

**DEPARTMENT OF TRANSPORTATION****Federal Transit Administration****49 CFR Part 611**

[Docket No. FTA-2010-0009]

RIN 2132-AB02

**Major Capital Investment Projects****AGENCY:** Federal Transit Administration (FTA), DOT.**ACTION:** Notice of Proposed Rulemaking.

**SUMMARY:** This notice of proposed rulemaking (NPRM) proposes a new regulatory framework for FTA's evaluation and rating of major new transit investments seeking funding under the discretionary "New Starts" and "Small Starts" programs. This notice of proposed rulemaking is being published concurrently with a Notice of Availability of proposed guidance that proposes new measures and methods for calculating the project justification and local financial commitment criteria specified in statute and this proposed rule. FTA seeks public comment on both this proposed rule and the proposed guidance.

**DATES:** Comments must be received by March 26, 2012.

**ADDRESSES:** You may submit comments identified by the docket number FTA-2010-0009 by any of the following methods:

1. *Federal eRulemaking Portal:* Go to <http://www.regulations.gov>. Follow the online instructions for submitting comments on the U.S. Government electronic docket site.
2. *Fax:* (202) 493-2251.
3. *Mail:* U.S. Department of Transportation, 1200 New Jersey Ave. SE., Docket Operations, M-30, West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.
4. *Hand Delivery:* U.S. Department of Transportation, 1200 New Jersey Ave. SE., Docket Operations, M-30, West Building Ground Floor, Room W12-140, Washington, DC 20590 between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

**Instructions:** You must include the agency name (Federal Transit Administration) and Docket number (FTA-2010-0009) for this NPRM at the beginning of your comments. You should submit two copies of your comments if you submit them by mail. If you wish to receive confirmation that FTA received your comments, you must include a self-addressed stamped postcard. Note that all comments received will be posted without change to [www.regulations.gov](http://www.regulations.gov) including any

personal information provided and will be available to internet users. You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477). Docket: For access to the docket to read background documents and comments received, go to <http://www.regulations.gov> at any time or to the U.S. Department of Transportation, 1200 New Jersey Ave. SE., Docket Operations, M-30, West Building Ground Floor, Room W12-140, Washington, DC 20590 between 9 a.m. and 5 p.m., EST, Monday through Friday, except Federal holidays.

**FOR FURTHER INFORMATION CONTACT:** Elizabeth Day, Office of Planning and Environment, (202) 366-5159; for questions of a legal nature, Christopher Van Wyk, Office of Chief Counsel, (202) 366-1733. FTA is located at 1200 New Jersey Avenue SE., Washington, DC 20590. Office hours are from 9 a.m. to 5:30 p.m., EST, Monday through Friday, except Federal holidays.

**SUPPLEMENTARY INFORMATION:****I. Introduction**

This NPRM is being issued to amend the regulation (Part 611 of Title 49 of the Code of Federal Regulations) under which the Federal Transit Administration (FTA) evaluates major new transit investments seeking funding under the discretionary "New Starts" and "Small Starts" programs authorized by Section 5309 of Title 49, U.S. Code. The New Starts and Small Starts programs are FTA's primary capital funding programs for new or extended fixed guideway and bus rapid transit systems across the country, including rapid rail, light rail, commuter rail, bus rapid transit, and ferries. This proposed rule was the subject of an Advance Notice of Proposed Rulemaking (ANPRM) issued on June 3, 2010, which posed a series of questions about the current regulation, and in particular about three of the criteria used to assess project justification.

In developing this NPRM, FTA has been guided by two broad goals. First, FTA intends, as suggested by the ANRPM and by the Secretary's announcement of January 13, 2010, to measure a wider range of benefits transit projects provide. Second, FTA desires to do so while establishing measures that support streamlining of the New Starts and Small Starts project development process. In balancing these goals, FTA is seeking to continue a system in which well-justified projects are funded. At the same time, FTA seeks to ensure that it does not perpetuate a system in which the measures used to determine the

project justification or local financial commitment are so complex that they unnecessarily burden projects sponsors and FTA, or that make it increasingly difficult to understand, which hinders effective involvement of the public.

To streamline the process, FTA is first proposing a simplified measure of mobility benefits. Second, FTA is proposing to expand the ability of projects to pre-qualify based on the characteristics of the project or the corridor in which it is located. As with the current "Very Small Starts" category, FTA proposes to determine what characteristics would be sufficient, without further analysis, to warrant a satisfactory rating of "medium" on one or more of the evaluation criteria. Third, FTA is proposing ways the data submitted by project sponsors and the evaluation methods employed by FTA could be simplified. Fourth, FTA is proposing to greatly simplify the process for developing a point of comparison for incremental measures (i.e., measures that are based on a comparison between two different scenarios, such as a comparison of Vehicle Miles of Travel (VMT) in the corridor without the project and VMT in the corridor with the project). Fifth, FTA is proposing to clarify the local financial commitment criteria to address more clearly the strong interaction between capital and operating funding plans. Finally, FTA is proposing that if a project stays within a certain "envelope" of cost and scope during the project development process, no further re-evaluation of project merit will be required.

To address more explicitly the broad range of benefits that transit projects provide, FTA is proposing several ways such benefits will be incorporated into the evaluation process. In particular, this includes livability principles and goals that relate strongly to the purposes of many transit investments. More specifically, FTA is proposing to include more meaningful measures of the environmental benefits and economic development effects of projects and to give these measures equal weight in the evaluation of project justification.

**II. What This NPRM Contains**

This NPRM is one way FTA seeks to accomplish the two goals outlined above; FTA is also publishing a notice in the **Federal Register** today that proposes guidance related to the proposals in this NPRM that is available for public review and comment. The regulations act as a framework for the project evaluation process, and the policy guidance provides non-binding

interpretations for implementing the regulations. Under current law, FTA is required to issue such policy guidance for public comment at least every two years and whenever major changes in policy are proposed. FTA believes that this approach allows FTA to make improvements in the criteria as new techniques become available. FTA encourages comment on both the NPRM and the proposed policy guidance.

The Executive Summary that follows describes the New Starts and Small Starts programs, describes the ANPRM published on June 3, 2010, describes the general approach taken in the NPRM, and discusses several key issues and how they are resolved.

The following section includes a detailed summary of the comments received on the ANPRM and FTA's response to those comments. FTA received over 2,000 individual comments from over 160 respondents to the ANPRM. FTA made a special effort to categorize the comments by topical area, group them, and summarize them so as to assure all relevant comments received consideration in the development of this NRPM and accompanying proposed policy guidance. The responses to comments will provide a sense of the proposals that FTA is carrying forward through this NPRM and accompanying proposed policy guidance, but those proposals are more specifically detailed in the "Section-by-Section" analysis that directly follows the comment summaries and responses.

The Section-by-Section analysis is intended to do two things: (1) Explain the proposed changes to the regulatory text found at the end of this NPRM; and (2) provide some sense of what is in the related proposed policy guidance also being published for comment today. FTA is bound by the current law when it comes to the process used to evaluate, rate, and approve funding for New Starts and Small Starts projects, including the criteria used to evaluate them. But FTA has made an effort in this proposal to introduce a number of streamlining features compatible with current law. In addition, and separately from this effort, FTA will be pursuing additional legislative changes to further streamline the process as part of its efforts toward reauthorization of its programs.

Following the Section-by-Section analysis is the "Regulatory Evaluation" section of this NPRM, which includes descriptions of the requirements that apply to the rulemaking process and information on how this rulemaking effort fits within those requirements.

FTA encourages you to read these and submit comments on them.

The NPRM concludes with the actual regulatory text FTA is proposing for its New Starts and Small Starts programs. This is the language that, if finalized, would govern the way New Starts and Small Starts projects are evaluated, rated, and funded. The language would be binding, which means FTA's future policy guidance documents would need to be consistent with the language. FTA seeks your comments on this proposed regulatory text.

### III. Executive Summary

The New Starts and Small Starts programs, established in Section 5309(d) and (e) of Title 49, U.S. Code, are FTA's primary capital funding programs for new or extended transit systems across the country, including rapid rail, light rail, commuter rail, bus rapid transit, and ferries. Under this discretionary program, proposed projects are evaluated and rated as they seek FTA approval for a Federal New Starts or Small Starts funding commitment to finance project construction. Currently, overall ratings for proposed New Starts and Small Starts projects are based on summary ratings for two categories of criteria: project justification and local financial commitment. Within these two categories, projects are evaluated and rated against several criteria specified in law. Details on how projects are currently evaluated and rated are set forth in the FTA regulations at 49 CFR Part 611, which can be found at the following web address: <http://www.gpo.gov/fdsys/pkg/CFR-2009-title49-vol7/pdf/CFR-2009-title49-vol7-part611.pdf>.

Several statutory changes since 49 CFR Part 611 was first written have modified the evaluation process, including the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) signed on August 10, 2005, and the SAFETEA-LU Technical Corrections Act of 2008, signed on June 6, 2008. FTA announced the most recent policy guidance on the evaluation process (issued to address the SAFETEA-LU Technical Corrections Act) on July 29, 2009. This policy guidance is available in the **Federal Register** at 74 FR 37763. A summary of the evaluation and rating process can be found at [http://fta.dot.gov/documents/FY12\\_Evaluation\\_Process\(1\).pdf](http://fta.dot.gov/documents/FY12_Evaluation_Process(1).pdf).

#### 1. The Advance Notice of Proposed Rulemaking (ANPRM)

The ANPRM sought comment on three of the evaluation criteria under the

project justification category: Cost effectiveness, environmental benefits, and economic development benefits.

*a. Cost Effectiveness.* All of the project justification criteria characterize the effectiveness of projects in addressing the objectives identified by the statute; cost effectiveness is currently the only project justification criterion that examines whether certain benefits are in scale with project costs. Cost effectiveness is not, however, an attempt to perform a full cost-benefit analysis. In its current cost effectiveness measure, FTA includes the direct mobility benefits of the project and compares them to the annualized capital and operating costs of the proposed project as compared to a baseline alternative. FTA defines mobility benefits as any measurable change from the proposed project in travel time, including walking, waiting, transfers, and other attributes of travel on the transportation system as compared to the baseline alternative.

Although FTA's definition of mobility benefits includes time savings to highway users caused by congestion relief, FTA has not been using projections of highway time savings because of their unreliability and inconsistency. Instead, in determining cost effectiveness ratings, FTA credits all projects with an allowance for highway time savings that is equal to 20 percent of the project-specific transit travel time savings. FTA has sponsored research on better methods to predict highway time savings so that project-specific highway time savings might someday be included in the mobility benefits that are compared to project costs in the cost effectiveness calculation.

FTA has also not included other benefits among the project-specific benefits used to compute the current cost effectiveness measure because of the difficulties of combining the broad range of other benefits into a common unit of measurement. Instead, in determining cost effectiveness ratings, FTA currently credits all projects with an allowance for other benefits that is equal to 100 percent of the project-specific time savings. FTA sought comment in the ANPRM on ways to quantify and value other benefits so that they can be included as project-specific benefits, rather than as a general allowance, in the comparison against project costs that is done in measuring cost effectiveness.

Beginning in April 2005, FTA had in place a budget decision approach that required at least a "medium" rating on cost effectiveness for a project to be considered for funding in the

President's annual budget. Members of the transit community criticized that policy and questioned the way in which FTA measured cost effectiveness. Specifically, the transit community expressed concern that receiving a "low" or "medium-low" cost effectiveness rating "trumped" the other project justification criteria established by law. Critics also noted that projects were sometimes designed to achieve a "medium" cost effectiveness rating to remain eligible for funding while sacrificing other potentially important considerations (such as station locations and/or design features to accommodate ridership growth). On January 13, 2010, Secretary Ray LaHood announced the end of that budget decision approach. This new direction presented FTA with an opportunity to rethink how it evaluates cost effectiveness for projects seeking New Starts and Small Starts funding, which led to this rulemaking effort.

Quantitative measures often require evaluating the incremental (or added) benefits of implementing a proposed project against some other alternative. FTA sought comment in the ANPRM on what the point of comparison should be. As stated above, projects are currently evaluated against a "baseline alternative," which is defined as the "best that can be done" to address identified transportation needs in the corridor without a major capital investment in new infrastructure. The baseline alternative generally includes lower cost actions such as traffic engineering, enhanced bus service and other transit operational changes, and modest capital improvements such as reserved lanes, park-and-ride lots, and transit terminals. Although less expensive than the proposed project, the baseline alternative may still result in substantial costs, particularly in complex study areas with significant transportation problems.

For more information how FTA currently calculates cost effectiveness, see the summary of the evaluation and rating process available at [http://fta.dot.gov/documents/FY12\\_Evaluation\\_Process\(1\).pdf](http://fta.dot.gov/documents/FY12_Evaluation_Process(1).pdf)

*b. Environmental Benefits.* Since environmental benefits was first added as a project justification criterion in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), FTA has attempted through various methods, with limited success, to meaningfully measure and compare the environmental benefits of transit projects in the project development pipeline, even though each project may be located in a unique environmental setting.

For a number of years, FTA measured air quality effects using a regional forecast of the change in vehicle miles of travel (VMT) expected to result from implementation of the proposed project compared to the baseline alternative in the forecast year. The results of that approach proved unsatisfactory because any one project had only a minor effect on total regional air quality. The results also did not take into account the severity of the metropolitan area's air quality problems or the size of the population exposed to polluted air. Because of those concerns, FTA switched to using the Environmental Protection Agency's (EPA) air quality conformity designation of the metropolitan area in which the proposed project is located as the sole basis for assigning a rating on environmental benefits.

Although FTA has focused solely on air quality for the environmental benefits criterion in the past, the statute is written broadly enough to allow FTA to take into account other factors such as noise pollution, energy consumption, reductions in local infrastructure costs achieved through compact land use development, and the cost of suburban sprawl. In the ANPRM, FTA sought input on how better to assess all of the environmental benefits connected with a proposed project.

*c. Economic Development.* Under its current approach, FTA has defined economic development as the extent to which a proposed project is likely to enhance additional, transit-supportive development. Currently, FTA rates the economic development effects of major transit investments on the basis of the transit-supportive plans and policies in place and the demonstrated performance and impact of those policies. These "on the ground" indicators characterize the environment in which a project would be built and are not intended to predict future development outcomes. In the ANPRM, FTA requested input on how better to define economic development and on how to establish an improved approach for assessing these benefits.

*d. Outreach.* In support of this ANPRM, FTA held a series of public outreach meetings at which FTA staff made oral presentations on the ANPRM and provided meeting attendees with an opportunity to pose questions. Additionally, the sessions were intended to encourage interested parties and stakeholders to submit their comments directly to the official docket per the instructions. These sessions, announced in the **Federal Register**, were held in: Raleigh, NC; Vancouver, Canada (in connection with the

American Public Transportation Association's annual Rail Conference); Chicago, IL; San Francisco, CA; Dallas, TX; and Washington, DC. In addition, two webinars were held to provide the same opportunity for those unable to attend the other outreach sessions in person.

## 2. Key Issues and Proposed Resolution

The ANPRM laid out a series of questions on cost effectiveness, environmental benefits, and economic development effects. This section describes the current approach and lays out the changes being proposed in this NPRM. These proposed changes are the result of a review of the comments received and an application of the lessons learned from implementation of the current methods.

*a. Cost Effectiveness.* Currently, cost effectiveness is evaluated based on the incremental annualized capital and operating cost of the project per hour of travel time savings (i.e., the cost of the project divided by how much time it would save travelers). Changes in cost and travel time are calculated by comparing the proposed project with a baseline alternative. FTA's thresholds for assigning ratings from "low" to "high" are based on U.S. DOT guidance on the value of time. To establish these thresholds, benefits other than travel time savings are not calculated directly, but are assumed to be equal to the value of the travel time savings (as described above).

FTA is proposing a significantly different and simpler approach. The measure of cost effectiveness is proposed to be cost (annualized capital cost and operating cost) per trip taken on the project, with extra weight given to project trips made by transit dependents, with some allowances for "betterments" to be excluded from the cost side of the equation.

This proposed measure is intended to be much simpler than the current measure. It also allows project sponsors to use simplified forecasting methods for estimating project trips rather than traditional local travel forecasting methods. Given that the measure of effectiveness is not an incremental measure, there is no need for a point of comparison, or "baseline alternative," to calculate it. To calculate the annualized capital and operating costs of the proposed project, the point of comparison would be the existing system.

FTA proposes the cost of "betterments," would be excluded from the cost side of the cost effectiveness calculation. Betterments are those items above and beyond the items needed to

deliver the mobility benefits of the project and that would not contribute to other benefits such as operating efficiencies. Betterments may include, for example, features needed to obtain LEED certification for the transit facilities or additional features to provide extra pedestrian access to surrounding development or aesthetically-oriented design features. This would remove a disincentive to include such features in the design of projects. FTA is interested on receiving comments on the kinds of betterments that should be excluded from the calculation.

FTA is proposing, in addition, to develop pre-qualification approaches that would allow for a project to automatically receive a satisfactory rating on cost effectiveness based on its characteristics or the characteristics of the project corridor. These approaches would be developed by analyzing how certain project or corridor characteristics would contribute to producing a satisfactory rating on cost effectiveness. In this way, a project whose characteristics met or exceeded a certain threshold value could be automatically rated without further project-specific analysis. Proposed pre-qualification values (“warrants”) would be proposed in policy guidance for comment by the public.

*b. Environmental Benefits.* Currently, FTA uses the EPA air quality designation for the metropolitan area in which a project is proposed to be located. Thus, FTA assigns projects located in non-attainment areas (areas that EPA has designated as having poor air quality) with a “high” rating; all other projects receive a “medium” rating.

FTA is proposing to expand the measure for environmental benefits to include direct and indirect benefits to the natural and human environment. Based on estimated changes in vehicle miles of travel (VMT), FTA would evaluate air quality based on changes in total emissions of EPA criteria pollutants, changes in energy use, changes in total greenhouse gas emissions, and safety changes including the amount of accidents, fatalities, and property damage. Changes in public health, such as benefits associated with long-term activity levels that would result from changes in development patterns, would be included once better methods for calculating this information are developed.

Estimated changes in VMT would be calculated in one of two ways. If the project sponsor uses the simplified forecasting method developed by FTA, changes in VMT would be imputed

using standard factors developed by FTA that are applied to the estimated project-trips and passenger-miles. If a project sponsor chooses at its option to use standard local travel forecasting methods, the changes in VMT would be an output of the local travel forecasting process. The estimated environmental benefits would be monetized and compared to the annualized capital and operating cost of the proposed project.

*c. Economic Development.* Currently, FTA rates the economic development effects of major transit investments on the basis of the transit-supportive plans and policies in place and the demonstrated performance and impact of those policies. FTA proposes to continue to use this measure and to add a consideration of the social equity impacts of the proposed investment by assessing the degree to which policies maintaining or increasing affordable housing are in place. The number of domestic jobs related to design, construction and operation of the project would also be reported.

FTA is also proposing to allow project sponsors, at their option, to estimate indirect changes in VMT resulting from changes in development patterns that are anticipated to occur with implementation of the proposed project. The resulting environmental benefits would be calculated, monetized, and compared to the annualized capital and operating cost of the project under the economic development criterion. In is anticipated that the project sponsor would undertake an analysis of the economic conditions in the project corridor, the mechanisms by which the project would improve those conditions, the availability of land in station areas for development and redevelopment, and a pro forma assessment of the feasibility of specific development scenarios.

### 3. Streamlining

Aside from changes that will improve FTA’s measures for evaluating projects, FTA is proposing some changes that are intended to streamline the process.

First, FTA is proposing to allow project sponsors to forgo a detailed analysis of benefits that are unnecessary to justify a project. For example, if a project rates “medium” overall based on benefit calculations developed using existing conditions in the project corridor today, the project sponsor would not be required to do the analysis necessary to forecast benefits out to some future year (i.e., a “horizon” year). Similarly, FTA is proposing to develop methods that can be used to estimate benefits using simple approaches. Only when a project sponsor feels it is

necessary to further identify benefits beyond a simplified method would more elaborate analysis be undertaken, and only at the project sponsor’s option.

## IV. Response to Comments

The following is a summary of the comments received in response to the questions in the ANPRM, FTA’s response to the comments received, and our proposal for addressing the issue raised by the questions in this NPRM. FTA received approximately 165 comment submissions from a wide-range of organizations and individuals. Comments included operators of public transportation; a private bus operator; State departments of transportation; a Federal agency; a member of Congress, metropolitan planning organizations (MPO) and regional councils of governments; local governments or entities; trade organizations; national non-profit organizations; lobbyists; research institutions; local or regional community organizations; private citizens; and businesses.

Please note that FTA attempted to respond to all relevant comments received on the ANPRM. FTA provided a more detailed response, however, only to comments that specifically addressed the issues presented in the ANPRM. General comments that did not pertain specifically to those topics were summarized at the beginning of this section.

### A. General Comments

#### 1. Funding Based on Regional or Project Characteristics

*Comment:* A number of comments suggested separate funding streams depending on the characteristics of the project or the region in which it is located. One comment suggested that FTA separate funding streams based on regional population to afford projects in medium-to-small regions a better chance to compete for funding. Another suggested creating separate funding opportunities for new transit initiatives and one for additions to existing systems. One comment suggested distinguishing between new corridors, extensions, and circulator projects.

*Response:* FTA is bound by the current law, in which funding eligibility is distinguished only by the size of the project and the amount of New Starts/ Small Starts funds being sought. FTA believes the simplified project development and evaluation processes for smaller projects provide an opportunity for smaller and medium sized regions to compete. So long as there is a single source of funding in law for both extensions and completely new

systems, FTA must evaluate them using the same criteria.

## 2. Additional and Updated Guidance

*Comment:* Numerous comments suggested FTA publish additional guidance on the New Starts/Small Starts project development and evaluation processes. For example, several comments suggested publishing additional guidance for how to achieve higher project justification ratings, although one comment suggested FTA retain its current level of guidance emphasizing the importance of regional and local land use planning, zoning, and economic development. Individual comments were received suggesting FTA should:

- Annually publish a capital cost analysis looking at regional variations and cost trends, as well as the actual as-built project costs and New Start application costs.

- Issue guidance on policies that support land use goals and transit-oriented development (TOD) planning.

- Update FTA's 2004 contractor guidelines on land use and economic development and issue it as official guidance to all applicants.

- Provide project sponsors with complete details on cost estimating and an actual FTA high-reliability ridership model.

- Facilitate the application process with best practices, guidelines, or other explanatory materials.

- Maximize public investment by using FTA resources to provide guidance, best practices, and research to facilitate efficient and cost-effective project completion.

- Clarify FTA's goals, objectives, and desired outcomes from the New Starts process.

- Assure the application process is clear, comprehensible, and efficient, so that project sponsors have sufficient time to make necessary project decisions according to whether they have qualified for funding.

- Create a comprehensive, up-to-date source of guidance for applicants.

- Enhance its current Lessons Learned and Best Practices procedures.

- Update the New and Small Starts guidance to reflect changes in policies and administrative requirements and make it consistent with the FTA Web site.

*Response:* FTA agrees with the importance of providing clear and up-to-date guidance about the project development and evaluation processes. By law, FTA is required to publish guidance about its policies for New and Small Starts at least every two years for comment, and whenever it intends to

make a substantive change in its procedures or evaluation criteria. FTA intends to use this process to provide periodic updates to its policies and procedures in this arena. FTA also intends to continue to provide technical assistance in the form of research, training, and technical assistance materials on all aspects of the process. FTA appreciates the suggestions for specific areas of attention, and will use these, as well as comments on this rulemaking process, to guide the development of policy and procedural guidance and technical assistance activities in the future. In particular, FTA intends to use its Web site to provide a source for updated technical assistance and guidance materials.

## 3. Livability and Sustainability

*Comment:* A number of comments addressed the topic of how FTA should address the Administration's livability and sustainability initiatives. A few comments expressed general support for the new livability initiative and policy shift to support transit projects with positive community, environmental, and economic impacts. One comment expressed support for the Administration's livability and sustainability initiatives recognizing the connection among DOT, HUD, and EPA in future regional and local planning efforts. Another comment, however, suggested ignoring sustainability and livability claims.

*Response:* FTA believes its New and Small Starts project development and evaluation processes should address the Administration's livability and sustainability goals. Current law provides that projects be evaluated by factors including environmental benefits and economic development effects, which relate very strongly to these goals. In addition, the degree to which these projects are supported by local transit supportive plans and policies is also a criterion specified in law that FTA proposes to continue measuring.

*Comment:* A series of comments suggested ways FTA could support this initiative by altering its evaluation criteria. One comment expressed concern that the current criteria are not compatible with streetcar projects, and along with another comment, recommended FTA adopt performance measures supporting the livability and sustainability criteria. One comment made a general suggestion that FTA review the entire livability program and alter its rating system to address features of the program. Another comment, however, recommended FTA develop new rating factors that only award more points to applicants agreeing to increase

affordable housing investment within one-half mile of planned transit stops. A couple of comments suggested the six Federal livability and sustainability criteria should be the primary criteria in law for New Starts. A couple of other comments expressed support for FTA's furtherance of the goals of the Partnership for Sustainable Communities through its New Starts and Small Starts program analyses. Others recommended New Starts and Small Starts projects support building healthy and sustainable communities of opportunity, recommending livability indicators as a means for attaining that outcome. One comment recommended the criteria for New Starts and Small Starts funds should focus on the improvements made towards safer walking and biking environments. Another comment recommended modifying the New Starts and Small Starts regulation to incentivize the preservation and expansion of affordable housing near planned transit stops.

*Response:* FTA believes it can address livability and sustainability in measures it establishes for the environmental benefits, economic development effects, and land use criteria. FTA believes reductions in energy use and greenhouse gas and air pollutant emissions are the primary environmental benefits of transit projects that promote sustainability. FTA is proposing to evaluate the magnitude of these benefits in its environmental benefits criterion. FTA also believes it can address livability benefits of proposed investments by assessing transit supportive economic development plans and policies, existing and proposed, that would promote development in concert with assessing the degree to which those policies protect affordable housing.

In addition, FTA is proposing to allow project sponsors to evaluate the magnitude of the projected benefits that come from denser development around the transit investment as part of the measure for economic development. At the option of the project sponsor, indirect changes in VMT resulting from changes in development patterns may be estimated, and the resulting environmental benefits calculated, monetized, and compared to the annualized capital and operating cost of the project under the economic development criterion.

*Comment:* Other comments addressed how funding priorities might be established to support the livability and sustainability initiatives. One comment recommended funding transportation projects that ensure that communities

have streets, sidewalks, and transportation networks that are safe and inviting. Another comment suggested addressing national environmental and climate challenges by promoting low-carbon types of transportation modes via integration of transportation, housing, environment, and community revitalization strategies. One other comment encouraged FTA to consider the unequal treatment of highway and transit investments as the primary obstacle to improving livability.

*Response:* FTA does not believe it is necessary to explicitly establish funding priorities for certain kinds of projects. Rather, it believes having evaluation criteria in place that reward projects that achieve more environmental benefits and economic development effects can provide sufficient incentives to project sponsors to meet these goals. FTA notes the way highway and transit projects are treated is a feature of surface transportation law and cannot be changed through rulemaking.

#### 4. Methodology

*Comment:* A few comments addressed the weights assigned to the various evaluation criteria. The first comment suggested FTA's rating system give up to 40 percent of the points awarded for local matching funds. Another comment suggested only weighting environmental benefits higher than ten percent. A third comment suggested FTA give points to sponsors leveraging symbiotic projects that have private funds from rail companies or industry.

*Response:* According to existing law, FTA must evaluate the six specified project justification criteria and give "comparable, but not necessarily equal" weight to each. Separately, FTA must evaluate local financial commitment and produce a rating for it based on the various factors specified in the law. The separate ratings for project justification and local financial commitment must then be combined into an overall rating. The weightings for the project justification criteria will not be included in this proposed rule. Rather, FTA is proposing specific weights in the accompanying policy guidance. FTA does not believe it is appropriate to provide additional weight to projects with private funding. The source of local funding is not as important as whether the project has adequate overall financial support from non-Federal sources for both capital and operating costs.

*Comment:* A couple of comments questioned how FTA planned to incorporate incomplete studies commissioned by FTA, including Transit Cooperative Research Program

studies H-39, H-41, and H-42, to develop data for future project evaluation.

*Response:* FTA will consider the results of these studies when they become available through policy guidance issued for notice and comment at least every two years. This will allow FTA to take into account any improved methodologies that may result from these and other studies conducted in the future.

*Comment:* Several comments included general suggestions for additional evaluation factors. One comment suggested adding a transit agency's management-labor relations history as a factor. Another comment expressed support for comparing project cost to shortened commute times. One other comment recommended that the project justification criteria should better address equity benefits associated with transit projects.

*Response:* FTA does not believe labor-management relations affect the relative performance or merits of a proposed transit investment. Shortened commute times are one important factor in assessing project merit, but FTA believes a simple measure of project effectiveness, such as system usage, is a reasonable proxy for a wide variety of project benefits. FTA also believes shortened commute times can be an important part of evaluating the likelihood a project will produce economic development benefits since improvements in accessibility are often a major reason why development occurs around transit investments. FTA agrees equity issues are an important part of project evaluation and is proposing to incorporate assessments of equity into its evaluations of project justification.

*Comment:* Some comments made general methodological suggestions. Of these, one comment questioned the use of a cost effectiveness decision rule. The other comment recommended FTA combine a quantitative and qualitative framework for New and Small Starts project evaluation.

*Response:* FTA agrees that cost effectiveness should not be the primary test of project merit. It is for that reason the Secretary of Transportation announced in January 2010 that FTA would no longer require a "medium" rating on cost effectiveness, but would return to the approach prescribed by law in which six project justification criteria (including cost effectiveness) would be evaluated and given "comparable, but not necessarily equal" weight. This NPRM proposes to continue that approach. FTA will propose both quantitative and qualitative measures.

#### 5. Other General Comments

*Comment:* One comment suggested program goals should include public communication specifically targeting transit advocates. Another comment encouraged FTA to support development of mixed-use activity centers with varied transportation access because they will provide the highest return on Federal New Starts investments. One comment questioned why FTA held a public outreach session in Vancouver, Canada.

*Response:* FTA believes communication is a particularly important part of its New and Small Starts process and thus will continue to work to make sure all parties in the process have a clear understanding of the project development and evaluation processes. FTA will continue to use its Web site, training, publication of technical assistance and guidance documents, and outreach sessions to make the process as transparent as possible. FTA also believes a simpler, more understandable process for determining project merit can add considerably to more effective participation by the public and agrees that good transportation access and mixed-use development are important to assuring transit investments are successful. FTA is incorporating an assessment of these features in its economic development and land use criteria. FTA held an outreach session in Vancouver in connection with the American Public Transportation Association's annual Rail Conference. This site was selected because it was an event at which a substantial number of U.S. public transportation agencies and other interested parties would be in attendance during the public comment period. FTA also held outreach sessions at a number of other sites in the United States where such interested parties were likely to be able to attend, as well as two Webinars for those who were unable to be at one of the sessions in person.

#### B. Cost Effectiveness

##### Measuring Cost Effectiveness

Cost Effectiveness Question 1: "How might FTA better evaluate cost effectiveness?"

##### 1. Conceptual Basis for Comparing Benefits and Costs

*Comment:* A large number of comments suggested various ways of comparing costs and benefits. Comments also provided thoughts on the difference between a cost effectiveness evaluation and a cost-benefit analysis.

One comment stated cost effectiveness is often wrongly confused with cost-benefit analysis. The comment stated cost-benefit analysis is appropriate when it is possible to calculate all benefits and costs in dollars (or some other common denomination), but a cost effectiveness evaluation is appropriate when it is not possible to express all of the potential benefits of investments in dollar terms. The comment stated that for a cost effectiveness evaluation, benefits that cannot be expressed in dollars must still be quantified using some other measure or measures such as hours of time saved, tons of abated air emissions, or accident fatalities avoided, with the costs in dollars divided by the benefits to calculate the cost per hour, ton, fatality, or whatever is the benefit. The comment favored quantification of the annual outputs (or savings) of each of the key non-monetary benefits under each of the local alternatives.

According to another comment, cost effectiveness is best understood and evaluated by comparing costs to ridership and then understanding other benefits individually. This comment stated that development of a single cost effectiveness measure that captures what decisionmakers would expect is too complex to ever explain and, therefore, not useful in this context. Another comment also argued the law does not require a single cost effectiveness measure.

*Response:* FTA agrees a cost effectiveness evaluation should not be confused with a cost-benefit analysis. FTA believes a cost effectiveness evaluation is more appropriate for New and Small Starts project evaluation than is a cost-benefit analysis because it is very difficult to express many of the benefits of these transit projects in dollar terms. Further, the statute explicitly calls for cost effectiveness as one of a series of measures of project justification. FTA agrees a wide range of benefits should be quantified and is proposing to do so in this NPRM and in the accompanying policy guidance made available for public comment today.

FTA agrees it makes sense to compare costs to measures of ridership and to account explicitly for other benefits in the other measures of project justification. Although the law may not require a single measure of cost effectiveness, FTA believes having multiple cost effectiveness measures would cause too much complexity and confusion. However, FTA believes it is appropriate to use cost as a way to scale environmental benefits (including the indirect environmental benefits that

may be estimated at the project sponsor's option under the economic development criterion), but that it is better to calculate a summed monetary value for these benefits, rather than having a series of measures, one for each kind of environmental benefit.

## 2. Calculating Costs

*Comment:* One comment stated the current cost effectiveness measure is adequate for large New Starts projects, and that the most effective way to improve it is to change FTA's treatment of New Starts project costs. Some comments stated concern that traditional cost effectiveness measures along with FTA's current guidance can be a challenge for projects located in more mature urban transit network environments due to higher real estate costs in those areas. Other comments agreed with this sentiment, further stating FTA should index or otherwise normalize the cost effectiveness thresholds to differentiate between "low," "medium-low," "medium," "medium-high," and "high" ratings to reflect local cost levels, which are often higher in denser areas having the greatest transit needs. One other comment suggested FTA develop peer-specific cost effectiveness standards. Another comment said FTA should develop a method for "equalizing" the comparative disadvantages of projects that have higher capital costs because they are situated in environments that necessitate complex construction methods. Along similar lines, another comment stated FTA should account for cost differences among regional economies on the cost side of the cost effectiveness calculation.

Also with respect to calculating cost, one comment argued the seven percent discount rate used by FTA to annualize costs in the existing cost effectiveness calculation is high, such that it discriminates against large, very long-term benefits associated with heavy rail projects.

Finally, one comment argued a fully-allocated cost model better applies to new systems, and an incremental cost model better applies to expansions of existing systems. This comment also stated current FTA policy appears to prefer a fully allocated cost model.

*Response:* FTA believes in general that its current approach to evaluating capital costs in the cost effectiveness measure is appropriate. FTA also believes, however, the cost of certain "betterments" should be excluded from the cost effectiveness calculation. These include the incremental costs of features that may be required to obtain LEED certification of public transportation

facilities. Such project features can achieve environmental benefits not well captured in the assessment of changes in travel behavior that accompany public transportation investments, such as improved water quality or reduced runoff, even though some of these project elements might also produce operating cost savings that would be assessed under the operating efficiencies criterion. To include these costs in the calculation of cost effectiveness would penalize project sponsors making such investments, and would provide a disincentive to making them. FTA does not believe it is appropriate to adjust the costs used in the cost effectiveness measure for local real estate costs, construction complexity, or above-average construction costs. Project sponsors are competing for scarce funds at the national level, so it is necessary to determine which projects are the most cost effective investments of Federal funds. For this purpose, it is necessary to determine how much each dollar of Federal funding is purchasing.

