Guidance on New Starts Policies and Procedures

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http://www.fta.dot.gov
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Purpose

Section 3011 (d)(6) of the new transportation statute, Safe, Accountable, Flexible, and Efficient Transportation Equity Act - A Legacy for Users (SAFETEA-LU), requires that the Federal Transit Administration (FTA) publish, for comment and response, “Policy Guidance” regarding the new fixed guideway capital project review and evaluation process and criteria at the following times: (1) 180 days after the enactment of SAFETEA-LU, (2) each time significant changes are made to the process and criteria, and (3) at least every two years. This document is FTA’s response to requirement (1) above and represents our initial publication of the New Starts Policy Guidance. FTA will incorporate any changes made in response to comments made to this document when the New Starts Reporting Instructions and related guidance is published in the spring of 2006.

Interested parties may submit written comments to the Dockets Management System, U.S. Department of Transportation, Room PL-401, 400 Seventh Street, S.W., Washington, D.C. 20590-0001. Please submit comments identified by the docket number (FTA-2006-23636) by any of the following methods:

- Fax: 1-202-493-2478.
- Mail: Docket Management System; US Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-001.
- Hand Delivery: To the Docket Management System; Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC between 9:00 am and 5:00 pm, Monday through Friday, except Federal Holidays.

All submissions must include the agency name and docket number or Regulatory Identification Number (RIN) for this notice. For detailed instructions on submitting comments and additional information on the rulemaking process, see the Public Participation heading of the Supplementary Information section of this document. Note that all comments received will be posted without change to http://dms.dot.gov including any personal information provided. Please see the Privacy Act heading under Supplementary Information. For access to the docket and to read background documents or comments received, go to http://dms.dot.gov at any time or to the Docket Management System.

FTA will also publish a new Rule for Major Capital Investment Projects (New Starts) in response to changes specified in SAFETEA-LU to the methods, criteria and procedures used to evaluate and rate projects proposed for funding under FTA’s New Starts program. These provisions of SAFETEA-LU may lead to some changes in the way that FTA determines eligibility for funding, the framework for evaluating and rating projects, and the procedures used to plan and develop new transit capital projects that seek New Starts funds. This policy guidance also offers an opportunity for FTA to explain its current thinking, and for interested parties to
comment thereon, on some of the issues that will be addressed in the upcoming notice of proposed rulemaking for the New Starts program.

Chapter 1 documents the changes to FTA’s New Starts project development and program management procedures that are proposed to become effective on April 30, 2006, for all New Starts submittals received after that date and prior to the effective date of the New Starts rulemaking. We request comments from interested parties on the changes proposed in this chapter.

Chapter 2 includes a discussion of some of the various implementation issues relating to SAFETEA-LU, discusses the merits of alternative approaches and solicits input, through a series of questions, on the options that FTA is considering. Its purpose is to provide interested parties with an early opportunity to understand and comment on FTA’s initial thinking on these issues so that FTA can take these comments into account in developing the Notice of Proposed Rulemaking currently expected to be published in September 2006.
1 Improvements to Project Development and Program Management of New Starts Projects – Effective April 30, 2006

FTA will not change the current framework and methodology for evaluating and rating New Starts projects, and the decisions rules that support it, before publication of the new final rule for FTA’s major capital investment program. All of the measures and their weights for developing New Starts ratings and recommendations should remain consistent with the process spelled out in the 2000 Final Rule, the April 2005 Reporting Instructions and the FY 2007 Evaluation and Rating Process issued in October 2005. Simply click on the document to access the hyperlinked file. It should be noted that the FY2007 Evaluation and Rating Process reflected two changes established in SAFETEA-LU. Specifically, SAFETEA-LU replaces a three-point rating scale with a five-point scale, with the overall project rating designations of "Highly Recommended," “Recommended,” and "Not Recommended" replaced with “low,” “medium-low,” “medium,” “medium-high,” and “high.” In addition, SAFETEA-LU, while continuing to require that a project’s overmatch be evaluated, adds a clause that nothing in the Act shall be construed as authorizing the Secretary to require a non-Federal financial commitment for a project that is more than 20 percent of the net capital project cost. The Reporting Instructions and Rating and Evaluation Process to be issued on April 30, 2006 for the FY08 Section 5309 New Starts submission, will reflect those provisions as well as the comments on the issues discussed in this document, and will detail the specific measures and procedures that will be used to develop the project ratings for the FY08 Annual Report on New Starts.

While the evaluation and rating framework will not change prior to the publication in the Federal Register of final rulemaking, FTA is considering various procedural changes meant to improve the management of the New Starts process and to ensure the accuracy and consistency of the information submitted to FTA as part of the New Starts evaluation and rating process. These proposed improvements, anticipated to become effective April 30, 2006, are presented in the following sections. FTA welcomes comments from interested parties on these proposed changes.

The amendments made by SAFETEA-LU to section 5309(d) continue to require FTA to determine that projects proposed for New Starts funds meet a variety of criteria, including that they are the result of an alternatives analysis, are included in an approved transportation plan, that the applicant has the legal, financial and technical capability to carry out the project, that the project is justified based on a review of the criteria specified in the law, and that the project is likely to continue to meet these requirements in the future, before projects are allowed to begin preliminary engineering as well as final design. FTA’s current approach to advancing projects through planning and project development is found at http://www.fta.dot.gov/16231_ENG_HTML.htm.

Pursuant to these requirements and prior to submitting a request to enter into preliminary engineering, candidate New Starts project sponsors must perform and complete a planning alternatives analysis which evaluates a range of transportation alternatives developed to meet locally-identified transportation problems in a given corridor. The objective of the planning alternatives analysis is the development of reliable estimates of the costs, impacts, and benefits
of these alternatives sufficient to make an informed decision on a preferred alternative. The planning alternatives analysis should further result in the development of measures of the proposed New Starts project’s justification and financial commitment, which will support the subsequent request to enter preliminary engineering.

It is FTA’s desire to work closely with New Starts project sponsors during the planning alternatives analysis to ensure that it results in the development of reliable information to support both the local decision on selection of a preferred alternative and FTA’s decision to advance the preferred alternative into preliminary engineering. FTA therefore requires that the project sponsor submit the following study products as they are developed during the study to facilitate a subsequent request to enter preliminary engineering:

- Scope of Work
- Problem Statement, Goals, and Objectives
- Definition of Alternatives
- Documentation of Study Assumptions and Methodologies
- Documentation of Study Results, particularly in terms of the estimated costs and benefits of the preferred alternative

Prior to FTA consideration of a preliminary engineering request, FTA also requires that the project sponsor:

- Obtain FTA’s agreement on the alternative to use as the baseline for analysis
- Demonstrate that the preferred alternative has been adopted into the fiscally constrained Long Range Plan
- Demonstrate the technical capability of the project sponsor to advance into preliminary engineering based on an adequate Project Management Plan (PMP)
- Certify to the assumptions and technical methods used to produce the information submitted
- Submit the required templates supporting the New Starts evaluation measures for project justification and local financial commitment

FTA will conduct a review of the products of the planning alternatives analysis, including the estimates of project costs and benefits of the preferred alternative and its baseline for calculating the New Starts project justification criteria, as appropriate, to ensure their reliability for supporting the preliminary engineering approval decision and subsequent preliminary engineering effort. FTA may utilize its oversight resources to facilitate such reviews. Close coordination with FTA and its consultants in these reviews is essential to ensuring the timely advancement of candidate New Starts projects into preliminary engineering.

Prior to approval to enter final design, FTA requires that the project design and cost estimates be solidified, that all National Environmental Policy Act (NEPA) requirements be completed, that the majority of proposed non-New Starts funds be committed, and that the project maintain satisfactory ratings against the New Starts evaluation criteria prior to being allowed to enter final design. As above, FTA and its oversight resources will review the products of preliminary
engineering, *as appropriate*, to minimize and manage risk in the project’s estimate of costs and benefits, and in the sponsor’s capability to finalize the design and construction of the project.

Recently, a number of projects have either failed to advance through project development or have changed a great deal in cost and scope from the projects that were initially chosen as the locally preferred alternative and advanced into preliminary engineering. This has led FTA to consider a variety of ways to ensure that the project is: 1) actually ready to advance into project development, and 2) likely to succeed during project development, prior to approval of entry into preliminary engineering or final design. The following sections describe procedural changes that FTA is proposing to apply to projects seeking to enter preliminary engineering or final design after April 30, 2006 and includes a discussion of the basis for our proposal. FTA solicits comments on these proposed changes.

1.1 **NEPA Interfaces**

FTA has a strong interest in improving the linkage between the New Starts and NEPA project development processes and requirements. Specifically, FTA seeks to mitigate conflicts between NEPA and New Starts; improve the consistency and reliability of information developed for both NEPA and New Starts purposes; and ensure the use and disclosure of such information for local and Federal decisionmaking. Specifically, FTA proposes the following procedural changes related to the NEPA interface with the New Starts project development process.

Require a project to have progressed beyond the NEPA scoping phase before entering preliminary engineering.

While FTA does not now mandate that project sponsors combine the planning alternatives analysis process with the NEPA process, the failure to perform some tasks related to the NEPA process has the potential to disrupt project development. Scoping is a requirement of the NEPA process focused on determining the range of alternatives to be addressed in NEPA documents and for identifying significant issues related to a proposed federal action.

A Council on Environmental Quality (CEQ) memo dated April 30, 1981 regarding scoping guidance outlined the following scoping objectives:

- To identify the affected public and agency concerns;
- To facilitate an efficient Environmental Impact Statement (EIS) preparation process, through assembling the cooperating agencies, assigning EIS writing tasks, ascertaining all the related permits and reviews that must be scheduled concurrently, and setting time or page limits;
- To define the issues and alternatives that will be examined in detail in the EIS while simultaneously devoting less attention and time to less important issues; and
- To save time in the overall process by helping to ensure that draft statements adequately address relevant issues, reducing the possibilities that new comments will cause a statement to be rewritten or supplemented.

