and other markets that are present every day. The third line asks for the market-specific annualization factors used to estimate annual totals from the per-event and per-day estimates. A venue for major league baseball, for example, would have an annualization factor of 81.

Entries of general information (lines 21 through 31 of the template). The general information comprises single-number characteristics of the predicted ridership for the build alternative.

- Annualization factor: the factor needed to compute annual totals from the daily estimates provided by the conventional travel models. Because ridership generated by the special markets is annualized separately, the annualization factor reported under the general information block must exclude the effects of special markets.
- Daily project trips, no special markets: the trips using any part of the proposed fixed guideway, excluding trips from special markets. For most projects, this number is equal to the number of daily boardings at stations/stops on the project. For extensions, however, the number must be derived carefully to capture: (1) trips that board the fixed-guideway system at stations on the project and alight at stations elsewhere; (2) trips that board the fixed-guideway system at stations elsewhere and alight at stations on the project; and (3) trips that both board and alight at stations on the project. These measures are available from the “assignment” of forecast transit trips to the transit network for the build alternative.

- Daily project trips, transit dependents: the subset of daily project trips that is made by transit dependents (as represented by the lowest socio-economic stratum of the local travel model). This information is available from an analogous “assignment” of forecast transit trips to the transit network – but only those trips made by transit dependents. As for the overall reporting of trips by transit dependents, this information can be reported only for trip purposes that are stratified by socio-economic class. This measure supports quantification of the new mobility criteria for transit dependents.
- Daily project passenger-miles, no special markets: the passenger-miles on the proposed fixed guideway project (not the entire system), excluding trips from special markets. This information is also available from the “assignment” of transit trips, perhaps most readily as the summation of [link trips x link distance] for the set of transit links that represent the proposed project.
- Daily project passenger-miles, transit dependents: the subset of daily passenger-miles that is made by transit dependents. This information is available from the “assignment” of transit-dependent trips – from the trip purposes stratified by socio-economic class – and calculation of [link trips x link distance] for the project links. This measure supports quantification of the new mobility criteria for transit dependents.
- Person-trips by transit dependents: the total number of daily trips made by transit dependents (again, for the trip purposes that are stratified by socio-economic class in the local travel models). This information is available from the trip-generation component of the forecasts.
- Person-trips by all travelers: the total number of daily trips made across all trip purposes in the local travel models. This information is available from the trip-generation component off the forecasts.

The quality-control measures in the template provide local sponsors and FTA with a way to identify any characteristics of the travel forecasts that merit further explanation, rather than as an indication of an obvious problem. Consequently, project sponsors should view the measures as a way of highlighting needs for back-up information on the reasonableness of the forecasts – and NOT necessarily as a cause for revision of forecasts that reflect some characteristic of transit travel patterns that is unique to an individual metropolitan area.

QC measures for each of the three sections of the *Travel Forecasts Template* follows:

QC measures for trip-purpose-specific information. The QC measures for the model-based forecasts focus on the distribution of ridership changes and user benefits across the various trip purposes. Where substantial differences occur among the distributions, some explanation should be available of the characteristics of the build alternative that cause differential service improvements across the trip purposes. Useful comparisons can be made between the distributions for: (1) transit trips in the baseline alternative and new transit trips in the build alternative; and (2) new transit trips and user benefits. The QC measures also include the percent of user benefits lost to capping. Losses greater than 20 percent may be an indication that the cap is eliminating legitimate benefits (and therefore should be reset to a higher value with FTA concurrence) or that there are problems in the travel models.

QC measures for special-markets information. The QC measures for the off-model forecasts also consider the distribution of new trips and user benefits across the various special markets, and add the minutes of user benefits per trip on the proposed project. This last measure is a check on the reasonableness of the user-benefits estimate; large per-trip impacts should have a ready explanation of the service impacts on specific markets introduced by the build alternative.

QC measures for general information. The final set of QC measures provides a variety of checks on the forecasts. The minutes of user benefits per project trip is another test of reasonableness on the user-benefits forecast; the resulting value should have a clear explanation in terms of the service changes introduced by the build alternative. The percent of user benefits that are coverage related should be small (usually under 10 percent); otherwise, an explanation will be needed of the reasons that the coverage provided by the transit system is greater in the build alternative than in the baseline alternative. The percent of user benefits that are from special markets should have a clear explanation in cases where special markets represent more than 10 percent of the benefits. The percent of trips using the project that are (implicitly) new to transit should be consistent with experience (30 to 40 percent) or have a ready explanation; otherwise, higher values will raise concerns on the adequacy of the baseline alternative. The average trip distance on the project provides some insight into the nature of its riders; average trip distances that appear very short compared to the length of the project may indicate problems with the ridership forecasts.

As a test of their usefulness, FTA is accumulating across projects nationally the values of the four remaining general QC test measures. The intention is that these measures will provide an indicator of the intensity of each project's impact on mobility and ridership that is related to the character of the areas that it serves. These measures are computed from information needed for other calculations and, therefore, require no additional entries in the template.

FTA does not require back-up materials that provide explanations for QC measures that appear to have unexpected values. Project sponsors may choose to include those materials in their submissions, or may wait to respond to specific FTA questions on the QC measures.

The Travel Forecasts Template is available at http://www.fta.dot.gov/planning/newstarts/planning_environment_2619.html.

Reports and Maps from Summit

FTA has developed and made available a software tool, called Summit, for analyzing travel forecasts. Summit also computes and reports user benefits used in the mobility and cost effectiveness measures. Implementing Summit generally requires some software changes to regional travel forecasting models to write out files of information needed by Summit for the calculation of user benefits. Specifications on the files needed by Summit and detailed Summit documentation are available from the FTA Office of Planning and Environment.

Project sponsors must transmit to FTA, in advance of the formal submission of New Starts project justification measures, a series of reports and maps produced by Summit to summarize the forecasts for the No Build, New Starts Baseline, and New Starts Build alternatives. This information provides both project sponsors and FTA with insights into the reasonableness of the forecasts of ridership and mobility benefits. The specific information requested by FTA includes:

- All files produced by Summit including:
 - Report files (“.rpt” file extension):
 - The individual report files produced by Summit for each market segment considered in separate applications of the mode choice model (for each trip purpose – home-based work, home-based-other, etc. – and sometimes also stratified by time period and/or socio-economic segment). If the forecasts include stratifications within each trip purpose, FTA requests a summary “roll-up” report for each trip purpose in addition to the individual report for each stratification.
 - The “roll-up” report file that sums across all trip purposes.
 - Trip length frequency files (“.tlf” file extension) – one for each market segment considered in separate applications of the mode choice model.
 - Row-and-column-sum files (“.rcu” and “.rcs” file extensions) – one each for each market segment considered in separate applications of the mode choice model.
- A map in PDF format showing the boundaries of summary districts, the name and/or number of each district, and the alignment and station locations of the New Starts project.
- Thematic maps in PDF format that display separately the user benefits accruing to (1) trips produced in, and (2) trips attracted to each travel analysis zone. One pair of maps is necessary for each market segment considered in separate applications of the mode choice model, for any aggregations to trip-purpose subtotals, and for the overall grand totals of user benefits. The thematic maps should also display the alignment and station locations of the New Starts project, district boundaries, and legends that define the thematic categories. Specifications for the shading of the individual zones in the thematic maps are:
 - Three shades of green represent net-positive user benefits for individual zones, with the darkest shade representing the largest benefits. Breakpoints for the three categories should be set so that the darkest shade applies to zones that, in total, represent the top 40 percent of positive user benefits, the medium shade represents the next 30 percent of positive user benefits, and the lightest shade represents the next 10 percent of positive user benefits.
 - Similarly, three shades of red represent net-negative user benefits for individual zones, with the darkest shade representing the largest dis-benefits. Breakpoints for the three categories are symmetric with the breakpoints derived for the positive benefits, rather than independently derived from the distribution of negative benefits. So, for example, if the derived breakpoint between the light-green and medium-green categories of positive benefits is 500 minutes, then the breakpoint between the light-red and medium-red categories of negative benefits is set to -500 minutes.
 - All remaining zones with (small) positive or negative user benefits are unshaded.
- The files written by the project sponsor’s travel model and read by Summit for the information needed in the calculation and reporting of user benefits.

FTA assumes that project sponsors will check the readability of report files and maps before they transmit the information to FTA.

Figure 4 identifies the locations of some of the key Summit report items which help explain local travel forecasts and which are used to complete the *Travel Forecasts Template*.

Annualization Factor

The service annualization factor is used to convert estimates of average weekday ridership and travel time benefits to an annual total, and is reported in the *Travel Forecasts Template*.

Justification for the annualization factor used in the calculation of project cost effectiveness should be provided to FTA in advance of the formal submission of New Starts criteria. The annualization factor should be consistent with local experience, and in most cases will be the same for both Build and Baseline alternatives. If the annualization factor assumed for the New Starts project ridership is different from the transit systemwide figure, justification for the difference must be provided.

V.3 Operations and Maintenance Costs

Systemwide operations and maintenance costs are an input to the calculations of cost effectiveness. The cost tables used for these cost computations, including the productivity factors used for each cost line item, should be submitted to FTA in advance of the formal submission of the New Starts criteria.

V.4 Capital Costs

The following provides information on the Standard Cost Categories (SCC) format and general guidelines for when project cost estimates should be updated.

The SCC establishes a consistent format for the reporting of capital cost and schedule information. The SCC structure accommodates all project elements within ten major cost categories. The SCC worksheets and guidance are located on FTA's website at:

http://www.fta.dot.gov/planning/newstarts/planning_environment_2580.html. Project sponsors are required to submit capital cost information in the SCC format in Excel, electronically, and in hard copy as part of the New Starts information submittal. As you complete the worksheets please refer to two additional worksheets at the SCC web location:

- SCC Definitions. These definitions broaden the meaning of the individual line items and help achieve consistency of use by all parties. Contact the FTA Office of Engineering if you have questions or would like to comment on the definitions.
- TEAM Scopes and Activity Line Items (ALIs). When you apply for a grant in TEAM (*any grant e.g. CMAQ, 5307, 5309, etc*) for your New Starts project, use the 14-Series Scopes and ALIs shown on this worksheet to input your grant budget. The 14-Series matches the SCC Categories.

The following worksheets are to be submitted:

- Build Main (Note – Show allocated contingency amounts.)
- Project Description
- Inflation (Note -- Compare last year's and this year's submissions and provide a brief explanation for major differences between the two. The inflation rates shown in the SCC worksheet are provided only as an example. The project sponsor should input inflation rates representative of conditions in their area.)
- Schedule
- Build Annualized

- Funding Sources by Cost Category
- Funding Sources by Year
- Baseline Main
- Baseline Annualized

The capital cost estimate should be updated when it no longer accurately reflects the current scope and schedule of the project, triggered by either an expansion or reduction in the scope or schedule. More specifically, a project capital cost estimate should be updated when any of the following events occurs. The update should be accompanied by a brief explanation.

- Scope changes
 - Design and construction scope of work changes - Horizontal or vertical alignment, number or type of stations, length of guideway, mode, quantity or material, substitution of material, value engineering changes.
 - The planning context changes - Political, institutional, or project management changes impact project scope or schedule; project procurement conditions change, for example change in bidding climate, price of commodities, or contracting methodology.
- Schedule changes
 - Schedule has slipped or been extended by six months, resulting in additional cost for labor, materials, and/or inflation; this could result from extended community input, project review, funding disapproval, labor disputes, etc.
 - The project requests entry to a new phase or for funding.
 - A year has past since the cost estimate was developed.
- Cost changes
 - The costing methodology has changed as a natural part of project development, for example, from a parametric estimate to a detailed labor and materials quantity take-off.
 - A funding source or financing method has changed causing modification of scope, schedule or cost.

VI. Project Justification Criteria

The following summarizes the information necessary to support the project justification criteria first presented in Section II.1 *Project Justification Criteria*. Reporting templates are available on FTA's website for *New Starts Project Planning and Development*. Any questions regarding these criteria, their associated measures, and/or the calculation of the measures should be directed to the FTA Office of Planning and Environment.

VI.1 Mobility Improvements

Five measures are applied to estimate mobility improvements: (1) the number of transit trips using the project; (2) their user benefits per passenger mile on the project; (3) the number of trips by transit dependent riders using the project; (4) their user benefits per passenger mile on the project; and (5) the share of user benefits received by transit dependents compared to the share of transit dependents in the region. These measures are combined into a general *Mobility Improvements* rating.

Number of Transit Trips Using the Project

The number of transit trips on the project indicates whether or not the project provides benefits for a large number of users. All else being equal, projects that benefit more trips are more effective mobility improvements than projects that benefit fewer trips. The value of this measure is taken from line 22 of the *Travel Forecasts Template*.

User Benefits per Passenger Mile on the Project

User benefits quantify traveler mobility benefits for all users of the transit system, expressed in terms of travel time savings. These benefits are divided by the annual passenger miles traveled on the proposed New Starts project. These values are taken from lines 4 and 24, respectively, of the *Travel Forecasts Template*.

Number of Trips by Transit Dependents Using the Project

The number of trips by transit dependent riders indicates whether or not the project provides benefits for a large number of transit dependent people. All else being equal, projects that benefit more transit dependent people are more effective mobility improvements for transit dependents than projects that benefit fewer transit dependent people. The value of this measure is taken from line 23 of the *Travel Forecasts Template*.

Transit Dependent User Benefits per Passenger Mile

This measure indicates whether the New Starts project would result in significant benefits for the average transit dependent passenger. User benefits to transit dependents are quantified automatically in Summit as the user benefits for the lowest socio-economic stratum. For calculation of the measure, transit-dependent user benefits from line 7 of the *Travel Forecasts* template are divided by the project passenger miles for transit dependents from line 25 in the *Travel Forecasts Template*.