FTA agrees the current seven percent discount rate used to annualize costs in the current cost effectiveness measure is a stiff test for very long-term investments and is proposing to change it to two percent.

FTA believes its approach for calculating costs is appropriate. Although an incremental cost model may make sense when it comes to developing estimates for use in financial planning, for the purposes of understanding the complete cost of a particular investment, a fully allocated approach makes sense.

## 3. Determining What Costs Should Be Included in Cost Effectiveness

*Comment:* FTA received a number of comments concerning what costs should be included in the calculation of cost effectiveness. Sixteen comments supported basing the calculation of cost effectiveness on either the New Starts/ Small Starts share or Federal share of the project cost instead of the current practice of basing cost effectiveness on the total project cost, with thirteen comments stating a preference for the New Starts or Small Starts share and three comments expressing support for the Federal share. Comments said FTA's current approach is burdensome to communities with stringent local requirements because those communities must include locally funded project elements in their projects that are not necessary for the basic functioning of the project. Comments said the costs for these locally required and locally funded elements are

factored into the cost effectiveness calculation, which makes their cost effectiveness rating “worse” than the ratings for projects in communities that do not have stringent local requirements. Comments also said this approach would enable communities to build projects that best serve their local needs because project elements funded with local sources would be excluded from the calculation of cost effectiveness. Some comments also said this approach would provide an incentive for project sponsors to provide a higher local funding share, allowing Federal dollars to be distributed to a larger number of projects than would be the case under FTA’s current approach. They stated this approach would reduce the likelihood that project sponsors would need to conduct “value engineering” in ways that may reduce the full benefit of the project in order to achieve an “acceptable” cost effectiveness rating. Some comments said this approach would enable project sponsors to easily calculate the cost effectiveness for the project based on the level of local funding that they provide to the project.

Some comments stated FTA should change the current policy of basing cost effectiveness on total project cost and instead exclude certain costs from the calculation of cost effectiveness for various reasons. One comment stated the cost effectiveness calculation should only include the costs necessary for the functioning of the project, while another argued FTA should deduct from the cost effectiveness calculation the total or incremental costs of project “upgrades” that support important Federal objectives but do not produce additional ridership or user benefits or benefits associated with the other project justification criteria. Two comments said the cost included in the cost effectiveness calculation should be reduced by the amount of private sector contributions to the project, with one suggesting FTA only deduct costs provided by real estate developers and businesses that contribute funds because they realize the economic value created at the project’s station areas. The comment said FTA should not deduct costs that apply to public-private partnerships in cases where the private sector partner provides construction funding in exchange for future availability payments from the public agency. Another comment said FTA could create a meaningful incentive by specifying that the private capital or public-private partnership must have a positive impact on the project’s evaluation and rating in order to be

worth counting in the evaluation process. One comment said FTA should limit the costs included in the calculation of cost effectiveness to operating costs, including environmental costs and benefits, stating the current capital and operating costs included in the calculation of cost effectiveness are focused on short-term costs at the expense of long-term environmental and economic benefits. Along similar lines, another comment said FTA should deduct costs associated with the use of new energy saving technologies from the calculation of cost effectiveness.

Two comments supported FTA’s current approach of basing cost effectiveness on the total project cost, stating that a focus on only Federal costs would cause a “race to the bottom” as projects try to improve the rating by reducing scope to lower the Federal share. The comments also stated many New Starts projects are major capital investments and require robust levels of Federal funding in order to be built. Another comment argued that reaching agreement with FTA on the cost of “betterments” would be complex and time-consuming, especially when agencies are seeking to incorporate “green” technologies into their routine practices. The same comment stated that comparing user benefits to the Federally-funded portion of a project could create other complications because agencies may attempt to apply Federal funds to the standardized cost categories with the longest useful life.

*Response:* FTA does not agree the cost effectiveness measure should be calculated based on either the New Starts or Small Starts share or the total Federal share. Instead, FTA believes the total project cost should be the basis for the calculation, with allowances for “betterments” to be excluded (as noted above). To allow a project to potentially obtain a satisfactory project justification rating simply by reducing the Federal share mixes an evaluation of project merit with an evaluation of the local financial commitment to the project. Further, it could permit an otherwise poorly performing project to receive an adequate rating. FTA believes it is possible, however, to exclude certain locally-required or preferred project elements from the cost calculation. FTA believes allowing “betterments” (those elements that go beyond what is needed for the basic functioning of the project) to be excluded from the cost side of the cost effectiveness calculation is reasonable. FTA understands it may be challenging to identify exactly what constitutes a “betterment,” but believes that guidelines or parameters can be

established to help with this. FTA believes incentives for providing higher local funding shares should be considered in the local financial commitment criteria evaluation, not the project justification criteria evaluation. FTA agrees it is important that a project sponsor not delete necessary project elements in order to achieve an acceptable cost effectiveness rating, but believes this can be avoided through guidance defining necessary elements (along with what might be considered a betterment) and by thoroughly reviewing cost estimates as part of FTA’s project management oversight.

FTA agrees the costs used in calculating cost effectiveness can be limited to those necessary to produce the project’s primary functions. This can be done to avoid counting the costs of various locally-derived “betterments” and the costs of achieving certain Federal policy objectives, so long as these costs are not being borne by New Starts/Small Starts or other Federal funds. These costs could include things like additional features to provide extra pedestrian access to surrounding development, aesthetically-oriented design features, or features to allow for LEED certification of project facilities. FTA agrees such features often do not produce the primary transportation benefits being evaluated in assessing cost effectiveness, but nonetheless produce desirable outcomes. To count such costs in the cost effectiveness measure would provide a disincentive to include such project features. FTA is interested in receiving comment on the kinds of betterments that should be excluded from the cost side of the cost effectiveness calculation.

FTA does not believe it is appropriate to deduct private contributions to the project from the cost effectiveness measure for the same reasons stated above regarding calculating cost effectiveness based on the New Starts or Federal share alone. If a private developer contributes funds to a specific feature, such as an enhanced pedestrian linkage to a developer’s project site, then it would make sense to delete those costs to the extent that the feature is not necessary for the achievement of the project’s ridership or other benefits included in the justification measures. FTA agrees private equity contributions that will later be repaid through availability payments or other reimbursement by the project sponsor should be included in the costs used to calculate cost effectiveness. FTA does not agree that only operating costs should be part of the costs included in the cost effectiveness calculation. Both capital and operating costs are part of

the overall investment being evaluated. FTA believes it may be appropriate to deduct the costs of various energy saving features to the extent they are not necessary for the basic functionality of the project.

FTA agrees using total project costs, net of betterments (i.e., subtracting certain elements from the cost), rather than only Federal funding, is appropriate since otherwise a major portion of project costs would be excluded. FTA agrees there will be some complexity involved in identifying "betterments," but on balance it is worth the effort to assure that disincentives to such features are not an inadvertent part of the evaluation process. Further, FTA believes it is more appropriate to reward projects that contribute a higher non-New Starts share of funding in the evaluation of local financial commitment. That way, the evaluation of project justification will be appropriately focused on the merits of the project itself, regardless of funding source. The overall evaluation of the project's worthiness is the combination of the project justification and local financial commitment rating that will include an accounting of the degree to which additional local resources are being brought to bear on the project.

#### 4. Forecasting Methods

*Comment:* FTA received a number of comments on the methods used to forecast ridership to calculate travel time savings, which is the current measure FTA uses in the calculation of cost effectiveness and mobility. Comments expressed concern that projects are designed to meet the projected ridership forecasts, but that actual ridership can sometimes surpass projections leaving the project underdeveloped. The comment noted projects facing this situation are then required to undergo costly retrofits to accommodate actual ridership. One comment suggested that if travel time savings is retained as the measure, the forecasting methods behind the measure should be improved. Similarly, another comment suggested the creation of a national standard or approach to transit ridership forecasting.

*Response:* FTA agrees these projects are long-term investments and should be built to accommodate long-term demand, which is difficult to predict. However, calculating cost effectiveness is a necessary part of the evaluation process, as required by statute.

FTA agrees with the need for improved and simplified forecasting methods. FTA is proposing a simplified measure of effectiveness and the use of

approaches that are easier to apply, including an FTA-developed standard national model to predict the number of trips on a proposed project.

*Comment:* Other comments suggested various ways of improving travel forecasts and noted concerns about consultants having a conflict of interest that leads them to inflate ridership forecasts. Comments suggested FTA require better documentation of ridership projections, such as origin-destination surveys of current users of existing transit systems in the region and origin-destination surveys of current automobile drivers to determine the congestion impacts when existing roadways are altered to allow dedicated lanes for buses in a bus rapid transit (BRT) system. Another comment suggested FTA create a new FTA-specific debarment process that would prohibit a firm that submitted false or misleading ridership forecasts to FTA from submitting additional information for the next three years. Another comment stated that in markets without choice riders (riders that choose transit over driving even though they have a car or other travel options available to them) historically, initial choice ridership may come from special events such as college and professional sports games, holiday parades, etc. The comment went on to say FTA should develop tools to allow projects to better model trips generated by those special events.

*Response:* FTA does not agree consultants alone are the cause of inflated ridership forecasts. An over-reliance on a single metric, whatever it may be, can provide an incentive for all parties involved, including consultants and project sponsors, to overinflate the numbers. Ultimately ridership forecasts and all data submitted to FTA about the proposed project are the responsibility of project sponsors.

FTA agrees the data on which forecasting models are based can be improved and already requires that models be calibrated based on recent rider surveys. FTA will continue to evaluate the quality of the ridership forecasts submitted by project sponsors before accepting them as part of any evaluation process. FTA is proposing simplified forecasting methods, including an FTA-developed national model to predict ridership on the proposed project. FTA notes that it already has tools available to deal with special events and other trip generators, which project sponsors now currently employ.

With respect to a debarment process, the existing government-wide debarment process at 2 CFR part 180,

supplemented with the DOT rule at 2 CFR part 1200 would allow FTA to suspend or debar any entity for numerous reasons. Conviction for making false statements is listed as one of the bases for debarment (see 2 CFR 180.800(a)(3)).

*Comment:* One theme among comments on travel forecasting was the extent to which ridership forecasts take into account land use changes expected in the project area. One comment stated some applications of direct transit ridership models have been demonstrated in the field, and may offer a more accurate alternative to forecasting ridership than regional travel demand models built primarily around forecasting auto trips. The comment argued that such models offer the ability to consider the effect of fine grained land use characteristics around stations that may increase ridership—higher quality pedestrian environments, a mix of land use types, key destinations, and residential density. Other comments stated FTA should work with project sponsors, MPOs, and others to improve modeling technology to more accurately recognize land use-related variables and different land use distribution patterns, with an aim toward incorporating induced land development into forecasts. Other comments specifically suggested a standard methodology for projected land use changes in furtherance of better ridership forecasting.

*Response:* FTA agrees it is important to fully account for the land use changes that occur in project areas to the extent possible, and FTA encourages use of the most accurate tools available. To avoid increasing the burden on project sponsors, FTA prefers that existing tools available in the project area be the primary basis for analysis. Use of new tools may require expensive development and calibration that may not be worth the time and money for the enhanced precision that might result. Although finer grained analysis may be helpful in producing more accurate forecasts, in general FTA needs only to be assured that the project is justified according to broad criteria for which existing tools have proved sufficient. Project sponsors who feel the need for more precise forecasts to justify projects at the local level are always free to pursue enhanced models on their own.

*Comment:* Some comments suggested alternative methods for developing travel forecasts, with one comment expressing appreciation that FTA already allows project sponsors to use alternative methods in special cases. One such comment stated transit agencies should be required to use the

current travel forecasting model of the MPO for all estimates of ridership, revenue and ridership-related costs, and that a transit agency should under no circumstances develop its own model for estimating patronage for any proposed new transit project. That comment suggested any modifications of the MPO model should be clearly documented and certified by the MPO. Another comment stated FTA should require MPOs, especially those in regions with significant transit investments in place, to maintain an updated transit model capable of meeting the rigors of a New Starts evaluation.

*Response:* FTA believes it should provide project sponsors with flexibility in determining what methods to use to develop travel forecasts. FTA will continue to allow use of alternative forecasting approaches in certain cases, and is proposing a simplified, FTA-developed national model. FTA does not believe it is appropriate or necessary to mandate use of such specific models, or to require MPOs to have in place models appropriate for modeling New Starts project impacts. In some cases the models may not be sensitive to the kind of changes in travel that arise from a major transit investment because they are usually designed to produce travel forecasts in support of an area's metropolitan transportation plan and often focus on mainly regional ridership totals rather than corridor or station area levels. In addition, most MPOs will be called on to forecast New Starts project ridership only on rare occasions. In any case, FTA will continue to work with project sponsors to assure that the models used are appropriate and the results as accurate as possible.

*Comment:* Some comments stated there is too much time, cost, and effort spent on travel modeling and ridership estimating and the process often is contentious. These comments suggested other approaches might be used instead to remedy this problem. One comment suggested a Delphi-based approach that uses the model as one of a number of methods to generate information that is then reviewed by a panel of local travel experts for consensus. Another suggested a transit forecasting model similar to the Aggregate Rail Ridership Forecasting (ARRF), arguing that ARRF is proving to be a more accurate generator of ridership forecasts than any other model. Other comments suggested simple, spreadsheet-based modeling tools using existing data sources, such as data obtained from Automatic Vehicle Locators installed on existing transit vehicles in the corridor data, as the basis for quantifying improvements

in service reliability that would occur with the proposed project. One other comment suggested the use of sketch planning methods used to predict park-and-ride lot utilization, transit route ridership, and other travel data along with the requirement that the forecaster focus on results and making them plausible rather than expending large amounts of time and resources to figure out why the model is "misbehaving."

*Response:* FTA agrees the level of effort required for producing and verifying the acceptability of travel forecasts should be reduced. FTA does not believe a Delphi approach is reasonable, but rather believes a model-based approach is more appropriate, since it can take into account more aspects of known travel behavior in a quantitative manner. However, the use of sketch-planning techniques such as ARRF has merit. FTA believes its proposal to use project trips as the effectiveness measure for mobility in the calculation of cost effectiveness supports the use of simpler forecasting methods for project sponsors. FTA agrees using simplified methods based on existing data for a variety of measures makes sense and often can produce better results than relying on complex travel models that may be difficult to understand.

*Comment:* FTA also received a number of comments on forecasting various aspects of automobile travel, with some arguing for use of regression techniques for estimating vehicle miles travelled (VMT) and others suggesting FTA sponsor research on increases in automobile operating costs. Others simply suggested developing a minimum standard for highway models to improve comparisons in multimodal contexts. Some comments favored increased funding to improve estimates of benefits to highway users from transit projects.

*Response:* FTA believes simple measures for assessing the impacts of a proposed transit investment on automobile travel have merit. FTA will continue to explore how to produce such measurements most effectively. FTA does not believe minimum standards for highway models are needed, although it believes continued research in this area would be appropriate.

*Comment:* A number of comments were also submitted concerning details of the measurement of travel time savings, the current measure FTA uses in calculating mobility and cost effectiveness. Comments expressed concerns about the reliability of forecasts in general, and urged the use of ridership surveys to improve

ridership forecasts. Other comments stated mode-specific constants (which assign a different weight to time spent on various modes) should be replaced with improved transportation demand model specifications, including quality of service variables, stating there is no evidence that traveler preference is necessarily linked to mode. Some comments expressed concern about the interface of non-motorized trips and transit in travel models, arguing most regional models do not fully consider the impact on ridership of quality bicycle and pedestrian networks, thereby penalizing transit agencies that include the costs of improved sidewalks or bikeways in the proposed transit investment. Another comment stated modeling parameters seem to give greater weight to "drive-to-transit" access rather than "walk to transit" or "bus to transit" access, and that this approach fails to capture the benefits accruing to communities with transit supportive land use policies.

*Response:* FTA continues to believe travel time savings are an important benefit of major transit investments, but it is clear it is difficult to produce reliable estimates of such time savings. Accordingly, FTA proposes to use project trips as its mobility measure, which should be easier to forecast while still producing a good indication of project merit. FTA notes improvements in accessibility, which are related to the travel time savings produced by a proposed project, are an important factor in changes in land use and economic development due to the project. Hence, even if a different measure of effectiveness is used in calculating cost effectiveness, some indication of the reduction in travel time will be reflected in some of the other project justification measures.

FTA agrees rider surveys are an important tool in developing good estimates of current travel behavior and will continue to support their use for model calibration. FTA agrees mode specific constants are an imperfect way to measure travel mode changes and agrees it is the attributes of the mode that cause riders to change. However, FTA believes that mode specific constants remain a good proxy for calibrated factors in travel demand models (i.e., mode specific constants allow FTA to account for travel amenities that may differ between different types of transit projects, such as the differences between traveling on a light rail vehicle or a bus). FTA agrees many regional models are not sensitive to fine-grained factors such as non-motorized access to transit. But FTA does take account of improvements to

transit walk access in the way the benefits of the transit investments are considered and will continue to explore methods to better evaluate their magnitude.

#### *Inclusion of Benefits in Cost Effectiveness*

The following is a summary of comments related to three separate ANPRM questions on cost effectiveness and one question each on environmental benefits and economic development. The questions from the ANPRM are included at the beginning for reference.

**Cost Effectiveness Question 2:** “What, if any, additional benefits such as environmental benefits, equity considerations (e.g., the social benefits of low-income ridership), and benefits of economic development attributed to a specific project could FTA include in the measure of cost effectiveness? What specific benefits should be included in the calculation of cost effectiveness?”

**Cost Effectiveness Question 3:** “If you believe that FTA should include other benefits in the measure of cost effectiveness, how can FTA best quantify those benefits? Please include specifics on how FTA would quantify and measure these benefits.”

**Cost Effectiveness Question 5 (part B):** “Should FTA consider additional benefit categories such as convenience for riders, reduced congestion, reduced travel time as a result of reduced congestion, reduction in the number of accidents due to reduced congestion, fuel costs (or other variable cost) savings for individuals who would be using the projects and/or the benefit to national security of additional transportation options? If so, how should these be measured?”

**Environmental Benefits Question 8:** “Should environmental benefits be included in the cost effectiveness measure? How can environmental benefits be compared across projects, and incorporated into FTA funding decisions?”

**Economic Development Question 10:** “Should economic development be a part of the cost effectiveness measure?”

*Comment:* Numerous comments stated the cost effectiveness criterion should include a fuller range of benefits, with some comments stating a preference for certain benefits, as explained below. Some comments supported inclusion of non-transportation benefits (discussed below in response to ANPRM Questions 2 and 3 on cost effectiveness, ANPRM

Question 8 on environmental benefits, and ANPRM Question 10 on economic development) and others supported inclusion of additional transportation-related benefits (discussed below in response to ANPRM Question 5 on cost effectiveness). One comment stated generally that including a fuller range of benefits would improve services for minority and low-income populations. Another comment stated cost effectiveness should account for all benefits of a transit project. Some comments that proposed cost-benefit analysis suggested specific measures for use in that assessment framework. One comment recommended consideration of system design and operational features that support state of good repair, land use, and equity goals since such features can support better service but are often value-engineered out of projects. One comment proposed that a cost effectiveness rating for a full line be applied to a minimum operable segment (MOS) if a financial plan is in place for the full line based on an argument that MOSs often have higher costs relative to benefits.

Other comments stated no additional benefits should be included in the criterion for cost effectiveness. A couple of comments indicated other benefits are already addressed and weighted appropriately under other project justification criteria; one of these comments noted the current measure already captures certain transportation benefits beyond user benefits, such as service reliability and relief of transit congestion. Three comments expressed concern that additional benefits would make cost effectiveness more burdensome to measure or complex, while two others recommended additional research to determine how to quantify any additional benefits before including them in the cost effectiveness criterion. A few comments noted that including additional factors in the cost effectiveness criterion could complicate comparison of projects' benefits. A couple of comments suggested additional benefits are difficult to measure, with one specifically stating that capturing, measuring, and quantifying transit benefits in a way that is simple and nationally applicable is currently beyond the capabilities of agencies and sponsors. Another stated there are few tools today to measure the triple bottom line (economics, environment, and social equity), but they are in the process of being developed. Another argued cost effectiveness should remain as it is until accurate information is available that clearly defines a quantifiable non-

mobility and/or congestion relief criteria that can evaluate the specific benefit between projects.

Some comments provided criticism of the existing measure for cost effectiveness. One stated the current cost effectiveness measure is biased against certain modes (e.g., streetcars and urban circulators), and another comment suggested that incorporating livability principles into the other project justification criteria could remedy this. One comment argued the existing measure seems to give greater weight or preference for benefits resulting from drive access than to bus or walk access to the transit system. Another stated the current measure of cost effectiveness favors long trips in metropolitan areas that are not compact and where there is more opportunity to save travel time over longer distances.

*Response:* FTA agrees that while there might be merit to including a wider range of benefits in the measure of cost effectiveness, on balance it is more appropriate to address these other benefits in the other evaluation criteria rather than trying to incorporate them into cost effectiveness. FTA is not convinced an effort should be made to include all benefits in a single measure since cost effectiveness is only one of six project justification criteria specified in law. In particular, certain benefits are not easily combined into a cost effectiveness measure but can be better addressed in the other criteria. FTA believes state of good repair goals are better assessed in the review of local financial commitment since they relate to whether a project sponsor has adequate resources to recapitalize the existing system in addition to constructing the new project, rather than serving as a reflection of the performance of the project itself, which is more rightly the basis on which project justification should be judged. Land use and equity considerations can be accounted for in other criteria. FTA continues to believe it should judge each operable segment on its own independent utility, since it is appropriate for FTA to evaluate the immediate investment being considered for funding.

FTA agrees other benefits should be left out of the cost effectiveness measure. Cost effectiveness does not have to be the only measure that scales project benefits to costs. FTA is particularly sensitive to the concern that including additional benefits in the measure could increase the burden on project sponsors since it would add considerably to the complexity of the measure. Thus, FTA is proposing that a simpler measure of mobility (trips) be

compared to costs. Simplifying the measure for mobility should address concerns about the burden on sponsors. A project sponsor is not required to calculate the value of additional benefits, but can do so at its option as a part of the other measures rather than in the cost-effectiveness measure. FTA agrees that additional research on how to quantify such benefits would be productive. There are Transit Cooperative Research Program projects underway that may provide useful information. FTA plans to conduct additional work as needed to assure sponsors have usable tools. FTA does not believe it is beyond the capabilities of current tools to assess these benefits, but believes more work is needed to improve these tools and make them more readily usable. Nonetheless, FTA is convinced the currently available tools are sufficiently accurate for their results to be used in the analysis.

FTA agrees the current measure of cost effectiveness can be improved and is proposing a revised measure. FTA believes that having improved measures for economic development effects and environmental benefits will make for a more complete assessment of project merit, particularly when the entire range of project justification criteria are evaluated and weighted comparably, as required by law. FTA does not agree the current measure favors modes with drive access rather than walk or bus access. Under the current measure, savings in travel time are based on weightings that reflect travelers' perceptions that out-of-vehicle travel time is more onerous than in-vehicle travel time. Thus, since walk time is actually weighted more than in-vehicle time, projects that improve walk access actually score better on the current measure. FTA agrees the current measure favors projects that save large amounts of travel time on long trips, simply because there are more opportunities for travel time savings.

#### 1. Inclusion of Non-Transportation Benefits in Cost Effectiveness

The following is a summary of non-transportation benefits proposed for inclusion in the cost effectiveness criterion.

##### a. Public Health and Environmental Benefits

*Comment:* Several comments supported inclusion of public health benefits under the cost effectiveness criterion, with one noting health benefits constitute one in a series of community benefits associated with reduced automobile use but not currently captured under cost

effectiveness. A few of these comments recommended FTA use public health or health care cost savings as a measure. Another noted "the limits of information available to public transit agencies themselves to create this analysis" would need to be considered if FTA elects to develop a public health measure.

Numerous comments suggested environmental benefits be included in cost effectiveness, either generally (i.e., as an affirmative response to Environmental Benefits Question Number 8) or with support for particular benefits.

A large number of comments endorsed inclusion of environmental benefits in FTA's cost effectiveness criterion without specifying a type of benefit. A few of these proposed the cost effectiveness measure capture project benefits beyond travel time savings, and one stated the current cost effectiveness measure is subjective. One comment asserted environmental sustainability, along with economic factors and social equity, is more critical than mobility improvements, with another comment suggesting inclusion of environmental benefits would help FTA identify and prioritize projects with the best long-term outcomes.

*Response:* FTA agrees public health benefits should be considered in evaluating New Starts projects. FTA believes they belong primarily under the environmental benefits criterion. FTA will propose in policy guidance that they be measured once a methodology for doing so has been developed. FTA agrees that valuing such benefits can be complex.

FTA does not believe its current or proposed measure of cost effectiveness is in any way "subjective," but rather an effort to quantify benefits and costs and compare the two. Although FTA believes that environmental sustainability is important, mobility and accessibility are the primary benefits of transportation investments. FTA does not agree that incorporating environmental benefits in the cost effectiveness measure is an appropriate way to ensure good investments producing a wide range of important long-term outcomes are supported, mainly because it would complicate the measure. Instead, FTA believes the environmental benefits criterion is the appropriate place to examine these benefits and is proposing they be compared to cost under that criterion. Recognizing the importance of a multiple measure approach to project evaluation, FTA is proposing that environmental benefits receive a

comparable weight to cost effectiveness in the evaluation of project justification.

*Comment:* A number of comments proposed measures of environmental benefits. These are discussed in the section on environmental benefits. Of these comments, one suggested VMT reductions due to higher density development receive half of the weight assigned to cost effectiveness. Finally, one comment suggested the multiplier for non-travel time benefits be increased (from two to two and a half) if FTA does not adopt another method for incorporating environmental benefits.

A couple of comments proposed techniques to evaluate environmental benefits as part of cost effectiveness, but did not suggest measures. One recommended a cost-benefit analysis of proposed environmental technologies given that certain "green" technologies can be more expensive than "older established technologies." Another proposed environmental features of a project be subject to cost-benefit analysis, either individually or in combination with all other project costs and benefits, as part of a broader definition of cost effectiveness and suggested replacement of the current cost effectiveness measure with cost-benefit analysis.

*Response:* FTA believes certain environmental effects resulting from implementation of the project (which can be estimated based on estimated VMT changes) should be accounted for in the measure of environmental benefits. In addition, FTA proposes that at the option of the project sponsor, indirect changes in VMT resulting from changes in development patterns may also be estimated, and the resulting environmental benefits calculated, monetized, and compared to the annualized capital and operating cost of the project under the economic development criterion. FTA is proposing to replace its current approach in which the thresholds for the various ratings assigned to travel time savings are developed by simply doubling the value of calculated travel time savings so as to account directly for the environmental benefits under the environmental benefits criterion.

FTA believes the decision on whether or not to implement certain "green" technologies should be made by local decision-makers and does not intend to propose any specific requirements. However, FTA believes it is appropriate to exclude the costs of such "betterments" from the calculation of cost effectiveness to avoid creating a disincentive to the application of such technologies.

*Comment:* Several comments recommended FTA evaluate air pollution or greenhouse gas emissions reductions under the cost effectiveness criterion, with about half citing air pollution reductions as a broader community and efficiency benefit associated with decreased automobile use. A few comments proposed specific measures: one suggested FTA measure costs avoided due to reduced emissions; another suggested FTA examine project cost per ton of abated emissions, with emissions reductions offset by the effects of vehicular cold starts and electricity production for transit vehicle propulsion; a third suggested FTA assign a monetary value to each ton of abated emissions; and two others suggested the financial benefits of climate change impact reductions be accounted for in cost effectiveness.

*Response:* FTA believes air pollution and greenhouse gas reductions are better accounted for under the environmental benefits criterion rather than as part of the cost effectiveness criterion. FTA believes the best approach is to estimate these benefits using standardized valuations per change in VMT, monetize them and compare them to the annualized capital and operating cost of the proposed project in the environmental benefits criterion.

*Comment:* Several comments advocated inclusion of energy conservation in cost effectiveness. Of these, a couple emphasized incorporation of Leadership in Energy and Environmental Design (LEED) components and technologies. One comment cited energy conservation as a community benefit associated with less automobile use. Another noted encouragement of energy-saving LEED components would be consistent with the Administration's livability and sustainability goals.

One comment suggested measuring project cost per British Thermal Units (BTU) of energy saved, and another proposed offering "some level of credit" against the Federal share for inclusion of LEED components. A couple of comments proposed identical measures for cost effectiveness and environmental benefits, namely projected VMT reductions and mode split changes, but did not mention particular environmental benefits to be assessed through these measures. These comments asserted that reductions in energy use and emissions should be key goals of any transit project.

One comment suggested projects receive cost effectiveness credit for only "ancillary" environmental benefits associated with mandatory project components in order to maintain the

New Starts program's focus on funding transit improvements.

One comment suggested FTA incorporate long-term efficiency benefits and reductions in life-cycle costs associated with environmental technologies into the cost effectiveness measure so as to avoid penalizing projects with higher-cost, environmentally beneficial elements.

*Response:* FTA believes energy conservation should be included in the environmental benefits criterion, rather than in cost effectiveness. To do so, FTA is proposing to calculate the monetary value of the energy savings that come from changes in VMT using standardized values. FTA notes a significant part of the benefits that come from reducing energy use are accounted for by the resulting reduction in pollutant and greenhouse gas emissions. To avoid double counting, the monetary value of energy conservation will be factored down by some percentage specified by FTA in future policy guidance. In addition, FTA believes it may be appropriate to exclude from the cost effectiveness calculation the additional costs of energy efficient features of the project. These features do not necessarily produce the changes in VMT that form the basis for the mobility benefits included in the measure. Thus, subtracting the costs of these energy efficient features from the cost calculation will avoid having the cost effectiveness measure produce a disincentive to the adoption of such features. FTA notes although energy efficiency and reductions in emissions are important goals for investments in transit, improving mobility and accessibility, and enhancing economic development are also important.

*Comment:* A few comments discussed but did not explicitly support incorporation of environmental benefits into cost effectiveness. Some of these noted cost effectiveness could "potentially" comprise all other New Starts and Small Starts project justification criteria, including environmental benefits. Another recommended the cost effectiveness measure be left as is for now, but noted the measure "could eventually be strengthened" through direct inclusion of environmental benefits.

A large number of comments specifically discouraged FTA from including environmental benefits in the cost effectiveness measure for a number of reasons. Some of these comments noted environmental benefits are adequately recognized as a separate criterion. A couple of these comments observed that separate consideration of environmental benefits permits easier

comparisons of projects. Others expressed concern that inclusion of environmental benefits would make the cost effectiveness measure more complicated and challenging to explain. Still others observed that quantifying environmental benefits may be challenging, with one comment recommending cost effectiveness remain focused on transportation benefits.

*Response:* FTA believes it is not appropriate to include environmental benefits in the cost effectiveness measure. The cost effectiveness measure does not have to be the only measure that compares benefits and costs. Project-specific environmental benefits can be estimated, monetized, and compared to the annualized capital and operating cost of the proposed project in the environmental benefits criterion. FTA agrees with a multiple measure approach to evaluating whether a project is justified. While mobility benefits are the primary reason for making a transit investment, they are not the only benefits. Providing for a more robust measure of environmental benefits will assure these other benefits are accounted for with an approach that will involve minor effort by the project sponsor beyond calculating the change in VMT per guidelines that FTA will establish in policy guidance.

#### b. Economic Development

*Comment:* Numerous comments supported consideration of at least one facet of economic development in the cost effectiveness measure, either through an affirmative response to Economic Development Question 10 or discussion of particular factors or benefits. A large number of comments endorsed inclusion of economic development effects in FTA's cost effectiveness criterion without specifying factors or benefits. A number of reasons were given for supporting inclusion of economic development effects, including: The need to capture project benefits beyond travel time savings; the fact that current modeling procedures for Small Starts projects do not address the economic impact of transit use or "site development for transit;" that economic development effects is a "key factor overall" that should be considered as part of cost effectiveness; and finally, that economic development is the primary reason for transportation investments and potentially more critical to measure than mobility benefits.

A couple of comments proposed techniques to account for economic development effects in the cost effectiveness calculation. One comment suggested that projects that spur

economic development receive cost effectiveness credit. The other proposed a project's economic development effects be subject to cost-benefit analysis, either individually or in combination with all other project costs and benefits, as part of a broader definition of cost effectiveness and replacement of the measure with a full cost-benefit analysis. One other comment recommended FTA require project sponsors to generate matching funds through value capture.

A number of additional comments offered general support for including economic development in the cost effectiveness measure and noted particular economic development effects or measures FTA should recognize: Agglomeration benefits (i.e., the benefits from land uses locating near each other and a transit project's ability to generate additional retail options near neighborhoods that are experiencing disinvestment). Some of these comments recommended approaches to quantify economic development effects as part of the cost effectiveness measure. One proposed using a forthcoming index from the Brookings Institution, Harvard JFK School of Government, and the Urban Land Institute to measure the economic benefit of walkable environments. The other proposed a larger multiplier for non-travel time benefits (two and a half instead of two) in the cost effectiveness thresholds calculation if another method to incorporate economic development effects is not devised.

*Response:* FTA agrees economic development effects should be considered, but believes it is better to consider them under the economic development criterion rather than under cost-effectiveness. In particular, FTA agrees adding economic development effects to the cost effectiveness measure would directly and explicitly capture a wider range of benefits than just mobility, but FTA also recognizes that there are significant challenges to estimating these effects. Thus, FTA is proposing that at the option of the project sponsor, indirect changes in VMT resulting from changes in development patterns may be estimated, and the resulting environmental benefits calculated, monetized, and compared to the annualized capital and operating cost of the project under the economic development criterion.

Because FTA's proposed approach is optional, it would not overly burden project sponsors with difficult and time consuming analytical requirements. FTA does not believe it is necessary to perform a separate analysis of economic development costs and benefits in order

to make an informed funding decision. It may be appropriate at some future point to convert the entire New and Small Starts project evaluation framework to a full cost-benefit analysis, but for the present, FTA does not deem this technique to be sufficiently mature in terms of valuing costs and benefits to warrant such conversion at this time.

FTA agrees agglomeration effects are a key benefit and is using this as a key concept in how it is proposing to establish a measure of economic development. Retail opportunities are only one part of the kind of development that might occur around a transit investment. Ultimately, FTA believes the primary benefit of a public transportation investment that can be most readily quantified and monetized is the improvement in various environmental factors coming from denser development that can occur around a transit investment. But the amount of development can be very difficult to forecast. Thus, FTA is proposing to allow project sponsors to develop scenario-based estimates of these effects, at their option, for measurement in the economic development effects criterion. The indirect changes in VMT resulting from the estimated changes in development patterns may be estimated, and the resulting environmental benefits calculated, monetized, and compared to the annualized capital and operating cost of the project under the economic development criterion. Once better measures for the agglomeration effects are developed, FTA will propose to allow project sponsors to also add the economic effects due to that agglomeration in calculating economic development benefits.

As noted above, FTA is changing its current approach for developing the thresholds for assigning cost effectiveness ratings. FTA is proposing to explicitly include economic development effects in that measure rather than simply doubling the calculated travel time savings to account for these and other benefits in cost effectiveness, as is now its practice.