In addition, SAFETEA-LU Section 6002 requires that, as early as practicable during the NEPA review, the project sponsor provide an opportunity for involvement by the public and other interested agencies in determining the range of alternatives to be considered.
FTA has found that when proposed New Starts projects enter preliminary engineering before NEPA scoping has been completed, newly-raised reasonable alternatives have occasionally been introduced during preliminary engineering. This introduction of major new alternatives occurred because many of the NEPA scoping participants had not previously been involved in developing the alternatives to undergo environmental review. FTA recognizes that CEQ regulations require consideration of “reasonable alternatives” introduced at any point in the NEPA process. However, by requiring that NEPA scoping, including the related requirements of SAFETEA-LU Section 6002, be complete prior to FTA approval to initiate preliminary engineering, FTA hopes to foster earlier interaction and, ideally, general consensus among the scoping participants about the alternatives to be considered during NEPA review. Through this requirement, FTA expects to produce more efficient and mutually-supported NEPA and New Starts reviews, which share a similar objective – informed decision-making.

Therefore, FTA is proposing to require projects to have progressed beyond the NEPA scoping phase before entering preliminary engineering. This requirement could be satisfied in a number of ways: (1) A Draft EIS can be completed as part of the planning alternatives analysis process. (2) After any NEPA scoping meetings and other NEPA scoping activities, project sponsors can submit, for FTA review, a scoping report that identifies the range of alternatives and major issues that are proposed to be addressed in the EIS. The scoping report would also include a discussion of the alternatives that have been proposed and the reasons for retaining or eliminating each of those alternatives. (3) In the case of an environmental assessment, after early coordination with interested parties, the project sponsor would submit, for FTA review, a report or technical memorandum which identifies the alternatives to be subject to NEPA review. (4) In the rare instance when a proposed New Starts project is categorically excluded from NEPA review, project sponsors would submit appropriate documentation to support that class-of-action determination.

Require the Final EIS to present the New Starts evaluation of the preferred alternative, in addition to the NEPA evaluation of the alternatives.

According to CEQ’s NEPA regulations (40 CFR 1502.14), an EIS should present the merits and environmental impacts of the alternatives in comparative form, “thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public.” In the transportation context, the NEPA evaluation typically measures the merits of an alternative by the extent to which the project purpose and need and other established objectives are met. These merits are arrayed against the adverse impacts and other costs of each alternative to facilitate decisionmaking among the available alternatives.

The CEQ regulations (40 CFR 1502.23) further require that “an environmental impact statement should at least indicate those considerations, including factors not related to environmental quality, which are likely to be relevant and important to a decision.” For a New Starts project, the New Starts rating information qualifies as “relevant and important to a decision.” Therefore FTA is proposing to require that, in addition to the NEPA evaluation of the alternatives, a NEPA document also summarize the most recent New Starts rating of the locally preferred alternative. FTA recognizes that, for a draft EIS or EA, the New Starts rating information may not yet be
available at the time of publication, but if it is available, FTA proposes that it must be included in
the draft NEPA document. FTA proposes that, for a Final EIS, the New Starts rating information
must be available and included in the document.

This proposed policy would ensure that, through the NEPA document, the affected public and
interested agencies are fully informed about the proposed New Starts project, including the
factors that, under Federal transit law, FTA must consider in evaluating those projects.

Require a New Starts project to achieve an acceptable New Starts rating before the FEIS, ROD,
or FONSI is signed.

Over the past several years, a number of projects which were rated poorly in terms of the New
Starts criteria were changed in scope after the publication of a Final EIS and environmental
Record of Decision (ROD). The scope changes were necessary to reduce the project cost and
achieve an acceptable New Starts rating. The scope changes also necessitated supplemental
NEPA documents and re-evaluations. In some cases, the project that was presented to the public
in detail in the Final EIS was subsequently altered substantially in order to improve the cost-
effectiveness rating.

Therefore, FTA proposes a policy of not signing a Final EIS, ROD, or FONSI for a proposed
New Starts project until the project has achieved a New Starts rating of Medium or better. This
policy would not eliminate all supplemental NEPA reviews, but it would minimize the need for
duplicative reviews in cases where it is known that the project must be changed to make it
acceptable for New Starts funding. This policy also would ensure that the Final EIS presents the
affected public with an accurate description of a project that is acceptable for FTA New Starts
funding.

FTA would permit an exception to this policy in cases where the New Starts project is rated
poorly as a result of a deficiency in the financial plan that is easily rectified. For example, the
acceptability of the financial plan may hinge on the passage of a bonding referendum in an
election that will occur several months hence, and passage is expected. In cases where the poor
New Starts rating is due solely to a deficiency in the financial plan whose rectification is simple
and expected, FTA would have the discretion under this proposed policy to proceed with the
aforementioned NEPA documents despite the poor rating.

1.2 Preservation of Information for Before and After Study

Require project sponsors to provide documentation of the information produced during
alternatives analysis that will be needed for the required before and after study, when they apply
to begin preliminary engineering, as well as updated information and analysis at the time of the
request to enter into final design and before executing a FFGA.

In its December, 2000 Final Rule on Major Capital Investment Projects, FTA required that
project sponsors seeking full funding grant agreements (FFGA) submit to FTA , before approval
to enter final design, a complete plan for the collection and analysis of information to identify the
impacts of their projects and the accuracy of the forecasts prepared during project planning and
development. SAFETEA-LU amended section 5309(g)(2)(c) to codify this regulatory
requirement and now requires that project sponsors, as a condition of receiving a FFGA, assemble information on five key project characteristics generated during project planning and development: (1) project scope; (2) transit service levels; (3) capital costs; (4) operating and maintenance costs; and (5) ridership patterns and revenues. SAFETEA-LU now requires FTA to use this information in preparing an annual report to Congress on the results of any before and after studies completed during that year.

FTA’s regulation requires this information at the point of entry into preliminary engineering, entry into final design, before the award of an FFGA, and two years after opening to revenue service. To ensure that required information is identified and preserved during project planning and development, FTA is proposing to require project sponsors to provide initial documentation of the information produced during alternatives analysis when they apply to begin preliminary engineering, and to provide updated information and an analysis of any changes from the previous phase of project development, when applying to enter final design and before receiving an FFGA. The purpose of this proposed action is to ensure that the information is preserved and will be available to be analyzed in the forthcoming before and after study. This documentation is similar to information already used to support a request to enter preliminary engineering, and thus should not represent a significant burden on project sponsors.

The SAFETEA-LU amendment to section 5309(l)(2) now requires that FTA publish an annual report that analyzes the consistency and accuracy of cost and ridership forecasts prepared by each contractor to New Starts project sponsors. To help FTA fulfill this new responsibility, we propose to require, as part of the before and after submissions, that each New Starts project sponsor identify the contractor responsible for the capital and operating cost estimates and ridership forecasts and include a description of the contractor’s role and responsibilities in developing these forecasts.

1.3 Certification of Technical Methods, Planning Assumptions, and Project Development Procedures

Require that the individual identified on Template 1 as the person responsible for developing these tools and techniques, in addition to the CEO, certify that they have been properly developed and applied according to professional standards and conventions and FTA guidelines.

SAFETEA-LU emphasizes the need for reliability of ridership forecasts and cost estimates in a number of ways. First, reliability of forecasting methods has been explicitly included as an evaluation criterion (section 3011(d)(2)(B)). In addition, in the SAFETEA-LU amendment of section 5309(l)(2), FTA is now required to track contractor performance and annually report to Congress on the consistency and accuracy of the cost estimates and ridership forecasts produced by each contractor to public transit agencies developing New Starts projects.

The information submitted to FTA during the New Starts evaluation and rating process must use consistent and defensible measures, reliable data, and analytical assumptions consistent with FTA’s requirements. Accordingly, as part of its existing New Starts evaluation procedures, FTA has asked project sponsors to include with their preliminary engineering or final design request, as well as annual New Starts submissions, a statement certifying that the technical approaches and assumptions used in the analysis were in accordance with FTA guidance and best
FTAs professional practices. FTA has previously required that the sponsoring agency’s Chief Executive Officer (CEO) sign the certification statement included in the New Starts templates. FTA has found cases in which the assumptions used in the New Starts submittals are not always consistent with sound planning and cost engineering principles and FTA guidance. FTA is aware that the CEO is not usually trained in the technical methods and principles that underpin these assumptions. Therefore, FTA believes that the individuals with direct responsibility for the technical areas in question, and who often work directly with FTA in preparing the submittals, should provide their own certification, on which the CEO can rely, that the activities were conducted according to FTA guidelines.

Therefore, FTA proposes to require that the individual identified on Template 1 as the person (in many cases, consultant) responsible for developing these tools and techniques, in addition to the CEO, certify that they have been properly developed and applied according to professional standards and conventions and FTA guidelines. The certification will apply to the development of alternatives, travel demand forecasts, capital and operating cost estimates, and the financial plan submitted to FTA in support of decision-making relative to the proposed project.

### 1.4 Development of Costs and Ridership Forecasts

Require forecasts of costs and ridership to include an analysis of uncertainties.

When evaluating project justification, SAFETEA-LU requires the Secretary to analyze, evaluate and consider the reliability of the forecasting methods used by New Starts project sponsors and their contractors to estimate costs and ridership. Further SAFETEA-LU requires the Secretary to issue a report that compares the cost and ridership estimates made at four points in time: 1) the time projects are approved to enter into preliminary engineering, 2) when the project is approved to enter into final design, 3) when the project commences revenue operation, and 4) when it has been in operation for two years. Finally SAFETEA-LU permits the Secretary to provide a higher New Starts share for projects when the project’s cost is no more than 10% higher than the project cost estimated at the time the project was approved into preliminary engineering, and the ridership estimated for the project is not less than 90% of the ridership estimated at the time the project was approved into preliminary engineering. To adequately address these requirements and to fairly assess forecast reliability, FTA needs to understand the source of the uncertainties in the forecasts.

Current cost estimates and ridership forecasts are developed as discrete estimates when, in fact they are determined by a number of uncertain assumptions. Further, the uncertainties in the capital cost estimates are expected to decline as the project is more fully developed in preliminary engineering and final design. While the recognition of uncertainties is more prevalent in cost estimation, very little effort has been spent on revealing uncertainties associated with travel demand forecasts. To support analysis of uncertainties, FTA has published guidance (“Procedures and Technical Methods for Transit project Planning”) that describes the nature of uncertainties associated with cost and ridership forecasts and how they should be reported. While the fundamental principles of this guidance have not changed since the guidance was originally issued in 1986, chapters have been improved since that time and we expect the chapters on cost estimation to be updated in the coming months. Grantees should consult this...
guidance and discuss relevant forecasting uncertainties with FTA prior to submission of their forecasts and analysis of uncertainty to FTA.