Share of User Benefits Received by Transit Dependents Compared to the Share of Transit Dependents in the Region

This measure indicates whether or not a project is in a relatively transit dependent corridor for the particular metropolitan area. It is calculated automatically. The numerator is calculated by taking the amount of user benefits received by the lowest socio-economic stratum and dividing by the total amount of user benefits for the project. The denominator is calculated by taking the number of person-trips made by the lowest socio-economic stratum and dividing by the total person-trips made on the project. All data used in the calculations come from the *Travel Forecasts Template*.

These measures are calculated automatically on the *Mobility and Cost Effectiveness Template* from the information input into the *Travel Forecasts Template*. These templates can be found on FTA's website at http://www.fta.dot.gov/planning/newstarts/planning_environment_2619.html.

VI.2 Cost Effectiveness

Project sponsors are required to submit two measures of cost effectiveness. The first measure, which FTA uses in its evaluation, is defined as incremental cost divided by user benefits. The second measure is defined as incremental cost per incremental passenger, and is reported for informational purposes only.

Incremental Cost per Hour of User Benefits

The measure used by FTA in its evaluation of candidate New Starts projects is the incremental project cost between the New Starts baseline alternative and build alternatives divided by the incremental user benefits between the New Starts baseline and build alternatives. The inputs to calculate this measure are produced as a matter of course in the development of travel forecasts for the proposed project.

The user benefit calculation expressed in time equivalent units (hours) will serve as the denominator of the cost-effectiveness measure. The numerator is annualized capital and operating costs, resulting in a cost effectiveness measure of dollars per hour of user benefits.

Incremental Cost per Incremental Passenger in Forecast Year

The second cost effectiveness measure is defined as the incremental cost per incremental passenger in the forecast year. This measure uses the forecast change in annual transit system ridership measured in **LINKED** trips¹, comparing the New Starts project to the New Starts baseline, as the denominator of the cost-effectiveness measure. The numerator remains the annualized capital and operating costs.

Both numerators are calculated automatically in the *Mobility and Cost Effectiveness Template* from information reported in the *Travel Forecasts Template*. Instructions for estimating and reporting the annualized capital and operating costs are provided below.

¹ Linked trips refer to trips that begin at the trip origin and end at the final destination. One linked trip could be composed of several unlinked trips such as driving to a park and ride, riding a commuter train, and taking a bus to the final destination is all one linked trip but is made up of three unlinked trips and two transit system boardings.

Instructions for Completing SCC Annualized Cost Worksheets for Build and Baseline Alternatives

Key Assumptions and Data Sources

- Capital costs in constant or base year dollars are estimated for both the New Starts Build and New Starts Baseline alternatives during the New Starts planning and project development process. Capital costs are annualized for input to the calculation of cost effectiveness based on FTA's assumptions on the useful life of specific cost components and an established discount rate.
- Where new feeder bus service is necessary to make the New Starts Build or New Starts Baseline alternatives viable, the cost for this feeder bus service should be included in the calculation of annualized cost. Note that the cost of this feeder bus service must be added to the annualized cost worksheet, as it is not included in the Main Worksheet and it is not an eligible cost under an FFGA.
- The New Starts Build and New Starts Baseline Annualized Cost worksheets provide the project sponsor with the opportunity to claim 12 to 18 years for the estimated useful life for buses. If the project sponsor claims a useful life longer than 12 years, the project sponsor must submit supporting documentation for the reasonability of such a claim.
- Some New Starts projects sponsors assume only the number of vehicles needed for the opening year in the Build Main Worksheet, since this is all that is anticipated to be funded under the FFGA. However, the Build Alternative Annualized Cost worksheet must contain the full number of vehicles needed for the operating plan in the forecast year, since these vehicles are necessary to realize the projected ridership and user benefits that are used in the cost-effectiveness calculation. (Similarly, the financial plan cash flow statement must include the full number of vehicles needed for the forecast year, so that FTA can be assured the project sponsor has the financial capacity to acquire all the vehicles necessary to realize the projected user benefits.)

Calculation and Reporting Method

- BUILD and BASELINE Annualized Cost worksheets are located within the Standard Cost Categories (SCC) workbook on FTA's website at http://www.fta.dot.gov/planning/newstarts/planning_environment_2580.html.
- For each line item within the SCC, a useful life in years is identified, allowing for a more accurate annualized capital cost total.
- Base Year costs are automatically populated in the worksheet from the Main Worksheet, except for the costs for new feeder bus service where it is required to make the alternative viable. Where new feeder bus service is required, enter the quantity (or increase in quantity) of buses and the total base year cost for buses on this worksheet. Spread the Unallocated Contingency across the line items according to perceived risks. The annualized capital cost of the alternative will automatically calculate.

- Annualized costs for the New Starts Build and Baseline alternatives are entered into the *Mobility and Cost Effectiveness Template*.

Instructions for Reporting Systemwide Build and Baseline Operations and Maintenance Costs

- System-wide, service area, and route level operating cost data (and factors) are typically available as part of ongoing operations planning. Forecast year estimates of operating costs for the New Starts Baseline and Build alternatives are included in the financial feasibility analyses completed as part of the New Starts planning and project development process.
- The latest available cost estimates, accurately reflecting the definition of alternatives, should be applied in the calculation.
- The cost tables used for these cost computations, including the productivity factors used for each cost line item, should be submitted to FTA in advance of the formal submission of the New Starts criteria.

VI.3 Existing Land Use, Transit Supportive Land Use Policies, and Future Patterns

FTA staff, with assistance from designated contractors, gathers and reviews summary information, supporting documentation, and quantitative data prepared by local agencies to assess the existing land use, transit supportive land use policies, and future patterns associated with proposed New Starts projects. This guidance is intended to assist local agencies in the preparation and submission of the materials that FTA uses to assess and rate a proposed project's transit supportive land use.

As adopted in its June 2007 *Guidance on New Starts and Small Starts Policies and Procedures*, FTA made clear that project sponsors do not need to resubmit land use information annually for re-evaluation and rating. Instead, at their discretion, project sponsors may submit information and request that FTA re-evaluate the transit supportive land use policies and future patterns for the *Annual Report on Funding Recommendations* if they believe that new information would result in a higher land use rating. At a minimum, FTA will evaluate and rate land use twice during project development -- at the points at which a project sponsor requests entry into preliminary engineering and final design.

FTA uses three primary rating categories in its land use evaluation of New Starts projects. These rating categories reflect the desire to clearly distinguish among three primary aspects of land use: (1) existing land use patterns; (2) plans and policies; and, (3) expected impacts. The categories and factors are:

- **Existing Land Use**
- **Transit Supportive Plans and Policies** – Includes the following factors:
 - Growth Management;
 - Transit Supportive Corridor Policies;
 - Supportive Zoning Regulations Near Transit Stations; and
 - Tools to Implement Land Use Policies.

- **Performance and Impacts of Policies** – Includes the following factors:
 - Performance of Land Use Policies; and
 - Potential Impact of Transit Project on Regional Land Use.

Local agencies may also report “other land use considerations” in the case of unusually exceptional land use characteristics or benefits, which are not otherwise captured under the categories presented above. Other land use considerations may include historic or culturally sensitive areas, community preservation efforts, brownfields redevelopment, designated Federal enterprise zone or empowerment community, etc.