*Comments:* A number of comments proposed that FTA consider a transit project's ability to foster transit-supportive land uses, higher densities, and mixed-use development as part of the cost effectiveness measure (some of these comments opposed integration of economic development into cost effectiveness in Economic Development question 10). One comment noted dense land uses and convenient pedestrian and bicycle access around transit facilities would ultimately yield greater health, environmental, and travel

benefits than short-term mode shifts to transit. Another indicated such development constitutes a community benefit that is not currently captured.

Several comments proposed measures of land development benefits. Most of these proposed changes in average population and employment densities within a transit corridor or region; some also proposed evaluating percentages of households residing in single- versus multi-family housing units. One comment proposed comparing automobile trip generation and travel distance estimates between high-density station areas and "average" portions of a region, and another comment recommended value capture from development potential as well as land reuse and conservation opportunities. Another comment recommended FTA only consider increased land values from transit investments as part of cost effectiveness, as higher land values enable use of value capture mechanisms to offset Federal funding shares. One comment recommended consideration of increased employment and housing opportunities, and another comment proposed assessment of employment levels in downtown areas, with credit offered where regions have been successful in maintaining downtown employment.

One comment proposed a more qualitative assessment of cost effectiveness overall to recognize a project's economic goals, such as economic development and revitalization.

A small number of comments supported evaluating possible negative effects from development expected to result from implementation of transit. One comment suggested FTA discourage investments that exacerbate sprawl by primarily serving rural commuters. Another proposed benefit offsets for the social costs of redevelopment to existing communities, stating that transit projects and their development effects may displace residents and small businesses, and Uniform Relocation Assistance is not sufficient to cover relocation costs.

*Response:* FTA agrees that considering how well a project supports transit-supportive land use and higher densities should be part of the evaluation of project justification, but believes they are better addressed elsewhere than in cost effectiveness. As noted, FTA is proposing at the option of the project sponsor, indirect changes in VMT resulting from changes in development patterns may also be estimated, and the resulting environmental benefits calculated, monetized, and compared to the

annualized capital and operating cost of the project under the economic development criterion. In this way the benefits noted, such as enhanced pedestrian and bicycle access, and resultant reduced motor vehicle travel, can be captured.

FTA appreciates the various measures of land use development benefits proposed. Although changes in population and employment density might represent a benefit, they are really changes resulting from economic development. Further, it is the resulting change in vehicular travel that primarily produces environmental benefits. An approach that compares trip generation and travel distance in station areas with those outside station areas and then multiplies these rates by the amount of land use development that might occur in station areas could be useful in assessing the amount of reduced travel and related environmental benefits. Although value capture can be an important technique for producing the revenues needed to make a transit investment, increases in land values are likely to be very difficult to forecast or estimate. FTA does not believe a qualitative approach to cost effectiveness is sufficient to clearly distinguish project merit, particularly when there are specific quantitative measures that can be used.

FTA believes projects that support denser development are likely to rate higher and do better in FTA's evaluation. FTA is aware transit projects can often affect the affordability of housing around transit stations. But FTA believes it is more appropriate to take account of this problem in the measure of economic development rather than in cost effectiveness. FTA is proposing to whether there are policies and plans in place to maintain and or increase affordable housing around a proposed investment under the economic development criterion.

*Comment:* Several comments conditionally or tentatively supported inclusion of economic development effects into the cost effectiveness calculation. Some of these comments discussed, but did not explicitly support, incorporation of economic development factors into cost effectiveness. Some of these noted all other New Starts and Small Starts project justification criteria could "potentially" be folded into cost effectiveness; another proposed the cost effectiveness measure remain as is for now, but noted the measure "could eventually be strengthened" through direct inclusion of economic development.

A couple of comments proposed conditional inclusion of economic development effects in the cost effectiveness measure. One stated if economic development effects are included, costs (such as subsidies) should be as well, with the project's benefits compared at the metropolitan level with those of all potential alternatives. The other recommended economic development only be considered if it provides financial benefit to the project sponsor.

*Response:* FTA believes economic development effects are best addressed in their own criterion. Therefore, FTA is proposing at the option of the project sponsor, indirect changes in VMT resulting from changes in development patterns may also be estimated, and the resulting environmental benefits calculated, monetized, and compared to the annualized capital and operating cost of the project under the economic development criterion.

FTA does not believe it is appropriate to require comparing a project's benefits with those of all alternatives to it. FTA's role is in assessing the merits of the project and reaching a decision on whether to recommend the project for funding. Whether or not economic development is financially beneficial to the project sponsor does not address the overall merits of the project. It is more important the benefits be evaluated, no matter who is the beneficiary.

*Comment:* A large number of comments urged FTA not to include economic development in the cost effectiveness measure. Most of these noted potential challenges in forecasting or quantifying economic development effects. Several noted the complexity of the cost effectiveness measure, either in its current form or with economic development effects added; four of these noted Congress intended for economic development to be assessed separately from cost effectiveness. A couple noted economic development effects are adequately addressed as a separate criterion. One observed that separate consideration of economic development effects permits easier comparisons of projects. One asserted transit projects only shift economic development that would have occurred elsewhere, rather than generating completely new development. One comment suggested different levels of analysis for cost effectiveness and economic development (i.e., project versus corridor or broader, respectively) should preclude the two from being combined. Lastly, another comment suggested FTA exclude means to an end, such as urban form, VMT reductions or vehicle ownership changes, from its cost

effectiveness measure and focus only on outputs.

*Response:* FTA believes there are challenges to incorporating economic development effects in the cost effectiveness measure. FTA believes it is simpler and better to follow the multiple measure approach to project evaluation outlined in law. Thus, FTA is proposing at the option of the project sponsor, indirect changes in VMT resulting from changes in development patterns may be estimated, and the resulting environmental benefits calculated, monetized, and compared to the annualized capital and operating cost of the project under the economic development criterion.

The cost effectiveness measure would focus on one dimension of project-specific effectiveness—mobility. FTA disagrees that the shifting of development from one area to another due to implementation of a transit project does not actually produce a net benefit. By increasing the density of development, even if it only shifted from elsewhere in a region, a transit project can produce reductions of vehicular traffic and environmental benefits that can be included in a broadened measure of economic development. The changes in VMT resulting from economic development effects (agglomeration of development) can be estimated as can the resulting changes in pollutant emissions, energy use, and accidents and fatalities, and a monetary value calculated using standard factors. The monetary value can then be compared to the annualized capital and operating cost of the proposed project and used as an optional additional measure of economic development. FTA agrees outcomes are the most important issue in assessing project merit. By themselves, urban form, changes in VMT, or vehicle ownership are not as important as the resulting changes in pollutant emissions, energy use, or accidents and fatalities.

#### c. Land Use

*Comment:* Several comments recommended FTA consider transit-supportive plans or policies within the cost effectiveness measure. A couple of these suggested FTA award credit for the presence of state or regional plans that promote denser, mixed-use infill development, and others recommended that transit-supportive plans and policies that emphasize economic development and employment strategies receive "significant weight" in cost effectiveness evaluations. A number of comments proposed credit for complete-street, pedestrian, and bicycle plans for

station areas (one of these comments suggested that better access via non-motorized means will increase transit use and endorsed the San Francisco Bay Area Rapid Transit District's Access Hierarchy policies as a potential model for such plans). Several comments advocated that FTA consider parking policies, such as supply reductions and pricing at stations and in station areas as an element of cost effectiveness. As rationale, one comment cited the importance of parking policies on transit ridership as shown in various studies, while another noted that high parking supplies decrease development densities and increase walking distances. Another comment added that project sponsors should also be required to assess the opportunity costs of providing parking at stations.

A couple of comments recommended FTA reward project sponsors for holding charrette sessions during the planning process. These comments noted such sessions can help to build support for higher-density, mixed-use development and complete-street policies. One suggested charrette sessions would affirm support for automobile alternatives and provide direction on where the alternatives are needed. One comment recommended FTA award credit to projects with affordable housing incentives in place in station areas. The comment reasoned that better access to transit from affordable housing units would improve ridership and thus improve cost effectiveness.

*Response:* Although FTA believes transit supportive plans and policies are an important part of assuring the success of a project, FTA does not believe these policies should be part of the cost effectiveness measure. FTA believes review of these policies is better handled in the economic development effects criterion as is currently done, because these policies by themselves do not represent an outcome of the project. FTA believes it is more appropriate to focus the cost effectiveness criterion on the mobility performance of the project. Likewise, policies supporting non-motorized access and dealing with parking supply also represent contextual factors that may contribute to a project's success, rather than performance-based outcomes of the project. Thus, they are also better addressed as part of the economic development criterion, rather than in the cost effectiveness measure.

FTA believes charrette sessions may be a useful tool for project development, but that the process by which a project is developed should remain a local choice. FTA believes the evaluation and

rating criteria should focus on the performance of the project and on the policies in place that support such performance. FTA believes affordable housing is an important issue, and is proposing that existing publically supported housing be considered under the land use criterion and the plans and policies to maintain or increase affordable housing be reviewed under the economic development effects criterion.

#### d. Local Support

*Comment:* Several comments encouraged FTA to recognize local support for a project in the cost effectiveness measure. As justification, some comments noted the significance of local financial commitment to a project, deeming such commitment equivalent to a "regional vote of cost effectiveness" and an indication of the project's importance to the local environment and economy. One comment proposed that mode be considered in determining whether a project can gain local support (this comment stated that rail projects can generate more local support than bus-based projects).

A couple of comments proposed measures for determining local support, such as documented support for the project from local officials and developers as well as local funding commitments such as revenue from tax-increment financing (TIF) districts.

*Response:* FTA believes it is more appropriate to assess the degree of local support for a project, from both public and private sources, in its evaluation of local financial commitment. FTA agrees local financial support is crucial to the success of a project, but believes it is more appropriate to focus the cost effectiveness measure on the performance of the project itself.

#### 2. Inclusion of Additional Transportation Benefits in Cost Effectiveness

The following is a summary of additional transportation benefits and associated measures proposed for inclusion in the cost effectiveness criterion.

##### a. Transit Systems

*Comment:* A large number of comments recommended FTA consider other benefits to transit system users beyond the current "user benefits" measure (which is expressed as travel time saved). Approximately a third of these comments proposed that FTA consider transit capacity increases. Of these, a few focused on the improved reliability that results from core capacity

increases on existing systems, with one citing load factors as a potential measure to identify where such capacity improvements are needed. One comment focused on rail vehicles' superior capacity to buses. Several comments recommended consideration of ridership at the corridor, regional, or system level. One advocated that ridership be the primary benefit measure in the calculation of cost effectiveness. As rationale, the comment stated FTA should encourage as many transit trips as possible regardless of length, and that the congestion relief benefits resulting from transit investments accrue at the regional level.

A few comments proposed FTA consider or analyze off-peak or all-day travel as part of the cost effectiveness measure, but did not specify what element(s) of travel should be incorporated. Another comment similarly proposed measuring travel time savings across a project or system's span of service.

Several comments proposed using other measures of transit use in the cost effectiveness calculation. One of these proposed using the project cost per passenger mile of mobility within a metropolitan area; one proposed measuring mode shifts to transit, and another proposed measuring estimated farebox recovery improvements.

A couple of comments suggested consideration of the transit investment's beneficial effects on other transit services. One of these proposed giving credit for connecting transit systems because of the "increased efficiency" that occurs with little investment. Another recommended consideration of "network benefits," measured by the length of the system expansion as a percentage of the total transit network. A few comments proposed measuring connectivity with existing transit service through transfers.

One comment suggested FTA consider the efficacy of the fare-collection systems proposed for projects. The comment observed that fare evasion associated with proof-of-payment systems hampers cost effective operations.

One comment proposed FTA adopt a combination of quantitative and qualitative measures that "reflect the unique characteristics of individual projects that will make those projects successful uses of Federal investments."

Several comments discussed the question of whether to calculate cost effectiveness on a corridor or a regional scale. One comment stated that the average [regional] values have little meaning and are used by opponents of transit investments. Another comment

suggested the cost effectiveness of a transit project in one corridor in a region may be very high, while the cost effectiveness of a transit project in another corridor in the same region may be very low, but that the project with low cost effectiveness still has to be provided for mobility reasons. One comment stated requiring that benefits be calculated for the entire region will ensure the benefits in the corridor, such as ridership gains or economic development effects, are not offset by losses of benefits elsewhere in the urban area.

*Response:* FTA does not believe transit capacity increases should be included in the cost effectiveness measure. Capacity represents an output of a transit investment rather than an outcome. Increases in capacity can result in increased utilization, which is a better measure of effectiveness, but only if the capacity is provided in a way that is convenient for potential users. FTA believes that transit ridership is an excellent measure of effectiveness, and is proposing to use it as the primary transportation benefit measure for its cost effectiveness criterion. Estimating ridership is central to determining the number of vehicles that are needed, the length of trains, correctly sizing facilities including stations, maintenance facilities, etc. Increased ridership is linked to increases in the ancillary benefits of the transit investment, such as reduced highway congestion, vehicle emissions, and economic development.

FTA agrees both peak and off-peak ridership should be included in the cost effectiveness calculation and is proposing to use cost per trip on the project as the measure. FTA believes ridership is more useful than passenger miles in the cost effectiveness calculation. Many benefits come from simply increasing the number of passengers regardless of those passengers' trip length, such as reduced emissions due to vehicle cold starts. In addition, using passenger miles in the measure could insert an unintended bias against shorter, circulator-type projects as compared to commuter rail or heavy rail projects serving longer distances. Mode shifts to transit are part of the calculation of ridership. Improved farebox recovery is important, but may be more a feature of fare policies than of a major transit investment.

FTA believes the enhancements to other transit services in the region that may result from implementation of a proposed project are important, but are not as significant as measuring usage of the proposed project itself. FTA is proposing the environmental benefits

measure capture the air quality and other environmental benefits of the change in transit use on a regional level. Thus, the enhancements gained elsewhere in the region will be captured in the environmental benefits criterion.

FTA does not believe the efficacy of the fare collection system is a performance based outcome that should be considered in the cost effectiveness measure. FTA's evaluation of the financial plan considers whether it includes a reasonable estimate of the fare revenue generated by the project.

FTA does not believe a combination of qualitative and quantitative measures for cost effectiveness is appropriate. Rather, a single quantitative measure will provide an objective basis on which to judge project merit.

FTA believes it is appropriate to calculate cost effectiveness based on the corridor in which the project is located. This will help focus attention on the project itself. Assessing project-related ridership is a good way to isolate the impacts of the project and to provide a basis for comparing projects around the country.

#### b. Transit Users

*Comment:* A number of comments proposed quantification of transit user experiences or consideration of additional types of user experiences as part of cost effectiveness. Some comments supported evaluation of riders' productivity while riding transit and three suggested quantifying or monetizing productivity. One comment observed this evaluation would provide more information about how people make their travel choices and the value of a transit investment, and another noted that more commuters are performing work during their commutes.

Several comments proposed elements of the transit passenger experience. A few of these comments focused on convenience, comfort, and other personal and social factors. Others focused on improved service attributes, such as increased frequency. Another comment recommended consideration of travel time reliability.

*Response:* FTA believes it is more appropriate to focus on usage of the project in the cost effectiveness calculation. Improvements in the travel experience are likely to produce increased ridership and thus will be captured by the proposed approach. Factors like comfort, convenience, frequency of service, and travel time reliability all factor into the number of riders attracted to the project.

#### c. Project Planning

*Comment:* Several comments proposed the inclusion of various measures of project planning elements in cost effectiveness. One comment recommended discouraging duplicate transit investments (such as parallel bus rapid transit and heavy rail lines), as overlapping projects may garner fewer riders and thus be less cost effective. One comment proposed that transit plans be consistent with transit market research, particularly with respect to travel time competitiveness, as the planning process needs to consider factors that can induce mode shifts in order for projects to be successful. Another comment proposed that projects including traffic signal priority receive cost effectiveness credit and that slow and circuitous alignments in downtown areas be discouraged.

*Response:* FTA believes the cost effectiveness measure should focus on the performance of the project itself, as reflected in the number of trips taken on the project. The existence of transit services competing with the proposed investment should affect the estimated ridership on the proposed project. Projects should be developed based on an understanding of local travel markets. Projects with traffic signal priority and without slow, circuitous routing should have higher travel speeds and result in additional ridership.

#### d. Access

*Comment:* A large number of comments proposed the cost effectiveness measure encompass access improvements to residential and employment areas. Approximately half of these comments specified types of access improvements to consider, suggesting access improvements to employment, services, or education, and special events.

A couple of comments provided rationale for including access improvements. One observed that access improvements are the type of benefit that can result from a transit project; another noted that such improvements help to reduce VMT. As justification for an employment-based measure, one comment noted job access is predictive of ridership and that employment data is readily available. Another comment justified evaluating accessibility in terms of capital cost given that approach's similarity to the structure of the current cost effectiveness measure.

A number of comments proposed specific measures of access improvements. Several proposed evaluating changes in the number or

regional share of residents or jobs within a certain radius of stations; a couple of these also recommended evaluating the project capital cost per additional household or job. A small number of comments proposed travel time based measures, with one centered on the distance that could be traveled by transit within a certain amount of time and the other on the project capital cost per additional household that would fall within a certain transit travel time of a large employment center. One comment recommended evaluating whether transit travel times between residential and employment concentrations are competitive with those of driving, and another suggested defining accessibility in terms of improved ability to reach destinations via transit. One comment recommended assessing the reduction in long-distance automobile travel associated with improved access.

One comment proposed that accessibility, in conjunction with mobility improvements, supplant the current cost effectiveness measure. Another comment suggested that accessibility be emphasized over mobility, as local access and circulation are more closely connected to livability. One comment pointed to an analysis done by a firm in Portland that identified a methodology for evaluating other project benefits due to changes in land use and economic development as well as enhanced accessibility.

One comment stated proper connections to destinations are obscured by the current cost effectiveness measure's focus on movement through, rather than arrival in, communities. The comment stated the arrival and connection piece is central to the benefits associated with reduced auto use.

*Response:* FTA believes improvements to both access and mobility are key features of a good transit investment. However, developing a good, easily calculated measure of access has proven challenging. Although it is relatively easy to specify a measure such as number of jobs within a specified travel time of a single location, creating a broader corridor or regional measure including calculations to and from multiple locations is more difficult and complex. FTA believes a measure focusing on project ridership will indirectly address access improvements since more people will ride a project that has enhanced access to jobs or other important activity centers.

FTA appreciates the suggestions made on ways to evaluate improvements in access. FTA agrees a measure that defines accessibility instead of mobility

might be a better representation of the kind of benefits transit projects are intended to produce. As noted, however, it has proven very difficult to measure. Focusing on the way a transit project can enhance an individual's ability to get places, rather than just travel faster, is a desirable outcome of the evaluation process. FTA intends to continue to explore how best to do so.

#### e. Mobility Improvements

*Comment:* Several comments advocated that cost effectiveness encompass mobility benefits. Each comment endorsed consideration of mobility improvements under cost effectiveness, but did not specify particular benefits. One of these comments noted general mobility improvements may be more important than VMT reductions in transit-rich areas with low automobile use. Another comment recommended defining mobility as improvements in the ability to travel between destinations. Two comments proposed special-event ridership increases associated with an investment.

One comment proposed that mobility, in conjunction with accessibility improvements, supplant the current cost effectiveness measure. Another stated that mobility, not environmental benefits or economic development effects, should be a key project goal.

*Response:* As noted, FTA believes mobility and access improvements are important outcomes of transit investments. FTA also believes measuring the trips taken on a project can help capture the improvements in mobility that will occur, given that increases in utilization are likely to be the result of improved mobility. FTA notes that trips made on the project to attend special events (concerts, sports events, etc.) can be counted in the current measure of cost effectiveness. FTA is proposing to continue to allow inclusion of these trips.

FTA agrees mobility is an important outcome of a proposed investment, but notes that it is not the only benefit—changes in travel patterns due to a proposed project can produce significant environmental benefits. It is appropriate to consider them explicitly in the evaluation of project justification to improve the overall evaluation process and reduce disincentives to incorporating environmentally-sensitive features in the project.

#### f. Equity Benefits

*Comment:* A large number of comments proposed equity benefits be included in the cost effectiveness measure. Several of these comments

supported consideration of social equity, with one centered on affordable housing and transportation options, noting that recent foreclosures disproportionately occurred in areas with high housing and transportation costs. One comment proposed FTA consider as measures a project's total cost impact on household budgets across income levels so as to capture differential impacts. Another comment proposed a forthcoming Brookings Institution—Harvard JFK School of Government—Urban Land Institute index to gauge the social equity of walkable environments.

A number of comments proposed consideration of benefits to persons with disabilities, senior citizens, and lower-income populations (sometimes called “transit dependents,” because some have no other transportation choice, such as an automobile, available to them). Approximately half of these suggested measuring the number of low-income households within a certain radius of stations. A few comments proposed measuring housing and transportation costs for transit dependents, including affordability improvements that result from a project in conjunction with affordable housing policies. One comment proposed evaluation of employment access improvements, both immediate and longer-term, for low- to moderate-income individuals. Finally, one comment recommended FTA develop qualitative measures to reflect the distinct nature of benefits to transit dependents.

One comment proposed both a cost effectiveness credit for transit projects that include retrofitting of existing stations for Americans with Disabilities Act (ADA) compliance and a requirement that projects not negatively affect existing bus service.

One comment proposed consideration of whether the project provides efficient school transportation.

One comment suggested FTA require projects include community labor agreements, community participation processes, and disadvantaged business set-asides.

*Response:* FTA agrees equity concerns are important in evaluating projects. FTA believes by giving added weight to trips taken by transit dependent riders, one aspect of equity can be addressed in its measure of cost effectiveness. Other aspects of equity can be addressed primarily in the other evaluation measures, rather than in cost effectiveness, because these concerns do not relate to the performance of the project. In particular, FTA believes the degree to which plans and policies

related to affordable housing are in place is better addressed in the economic development effects criterion, since changes in development patterns and land values lead to lack of affordable housing. Further, FTA is proposing that changes in access for transit dependent individuals be part of the mobility improvements measure. FTA believes the other proposed equity measures may be unnecessarily complex or difficult to understand, and are unlikely to produce any additional information about project merit that is superior to the simpler measure of project trips made by transit dependent riders.

FTA believes retrofitting for Americans with Disabilities Act compliance is not a measure of project performance, but rather a requirement for compliance with Federal law and regulation that should be addressed by the project sponsor whether or not they implement the proposed project. FTA notes the current approach to assessing local financial commitment includes an examination of whether the proposed project can be implemented without a detriment to the current level and quality of existing transit services. Furthermore, FTA notes that fare and service equity analyses are required by FTA's Title VI circular to ensure that disadvantaged populations are not adversely impacted.

FTA is prohibited by law from funding projects that provide exclusive school bus transportation. Thus, the degree to which a project provides any school service is not an appropriate measure.

FTA does not believe community labor agreements, community participation processes, and disadvantaged business set asides are aspects of project performance. Compliance with requirements in these areas is, nonetheless, a prerequisite for ultimate approval of Federal funding for a New Starts or Small Starts project.

#### g. Reduced Vehicle Use

*Comment:* A number of comments proposed that reductions in VMT or vehicle trips (or slower growth of either) associated with a transit investment be included in the cost effectiveness measure. Approximately one-third noted such benefits result from increases in transit accessibility, mixed-use development, and non-motorized travel. A small number stated VMT is closely related to energy use and emissions, which transit projects should seek to reduce. One asserted VMT reductions constitute one of the most important benefits that can result from a transit project, and another comment

observed VMT reductions are a community benefit that is not currently captured under the cost effectiveness measure.

In terms of VMT data collection, one comment suggested readings of household vehicles' odometers could be obtained in collaboration with EPA and other Federal agencies.

*Response:* FTA believes changes in VMT are an important benefit of a proposed transit investment. However, FTA believes the primary measure of effectiveness used in the cost effectiveness calculation should focus on the usage of the project rather than a secondary effect such as changes in VMT. Instead, FTA believes that the environmental benefits produced by changes in VMT should be counted in the environmental benefits measure. FTA believes the best approach for estimating changes in VMT resulting from implementation of the project is to base the estimate on the number of trips expected on the project, multiplied by simple factors, so as not to create undue burden on project sponsors. Thus, collection of direct data on automobile travel would not be necessary.

#### h. Congestion and Non-Transit Travel Time Reductions

*Comment:* A large number of comments addressed inclusion of congestion and travel time reductions in cost effectiveness, with most of these recommending highway travel time reductions be quantified. Several comments suggested project-specific projections replace the current 20 percent user benefit allowance for highway travel time savings. One indicated the travel time savings should be fairly straightforward to determine since travel demand models produce speed and volume estimates for highway network links, while another suggested that reductions should be possible to determine through surveys. One comment cautioned that the reliability of models' travel time projections should be ensured first. Several comments supported inclusion of congestion or travel time reductions without providing further detail. A small number of comments alluded to general travel time reductions, one specifically mentioning the corridor level. One comment referred to congestion reduction as an efficiency benefit of a project.

A few comments specified measures beyond travel time reductions, with two proposing travel time savings be monetized, one via the value of conserved fuel. Another comment proposed evaluating project cost per hour of reduced delay. As rationale, one

comment observed that public transportation saves Americans hundreds of millions of hours of congestion each year.

*Response:* FTA agrees reduction in highway congestion can be an important benefit of a transit investment. However, FTA's recent experience is that it is extremely difficult to quantify reductions in highway travel time using current models. Although the models purport to estimate speeds and volumes, FTA has been unable to get reliable estimates of changes in aggregate highway user travel time and thus has not counted such benefits, even though the current regulation has called for their inclusion. FTA believes a direct measure of project utilization can provide a useful surrogate for estimates of highway user travel time savings, since the more the project is used the more highway travel time savings are likely to occur.

Given the difficulty in obtaining reliable estimates of highway travel time savings, it would not be practical to calculate their monetary value either due to time saved or fuel saved.

#### i. Transportation Costs

*Comment:* A large number of comments endorsed consideration of reduced transportation costs as part of the cost effectiveness measure. Many of these comments proposed infrastructure cost savings associated with a transit project, particularly in terms of roadway expansion and maintenance, be incorporated into the cost effectiveness measure. About half of these comments cited denser, more compact development patterns around transit stations as critical to realizing these savings, while one also cited mode shifts to transit as a factor. One comment proposed capital assets (such as buses) that will be replaced through a transit project be credited toward the project cost. Several comments proposed consideration of vehicle operating cost reductions associated with shifts to transit, such as lower parking, insurance, and fuel costs. One comment proposed a lower rate of automobile ownership as a benefit.

*Response:* FTA agrees reductions in aggregate transportation costs can be an important benefit of a proposed project. FTA believes, however, that these can be captured well by a measure focusing on project utilization (such as project trips), as the more a project is used, the more the savings of such costs there are likely to be. Savings in the costs of other investments may also be important, but FTA believes it is more important to focus on the project's specific cost and benefits, rather than bringing in the

relative reduction in the costs of other modes. FTA agrees denser, more compact development can be supported by a transit investment, but believes it is better to account for such benefits in the measure of economic development. FTA is proposing, at the option of the project sponsor, indirect changes in VMT resulting from changes in development patterns may be estimated, and the resulting environmental benefits calculated, monetized, and compared to the annualized capital and operating cost of the project under the economic development criterion.

FTA is proposing a measure in which the capital cost of the project is counted in the cost effectiveness measure. Reductions in investments in other modes can be accounted for in the assessment of local financial commitment. FTA agrees reduced private vehicle operating and ownership costs can be an important benefit of transit projects. But FTA believes a direct measure of project utilization can be an appropriate surrogate for these benefits as the more a project is used, the more such savings are likely to accrue to transit patrons.

#### j. Safety Benefits

*Comment:* Several comments proposed safety benefits associated with a transit project be measured as part of cost effectiveness, with five of these proposing consideration of traffic collision reductions. Approximately half of these comments suggested measures: one recommended evaluating cost reductions associated with decreases in collisions, another recommended assessing project cost per life saved, and a third proposed monetizing benefits associated with collision reductions.

A small number of comments proposed consideration of the safety benefits to the general transportation network and not just the project, with one in favor of monetizing the safety improvements and another stating that improvements would result from fewer distracted drivers on the road.

One comment proposed consideration of transit passenger safety but offered no elaboration.

*Response:* FTA agrees safety improvements are an important benefit of a proposed project. FTA is proposing to consider such improvements as part of its environmental benefits criterion. FTA is proposing to estimate the change in accidents and fatalities based on standard factors related to change in VMT.

#### k. Non-Motorized Travel

*Comment:* A number of comments proposed FTA consider increases in non-motorized travel as part of the cost effectiveness measure. A small number of the comments observed that higher levels of walking and bicycling are associated with lower obesity, better public health, more human interaction, and increased sense of community. One comment offered that more non-motorized travel is the type of benefit that can result from a transit project. Another comment suggested promoting non-motorized travel may be more beneficial than VMT reduction in transit-rich areas with low auto use.

A few comments proposed projected changes in mode split as a measure. Some comments proposed credit for locating stations in areas with existing bicycle and pedestrian infrastructure, with one noting that better access for pedestrians and bicyclists will increase transit use.

One comment proposed project sponsors be required to demonstrate connections between existing or projected land uses and pedestrian travel.

*Response:* FTA agrees transit investments often lead to increases in non-motorized travel. FTA is proposing to assess the benefits of increased non-motorized travel as part of the environmental benefits criterion.

#### l. National Security

*Comment:* A small number of comments supported inclusion of national security benefits associated with transit investments in the cost effectiveness measure. One proposed measuring reduced fuel consumption associated with shifts from single-occupant vehicles to transit, and another recommended considering whether projects provide viable options to “escape” from traffic.

*Response:* FTA agrees a reduction in the use of fuel connected with a transit investment could have national security benefits, but believes this is better captured under the environmental benefits criterion than under cost effectiveness. FTA is proposing to calculate the monetary value of the energy usage changes that come from changes in VMT using standardized values. FTA notes a significant part of the benefits that come from reducing energy use are accounted for by the resulting change in pollutant and greenhouse gas emissions. To avoid double counting, the monetary value of energy usage changes will be factored down by some percentage specified by FTA in future policy guidance.

#### Simplified Measures

Cost Effectiveness Question 4: “Are there simpler measures of cost effectiveness that FTA could use? If so, what are they? Please be specific.”

*Comment:* Several comments supported simplified measures in general, with one stating that the evaluation and rating process needs more transparency, clarity, and ease of understanding. Another comment generally stated the measurement of cost effectiveness should be comprehensive and reflect the value of the transit investment in meeting Federal and local goals. One other comment stated FTA should work with EPA for VMT and emissions data and further consolidate existing Federal data. Although some comments were received in support of a simplified measure of cost effectiveness with no specific proposal as to what measure should be used, most comments offered proposals for specific measures.

*Response:* FTA agrees with the importance of transparency, clarity, and ease of understanding and is proposing what it believes is a cost effectiveness measure that will meet these goals. FTA also agrees the cost effectiveness measure should be as readily comprehensive as possible. FTA intends to work with EPA to ensure consistency in its valuation of air quality benefits in the environmental benefits criterion.

#### 1. Cost Per Rider or Passenger Trips

*Comment:* A number of comments supported using a cost effectiveness measure that would compare costs to ridership or passenger trips instead of the current measurement, which compares costs to transportation system user benefits (expressed as travel time savings). A few of these comments specifically supported cost per rider. Of these comments, one comment specified the cost per rider measure should be weighted for average distance traveled instead of travel time savings. Thus, based on this comment’s suggestion, two riders that travel one mile would be given equal weight to one rider that travels two miles. Another comment suggested the use of cost per rider would remove any bias of one mode over another. Finally, one comment suggested FTA should evaluate projects based on their ridership per mile of service provided in order to create a more level playing field for projects that have high capital construction costs due to their location in dense urban areas.

Two comments specified the cost effectiveness measure should be based on total number of trips, not passenger miles. In one, the rationale was that the

“benefit” to the rider is the trip itself, and not the length of the trip. In the other case, the rationale was that it would provide an incentive for project sponsors to propose projects in urban core areas instead of lengthy projects between the central business district and distant suburbs. One comment specified this measure should be used only for Small Starts projects in order to further simplify the evaluation process for the Small Starts program. Another comment specified the cost effectiveness measure should be based on cost per new passenger.

*Response:* FTA agrees cost per rider is an appropriate way to evaluate cost effectiveness. FTA does not believe it is appropriate to weight or otherwise adjust for the costs of construction in a particular area since it is necessary to compare projects across the country. FTA believes it is better to use a cost per trip measure rather than a cost per new rider measure. FTA used cost per new rider prior to using the current measure of cost per hour of travel time saved. It posed many of the same complexities as the current measure and created a bias against projects improving service for existing riders in favor of projects capturing new transit riders. In particular, it would require a point of comparison for its calculation (the baseline alternative) while the cost per trip measure being proposed does not.

## 2. Other Proposals for Simplification

*Comment:* FTA received a number of other comments with specific proposals for simplification of the cost effectiveness criterion. Those comments are detailed here.

One comment suggested FTA use a “walkscore” as a measure to account for the livability of a transit project, and include this livability factor in the calculation of cost effectiveness. According to the comment, walkscore.com is a Web site that uses an algorithm to measure the walkability of an address. The comment suggests FTA develop a walkscore-type rating to measure the livability of a project corridor before the project is implemented. In addition, the comment suggests FTA require project sponsors to bring their walkscore to an acceptable level before implementing a proposed project.

One comment suggested that a simpler cost effectiveness measure would be based on VMT, modal split, and health outcomes.

One comment suggested a simpler measure of cost effectiveness for Small Starts projects that would be calculated by dividing annualized cost by the sum of economic development benefits,

mobility benefits (defined as the number of transit riders), and a measure of land use.

One comment suggested cost effectiveness be based on the difference in safety and the value of productivity that is inherent in taking transit as opposed to driving (e.g., the productivity increase that would result from the ability to text, email, and talk on the phone).

One comment suggested cost effectiveness be based on operating cost per rider or operating cost savings per rider (compared to the no build or TSM), ridership (giving credit to short trips), and some annualized measure of capital cost (but not making cost the main focus).

Another comment suggested the sole or primary factor for project evaluation should be incremental revenue passenger mile created divided by dollar amount of Federal capital provided. The comment said the number of riders should not affect the Federal government’s decision on whether to invest in the project.

One other comment suggested one way to compare projects across cities is to use a radar plot for a variety of indicators, some of which reflect cost effectiveness, others of which reflect other factors such as safety, punctuality, reliability, and crowding.

*Response:* FTA appreciates the suggestions for alternative approaches to measuring cost effectiveness. However, FTA believes a simple measure of cost per trip is preferable to those suggested. Improvements in walkability are an important feature of many transit projects. However, the measure suggested would add a degree of complexity that does not appear to improve the degree to which the merits of a project would be indicated.

FTA agrees changes in VMT, increased transit mode split, and health outcomes may be important benefits of a transit investment. All of these are related to project usage, which is a simpler measure to calculate and understand. Furthermore, these are proposed to be estimated under the environmental benefits criterion, monetized, and compared to the annualized capital and operating cost of the proposed project under that criterion rather than under cost effectiveness.

FTA believes monetizing forecasts of economic development may be simple in concept, but very difficult to evaluate in practice. Difficult evaluation approaches would be needed to quantify the economic development effects in any reliable detail, and providing monetary values is not an easy task.

FTA prefers an approach that allows project sponsors to devote resources to calculating and monetizing economic development effects only at their discretion, using scenario-based approaches, rather than requiring specific forecasts.

FTA agrees there are benefits from transit projects that come from changes in VMT and is proposing to measure some of those benefits under the environmental benefits criterion. Under the multiple measure approach for evaluating project justification, FTA need not try to capture all benefits in the cost effectiveness calculation and can instead evaluate them where they might more rightly belong.