1.5 Project Development Agreements

At FTA’s discretion, selectively require project development agreements (PDA).

A key tenet of the New Starts process is that each project sponsor should show reasonable progress towards development and implementation of their preferred alternative in order to remain in FTA New Starts pipeline. Some projects have been unable to advance through preliminary engineering and final design, primarily because of problems securing funding commitments, problems providing satisfactory information about expected project benefits, and major changes in project scope and definition. Occasionally, projects have been approved prematurely into the project development process and have, consequently, become stalled or significantly reconfigured during preliminary engineering or final design. For example, the local decisions and consensus thought to have been reached are overturned, significant changes are made by local officials to project mode or scope or funding sources do not materialize.

To remedy this situation, FTA proposes to selectively require project development agreements (PDA) with sponsors of projects that are experiencing delays advancing through the process, or have identified risks which must be addressed and mitigated in order for the project to proceed in development. The PDA would identify principal issues to be resolved, products to be completed, and schedules for reaching significant milestones during the course of preliminary engineering and final design. At a minimum, a project development agreement would include the following components:

- Steps and schedule to ensure NEPA compliance
- Steps and schedule to complete preliminary engineering and final design including development of reliable cost estimates
- Steps and schedule to secure funding commitments

The project development agreement would be signed by the respective FTA Regional Administrator and the Chief Executive Officer of the agency sponsoring the project.

Pursuant to the conditions of the agreement, FTA, at its discretion, might rescind or suspend the project’s status in preliminary engineering or final design if: (1) the project fails to make adequate progress (as defined in the PDA) towards advancing into the next phase of project development; (2) there is any significant change to the scope or cost estimate for the proposed project; (3) the project is rated “low” in FTA’s Annual Report on New Starts for a specified number of years; or (4) the project sponsor fails to mitigate or otherwise remove significant uncertainties with regard to costs, ridership forecasts, or financial planning during project development.

Project development agreements could be altered from time to time to reflect changes to the regulatory environment, the project, or the financial plan as appropriate. However, projects that fail to fulfill the commitments made in the project development agreement may be removed from preliminary engineering or final design. At this time, FTA is proposing to begin applying project development agreements to selected projects as appropriate beginning in April 30, 2006.
However, in the upcoming Notice of Proposed Rulemaking for New Starts, FTA is considering implementing this requirement for all projects before approving entry into preliminary engineering or proceeding into final design.

1.6 New Starts Funding Level Set at Final Design Approval

Place a cap on the FFGA New Starts funding amount at the point of approval to enter final design.

Projects that enter final design are those projects that FTA and the project sponsor agree are meritorious and will very likely be built. In order to support this determination and the decision to move forward with the proposed project, the products of preliminary engineering for New Starts projects should include a final project scope, a highly accurate cost estimate, and a solid financial plan with a substantial portion of the proposed local funding committed. Furthermore, SAFETEA-LU contains several sections that indicate Congress’s keen interest in minimizing cost increases between stages of project development. These sections include: 1) the amendment to section 5309(h)(3) which allows FTA to provide a higher New Starts share than requested for projects with costs and ridership forecasts that do not change much from alternatives analysis to just before completing a FFGA; 2) inclusion of the reliability of forecasting methods as an evaluation criteria in section 5309(d)(2)(B) as amended; and 3) a requirement that FTA report to Congress on the accuracy of ridership forecasts and costs for all New Start projects, both in before and after studies and in contractor performance reports as stated in section 5309(l) as amended.

If the information generated in preliminary engineering is to be reliable as the basis for decision-making for proposed New Starts projects, the final preliminary engineering cost estimate and financial plan should have very little likelihood of changing significantly in final design. Therefore, FTA is proposing to place a cap on the FFGA New Starts funding amount at the point of approval to enter final design.

All refinements to project scope and alignment should be finalized and major project uncertainties assessed during the preliminary engineering phase of the New Starts process. This approach will, in many instances, require a different perspective on the work performed and eligible costs for federal reimbursement than has traditionally been associated with the term “preliminary engineering.” For example, varying definitions of preliminary engineering, such as “the engineering necessary to complete NEPA,” or “30% design” would be supplanted—for New Stars projects—by an expectation that the preliminary engineering phase of New Starts review will result in project scope and cost estimates and financial plans that have little, if any, need for change after approval of the project into final design. Therefore, once the project is approved into final design, any increase in project costs will be borne by the sponsoring agency and its funding partners. In any case, cost increases after entry into final design must not be so large as to jeopardize the project’s cost-effectiveness.

Under this approach, it will be in the project sponsors’ best interest to estimate costs reliably and conservatively in preliminary engineering since any cost increases later in project development are the sole responsibility of the project sponsor. This approach also provides an incentive against overly optimistic cost estimates being used in preliminary engineering which may have
had a positive impact on the project’s calculated cost-effectiveness, followed by a cost increase just before a FFGA is signed or early in the construction phase. While this has been an issue in the past, FTA does not want to create a disincentive for project sponsors to apply value engineering techniques or otherwise identify legitimate cost reductions during final design. On the contrary, FTA would expect to share in the benefit of those cost reductions. Therefore, if cost reductions do occur during final design, the New Starts funding amount will be reduced in proportion to its share of the proposed project’s cost as determined at the time the project entered final design.

### 1.7 Possible Rules for Mode-Specific Constants

Require all project sponsors to use pre-established mode-specific constants for each of the included attributes (reliability, span of service, and passenger amenities) that appear to be prominent in a specific fixed-guideway proposal.

FTA has long been aware of a technical issue related to the handling of unmeasured attributes of various transit modes in the mode-choice components of travel forecasting models that effectively disadvantages projects in areas where the proposed New Starts project is a new mode. In response to this problem, FTA has been considering ways to improve forecasting of guideway ridership, new transit riders, and user benefits to help ensure fairness for projects competing across the country. This issue was initially addressed in the both the March 9 and April 29 Dear Colleague Letters.

Without exception, urban travel forecasting procedures in the United States characterize the service quality of alternative transit modes only in terms of travel times (for walking, waiting, riding, and transferring), travel costs (fares and park-ride fees), and a very limited number of other measurable service characteristics (the number of transfers, for example). Other service attributes of a particular transit mode (its visibility, reliability, span of service hours, comfort, protection from the weather, the chances of finding a seat, passenger amenities, and others) are, in theory, lumped together into a “transit-mode-specific constant” estimated as part of the development of ridership forecasting models. In models that explicitly represent alternative transit modes (bus, light rail, commuter rail, BRT), the differences between the transit-mode-specific constants represent the net differences in service quality caused by all of the unmeasured attributes. A transit improvement that replaces a slow bus option with a higher-speed guideway facility would make transit more attractive both because of improved travel times and because of the more attractive bundle of unmeasured attributes associated with the guideway. Guideway riders, new transit riders, and user benefits would result from both sources.

Unfortunately, transit-mode-specific constants play a second role in mode choice models: as correction factors. Mode choice models are “calibrated” with data on current transit ridership in preparation for forecasting future transit ridership. Calibration is achieved through adjustments to the transit-mode-specific constants so that, when the model is used to “predict” current ridership, it produces the correct numbers. The difficulty is that the calibrated constants also act quite literally as correction factors for any errors made in the model components that precede the mode-choice model. If the errors are large, then the corrections must be large and the resulting mode-specific constants have nothing to do with the value of the unmeasured attributes of individual modes – they are simply correction factors. So in those cases, differences between the
bus and guideway constants cannot be used to estimate the ridership changes or user benefits caused by changes in the unmeasured attributes of transit services.

The role of transit-mode-specific constants as correction factors with little relation to the actual attributes of transit has proved to be common in model sets used in urban areas with existing rail systems (and/or BRT facilities in a few cases). Over the past two years, FTA has not accepted forecasts for New Starts proposals when the local mode choice models have exhibited symptoms of these events. In response, local travel forecasters have been scrubbing the model sets and recalibrating mode choice models. In a growing number of cases, the recalibrated mode choice models have suggested that the constant for rail is equivalent to somewhere between 10 and 15 minutes of in-vehicle time per transit rider. Questions remain, however, including whether 15 minutes is the correct upper bound and whether the same upper bound ought to apply to the different bundles of unmeasured attributes typical of the various guideway modes – heavy rail, light rail, bus rapid transit, commuter rail, and others.

While more careful development of forecasting models appears to be helpful in areas considering additions to existing guideway systems, a potentially significant challenge remains in areas considering entirely new guideway modes: local conditions provide no basis on which to calibrate transit-mode-specific constants to represent the unmeasured attributes of the new guideways. FTA’s long-standing position in these cases has been to evaluate projects with forecasts that ignore the effects of the unmeasured attributes – in essence, to assume that the unmeasured attributes of new guideway modes and their constants are the same as those of current bus services in the area. Given the growing body of evidence from existing guideway systems that constants are not the same for guideways and conventional bus service, however, that position may no longer be reasonable.

Consequently, we are considering ways to represent the impacts of more attractive bundles of unmeasured service attributes into forecasts for initial guideway facilities in individual urban areas. The need to preserve a level playing field for all project sponsors suggests that FTA will have to specify values of guideway constants for use in the forecasts. Several approaches are possible: (1) a standard guideway constant for all new guideway modes, (2) a set of constants that includes a different value for each guideway mode, or (3) a set of constants tied to the unmeasured attributes of guideways. The first approach would employ a single default value – equivalent to 12 minutes of travel time, for example – that would be added to the computation of service quality (based on travel times, costs, and other measured attributes) for any new guideway mode in local forecasting models. The second approach would add a different constant depending on the specific guideway – six minutes for light rail and 12 minutes for heavy rail, for example. The third approach would assign values to important unmeasured service characteristics – degree of guideway separation, span of service hours, and passenger amenities, for example – and compute a constant that reflects the specific proposal (so, for example, a fully grade-separated heavy-rail project with substantial passenger stations and service spanning 20 hours per day might obtain a constant equivalent to 12 minutes while a commuter-rail project operating on a freight railroad with very simple platforms only in the peak period and peak direction might obtain a constant equivalent to 3 minutes.