Each of the factors listed above also has associated “supporting factors.” These supporting factors are considered individually in developing overall category ratings, and are used to help project sponsors structure the information that they submit. Figure 5 provides guidance on the type of information and supporting documentation that should be provided for each supporting factor.

Templates for reporting information on transit supportive land use are available on FTA's website at http://www.fta.dot.gov/planning/newstarts/planning_environment_2619.html.

Information and Data Sources for Existing Land Use, Transit Supportive Land Use Policies, and Future Patterns

In general, local agencies are not expected to generate additional analyses, documents, or quantitative data addressing land use issues in order to satisfy the reporting requirement for the *Existing Land Use, Transit Supportive Land Use Policies, and Future Patterns* criterion. In most instances, agencies will be able to rely on readily available materials that have been prepared in conjunction with other studies and analyses.

Local agencies, municipalities, regional planning and governmental agencies, neighborhood organizations, and the private sector prepare information and documents useful for meeting the reporting requirements for the New Starts land use criterion. These materials are developed routinely in conjunction with local and regional land use plans, livable communities initiatives, and economic development activities, as well as in feasibility studies, alternatives analyses, major investment studies, corridor studies, environmental analyses, and other planning efforts for transit New Starts investments.

To assist in the development of accurate project ratings, FTA requests that project sponsors submit full or relevant portions, as appropriate, of corridor and station area maps, local comprehensive plans and zoning ordinances, local and regional policies and agreements regarding land use planning, documentation of station area planning efforts, and documentation of other tools, incentives, and programs affecting corridor and station area land use. Additional descriptions of the information requested for the *Existing Land Use, Transit Supportive Land Use Plans, and Future Patterns* criterion are provided in Figure 5.

Quantitative Data

Quantitative data on population and employment served by a proposed New Starts project are critical inputs to the assessment of existing and future land use conditions. Key indicators

include total employment in the Central Business District (CBD), employment served by the system as a whole, and population and employment densities in the corridor and in station areas. Appendix A provides a sample methodology for estimating station area population, households, and employment. FTA requests that sponsoring agencies follow this methodology in order to ensure consistent reporting of quantitative data among New Starts applicants.

FTA recognizes that some agencies may have to utilize additional data sources, beyond those described above, to provide the quantitative data requested in the *Quantitative Land Use Information Template*. Likely sources are additional reports and data from the Census, MPOs, and local planning agencies. FTA intends to use these data to arrive at a more complete understanding of proposed projects and to develop more thorough information about population and employment densities and development forecasts and proposals. It is hoped that, in cases where agencies have not prepared these data previously, the development of this information will be as useful for agency planning and analysis as it is for FTA's New Starts project review.

Reporting Method

Upon request from FTA, local agencies will submit written summaries and supporting materials to contractors employed by FTA to assist in information gathering during the New Starts review process. Information on the *Existing Land Use, Transit Supportive Land Use Plans, and Future Patterns* criterion should be organized as follows:

Table of Contents: Local agencies should provide a Table of Contents at the beginning of their submission, summarizing all provided materials.

Project Description: Applicants are required to submit the *Project Description Template* as part of their full New Starts application. Applicants should include a copy of this worksheet with their land use submittal.

Maps: Project maps should be submitted that clearly indicate the location of the project and all stations, with reference to: 1) the major highway network; 2) other major transit connections; 3) the CBD and other major activity centers; 4) boundaries of local jurisdictions; and 5) boundaries of the project study corridor.

Summary Information (Qualitative Data): The *Qualitative Land Use Information Template* is the reporting format for providing summary qualitative information on each of the rating categories: (1) Existing Land Use; (2) Transit Supportive Land Use Plans and Policies; (3) Performance and Impacts of Policies; and (4) Other Land Use Considerations (optional). This template allows local agencies to provide written statements to highlight or expand upon information for specific factors. Local agencies may also provide specific references to existing maps, plans, or other documentation attached with the submittal that address the specific factor and type of information requested by FTA.

Quantitative Data: The *Quantitative Land Use Information Template* is the reporting format for quantitative data. The objective of gathering these data is to better understand base year and forecast year information about population, housing units, and employment associated with the project. These subjects are addressed in various combinations at the metropolitan, CBD,

corridor, and station area levels. Appendix A provides a sample methodology for estimating station area population, households, and employment. This guidance is intended to assist local agencies with providing quantitative data at the station area level in a uniform manner.

Supporting Documentation: Agencies should provide full or relevant portions of supporting documentation referenced in their submission. Some particularly helpful pieces of supporting documentation are described below.

Visual aids (maps, photographs, and illustrations) – The characteristics of existing land use, as well as planned future development, can be most readily communicated through information that is visual or graphical in nature. Some recommended types of visual and graphical information to include with the submission are:

- Maps of station areas showing the street network, existing land uses, planned land uses, and zoning;
- Aerial and ground-level photographs of station areas;
- Maps showing existing and forecast population and employment densities in the corridor; and
- Photographs or illustrations of existing transit supportive station area development that has taken place around any existing transit stations or corridors in the region.

Planning documents – Land use plans, policies, and reports developed by local and regional agencies represent a key source of information on the potential for future transit supportive development. Some examples from which to provide either full documents or relevant excerpts include:

- Regional growth management policies and agreements;
- Local comprehensive plans, small-area or station area plans, zoning ordinances, and design guidelines relevant to station areas;
- Station area planning documents (conceptual plans, land inventories, market studies);
- Analysis of land development trends and market potential for transit supportive development within the region and station areas;
- Descriptions of the corridor and station area physical environment from environmental review documents;
- Descriptions of other tools and incentives available for influencing development; and
- Site plans or descriptions of station area development proposals.

Guidance for Agencies That Have Submitted Materials Previously

Agencies that fully reported land use assessment information for a recent preliminary engineering or final design approval or for a previous *Annual Report on Funding Recommendations*, need not resubmit land use information unless a project sponsor believes that

new information would result in a higher land use rating. Unless indicated to the applicant by FTA, prior year submissions remain available in FTA's files.

Importance of Organized, Comprehensive Submittal

It is important for sponsoring agencies to consider that ratings assigned to the land use measurement factors by FTA will be directly related to the ability of FTA and its reviewers to readily identify, locate, review, and assess locally provided documentation. A well-organized submittal is to the advantage of the local agency.

Additional Guidance

Following are several suggestions for improving agency submissions of information for the *Existing Land Use, Transit Supportive Land Use Policies, and Future Patterns* criterion:

- Project sponsors should provide documentation to substantiate qualitative information rather than rely solely upon reference;
- To the extent possible, sponsors should quantify data, e.g., density, employment, trip generators, etc.;
- Sponsors should provide detailed documentation and maps, including approved policies and plans, market studies and economic analyses, etc. Where appropriate, maps and graphics should be used to supplement data; for example, the reporting of development and pedestrian amenities via maps and/or aerial photos is helpful;
- Submissions should be brief and precise, but thorough, in providing explanatory statements; important information should not be omitted for the sake of brevity;
- Brief descriptions of anticipated development and implemented projects, rather than simply a list, is helpful;
- Submissions should provide an explanation of the impact of transit supportive land use policies and how implementation would be achieved, particularly when significant changes are anticipated;
- Submissions should distinguish between existing conditions and those expected from the implementation of land use policies and development practices;
- Submissions should distinguish between station area, corridor, municipal, and regional transit supportive policies and plans;
- Information submitted should identify the mix of land uses within the corridor;
- Submissions should address parking policies and pricing strategies;

In addition, project sponsors are reminded of the importance of providing FTA adequate time to evaluate and rate each project's *Existing Land Use, Transit Supportive Land Use Policies, and Future Patterns*. Please comply with the specified timeframe for submitting information.