FTA agrees capital and operating costs should be part of the cost effectiveness measure. But FTA believes a simple measure of project usage is sufficient as the measure of effectiveness.

FTA does not agree with the comment that ridership is an inappropriate measure of project merit. Ridership is likely to be directly related to many of the benefits a project is likely to produce, since the more riders on a project, the more there will be changes in VMT, changes in energy use, higher likelihood of economic development, etc. Changes in passenger revenue are likely to be based to a large degree on the fare policies in place, rather than on the benefits a project is likely to produce.

FTA is proposing a cost effectiveness measure that can combine a simple measure of effectiveness (trips) and compare it to costs. The law calls for a multiple measure approach, indicating these other benefits should be assessed separately, so all of the benefits can be included in the evaluation of project justification.

## 3. Support for Existing Measure

*Comment:* A few comments were received in support of the current cost effectiveness measure, which is based on cost per hour of transportation system user benefits (TSUB). One comment stated that TSUB accounts for benefits that cannot be captured by basing the measure on ridership alone. In that comment’s opinion, the use of TSUB allows project sponsors to accurately account for travel time savings and it enables transit agencies and MPOs to better calibrate their travel demand forecasting models, which are used for purposes other than applying for New Starts funding. One comment wants FTA to continue to use TSUB but to also allow project sponsors more flexibility in the development of costs and benefits (e.g., allowing a project

sponsor to take into account growth in pedestrian trips). Another comment stated the current measure is predictable, objective, and provides a comparison of different projects. That comment stated it is appropriate for projects that are utilizing large amounts of Federal discretionary funding, and that the use of a simplified measure would be more subjective, thereby creating more unpredictability for project sponsors.

*Response:* FTA agrees the current measure has merit in that it accounts explicitly for benefits to transit system users. It has met with resistance from project sponsors, though, because it requires comparison to a baseline alternative. Further, it has proven to be nearly impossible to include highway user travel time savings in the calculation, which was the original intent. TSUB focuses attention only on direct mobility improvements. While these are extremely important, they are not the only reason why transit investments are made. FTA agrees the current measure is objective and quantitative. However, its accuracy depends on the quality of the local travel demand forecasting process and how the baseline alternative is defined. Often, FTA and project sponsors have had to spend significant amounts of time and resources to improve models to the point where they will produce forecasts sensitive enough to the project being proposed. FTA believes a simplified measure will make it possible to use simpler forecasting techniques, including an FTA-developed national model. FTA agrees it is important decisions regarding how to allocate large amounts of Federal discretionary funding be based on the best possible information and is not proposing a simplified cost effectiveness measure to make access to federal funds easier. FTA does not believe use of simplified measure will be any less objective than the current approach. In fact, by having a measure based on absolute usage of the project (trips) rather than an incremental value of travel time savings compared to an artificial baseline alternative, the impact of changes in project costs or characteristics on the cost effectiveness measure are likely to be more predictable.

### C. Environmental Benefits

#### Measuring Environmental Benefits

Environmental Benefits Question 1: "How might FTA better measure environmental benefits?"

*Comment:* FTA received numerous comments that supported a new approach for assessing the

environmental benefits of New Starts projects.

*Response:* FTA agrees a new approach is required and is proposing several new measures.

#### 1. Comments on the Existing Measure

*Comment:* A few comments agreed with FTA that the existing environmental benefits measure is not useful in distinguishing between projects and needs to be replaced. Another comment mentioned that using the EPA's air quality conformity designation was not a useful measure because the area in which the commenter resides does not have air quality concerns. If FTA opts to keep the regional air quality conformity designation as the measure for environmental benefits, another comment added FTA should allow regions to provide information on progress that has been made to improve regional air quality and take credit for these actions.

*Response:* FTA agrees the existing measure, which examines only the EPA air quality conformity designation for the area in which the proposed project is located and does not look at any project specific environmental benefits, does not provide a useful basis for decision-making. FTA believes air quality improvements are an important environmental benefit resulting from transit investments, however, whether or not a particular area has air quality conformity issues. FTA currently gives proposed New Starts projects located in non-attainment areas a "High" rating for environmental benefits. Thus, the suggestion FTA use the existing measure but give additional credit to regions that have made progress on improving regional air quality is not possible since the projects are already receiving the highest rating possible. Further, progress that an area has made toward improving air quality from actions other than the proposed transit investment does not help to evaluate the merits of the proposed project. Thus, FTA does not believe this should be part of the evaluation. FTA is proposing to estimate emissions reductions resulting from changes in VMT due to implementation of the project and then assign monetary values to the benefits based on the current EPA air quality designation for the metropolitan area in which the corridor is located, with benefits gained in a non-attainment area being worth more than benefits gained in an attainment area.

#### 2. Data Reliable and Easily Obtained

*Comment:* While most comments generally supported a new

environmental benefits measure, comments also expressed concern about the potential burden on project sponsors from collecting and submitting data not previously requested as part of the New Starts process. Several comments stated that the environmental benefits criterion should be simple, readily understood without specialized environmental expertise, should not require arduous new data collection, and should emphasize the use of data already collected for other purposes or easily attainable.

*Response:* FTA is particularly concerned that any measures used to calculate environmental benefits not pose an undue burden on project sponsors. FTA is proposing measures that flow directly from the project analysis methods normally used by project sponsors, as well as simplified approaches for calculating environmental benefits.

#### 3. Incorporation of Environmental Benefits Into Other Metrics

*Comment:* One comment recommended the environmental benefits measure be eliminated as a stand-alone measure and instead be added to the economic development effects measure to reflect the importance of economic renewal objectives. Another comment stated it is too difficult to separate environmental benefits from economic development effects and that those metrics should be combined into a single measure. One comment supported replacing all metrics (including cost effectiveness, environmental benefits, and economic development effects) with an affordability index metric presented in a report by the Center for Transit Oriented Development.

*Response:* The law requires a multiple measure approach and that FTA consider environmental benefits and that they be weighted "comparably, but not necessarily equally" with the other statutorily-required project justification criteria. Thus, the environmental benefits criterion must be treated distinctly from the economic development effects criterion. In particular, environmental factors such as improved air quality, reduced greenhouse gas emissions, reduced energy use, safety improvements, and public health benefits are all distinct from economic development effects such as enhanced regional productivity and support for job creation. Some of the economic development effects of public transportation investments, including denser, more compact development, have environmental benefits due to the resulting reduction

in the need for motorized travel. FTA is proposing at the option of the project sponsor, indirect changes in VMT resulting from changes in development patterns may be estimated, and the resulting environmental benefits calculated, monetized, and compared to the annualized capital and operating cost of the project under the economic development criterion. FTA recognizes compact development may have other environmental benefits not accounted for in changes in VMT, but FTA is not proposing a measure to quantify those benefits. FTA will also propose, in policy guidance, to incorporate a measure of public health into the environmental benefits measure, once a methodology for measuring public health benefits of transit projects is developed.

Because the law calls for individual evaluation and comparable but not necessarily equal weighting of each of the project justification criteria (cost effectiveness, environmental benefits, economic development, mobility, transit supportive land use, and operating efficiencies), FTA must develop a process for each, rather than using a metric such as the affordability index.

#### 4. Consideration of Transit Agency Size, Project Setting, and Project Size

*Comment:* One comment encouraged FTA to employ environmental benefits measures that provide a fair and equal comparison among small, medium, and large transit agencies that have different capabilities and needs with regard to certification and extensive environmental management systems. A couple of comments stated FTA should not choose measures that penalize project sponsors seeking to make transit investments in dense urban environments compared to project sponsors making investments in suburban, less dense areas or vice versa. Another comment suggested FTA should consider a scaled approach to environmental benefits analysis based on the size of the proposed project.

*Response:* FTA agrees environmental benefits measures should be fair and equitable and should not burden agencies with varying capabilities. FTA is proposing the environmental benefits criterion include an evaluation of a proposed project's effect on several factors including changes in emissions, greenhouse gases, safety, energy use, and public health, which would then be monetized and compared to the annualized capital and operating cost of the proposed project. FTA is aware that how a measure is scaled is very important to ensuring beneficial projects are recommended for funding.

#### 5. Consideration of Local versus Regional Context

*Comment:* Several comments discussed the context that should be used to evaluate environmental benefits. Many comments expressed a preference for a local rather than a regional environmental benefits analysis. One comment stated the environmental benefits rating should be based on the project's scope, consistency with local goals, and how well it avoids, minimizes, and mitigates environmental impacts. The comment added the environmental benefits measure should include the extent to which the proposed project includes context sensitive solutions that support fitting the project into the community. Under this approach, the comment stated each locality would have its own goals for a project so it is important that the project achieves those local planning goals. A few comments stated FTA should consider the environmental benefits of the project in the context of the immediate surrounding area. The comment suggested evaluating broader conditions in the region or the transit agency's environmental practices is less likely to assist FTA in ranking projects. One comment suggested it may be possible for a project sponsor to make the case that certain environmental benefits be given higher priority than others based on existing environmental conditions within a region and the project's ability to contribute to a solution. Another comment stated FTA should not have a pre-set weighting nationally on one attribute over another.

Other comments suggested FTA should give credit to areas that have implemented major projects in support of green initiatives.

*Response:* FTA believes the amount of environmental benefits generated by the proposed project should be the basis for its evaluation. Thus, the analysis should focus on the project itself. Since it is the quantity of the benefits resulting from implementation of the project that will be evaluated, rather than what percentage these benefits represent in some larger context, it does not matter whether they are viewed at a regional or local level. As noted earlier, FTA understands that how the measures are scaled is critical to assuring that environmental benefits are evaluated accurately.

FTA believes it is more appropriate to use the National Environmental Policy Act (NEPA) process to assess how a project's environmental impacts fit into a local or regional context rather than considering this in the environmental benefits criterion in the New Starts

process. While locally established environmental goals for a project are important, FTA must address the merits of proposed projects on a national basis. For consistency, fairness, and to avoid unnecessary complication in the evaluation process, FTA must develop measures that will be applied to all proposed projects.

#### 6. Project Specific Impacts

*Comment:* One comment stated the environmental benefits criterion should be limited to measuring the impacts of the project as opposed to the transit agency's policies.

*Response:* FTA agrees the environmental benefits criterion should measure the impacts resulting from implementation of the proposed project. FTA is proposing to remove a disincentive for including environmentally friendly design elements by allowing the costs of these elements to be subtracted from the cost used in the cost effectiveness calculation.

#### 7. Consideration of NEPA and the Environmental Benefits Measure

*Comment:* A number of comments provided positive and negative statements on linking the environmental impacts assessed during the NEPA process with the environmental benefits criterion.

One comment suggested the benefits that would be derived from taking steps to address additional environmental sensitivity should be included in a comprehensive qualitative and quantitative environmental benefits criterion. The comment went on to state that evidence of environmental sensitivity can come from a review of the impacts identified in the NEPA document and any state environmental document, and the extent to which these impacts have been mitigated or avoided. Another comment said the environmental benefits criterion should consider a project's "net" benefits by considering some of the adverse environmental impacts. For example, projects with equal air quality benefits would be rated similarly even if one project was overall more environmentally detrimental than another when looking at other factors in addition to air quality. The comment suggested that information addressed through NEPA should be addressed in the New Starts process.

Other comments stated there are impacts and benefits best evaluated in NEPA and not through the New Starts evaluation process. A couple of comments stated there is no need to duplicate reporting of negative impacts

covered in NEPA because they have already been analyzed and mitigated. Instead, comments suggested the environmental benefits criterion should focus on positive benefits and especially those with long-term effects such as potential changes to the built form that reduce the frequency of motorized trips. Another comment stated that inclusion of all the factors traditionally covered as part of NEPA analysis would be too broad for inclusion in the New Starts evaluation process. The comment went on to state some factors could bias ratings based on the context in which the project occurs (urban versus suburban) as opposed to focusing the rating on actual project performance. One comment requested the NEPA-related analysis remain separate from the environmental benefits criterion because of the lack of relevant information available at the preliminary engineering stage of the New Starts process. That comment also expressed concern that integrating information about a project's environmental impacts into a funding decision could jeopardize the integrity of the NEPA process.

Another comment suggested FTA include a 45 percent weight for NEPA-defined environmental benefits and a 55 percent weight for project-specific environmental benefits.

One comment suggested using the funding incentive that comes from having an environmental benefits criterion in the New Starts evaluation process to encourage the preparation of quality analyses and documentation in the NEPA process. That comment suggested this would create an added incentive for project sponsors to submit high quality, focused environmental documents.

*Response:* FTA agrees the NEPA process is the best venue for assessing all of the environmental impacts and context of a proposed project. However, the law requires an evaluation of the environmental benefits of the proposed project as part of the New Starts evaluation and rating process and, hence, FTA must develop an approach to assess these benefits.

FTA agrees the context and intensity of many of the proposed project's impacts, and their mitigation, are best addressed in the NEPA process and do not need further assessment as part of the New Starts evaluation and rating process. FTA agrees long-term effects, such as changes in the built environment, may be part of the environmental benefits criterion, as well as the economic development effects criterion. Thus, FTA is proposing at the option of the project sponsor, indirect changes in VMT resulting from changes

in development patterns may also be estimated, and the resulting environmental benefits calculated, monetized, and compared to the annualized capital and operating cost of the project under the economic development criterion. FTA agrees it is important the New Starts evaluation process not be biased against projects in one type of location versus another, such as urban versus suburban. FTA believes evaluation measures should focus on project performance and the evaluation process should not jeopardize the integrity of the NEPA process.

FTA does not believe the quality of the NEPA analysis and documentation should play a part in the evaluation of environmental benefits in the New Starts process. The New Starts process should focus solely on project performance. While it is important high quality NEPA documents be produced, the quality of the documentation is not an indication of the merits of the project.

#### 8. Priority and Weighting for Environmental Benefits Measures

*Comment:* One comment stated FTA should focus on environmental performance in specific areas, giving highest weight to effects that potentially harm humans and lesser weight to those that harm the environment. The comment explained that attempts to broaden the environmental benefits criterion to include the human and natural environment are notoriously subjective, prone to political manipulation, and have not worked well in Europe. A couple of comments suggested because of the overlap of considerations of the human environment with other New Starts criteria, emphasis should be placed on natural factors rather than human factors in the environmental benefits criterion. However, one of those comments stated the human environment is still worthy of consideration under the environmental benefits criterion.

Another comment recommended FTA give credit in the environmental benefits criterion for transit projects that increase accessibility and mobility for trips beyond work trips. The comment stated these types of transit projects are more sustainable because work trips are less than 30 percent of VMT and only 20 percent of person trips in the United States.

*Response:* FTA believes a full range of environmental benefits to both the human and natural environment should be addressed. However, FTA is cognizant of the difficulty of evaluating

all of the potential effects. Thus FTA is proposing to focus on those most easily addressed such as changes in air quality pollutant and greenhouse gas emissions, energy use, and safety (FTA believes that at a later date it may also be possible to develop an approach for assessing public health benefits.). For example, while impacts on wetlands are very important, rather than examining that as part of the environmental benefits criterion, it makes more sense to carefully assess any negative impacts during the NEPA process and assure that those impacts are carefully mitigated and the costs of doing so are included the overall cost of the project.

FTA agrees non-work travel is a very important component of overall travel. Currently, both work and non-work travel benefits are counted in FTA's assessment of project performance and FTA intends to continue this practice. But FTA does not believe it is appropriate to weight work and non-work travel differently. Rather, FTA believes the measures used should simply assess the quantities of each.

#### 9. Qualitative Versus Quantitative Environmental Benefits Measures

*Comment:* A number of comments suggested looking at both quantitative and qualitative environmental benefits metrics. One comment stated that these metrics do not need to be monetized. Another comment stated the rating should be indexed by ridership as an indicator of the scale of the benefit.

One comment suggested that environmental benefits lend themselves to quantification. Therefore, that comment suggested it should be possible to produce a scoring system that objectively evaluates a range of appropriate measures.

To address most environmental benefits, another comment added a qualitative rather than a quantitative approach would probably be needed. Another comment recommended not quantifying any environmental benefit measures other than possibly developing a checklist format.

*Response:* FTA believes it is possible to develop effective, relatively easy to apply quantitative measures and so proposes their use. FTA proposes that environmental benefits such as change in emissions, green house gases, energy use, and safety be estimated based on estimated change in VMT, then monetized and compared to the annualized capital and operating cost of the proposed project. Proper scaling is critical to a fair comparison of environmental benefits across projects. FTA prefers to evaluate environmental benefits directly rather than develop

scoring methods, such as a checklist approach in which certain environmental measures are assigned points.

#### 10. Other General Environmental Benefits Suggestions

*Comment:* One comment suggested the best way for environmental benefits to be measured is to use heuristic research to look at the history of other projects and study whether they met environmental needs when they were constructed and what has occurred since then. One comment suggested FTA should look at the upcoming results from the Transit Cooperative Research Program (TCRP) panel on environmental benefits and implement those recommendations. That comment suggested the recommendations will include significant research and review by experts in the field.

*Response:* FTA believes methods exist to translate direct benefits of project performance, such as forecast changes in VMT, to quantities of environmental benefits. Because there is already a broad array of literature and research available, FTA is not proposing new research. As new research and methods become available, FTA would consider applying them in future policy guidance for measuring environmental benefits. FTA wrote the problem statement for the TCRP study being undertaken and serves as part of the review panel. Thus, FTA agrees the completion of that project may provide additional assistance in this matter, which FTA can address through future policy guidance.

#### 11. Proposed Approaches to Measuring Environmental Benefits

*Comment:* In general, comments did not focus on a single environmental benefits metric. One comment stated there is no one universal quantifiable criterion that could be used to measure environmental benefits. Most comments recommended FTA consider a range of defined environmental benefits measures. Comments provided a range of recommendations for how FTA should consider the range of environmental benefits. Some of these comments were general statements, but a few comments provided specific frameworks for considering and rating environmental benefits. The following were the specific framework approaches proposed.

##### a. Checklist or Point Systems

Several comments stated FTA should further consider an indexing or checklist approach as proposed in the summary of the March 2009 Colloquium

on Environmental Benefits. Another comment stated the checklist brings the environmental benefits criterion from its current focus only on the regional level to a project-specific level. Other comments added that a checklist approach is a way of incorporating quantitative and qualitative measures and evaluating environmental impacts as well as project performance. These comments stated some items could be mandatory and other items could be optional. One comment suggested a point system be assigned to each item so that FTA could distinguish between projects based on point totals. These comments suggested the checklist of good environmental practices might take the approach of a commitment agreement or contract document. One comment suggested FTA look at an evaluation/scoring tool for policies that is similar to what is currently used by FTA to evaluate transit supportive land use. As an example, the comment suggested FTA look at EPA's Water Quality Scorecard.

A couple of comments suggested a point-based rating system focused on three major criteria: (1) Environmental Management; (2) Environmental and Community Enhancement; and, (3) Environmental and Community Preservation. This framework would rate projects based on representative measures under each of these criteria. The "points" awarded for each measure under each criterion would establish the rating of "high," "medium-high," "medium," etc., for that criterion. The criteria would be rolled up into a summary environmental benefits rating. The environmental and community preservation portion would examine avoidance of endangered species and their habitat, inclusion of pedestrian friendly features (another comment suggested specifically a pedestrian oriented environment one-half mile around the station), and location of the proposed project in an area that has livable community characteristics and provides access to environmental justice populations (although this could go under a mobility criterion). The environmental and community enhancement portion would be based on measures such as project or corridor fleet emissions in terms of changes in greenhouse gas (GHG) emissions per passenger mile, an agency's fleet average age or composition as indicators of air quality and energy consumption, stations built to LEED standards, and maintenance facilities built to LEED standards. The environmental management portion would assess the project sponsor's commitment to

environmental management of the project. Consideration would be given to agencies with environmental management systems (EMS) specific to the project or who properly document with a similar process. Another comment also supported the use of EMS, but said that consideration should be given to whether the EMS covers only the capital program including the New Starts project or whether it also includes the agency's operating system and other environmental audits.

One comment stated FTA should consider creating a pollution reduction point system. The comment suggested that projects would be evaluated based on their ability to achieve a higher index number corresponding to a lower impact on the environment. This would give project sponsors flexibility in meeting environmental goals while tailoring projects to meet local needs.

##### b. Warrants

One comment suggested if a more robust measure of environmental benefit is used in the New Starts evaluation process, than these benefits should be credited to the project justification rating as extra points rather than mandated. In a similar vein, a few comments suggested using a warrants-based approach to rating environmental benefits. Another comment added this warrants/checklist approach should use information readily obtained through the NEPA process. Another comment suggested projects should be required to meet minimum goals in greenhouse gas emissions reductions, increased energy efficiency, reduction in fleet petroleum, conservation of water, reduction in waste, support of sustainable communities, and leveraging of Federal purchasing power to promote environmentally-responsible products and technologies. One of these comments went on to add that a warrants-based approach would be preferable because an indexing method would require weights that may be difficult for FTA to identify and a checklist may promote compliance to a minimal level.

##### c. Economic Models—Natural Resource Valuation

One comment suggested that costs, incurred in the form of "natural services" that a project would cause to be replaced by public infrastructure if the project disturbed nature, be counted in the evaluation process. For example, according to the comment, costs of destroying wetlands should be assigned to projects that impact wetlands as opposed to projects that leave them intact. The comment suggests the

Krutilla-Fisher Algorithm should be used to place break-even values on certain environmental benefits when the net present value calculations are used (this is an approach used in the European Union). The comment stated if the value of something is high enough to bring the net present value of a project to zero, then the project is worth constructing.

Another comment suggested the environmental benefits rating should include a cost-benefit analysis of environmental effects. However, another comment recommended FTA proceed cautiously with any approach that relies on monetized measurement. Another comment stated FTA should not attempt to monetize environmental benefits for comparison across projects. That comment stated the environmental benefit measures, including those with livability and sustainability objectives, should be considered apart from the cost effectiveness measure.

d. "Warrants-Plus-Merits"

One comment suggested FTA adopt a "warrants-plus-merits" approach where projects must meet one of several identified core measures and then would be scored based on how many additional environmental measures the project incorporates. The comment recommended FTA aim for simplicity over comprehensiveness.

Specifically under the proposed warrants plus merits approach, the comment suggested a project must meet at least one of several warrants (or thresholds) to be considered further for environmental merit points. The comment proposed three warrants that it stated emphasize the two most important environmental benefits of transit—reductions in greenhouse gas emissions/air pollution and supporting mature, intensively patronized systems for which an individual extension may have lower marginal emissions reductions. The comment stated that FTA could assign overall environmental benefits scores based on whether projects achieve a specified threshold of merit points. The comment gave an example for "high," "medium-high," "medium," "medium-low," and "low" thresholds. The proposed environmental warrants included greenhouse gas emissions reduction, air quality non-attainment status, and air pollution capacity issues. Proposed environmental merits include greenhouse gas emissions reductions, air quality improvement and climate change impact, recycling, water quality-related improvements, land use effects, integration with planning, and environmental justice. The comment

mentioned FTA could consider ISO 14001 certification, transit facilities associated with the project that have attained LEED gold or platinum standards, use of brownfields sites for the project, low impact construction methods, use of technology to reduce energy consumption, and compliance with one or more directives included in Executive Order 13154.

*Response:* FTA does not agree a checklist or point system that primarily evaluates good environmental practices would be advantageous over relatively simple quantitative measures of environmental benefits that measure project performance. The simple quantitative measures can assess a range of human and natural environment values including changes in air pollutants, greenhouse gas emissions, energy use, safety and public health (public health would be measured once a methodology for doing so is developed).

Under a point system, it is difficult to develop a weighting scheme assigning points based on the relative importance of various factors. It is also difficult to fairly establish the number of points needed to get each rating level ("low" through "high"). FTA believes there are better ways to remove disincentives for use of good environmental practices, for example, by not counting the cost of certain desirable environmentally friendly design features in the calculation of cost effectiveness. While use of environmental management systems is a worthy goal, the merits of the project are the focus of FTA's evaluation process. Some of the factors suggested for environmental and community enhancements are issues that should be addressed during the NEPA process if there are negative impacts needing mitigation. FTA believes some of the others factors mentioned in the comments are better addressed in the economic development effects criterion. FTA agrees that metrics such as the change in greenhouse gas emissions or energy use represent aspects of project performance and should be counted as part of a quantitative measure.

FTA agrees warrants-based approaches can be useful in streamlining project evaluation. Such approaches, however, should be based primarily on the evaluation measures being utilized. Once these measures are put in place, the degree to which a project can automatically receive a certain rating based on characteristics of the project or the project corridor without detailed analysis can be established. FTA is proposing to

develop such warrants and specify them in future policy guidance.

FTA believes a detailed analysis of the net impacts on certain environmental factors is unnecessarily complicated. For example, while impacts on wetlands are very important, rather than using those impacts as part of the environmental benefits measures, it makes more sense to carefully assess any negative impacts on wetlands as part of the NEPA process and assure that those impacts are carefully mitigated and the costs of doing so are internalized in the overall cost of the project. Although a warrants-plus-merits approach has some appeal, FTA believes it more appropriate to focus on a quantitative assessment of the relative value of environmental benefits since that approach can be implemented relatively easily. Further, FTA intends to address possible incentives for taking into account broader environmentally friendly practices, such as ISO 14001 or LEED certification, use of brownfield sites, low construction impact methods, etc., by subtracting the additional costs of these from the cost effectiveness calculation.

Environmental Benefits Question 2A: "In measuring environmental benefits, should FTA consider a broad definition of environment, as does the National Environmental Policy Act (NEPA), which includes consideration of both the human and natural environment?"

*Comment:* A substantial number of comments supported expanding the definition of environmental benefits. Of these comments, a few stated FTA should consider as broad a definition of environmental benefits as NEPA does. A couple of comments suggested environmental benefits should be broad to consider the natural, human, and social environment and address a wide range of contexts. Another comment stated in addition to NEPA, FTA should use livability principles to consider a broad definition of the environment, which includes creating healthy transportation systems, achieving environmental justice, and addressing climate change. Another comment provided a caveat that a broad definition of environmental benefits should be used if it can be incorporated into an efficient process.

A number of comments also recommended the negative environmental impacts of high-density development around projects should be assessed, including traffic, noise, pollution, shadowing, and wind tunnel effects. One comment suggested FTA should consider community quality of life instead of environmental issues.

*Response:* FTA agrees an expanded definition of environmental benefits should be used and that it should include benefits to the human and natural environments. In particular, FTA will focus on air quality emissions, greenhouse gas emissions, energy usage, safety improvements, and public health benefits (public health would be measured once a methodology for doing so is developed). These can be addressed with a reasonable amount of effort and are consistent with broader livability principles. FTA believes environmental justice concerns are better addressed in the NEPA process. Environmental justice concerns are generally dependent on detailed considerations of a project's setting and design, and are thus a part of the project development process. They are not appropriate as a national measure of project merit. In addition, FTA considers transit equity and how a project affects the mobility of transit dependent populations in its evaluation of mobility benefits.

Environmental Benefits Question 2B: "Should FTA focus on the environmental performance of specific areas such as air quality emissions, energy use, greenhouse gas emissions, or water quality?"

### 1. Air quality

*Comment:* FTA received a large number of comments supporting the use of air quality changes in the environmental benefits criterion. Several comments expressed a preference for a "project specific" approach to assessing air quality impacts, as opposed to a regional air quality analysis, or suggested comparing emissions at a local level to corridor area emissions. Other comments suggested FTA measure the air quality impacts from reduced VMT, changes in land use patterns or density, projected average daily ridership, and reduced automobile trips projected to occur from implementation of the proposed project. Generally, those comments who supported using air quality changes felt that it should not be the only measure for the environmental benefits criterion.

A couple of comments opposed using air quality changes as a measure of environmental benefits. They either opposed FTA's current approach to measuring environmental benefits based upon EPA's air quality conformity designation for the metropolitan area in which the proposed project is located, or they felt that air quality benefits were already accounted for in other measures.

Another comment suggested the methods to evaluate environmental

benefits also take into account the impacts from increased traffic congestion that might occur from construction or loss of traffic lanes for trucks, passenger cars, and buses due to the adoption of transit-only lanes.

*Response:* FTA agrees air quality benefits are among those that should be explicitly examined in assessing environmental benefits. FTA believes the changes in EPA-regulated pollutant emissions projected to occur as a result of implementation of the proposed project should be the primary measure of air quality environmental benefits. To avoid concerns about the level of analysis required FTA is proposing to calculate the change in emissions based on estimated changes in VMT resulting from implementation of the proposed project. FTA is also proposing at the option of the project sponsor, indirect changes in VMT resulting from changes in development patterns may also be estimated, and the resulting environmental benefits calculated, monetized, and compared to the annualized capital and operating cost of the project under the economic development criterion.

FTA agrees its current approach, focusing only on the EPA air quality conformity designation for the metropolitan area in which the proposed project is located, is inadequate. Thus, FTA is proposing a series of quantitative measures to be used to measure environmental benefits. Since evaluation of environmental benefits is required by law, FTA will use changes in air quality emissions as part of its evaluation approach.

Any negative effects of a proposed project on traffic congestion are evaluated and mitigated as part of the NEPA process. Further, FTA believes it would be unnecessarily complicated to attempt to address such effects in the air quality evaluation.

### 2. Greenhouse Gas Emissions

*Comment:* FTA received a large number of comments supporting using the change in greenhouse gas emissions estimated to result from implementation of the proposed transit project as a measure of environmental benefits. A few of these comments stated FTA should consider change in carbon dioxide (CO<sub>2</sub>) emissions, or CO<sub>2</sub> per passenger mile. Several comments recommended FTA base the change in greenhouse gas emissions on the change in regional VMT projected to occur from implementation of the proposed project. A couple of comments recommended FTA consider the analysis of greenhouse gas emissions as described in the American Public Transit Association's

(APTA) "Recommended Practices for Quantifying Greenhouse Gas Emissions" document. Another comment recommended the approach used in FTA's discretionary Transportation Investments for Greenhouse Gas and Energy Reduction (TIGGER) program. Another comment recommended FTA evaluate changes in carbon dioxide emissions and then monetize each ton of change based on independently determined ceilings of relative cost effectiveness (e.g., \$50 per ton reduced).

*Response:* FTA agrees changes in greenhouse gas emissions should be examined in the measure of environmental benefits. Total change in CO<sub>2</sub> can be calculated using the estimated change in VMT occurring from implementation of the proposed project. At the option of the project sponsor, indirect changes in VMT resulting from changes in development patterns may also be estimated, and the resulting environmental benefits calculated, monetized, and compared to the annualized capital and operating cost of the project under the economic development criterion. FTA notes that the APTA methodology was developed for evaluating the greenhouse gas effects of existing transit systems and agencies, and relied on standard multiplication factors to convert transit ridership to changes in VMT. FTA proposes to do the same with respect to calculating changes in VMT that result from transit projects. The environmental benefits would be monetized and compared to the annualized capital and operating cost of the proposed project for use in the establishment of an environmental benefits rating.

### 3. Energy Use

*Comment:* FTA received a substantial number of comments on whether change in energy use should be included as a measure of environmental benefits. A large number of these comments supported change in energy use as a measure of environmental benefits. Many of these comments suggested measuring differences in fossil fuels, foreign oil, or reductions in energy use as a result of change in regional land use patterns. Several comments suggested using change in regional VMT to calculate changes in energy use, with two of these suggesting that this be linked to changes in regional land use patterns. A couple of comments suggested looking at a change in energy consumption in the project corridor based upon changes in walk and pedestrian access, as well as reduced auto travel. Other comments suggested measuring change in energy use based on the forecasted change in

regional VMT or projected average daily ridership.

*Response:* FTA agrees change in energy use is appropriate as part of the environmental benefits criterion. As with greenhouse gas emissions, FTA is proposing that change in energy use be calculated from estimates of direct changes in VMT. At the option of the project sponsor, indirect changes in VMT resulting from changes in development patterns may also be estimated, and the resulting environmental benefits calculated, monetized, and compared to the annualized capital and operating cost of the project under the economic development criterion. FTA believes it is sufficient to calculate change in energy use and that it is not necessary to make the extra effort to determine whether such energy is derived from fossil fuels or foreign oil. FTA notes a significant part of the benefits that come from reducing energy use are accounted for by the resulting change in pollutant and greenhouse gas emissions. To avoid double counting, the monetary value of energy conservation will be factored down by some percentage specified by FTA in future policy guidance.

#### 4. Water Quality

*Comment:* A few comments supported considering change in water quality as a measure of environmental benefits. One comment stated that change in surface runoff should be considered.

*Response:* FTA does not agree water quality change should be examined in the environmental benefits criterion. FTA believes the primary environmental benefits of major transit investments come from changes in air quality, greenhouse gas emissions, energy use, and public health and safety. Water quality changes related to transit infrastructure come primarily from change in surface runoff, which generally arises from changes in paved surface area. Although some of these changes may be localized effects, the primary water quality benefit is likely to come from regional effects due to changes in land use patterns that may come about after a public transportation investment; those changes in land use patterns are more difficult to evaluate.

#### 5. Public Health

*Comment:* A number of comments recommended FTA consider in the environmental benefits criterion the public health benefits that would result from improved air quality and increased physical activity resulting from implementation of a proposed project. One comment favoring the inclusion of human health and pollution in the

environmental benefits criterion suggested FTA consider a better assessment for air quality that looks at a range of air quality values rather than the current approach that evaluates whether a project is or is not in an attainment area. Another comment recommended the environmental benefits criterion include data from environmental health studies as well as evaluate diesel particulate matter impacts separate from ambient particulate matter pollution, as recommended by the California Air Resources Board. The comment further recommended FTA include an assessment of cancer incidence and type in areas with transit over time and separate this information by age and race.

FTA also received several comments recommending inclusion of a physical activity measure in the environmental benefits criterion. Comments stated walking and biking, including to and from public transit, decreases obesity and improves public health. One comment recommended FTA compare a projected "business as usual" scenario to the number of walking, biking, and other mode shifts estimated to result from implementation of a proposed transit project to estimate reductions in weight and improvement in health outcomes.

Another comment suggested FTA evaluate the walk, bike and transit estimated modal split to award environmental benefits credit because these activities increase human interaction and increase a sense of community.

*Response:* In its implementation of the Clean Air Act, EPA establishes National Ambient Air Quality Standards (NAAQS) for criteria pollutants based on assessments of levels which are protective of public health. FTA believes any reduction in the emission of these criteria pollutants would be beneficial to public health and has determined for the purposes of New Starts project evaluation and rating it is not necessary to explicitly calculate changes in health as a result of changes in pollutant emissions.

On the other hand, FTA agrees some public health benefits other than improvements in air quality should be part of the environmental benefits criterion. FTA agrees these benefits are likely to be based on the degree to which there is additional walking or physical activity related to the usage of the proposed system. FTA is proposing to measure public health benefits as part of the environmental benefits criterion once a methodology for doing so is developed.

#### 6. Consistency With State or Regional Sustainability Plans or Policies

*Comment:* Several comments stated consistency with state or regional sustainability plans and policies should be included in the environmental benefits criterion. One comment stated it is premature to evaluate projects based on their alignment with state or regional sustainability plans because these plans do not exist consistently across the country. One comment noted these types of plans depend on a variety of factors that are not within the direct control of the project sponsor. The comment added that if these plans are considered in the environmental benefits criterion, there should be flexibility to consider various environmental or smart growth plans. Another comment, however, noted it was important to evaluate the transit project in the context of regional sustainability planning.