FTA is currently considering implementing the third approach described above. However, any of these approaches for the introduction of a new transit-guideway mode lead immediately to the
question of whether the same approach ought to be used to limit the values of the constants calibrated in areas with existing transit guideways. In the absence of such consistency, some projects may be evaluated with, say, 15 minutes of benefits because of unmeasured attributes while identical projects in other locations may be credited with, say, 4 minutes. Conversely, areas that have been using a mode-specific constant may be required to use a lower number than before, which could reduce the ridership and user benefits estimated for their projects.
2 Issues Regarding the Future New Starts Regulation

In addition to describing any proposed changes to the project development and program management procedures to be implemented in April 2006 prior to the publication of the new Final Rule for Major Capital Investments, this policy guidance seeks to describe the issues surrounding the development of a Notice of Proposed Rulemaking (NPRM) for Major Capital Investment Projects (New Starts) in order to obtain comment before FTA decides how to proceed. The key changes to the New Starts program mandated in SAFETEA-LU include a new “Small Starts” program which is the subject of a separate Advanced Notice of Proposed Rulemaking and other changes to the evaluation criteria and procedures for project development under the New Starts program. FTA hopes to use this policy guidance as a forum for beginning a discussion of possible changes to the process used by FTA to identify and foster the development of high quality New Starts projects. Because a NPRM will be issued, which will provide reviewers the ability to comment on specific proposals at that time, FTA has kept the discussion of these issues more general and has posed specific questions at the end of each section in order to focus the comments.

2.1 Eligibility

The statute defines “major new fixed guideway capital projects” as new fixed guideway projects requesting $75 million or more in New Starts funds or with a cost exceeding $250 million.1 In defining this breakpoint between major capital projects and small New Starts projects (Small Starts), SAFETEA-LU also deleted the previous evaluation and rating exemption for projects requesting less than $25 million in New Starts funds. Once the New Starts/Small Starts regulation is issued, all projects will be evaluated and rated as either a Small Starts project or as a New Starts project.

2.1.0 Definition of a Fixed Guideway

The definition of a “fixed guideway project” has not been specifically defined in previous transportation statutes or in the amendments made by SAFETEA-LU, although it has been clarified somewhat for Small Starts. This issue is particularly unclear in cases where bus rapid transit (BRT) projects may include both a fixed guideway portion and regular street running sections. In the past, FTA has considered whether or not a specific percentage of the project’s length needed to be a fixed guideway to be eligible for funding or whether a more flexible case by case determination was preferable. Previously, FTA has made this eligibility determination on a case by case basis and allowed projects that have a significant portion of their project in a fixed guideway, such as a dedicated busway that also includes some street running sections, as an eligible project. Therefore, a project could be a fixed guideway project if the effect of the fixed guideway portion of the project is a significant bus running time reduction along the physical extent of the project.

The fixed guideway definition issue also raises questions regarding high-occupancy vehicle (HOV) lane projects and will create an issue for the High Occupancy Toll (HOT) lanes.

1 A new program for smaller fixed guideway transit capital projects that request less than $75 million in New Starts funds and have a total capital cost less than $250 million is to be funded separately within the Section 5309 New Starts program.
authorized under SAFETEA-LU. Clearly dedicated busways and bus rapid transit (BRT) projects with significant dedicated sections qualify for New Starts funds, but HOV lanes may provide most of their benefits to automobile users rather than public transit passengers. FTA has not participated in HOV facilities through the New Starts program for the last decade.

Questions
1. How might FTA determine whether a Bus Rapid Transit projects is a “fixed guideway” project?
2. Should FTA fund HOV projects to the degree that they provide benefits to public transit riders?

2.2 Project Evaluation and Ratings
SAFETEA-LU amendments to section 5309(d)(2) continues to require that FTA evaluate proposed New Starts projects in terms of their justification and local financial commitment. The statute states, as before, that projects must be justified based on a comprehensive review of its mobility benefits, cost-effectiveness, operating efficiencies, environmental impacts, and public transit supportive land use, while adding economic development impacts to the list of evaluation factors. As before, the statute provides discretion for the Secretary to determine other factors that are appropriate. The statute later expands on the project justification criteria to include new factors such as the reliability of forecasting methods for costs and ridership, which FTA is to use in the evaluation of proposed New Starts projects. Financial commitment continues to be demonstrated by the existence of stable and reliable funding sources to construct, maintain and operate the proposed and existing public transportation system without reducing existing services.

The SAFETEA-LU changes to the evaluation criteria for proposed New Starts projects raise several issues. These include the framework for the evaluation; the specific measures used in the evaluation; and combination of these measures into a final project rating.

2.2.0 Evaluation Framework
At least two options exist for the framework used to organize the evaluation measures and synthesize the findings for individual projects. The first would be an extension of the framework used for New Starts projects described in the December 2000 Final Rule on Major Capital Investment Projects to include the new evaluation factors added by SAFETEA-LU: economic development impacts and the reliability of forecasting methods for costs and ridership. The second would adopt a framework designed both to implement the New Starts evaluation criteria specified by SAFETEA-LU and to organize the measures to support a more informative, analytical discussion of the project and its merits for New Starts funding.

Option 1 – Extension of the evaluation framework for New Starts: The framework currently used to evaluate New Starts projects considers each candidate project from two separate perspectives: the project’s “justification” and the local financial commitment of its sponsor. Currently, “justification” considers a broad array of criteria but is based chiefly on two: cost effectiveness (50 percent of the justification rating) and land use (50 percent). Cost effectiveness addresses the trade-off between the capital, operating, and maintenance costs of the project and the mobility benefits that it is expected to produce. Land use addresses the extent to which the
land-use setting for the project would promote a successful project – both in terms of the transit orientation of current land use and the policies adopted locally to foster transit orientation in future development. In response to SAFETEA-LU, FTA might add an economic-development criterion and a forecast-reliability criterion to the existing definition of the justification perspective. As done currently for New Starts projects, FTA could assign a rating for each of the now seven components (mobility - including mobility for transit dependents, cost-effectiveness, land use, economic development, forecast reliability, environmental benefits, and operating efficiencies) and compute an overall justification rating as a weighted average of the individual ratings. Given the intense scrutiny and interest in cost-effectiveness of recommended projects among various participants in federal funding recommendations (Congress, OMB, GAO, and others), it may be desirable to continue to assign roughly half of the “justification” weighting to the cost-effectiveness component, perhaps allocating the other half equally across the land use, economic development, and reliability criteria.

Currently, local financial commitment is defined for New Starts in terms of the strength of the financial plan for the capital costs of the proposed project (accounting for 50 percent of the financial rating), the strength of the financial plan for operating and maintenance of the entire transit system including the proposed project (30 percent), and the level of non-New-Starts funding proposed by the sponsor (20 percent). FTA computes an overall rating on local financial commitment as the weighted average of the individual ratings on these three criteria. Since the current evaluation framework accounts for the reliability of forecasts be explicitly evaluating financial assumptions, continuing to use the current framework for evaluating financial commitment may be sufficient to implement the provisions of SAFETEA-LU.

Option 2 – Development of a broader framework: A second option would be to broaden the perspectives used to evaluate proposed projects, better organize the evaluation criteria within these perspectives, and emphasize the importance of a brief, clearly written narrative that synthesizes the insights available from various measures into the best possible case for the project as a candidate for New Starts funding. This approach might broaden the evaluation beyond computation of overall ratings based on individual measures and develop deeper insights into the merits of a project than are possible from the quantified evaluation measures alone. Together, the evaluation measures and the narrative case for the project could consider:

- The nature of the problem/opportunity – because meritorious transit projects emerge from efforts to solve transportation problems and respond to important opportunities to improve mobility and support economic development;
- The effectiveness of the project as a response – because meritorious transit projects increase mobility for existing and new transit riders, preserve and expand mobility for transit dependents, reduce emissions and energy consumption, and support economic development;
- The cost-effectiveness of the required investment – because meritorious projects generate benefits that are commensurate with their capital, operating, and maintenance costs;
- The strength of the local financial commitment – because financially sound projects draw on funding sources that are readily available given reasonable expectations of revenue streams and acknowledgment of competing uses for the funds; and
- Uncertainty in the evaluation measures – because informed decision-making requires an understanding of any major uncertainties in information used to evaluate the project including land use projections, land use policy intentions, ridership forecasts, cost estimates, and other assumptions and forecasts.

An evaluation framework comprising these five perspectives would provide a natural and logical place for each of the criteria specified in the law as amended by SAFETEA-LU. Cost effectiveness and local financial commitment are themselves two of the perspectives. Mobility and economic development would be principal components of the effectiveness perspective. Land use policies and the reliability of ridership and cost forecasts would be central elements of the risk perspective.

As part of this description of a new evaluation framework, a new way of characterizing the categories of evaluation criteria is also proposed. “Project justification”, while used in SAFETEA-LU and previous statutes, is somewhat imprecise. It seems clear from the statutory language and specific evaluation factors that the intent of the New Starts evaluation process is to identify transit projects that produce high levels of benefits at the least possible cost. For this reason, FTA has chosen, in this suggested framework, to refer to “justification” measures as measures of “project merit”. The term “local financial commitment” is also somewhat imprecise in that it only directly describes a few of the financial rating factors described in the law. Again, for the sake of clarity and to accurately reflect the broad scope of the required financial evaluation, FTA is suggesting that the financial measures be referred to as measures of “financial capability.”

Based on preliminary analysis, we have identified and are offering for comment a possible direction that the New Starts regulation may take on the evaluation framework and level of effort. Figure 1 describes a possible framework for the evaluation of New Starts projects. The framework examines separately the merits of a proposed project and the financial capability of its sponsor.
The framework would examine separately the merits of a proposed project and the financial capacity of its sponsor, as well as factor in the uncertainty associated with the reliability of the data. Project merit would depend on the weighted results of project evaluation from three distinct perspectives: the nature of the problems/opportunities, the effectiveness of the project in addressing the problems/opportunities, and the cost-effectiveness of the necessary investment in capital, operating, and maintenance costs. Given the intense scrutiny and interest in cost-effectiveness of recommended projects among various participants in federal funding decisions, it may be desirable to continue to assign roughly half of the project-merit weighting to the cost-effectiveness component, perhaps allocating the other half equally across the problems/opportunities and effectiveness criteria.