Figure 5: Assessment of Existing Land Use, Transit Supportive Land Use Policies, and Future Patterns: Guidance on Documentation and Information to be Submitted

Information Requested	Documentation Supporting Land Use Criterion
I. EXISTING LAND USE	
Existing corridor and station area development (population, employment, high trip generators)	<ol style="list-style-type: none"> 1. Corridor and station area population, housing units, and employment (provide information in template form, 2. Listing and description of high trip generators (examples include colleges/universities, stadiums/arenas, hospitals/medical centers, shopping centers, performing arts centers, and other significant trip generators)
Existing station area development character	<ul style="list-style-type: none"> - Description of character of existing land use mix and pedestrian environment in corridor and station areas - Station area maps with uses and building footprints shown - Ground-level or aerial photographs of station areas
Existing station area pedestrian facilities, including access for persons with disabilities	<ul style="list-style-type: none"> - Station area maps identifying pedestrian facilities and access provisions for persons with disabilities - Documentation of achievement of curb ramp transition plans and milestones required under CFR 35.150(d)(2)
Existing corridor and station area parking supply	<ul style="list-style-type: none"> - Existing parking spaces per square footage of commercial development and/or per dwelling unit - Parking spaces per employee in the CBD and/or other major employment centers - Land area within ½ mile of station devoted to parking - Average daily parking cost in the CBD and/or other areas
II. TRANSIT SUPPORTIVE PLANS AND POLICIES	
a. Growth Management	
Concentration of development around established activity centers and regional transit	<ul style="list-style-type: none"> • Regional plans or policies that promote increased development, infill development, and redevelopment in established urban centers and activity centers, and/or limit development away from primary activity centers • Regional plans or policies to concentrate development around major transit facilities • Local comprehensive plans or capital improvement plans that give priority to infill development and/or provide for opportunities for high density redevelopment
Land conservation and management	<ul style="list-style-type: none"> • Growth management plans (e.g. growth management areas, urban growth boundaries, agricultural preservation plans, open space preservation plans) with maps • Policies that allow for transfer of development rights from open space or agricultural land to urban areas

Figure 5: Assessment of Existing Land Use, Transit Supportive Land Use Policies, and Future Patterns: Guidance on Documentation and Information to be Submitted

Information Requested	Documentation Supporting Land Use Criterion
II. TRANSIT SUPPORTIVE PLANS AND POLICIES (continued)	
b. Transit Supportive Corridor Policies	
Plans and policies to increase corridor and station area development	<ul style="list-style-type: none"> • Adopted city, county, and regional plans and policies and private sector plans and initiatives that promote development in the transit corridor and station areas; plans may include general plans, specific plans (subarea, station area, etc.), redevelopment project plans, or other district plans • Examples of transit supportive policies include: general policy statements in support of transit as a principal mode of transportation within the corridor; policies that support and promote the use of transit; policies/plans that provide for high density development within the corridor and station areas; and policies that support changes to zoning within the corridor and station areas
Plans and policies to enhance transit-friendly character of station area development	<ul style="list-style-type: none"> • Elements of adopted city, county, and regional plans and policies that promote transit-friendly character of corridor and station area development • Policies to promote mixed-use projects • Policies to promote housing and transit-oriented retail • Policies that allow/promote vertical zoning within the corridor • Façade improvement programs • Funds to support transit-oriented plans • Private sector plans and initiatives consistent with the public plans and policies listed above
Plans to develop pedestrian facilities and enhance disabled access	<ul style="list-style-type: none"> • Requirements and policies for sidewalks, connected street or walkway networks, and other pedestrian facility development plans for station areas • Capital improvement programs to enhance pedestrian-friendly design in station areas • Curb ramp transition plans and milestones required under CFR 35.150(d)(2), and other plans for retrofitting existing pedestrian infrastructure to accommodate persons with disabilities in station areas • Street design guidelines or manuals addressing pedestrian and transit-oriented street design (lighting, street furniture, sidewalk width, etc.)
Parking policies (allowances for reductions in parking requirements and traffic mitigation requirements for development near station areas, plans for park-and-ride lots, parking management)	<ul style="list-style-type: none"> • Policies to reduce parking requirements or cap parking in station areas • Policies establishing maximum allowable parking for new development in areas served by transit • Shared parking allowances • Mandatory minimum cost for parking in areas served by transit • Parking taxes

Figure 5: Assessment of Existing Land Use, Transit Supportive Land Use Policies, and Future Patterns: Guidance on Documentation and Information to be Submitted

Information Requested	Documentation Supporting Land Use Criterion
<p>II. TRANSIT SUPPORTIVE PLANS AND POLICIES (continued)</p>	
<p>c. Supportive Zoning Regulations Near Transit Stations</p>	
<p>Zoning ordinances that support increased development density in transit station areas</p>	<ul style="list-style-type: none"> • Ordinances and maps describing existing zoning (allowable uses and densities) • Recent changes to zoning ordinances to allow or encourage development with transit supportive densities and uses • Transit overlay zoning • Zoning incentives for increased development in station areas (density bonuses, housing fund subsidies, regulation relaxation, expedited zoning review, etc.)
<p>Zoning ordinances that enhance transit-oriented character of station area development and pedestrian access</p>	<ul style="list-style-type: none"> • Zoning regulations that allow mixed-use development • Zoning regulations addressing placement of Building footprints, pedestrian facilities, façade treatments, etc. • Architectural design guidelines and mechanisms for implementation/enforcement of these guidelines
<p>Zoning allowances for reduced parking</p>	<ul style="list-style-type: none"> • Residential and commercial parking requirements (minimums and/or maximums) in station areas under existing zoning • Zoning ordinances providing reduced parking requirements for development near transit stations
<p>II. TRANSIT SUPPORTIVE PLANS AND POLICIES (continued)</p>	
<p>d. Tools to Implement Land Use Policies</p>	
<p>Outreach to government agencies and the community in support of land use planning</p>	<ul style="list-style-type: none"> • Promotion and outreach activities by the transit agency, local jurisdictions, and/or regional agencies in support of station area planning, growth management, and transit-oriented development • Inter-local agreements, resolutions, or letters of endorsement from other government agencies in support of coordinating land use planning with transit investment • Actions of other groups, including Chambers of Commerce, professional development groups, citizen coalitions, as well as the private/commercial sector, in support of transit-oriented development practices • Public outreach materials and brochures
<p>Regulatory and financial incentives to promote transit-supportive development</p>	<ul style="list-style-type: none"> • Regulatory incentives (e.g., density bonuses, streamlined processing of development applications) for developments near transit • Zoning requirements for traffic mitigation (e.g., fees and in-kind contributions) and citations of how such requirements can be waived or reduced for locations near transit stations • Programs that promote or provide incentives for transit-oriented development such as tax increment financing zones, tax