A couple of comments stated that transportation and land use issues, including plans that encourage development along the project corridor, should be given more weight. Another comment recommended FTA consider how a project affects regional air quality plans, growth management plans, and other environmental plans and policies.

*Response:* FTA does not agree that consistency with regional sustainability plans should be part of the environmental benefits criterion. These plans are not as closely related to the performance of the project, which FTA believes should be the focus of the environmental benefits measures used. FTA believes it is more appropriate to consider how these plans might be supportive of the project in the economic development criterion. Likewise, plans encouraging development along the project corridor are also better evaluated as part of the economic development criterion. In addition, the degree to which a project is consistent with regional sustainability plans may be considered in the "other factors" that FTA evaluates.

#### 7. Environmental Management Systems

*Comment:* FTA received several comments on including environmental management systems (EMS) in the environmental benefits criterion. A number of these comments opposed the use of EMS as a measure. Their justifications included the following statements: The New Starts evaluation should not include good business practices such as EMS; the presence of an EMS does not aid in distinguishing among projects; EMS are not fairly open enough to all project sponsors; and

important environmental benefits associated with projects such as changes in VMT and emissions or air quality improvements would not be reflected.

Several comments expressed general support for consideration of whether a project sponsor has an EMS in the environmental benefits criterion. One comment stated project sponsors should be encouraged to look at their ongoing environmental impacts and identify means and measures to reduce these impacts. A couple of comments added FTA should evaluate whether a project sponsor has a project specific EMS, an EMS for their capital program, or an EMS for operations of facilities. One of these comments also recommended FTA consider whether project sponsors have obtained ISO certification or other EMS certification for their program. Another comment suggested FTA consider whether a project sponsor is applying EMS principles to the project. The comment stated that to satisfy this measure, a project sponsor with an EMS for a specific project would be allowed to provide less information than a project sponsor implementing EMS principles, but without a broader EMS.

*Response:* Although FTA encourages the use of EMS, it does not believe its use should be part of the environmental benefits criterion. FTA believes environmental benefits measures should focus on overall project performance. While a project-specific EMS may be indicative of project sponsor's sensitivity to the environment and may improve the implementation quality of environmental mitigation measures and requirements, these environmental benefits would be small in comparison to direct environmental benefits resulting from implementation of a well-designed transit project. Use of an EMS is an appropriate part of tracking commitments from a NEPA process or as part of transit operations, and FTA will continue to support its use in those contexts. FTA is proposing to allow the costs of certain environmentally friendly elements and practices, such as the implementation of a project-specific EMS, to be treated as a "betterment" that can be subtracted from the cost effectiveness calculation.

#### 8. Parking

*Comment:* A few comments recommended FTA consider parking policies in the environmental benefits criterion. A couple of comments said projects in areas with limits on per-capita off-street parking or projects in areas with low per-capita parking should receive extra credit. Another comment said that the environmental

benefits evaluation should consider flexible parking requirements.

*Response:* FTA believes it is more appropriate to assess parking policies under the economic development criterion since they are likely to be supportive of a project, rather than a performance-based outcome of the project.

#### 9. Other Metrics

*Comment:* A number of comments suggested environmental benefits cover a range of issues. Those mentioned included protection of historic resources, access to cultural resources, access to open space and recreation, access to education, environmental justice, reductions in air quality emissions, fuel savings and reductions in energy use, reductions in greenhouse gas emissions, improvements in water quality, impacts on endangered species, spatial impacts on streetscapes, noise impacts, parking, environmental management systems, mode shift, mixed use infill development, complete streets, VMT reductions, transit use increases, provision of greenways/streets for pedestrian travel, low-income households served, physical activity, transit dependent households served, use of infrastructure, access for low-income people to job centers, creation of a healthier community, preservation and strengthening of communities and social fabric, environmentally friendly administrative policies including telework, support for transit-appropriate development on brownfields, flexible work schedules, corridor car counts, transportation demand management policies, allowance of Federal tax credits, and pre-tax set asides for alternative commutes.

*Response:* FTA believes protection or support for a wide range of human and natural resources, such as those noted, are best covered in the NEPA process or as part of the economic development criterion. Potential negative project impacts should be evaluated in the NEPA process, and mitigated to the degree appropriate and included in the cost of the project. Such impacts, as well as various supportive policies are not project-specific performance outcomes.

Environmental Benefits Question 3: "Should the environmental benefits evaluation consider the steps a project sponsor takes to mitigate the construction impacts of New Starts projects in addition to the environmental effects of their operation? Should the origin and methods to obtain construction or vehicle materials; energy type and use; and water consumption be considered in the overall evaluation of environmental benefits?"

#### 1. Construction Mitigation

*Comment:* FTA received a large number of comments on the consideration of construction mitigation in the environmental benefits criterion. Several comments recommended FTA consider a project sponsor's construction mitigation efforts; however, one comment stated it should not be the sole measure of environmental benefits.

One comment recommended construction impacts be evaluated by comparing construction emissions to the project's emissions savings over a twenty-year analysis period. Another comment stated FTA should not include greenhouse gas emissions resulting from project construction in the evaluation of a project's overall environmental benefits.

Several comments cited the following reasons for not considering construction mitigation: Construction impacts are temporary; the New Starts evaluation takes place too early in the process to know the construction impacts; construction mitigation could increase the project cost, thereby affecting the cost effectiveness rating; construction mitigation already occurs in the NEPA process; and, it does not represent an "environmental benefit." One comment suggested that construction mitigation become a requirement for all projects, thereby eliminating it as a distinguishing factor. Another comment noted that construction mitigation best practices should be adopted as a minimum requirement for projects.

*Response:* FTA agrees construction mitigation should not be part of the environmental benefits criterion. Construction mitigation efforts are not related to the operational performance of projects and they would be difficult to measure nationally. Moreover, mitigation of the negative impacts of construction is sensitive to context, and is thus best handled as part of the NEPA process.

## 2. Including Lifecycle Environmental Costs in the Measure of Environmental Benefits

*Comment:* FTA received a large number of comments on whether the origin and methods to obtain construction or vehicle materials, energy type and use, and water consumption should be considered in the environmental benefits criterion.

A number of comments suggested FTA provide higher ratings for proposed projects powered by renewable energy sources (partially or wholly), credit those projects that do not use fossil-based fuels, and provide lower ratings to proposed projects that use fossil-based fuels. A number of comments suggested FTA consider the energy source required to operate the project, methods of terminal construction (including the energy savings and efficiencies used for long-term station operations), and full lifecycle impacts of bio-fuels (including emissions from indirect land use).

One comment recommended FTA implement environmental benefits measures that encourage the use of local materials because they reduce transportation and associated environmental costs. Another comment recommended project sponsors receive credit for using recycled materials. A couple of other comments suggested FTA evaluate the lifecycle costs of design choices, specifically sustainable design, by incorporating LEED design criteria that evaluate the origin and methods used to obtain materials, energy use, and water consumption.

A couple of comments recommended FTA not consider lifecycle impacts when measuring environmental benefits because, among other reasons, lifecycle analysis tools are incomplete. They went on to state that in general transit has lower greenhouse gas emissions than competing modes.

*Response:* FTA believes it is not necessary to evaluate a project based specifically on what source of energy is used for project propulsion, but rather on the estimated energy savings expected to result from implementation of the project. One of the reasons for not considering the source of energy anticipated to be used for a proposed project explicitly is that it can change over time for some modes, and may not be different enough from project to project to help differentiate among projects. Further, FTA believes that public transportation investments support national energy policy goals (such as reduced dependence on foreign fuels), whether or not transit vehicles run on fossil fuels or alternative sustainable energy sources since they

reduce VMT. FTA intends to take steps to remove disincentives to incorporating environmentally friendly features that are potentially more costly, such as alternative fueled vehicles, by subtracting these costs from the calculation of cost effectiveness.

FTA agrees using local materials would reduce the environmental impacts of projects, but does not believe that the impacts would be significant enough to help distinguish between projects.

FTA believes it is appropriate to provide incentives encouraging incorporation of elements that would allow for LEED certification and other environmentally friendly construction techniques, but believes it is better to address these incentives by subtracting their costs from the calculation of cost effectiveness.

FTA is not proposing to evaluate lifecycle impacts in the environmental benefits criterion because it adds complexity and is unlikely to produce different project rating results.

### Environmental Benefits Question 4:

“Should FTA consider the reduction in single occupant vehicle usage as part of its evaluation of environmental benefits? What method should be used to measure the changes in vehicle miles travelled resulting from implementation of a project? Please be specific about how FTA should measure this.”

#### 1. Reduction in Single Occupant Vehicle Usage

*Comment:* FTA received a large number of comments on whether it should consider change in single occupant vehicle use in the environmental benefits criterion. Many of those comments supported measuring changes in single occupant vehicle use, and six comments were opposed.

Of those supporting evaluation of the change in single occupant vehicle use, a few comments stated that local agencies should be allowed flexibility in calculating changes in single occupant vehicle use. One comment stated that avoided motorized trips should be used as a proxy for single occupant vehicle use.

Several comments opposed to evaluating the change in single occupant vehicle use stated that such changes do not reflect an environmental benefit. Other comments noted that the project may achieve environmental and performance objectives, despite a failure to reduce single occupant vehicle use.

*Response:* FTA agrees the change in single occupant vehicle use by itself does not reflect an environmental benefit. Instead, FTA believes it is

appropriate to estimate all of the environmental effects of reducing motorized travel due to implementation of the proposed project, either directly or indirectly, and to calculate these effects. This includes changes in emissions, energy use and improvements in safety and public health using simplified methods (public health would be measured once a methodology for doing so is developed).

#### 2. Method for Calculating the Change in Vehicle Miles Traveled

*Comment:* FTA received a substantial number of comments on whether to use change in VMT in the environmental benefits criterion. Most of these comments suggested using change in VMT; two of those suggested a corridor-based measure of VMT. One comment suggested using VMT per capita, and another suggested using VMT per household in the station areas.

Several comments were opposed to using a change in VMT. The comments expressed concern that a change in VMT may not be an environmental benefit; that it would be difficult to attribute a change in VMT to a transit project; and that areas with high transit dependency would not have substantial changes in VMT.

*Response:* FTA believes that changes in VMT estimated to occur with implementation of the proposed project are a primary indicator of the project's likely environmental benefits. However, FTA believes it is fairly simple to calculate environmental benefits in their own terms (e.g., tons of pollutant emission reductions) and that expressing these benefits in these terms is helpful in understanding the full effects of a proposed project. Calculation of change in VMT is the main way in which FTA proposes deriving these benefits.

### Environmental Benefits Question 5:

“Should FTA consider certification of the planned facility through the Leadership in Energy and Environmental Design (LEED) Green Building Rating System; low impact development of transit facilities; or energy production with windmills or solar panels?”

#### 1. Leadership in Energy and Environmental Design (LEED)

*Comment:* A large number of comments discussed whether FTA should consider certification of a planned facility through the Leadership in Energy and Environmental Design (LEED) Green Building Rating System in the environmental benefits criterion. Many of those comments recommended

that FTA include LEED and similar rating systems and principles in the environmental benefits criterion. One comment stated incorporating LEED design criteria for stations and maintenance facilities would allow for consideration of the origin and methods to obtain materials, energy type and use, and water consumption in the environmental benefits criterion. Another comment stated building stations and maintenance facilities to LEED standards (including storm water management and water quality) promotes environmentally responsible projects by reducing energy consumption and enhancing environmental design. One comment suggested incorporation of LEED certified buildings in a project only be considered as a bonus in the environmental benefits rating. Another comment suggested LEED buildings be included in the measurement of environmental benefits, but should not make the whole difference between a project that gets funding and one that does not.

Several comments stated FTA should not include LEED and/or similar rating systems in the environmental benefits criterion. A couple of comments recommend FTA encourage LEED and similar systems, but not mandate them. Another comment stated current LEED specifications are often inappropriate for transportation facilities, but are more suited for offices, commercial buildings, and multi-use dwellings. Other comments noted LEED certification requirements may be best addressed through NEPA, and that building certifications measure processes rather than outcomes. A comment suggested use of LEED or similar rating systems may not fit well into the New Starts evaluation and rating process because LEED accreditation for buildings is determined at the end of the process after a full range of decisions are made, whereas the New Starts evaluation and rating process happens early in project development before significant engineering and design has occurred. Another comment suggested FTA use LEED-ND (neighborhood development).

Comments also provided suggestions for how LEED may be incorporated into the New Starts process. Several comments noted FTA should consider the higher upfront costs associated with applying such methods and standards (LEED, low impact development (LID), energy production, etc). The comments stated increased costs could impact project implementation, and the result could be a substantial increase in the overall project cost that could perhaps keep the project from rating acceptably

or being funded. Therefore, the comment stated that projects that do not incorporate these standards should not be penalized. One comment stated "if the additional construction cost is not fully offset by the increased energy savings or the ability to avoid buying from the Grid, the sponsor can receive a credit for the difference" and "[i]f energy rates increase in the future and start to turn a profit from the sales, [the transit agency] should not have to fully pay back the credit." According to the comment, "[t]his potential additional source of revenue could be an incentive to build."

*Response:* FTA agrees LEED or similar certifications are useful to understand how well sensitivity to environmental concerns has been incorporated by project sponsors into project development. However, while having elements of a project LEED certified demonstrates good environmental behavior by the project sponsor, it is not a meaningful measure of the greater environmental performance of a well designed and implemented transit project. Nonetheless, FTA believes it is appropriate to assure the New Starts process provides incentives for good environmental practices such as environmentally-sensitive design and development, which may have additional costs to them. To assure there are incentives for pursuing LEED-certification or other similar rating systems, rather than disincentives, FTA intends to subtract the additional costs of such environmental friendly features in the cost effectiveness calculation.

## 2. Low impact development (LID)

*Comment:* A few comments stated FTA should encourage sustainable design and credit projects that use it. Several comments said FTA should consider the added costs of implementing LID or sustainable design even if they increase the capital cost in the short term but lead to long-term operating efficiencies and reduced costs. A couple of comments stated FTA should encourage sustainable infrastructure, but not mandate it. Another comment suggested LID be included in the environmental benefits criterion to encourage these practices, but it should not make the whole difference between a project that gets funding and one that does not. Another comment stated FTA should allow more flexibility in examining sustainability and environmental impacts in design decisions. One comment said LID should not be included in the environmental benefits criterion.

*Response:* As with LEED certification, although various LID methods

demonstrate good environmental behavior by the project sponsor, their use is not a meaningful measure of the greater environmental performance of a well designed and implemented transit project. However, FTA is proposing to subtract the additional costs of environmentally friendly features, such as LID, from the calculation of cost effectiveness so there is not a disincentive to using LID methods.

## 3. Alternative Energy

*Comment:* FTA received several comments on whether alternative energy production should be considered in the environmental benefits criterion. A few comments stated it should be considered and two comments opposed its inclusion. One comment opposed to its inclusion stated that it should be considered once costs of alternative energy source production decrease. Another comment suggested alternative energy production be included in the environmental benefits criterion to encourage its use, but should not constitute the whole difference between a project that receives funding and one that does not. Several comments stated FTA should consider the added cost associated with generating alternative energy.

*Response:* FTA believes that, while the incorporation of alternative energy production may be a feature of a transit investment, the added burden of determining the amount of energy produced is unlikely to produce a measurable difference compared to the amount of energy saved as a result of reduced vehicular travel. However, FTA is proposing to exclude the additional costs of certain environmentally friendly practices from the calculation of cost effectiveness.

Environmental Benefits Question 6: "In measuring the environmental benefits of a project, how might FTA take into account the goals and objectives of Executive Order 13514 [Federal Leadership in Environmental, Energy, and Economic Performance]? Should a project be evaluated and rated on how well it maximizes the land use efficiencies created through locating the project in areas that facilitate sustainable development?"

### 1. Executive Order 13514

*Comment:* A number of comments responded to the question regarding how FTA might take into account the goals and objectives of Executive Order 13514, "Federal Leadership in Environmental, Energy and Economic Performance." A few comments suggested that FTA include the goals

and objectives of the Executive Order. The comments suggested FTA assess the change in greenhouse gas emissions resulting from implementation of the proposed project. Another comment noted it is important to consider projects that facilitate sustainable development because the carbon footprint of any individual transit project is small in a regional context. The comment added FTA should provide credit for these types of projects by increasing the weight given for avoided trips and other land use and economic development criteria in the project justification rating. A couple of comments stated FTA should not include the goals and objectives of the Executive Order in the environmental benefits criterion. A couple of comments added the goals and objectives of the Executive Order are largely addressed in the land use criterion.

Another comment added the goals of the Executive Order are agencywide and, therefore, may not be easily translated to the project level. A comment suggested innovation proposals be encouraged (e.g., “green” methods in proposed facilities and construction methods) but not included in project ratings.

*Response:* FTA believes the principles of the Executive Order will be addressed in the quantification of the direct and indirect environmental benefits of proposed transit investments, including the degree to which policies supporting transit oriented development are in place, as accounted for in the economic development criterion. FTA believes there is no need to further address the Executive Order in the environmental benefits criterion.

## 2. Land Use Efficiency

*Comment:* FTA received a substantial number of comments on whether a project should be rated on how well it maximizes land use efficiencies by being located in an area that facilitates sustainable development.

A large number of comments stated that encouragement of compact/sustainable development and sprawl reduction should be considered in the environmental benefits criterion. Another comment stated FTA should give credit through the environmental benefits criterion for transit’s role in retaining existing dense, energy efficient land use patterns as well as its role in encouraging new energy per efficient land use patterns.

Several comments stated FTA should encourage transit oriented development by quantifying the additional development that can be built due to

implementation of the transit project. In particular, one comment stated communities should be rewarded for investing in transit oriented development that preserves access to affordable housing. A few comments stated FTA should reward communities that develop plans to revitalize communities.

One of the comments specified FTA should also give consideration to the potential water quality improvements from more compact development patterns facilitated by fixed guideway transit service. Another comment stated such a project (in a densely developed, transit rich area) may also generate “smart growth” land use and development patterns that reduce short automobile trips or encourage walking or biking, thereby reducing congestion and encouraging healthier lifestyles.

One comment suggested compact land development can be measured by comparing models of development patterns with and without the proposed project. A couple of comments suggested anticipated land use impacts of projects would likely be easier to measure early in project planning than mitigation or energy impacts.

One comment recommended FTA not lower a proposed project’s rating if the project is located in a suburban area where existing land uses are less dense, because these areas need transit to create a market for more compact development.

*Response:* FTA believes future estimated changes in development patterns are actually better addressed in the economic development criterion and that the land use criterion should focus instead on existing. Thus, FTA is proposing at the option of the project sponsor, indirect changes in VMT resulting from changes in development patterns may be estimated, and the resulting environmental benefits calculated, monetized, and compared to the annualized capital and operating cost of the project under the economic development criterion. Public transportation projects can support increased density and clustering of development in a way that can reduce motorized travel, thereby improving the environment. FTA notes, however, the practice of actually predicting the changes in development patterns that will occur as a result of implementation of the proposed project is not particularly well developed. While research is under way, for example, through the Transit Cooperative Research Program, presently there are no well developed tools that can easily be applied by all project sponsors. FTA agrees policies that encourage transit

oriented development can help assure a positive impact on development patterns is actually achieved. But FTA believes whether such policies are in place and are being effectively implemented can be better assessed in the economic development criterion.

While FTA believes water quality impacts can be cited as benefits of public transportation investments, they usually come as a secondary effect resulting from the denser, more compact development patterns that transit projects can foster.

In sum, FTA believes the economic development criterion should account for the degree to which the project is likely to result in additional environmental benefits due to compact, more-dense development patterns. However, given the lack of readily available tools, FTA intends to make evaluation of these secondary impacts voluntary.

Environmental Benefits Question 7: “To what extent, if any, can technology improvements—lower carbon transport technologies, the use of emerging light weight materials, improved engine designs, or bio-fuel applications, for example—be said to reflect environmental benefits of transit proposals? How would such improvements be measured and compared?”

*Comment:* FTA received a large number of comments regarding whether the environmental benefits criterion should consider technology improvements such as use of lower carbon transport technologies or use of emerging light weight materials.

Several comments stated technology improvements should be considered. A couple of comments provided caveats that use of these technologies should not be required, but treated as extra credit instead. Another comment stated FTA should consider technology improvements as they pertain to a project’s operation, but that the measure should not necessarily be based on the use of new technology. This comment suggested technology improvements could be measured by composition of fleet technologies and fleet age, as well as reductions in greenhouse gas emissions.

Several comments suggested use of sustainable technologies should be encouraged, but it should not be a part of the environmental benefits criterion. One comment noted it would be difficult to identify predictable and measurable differences between transit projects with a technology metric and instead recommended that the added cost of a sustainable technology could

be an item removed from the calculation of cost effectiveness. A couple of comments noted measures of environmental benefits should be derived from the operation of the project. Another comment stated projects should not receive extra credit in the evaluation process for technology improvements. One comment stated FTA should be careful not to be overly prescriptive with the application of a technology metric to maintain competitive bidding and innovation.

*Response:* FTA agrees it would be difficult to include use of environmentally friendly technologies in the environmental benefits criterion. However, FTA does not want the New Starts evaluation process to provide disincentives to their use. Accordingly, FTA is proposing to eliminate the additional costs of such technological enhancements from the calculation of cost effectiveness.

**Environmental Benefits Question 8:** "Should environmental benefits be included in the cost effectiveness measure? How can environmental benefits be compared across projects, and incorporated into FTA funding decisions?"

Comments on this question are summarized under the section of this NPRM focused on cost effectiveness.

#### *D. Economic Development*

##### *Measuring Economic Development*

**Economic Development Question 1:** "How might FTA better measure the impact of transit on local land use patterns and/or economic development (ED)?"

*Comment:* A substantial number of comments were received in response to this question. Most of the comments suggested generally that FTA could improve its measure of the impact of transit on local land use patterns or economic development.

Several comments addressed how FTA should consider its evaluations of land use policies and plans and economic development differently. Over half of these comments emphasized considering future development in conjunction with land use and three noted that both existing and future land use policies and plans should be used to consider land use.

A number of comments related to the consideration of the potential impact of a project on future development. Most of these comments support this idea. One of these comments suggested looking at new business attracted to the area due to the implementation of transit (as compared to locating on or

near a highway), expansion of established businesses in the community, and the ability to retain businesses. One opposing comment indicated that measuring the economic effect of transit investments would be difficult because of industry clusters or geographic concentrations of interconnected employment centers and the role of transit in enhancing linkages between such clusters.

A number of comments noted FTA should consider additional measures for evaluating land use and/or economic development, including changes in employment densities and household income within the transit corridor and assigning credit for enhanced transportation connectivity. A third of these comments suggested FTA give extra credit in the New Starts evaluation process to projects with economic development effects, with one suggesting that credit be given to projects located in areas with local government incentives to encourage economic development and one suggesting credit be given for enhanced transportation connectivity. A third of these comments also referenced using changes in property values as an additional measure of economic development effects. On the other hand, one comment opposed using changes in land value as an economic development measure due to the sensitivity of market cycles.

A few comments proposed different methodologies to determine the effects of transit on land use and/or economic development, including quantitative studies (e.g., before and after studies), a hybrid framework of quantitative and qualitative measures, and satellite imaging and windshield surveys.

A few of the comments pertained to development and redevelopment impacts. Most of these comments supported consideration of these impacts and one opposed. The opposing comment noted that the first level of analysis should be how well the project fits with the goals and objectives of the community.

A small number of comments recommended emphasizing transit-oriented development and market strength.

One comment advised that measuring the extent to which a more efficient network links multiple centers (as opposed to a discrete investment, either as an initial starter segment or an extension to an existing system) will show how a project enhances economic development.

One comment supported the belief that implementing transit investments

can be an enormous employment generator.

One comment suggested that when finding alternatives to the single occupancy vehicle, one must consider the costs to individuals (consumers), the costs of public dollars, the ability to leverage public dollars with private investments for an acceptable return on investments to all parties, and the creation of wealth (jobs).

A couple of comments recommended the economic development effects criterion focus on economic value creation or assess the value added for mature and newer urban areas because capital invested in different areas could produce different returns.

One comment stated FTA should not give credit to projects that maximize land use efficiencies in an area that already has taken steps to facilitate sustainable development.

One comment encouraged FTA to consider a funding model where station-area improvements are funded largely through value capture, while transit fares underwrite operations, maintenance, and capital investments in rolling stock.

One comment suggested developing more accurate modeling techniques capable of recognizing land use differences resulting from implementation of transit.

One comment stated the economics of a project and the degree to which a project cannot develop good public relations with its surrounding community should be weighed.

One comment noted that in selecting a streetcar as the locally preferred alternative for their area, the study team considered the estimated potential economic benefits resulting from real estate redevelopment adjacent to the streetcar line. This included estimates (based on a range of scenarios) of increased occupancy of existing structures, higher rents, and potential new construction on vacant parcels. (Also considered were the income, employment, and economic output effects of construction.)

*Response:* FTA agrees an improved economic development criterion is necessary. The current measure focuses on adopted plans and policies that would support economic development. It does not address the degree to which the proposed project itself produces economic development effects. FTA believes it is important to focus both on the plans and policies supporting future development, as well as the accessibility improvements that result from implementation of the proposed project.

FTA believes one primary economic development benefit that should be

evaluated is the effect that a major transit capital investment can have on clustering development. Such clustering produces what economists refer to as an “agglomeration” benefit. In essence, because firms are able to do business in an area in which similar economic activity is taking place, transaction costs are lowered, productivity is increased, additional employment is created, and overall, there are increased levels of economic activity. Clustered development can also reduce the environmental impacts of travel (such as air pollution, greenhouse gas emissions, energy use, safety, etc.) and the costs of providing public infrastructure compared to un-clustered development. Such clustering occurs because the transit investment increases the accessibility of locations around it by reducing the cost of travel to those locations and because transit supportive policies are developed to concentrate development at those locations.

FTA believes focusing on the two main factors that produce these benefits—how the proposed project improves the accessibility of locations along its route, and the strength of the policies in place to support clustered development around the transit project—is the best way to determine how likely it is the project will produce economic development benefits. FTA agrees that, in the long run, implementation of the transit project is likely to increase housing and employment, occupancy rates, property values, rents, new construction, and overall economic activity. However, FTA believes it is extremely difficult to forecast such long-term changes. FTA agrees there are a number of tools for determining the potential for these changes, such as use of land records, geographical information systems, and windshield surveys, as well as approaches for determining the impacts after a project is implemented such as before-and-after studies. These studies have demonstrated the key factors leading to changes in these indicators are the relative change in accessibility brought about by the project and how well the project is supported by appropriate local land use and development policies. However, there are not currently available any easy-to-apply and accurate methods for actually predicting the economic development impact. An ongoing Transit Cooperative Research Program (TCRP) is addressing the issue of improved predictive techniques. FTA agrees there are certain policies, such as those that foster transit oriented development that can have a large positive impact on the development

outcome of a project. Thus, FTA is proposing to measure economic-development effects based on the plans and policies to support economic development proximate to the project and the demonstrated performance of the policies. FTA is proposing to evaluate the transit supportive plans and policies and demonstrated performance of those plans and policies in a manner that is similar to the existing practice. At the option of the project sponsor, indirect changes in VMT resulting from changes in development patterns may also be estimated, and the resulting environmental benefits calculated, monetized, and compared to the annualized capital and operating cost of the project under the economic development criterion.

**Economic Development Question 2:** “Should FTA continue to use its current approach for evaluating the economic development effects of major transit investments?”

*Comment:* A substantial number of comments were received in response to this question. Approximately one third of the comments pertained to the weight given to the economic development effects criterion in the rating of project justification, and most supported increasing the weight. One of the supporting comments also suggested eliminating the environmental benefits criterion. One comment partly supported increasing the weight of the economic development criterion by suggesting prioritization of supportive land use policies above existing land use and past performance of policies. One comment opposed consideration of the economic development effects criterion as a major factor for evaluation and rating.

A number of comments suggested simplification of the economic development effects criterion. A small number of these comments advised adjustment of submittal requirements based upon the phase of project development. For instance, according to those comments, when a project sponsor is seeking entry into preliminary engineering, FTA should only include a review of local policies in place that support the transit investment and encourage development/redevelopment.

Several comments suggested FTA revise its approach to measuring economic development by considering other factors. A small number of these comments stated the current approach is limited because it assumes economic development is a zero sum game within a region and does not account for regional growth that might be a function

of significant improvements in regional mobility from connecting major population and employment centers. A couple of the comments recommended looking at labor statistics to determine the types of jobs needed in an area. One comment proposed special consideration (preference) should be given to viable projects in economically distressed areas. One comment proposed, for each region, giving consideration to global competitiveness.

A few comments stated FTA must recognize that public transit agencies have limited direct impact on land use policies and land uses (via the properties that they actually own) versus the tremendous indirect impacts that follow-on from transit investments. One of these comments also added project sponsors of proposed streetcar projects are often municipalities rather than independent transit agencies, and thus can directly impact those land use decisions.

*Response:* With respect to the weight assigned to the economic development effects criterion, FTA must follow the law, which calls for each of the six specified criteria to be given “comparable, but not necessarily equal” weight. FTA cannot eliminate either the economic development effects or environmental benefits criteria as they are both required by law.

FTA agrees the economic development effects criterion should be as simple as possible and that it should depend on the project development stage—the level of detail and commitment to specific policies should be greater as the project moves from preliminary engineering to final design and construction funding. FTA already takes this approach in its evaluation of the land use, economic development, and local financial commitment criteria. FTA is proposing an approach that assesses how well local plans and policies support clustered development around the proposed project without requiring that a detailed forecast of economic development be made. At the option of the project sponsor, indirect changes in VMT resulting from changes in development patterns may also be estimated, and the resulting environmental benefits calculated, monetized, and compared to the annualized capital and operating cost of the project under the economic development criterion.

FTA believes it should focus on the likelihood of the project fostering development, rather than attempting to forecast how much development will occur, whether or not there is an increase in net regional development, or whether there is just a redistribution of

the development forecast for the region. FTA agrees the kinds of jobs produced and whether a project is located in an area of economic distress are important issues and proposes to take these issues into account, at the project sponsor's option. In addition, FTA plans to report under the economic development effects criterion the number of design, construction and operations jobs expected to be created with implementation of the project.

FTA agrees public transit agencies have limited direct impact on local land use plans and policies. But because these are major transit investments, they should be supported by local policies no matter who is responsible in the region for developing the policies. Hence, it is appropriate for FTA to assess whether the region and local jurisdictions are supportive of a major investment of Federal funds in that region.

**Economic Development Question 3:**  
"Should FTA define economic development differently? If so, how?"

*Comment:* A substantial number of comments were received in response to this question. The majority of the comments supported defining economic development differently, and a number were opposed.

Of the comments supporting a different definition of economic development, most offered an alternative. Several noted economic development should refer to increases in underlying economic strength, as measured by increases in employment, in gross domestic product, or in wealth. One comment stated economic development should be defined as the increase in economic activity that stems from the transit investment and from the accompanying improvements in livability and other benefits that accrue from permanent land use changes that link to economic activity. Another comment noted the increase in economic activity may be difficult to quantify. A couple of comments indicated increased economic activity should be evaluated based on the increase in transit trips. One comment stated the current measures for economic development give substantial consideration to "existing pedestrian-friendly station areas" and to "higher density existing conditions." These considerations inevitably favor existing, developed and often wealthy areas over developing communities. In contrast, one comment favored promoting economic development in areas that are transit deficient, by considering the potential for future, not existing, development performance. A couple of comments indicated economic

development should be based on the estimated direct impact on individual household costs and benefits (i.e., housing affordability) resulting from implementation of the transit project. Other comments stated economic development should be defined relative to improved accessibility to jobs and services for low-income populations and minorities. A small number of comments stated FTA needs to redefine economic development, moving away from trying to measure overall economic activity by using increasing land values as a "proxy" for this activity, and move more specifically towards measuring employment and transit connectivity. Another comment observed the current approach appears to be "justifying" the project via the economic benefits identified by the sponsor, rather than using the measurable impacts of the project.

One comment noted FTA should not be in the business of economic development. It should be in the business of providing easy and affordable access to transit.

Of the comments opposing any change to the current definition of economic development, one comment opposed changing the current definition so long as the criterion included an assessment of the degree to which project sponsors demonstrated an understanding of how to stimulate transit-oriented development.

*Response:* FTA agrees it should have in mind the economic development outcomes of a proposed project as the basis for assessing the economic development criterion; with a focus on increased economic strength, such as employment levels, gross domestic product, and wealth. As noted earlier, FTA believes these types of economic development benefits occur because implementation of a proposed project produces agglomeration effects through the clustering of development around the proposed project. FTA agrees these agglomeration effects may be difficult to quantify, but are likely to be related to how a project produces enhanced accessibility at various locations around which development could be clustered. FTA believes the number of transit trips taken on the project may be a useful indicator of this enhanced accessibility. FTA notes changes in accessibility result from changes in travel costs, rather than changes in housing costs. FTA evaluates mobility improvements (and hence changes in accessibility) for persons with lower incomes as part of its mobility improvements and cost effectiveness criteria. FTA agrees land value in particular is very difficult to quantify and the change in accessibility

is the more important direct effect of a project that can enhance economic activity. FTA agrees it is the performance of the project that determines whether or not it is likely to have economic development benefits.

FTA agrees its primary focus is to improve public transportation, but notes that economic development outcomes should be evaluated to help determine which public transportation improvements it should support. The section-by-section analysis that follows this response to comments provides more detail on how FTA plans to measure the economic development effects of proposed projects.

**Economic Development Question 4:**  
"Should FTA use either a qualitative or a quantitative approach (or both) for evaluating the economic development effects of New Starts and Small Starts projects? Should FTA consider a qualitative approach for evaluating land use policies or a quantitative approach for predicting changes in land use values and patterns (or both) as a proxy for evaluating economic development benefits?"

*Comment:* A substantial number of comments responded to the question of whether FTA should use a qualitative or a quantitative approach (or both) for evaluating the economic development effects of New Starts and Small Starts projects.

For the first question, several respondents indicated both quantitative and qualitative approaches are necessary for evaluating economic development.

A substantial number of comments did not support the use of both quantitative and qualitative approaches, with most suggesting using only a qualitative approach. Only about a fifth of these comments recommended using only a quantitative approach. One suggested using clear and objective quantitative measures of market realities.

More than half of those who responded to the second part of this question supported a qualitative approach for evaluating land use policies in lieu of predicting changes in land use values and patterns as a proxy for evaluating economic development benefits. None of the comments supported a quantitative approach for predicting changes in land use values and patterns for evaluating economic development benefits. One comment did not support either a qualitative or a quantitative approach for evaluating economic development; instead, the comment simply noted that the

appropriate scale should be corridor based.

One comment did not support either a qualitative or a quantitative approach, preferring an alternative definition for economic development not based on land use. A few comments did not identify a preference for either a qualitative or a quantitative approach.

The comments were split evenly for and against using land use patterns and values as a proxy for evaluating economic development. The comments in support of using land use tended to view it as a subset of economic development. One comment suggested that FTA consider estimated changes in land values as evidence of potential economic growth, using such measures as block and intersection density, existing and projected population, absorption and vacancy rates, station area and corridor land values, residential and commercial real estate values, and estimates of development of underused land. One comment recommended FTA consider the density of commercial and residential development using employment within one-half mile of stations and population within one-quarter mile of stations. In addition, a comment stated FTA should consider the changes in the quality ("value") of jobs created in the corridor by the investment in an alternative transportation mode.