Financial capacity could depend on the weighted results of financial analysis from three perspectives – the soundness of the capital funding plan, the soundness of the operating/maintenance funding plan, and the proposed non-New-Starts share of the project – with weights equal to those used currently for New Starts evaluations.

The uncertainty measures could reflect the reliability of the information used to develop each of the component ratings for project merit and local financial commitment. Consequently, each component rating would be accompanied by an indicator of its reliability. The uncertainty measures might be based on: (1) the comparability of cost estimates and ridership forecasts to
peer projects both locally and nationally, (2) the steps that the project sponsor has taken –
including data collection, sensitivity testing, and peer reviews – to identify and minimize
uncertainties, and (3) the performance of the project sponsor in delivering previous transit
projects that met forecasts of costs and ridership.

The evaluation framework would conclude with an analytical discussion of the project and its
performance against the evaluation criteria, providing direct answers to several key questions:

- What is the problem?
- What project is proposed in response?
- What are its costs?
- How well does it address the problem?
- Is it worth the investment?
- Can the project sponsor and other funding sources afford it?
- What are the trade-offs versus other alternatives?
- Where are the large uncertainties?

This discussion would ensure that the evaluation rested as much on well stated insights into the
merits of the project as on the mechanics of the evaluation measures themselves. FTA might use
the case for the project to support project advancement or funding decisions for marginally rated
projects.

Questions

3. How might the New Starts evaluation framework be changed to better support informed
decision-making? Is there a preference for Option 1, Option 2, or something different?
4. In what ways could FTA improve the evaluation process to highlight the “case” for
proposed New Starts projects rather than focus only on numerical ratings?

2.2.1 Specific Evaluation Measures

Regardless of the framework that emerges, each criterion will require specific evaluation
measures. In principle, the measures should be accurate indicators of the performance of
proposed projects, be readily computed by project sponsors, be transit-mode-neutral, and be free
of inherent biases that would distort the level playing field for all project sponsors.

A particular challenge is the appropriate inclusion of land use in the evaluation. Land use might
usefully play a role in two parts of the evaluation framework: as part of the economic-
development criterion and as part of the assessment of forecasting uncertainty. FTA’s current
evaluation of New Starts projects employs land use measures (current land use, plans and
policies, and track record of those plans and policies) that effectively address the forecast
reliability perspective: the measures indicate the transit-friendliness of the project corridor, both
now and in the future, to indicate the extent to which the proposed project would be implemented
in a setting conducive to its success. Consequently, these measures do not address the
performance of the project itself, as they would apply equally to whatever alternative is
implemented in the corridor. Current land use and land use plans/policies do not measure the
benefits generated by the proposed project. Rather they describe the degree to which the project
corridor provides an appropriate environment in which the proposed project can succeed.
The absence of the economic-development benefits in the evaluation of land use is the result of FTA’s continuing difficulties in finding methods for predicting development impacts with sufficient reliability for use in New Starts evaluation. Further, because SAFETEA-LU introduces a separate economic-development criterion, the potential role for land use as a measure of development benefits becomes even less evident. A clear distinction between land-use development and economic development seems elusive. Consequently, an appropriate strategy might be to define “land-use/economic development” as a measure of project effectiveness and to define “transit-orientation of land use” as a measure of uncertainty inherent in both the mobility benefits and the land-use/economic development benefits. This is the approach taken in the discussion below.

2.2.1.0 Nature of the Problem/Opportunity

New Starts projects are almost always intended to solve specific transportation problems, or take advantage of opportunities to improve transportation services, or support economic development. For this reason, the most useful starting point for evaluation of proposed transportation investments may be the nature and severity of the problems/opportunities the proposed projects are designed to address. For instance, such a criterion might rate very highly projects designed to address clearly identifiable and particularly severe mobility problems, while rating more moderately those projects that take advantage of specific opportunities to improve service, but are not in corridors with a particular mobility problem.

An immediate question, then, is what kinds of problems/opportunities is the New Starts program intended to address. Many decision-makers in both Congress and the administration have emphasized the role of cost-effectiveness and support for economic/land use development in the evaluation of New Starts. Mobility benefits are implicit in cost-effectiveness because the cost effectiveness measure has, since its inception, compared costs with some indicator of mobility benefits (initially new transit trips and, since 2001, user benefits). Consequently, measures to represent the nature of the problem or opportunity addressed by a proposed New Starts project ought to reflect economic development and mobility. Useful measures for economic development might include vacancy rates, the value of land parcels compared to the value of current improvements on those parcels, and similar measures of development conditions in the corridor of interest. Useful measures for mobility might include current bus travel speeds in the immediate corridor, current highway speeds on principal arterials in the corridor as compared to projected speeds in the future.

**Questions**

5. Are there any other measures that might indicate and characterize the nature and extent of the problem or opportunity addressed by proposed New Starts projects?

6. How should FTA evaluate or rate projects that address significant transportation problems compared to projects that take advantage of opportunities to improve service?

2.2.1.1 Effectiveness

Project effectiveness measures are related to the projected impacts of the project. The most direct effects are those experienced by transit riders in terms of additional mobility, comfort, and convenience though several other measures of effectiveness are being considered. The amendments made by SAFETEA-LU call out several kinds of benefits that fall into the category
of effectiveness: mobility and mobility for transit dependents, environmental impacts, effect on transit operating costs, and economic/land-use development benefits.

**Economic Development Impacts**

The prediction of economic development impacts of transit improvements is a particular challenge. The first difficulty is to distinguish economic development impacts from the previous land use measure. In prior years, the land use evaluation considered existing land use, corridor and station area land use plans and policies, and the performance and impacts of those policies. As part of the evaluation, FTA considered the potential impact of the transit investment on regional land use, which overlaps significantly with the conception of economic development benefits articulated in SAFETEA-LU.

There are two generally accepted methods of characterizing the economic development benefits of transportation investments. These may be grouped generally into 1) regional economic benefits, and 2) station area development impacts. Regional economic benefits are usually estimated using regional economic models (input-output models) and translate accessibility benefits from transportation improvements into an estimate of the change in regional economic output, personal income, and jobs. Station area development impacts generally focus on the impact of the transit investment on property values and related development, and vacancy rates, among other possible indicators.

**Option 1: Regional economic benefits.** These measures are commonly generated using regional economic models that translate mobility benefits, public and private sector cost savings, and other direct benefits into the resulting benefits to the economy. Investments in public transportation lead to increased efficiency of the transportation system. This increase in efficiency is manifested in faster travel times, better connections, reduced travel costs and increased reliability, convenience and comfort. This increase in efficiency, reliability, and capacity generates increased transit ridership and improves travel conditions for existing users of the transportation system. FTA’s user benefits measure, used in the evaluation of mobility benefits and cost-effectiveness, seeks to evaluate projects on the basis of these factors. However, additional economic development benefits can be measured using regional economic models.

Many economic development benefits are simply the economic manifestation of transportation system user benefits and are a direct double count of the benefits FTA already measures and uses to evaluate projects. However, as lower transportation user costs are filtered through the economy, firms and households can reallocate resources in ways that can result in additional economic benefits. Some of these second order impacts are in fact, incremental to the first order transportation system user benefits. These incremental benefits can be estimated using regional economic models in the form of the following measures:

- **Productivity increase** – Productivity increases are separate from simple reductions in business costs. Productivity increases occur when a change in transportation quality is significant enough to enable businesses to reorganize their production processes to achieve more output for a fixed amount of labor (e.g., second order logistics benefits) and capital. These benefits, for example, are possible when a manufacturer converts to just-in-time inventory control. In the service sector, increased productivity can occur.
when improved transit increases businesses’ access to a more diverse and larger pool of labor.

- Business attraction – An improvement in accessibility can improve a region’s attractiveness to new industries or firms that would not otherwise locate in the region. This attraction of new industries or firms is in addition to the increase in market share for existing companies, which is accounted for in the business cost savings described above.

These two responses to direct transportation benefits lead to a net increase in economic activity for the region compared to the level of economic activity if the transit investment were not made. These additional benefits are in addition to transportation system user benefits and do not represent double-counting. Therefore they represent additional information that FTA might use to evaluate the relative merit of proposed New Starts projects. However, caution is warranted in considering the use of this type of economic analysis. First, these impacts may represent transfers between regions rather than a net benefit for the nation. Therefore it is not clear that measures, particularly of the type represented by business attraction, are useful for national comparison of projects. Second, in previous studies, these second order impacts of transportation projects have been generally found to be small compared to the first order mobility improvement. Therefore it is unclear if counting these benefits would have any significant impact on the results of evaluating proposed New Starts compared to the results of the current method. Lastly, applications of these models can be relatively expensive and time consuming.

The benefits of using the regional economic impact approach include: the ability to prevent double-counting benefits, results are easy to understand estimates of income and jobs, available models are well developed and provide a methodologically consistent framework for evaluating projects in different parts of the country.

These models can also be used to evaluate the regional economic impact associated with the construction and operating costs of the proposed project. If the regional economic impacts are based on the construction and operating costs of the proposed project rather than the mobility benefits of the project, the results are not useful for evaluating New Starts projects at the national level. These impacts are simply a reflection of the cost of the projects rather than their actual associated transportation benefits. Under this type of input-output analysis, the benefits of each project would vary in direct proportion to their construction and operating costs, subject to some differences in the structure of regional economies. Hence, the more expensive the project, the better it would tend rate. FTA does not intend to use the results of input-output models based on project costs as an indicator of economic development benefits because they do not provide useful information for comparing projects to each other.

**Option 2: Station area economic development impacts:** Like regional economic impacts, station area economic development impacts of transportation investments also reflect the increased accessibility provided by the project to the surrounding area. If an area becomes more accessible compared to other areas, residents and businesses will be willing to pay more to locate there and property values will increase. If land use regulations allow for more development and
the general economic environment is favorable to additional development, investment will flow to the project corridor.