Figure 5: Assessment of Existing Land Use, Transit Supportive Land Use Policies, and Future Patterns: Guidance on Documentation and Information to be Submitted

Information Requested	Documentation Supporting Land Use Criterion
	<ul style="list-style-type: none"> • abatement programs, and transit-oriented loan support programs • Other economic development and revitalization strategies for station areas or within the corridor
<p>Efforts to engage the development community in station-area planning and transit-supportive development</p>	<ul style="list-style-type: none"> • Outreach, education, and involvement activities targeted at the development community (including developers, property owners, and financial institutions) • Transit-oriented market studies • Joint development programs and proposals • Letters of endorsement or other indicators of support from the local development community
<p>Public involvement in corridor and station area planning</p>	<ul style="list-style-type: none"> • Description of public involvement process, including corridor and station area land use planning activities • Description of the level of participation in land use planning activities and support for these activities by the general public and community groups • Public outreach materials and brochures
<p>III. PERFORMANCE AND IMPACTS OF LAND USE POLICIES a. Performance of Land Use Policies</p>	
<p>Demonstrated cases of developments affected by transit supportive policies</p>	<ul style="list-style-type: none"> • Documentation of projects that have recently been built consistent with transit-oriented design principles (higher density, orientation toward street, provision of pedestrian access from transit, etc.) • Documentation of projects that incorporate a mix of uses or increased amounts of housing
<p>Station area development proposals and status</p>	<ul style="list-style-type: none"> • Descriptions and plans for new development, including joint development proposals, including size, types of uses, and expected dates of start of construction and completion
<p>III. PERFORMANCE AND IMPACTS OF LAND USE POLICIES (continued) b. Potential Impact of Transit Project on Regional Land Use</p>	
<p>Adaptability of station area land for development</p>	<ul style="list-style-type: none"> • Description or inventory of land near transit stations that is vacant or available for redevelopment, and amount of development anticipated for these parcels • Projected timeline for development of station area properties • Amount of development allowed at station area Build-out compared to existing amount of development
<p>Corridor economic environment</p>	<ul style="list-style-type: none"> • Regional and corridor economic conditions and growth projections • Development market trends in existing corridors and station areas (for areas with existing transit)

Figure 5: Assessment of Existing Land Use, Transit Supportive Land Use Policies, and Future Patterns: Guidance on Documentation and Information to be Submitted

Information Requested	Documentation Supporting Land Use Criterion
	<ul style="list-style-type: none"> • Demonstrated market support for higher-density and transit/pedestrian-oriented development • Locations of major employment centers in the region, and expected growth in these centers • Projected population, employment, and growth rates in corridor or station areas compared to region
IV. OTHER LAND USE CONSIDERATIONS (Optional)	
<p>Other unidentified or unusual circumstances, conditions, or constraints under which the transit agency operates and which influence local and regional land use policies, plans, and implementation</p>	<p>Examples may include:</p> <ul style="list-style-type: none"> • Unique project purpose • Exceptional examples of historical, environmental or community preservation and enhancement • Topography • Brownfields redevelopment • Central city redevelopment • Designation as a Federal Enterprise Zone/Empowerment Community • Type and condition of market (e.g., resort, seasonal) • Intermodal connections • Other factors

VI.4 Other Factors

This criterion presents local agencies with an opportunity to provide FTA with information regarding other factors that may contribute to the overall success of the proposed New Starts investment. FTA may consider these factors if they are well documented and convincingly demonstrate benefits which are not otherwise captured by the other project justification criteria and measures. Examples of other factors include:

- Environmental justice considerations and equity issues;
- Opportunities for increased access to employment for low-income persons, and welfare to work initiatives;
- Consideration of innovative financing, procurement, and construction techniques, including design-build turnkey applications;
- Any other factor which the New Starts project sponsor believes articulates the benefits of the proposed major transit capital investment but which is not captured within the other project justification criteria.

Consistent with SAFETEA-LU, FTA intends that economic development should be a factor for evaluation and rating. Through its ongoing rulemaking process, FTA hopes to define specific measures for evaluating the economic development impacts of candidate New Starts projects.

Until such measures are defined and subject to industry comment, FTA encourages project sponsors to submit information which they feel best justifies the anticipated economic development impacts of their proposed New Starts investments. FTA is particularly interested in quantifiable economic development benefits which can be clearly distinguished from: a) the user benefits which comprise one variable of FTA's measure for cost effectiveness, and b) land use impacts which are reported and evaluated in support of the transit supportive land use plans and policies criteria. Specifically, FTA desires to avoid both the double-counting of benefits *and* the crediting of benefits to projects which may be more appropriately attributable to supporting economic development policies, initiatives, and incentives by isolating the specific impacts resulting from the presence of fixed guideway transit in a given corridor.

In addition to economic development, a project sponsor's *Case for the Project* is now factored into the project's rating. Guidance on the preparation of the *Case for the Project* is provided in *Section V.1* of these *Reporting Instructions*.

Finally, evidence that the proposed New Starts project is a principle element of a congestion management strategy in general, and an auto pricing strategy, in particular, will be considered by FTA as an "other factor." Such consideration supports the congestion initiative of the Secretary of Transportation, which is to promote strategies that reduce highway congestion. Pricing strategies have been shown to reduce congestion and support higher transit ridership.

VII. Local Financial Commitment Criteria

SAFETEA-LU requires FTA to ensure that proposed New Starts projects are supported by an acceptable degree of local financial commitment and resources, including evidence of stable and dependable funding sources to construct, maintain, and operate the fixed guideway capital investment, as well as the rest of the transit system. Project sponsors submit financial plans, project finance templates, and supporting documentation to FTA and selected contractors. FTA evaluates the sponsor's financial condition and local financial commitment based on the financial submission. This assessment is used to report specific measures from which a rating is assigned.

FTA uses three measures to determine *Local Financial Commitment*:

- The proposed share of total project costs from sources other than Section 5309 New Starts, including Federal formula and flexible funds, the local match required by Federal law, and any additional capital funding;
- The strength of the proposed capital funding plan; and
- The ability of the sponsoring agency to fund operation and maintenance of the entire transit system as planned once the guideway is built.

The evaluation of each measure results in FTA assigning a summary financial rating of “High,” “Medium-High,” “Medium,” “Medium-Low,” or “Low” to reflect FTA’s assessment of the sponsoring agency’s ability and commitment to meet the funding requirements of the New Starts project. As a project proceeds through the project development process, it is expected that project cost estimates and local funding sources will become more refined and committed. Consequently, projects in or requesting entrance into final design must meet a higher rating threshold than projects in preliminary engineering.