Those against using land use as a proxy for evaluating economic development recommended using economic measures such as employment, wages, and revenues instead. The recommendation was based on the idea that doing so would avoid double-counting the benefits that come from land use changes themselves and that forecasting land use assumptions is difficult. In addition, one comment said using land use as a proxy for economic development overlooks other benefits including new jobs, retail sales, tax revenues, and agglomeration effects.

*Response:* FTA agrees with comments opposed to using a purely quantitative measure for the economic development criterion. FTA is proposing to allow a project sponsor, at its option, to estimate indirect changes in VMT resulting from changes in development patterns, and calculate the resulting environmental benefits, monetize them, and compare them to the annualized capital and operating cost of the project. While forecasting the amount of economic development effects resulting from agglomeration effects would seem to have value, the analytical challenges of doing so are too great. As noted earlier, tools to accurately forecast land value changes, changes in aggregate regional

employment, or changes in local gross domestic product are often not readily available and thus this analysis is optional.

In particular, FTA agrees the primary measure of the economic development criterion should be an assessment of the existence of transit supportive land use plans and policies. These create a foundation for changes in development patterns and land values that would result from a major transit capital investment. Hence, they are an important part of a proxy measure for assessing economic development benefits. But as already noted, FTA is also proposing to allow project sponsors, at their option, to evaluate quantitatively the likely performance of the project itself in producing economic development benefits. FTA believes that providing the option for a project sponsor to conduct such scenario-testing would be an effective way of addressing this issue in a partially quantitative way. By making this scenario testing optional rather than mandatory, FTA is avoiding placing undue burden on project sponsors.

FTA does not believe that addressing land use policies as part of the economic development criterion represents inappropriate double-counting. FTA is proposing to use only existing population, employment, and publically supported housing within station areas in its land use criterion.

#### *Land Use and Economic Development*

Economic Development Question 5: "What scale should be used to measure economic development? At a corridor level or at the metropolitan area level?"

A large number of comments were received in response to this question. Of those responding, just under half recommended measuring economic development only at the corridor level. Some of these comments mentioned the economic development criterion is very important for urban circulators and streetcars projects in particular, stating these types of projects are often primarily justified by their economic development benefits. Thus, the comments indicated these projects should be required to demonstrate they can support sufficient density of commercial and residential development to justify the Federal investment.

Two of the comments recommended FTA require project sponsors to develop analyses of projected development including estimates of employment growth anticipated within the corridor. They stated economic analyses should describe the geographic range of

economic impacts and effects on nearby corridors and any interaction between corridors.

Over half the comments in this area recommended measuring economic development only at the metropolitan area or regional level. One comment stated economic development should refer to increases in underlying economic strength, as measured by increases in employment, increases in gross domestic product or increases in wealth. The comment indicated these are not easily measured at the corridor level but are instead best measured at the regional or national level. One submission stated such increases in employment, productivity or wealth may result, in part, from the increased accessibility and reductions in the cost of travel resulting from implementation of a proposed transit investment. The comment indicated impacts are almost always observed and measured regionally, not just in the area of the transit investment, since the measures are "macro" in nature and lend themselves to regional measurement.

About a third of the comments in this area recommended measuring economic development at both the corridor and metropolitan area/regional levels. Several comments pointed out that the metropolitan area considered in measuring economic development need not be coincident with the jurisdictional boundaries of the metropolitan planning organization (MPO).

Additionally, two comments recommended measuring economic development solely at the station area level, while several comments recommended using both the station area and corridor levels. Two comments recommended using both station area and metropolitan area or regional levels to measure economic development.

Several comments recommended using multiple scales, including station area, corridor, and regional, to measure economic development. Two comments noted multiple scales are necessary to capture relevant aspects of economic development, such as employment, land use, and the multiplier effects of direct, indirect, and induced spending in the local, regional and state economies. One comment stated the appropriate scale for measuring economic development depends on how economic development is defined, while another comment noted that the scale should be comparable to the project type. Another comment noted different scales should be used for Small Starts projects than for New Starts projects, with Small Starts projects best evaluated at the corridor level. One comment stated economic development should be measured

individually for each city/jurisdiction within the transit corridor.

*Response:* FTA believes it is appropriate to consider economic development at both the corridor and regional level. FTA agrees the economic development effects of a proposed transit project are concentrated in the corridor or sub-area served by the project. However, FTA also believes these impacts have an effect on the economy of the region as a whole.

FTA agrees project sponsors should be required to demonstrate sufficient population and employment densities around proposed projects as a primary evaluation factor. FTA believes this is addressed, to an extent, by the degree to which the project, taken together with the development in the project corridor, produces sufficient ridership to be cost effective. Further, in the land use criterion, FTA is proposing to evaluate existing population and employment densities as well as existing publically supported housing. In addition, in the economic development effects criterion, FTA is proposing to allow project sponsors, at their option, to estimate future employment and residential development in the corridor.

FTA agrees increases in underlying regional economic strength (such as employment, gross domestic product, or overall regional wealth) are the key economic development outcomes that should be evaluated. However, FTA does not believe it is necessary to forecast such effects directly. FTA agrees they are not easily measured at the corridor level, but also believes that tools do not exist to readily measure them at the regional level either. Accordingly, FTA believes it is better to focus on the factors that are likely to produce these regional effects, namely the degree to which a proposed project is estimated to improve accessibility and the kinds and quality of local land use and economic development policies in place that will foster clustered development. Under this approach, the exact boundaries of the corridor or region being considered are not really important.

**Economic Development Question 6:** "How should FTA distinguish between the land use effects and the economic development effects of a proposed project? How should they be measured?"

*Comment:* A substantial number of comments were received in response to the question of distinguishing between land use and economic development. Of those responding to this question, nearly all concurred with the need to distinguish between the land use and

economic development effects of a proposed project. Only a few comments stated there was no need for FTA to distinguish between land use and economic development effects, with one of these noting that land use and economic development effects are not transportation outcomes but are instead inputs into determining the likely success of a transit project.

Approximately half of the comments concurring in the need to distinguish between the land use and economic development effects of a proposed project recommended an approach to use for making the distinction. These are summarized below.

Several comments recommended distinguishing between the land use and the economic development effects of a proposed project on the scale of development that may be expected to occur. A number of comments recommended FTA retain its current approach of distinguishing between land use and economic development effects. A small number of comments recommended evaluating how much a project may be supported by revenues produced from the increase in land values around it to distinguish between land use and economic development effects. One comment recommended using the creation of economic value, e.g., increases in gross domestic product or wealth, to distinguish between land use and economic development effects. One comment recommended differentiating between future land use patterns and future development to distinguish between land use and economic development effects. One comment suggested real estate development be considered in evaluating land use effects and the economic development effects be measured by activity levels, such as employment, retail sales, etc.

A number of comments suggested measures for considering land use effects. A few of these recommended using past performance in addition to existing land use policies and plans. One recommended using local real estate market conditions for measuring land use. Another recommended evaluating increases in the square footage of development to assess the level of real estate development activity.

A large number of comments suggested measures for considering economic development effects. A few comments recommended retaining the current evaluation of land use plans and policies and the demonstrated performance of those plans and policies. A small number of comments recommended using demographic changes such as changes in population

and employment densities and household income. A couple of comments recommended using the increase in the underlying economic strength or economic activity of the region or corridor (the choice would depend on the scale selected for the measure). Individual comments were submitted on each of the following measures: change in land value; the project's ability to generate economic development; and change in land use and economic development with the creation of economic value.

*Response:* FTA agrees it should distinguish between economic development and land use when evaluating projects. To do so, FTA is proposing to focus the assessment of land use on existing population and employment densities and publically supported housing in the corridor that will support the transit investment. FTA believes economic development effects should be assessed based on the land use patterns and resulting development that is likely to result from implementation of the project and the plans and policies in place to support transit oriented development. FTA is proposing to allow project sponsors, at their option, to also analyze the magnitude of the development effects. FTA agrees that land use and economic development are not direct transportation outcomes of the project. Land use can be considered an input to achieving certain transportation outcomes. However, economic development is an outcome of the project that, even if not a direct transportation outcome, is a very important aspect of why these projects are implemented. FTA does not agree it should distinguish between land use and economic development based on the scale of the project. These impacts should be part of the assessment, no matter the project scale. While value capture is an important tool in finding ways to cover the cost of a transit project, whether or not value capture is used more properly belongs in the evaluation of local financial commitment rather than economic development. FTA believes it is appropriate to think of creation of economic value and the activity which takes place in development around a transit investment as the kind of things that represent economic development. As stated earlier, however, FTA does not believe it is necessary to explicitly quantify and value such factors.

FTA appreciates the suggestions made for measures for economic development. FTA believes each of the specific measures has merit, but is concerned about the ability of project sponsors to

forecast changes in household income, property values, etc., given readily available tools. Instead, FTA is proposing to evaluate how likely it is that such changes will take place given the land use plans and policies in place (as a required feature of the measure for economic development) and how well the project improves accessibility (through scenario testing, at the project sponsor's option).

**Economic Development Question 7:** "Can a New Starts or Small Starts project generate new economic development that would otherwise not have occurred in the surrounding area? If so, how might that economic development be measured? Should FTA consider the overall economic health of a metropolitan area when estimating the potential for a New Starts or Small Starts project to foster economic development?"

*Comment:* A large number of comments addressed whether proposed transit projects generate new economic development that would otherwise not have occurred in the surrounding area. Most of these comments indicated other matters need to be addressed and pointed to other concerns, such as whether the resulting economic development would reduce VMT, improve health and social impacts (e.g., environmental justice, high-need, vulnerable communities), allow more money to stay in the local economy rather than being exported to oil and auto producers, and lead to location efficiencies. One comment noted it is worth making the distinction between new economic activity generated by a transit project and economic activity that was going to take place anyway but gets moved to a location near transit. Another comment suggested that how FTA distinguishes between new economic development in a region versus relocated activity is irrelevant. This comment suggested the location efficiency that results from increased density around a transit system can be used as a measure instead and that much of the benefit comes from creating a more efficient system rather than net regional gain. One comment stated it should not matter to FTA whether investment is "relocated" due to the transit project (as opposed to being newly attracted development to a region). Rather, the comment suggested, it matters that the investment may yield a higher return, both to the developer and to society, through increased or enhanced economic returns from location efficiency. The comment stated location efficiency could be measured

by jobs, homes, and services brought within a specified proximity of transit.

One commenter stated in their metropolitan area, New Starts and Small Starts projects have generated new economic development rather than shifting it from other locations.

Most comments addressing economic development implied that New and Small Starts projects generate economic development. The suggestions submitted, by one or more comments, for possible quantitative measures of economic development were:

a. Private return on investment (ROI) measured by a capitalization rate on the dollar amount invested in the project. In this case, the public ROI would be weighed against the costs of the alternatives in addition to the return of the dollars invested. Factors addressed would be higher land values, jobs, and reduction in capital and operating expenses for the transportation modes over time and/or the life of the project. Reductions in personal household transportation costs would also be evaluated.

b. An Affordability Index based on infill development. These comments suggested measuring economic development in terms not related to land use values could include calculations similar to the combined "housing and transportation affordability" index work that has come into use by some.

c. Possible building volume (at a set value per square foot) in the future minus building volume today, multiplied by probability. This comment suggested the calculation could include estimating maximum possible capital investment as the difference between entitled building volume and current building volume. This value could be multiplied by probability of success to produce an estimate of economic development potential. The ratio of forecasted (or historic) growth in gross local domestic product, divided by the national average, could be used to estimate the probability that economic development in a specific location will actually occur.

d. Use of the LEED 2009 Neighborhood Development rating system (LEED-ND). LEED-ND can be used to analyze the existing land around the proposed transit project to determine how accessible stations are without an automobile. This could be accomplished by prioritizing the funding of transit projects in locations that meet metrics established in LEED-ND, such as the smart location and linkage prerequisites and credits. For example, funding could be prioritized

for locations that meet the density requirements outlined as "Neighborhood Pattern & Development (NPD) Prerequisite 2: Compact Development" in the LEED process.

e. Quantitative rating thresholds using data already reported to FTA. Suggested factors to be indexed include: (1) Base year and forecast year households, population, and employment and associated densities for the region as a whole, the corridor, the central business district, and station areas; (2) existing and planned floor area ratios; (3) existing and planned densities and scale of development included in existing and in-progress zoning changes, and referenced in station area land use plans; (4) anticipated development within station areas, including estimations of development by type, square feet, etc., as reported in development market studies and assessment of developable parcels; (5) amounts of development, including square feet, number of housing units (including affordable units), already occurring or proposed within station areas; (6) examples of recent and proposed development activity that reflect transit-supportive densities and other transit-oriented development (TOD) features. The comment did not propose how these factors would be weighted.

f. Gross Regional Product statistics.

g. Geographic and land use mix.

h. Measured density, mixed land uses, proximity to transit, quality of the walking/biking environment, and per capita parking in existing communities (not whole metropolitan areas) and the measured VMT and mode split to predict the results of transit additions and infill development.

i. Change in percentage of developable or re-developable land.

j. Growth in total employment and/or change in the percent of unemployment expected near stations and regionally.

k. Sales tax receipts.

l. Predicted increases in educational attainment.

m. Increases in wealth and wages in metropolitan areas.

n. Business growth/small business starts and successes perhaps by reduction in long distance travel of goods.

o. Changes in land use due to site location of transit, then measure property tax assessments in a specified concentric circle from transit center.

p. Changes in tax assessments, vacancy rates, rent rates and per foot sales prices. A best practices benchmark could be used.

Other comments suggested a range of evaluation approaches including:

a. Evaluate development patterns over the past five to ten years, such as the percentage of development downtown and near transit versus in “green fields” or in the exurbs, as well as the character of that development, such as average densities and other factors that can more reliably measure growth management success.

b. Use quantitative approaches for summarizing changes in land value as the ultimate value “puddles” in the land not the assets on the land.

c. Require each transportation investment, including transit, to have a minimum of value capture (tolling, TIF, private property upside value sharing, etc.) to qualify for Federal funding. There should be higher ratings for projects serving lower-income areas.

d. Explicitly call out residential development in the measures to make it clear that more housing units are needed. Have a new rating that ensures the commitment to a minimum share of new residential development around proposed transit stations that is affordable to moderate-income families and will remain affordable for as long as the transit stations are in operation. Have a rating factor that rewards projects that serve areas with existing subsidized housing and that plan to preserve this important resource after the transit investment is made by using such policies as incentive zoning, voluntary inclusionary zoning, and density bonuses.

e. Measure the increase in regional transit accessibility as a good indication of the potential changes in land values and affordability of housing due to reduced transportation commuting costs.

f. Compare the VMT induced by development at an outlying location with the VMT induced by development located at a central location served by transit.

g. Use data providing the true cost of auto ownership and the direct reductions in annual costs plus any reduction that may be realized by alternative public transportation investment.

h. Measure the direct impact on individual household costs and benefits.

i. Use parcel-level data on property assessments, number of jobs, and incomes in the transit corridor.

j. Use measures of the impact on community access to jobs, housing, education, and health care rather than complex models that are based on existing patterns of transportation and development.

k. Measure actual funds put forward for redevelopment. The provision of local overmatch and/or amount of

developer/private money used should be considered heavily as the best measure of land use changing potential.

Several comments responded to whether FTA should consider the overall economic health of a metropolitan area in the evaluation of economic development. A couple of comments suggested the overall economic health of individual communities is not applicable, but did not explicitly address the matter of the metropolitan area. One comment noted the underlying economic development strategy of the region, and whether plans and policies are in place to foster economic growth are important. One of the comments recommended using metrics in existing communities, not whole metropolitan areas, to predict the results of transit additions and infill development.

One comment suggested new business could be attracted to an area due to transit, (as compared to locating on or near a highway) and recommended that FTA consider expansion of established businesses in the community and the ability to retain business as part of the evaluation process.

*Response:* FTA agrees whether or not a major transit capital investment produces net economic development in a region or just redistributes the development that would have occurred in a region otherwise is less important than assessing the particular transportation and environmental benefits of the project. FTA agrees the main economic development effects of proposed transit projects come from supporting clustered development around the investment that can result in agglomeration effects on net economic activity and in environmental benefits such as changes in energy use, greenhouse gas emissions, and pollutant emissions. In any case, these effects are secondary to the transportation benefits. Any net regional economic benefits would be a third-order effect difficult to attribute to the investment given all the other things that affect the economic competitiveness of a particular region.

FTA appreciates the suggestions made for measuring economic development effects. In general, the quantitative approaches suggested for calculating return on investment, an affordability index, building volume changes, LEED-ND, changes in housing, employment, floor area ratios, development density, etc., all have merit. But they all are very difficult to forecast and use for evaluation purposes. Instead, FTA plans to assess the change in accessibility produced by the proposed project and the plans and policies in place. FTA

will continue to explore how more quantitative metrics might be applied.

FTA also appreciates the other evaluation approaches suggested. FTA notes the evaluation approach needs to be easily applied by all project sponsors, should produce information about future outcomes, should produce information that can help distinguish projects from each other, and should not involve an inordinate amount of effort. FTA agrees even relocated land development has positive benefits and is worth considering since there are benefits to society that come from denser development. However, FTA believes it is sufficient to focus on the likelihood such effects will occur and, at the sponsor's option, the general magnitude of such effects rather than trying to forecast them explicitly. FTA believes value capture is a useful tool in evaluating local financial commitment, but does not believe it should be mandatory or considered in the economic development criterion. FTA agrees it is important to consider whether affordable housing is provided since it is important to assure that the benefits of public transportation investments are enjoyed on an equitable basis. FTA is proposing to evaluate existing publically supported housing in the corridor under the land use criterion and the plans and policies in place to maintain or increase affordable housing in the corridor under the economic development criterion. FTA agrees transit accessibility is an important part of the evaluation of economic development and is proposing an analytic approach that considers how changes in accessibility translate into economic development around a project, at the project sponsor's discretion. The change in VMT resulting from a transit investment is an important benefit, but FTA believes it is more appropriately captured in the environmental benefits criterion. Likewise, change in auto ownership and operating costs can be captured in the calculation of mobility benefits.

FTA believes using parcel level data is unnecessarily complex and instead believes a broader analytical approach focusing on changes in transit accessibility and transit supportive plans and policies is sufficient. Complex models are not needed under this approach. While funds made available for redevelopment would be a good indicator of the potential for changing land use patterns, these are long-term investments with impacts that will continue to occur for many years. Thus, current development commitments, while a useful indicator, cannot be the only consideration.

Instead, current development commitments are a part of the assessment of transit supportive plans and policies and the demonstrated performance of those policies. Finally, assessing the commitment of funds available for development would be difficult to measure, given the variability in how governmental entities and developers "commit" funding. Also, the degree of commitment varies along a continuum, and it would be difficult to choose what is considered "committed" along that continuum.

FTA agrees the overall economic health of an area is not as important as the economic development strategies in place and whether the proposed project makes certain locations more accessible. Further, FTA believes a focus on the project corridor for analytical purposes, rather than on the metropolitan area as a whole, is more important. Retaining and growing existing businesses is an important outcome of investments, and how much a project supports such outcomes should be captured through an analysis of the change in accessibility and the transit supportive plans and policies in place.

#### *Scope of Measurement and Factors Considered*

Economic Development Question 8: "How should FTA assess whether the plans, policies, and incentives intended to promote economic development would lead to transit oriented development that provides jobs and services within the corridor? Should FTA consider the economic development effects of the project on adjacent corridors? Should FTA consider commitments by developers or funding offered by developers as evidence of future economic development benefits? What time horizon should be used for considering economic development effects?"

*Comment:* A very substantial number of comments were received in response to all or part of this question. Nearly half were submitted in response to how FTA should assess whether the plans, policies, and incentives intended to promote economic development would lead to transit oriented development that provides jobs and services within the corridor. Several of these comments stated FTA should assess whether the region has a coherent, cohesive set of policies in place based on a rational assessment of what is realistic given the region's existing development and its specific attributes (locational, natural, institutional, etc.). These comments further stated reasonable qualitative judgments can be made about the likely

effect of combined land use, transportation and economic development policies on employment increases as well as other economic vitality factors. One comment went on to say that a significant and relevant indicator would be how well the region's economic development blueprint is integrated with its transportation strategy. One comment stated FTA should base its evaluation on whether there is a regional agreement that prioritizes transit projects in targeted growth areas. Another comment stated that FTA should consider: (1) City/regional history in delivering TOD; (2) the consistency between applicable plans and whether they are mutually supportive; (3) the existence of special designation of station areas/corridors for TOD; (4) how local zoning supports TOD; (5) whether infrastructure/public improvement/development plans are complementary; and (6) the level of developer commitments to TOD. One comment stated FTA should establish recommended best practices for TOD and give credit to jurisdictions that adopt these best practices. The proposed best practices mentioned included transit-oriented land use regulations (especially incentive or inclusionary zoning), parking requirements and pricing, affordable housing on public and private land in station areas, and the pedestrian environment around proposed stations. Several comments suggested giving credit to, strengthening support for, or giving greater emphasis to jurisdictions that adopt transit supportive policies. A couple of the comments received did not support the use of transit supportive policies for the evaluation of economic development. One comment stated projects will create larger communities that will bring greater population and density without creating the supportive policies to handle the scale of these changes resulting from the project. The other comment stated transit projects relying on park and ride access for getting ridership do little to influence land use patterns.

A large number of comments were received in response to whether FTA should consider the economic development effects of the project on adjacent corridors. Approximately half of these comments supported such consideration by FTA based on the connectivity provided by transit between locations and that the economic development impacts of a project extend beyond the transit corridor. Several of the comments stated there is significant variability in economic growth between metropolitan

areas across the country due to multiple factors that affect economic development. These comments suggested this makes it difficult to isolate the effect of a discrete, specific transit investment and, therefore, leads to potential inequalities in how projects are evaluated and rated. One of the comments stated economic development in adjacent corridors is too broad a measure.

A number of comments were received in response to whether FTA should consider commitments by developers or funding offered by developers as evidence of future economic development benefits. Most of these supported consideration of developer commitments, but one was opposed due to the sensitivity of developer commitments to funding cycles. None of the comments received specifically addressed developers' offers of funding.

A large number of comments were received in response to the question regarding the time horizon used for considering economic development effects. A few generally supported balancing the accuracy of predictions (requiring a short time horizon) with the need to allow for market responses to transit investments (requiring a longer time horizon). An opposing comment suggested that given the long timeframe for conceiving, designing, and implementing transit projects, it is difficult to effectively assess developer interest and commitments at the beginning of the process. The comment indicated developers are more responsive when a Record of Decision is issued, believing that it reflects a more solid commitment to the project by local decision-makers. A few comments stated a twenty-year horizon is appropriate. A couple of comments suggested using a twenty-year or greater time horizon. One of these wrote that the time horizon should be specific to local conditions and that twenty years or greater is the best due to the long build out time for transit projects and spin-off development. There was a single comment each supporting less than twenty years and for twenty to twenty-five years.

One comment recommended the use of land use and economic development forecasts consistent with the time horizon of these forecasts used by the MPO.

One comment stated economic development is important, but in many regions there are corridors with sufficient existing development and unmet transit needs to justify a proposed project.

*Response:* FTA believes its review of transit supportive plans, policies, and

incentives and the demonstrated performance of those plans and policies should cover the full range of such items. Areas with “blueprint plans” will have identified a wide range of policies likely to support economic development around a transit investment. Regional agreements to target development around transit could also be important. FTA does not intend to establish best practices as part of the New and Small Starts evaluation process, but will certainly look to the literature to determine what policies are most likely to produce economic development benefits and evaluate whether they are in place. FTA does not agree with comments that it should discontinue evaluation of the existence of these transit oriented development plans and policies. Increasing the clustering of land uses around transit has been shown to have positive effects in reducing motorized travel and enhancing economic activity.

FTA believes it should focus most of its attention on economic development effects in the corridor in which the proposed project is located, rather than effects on adjacent corridors or the metropolitan area as a whole. The accessibility changes brought about by the project are likely to be primarily concentrated in the corridor in which it is located, and impacts outside the corridor are likely to be less significant.

FTA agrees commitments by developers are a useful indicator of the likelihood of future changes in development patterns. However, FTA believes projects being evaluated are likely to have long term impacts on development well beyond those for which commitments by developers may exist today. Accordingly, while FTA proposes to include such commitments in the evaluation process, they will not be the only factor considered.

FTA believes it is appropriate to take a longer term view of the economic development effects of proposed transit projects. FTA believes it is not necessary to look at a specific time frame, such as 20 or 25 years. Rather than make an explicit forecast of changes in development, FTA proposes to assess the transit supportive plans and policies in place and the demonstrated performance of those plans. At the sponsor’s option, changes in population and employment may be estimated based on the changes in accessibility and elimination of mobility-based barriers to economic development, rather than requiring an explicit forecast of changes in development.

FTA agrees land use forecasts prepared and used by MPOs form an

important part of the evaluation. But it is not clear these forecasts are complete or detailed enough to assess the impact of a particular proposed transit investment on economic development. FTA proposes that project sponsors will have the discretion to use an analytical approach to assess the scale and nature of those impacts. FTA will not require an explicit forecast using an MPO’s regional land use model.

FTA agrees there are corridors that can already support a major transit investment based on existing development. FTA believes such projects will do well on the other project justification criteria in the multiple measure approach called for by law, such as mobility improvements and cost effectiveness. FTA intends to develop measures that do not penalize a project for modest but positive effects on any one of the evaluation criteria.

**Economic Development Question 9:** “Should FTA consider changes in land values as evidence of potential economic growth in a station area or project corridor? How would FTA quantify recent and future changes in land values? How can FTA avoid double counting benefits given that changes in land values may be caused in part by the improved accessibility from the project that FTA already measures as part of cost effectiveness? Should FTA consider the extent to which existing affordable housing and commercial space can be maintained in the corridor after implementation of a transit project there?”

*Comment:* A substantial number of comments were received in response to this question. Approximately one-third of the comments responded to the portion of the question about the consideration of affordable housing. Of these, most supported such an evaluation. One of the supportive comments noted that affordable housing should be accorded one-quarter of the points that the New Starts process gives to land use and economic development. Another suggested several strategies for ensuring that a share of new development is affordable to moderate-income families stating that FTA should examine whether communities: Use projected Federal, state or local housing subsidies for development near proposed transit stations; use publicly owned land to develop affordable housing; require a share of proceeds from tax increment or tax assessment districts to be used for affordable housing near the proposed stations; adopt an employer-assisted housing policy; or use community land trusts or other shared equity homeownership

mechanisms. The one opposing comment to the consideration of affordable housing stated that the goal might be unmanageable.

A large number of comments supported livability and affordability to minimize displacement of low-income households. Suggestions included: having FTA work with the Department of Housing and Urban Development (HUD) and EPA to determine opportunities for reinvestment; having FTA, HUD, and EPA give emphasis to regions that target areas for growth and commit to reducing greenhouse gas emissions and VMT; and giving consideration to the character and goals of the local community.

A large number of comments pertained to changes in land values. Several of the comments support the use of land values, but most opposed it. One of the supportive comments noted land value changes should be considered because they are an important, universal indicator of the impact of a transit project and that the value of increased accessibility should be credited as part of the economic development criterion (the external measure) rather than as part of the cost effectiveness criterion (the internal measure). A small number of comments suggested FTA consider changes in land values as evidence of potential economic development in a station area or project corridor, but provided no rationale.

The reasons given by those opposed to including land values were that land values are subject to market cycles, do not grow in a consistent manner, depend on actual use, and cannot be used to predict potential economic development accurately. Comments stated there can be extreme variability, even within one region, in methods of appraising or assessing commercial and residential values. The comments went on to say land value changes can be speculative and artificially inflated, are affected by urban economic and market factors other than transit service provision, and will not help FTA differentiate among transit projects. One comment stated the biggest increases in land values result when four factors are present: the region is growing, the transit system is growing, there are increasing levels of congestion in the region, and the region has supportive public policies. This commenter stated predicting these factors into the future presents a level of complexity the program does not need. Lastly, a comment stated using changes in land values as a metric for potential growth might interfere with many of the recent initiatives announced by FTA, HUD, and EPA and even recent studies by the

Government Accountability Office that concentrate on livable communities, environmental sustainability and affordable housing. Another comment opposing the consideration of land value changes observed that land value increases attributable to transit investments are difficult to isolate from a variety of other market and locational factors. The comment also noted it is not clear what the benefit of increased land values would be to the New Starts/ Small Starts project.

One comment suggested FTA only use land use values as an indicator of economic development if the project sponsor plans to utilize tax increment financing to fund a portion of the transit investment since that would independently require the sponsor to undertake rigorous and expensive projections in order to underwrite the financing and convince potential investors of the soundness of the venture.

One comment suggested the consideration of both a qualitative and quantitative approach for forecasting changes in land use values and patterns. The summary for Question 7 deals with the qualitative and quantitative factors suggested.

*Response:* FTA believes that affordable housing should be a consideration in both the land use and economic development effects criteria. FTA is proposing to assess the existing publically supported housing in the project corridor under the land use criterion. FTA is aware of the concern that increases in land value that often accompany implementation of major

capital transit investments can lead to increases in rents and gentrification and thereby reduce the stock of affordable housing. Hence, FTA intends to include an evaluation of whether the transit supportive plans and policies examined under the economic development criterion include features designed to ensure affordable housing remains in the proximity of the proposed project. The variety of factors suggested is very helpful. FTA is already working closely with HUD and EPA and intends to continue to work closely with these agencies.

FTA agrees changes in land values should not be used in the economic development effects criterion. While land values are likely to be affected by implementation of the proposed project because of changes in the accessibility afforded by the project, they are very difficult to predict. FTA agrees they are subject to various market forces and trends, and result from a wide range of factors such as the overall health of the region and corridor, other locational factors, and other public policies, not just implementation of the transit project.

FTA agrees forecasts of changes in land values are important if a project intends to use such tools as tax-increment financing, since a forecast of the change is required to determine how much revenue will be available. But the evaluation of the reasonableness of these revenue assumptions more properly belongs in local financial commitment criteria.

FTA believes it is appropriate to allow for an optional analytical approach to

measure economic development effects in terms of population and employment around the transit investment, primarily because of the challenges in predicting and quantifying the measures discussed above. FTA believes projects sponsors that choose to do the optional analysis can assess the likely direction and general magnitude of economic development benefits sufficiently to evaluate project justification without a fully forecast measure.

Economic Development Question 10: “Should economic development be a part of the cost effectiveness measure?”

Comments on this question are summarized under the section of this NPRM focused on cost effectiveness.

**V. Section-by-Section Analysis**

*Reorganization*

FTA is proposing to completely rewrite and reorganize part 611 by dividing it into three subparts. Subpart A would include general provisions, including purpose and contents, applicability, definitions, and a description of how the provisions of this regulation relate to the requirements of the transportation planning process. Subpart B would provide the process and project evaluation requirements applicable to New Starts projects. Subpart C would provide the process and project evaluation requirements applicable to Small Starts projects. The current Appendix describing the evaluation measures would remain. This distribution table shows the changes proposed to the organization structure of part 611 by section:

DISTRIBUTION TABLE

Current part 611	Proposed part 611
611.1 Purposes and contents .....	Subpart A—611.101 Purpose and contents.
611.3 Applicability .....	Subpart A—611.103 Applicability.
611.5 Definitions .....	Subpart A—611.105 Definitions.
611.7 Relation to planning and project development processes .....	Subpart A—611.107 Relation to the planning processes.
	Subpart B—611.209 Project development process (New Starts).
	Subpart C—611.309 Project development process (Small Starts).
	Subpart B—611.211 Before and after study (New Starts).
	Subpart B—611.203 Project justification criteria (New Starts).
611.9 Project justification criteria for grants and loans for fixed guideway systems.	
	Subpart C—611.303 Project justification criteria (Small Starts).
611.11 Local financial commitment criteria .....	Subpart B—611.205 Local financial commitment criteria (New Starts).
	Subpart C—611.305 Local financial commitment criteria (Small Starts).
611.13 Overall project ratings .....	Subpart B—611.207 Overall project ratings (New Starts).
	Subpart C—611.307 Overall project ratings (Small Starts).
Appendix A—Description of Measures Used for Project Evaluation .....	Appendix A—Description of Measures Used for Project Evaluation.

Although much of the regulation would remain the same, FTA is proposing a series of changes to better comport with the requirements of Section 5309, Title 49 U.S. Code

(Section 5309) as amended by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) and the

SAFETEA-LU Technical Corrections Act.

First, and foremost, as noted above, FTA is proposing a new subpart to formally establish the process and

evaluation requirements for Small Starts. SAFETEA-LU established new, streamlined requirements for smaller projects that FTA has until now implemented through issuance of policy guidance. SAFETEA-LU also required that FTA initiate rulemaking to implement the Small Starts program, which FTA is now doing through this NPRM. Along those lines, this NPRM specifically proposes to add eligibility of corridor-based bus systems for Small Starts funding as provided by SAFETEA-LU. In addition, as provided for by SAFETEA-LU, this NPRM proposes elimination of the exemption from the evaluation and rating process for projects requesting less than \$25 million in Section 5309 funding.

Second, FTA is proposing changes in the project justification criteria, especially for cost effectiveness, mobility benefits, environmental benefits, and economic development benefits. These changes respond to the comments received in response to the questions asked in the ANPRM issued on June 3, 2010.

Third, FTA is proposing to put in place a process whereby details related to evaluation measures and processes are included in policy guidance issued periodically for notice and comment, but not less than every two years as specified in SAFETEA-LU. This proposed guidance will supplement the current Appendix to the regulation and provide a formal process, linked to this regulation, whereby changes in the technical details of the New Starts and Small Starts project development and evaluation processes can be specified and changed over time as needed. FTA is making available a draft of its initial proposed guidance together with this NPRM and is requesting comment on it. In addition, this "section-by-section" analysis will contain some information on what the proposed policy guidance contains as it relates to that section of the regulation.

Fourth, FTA is proposing to change the point of comparison for incremental measures from the "baseline" alternative (typically a TSM, or Transportation Systems Management, alternative) to a no-build alternative to be defined in the policy guidance.

Fifth, FTA is proposing to establish a process whereby projects could pre-qualify based on their characteristics or the characteristics of the corridor in which they are located for automatic ratings of "medium" or better on one or more project justification or local financial commitment criteria. This is similar to the automatic ratings currently allowed under the "Very Small Starts" category that FTA has

established through policy guidance. The NPRM proposes to add this process for both New Starts and Small Starts projects, but details and specific pre-qualification values ("warrants") would be specified in future policy guidance that will be subject to a public comment period prior to finalization.

Sixth, FTA is proposing to re-rate projects only if there have been material changes in scope or estimated costs as they proceed through the project development process. A definition of what constitutes a material change would be established in future policy guidance that will be subject to a public comment period prior to finalization.

Finally, FTA is proposing a series of language changes to clarify various requirements and definitions and to alter the references to law to be consistent with changes made by SAFETEA-LU and the SAFETEA-LU Technical Corrections Act.

### Subpart A—General Provisions

#### *Section 611.101 Purpose and Contents*

This proposed section, like Section 611.1 in the current regulation, describes the purpose and contents of this regulation, which is to guide the development and evaluation of projects that are candidates to receive discretionary major capital investment funding under Section 5309 of Title 49, U.S. Code. Those projects can include fixed guideway projects, either completely new systems or extensions to existing systems, ("New Starts" or "Small Starts" depending on size and the amount of Section 5309 funding sought), and corridor-based bus systems (under "Small Starts"), as specifically added by SAFETEA-LU.