Although many studies have shown, ex post, that transit projects have had an impact on economic development in some cases, few predictive tools are available in standard practice and development of new tools seems infeasible in the short run. Consequently, the best-available measures of likely economic/land-use development benefits may be derived from the circumstances in which the projects would be implemented rather than from forecasts of their specific development impacts. A survey of available research on the development impacts of transit suggests that increased accessibility and permanence of the transit investment are the primary transit-related drivers of development. Those project-related characteristics, plus indicators of the availability of land for development or redevelopment, may provide a workable representation of likely development benefits. Specific measures might be (1) current land-use conditions, (2) development plans and policies, (3) the economic development climate in the corridor and region, (4) the project-related change in transit accessibility for developable areas in the corridor; and (5) the economic lifespan of new transit facilities proximate to those developable areas.

Questions
7. Is there a preference for analyzing regional economic benefits or station area economic development benefits? Could FTA utilize both perspectives in evaluating expected economic development impacts?
8. How might FTA evaluate economic development and land use as distinct and separate measures?
9. Are there any additional methods available to predict economic development impacts? If so, how might these other measures be used to evaluate proposed New Starts projects?

Mobility
The measure of mobility benefits ought to capture as many benefits as possible. Currently for New Starts projects, “user benefits” is defined to include all changes in mobility that are measured by local ridership-forecasting methods and define the scope of those benefits to include both existing and new transit riders compared to the baseline alternative. (The definition also includes benefits to users of the highway system but measurement of those benefits is not yet available due to the current state of the practice for predicting changes in highway speeds.) Consequently, the user-benefits measure credits transit projects with reductions in transit travel times (including time spent walking, waiting, transferring, and riding in transit vehicles), any other service characteristics (such as the number of transfers) included in local forecasting methods, and the availability of multiple competitive travel options, again as represented by local forecasting methods. The user-benefits measure is also defined to give appropriate credit for other project characteristics that improve the quality of transit service including changes in reliability, span of service, safety and security, passenger stations, passenger information, permanence of the facilities, and other characteristics not represented by travel times and costs, subject to the problems and potential solutions discussed in a prior section (see Possible Rules for Mode Specific Constants).
The evaluation of mobility tries to determine to what degree the proposed New Starts project provides substantial benefits for a large number of people. As such, FTA might implement the mobility measure by using a combination of the following factors:

- **User benefits per passenger mile**: indicates whether the New Start is projected to result in significant benefits for the average passenger. Some projects can result in very large total benefits, but spread over very large numbers of people, the benefits may not be significant for the user. This measure seeks to determine whether a passenger is likely to have a noticeably better service after the project is implemented.

- **Project ridership**: indicates whether the project provides benefits for a large number of people.

**Questions**

10. Are there any other measures of mobility benefits that could be used to evaluate New Starts projects?

**Mobility for Transit Dependents**

Since low-income populations and households without access to automobiles depend critically on the public transportation system to provide basic mobility, access to jobs, health care and other critical services, projects that improve transit services for these populations have special merit. Corridors with high concentrations of transit dependent people also tend to have higher transit ridership.

FTA’s previous measure for benefits to transit dependents used the percentage of low income households in the project corridor, which has the disadvantage of being somewhat imprecise. In order to understand how the proposed project actually serves a transit dependent population, the evaluation measure should have a way of identifying how the project serves transit dependents rather than simply characterize the project corridor demographics. In order to understand the actual impact of the proposed project on transit dependents, a more appropriate measure might be the share of user benefits accruing to passenger in the lowest income strata compared to the regional share of the lowest income strata. Since travel demand models are typically stratified by income and/or auto-ownership, it is now possible to determine the actual effectiveness of proposed projects at serving transit dependents.

**Questions**

11. Does the proposed measure entail any implementation difficulties for measurement, reporting, or comparison between projects?

12. Are there any other measures that FTA should consider when evaluating the benefits that accrue to transit dependent populations?

**Environment**

Environmental benefits from proposed New Starts projects are currently measured by employing the projected change in regional vehicle miles traveled to estimate the change in various harmful types of vehicle emissions and energy consumption. FTA is proposing to continue using the current approach to evaluating environmental impacts.
Questions
13. How could FTA improve the current method of evaluating environmental benefits to produce a more useful measure?

Operating Efficiency
In the past, FTA has used the projected system-wide change in operating cost per passenger mile to measure the impact of proposed New Starts projects on operating efficiency. This measure has never proved to be a useful way of distinguishing among proposed projects. There are a number of reasons for this problem. First, the change in system-wide operating expense per passenger mile is often extremely small, especially if the project is only a small proportion of the project sponsors transit services. Typically, the change is too small to provide a meaningful way of distinguishing between projects. Second, many projects are not designed to reduce operating expenses per passenger mile since existing bus assets may be redirected at providing feeder bus service to the New Starts project. The expected net effect on operating expenses per passenger mile is not clear, nor is it clear that reducing operating expenses per passenger mile is always the preferred outcome such as in cases where the increase in user benefits from a proposed project overwhelmingly offset the increase in operating expenses per passenger mile. Moreover, FTA’s evaluation of cost-effectiveness has always included the annual system wide operating and maintenance expense as a component of annualized cost. The impact of the project on operating and maintenance costs is already captured in the calculation of cost-effectiveness. Therefore, FTA is considering removing this factor as a separate evaluation criterion, relying instead on the evaluation of cost-effectiveness to address the statutory criterion.

Questions
14. Should FTA rely on the cost-effectiveness evaluation to address the operating efficiency criterion?
15. If not, in what way could agency operating cost information be used to compare New Starts projects to each other?

2.2.1.2 Cost-Effectiveness
Since the Major Investment Policy Statement of 1984, FTA has employed a cost effectiveness measure, and since 2000 has translated its computed value for a project into a cost-effectiveness rating for that project using a set of breakpoints (that is, a computed value between X and Y obtains a “Medium” rating). Since 1984, FTA has computed the cost-effectiveness of New Starts projects as annualized capital, operating, and maintenance costs of the project per unit of transportation benefits, all compared to a non-guideway baseline alternative in the forecast year. FTA currently uses the transit-user-benefits measure to capture the full range of quantifiable transportation benefits of proposed projects. A broader cost-effectiveness measure might add non-transportation benefits – economic/land-use development and mobility benefits to transit dependents – to the effectiveness side of the calculation.

FTA is considering whether or not to add some measure of economic development impacts into the evaluation of cost-effectiveness. However, this possibility presents a number of challenges, including:
1) Double-counting. Economic development benefits are the results of increased mobility provided by the transit investment. Therefore, it is well accepted that if all the
measurable economic development impacts are included with transportation system user benefits, the analysis would essentially be counting many of the same benefits twice. However, it is also well accepted that some portion of the economic development impacts related to business cost reductions and productivity improvement made possible by the increased mobility provided by the project are actually incremental to the transportation system user benefits and could be usefully counted as a separate benefit.

2) Distinguishing between transfers and real net increases. Economic development impacts can represent transfers between areas within a region or transfers from one region to another. These transfers may represent benefits to a local government or a region, but there remains a question about whether a federal agency trying to distinguish between projects in different parts of the country should count transfers of economic activity from one area to another as a benefit in an evaluation of cost-effectiveness.

3) Difficulty in combining user benefits with economic development measures. User benefits have been measured in terms of equivalent or perceived travel time while economic development benefits are generally measured as employment, income, or increase in gross regional product. Combining these types of measures into a single cost-effectiveness measure may prove to be difficult.

4) Economic development impact models, capable of distinguishing benefits that directly double count user benefits from those that are incremental, are relatively complex and expensive to implement. In addition, changes in regional vehicle miles traveled (VMT) and vehicle hours traveled (VHT) are often used to drive these types of economic development impact models. The reliability of regional travel demand models in generating estimates of these inputs is still unproven.

FTA is conducting research that will, hopefully, clarify these issues and the extent to which they present surmountable problems, and, possibly, provide a method for including some economic development impacts into the evaluation of cost-effectiveness.

The current cost-effectiveness measure is calculated based on estimated user benefits in a future forecast year 20 to 25 years in the future compared to an annualized expression of capital and operating costs. One of the weaknesses of this approach is that forecasts far into the future contain significant amounts of uncertainty. They rely on very long-range forecasts of population and employment levels and locations. Long-range projections are bound to contain a significant amount of uncertainty. In addition, since several evaluation measures are based on a single year in the distant future, the fact that New Starts projects produce significant benefits over a long period of time can become lost in discussions of project merit.

SAFETEA-LU contains several key provisions that indicate Congress’s interest in reducing the uncertainty in the planning information used to support decision-making for New Starts projects. Forecasting reliability is explicitly mentioned as a new evaluation criterion as well as a new incentive for project sponsors whose ridership forecasts and cost estimates remain stable during project development (section 3011(h)(3)). SAFETEA-LU also mandates that FTA submit annual before and after study results and contractor performance reports so that forecasting reliability can be better understood and accounted for in the decision-making process. Responding to the interest in using more reliable information, FTA is considering using two cost-effectiveness calculations: one for the forecast year as is done today and a second calculated for the year of
project opening. FTA could use the simple average or some weighted average of these two cost-effectiveness measures in the evaluation and rating of proposed New Starts projects. Opening year forecasts are routinely produced during planning and project development and are currently submitted as part of the New Starts evaluation and rating process. Therefore, this change would require very little additional effort, yet would provide a much richer account of the cost-effectiveness of these projects and reduce the element of uncertainty inherent in long-range forecasts.

Questions
16. Is it desirable for FTA to attempt to incorporate other measures of effectiveness besides mobility when evaluating cost-effectiveness?
17. If so, what measures might be incorporated and how?
18. How could FTA combine transportation system user benefits measures with economic development measures into a valid measure of cost-effectiveness?