Increasing demands on limited New Starts funds have brought additional scrutiny to the New Starts rating process. Congress and others have directed FTA to improve the financial reporting guidance and to aggressively evaluate the financial capacity of project sponsors to successfully implement major transit capital investments. For this reason, FTA has developed more detailed instructions for preparing financial submittals, which can be found in the document entitled *Guidance for Transit Financial Plans (June 2000)* located on FTA’s website at http://www.fta.dot.gov/publications/reports/other_reports/publications_1336.html.

Financial Information Reporting Items

Sponsoring agencies will submit documentation of local financial commitment to FTA and the designated contractor. FTA needs all of the following items to evaluate and rate the project sponsor’s local financial commitment:

- a completed *Finance Template*;
- a comprehensive financial plan;
- supporting documentation; and
- a completed financial submittal checklist.

These items are described in detail in the next sections.

All project sponsors must provide all of the required information included in the *Guidance for Transit Financial Plans*. Failure to include any of the elements required for the financial review will adversely impact the project's financial rating and may result in a "Low" financial rating. A "Low" rating for the project finance criteria ensures a "Low" project rating, which will prevent a project from moving forward in the New Starts project development process.

New Starts Project Finance Template

All sponsoring agencies – including sponsors of projects which are exempt from the New Starts criteria - must complete the *Finance Template*. Project sponsors are encouraged to work closely with FTA staff and FTA contractors to ensure that the most appropriate and up-to-date information is applied in the assessment. For non-exempt projects, FTA staff and FTA contractors will review information in order to assess each measure and assign ratings. The *Finance Template* is designed to provide a uniform reporting method for the basic financial information and transit system characteristics necessary for FTA to assess the local financial commitment for the proposed New Starts project. It is not intended as a substitute for a financial plan. A written explanation should be provided for not submitting any requested or current data. Failure to adequately justify any non-compliance will adversely impact the project's financial rating.

Please note that finance charges, whether incurred by the sponsoring agency or one or more of the project funding partners, must be accounted for and included in the capital cost estimate of all New Starts projects. Specifically, only finance charges that are expected to occur prior to either the revenue operations date or the fulfilment of the Section 5309 New Starts funding commitment should be included. In addition, the costs of preliminary engineering and final design should also be included in the capital cost estimate.

Financial Plan

All sponsoring agencies must submit to FTA a financial plan for their proposed project. FTA evaluates the financial plan to ensure that the agency has the financial capacity to construct and operate the proposed New Starts project as well as operate and maintain the rest of the transit system. FTA has developed guidance on the content and format of financial plans for transit agencies. In addition to FTA's long-standing *Guidance for Transit Financial Plans*, (June 2000), FTA has updated the financial planning chapter to its *Procedures and Technical Methods for Transit Project Planning*, which is available on FTA's web site for *New Starts Project Planning and Development* at http://www.fta.dot.gov/planning/newstarts/planning_environment_2421.html. Both documents specify the contents and format of an acceptable financial plan. All agencies submitting information for evaluation and rating are required to submit financial plans that adhere to these guidelines. Failure to provide a complete financial plan will adversely impact the project's financial rating.

Supporting Documentation

The supporting documentation provided by sponsoring agencies to FTA staff and contractors should be developed as part of the New Starts planning and project development process (alternatives analysis, preliminary engineering, environmental impact statement, and final

design). Documentation for each of the funding sources must be provided. All underlying financial assumptions should be identified in the project finance plan and reflect capital financing strategies, projected rehabilitation and replacement costs for the existing system, operations and maintenance costs for the proposed project and the existing system, revenue stream assumptions, and cash flow projections.

Figure 6 on the following page provides a summary of typical supporting documentation for New Starts financial plans. It is important for sponsoring agencies to understand that the ratings assigned by FTA will be directly related to the ability of reviewers to readily identify, locate, review, and assess the provided documentation. A concise, well-organized submittal is to the advantage of the sponsoring agency.

Figure 6: Examples of Financial Plan Supporting Documentation

General Documentation

- Background information and description of the transit agency, including organizational structure and an outline of any other significant capital projects underway (e.g., annual audits and annual reports for past three years, current budget).
- Background information and description of the New Starts fixed guideway project, including project status (e.g., project pamphlets, planning and engineering reports used to select and define the project).
- Information describing current and forecast economic conditions in the region (e.g., regional socioeconomic reports, regional planning estimates of socioeconomic growth used in the development of the financial and ridership estimates).

Financial Documentation

- Agency capital and operating cash flow analysis for the 20-year period (in year of expenditure dollars) as required by planning guidelines. The cash flow analysis should include expenses and revenues for the proposed project as a separate line item from expenses and revenues for the rest of the system.
- A description of the types and amounts of funds (in year of expenditure dollars) for the transit system and proposed project (e.g., local, state, Federal, sales tax, bonds, flexible funding, innovative funding sources).
- Operations and maintenance cost estimates (in year of expenditure dollars) for the entire planned transit system, including the proposed project.
- Capital cost estimates (in year of expenditure dollars) for the proposed project, broken out by major cost categories, including contingencies.
- Capital cost estimates (in year of expenditure dollars) for rehabilitation and replacement needs for the existing system broken out by major categories.
- Description of innovative financing techniques (e.g., innovative funding sources or financing techniques to be used to support the project or to be implemented as part of a larger system-wide program).
- Latest bonding prospectus, capital and operating financing plans, and other reports.
- Commitment letters, contracts, agreements, legislative referendums, joint development agreements, or other documentation evidencing commitment of funds
- Correspondence or other documentation indicating local source's "intent to commit" if no formal commitment or programming of local funding is yet in place.

Additional Documentation

- Regional Long Range Transportation Plan
- Regional Transportation Improvement Program (TIP)
- Major Investment Study (MIS) or Alternatives Analysis (AA), Environmental Impact Statement (EIS), if applicable
- Independent Audit Reports
- Rail vehicle and bus fleet management plans

Financial Submittal Checklist

Figure 7 below presents a checklist of information that should be submitted to FTA. The project sponsor must complete the checklist and include it with the financial submittal. If the checklist is not provided, the submittal will be considered incomplete. Insufficient or incomplete information supporting a project's local financial commitment criteria may result in a “low” rating. Project sponsors are encouraged to pay careful attention to the reporting requirements specified in FTA guidance.