The proposed section also specifically allows for separate procedures (described in a new subpart C) for "Small Starts" projects, which are projects that have a total cost of less than \$250 million and are seeking less than \$75 million in funding under Section 5309. As in the current regulation, this section indicates that New Starts projects will be evaluated and rated at several steps in project development, including advancement into preliminary engineering and final design and prior to entering into a full funding grant agreement. Ratings are shown in the report that must be submitted to Congress each year making funding recommendations. New language also indicates that this process will be used for Small Starts projects for advancement into project development and prior to entering into a project construction grant agreement. The language has also been changed to

reflect that overall ratings will now be assigned on a five-level scale from "high" to "low," instead of "highly recommended," "recommended," or "not recommended," as required by amendments to Section 5309 made by SAFETEA-LU.

#### *Section 611.103 Applicability*

As in the current regulation, this proposed section specifies that part 611 would apply to all projects that are candidates for discretionary funding for major capital investment projects under Section 5309. Also as in the current regulation, it would apply to new fixed guideway projects and extensions to existing fixed guideway projects. But the section would also be amended to add the eligibility for corridor-based bus systems as Small Starts projects, as authorized by SAFETEA-LU.

As in the current regulation, FTA proposes that the evaluation process would not apply to projects that have already received a full funding grant agreement. The section would be modified to also indicate that it would not apply to Small Starts projects that have already received a project construction grant agreement, and would clarify that the previous regulation (now the current regulation) would continue to apply to those projects. In addition, FTA proposes to modify this section to eliminate the exemption from the project development and evaluation process in the current regulation for projects seeking less than \$25 million in funding from Section 5309. In addition, FTA is proposing to remove the provision for expedited procedures for projects that are air-quality transportation control measures, since that provision was deleted from the law by SAFETEA-LU.

#### *Section 611.105 Definitions*

This section proposes definitions that apply to terms used throughout part 611. FTA proposes to keep most of the definitions in the current regulation and to add a number of additional definitions.

A new definition is proposed for a "corridor-based bus system." This definition is the same as is currently in the law (49 U.S.C. 5309(e)(10)), and consistent with how FTA has defined it in policy guidance. FTA expects to continue to define the term more specifically through policy guidance so that it can be updated and revised as needed without the need for rulemaking. This definition essentially replaces the definition of "bus rapid transit" in the current regulation.

FTA proposes to delete the definition of "baseline alternative" and to add a

definition of “no-build alternative” as an alternative that includes the existing transportation system as well as those transportation investments committed in the Transportation Improvement Plan (TIP) pursuant to 23 CFR Part 450. In Appendix A and through its policy guidance, FTA is proposing to most often use the existing system as a point of comparison when calculating incremental measures (i.e., measures that need some other alternative as a point of comparison so that the change in that measure can be shown), but to use the no-build alternative for some measures when a project sponsor chooses to forecast benefits in a future year.

FTA is also proposing a number of changes to definitions that relate to the project development process. First, FTA proposes to modify the definition of “alternatives analysis” in the regulation to track with the definition in 49 U.S.C. 5309(a)(1). Second, FTA is proposing a definition for “early systems work agreement” by expanding on language which defines them in Section 5309. Third, FTA proposes to expand slightly the definition of “final design” to indicate that all funding commitments must be obtained during final design. Finally, FTA is proposing to add definitions of “metropolitan transportation plan” and “locally preferred alternative” that are consistent with the metropolitan planning regulations located in 23 CFR Part 450.

FTA is proposing to expand the definition of “major capital investment project” to include corridor-based bus systems since they are now eligible as Small Starts projects. The proposed revision to the definition of “NEPA process” would indicate that NEPA may be complete if a project is approved as a categorical exclusion, as well as if it has received a Record of Decision or a Finding of No Significant Impact. FTA is also proposing to amend the definition of “New Starts” to account for the funding thresholds added by SAFETEA-LU and accordingly add a definition of “Small Starts.” The proposed definition for Small Starts indicates that they are projects for new or extended fixed guideways or corridor-based bus systems with a capital cost of less than \$250 million and seeking less than \$75 million in funding from Section 5309. FTA is also proposing definitions for New Starts funds and Small Starts funds to improve the readability of the regulation.

The definition proposed for “project development” accounts for the addition of the Small Starts program by SAFETEA-LU, as that is the primary phase of development for Small Starts

projects. The definition for TEA-21 is proposed for deletion given that it is no longer necessary.

#### *Section 611.107 Relation to the Planning Process*

As in the current regulation, this section proposes to require that projects seeking New Starts funds emerge from and be consistent with the metropolitan and statewide planning processes required by 23 CFR Part 450. It proposes to add Small Starts projects to this requirement, as provided for by SAFETEA-LU. It also proposes to require, as in the current regulation, that a project be based on the results of an alternatives analysis. As in the current regulation, the section provides details on what an alternatives analysis must include. The section proposes to remove the requirement for a specified baseline alternative (which often was required to be a “Transportation System Management” (TSM) alternative), because the point of comparison for the various incremental measures will hereafter be defined in Appendix A and the policy guidance as the existing system (for comparisons with current travel patterns) or the no-build alternative (for comparisons with travel patterns in the future.) The no-build alternative is defined as the existing transportation system as well as those transportation investments committed in the Transportation Improvement Plan (TIP) pursuant to 23 CFR Part 450..

The project development process included in the current regulation is proposed to be modified and moved to the separate subparts for New Starts and Small Starts, allowing them to be customized for each of the programs.

#### **Subpart B—New Starts**

##### *Section 611.201 Eligibility*

This is a new proposed section designed to clarify the basic requirements of what must be accomplished to be eligible for approval of grants at various stages of the project development process. The proposed requirements are similar to the requirements in the current regulation for approval into the various phases of project development.

##### *Section 611.203 Project Justification Criteria*

Many of the topics in this section of the proposed regulation are specified in Appendix A and, in far greater detail, described in the proposed policy guidance made available for public comment today. Thus, the section analysis for Section 611.203 will contain one portion that describes the

proposed changes to the regulation and another portion that discusses what FTA is proposing in the Appendix and by way of guidance.

#### *A. Proposed Regulation*

Although Section 611.203 is a new section proposed for the regulation, much of the content is taken from the current regulation at 49 CFR 611.9. As in the current regulation, project justification will be evaluated based on a multiple measure approach that takes account of each of the criteria specified in Section 5309(d). The measures for the criteria are being proposed in Appendix A and described further in the policy guidance, which may be modified and re-issued periodically by FTA whenever significant changes are proposed, but not less frequently than every two years, as required by Section 5309(d)(6) of Title 49, U.S. Code. This would supplement Appendix A of the current regulation. FTA has found that the process of notice and comment for this policy guidance established by SAFETEA-LU to be an extremely effective way of continuing the improvement of the New Starts project evaluation process by providing flexibility to make changes to recommended technical methods as new methods become available.

As in the current regulation, individual project justification criteria would be assigned ratings on a five-level scale from “high” to “low.” The regulation would implement the changes made by SAFETEA-LU, which added economic development and public transportation supportive land use patterns and policies to the criteria required by law, and the proposed text would eliminate transportation system user benefits from cost effectiveness. In addition, FTA proposes to broaden the “other factors,” by simply noting that it includes any factors likely to be relevant to the success of the project. It would indicate that any incremental project justification measures would be evaluated against a point of comparison specified in Appendix A and the policy guidance. This proposed language would replace the current requirement that a baseline alternative, usually in the form of a “Transportation System Management” (TSM) alternative, be used as a point of comparison. As in the current regulation, it would be expected that as a project advances through the project development process, a greater degree of specificity would be in required with respect to project scope and costs, that commitments made to public transportation supportive land use policies would be expected to increase, and that a project sponsor’s

technical capacity would be expected to improve.

FTA is proposing the regulation not include the “considerations” listed in 49 U.S.C. 5309(d)(3). All of these factors are covered by one or more of the project justification criteria themselves, or are relevant to the basic grant eligibility findings required under Section 611.201. FTA will continue to assure forecasting methods are reliable before accepting them as justifying a project. The direct and indirect costs of alternatives are assessed as part of the evaluation of cost effectiveness. Congestion relief is covered as part of the evaluation of mobility improvements and is likely to be related to the amount of transit use which forms a part of the measure of cost effectiveness. Improved mobility is explicitly measured by the mobility improvements criteria. Air pollution, noise pollution, energy consumption, and environmental mitigation are all part of the measure of environmental benefits. Reductions in local infrastructure costs and the costs of suburban sprawl are considered in the measure for economic development. Whether a project increases the mobility of public transportation dependent persons is covered by the measure of mobility improvements. Population density and current transit ridership are covered by the public transportation supportive land use criterion. Technical capability is covered by the requirement that a project meet the overall requirements for a grant under Section 5309. Differences in land, construction, and operating costs are considered by the cost effectiveness measure.

The section is proposed to include a provision that would allow for a process by which a project could pre-qualify to receive an automatic rating of “medium” or better on one or more of the project justification criteria based on its characteristics or the characteristics of the corridor in which it is being planned. FTA believes that it may be able to specify such characteristics, as it currently does for “Very Small Starts” under its policy guidance, for a range of larger projects and a wider range of corridor types. The pre-qualification values would be established by FTA by determining how projects would rate on the justification criteria based on an analysis at the national level. Proposed pre-qualification values would be published in policy guidance for comment by the public before their finalization. In this way, a project sponsor would not be required to conduct forecasts of various factors, since the project itself would be deemed

to have sufficient merit to proceed for purposes of any such criterion.

Pursuant to the SAFETEA-LU Technical Corrections Act, the ratings on each of the project justification criteria would be combined using “comparable, but not necessarily equal” weights into a summary rating of project justification. FTA proposes that the process to do so, and the specific weights, would be described in the periodic policy guidance and would thus be subject to notice and comment if changes are proposed.

#### *B. Appendix A and Proposed Guidance*

As noted above, FTA is today making available draft policy guidance for public review and comment. That policy guidance provides greater detail on the proposed project justification measures specified in statute and proposed in regulation, as described above.

First, FTA is proposing in Appendix A to measure mobility benefits as the number of trips using the project, with extra weight given to trips that would be made on the project by transit dependent persons. Because this project trips measure derives exclusively from the performance of the project itself, it does not require a point of comparison (formerly the baseline alternative) for the computation.

FTA notes this change may have an impact on the kinds of projects that receive favorable ratings on the mobility and cost effectiveness criteria. Under the current approach, which uses “transportation system user benefits” (essentially travel time savings) as the measure of effectiveness, projects that involve longer trips are advantaged because there is more of an opportunity to save time. The revised measure is likely to rate projects with shorter trips better than they would have been rated under the former measure. On the other hand, projects with longer trips are more likely to reduce VMT, and thus are more likely to rate better on the measure of environmental benefits.

To facilitate the estimation of project trips, FTA will provide a simplified forecasting model that uses census data and ridership experience on existing fixed-guideway systems. The policy guidance proposes that sponsors of projects who can obtain a satisfactory overall rating based on estimates prepared with the simplified model will not be required to provide to FTA estimates of project trips prepared using traditional local travel forecasting models. At the project sponsors’ option, estimates of project trips prepared with traditional methods may be used instead, but FTA will continue to

require that those methods be tested for their understanding of local transit ridership patterns using recent data adequate to the support the tests.

FTA proposes to consider the project trips measure in the current year or in both the current year and the horizon year. The estimate of project trips for the current year puts all proposed projects in a consistent near-term timeframe for the evaluation. The estimate of project trips for the horizon year captures the increases in trips on the project that would be associated with growth and increasing congestion. Sponsors of projects that can obtain a satisfactory mobility, cost-effectiveness, and project justification rating (“medium” or better) based on current-year estimates of project trips may choose to forego the preparation of horizon year estimates.

FTA proposes to assign the mobility rating based on the number of trips estimated to use the project, with extra weight given to trips made on the project by transit dependent persons. FTA is proposing in the accompanying policy guidance to give a weight of 2.0 to estimated trips made on the project by transit dependent persons. FTA proposes to assign rating breakpoints in future policy guidance based on an assessment of the values calculated for projects now in the project development process.

Second, FTA proposes in Appendix A to focus economic development on the likely future development outcomes resulting from the project (the land use criterion would focus on current land use patterns likely to support the proposed transit investment). Accordingly, FTA proposes to assess economic development benefits based on: (1) The existing or anticipated plans and policies to support economic development proximate to the project; (2) and (2) at the option of the project sponsor, indirect changes in VMT resulting from changes in development patterns may also be estimated, and the resulting environmental benefits calculated, monetized, and compared to the annualized capital and operating cost of the project under the economic development criterion. FTA would evaluate the existing or anticipated plans and policies in a manner that is similar to the existing practice with the addition of an examination of plans and policies in place to maintain or increase affordable housing in the corridor. Projects sponsors may chose whether or not to perform the optional quantitative analysis based on whether they believe it will help improve the economic development benefit rating for the project. Because of the absence of tools to predict development changes

associated with transit projects, quantification would involve an examination by the project sponsor of economic conditions in the project corridor, the mechanisms by which the project would improve those conditions, the availability of land in station areas for development and redevelopment, and a pro forma assessment of the feasibility of specific development scenarios. The environmental benefits stemming from such changes in land use would be estimated, monetized, and compared to the annualized capital and operating cost of the proposed project. FTA would review the analysis before assigning a rating.

Third, in Appendix A, FTA proposes to measure environmental benefits by considering the dollar value of changes in: (1) Air-pollutant emissions, estimated using changes in vehicle-miles of travel (VMT), with recognition of the air-quality attainment status of the metropolitan area; (2) greenhouse gas emissions estimated using VMT changes; (3) transportation energy use estimated using VMT changes; and (4) transportation fatalities, injuries, and property damage estimated using changes in VMT and transit-passenger miles of travel, compared to the annualized capital and operating cost of the proposed project. Changes in public health costs associated with long-term activity levels would be considered once better methods for calculating the information are developed. FTA would establish in policy guidance breakpoints for the environmental benefits rating.

Fourth, FTA proposes in Appendix A to measure operating efficiencies as the change in operations and maintenance cost per “place-mile” compared to the existing transit system in the current year or to the no-build transit system (as defined in this proposed regulation) in the horizon year. A “place-mile” would be defined as the seated plus standing capacity of vehicles multiplied by the annual revenue-miles of those vehicles. FTA would define the rating breakpoints in policy guidance. This would replace the current approach in which changes in cost per passenger mile is the measure used. Changes in cost per “place-mile” better focuses only on changes in the cost to supply transit service. The former measure mixed in issues related to deployment and usage patterns, which are better addressed in the mobility and cost effectiveness measures.

Fifth, FTA proposes in Appendix A to measure cost effectiveness as the incremental cost per trip on the project. The policy guidance proposes to define incremental costs as the sum of: (1) The additional annualized capital cost of the

project as compared to the existing system, and (2) the change in annual operating and maintenance costs. (The annual trips on the project would include the additional weight applied to project trips by transit dependents. The annualized capital cost of the project used to compute the cost effectiveness measure would exclude the costs of certain “betterment” elements of project scope that foster economic development and environmental benefits (e.g., the incremental cost of obtaining LEED-certifications, station-access provisions beyond those required by the ADA, and station-design and station-access elements that would enhance development impacts).

Finally, FTA proposes in Appendix A to measure existing land use generally as it does today based on existing population and employment density in the corridor with the addition of the amount of publically supported housing in the corridor today.

The project justification rating would continue to be a weighted combination of the six criteria: (1) Mobility, (2) economic development effect, (3) environmental benefits, (4) operating efficiency, (5) cost effectiveness, and (6) land use. The accompanying policy guidance proposes that equal weights would be applied to each measure, although “other factors” could also be taken into account.

#### *Section 611.205 Local Financial Commitment Criteria*

Some of the topics in this section of proposed regulation are specified in Appendix A and, in far greater detail, described in the proposed policy guidance made available for public comment today. Thus, the section analysis for Section 611.203 will contain one portion that describes the proposed changes to the regulation and another portion that discusses what FTA is proposing in Appendix A and by way of guidance.

##### *A. Proposed Regulation*

As under the current regulation, a project must be supported by an acceptable degree of local financial commitment. FTA is proposing to continue to rate the proposed share of funding for the project provided by non-New Starts or non-Small Starts funds. In accordance with language in SAFETEA-LU, however, a project’s overall local financial commitment rating cannot be downgraded based on this criterion (i.e., “overmatch” can only help the summary local financial commitment rating). FTA proposes to reorganize the rating of the other local financial commitment criteria to better reflect the

strong interaction between capital and operating funding needs. FTA has found that the current process, which produces ratings on the capital and operating plans separately, is duplicative in many ways. FTA proposes instead that the remaining two measures for local financial commitment be: (1) The current capital and operating financial condition of the agency that would operate the project; and (2) the reliability of the capital and operating cost and revenue estimates and the resulting financial capacity of the project sponsor.

As with the project justification criteria, FTA is proposing the possible use of standards for the local financial commitment criteria that would allow a project to receive an automatic rating or “medium” or better based on the characteristics of the project and the project sponsor. These thresholds would be established in the periodic policy guidance. As in the current regulation, each of the local financial commitment criteria would be rated on a five-level scale from “low” to “high” and a summary local financial commitment rating would be established combining the individual ratings. The process and weights used to develop the summary rating would be established in the periodic policy guidance, just as they are now. The current regulation calls for combining the ratings but does not provide details on how it must be done.

##### *B. Appendix A and Proposed Guidance*

As noted above, FTA is today making available draft policy guidance for public review and comment. That policy guidance provides greater detail on the proposed local financial commitment measures specified in statute and proposed in regulation, as described above.

FTA is proposing to restructure the examination of local financial commitment to better reflect the interdependency of capital and operating financial plans submitted by project sponsors. Currently, FTA examines a project sponsor’s financial plan and evaluates and rates: (1) The non-New Starts or non-Small Starts share of the project; (2) the strength of the capital financial plan (based on the current capital condition, the commitment of capital funds, and the reasonableness of the estimates used in the financial plan and the resulting financial capacity of the project sponsor); and (3) the strength of the operating financial plan (based on the current operating condition, the commitment of operating funds, and the reasonableness of the estimates used in the financial plan and the resulting

financial capacity of the project sponsor). FTA is proposing to instead examine the project sponsor's financial plan and evaluate and rate it based on: (1) The non-New Starts or non-Small Starts share of the project; (2) the current financial condition of the project sponsor (both capital and operating); (3) the commitment of capital and operating funds for the project; and (4) the reasonableness of the estimates used in the financial plan and the resulting capital and operating financial capacity of the project sponsor. The individual measures are described in Appendix A with more detail and breakpoints provided in the policy guidance.

#### *Section 611.207 Overall New Starts Project Ratings*

As in the current regulation, FTA proposes that the ratings for project justification and local financial commitment be combined into an overall rating of project merit. The proposed regulation would assign an overall rating on a five-level scale from "low" to "high" in conformance with the requirements of SAFETEA-LU, which replaced ratings of "highly recommended," "recommended," and "not recommended." As in the current regulation, these overall ratings will be assigned when a project is a candidate for approval into preliminary engineering, approval into final design, and approval for a full funding grant agreement. In contrast to the current regulation, however, FTA will not require re-rating of the project for each Annual Report to Congress so long as the scope and cost of the project have not changed materially from the previous rating. The policy guidance will provide a definition of material changes that will trigger a re-rating. If there are no materials changes, the rating developed at the earlier step will continue in force. As in the current regulation, the overall ratings will be used for approval of entry into preliminary engineering, approval of entry final design, for approval of a full funding grant agreement, and in the Annual Report to Congress. The proposal provides that the overall rating will be established by averaging the summary ratings obtained on project justification and local financial commitment and that the rating will be rounded up when there is a one-level rating difference for the two summary ratings. As in the current regulation, the proposed regulation requires that in order to receive an overall rating of "medium," both the summary project justification rating and the summary local financial commitment rating must

be at least "medium." Also, if a project is rated "low" on either the summary project justification rating or the local financial commitment rating, the overall rating will be "low."

#### *Section 611.209 Project Development Process*

This section includes requirements for the project development process now included in paragraphs (b) through (d) of Section 611.7. It includes the requirements for advancement into preliminary engineering, final design, and for a full funding grant agreement. For clarity, provisions related to the "before and after study" have been moved to Section 611.211.

As in the current regulation, FTA proposes that a project can be considered for entry into preliminary engineering only if an alternatives analysis has been completed, the locally preferred alternative has been adopted into the metropolitan transportation plan by the metropolitan planning organization, all other FTA program requirements are met, and the overall New Starts rating for the project is at least "medium." Projects already approved for entry into preliminary engineering when this regulation goes into effect would continue in preliminary engineering under the proposed regulation.

As in the current regulation, the proposed rule would provide automatic pre-award authority for a project sponsor to conduct preliminary engineering, allowing for reimbursement of such costs prior to award of any FTA grant for the purpose. As in the current regulation, such authority would not be a commitment of future Federal funding, and all Federal requirements would have to be met to assure that such costs are eligible should a grant be made. In addition, FTA is also proposing to codify its recent policy change to allow, upon completion of the NEPA process, pre-award authority for utility relocation, real property acquisition, and vehicle acquisition. Real estate acquisition could be reimbursed when a project is approved into final design, and vehicle purchases could be reimbursed when a project is approved for construction.

As in the current regulation, the proposed regulation would allow a project to be approved into final design upon completion of the NEPA process. In addition, a project sponsor would have to demonstrate adequate technical capacity to carry out the project and meet all other grant requirements. The proposed regulation would also continue to require that the project receive an overall New Starts rating of

"medium" or better. Projects already in final design when this regulation becomes final would continue in that status under the proposed regulation. FTA is proposing codify its recent policy change which extended automatic pre-award authority with approval into final design for final design activities, as well as demolition and non-construction activities (such as procurement of long-lead time items, such as rails, ties, and other specialized commodities and equipment). The regulation specifies that those costs are potentially reimbursed upon grant approval.

As in the current regulation, the proposed regulation provides that a full funding grant agreement would be executed once no outstanding issues remain that would interfere with the successful implementation of the proposed project and once the sponsor has demonstrated sufficient technical capabilities to carry out the project. To be eligible for an FFGA, the project would have to be authorized by law, have an overall New Starts project rating of "medium" or better, have completed all applicable project development requirements, and be ready to utilize New Starts funds. The proposed regulation specifies that the issuance of an FFGA is at FTA's discretion, as in the current regulation. The proposed regulation clarifies that an FFGA will include a baseline cost estimate and baseline schedule. As in the current regulation, the proposed regulation provides that the FFGA will provide for a fixed maximum level of New Starts funding, a schedule for anticipated Federal funding, a requirement that the project sponsor complete the project to the initiation of revenue service, and that the project sponsor absorb any cost overruns using funding from sources other than the New Starts program. The proposed regulation requires that, as noted in the current regulation, annual New Starts funding in an FFGA is subject to the availability of appropriated budget authority and the ability of the project sponsor to use the funding effectively.

As in the current regulation, the proposed regulation provides that the total amount of funding that can be committed by FTA to FGAs, as well as to ESWAs and Letters of Intent is limited by law to the amount of funding authorized for New Starts. As provided by statute, and the current regulation, the proposed regulation provides that FTA may also make limited "contingent commitments" beyond the authorized amount.

### *Section 611.211 Before and After Study*

This section provides the requirements for the “before and after study” required by law. In the current regulation, these requirements appear in Section 611.7(c)(4) and (5) and in Section 661.7(d)(7). This proposed section consolidates these requirements in one place and makes certain other changes to improve clarity. As in the current regulation, the purpose of the study in the proposed regulatory language is to assess the impacts of the New Starts project and to compare the costs and impacts of the project with costs and impacts forecast during the project development process. Also in the current regulation, the proposed regulation requires that a project sponsor produce a plan for the before and after study during preliminary engineering. New proposed language specifies in more detail the kind of information to be collected in the study, including information on the characteristics of the project and other related changes in the transit system (such as service levels and fares), the capital and operating costs of the project, and the impacts of the project on transit service quality, ridership, and fare levels.

As is generally required by the current regulation, the plan under this proposal developed during preliminary engineering would provide for preservation of data on the predicted scope, costs, and ridership; collection of “before” data on the transit system and ridership patterns and travel behavior; documentation of capital costs as the project is built; collection of “after” data two years after the project opens on actual project scope, costs, and ridership; an analysis of the project costs and impacts; and an assessment of the consistency of the forecasts of costs and ridership between those forecast and those actually achieved. FTA is requesting comments on whether two years after opening is a sufficient time for project impacts to be fully realized. The proposed regulation also calls for the plan to include preparation of a final report to be submitted within three years of project opening. As in the current regulation, the costs of carrying out the before and after study, including the necessary data collection, is proposed to be an eligible expense of the proposed project. Also as in the current regulation, the proposed regulation requires that the plan be approved before the project may advance into final design.

A new requirement in the proposed regulation provides that, before

execution of the full funding grant agreement, there must have been satisfactory progress on carrying out the plan. As in the current regulation, the full funding grant agreement would include a requirement that the plan be carried out during the construction of the project and that FTA may condition receipt of funding during an FFGA on satisfactory execution of the before and after study.

### **Subpart C—Small Starts**

Subpart C is a completely new subpart laying out the requirements for Small Starts projects. These are projects for new fixed guideways or extensions to existing fixed guideways, or new or extended corridor-based bus projects meeting the definitions in law and guidance ensuring that they represent a “substantial investment” provided for in law. Small Starts projects must have a capital cost of less than \$250 million and be seeking less than \$75 million in Small Starts funds.

Because the regulatory framework for Small Starts projects in subpart C is quite similar to that of the framework in subpart B for New Starts, this portion of the section-by-section analysis will only highlight differences between Subpart B and Subpart C.

### *Section 611.301 Eligibility*

This proposed section is designed to clarify the basic requirements of what must be accomplished for a project to be eligible for approval at each step of the process to prepare for and achieve execution of a project construction grant agreement (PCGA). This proposed section is nearly identical to the proposed Section 611.201 for New Starts in subpart B, except that this section expands eligibility to corridor-based bus systems, requires that a project be a Small Starts project rather than a New Starts project, references the Small Starts evaluation criteria rather than the New Starts evaluation criteria, references a PCGA rather than an FFGA, and provides details on project development grants (rather than on preliminary engineering or final design grants).

### *Section 611.303 Project Justification Criteria*

As in the proposed regulation for New Starts in Section 611.203, this section proposes that the evaluation of project justification for Small Starts be based on a multiple measure approach that takes into account each of the criteria specified in Section 5309(e). This proposed section differs in that Small Starts projects are proposed to be rated on just three criteria: economic

development, public transportation supportive land use patterns and policies, and cost effectiveness (at the time of initiation of revenue service), in accordance with the language of SAFETEA-LU. In addition, Small Starts projects are more likely to be able to take advantage of standards that could lead to automatic ratings in paragraph (e) of this proposed section given that such automatic ratings would more likely be applicable to smaller projects. That said, the proposed regulatory language on that point is the same.

As in the proposed parallel Section 611.203 for New Starts, details concerning project justification criteria, the point of comparison for certain incremental measures, and the weights given to the criteria in Section 611.303 for Small Starts can be found in proposed Appendix A and in the proposed policy guidance made available today for public review and comment. Thus, it is not necessary to repeat the details on Appendix A and the proposed policy guidance located above in Section 611.203, as the same details apply to Small Starts projects, only to slightly different evaluation criteria.

### *Section 611.305 Local Financial Commitment Criteria*

This proposed section is nearly identical to the parallel section for New Starts projects in proposed Section 611.205. There are two primary differences: (1) References are made to Small Starts and to the statutory language for Small Starts rather than for New Starts; (2) the local financial commitment is evaluated based on the year the project is put into operation rather than based on a twenty-year planning horizon, as provided for in SAFETEA-LU.

As with the parallel section for New Starts, FTA is proposing details concerning its proposals for evaluating local financial commitment in policy guidance made available today. Other than for the change in year for evaluation of local financial commitment, this process is proposed to be similar to that of New Starts, so there is no need for a fuller explanation of the proposed guidance here.

### *Section 611.307 Overall Small Starts Project Ratings*

The only differences between proposed Section 611.307 and the parallel provision for New Starts in the proposed Section 611.207 are: (1) References are made to Small Starts and to the statutory language for Small Starts rather than for New Starts; and (2) references in the proposed section for

New Starts to preliminary engineering and final design are replaced in this proposed section with references to project development; and (3) references to FFGAs and ESWAs are replaced with references in this section to PCGAs.

#### *Section 611.309 Project Development Process*

This section is substantially similar to the parallel proposed Section 611.209 for New Starts, with the following differences: (1) References are made to Small Starts and to the statutory language for Small Starts rather than for New Starts; (2) references in the proposed section for New Starts to preliminary engineering and final design are replaced in this proposed section with references to project development (which includes the combination of the paragraphs on preliminary engineering and final design into a paragraph on project development); and (3) references to FFGAs and ESWAs are replaced with references in this section to PCGAs.

### **VI. Regulatory Analysis and Notices**

#### *A. Executive Orders 13563 and 12866*

Executive Orders 12866 and 13563 direct agencies to assess all costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits (including potential economic, environmental, public health and safety effects, distributive impacts, and equity). Executive Order 13563 emphasizes the importance of quantifying both costs and benefits, of reducing costs, of harmonizing rules, and of promoting flexibility. FTA has determined that this is an “economically significant” rule under Executive Order 12866, as it would affect transfer payments totaling more than \$100 million annually. However, FTA does not know precisely how much transfer payments would be affected by this rule. Due to changes in the evaluation criteria, the projects selected for funding by the FTA may change. For example, by proposing to add quantified measures for environmental benefits, projects which have relatively large amounts of such benefits may be advantaged. On the other hand, the proposed change to the cost effectiveness measure from cost per hour of travel time savings to cost per trip could advantage projects serving shorter trips and more densely developed areas. For the purposes of this initial regulatory impact analysis, FTA preliminarily estimates that the proposals in the rule could affect the

allocation of about \$250 million of annual New Starts and Small Starts grant funds. FTA requests public comments on this estimate, as well as specific methods for more precisely estimating the impact of the rule.

#### *B. Need for Regulation*

The rule proposes to implement changes mandated by SAFETEA-LU and the SAFETEA-LU Technical Corrections Act to the major capital investment program evaluation and review process that has been defined in statute for 35 years. The proposed rule and accompanying proposed policy guidance, would change FTA’s implementation of the major capital investment program, primarily by adding the Small Starts project category to the program as required by SAFETEA-LU, giving the project justification criteria specified in law “comparable but not necessarily equal weights” as required by the SAFETEA-LU Technical Corrections Act, improving the measures FTA uses for each of the evaluation criteria specified in law, and streamlining and simplifying the means by which project sponsors develop the data needed by FTA.

The rule may have the effect of altering the pattern or timing of major transit capital expenditures and changing the allocation of funds by transit agency size. For example, SAFETEA-LU makes corridor based bus projects eligible for Small Starts funding when previously only fixed guideway projects were eligible for major capital investment program funding. Fixed guideway projects tend to be costlier than corridor based bus projects. This eligibility change allows smaller transit agencies with smaller scale projects to obtain funding from the program.

The NRPM, combined with the proposed policy guidance being published concurrently for comment, would improve the evaluation of project outcomes in mobility improvements, operating efficiency, cost effectiveness, environmental benefits, land use economic development, and local financial commitment.

The NPRM proposes revisions to the project justification and local financial commitment criteria for FTA’s evaluation of New Starts and Small Starts projects under Section 5309(d) and (e) of Title 49, U.S. Code. In the NPRM and accompanying proposed guidance, FTA also proposes to simplify the various means through which project sponsors may obtain the information they need to provide to FTA for its evaluation of projects. For example, FTA is proposing to allow

project sponsors to use a simplified FTA-developed national model to estimate ridership rather than standard local travel forecasting models, to use a series of standard factors in a simple spreadsheet to calculate vehicle miles traveled (VMT) and environmental benefits, to no longer require the development of a baseline alternative for calculation of cost-effectiveness, and to expand the use of warrant whereby a project may be able to automatically qualify for a rating if it meets parameters established by FTA.

The purpose of this regulatory assessment is to examine the likely effects of this proposed rule and proposed policy guidance on project sponsors, including potential small entities such as local units of government populated by less than 50,000 people.

These proposed changes may alter the pattern or timing of major capital investment expenditures, with a possible change in costs and/or benefits to individual transit agencies and their stakeholders. However, each change proposed in the regulation will be examined as to its likely effect, and a determination will be made as to whether the effect can be quantified with available information or with information that may be provided by commenters to the rule. Several questions will be raised in this analysis where additional data may help FTA to quantify some benefit or cost of the regulation. In the absence of this data, FTA will discuss the costs and or benefits in a qualitative manner in the next rulemaking action for this program.

#### *B. Regulatory Evaluation*

##### *1. Overview*

The NPRM and proposed policy guidance address public comments that FTA received in response to its Advance Notice of Proposed Rulemaking (ANPRM) published June 3, 2010. These comments pertain to how FTA would manage project sponsors’ calculation of cost effectiveness, environmental benefits, and economic development effects. The NPRM and accompanying policy guidance propose changes to streamline the project evaluation process for major capital projects. The regulatory text and appendix to the regulation outline FTA’s proposed approach, with technical details proposed in policy guidance.

Based in part on public comments on the ANPRM, the NPRM clarifies the discussion of project performance. This includes the project’s effectiveness in generating benefits in the areas required by law and of interest to FTA, cost

effectiveness in obtaining these benefits, and equity in the distribution of benefits to groups of concern to the Federal government. Sponsors are given the latitude to forego the analysis of benefits that are not relevant to individual projects, which will simplify the project evaluation process, eliminating unnecessary analytical effort on the part of project sponsors. The NPRM and proposed policy guidance achieve this by allowing for the use of default methods and assumptions whenever possible. The NPRM and proposed policy guidance defer to project sponsors' decisions to pursue estimation of additional benefits and better ratings through more elaborate analysis.

## 2. Covered Entities

Eligible applicants under the major capital investment program are public bodies and agencies (transit authorities and other state and local public bodies and agencies thereof) including states, municipalities, other political subdivisions of states; public agencies and instrumentalities of one or more states; and certain public corporations, boards, and commissions established under state law. Private corporations and private non-profit entities are not eligible and would not be affected by the proposed regulation.

The majority of applicants to the major capital investment program are transit agencies and other state and local public bodies such as metropolitan planning organizations or units of City or state governments located in areas with greater than 50,000 in population. These would be the entities most affected by the proposed regulation. Over the past four years, FTA has received approximately 60 applications for entry into one of the various phases of project development, roughly 40 of which were New Starts projects and 20 of which were Small Starts projects. New Starts projects have tended to be proposed primarily in medium to large sized urbanized areas with greater than 500,000 in population. Small Starts projects have been proposed in all different sized cities, including some of the largest urbanized areas in the country, as well as in areas with less than 500,000 in population.

The proposal would affect few local governments with populations of less than 50,000 people, as jurisdictions proposing New and Small Starts projects are usually much larger in size with more extensive transit service already in place. Transit capital and operating funding for areas with populations less than 50,000 people is provided by FTA under a separate formula funding program to the states,

which decide how to allocate the funds to the local areas within the state. However, smaller jurisdictions are not prohibited from applying for major capital investment program funding. To date, FTA has funded only one project in an area under 50,000 in population through the major capital investment program.

## 3. Cost Effectiveness

FTA's existing regulation for the major capital investment program (49 CFR Part 611) defines cost effectiveness as the incremental annualized capital and operating cost per incremental hour of transportation system user benefits (essentially travel time savings). The cost and travel time savings of the proposed project are compared to a baseline alternative (usually a lower cost bus project serving similar travel pattern in the corridor).