2.2.1.3 Financial Capability

SAFETEA-LU did not make significant changes to the evaluation of financial capability. In order to approve grants or loans under the New Starts program, FTA must find that (A) the proposed project plan provides adequate contingency amounts to cover unanticipated cost increases, (B) that each proposed local funding source is stable, reliable and available when necessary, and (C) that local funding is available to operate, maintain and re-capitalize the proposed projects as well as the rest of the transit system without a reduction in existing services or levels of service. Within this framework, the amendments made by SAFETEA-LU lay out the following factors that FTA is to use to evaluate project sponsor’s financial capability:

- The reliability of forecasting methods for costs and ridership,
- Existing grant commitments,
- Degree to which funding sources are dedicated,
- Debt obligations of the project sponsor, and
- Non-New Starts funding share.

While the current manner of evaluating local financial commitment has been relatively satisfactory, FTA is considering changing the way the financial rating factors related to uncertainty are incorporated into the analysis. The evaluation criteria could continue to evaluate and rate the capital funding plan distinct from the operating and maintenance funding plan. As in the past, more weight (currently 50 percent) would be assigned to the capital-funding plan compared to the operating plan (30 percent) and lesser still to the amount of non-New Starts funding (20 percent). These separate factors are then combined into a summary financial rating. The factors that FTA considers to assess agency financial capacity, namely the ability of the project sponsor to absorb funding shortfalls or cost overruns, may be more usefully incorporated as an explicit measure of financial risk.

Consistent with the language in SAFETEA-LU, FTA will not require a non-Federal financial commitment for a project that is more than 20 percent of the net capital project cost. As a result, a proposed project’s local financial commitment rating will not be reduced below medium solely based on the fact that a project sponsor requests a New Starts share up to 80%. Non-New Starts funding share remains an evaluation criterion, however, so project sponsors may receive a higher
rating based on a high non-New Starts share. In addition, FTA may consider the non-New Starts share during the decision to recommend a project for a FFGA. The New Starts share requested for each project remains a concern, since the demand for New Starts funds outstrips the need.

Questions
19. Are there any other ways that FTA could improve the evaluation of financial capability?
20. Should the existing weighting factors user to develop the financial ratings be changed?

2.2.1.4 Reliability of Forecasts
Risk and uncertainty are inherent in project evaluation. The ratings assigned to a project are based on information, assumptions, and forecasts that often include uncertainty in the predictions of eventual project performance. The statutory language makes it clear that the evaluation of New Starts projects is to consider the reliability of the forecasting methods used to estimate costs and ridership. Therefore, in principle, the evaluation framework should include a specific reliability indicator for each evaluation criterion. Some options for incorporating uncertainty are described below.

The uncertainty associated with measures related to the nature and severity of the problem or opportunity could be based on an evaluation of peer projects – projects that have been implemented in similar conditions and their apparent success in addressing similar problems and/or seizing the opportunities that motivated project sponsors.

The uncertainty inherent in measures of project merit could be evaluation based on (1) the current land use and land-use policies, (2) the soundness of forecasting tools and data used to predict ridership and mobility benefits including steps to reduce uncertainty through peer reviews and other quality control procedures, (3) comparisons of ridership forecasts against peer projects – similar projects in similar settings, with particular uncertainty assigned to projects without any peers, and (4) the track record of the project sponsor with benefits forecasts for previous transit projects.

The uncertainty associated with a cost-effectiveness measure would necessarily include the uncertainties in both the project-effectiveness measures and the cost estimates. The effectiveness uncertainties could be quantified with the measures outlined above. The cost uncertainty measures could be based on (1) the soundness of cost-estimating procedures including steps to reduce risk through peer reviews and other quality-control efforts, (2) comparisons of the cost estimates against peer projects, and (3) the track record of the project sponsor with cost estimates for previous transit projects.

A project finance risk measure could be based on apparent availability of non-federal funds and the ability of the financial plan to withstand a specific percentage increase in capital costs of the project. This type of evaluation is currently included within the financial evaluation of New Starts projects, but may be better as a separate measure of financial uncertainty.

Section 5309(d)(4), as amended by SAFETEA-LU, emphasizes that FTA is to find that the proposed project’s financial plan provides contingency amounts that are sufficient to cover unanticipated cost increases. Therefore, FTA may increase the attention paid to contingencies.
included in project sponsor’s financial plans. Recent events have clearly demonstrated that significant year-to-year fluctuation in raw materials prices and labor market conditions can seriously impact the cost of proposed New Starts projects. The industry has recently experienced, in some parts of the country, a single year cost increase of up to 10 percent due to recent raw material price increases and labor market changes. The possibility of such large annual changes in costs has serious implications for financial planning and the usual practice of specifying contingencies. In some cases for projects with small contingencies, one 10 percent inflation event could wipe out an entire contingency budget, leaving no additional contingency funds to absorb other cost or quantity uncertainties. FTA may decide that a more careful accounting of the uncertainties relating to project costs is warranted with corresponding impacts on the amount of contingency funds would be considered adequate; both to ensure sound financial planning, and to respond to the additional emphasis in SAFETEA-LU on the reliability of forecasting methods.

Questions
21. How might FTA incorporate measures of the reliability of forecasts into project evaluation?
22. How should information on the reliability of forecasts be modified or updated as a proposed project advances through project development?
23. How could FTA help to ensure that contingencies adequately reflect the uncertainties in project design, prices, and quantities at each stage of project development?

2.2.2 Development of Project Ratings
SAFETEA-LU specifies that projects are to be rated as high, medium-high, medium, medium-low, and low, based on the analysis of both project merit and financial capability. To receive a funding recommendation, projects should be meritorious and the project sponsors should be financially capable of funding the local project share as well as the operations and maintenance of the entire transit system into the foreseeable future.

Currently for New Starts projects, FTA develops separate ratings for project justification and local financial commitment, and then derives from these component ratings an overall project rating using decision rules. These decision rules ensure that a project does not get a very high or an acceptable rating unless the ratings for both project justification and financial commitment are high or acceptable respectively. FTA plans to propose to use a similar process for rating projects in the upcoming Notice of Proposed Rulemaking for Major Capital Investment Projects.

Because the reliability of forecasts will be an important element in rating New Starts projects, a strategy will be needed to incorporate this factor into the ratings process. It seems clear that each forecast reliability measure ought to be associated as directly as possible with the evaluation measure to which it applies; uncertainties in the cost estimate, for example, ought to affect whichever evaluation criteria rely on measures computed from the cost estimate. A variety of strategies might be used to adjust the rating for each criterion to reflect the forecast reliability measure – including probability weightings and Monte Carlo simulations analogous to those used currently in FTA-sponsored “risk assessments” of the capital cost estimates for New Starts projects. A simpler strategy, however, might be to use the uncertainty indicators to decide the outcome for ratings at the margins: a project rating whose measures produce a result at the
breakpoint between Medium and Medium-High, for example, might be rated Medium if the associated forecast reliability indicator suggests large uncertainties and Medium-High if the forecast reliability indicator suggests minimal uncertainties.

**Questions**

24. What weights should FTA apply to each measure?

25. How can the reliability of forecasts measures be used to adjust New Starts project ratings?

### 2.3 Project Development Procedures

While SAFETEA-LU does not make wholesale changes to the project development process for New Starts, FTA is always considering ways to better implement the New Starts program and improve the information upon which decision are made. Increasingly, projects from sponsors with little or no experience implementing major transit capital investments are being proposed, often resulting in problems during planning and project development. This section describes changes FTA is considering to the procedures project sponsors must use to enter preliminary engineering and final design with the goal of improving the readiness of projects to enter project development and improve the reliability of the information received as part of the New Starts evaluation and rating process. FTA request comments on the following proposed changes.

#### 2.3.0 Local Endorsement of the Financial Plan

SAFETEA-LU amendments to section 5309(d) continue to require that FTA 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 major fixed guideway capital investment, as well as the rest of the transit system. In the past, project sponsors have submitted financial plans and supporting documentation that FTA evaluated to determine their reasonableness and degree of commitment of non-Section 5309 New Starts funds commensurate with the phase of project development. Some proposed funding sources, however, may require future action to secure funding, voter approval, concurrence/approval of another agency, or require other future approvals that render them less definite. Before entry into preliminary engineering, FTA has not had a solid basis for determining whether the proposed funding strategies were reasonable and had the support of the parties that were responsible for implementing or providing these funding sources.

To ensure that proposed funding is reasonable and locally supported, FTA is considering whether to require that all proposed sources of funding be specified in the financial plan, and that the sponsoring agency provide a letter endorsing the proposed financial strategies and amounts of the planned funding by those agencies identified as funding sources. Where future state and/or local government action or public referendum is required to establish (and commit) the proposed funding source, a letter of endorsement, or at a minimum a timeframe for implementation, would be required from the appropriate policy- or decision-making body responsible for providing the proposed funding. Such endorsements could help FTA determine the reasonableness of the financial plan and assess the likelihood of success at securing the required funding commitments.
Questions

26. Does the proposed requirement address FTA’s desire to enhance the degree of confidence in the likelihood of proposed funding sources to materialize?
27. Do project sponsors foresee any potential problems securing these local endorsements?
28. Are there any other policies or requirements that could enhance FTA’s confidence in the funding plans for proposed New Starts projects?

2.3.1 Approval of the Baseline Alternative

Since 1976, FTA has required that the benefits and costs of the proposed New Starts project be assessed versus a baseline alternative defined as the best that can be done without building a new fixed guideway. The purpose of the baseline alternative has been to distill the benefits (and costs) of the proposed New Starts project from the benefits achieved through low-cost improvements such as route realignments, increases in service frequency, park-and-ride lots, signal preemption and other low-cost improvements that could have significant benefits, but which could be achieved without the significant cost of a New Starts project’s infrastructure.

The baseline alternative has proven to be essential in properly accounting for benefits and costs of New Starts projects and for assuring that the opportunity costs of the proposed investment are accounted for in the evaluation. A secondary benefit is that it allows FTA to evaluate projects fairly. In essence, a consistently defined baseline alternative prevents regions with good existing transit service from being disadvantaged relative to areas with poor existing service in the competition for New Starts funds.

The approval process and baseline definition described in this section reflects FTA policy that has been in effect since the implementation of the previous New Start Rulemaking in December 2000. FTA does not intend to change this policy, but proposes to codify this policy in the upcoming rulemaking for SAFETEA-LU. However, there has been significant confusion over the definition of the baseline alternative and FTA seeks comments on whether the baseline can be more clearly defined. Further, FTA seeks comments on whether there is a way to report on the benefits of the project including the benefits attributable to the difference between the no-build and the baseline alternative, even though these benefits cannot be used in the calculation of the project’s cost-effectiveness. The following is brief description of the current policy with respect to the definition and use of the baseline.