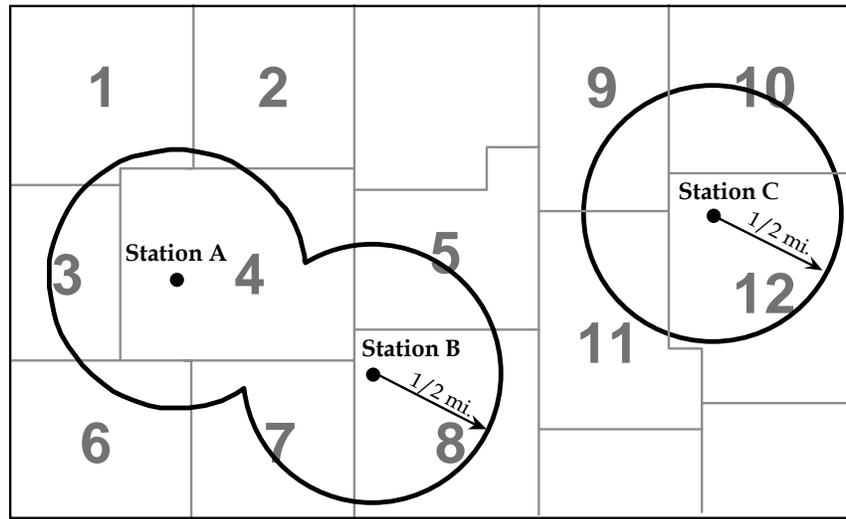
Figure 7: Local Financial Commitment Checklist

GRANTEE FINANCIAL SUBMITTAL	Included (check one)		Reason Why Information Has Not Been Provided
	Yes	No	
20-year cash flow statement (in year of expenditure dollars) including capital and operating financial plans (provided both electronically and in hardcopy). The cash flow statement should clearly show revenues and expenses for the project separated from those for the remainder of the transit system.			
Detailed written description/discussion of all assumptions used in the financial plan including: Federal/state/local/debt proceeds funding assumptions Average fare assumption Average weekday ridership assumptions Debt coverage requirements/assumptions Assumptions used in the calculation of operating expenses for each mode (i.e. -- vehicle miles, vehicle hours of service provided, etc.)			
Project Description and <u>New Starts Project Finance Template</u>			
Capital cost estimate for the proposed project (in year of expenditure dollars) in the FTA standardized cost category worksheet format			
Sensitivity Analysis (spreadsheet calculations as well as narrative summary)			
Supporting Documentation Including:			
Background information and description of the New Starts fixed guideway project, including project status			
Historical revenue and expense data (minimum of 5 years required, more than 5 years appreciated)			
Commitment letters, contracts, agreements, legislative referendums or other documents demonstrating local share commitment of non-Federal funding partners			
Enacting legislative documents for tax referenda			
Joint development agreements, or description and supporting documentation of other innovative financing techniques, if applicable			
Annual Operating and Capital Budgets for the past 3 years			
Audited Financial Statements and Compliance Reports for the past 3 years			
Annual Reports/Comprehensive Annual Financial Reports (CAFR) for the past 3 years			
Background information and description of the transit agency, including organizational structure and grantee enabling legislation			
TIP, STIP and Short Range Transit Plan (SRTP), if available (please provide only relevant pages of these documents)			
Regional Long Range Transportation Plan (please provide only relevant pages)			
Sponsoring Agency’s Capital Improvement Program Document			
Bus and Rail Fleet Management Plans including fleet replacement schedules			
Latest bonding prospectus/credit facility documents (credit lines, commercial paper, etc.)			
Local development, demographic and economic studies used in preparing the financial plan, plus documentation supporting efficiency or productivity gain assumptions			
Other materials (if any), please describe:			

Instructions and Quality Control Checks for Completing the New Starts Project Finance Template

- The capital costs reported on this template should match what is reported in the Main Worksheet of the Standard Cost Categories and the Project Description Template.
- Financing costs should be reported if applicable and included in the total capital cost of the project, whether they are incurred by the sponsoring agency or one or more of the funding partners.
- Verify that the total project cost in constant or base year 2008 dollars reported on the New Starts Project Finance Template differs from that shown on the Build Alternative Annualized Capital Cost worksheet in the SCCs only because the annualized cost does not include finance charges.
- If the capital cost of the project has changed significantly from last year, please provide an explanation.
- Total Federal funding for the project (New Starts plus other Federal sources) should not exceed 80 percent.
- The sum of all proposed sources of operating funds reported on the New Starts Project Finance Template should equal the total transit system annual operating cost in the forecast year.
- The type of funding sources should be identified for each capital and operating revenue source.

Appendix A: Sample Methodology for Estimating Station Area Socio-Economic Statistics



	Census Tract Total				Fraction of Tract within 1/2 Mile of Station	Within 1/2 Mile of Station			
	Land Area (sq. mi.)	Population	Households	Employment		Land Area (sq. mi.)	Population	Households	Employment
Stations A and B									
Tract 1	0.452	2,309	987	1,654	0.08	0.036	185	79	132
Tract 2	0.362	133	58	611	0.06	0.022	8	4	37
Tract 3	0.294	398	145	1,254	0.52	0.153	207	76	652
Tract 4	0.655	2,634	1,154	2,719	0.85	0.557	2,239	981	2,311
Tract 5	0.429	1,038	393	858	0.41	0.176	425	161	352
Tract 6	0.416	2,412	887	1,477	0.19	0.079	458	168	281
Tract 7	0.380	2,088	856	2,785	0.54	0.205	1,127	462	1,504
Tract 8	0.434	2,344	991	2,031	0.68	0.295	1,720	720	1,349
Subtotal	3.422	13,542	5,541	13,342		1.523	6,370	2,652	6,618
Station C									
Tract 9	0.355	1,816	722	610	0.24	0.085	436	173	146
Tract 10	0.462	70	31	1,569	0.40	0.185	28	12	628
Tract 11	0.504	2,645	1,156	760	0.33	0.166	873	381	251
Tract 12	0.540	2,573	1,010	1,873	0.65	0.351	1,730	687	67
Subtotal	1.860	7,192	2,966	3,041		0.787	3,066	1,254	1,091
Total	5.282	20,734	8,507	16,384		2.310	9,437	3,906	7,709

Sample Methodology for Estimating Station Area Population, Households

Instructions for computing station area data:

1. Plot each station location on a map showing census tracts or, alternatively, Traffic Analysis Zones (TAZs).
2. Draw a circle of 1/2 mile radius around each station.

3. Obtain data on total land area, population, households, and employment for the tracts or zones that fall partially or completely within the station areas. Land area, population, and households can be obtained from the census (for census tracts) or from a regional land use database used for travel forecasting modeling (for TAZs). The regional MPO should have these data available. Employment data at the tract or TAZ level may be obtained from the MPO.
4. Estimate the total land area, population, households, and employment contained within each ½ mile station radius by summing the data for each tract or zone that falls within the ½ mile station radius. For tracts or TAZs that partially fall within the ½ mile station radius, station-area population, households, and employment should be estimated by multiplying the total for the zone by the proportion of the zone estimated to fall within the ½ mile radius. The proportion of the zone falling within the ½ mile radius can be estimated either visually or using GIS.
5. Avoid double counting of population and employment for stations that are less than 1 mile apart. This can be done in two ways: (a) draw a line dividing the area enclosed by the overlapping circles into two parts; or, (b) group stations that are less than 1 mile apart into clusters and report total data for each cluster (as shown for Stations A and B in the table above). In either case, please report the total land area encompassed by the overlapping circles. (Total land area for individual stations not grouped together should be roughly the area enclosed by a circle of ½-mile radius, i.e., $3.1415 \times (0.5)^2 = 0.785$ sq. mi.)
6. If possible, attach a map showing station locations, ½ mile radii, and census tracts or traffic analysis zones, along with a Table listing the tracts or zones, estimated proportion of each within ½ mile of the station, and population, households, and/or employment for the tract.