The evaluation of proposed New Starts projects involves comparing the effectiveness and cost-effectiveness measures of the proposed project to a baseline. Consistent with past practice and the need for developing reliable information for decision-making, FTA currently requires approval of the baseline alternative prior to a project’s approval to enter preliminary engineering. FTA in previous guidance has described a process in which the products of an alternatives analysis that may result in a proposed New Starts project as the locally preferred alternative are reviewed by FTA to ensure that the study will produce the information necessary to evaluate the proposed New Starts project. Without this review, it is possible that the project sponsor will be required to re-do significant portions of the alternatives analysis at significant cost in both time and money. Therefore, FTA is considering documenting our current approach to evaluating and approving the baseline alternative in the upcoming NPRM for New Starts.
Step 1: Review the set of alternatives at the beginning of the alternatives analysis. This review occurs after the alternatives analysis has developed the detailed definitions of the alternatives, but before the technical analysis has begun. At this stage of the alternatives analysis study, information is not sufficient for FTA to approve a New Starts baseline alternative. The FTA action in Step 1 is simply to concur with the alternatives analysis study team that the no-build and Transportation System Management (TSM) alternatives respond to the transportation problems in the corridor, that the policy and land-use setting is unbiased and consistent across the alternatives, and that the alternatives are defined in accordance with good planning practice, and hence, are likely to result in an acceptable New Starts baseline alternative after the technical analysis is complete.

The no-build may be defined in one of the following ways:

- An alternative that incorporates "planned" improvements that are included in the fiscally constrained long-range plan for which need, commitment, financing, and public and political support are identified and are reasonably expected to be implemented.

- A conservative definition that adds only "committed" improvements – typically those in the annual element of the Transportation Improvement Program or local capital programs – together with minor transit service expansions and/or adjustments that reflect a continuation of existing service policies into newly developed areas.

The TSM alternative must be defined as the best that can be done for mobility without constructing a new transit guideway. An acceptable TSM alternative emphasizes transportation system upgrades which may include such elements as intersection improvements, minor road widening, traffic engineering actions, bus route restructuring, shortened bus headways, expanded use of articulated buses, reserved bus lanes, contra-flow lanes for buses and High Occupancy Vehicles (HOVs) on freeways, special bus ramps on freeways, expanded park/ride facilities, express and limited-stop service, signalization improvements, and timed-transfer operations.

FTA will concur that the set of alternatives defined at the beginning of alternatives analysis are likely to result in an acceptable New Starts baseline alternative. This concurrence will be in the form of a memo or e-mail from FTA.

Step 2: Alternatives Analysis Sponsor Conducts the Technical Analysis and Finalizes the Alternatives. During the alternatives analysis, the definitions of the alternatives are continually refined as various strategies, system design options, and project elements are tested. The result is a Final Definition of Alternatives and technical planning information about each alternative. The main indicator that confirms a properly defined set of alternatives is the cost-effectiveness of the build vs. TSM, and the TSM vs. the no-build, which can be calculated from the analysis results. Cost-effectiveness can be defined as either cost per new trip or as cost per hour of user benefits. The TSM, by definition, is the most cost-effective alternative relative to the no-build. FTA will review the study results to ensure that the TSM vs. the no-build alternative is more cost-effective than the build vs. the TSM alternative.
Only if an acceptable TSM is impossible to identify will FTA approve the no-build alternative as the New Starts baseline. FTA may concur that a practical TSM alternative cannot be defined in the following cases:

1) The no-build alternative contains most of the critical elements of an acceptable TSM alternative. In this case, the TSM alternative and the no-build alternative should be functionally indistinguishable. This happens when the no-build alternative contains significant TSM-type improvements in the corridor (i.e. generally, there is a high level of bus service in the no-build alternative).

2) The TSM alternative does not make technical sense. For projects where an existing rail line is being rehabilitated or a single-track facility is being upgraded to double track, no TSM alternative is likely to be significantly better than the no-build.

If either case 1) or 2) is apparent, the project sponsor may present evidence to FTA that the TSM alternative should be discarded and the no-build approved as the baseline.

*Step 3: Approve the Baseline Alternative before entry into Preliminary Engineering.* If an acceptable baseline alternative was defined during alternatives analysis, FTA will approve the New Starts baseline in conjunction with the approval to enter preliminary engineering.

To make this determination, FTA will review the final alternative definitions as well as the cost-effectiveness measure of the TSM vs. the no-build alternative to ensure that it is less than the cost effectiveness measure for the build alternative vs. the TSM alternative. The TSM alternative will then serve as the New Starts baseline. If the results of the alternatives analysis show that no cost-effective TSM alternative can be defined, FTA may approve the no-build as the New Starts baseline. If the TSM alternative is poorly defined, entry into preliminary engineering will not be granted until a proper TSM alternative is developed to serve as the baseline.

*Questions*

29. In what ways could FTA describe the baseline alternative more clearly?

30. Should there be a way to report project benefits of the proposed New Starts project compared to no-build alternative outside the cost-effectiveness evaluation?

**2.3.2 On-Board Transit Survey**

Ridership patterns on the current transit system play two key roles in the development of New Starts projects. First, these patterns represent the function of transit in a metropolitan area today – the geographic markets it serves, the socio-economic characteristics of the riders it carries, the different access modes (walk, park/ride, etc.) it relies on, and so forth. Therefore, data on current ridership patterns inform the description of current transportation problems, the current role of transit in addressing those problems, the identification of reasonable alternatives, and other essential foundations for a solidly made case for a proposed project. Second, current ridership patterns are the basis for checking the accuracy of the travel forecasting methods that will be used to predict future travel times, ridership, and other key evaluation measures. Therefore, data on current ridership patterns are essential to the development of reliable forecasts for transit alternative. Many transit providers conduct ridership surveys on a routine, periodic basis. To
ensure that decision-making for all proposed projects is based on the best-available information, FTA is considering a requirement that a recent survey of transit riders must be used to inform the technical work completed during alternatives analysis. “Recent” might be defined as within the five years prior to a request to enter preliminary engineering. The technical work informed by the ridership data might include (1) the identification of problems and the purpose and need for action, (2) the selection of reasonable alternatives for detailed analysis, and (3) the validation of ridership forecasting tools.

Questions
31. How “recent” should the on-board survey be to ensure that the information is still valid?
32. Are there cases where an on-board survey less than five-years old could be out of date? If so, how might FTA be sure of the usefulness of on-board survey information?

2.3.3 Preliminary Engineering Purpose and Exit Criteria
Preliminary engineering is a critical phase of the development of all major new fixed guideway capital projects. The previous definitions which have been stated such as “30% of design completion” or “completion of NEPA” do not provide any standard or expectation of accomplishments to be made in developing the proposed project. FTA intends to define preliminary engineering for proposed New Starts projects in terms of the quality of the information appropriately used for decision-making at the completion of preliminary engineering. Since the completion of preliminary engineering for proposed New Starts projects represents the completion of nearly all the steps needed to make a final decision regarding the actual implementation of the proposed project, the information for making that final decision must be reliable at the conclusion of preliminary engineering.

Accordingly, FTA is considering defining the preliminary engineering phase within the New Starts program as the process of finalizing the project scope, cost, and financial plan such that (1) all environmental impacts are identified and adequate provisions made for their mitigation in accordance with NEPA, (2) all major or critical project elements are designed to the level that no significant unknown impacts relative to their costs will result, and (3) all cost estimating is complete to the level of confidence necessary for the project sponsor to implement the financing strategy, including establishing the maximum dollar amount of the New Starts financial contribution needed to implement the project. The project sponsor must use credible, relevant, identifiable and cost-effective industry or engineering practices that are uniformly and consistently applied in preparing for and making these determinations. It should be understood that this definition does not mean that all design must be completed in preliminary engineering. Rather, the proposed definition means that the cost estimating process would specifically identify the main components of the project and add sufficient contingencies to cover the remaining design and cost uncertainties that will be addressed in final design. FTA is considering publishing in separate guidance a description of the key activities expected to be completed during preliminary engineering with detailed description of the outcomes expected from those engineering design activities. FTA could implement this framework by expanding and improving the type of analysis conducted during the Project Management Oversight process, for determining readiness to enter final design.
Questions
33. Would a clearer definition of the preliminary engineering phase for New Starts projects help project sponsors target resources expended on preliminary engineering in ways that better support the decision-making process for New Starts?
34. How might the Project Management Oversight process be designed to support the higher expectation regarding the results of preliminary engineering?
35. Does this approach significantly increase the cost of preliminary engineering? If so, is that problematic if costs are just shifted from final design?

2.3.4 Project Reaffirmation by the Metropolitan Planning Organization
Before FTA may approve a project for entry into preliminary engineering, the project must be adopted by the regional metropolitan planning organization (MPO) into its fiscally constrained long range transportation plan. Projects approved to initiate preliminary engineering must still complete the National Environmental Policy Act (NEPA) review process which has the potential to alter project scope and/or costs which may, in turn, result in changes to the expected benefits, performance, financial planning strategies of the proposed project. To ensure that the modified project remains in conformance with regional environmental and transportation plans and financial investment strategies, FTA is considering whether to require that the sponsoring agencies submit reaffirmation of adoption of the project in its final configuration and costs into the MPO’s long range transportation plan as part of the application to advance the project into final design.

Questions
36. Does the proposed policy of MPO reaffirmation of the proposed project address FTA’s goal of ensuring local support for implementing and financing proposed New Starts projects?
37. If FTA implements the previously mentioned Local Endorsement of the Financial Plan, does this separate action become redundant?

2.3.5 New Starts Funding Share Incentives
Section 5309(h)(3) as amended by SAFETEA-LU accords FTA the discretion to provide a higher percentage of New Starts funding than that requested by the project sponsor as an incentive to producing reliable ridership forecasts and cost estimates.

Questions
38. How could FTA implement this provision of SAFETEA-LU?

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