The breakpoints that FTA uses to assign cost effectiveness ratings currently are based on the value of time with a 20 percent upward adjustment to account for congestion benefits and a 100 percent adjustment to account for non-mobility benefits. U.S. Department of Transportation (USDOT) guidance (*Departmental Guidance for the Valuation of Travel Time in Economic Analysis, April 9, 1997*) describes, in detail, the derivation of the standard values of time to be used by all U.S. DOT Administrations in the economic evaluation of proposed projects. Consistent with this departmental guidance, FTA values travel time-savings at 50 percent of Median Household Income published by the Census Bureau, divided by 2,000 hours. However, FTA acknowledges that the time savings for transit users alone does not capture the full range of benefits of major transit projects. Pending improved reliability of the estimates of highway congestion relief, FTA assumes that congestion relief adds about 20 percent to the travel time savings generated by the project. Further, indirect benefits (economic development, safety improvements, pollutant reductions, energy savings, etc.) increase that value. Assuming that indirect benefits are approximately equal to the direct transportation benefits, FTA increases the value of each hour of transit travel time by a factor of two. FTA inflates the breakpoints annually based on the Gross Domestic Product Index (also known as the GDP deflator).

This NPRM proposes a simplified cost effectiveness measure: annualized capital and operating cost per trip. Because it is not an incremental measure, it requires no baseline

alternative or point of comparison. In addition, project elements that respond to specific Federal policies would not count as project costs. Instead, they would be considered "betterments" and would be excluded from the cost-effectiveness calculation. Betterments could include items that are above and beyond the items needed to deliver the mobility benefits and which would not contribute to other benefits such as operating efficiencies. For example, betterments could include features needed to obtain LEED certification for a transit facilities or additional features to provide extra pedestrian access to surrounding development or aesthetically-oriented design features. Finally, to further streamline the evaluation and rating process, FTA may use "warrants" to pre-qualify projects as cost-effective based on their characteristics and/or the characteristics of the corridor in which they are located. For example, if there is a certain level of transit ridership in the corridor today, and the proposed project falls within total cost and cost per mile parameters defined by FTA, then it would be "warranted" by FTA as cost-effective, it would receive an automatic medium rating on the cost-effectiveness criterion, and the project sponsor would not need to undertake or submit the results of certain analyses.

The net effect of these proposed changes is to reduce the reporting and analytical burden on project sponsors. For example, the analytical design of a hypothetical alternative project is a costly effort that is eliminated in this NPRM. Any increased burden would result from project sponsors electing to perform optional additional analysis in support of their projects entirely at their option.

The simplified cost-effectiveness measure proposed may result in different kinds of projects receiving more favorable ratings than under the current approach, which could lead to transfer payments totaling more than \$100 million annually. Some examples are described below:

(a) Under the current approach, which uses "transportation system user benefits" (essentially travel time savings) as the measure of effectiveness, projects that involve longer trips are advantaged because there is more of an opportunity to save time. The revised measure values all trips equally, whether short or long. Thus, projects with shorter trips are likely to fare better than they do under the current measure.

(b) Under the current approach which requires comparing the project to a baseline alternative to calculate cost-effectiveness, many project sponsors

have had difficulty demonstrating sufficient travel time savings as compared to project cost. As a result, in an effort to reduce costs, project sponsors have eliminated stations, shortened platforms, eliminated landscaping and other elements desirable to the local community, reduced parking, purchased only the number of vehicles needed to meet near term demand rather than longer term demand, etc. In some cases, this has resulted in disproportionate impacts to minority and low-income populations and led to litigation which delayed the project and caused further cost increases. To add deferred project scope at a later date is far more costly than if it had been constructed as part of the original project. FTA believes the proposed measure will help reduce these instances of nearsighted scope changes, given its emphasis on trips rather than travel time savings and its elimination of the baseline alternative point of comparison.

#### 4. Economic Development

Currently, FTA evaluates economic development based on the local plans and policies in place to enhance transit oriented development in proximity to the proposed transit stations. In other words, FTA examines the likelihood the project will foster economic development based on the transit supportive plans and policies in place, including whether increased densities are encouraged in station areas, whether there is a plan for pedestrian and non-motorized travel, whether zoning and parking requirements are in place, etc.

This NPRM would proposed to continue to evaluate economic development based on the transit supportive land use plans and policies in place, but would add an examination of affordable housing policies and plans to ensure they allow for a maintenance of or increase to affordable housing in the corridor after implementation of the project. FTA is also proposing to require that project sponsors report under economic development the number of domestic jobs related to project design, construction, and operation, although this figure would not be used for evaluation purposes. Lastly, project sponsors have the option of using a scenario approach to characterize and estimate the quantitative impacts of economic development resulting from implementation of the project, including the environmental benefits that would result from such economic development due to agglomeration effects.

The added cost of the proposed additions to the economic development criterion would be marginal because

most sponsors already develop this information as part of the local planning process. Many project sponsors are pursuing major capital investment projects to facilitate efforts to induce economic development, thus, information pertaining to economic development scenarios and job creation are typically developed during the planning process.

#### 5. Environmental Benefits

Currently, the environmental benefits of transit New Start projects are evaluated on the basis of the EPA air quality designation for the metropolitan area.

This NPRM proposed to instead examine the direct and indirect benefits to the natural and human environment, including air quality improvement from changes in vehicular emissions, reduced energy consumption, reduced greenhouse gas emissions, reduced accidents and fatalities, and improved public health (once a measure is developed). The direct benefits are calculated using standard factors from changes in vehicle miles traveled and assigned a dollar value. The dollar value of the benefits is then compared to project cost. Project sponsors customarily calculate environmental benefits for transit projects to meet local political needs and for the purpose of the review required by the National Environmental Policy Act. FTA is proposing a simplified approach for developing the information needed for New Starts evaluation and rating that would be based on simple spreadsheet calculations using a series of standard factors. Therefore, the proposed calculations for the New Starts process would not measurably change the analytical and reporting burdens.

#### 6. Mobility Improvements

Currently, five measures are applied to estimate mobility improvements: (1) The number of transit trips using the project; (2) their transportation system user benefits per passenger mile on the project; (3) the number of trips by transit dependent riders using the project; (4) their transportation system user benefits per passenger mile on the project; and (5) the share of transportation system user benefits received by transit dependents compared to the share of transit dependents in the region. Transportation system user benefits reflect the improvements in regional mobility (as measured by the weighted in- and out-of-vehicle changes in travel-time to users of the regional transit system) caused by the implementation of the proposed project. The measures are calculated by comparing the

proposed project to a baseline alternative, which is usually the "Transportation System Management" (TSM) alternative.

In the NPRM, FTA is proposing to use total trips on the project as the measure of mobility, with extra weight given to trips made by transit dependents. Because it is not an incremental measure, no comparison to a baseline alternative is required.

Under the current approach, which uses "transportation system user benefits" (essentially travel time savings), projects that involve longer trips are advantaged because there is more of an opportunity to save time. The revised measure values all trips equally, whether short or long. Thus, projects with shorter trips are likely to fare better than they do under the current mobility improvements measure. However, because transit dependent trips are given higher weight in the proposed approach than they are given in the current approach not all projects with shorter trips may fare better.

The reporting burden for the mobility improvements measure will be significantly lowered under the proposed approach as compared to the current approach because FTA is proposing a simplified FTA-developed national model that would calculate trips rather than project sponsors spending significant time and effort adjusting their local travel forecasting model to estimate trips on the project. Local models are typically developed by the metropolitan planning organization to forecast regional trips and are not often honed to adequately perform corridor-level analyses. In addition, because development of the baseline alternative is no longer required under the proposed measure, significant time developing that alternative is no longer required if it is not an alternative local decisions-makers wish to pursue. For local decision-making purposes, the number of trips made on the project is typically calculated so the data required by FTA is not considered onerous.

#### 7. Operating Efficiencies

The current measure for operating efficiencies is the incremental difference in system-wide operating cost per passenger mile between the proposed project and the baseline alternative. In the NPRM, FTA is proposing instead that the measure of operating-efficiency be the change in operating and maintenance cost per "place-mile" compared to either the existing transit system in the current year or, at the discretion of the project sponsor, both the existing transit system in the current

year and the no-build transit system in the horizon year.

Changes in cost per “place-mile” better focuses only on changes in the cost to supply transit service. The current measure mixes in issues related to deployment and usage patterns, which FTA believes are better addressed in the mobility and cost effectiveness measures.

Operating and maintenance costs are developed by project sponsors in the normal course of project planning, thus FTA’s need for this data does not impose any additional burden. The “place-mile” data, however, is new and not typically developed by project sponsors. Thus, some reporting burden will be added but it is expected to be minimal given that the data used to develop “place-miles” is generally readily available from commonly gathered performance statistics kept by transit agencies such as vehicle-miles and mix of vehicle types in the fleet.

#### 8. Regulatory Evaluation

FTA considered the industry-wide costs and benefits of this NPRM. Each is discussed below.

##### Costs

**Regulatory Familiarization**—While FTA believes the rule will have overall net benefits, project sponsors and their contractors will need to expend resources to read and understand the final rule and policy guidance, and may need to make changes to their existing systems, programs, and procedures in response to the changes made by the rule. FTA estimates it will take project sponsors and their contractors 40 hours on average to perform these tasks. Assuming 100 project sponsors and 100 contractors, and an average hourly wage (including benefits) of \$39.04 for project sponsors and \$37.51 for contractors, FTA estimates a cost of \$306,200 for regulatory familiarization. The hourly wage rates assumed came from the Bureau of Labor Statistics’ 2010 National Compensation Survey and represent the median rates for civil engineers in local government and in private industry, respectively. Civil engineers were chosen as the reference point for simplification purposes and also because that hourly rate was higher than the rate for urban planners, but they are just two of the many professions involved in planning and project development of New and Small Starts projects. FTA expects project sponsors and their contractors to incur these regulation familiarization costs one time only. FTA requests comments on these assumptions and estimates.

The NPRM would require project sponsors to submit information on project characteristics that they have not previously been required to submit to FTA. This includes the number of jobs resulting from implementation of the project, the “place-miles” of service used in the operating efficiencies measure, the change in environmental benefits resulting from the expected change in vehicle miles travelled, the amount of affordable housing existing in the corridor, and the plans and policies to maintain or increase affordable housing in the future. In general, FTA believes this information can be gathered and estimated rather quickly and easily, and will not require significant additional cost, time, or effort. The number of jobs created is something project sponsors typically estimate for local decision-makers. The data needed to calculate “place-miles” is typically gathered by reporting to FTA’s National Transit Database. FTA expects the existing affordable housing will come directly from readily available data published on the U.S. Department of Housing and Urban Development Web site. FTA will develop spreadsheets with a number of standard factors to estimate environmental benefits. Project sponsors will be asked only to input a few key variables. Therefore, FTA estimates the time to prepare the additional information proposed in the NPRM to be at most 40 hours.

The optional scenario analysis allowed under the economic development criterion may require some time and effort to prepare. However, project sponsors may choose to forgo this analysis.

##### Benefits

The need for additional information described above would be counterbalanced by the simplification of methods that will be used to generate the information, as provided in the proposed appendix to the regulation and the proposed guidance made available concurrently to the public for comment. For example:

(a) Project sponsors would no longer be required to use local travel forecasts to obtain the information needed for FTA’s evaluation of the various project justification criteria. Instead, project sponsors may use an FTA-developed simplified national model. Project sponsors may continue to use information generated by local travel forecasts if they believe it will result in a more favorable rating for the proposed project, but it is at the project sponsors’ discretion (i.e., not required by regulation or suggested in guidance).

FTA expects this change would save significant time and project sponsor resources. It often costs project sponsors several hundreds of thousands of dollars up to millions of dollars in consultant help and six months or longer to adjust local travel forecasting models to obtain acceptable ridership results for FTA’s evaluation and rating purposes.

(b) Project sponsors would no longer be required to develop a baseline alternative. The process of defining a baseline alternative is an iterative one. By eliminating the need to develop a baseline alternative (which may not be an alternative local decision-makers wish to implement), FTA estimates up to six months of time could be saved. The cost of this time savings is difficult to estimate, and FTA has not seen any particular data on the estimation, but project sponsors have suggested that each month of delay in implementing a project is roughly \$1 million in additional cost.

(c) The expanded use of warrants (a process by which a project can qualify for an automatic rating if it can meet certain FTA defined parameters) would eliminate the need for project sponsors to undertake certain analyses and submit that data to FTA. This can save significant time and money since project sponsors often hire consultants to help undertake the analyses required to develop the data for FTA.

FTA believes the improved measures for cost effectiveness, environmental benefits, and economic development will reduce the influence of a “one size fits all” evaluation approach that, historically, has favored some transit benefits over others and thereby has minimized locally preferred benefits. For example, by focusing on travel time savings, the current process tends to favor projects in areas with extreme congestion over areas that do not currently have extreme congestion but are planning future transit to keep from becoming mired in extreme congestion. Similarly, the focus on travel time savings does not acknowledge that some areas undertake transit projects to encourage development rather than to address mobility challenges. The proposed NPRM, and its focus on trips rather than travel time savings as the measure of mobility acknowledges more varied purposes for undertaking these projects and a different “basket” of transit benefits.

FTA estimates the paperwork burden on project sponsors involved with developing and reporting the information to FTA will be lowered if the proposals in the NPRM and accompanying policy guidance are adopted based on the above mentioned

benefits. FTA estimates 15 hours of paperwork burden reductions for each of the estimated 135 annual respondents resulting in \$150,000 in benefits on an annual basis.

#### C. Departmental Significance

This proposed rule is a “significant regulation” as defined by the Department’s Regulatory Policies and Procedures because it implements the Departmental initiative to revise, simplify, and streamline the New and Small Starts processes. This NPRM is expected to generate interest from sponsors of major transit capital projects, the general public, and Congress.

#### D. Regulatory Flexibility Act

In accordance with the Regulatory Flexibility Act, 5 U.S.C. 601 *et seq.*, FTA evaluated the likely effects of the proposals contained in this NPRM on small entities. Based on this evaluation, FTA believes that the proposals contained in this NPRM will not have a significant economic impact on a substantial number of small entities because the proposals concern only New and Small Starts which, by their scale and nature, are not usually undertaken by small entities. FTA seeks public comment on this assessment.

#### E. Paperwork Reduction Act

Under the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3501 *et seq.*), a Federal agency may not conduct or sponsor the collection of information without obtaining approval and a control number from the Office of Management and Budget (OMB). FTA has been collecting project evaluation information from project sponsors under the existing OMB approval for this program (OMB No. 2132–0561) entitled “49 CFR Part 611 Major Capital Investment Projects.”

FTA has a longstanding requirement to evaluate proposed projects against a prescribed set of statutory criteria at specific points during the projects’ development including when they seek to enter preliminary engineering, final design, and a Full Funding Grant Agreement. In addition, FTA is required by law to report on its project evaluations and ratings annually to Congress. The Surface Transportation and Uniform Relocation Assistance Act of 1987 (STURAA) established in law a set of criteria that proposed projects had to meet in order to be eligible for federal funding. The requirement for summary project ratings has been in place since 1998. Thus, the requirements for project evaluation and data collection for New Starts projects are not new. One

addition included in SAFETEA–LU is the Small Starts program. The Small Starts program enables smaller cost projects with a smaller requested share of Section 5309 major capital investment funds to progress through a simplified and streamlined project evaluation and data collection process. In general, the information used by FTA for New and Small Starts project evaluation and rating should arise as a part of the normal planning process. However, due to modifications in the proposed project evaluation criteria and FTA evaluation and rating procedures for the New Starts program and the addition of the Small Starts program in the NPRM, some information beyond the scope of ordinary planning activities.

Eligible applicants under the major capital investment program are public bodies and agencies (transit authorities and other state and local public bodies and agencies thereof) including states, municipalities, other political subdivisions of states; public agencies and instrumentalities of one or more states; and certain public corporations, boards, and commissions established under state law. Private corporations and private non-profit entities are not eligible for funding under the program; however, private corporations such as consulting and engineering and construction firms could be impacted by the regulation if they are hired by project sponsors to assist in the development of the data needed by FTA.

Applicants must submit information to FTA for evaluation and rating purposes each time they wish to enter the next phase of project development. In addition, applicants must submit updated information if the project scope and cost have changed materially since the most recent rating was assigned. FTA evaluates and rates projects in order to: (1) Decide whether proposed projects may advance into project development and construction for Small Starts and advance from alternatives analysis into preliminary engineering and then final design and construction for New Starts projects; (2) assign ratings to proposed projects for the *Annual Report on Funding Recommendations*; and (3) develop funding recommendations for the administration’s annual budget request.

FTA needs to have accurate information on the status and projected benefits of proposed New and Small Starts projects on which to base its decisions regarding funding recommendations in the President’s budget. As discretionary programs, both the New and Small Starts programs

require FTA to identify proposed projects that are worthy of federal investment, and are ready to proceed with project development and construction activities.

The law also requires that FTA evaluate the performance of the projects funded through the New and Small Starts programs in meeting ridership and cost estimates two years after they are opened for service, through implementation of a “before-and-after” study requirement. This also helps to evaluate the success of the grant program itself for purposes of the Government Performance and Results Act.

FTA has tried to minimize the burden of the collection of information, and requests that project sponsors submit project evaluation data by electronic means. FTA has developed standard format templates for project sponsors to complete that automatically populate data used in more than one form. FTA then utilizes spreadsheet models to evaluate and rate projects based on the information submitted. In addition, FTA is proposing in the NPRM to make available a simplified national model that can estimate project trips based on simple inputs including census data and project characteristics.

Where and when possible, FTA makes use of the information already collected by New and Small Starts project sponsors as part of the planning process. However, as each proposed project develops at a different pace, FTA has a duty to base its funding decisions on the most recent information available. Project sponsors often find it necessary to develop updated information specifically for purposes of the New or Small Starts program. This is particularly true for the *Annual Report on Funding Recommendations*, which is a supporting document to the President’s annual budget request to Congress. However, in order to reduce the reporting burden on project sponsors, FTA instituted a policy that Annual Report submissions are only required of projects that are seeking a funding recommendation or have changed significantly in cost or scope from the last evaluation.

FTA estimates current overall New and Small Starts annual paperwork burden hours to be approximately 275 hours for each of the estimated 135 respondents totaling 37,070 hours and annual costs totaling \$2,780,250. The proposals in this NPRM and accompanying proposed guidance, if adopted, would modify the time required to prepare and submit an applications. Thus, FTA estimates burden hours would be approximately

260 hours for each of the estimated 135 respondents totaling 35,070 hours and annual costs totaling \$2,630,250. Additional information will be required of project sponsors due to the proposed addition of several new measures in the NPRM, however, FTA has also proposed simplified methods of data collection and data estimation (e.g., the proposal to no longer require sponsors to model a Transportation System Management (TSM) alternative, the proposal to allow estimation of project trips using an FTA-developed national model rather than local travel forecasting models, standard factoring approaches). Thus, this NPRM

and accompanying proposed guidance is estimated to reduce the net paperwork burden for project sponsors. These and other paperwork requirement trade-offs were an express objective in developing this NPRM and accompanying proposed guidance. The amount of paperwork burden is partially proportionate to the scale of the project and the determination by the project sponsor whether it will choose to develop detailed forecasts of project benefits (instead of the simplified default methods FTA is proposing in its guidance). Such increased burdens are at the sponsor's discretion, rather than

a requirement of this NPRM or the accompanying proposed policy guidance. Most of the estimated paperwork reduction would be realized when project sponsors are preparing the application for the first time, which is the preliminary engineering request for New Starts projects and the project development request for Small Starts projects.

The table below shows the average annual project paperwork burden across sponsors of New Starts and Small Starts projects if the proposals in this NPRM are adopted.

**TOTAL PROJECT SPONSOR COST AND HOURS \***

Task	# Annual occurrences	Average hours per occurrence	Total hours	\$ Total
<b>Data Submission, Evaluation, and Ratings</b>				
<i>NEW STARTS:</i>				
(A) PE Request .....	10	350	3500	\$262,500
(B) Annual Report .....	20	75	1500	112,500
(C) Final Design Request .....	6	75	450	33,750
(D) FFGA Approval .....	5	50	250	18,750
Subtotal .....			5,700	427,500
<i>SMALL STARTS:</i>				
(A) Project Development .....	10	60	600	45,000
(B) Annual Report .....	10	25	250	18,750
(C) PCGA Approval .....	4	100	400	30,000
Subtotal .....			1,250	93,750
Data Sub, Eval, and Ratings Total .....			6,950	521,250
<b>Before and After Data Collection</b>				
<i>NEW STARTS:</i>				
(A) Data Collection Plan .....	4	80	320	24,000
(B) Before Data Collection .....	4	3000	12000	900,000
(C) Documentation of Forecasts .....	4	160	640	48,000
(D) After Data Collection .....	4	3000	12000	900,000
(E) Analysis and Reporting .....	4	240	960	72,000
Subtotal .....			25,920	1,944,000
<i>SMALL STARTS:</i>				
(A) Data Collection Plan .....	10	10	100	7,500
(B) Before Data Collection .....	10	80	800	60,000
(C) Documentation of Forecasts .....	10	10	100	7,500
(D) After Data Collection .....	10	80	800	60,000
(E) Analysis and Reporting .....	10	40	400	30,000
Subtotal .....			2,200	165,000
Before and After Total .....			28,120	2,109,000
Total .....			35,070	2,630,250

The estimates for total number of annual submissions are based on projected annual workload. The estimated average number of hours per task is based on information shared by a sample of project sponsors. Estimated hourly costs are based on information informally shared by local project

sponsors and the professional judgment of FTA staff.

Interested parties are invited to send comments regarding any aspect of this information collection, including: (1) The necessity and utility of the information collection for the proper performance of the functions of the

FTA; (2) the accuracy of the estimated burden; (3) ways to enhance the quality, utility, and clarity of the collected information; and (4) ways to minimize the collection burden without reducing the quality of the collected information.

The collections of information proposed by this NPRM, and identified

as such, have been submitted to OMB for review under section 3507(d) of the Paperwork Reduction Act. Please submit any comments on the proposed collections to the Office of Information and Regulatory Affairs of OMB, Attention: Desk Officer for the Federal Transit Administration. OMB also encourages commenters to submit their comments via email to [oir\\_a\\_submissions@omb.eop.gov](mailto:oir_a_submissions@omb.eop.gov).

#### F. Executive Order 13132

This action has been analyzed in accordance with the principles and criteria contained in Executive Order 13132. The proposed regulations would implement a discretionary grant program that would make funds available, on a competitive basis, to States, local governments, and transit agencies. The requirements only apply to those entities seeking funds under this chapter, and thus this action would have not substantial direct effects on the States, on the relationship between the Federal government and the States, or on the distribution of power and responsibilities among the various levels of government. FTA has also determined that this proposed action would not preempt any State law or regulation or affect the States' ability to discharge traditional State governmental functions. Based on this analysis, it has been determined that the proposed rule does not have sufficient Federalism implications to warrant the preparation of a Federalism Assessment. Comment is solicited specifically on the Federalism implications of this proposal.

#### G. National Environmental Policy Act

FTA has analyzed this proposed action for the purpose of the National Environmental Policy Act of 1969 (42 U.S.C. 4321), and has determined that this proposed action would not have any effect on the quality of the environment. This action qualifies for a categorical exclusion under FTA's NEPA regulations at 771.117(c)(20), which covers the "[p]romulgation of rules, regulations, and directives."

#### H. Energy Act Implications

The proposals contained in this NPRM and accompanying proposed guidance would likely have a positive effect on energy consumption because, through the Federal investment in public transportation projects, these projects would increase the use of public transportation.

#### I. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

Executive Order 13175 requires agencies to ensure meaningful and timely input from Indian tribal government representatives in the development of rules that "significantly or uniquely affect" Indian communities and that impose "substantial and direct compliance costs" on such communities. We invite Indian tribal governments to provide comments on the effect that adoption of specific proposals in this NPRM and accompanying proposed guidance may have on Indian communities.

#### J. Unfunded Mandates Reform Act

This rule will not result in the expenditure by State, local, and tribal governments, in the aggregate, of \$100,000,000 or more in any one year.

#### K. Statutory/Legal Authority for This Rulemaking

This rulemaking is issued under authority of section 3011 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act—A Legacy for Users (SAFETEA—LU), which requires the Secretary of Transportation to prescribe regulations for Small Starts capital investment projects funded under 49 U.S.C. 5309 with a Federal share of less than \$75,000,000 and a total cost of less than \$250,000,000. In addition, this NPRM and its accompanying proposed guidance implements changes made by section 3011 of SAFETEA—LU to the New Starts program for funding capital investment projects with a higher Federal share or total cost than that specified for the Small Starts program.

#### L. Regulation Identifier Number (RIN)

The Department of Transportation assigns a regulation identifier number (RIN) to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN number contained in the heading of this document may be used to cross-reference this action with the Unified Agenda.

### VII. Proposed Regulatory Text

#### List of subjects in 49 CFR part 611

Government contracts; Grant programs—transportation; Public transportation.

For the reasons stated in the preamble, the Federal Transit Administration proposes to revise 49 CFR part 611 to read as follows:

### PART 611—MAJOR CAPITAL INVESTMENT PROJECTS

#### Subpart A—General Provisions

Sec.

- 611.101 Purpose and contents
- 611.103 Applicability
- 611.105 Definitions
- 611.107 Relation to the planning processes

#### Subpart B—New Starts

- 611.201 Eligibility
- 611.203 Project justification criteria
- 611.205 Local financial commitment criteria
- 611.207 Overall project ratings
- 611.209 Project development process
- 611.211 Before and after study

#### Subpart C—Small Starts

- 611.301 Eligibility
  - 611.303 Project justification criteria
  - 611.305 Local financial commitment criteria
  - 611.307 Overall project ratings
  - 611.309 Project development process
- Appendix A to Part 611—Description of Measures Used for Project Evaluation

Authority: 49 U.S.C. 5309.

#### Subpart A—General Provisions

##### § 611.101 Purpose and contents.

(a) This part prescribes the process that applicants must follow to be considered eligible for capital investment grants for a new fixed guideway, an extension to a fixed guideway, or a corridor-based bus system (known as New Starts and Small Starts). Also, this part prescribes the procedures used by FTA to evaluate and rate proposed New Starts projects as required by 49 U.S.C. 5309(d), and Small Starts projects as required by 49 U.S.C. 5309(e).

(b) This part defines how the results of the evaluation described in paragraph (a) of this section will be used to:

(1) Approve entry into preliminary engineering and final design for New Starts projects, as required by 49 U.S.C. 5309(d)(5)(A);

(2) Approve entry into project development for Small Starts projects, as required by 49 U.S.C. 5309(e)(6)(A);

(3) Rate projects as "high," "medium-high," "medium," "medium-low" or "low" as required by 49 U.S.C. 5309(d)(5)(B) and 49 U.S.C. 5309(e)(6)(B);

(4) Assign individual ratings for each of the project justification criteria specified in 49 U.S.C. 5309(d)(2)(C) and 49 U.S.C. 5309(e)(2)(B);

(5) Determine project eligibility for Federal funding commitments, in the form of Full Funding Grant Agreements (FFGA) for New Starts projects and Project Construction Grant Agreements (PCGA) for Small Starts projects; and

(6) Support funding recommendations for the New Starts and Small Starts programs for the Administration's annual budget request.

(c) The information collected and ratings developed under this part will form the basis for the *Annual Report on Funding Recommendations*, required by 49 U.S.C. 5309(k)(1).

#### **§ 611.103 Applicability.**

(a) This part applies to all proposals for Federal major capital investment funds under 49 U.S.C. 5309 for new fixed guideways, extensions to fixed guideways, and corridor-based bus systems.

(b) This part does not apply to projects for which an FFGA or PCGA has already been executed, nor to projects that have been approved into preliminary engineering or project development. The regulations in existence prior to the effective date of this rule will continue to apply to projects for which an FFGA or PCGA has already been executed and may continue to apply to projects approved into preliminary engineering, final design, or project development.

#### **§ 611.105 Definitions.**

The definitions established by Titles 12 and 49 of the United States Code, the Council on Environmental Quality's regulation at 40 CFR parts 1500–1508, and FHWA–FTA regulations at 23 CFR parts 450 and 771 are applicable. In addition, the following definitions apply to this part:

*Alternatives analysis* is a corridor-level analysis that is an assessment of a wide range of public transportation alternatives designed to address a transportation problem in a corridor or subarea and results in the adoption of a locally preferred alternative by the appropriate State and/or local agencies and official boards through a public process.

*Corridor-based bus project* means a bus capital project where:

(1) A substantial portion of the project operates in a separate right-of-way dedicated for public transit use during peak hour operations; or

(2) The project represents a substantial investment in a defined corridor as demonstrated by features such as park-and-ride lots, transit stations, bus arrival and departure signage, intelligent transportation systems technology, traffic signal priority, off-board fare collection, advanced bus technology, and other features that support the long-term corridor investment.

*Early system work agreement* means a contract, pursuant to the requirements

in 49 U.S.C. 5309(g)(3), that allows some construction work and other clearly defined elements of a project to proceed prior to execution of a Full Funding Grant Agreement. It typically includes a limited scope of work that is less than the full project scope of work and specifies the amount of Federal New Starts participation that will be provided for the defined scope of work included in the agreement.

*ESWA* means early system work agreement.

*Extension to fixed guideway* means a project to extend an existing fixed guideway or planned fixed guideway.

*FFGA* means a full funding grant agreement.

*Final design* is the final phase of project development for New Starts projects, and includes (but is not limited to) the preparation of final construction plans (including construction management plans), detailed specifications, construction cost estimates, and bid documents. During final design all remaining local funding must be committed.

*Fixed guideway* means a public transportation facility that utilizes and occupies a separate right-of-way, or rail line, for the exclusive use of mass transportation and other high occupancy vehicles, or uses a fixed catenary system and a right-of-way usable by other forms of transportation. This includes, but is not limited to, rapid rail, light rail, commuter rail, automated guideway transit, people movers, ferry boat service, and fixed-guideway facilities for buses (such as bus rapid transit) and other high occupancy vehicles. A new fixed guideway means a newly-constructed fixed guideway in a corridor or alignment where no such guideway exists.

*FTA* means the Federal Transit Administration.

*Full funding grant agreement* means a contract that defines the scope of a project, the Federal financial contribution, and other terms and conditions.

*Locally preferred alternative* means an alternative evaluated through an alternatives analysis and adopted by the appropriate State and/or local agencies and official boards through a public process.

*Major capital transit investment* means any project that involves the construction of a new fixed guideway, extension of an existing fixed guideway, or a corridor-based bus system for use by mass transit vehicles.

*Metropolitan transportation plan* means a financially constrained long-range plan, developed pursuant to 23

CFR Part 450, that includes sufficient financial information for demonstrating that projects can be implemented using committed, available, or reasonably available revenue sources, with reasonable assurance that the Federally supported transportation system is being adequately operated and maintained. In areas classified by the Environmental Protection Agency as “non attainment” or “maintenance” of air quality standards, the metropolitan transportation plan must have been found by DOT to be in conformity with the applicable State Implementation Plan.

*NEPA process* means those procedures necessary to meet the requirements of the National Environmental Policy Act of 1969 (NEPA), as amended, at 23 CFR Part 771; the NEPA process is completed when the project receives a Categorical Exclusion, a Finding of No Significant Impact (FONSI) or a Record of Decision (ROD).

*New Starts* means a new fixed guideway, or an extension to an existing new fixed guideway with a total capital cost of \$250,000,000 or more or a request of \$75,000,000 or more in funding from 49 U.S.C. 5309.

*New Starts funds* mean funds granted by FTA for a New Starts project pursuant to 49 U.S.C. 5309(d).

*No-build alternative* means an alternative that includes only the current transportation system as well as the transportation investments committed in the Transportation Improvement Plan (TIP) required by 23 CFR Part 450.

*Preliminary engineering* is a phase of project development for New Starts projects during which the scope of the proposed project is finalized; estimates of project costs, benefits and impacts are refined; NEPA requirements are completed; project management plans and fleet management plans are further developed; and a majority of local funding is committed.

*Project development* is a phase in the Small Starts process during which the scope of the proposed project is finalized; estimates of project costs, benefits and impacts are refined; NEPA requirements are completed; project management plans and fleet management plans are further developed; and local funding is committed. It also includes (but is not limited to) the preparation of final construction plans (including construction management plans), detailed specifications, construction cost estimates, and bid documents.

*Secretary* means the Secretary of Transportation.

*Small Starts* means a new fixed guideway, an extension to an existing fixed guideway, or a corridor-based bus system, with a total capital cost of less than \$250,000,000 and a request for less than \$75,000,000 in funding from 49 U.S.C. 5309.

*Small Starts funds* means funds granted by FTA for a Small Starts project pursuant to 49 U.S.C. 5309(e).

#### **§ 611.107 Relation to the planning processes.**

(a) All New Starts and Small Starts projects proposed for funding assistance under this part must emerge from the metropolitan and Statewide planning process, consistent with 23 CFR Part 450 and be included in the financially-constrained long range transportation plan required under 23 CFR Part 450.

(b) Alternatives analysis. To be eligible for FTA major capital investment funding, local project sponsors must perform an alternatives analysis that:

(1) Develops information on the benefits, costs, and impacts of alternative strategies to address a transportation problem in a given corridor sufficient to enable the Secretary to evaluate project justification and local financial commitment as required by 49 U.S.C. 5309;

(2) Includes a no-build alternative and an appropriate number of build alternatives;

(3) Results in the selection of a locally preferred alternative; and

(4) Results in the adoption of the locally preferred alternative as part of the metropolitan transportation plan.

#### **Subpart B—New Starts**

##### **§ 611.201 Eligibility.**

(a) To be eligible for a preliminary engineering or final design grant under this part for a new fixed guideway or an extension to a fixed guideway, a project must:

(1) Be a New Starts project as defined in § 611.105; and

(2) Have completed an alternatives analysis.

(b) To be eligible for a construction grant under Sec. 5309 for a new fixed guideway or extension to a fixed guideway, a project must:

(1) Be a New Starts project as defined in § 611.105;

(2) Have completed alternatives analysis, preliminary engineering, and final design;

(3) Receive a “medium” or better rating on project justification pursuant to § 611.203;

(4) Receive a “medium” or better rating on local financial commitment pursuant to § 611.205;

(5) Meet the other requirements of Chapter 53 of Title 49, U.S. Code; and

(6) Be authorized for construction by Federal law.

##### **§ 611.203 Project justification criteria.**

(a) To perform the statutorily required evaluations and assign ratings for project justification, FTA will evaluate information developed locally through alternatives analyses and refined through preliminary engineering and final design.

(1) The method used to make this determination will be a multiple measure approach by which the merits of candidate projects will be evaluated in terms of each of the criteria specified by this section.

(2) The measures for these criteria are specified in Appendix A and elaborated on in policy guidance issued periodically by FTA whenever significant changes are proposed and subject to a public comment period, but not less frequently than every two years, as required by 49 U.S.C. 5309(d)(6).

(3) The measures will be applied to projects defined by project sponsors that are proposed to FTA for New Starts funding.

(4) The ratings for each of the criteria in § 611.203(b)(1)–(5) will be expressed in terms of descriptive indicators, as follows: “high,” “medium-high,” “medium,” “medium-low,” or “low.”

(b) The project justification criteria are as follows:

(1) Mobility improvements.

(2) Environmental benefits.

(3) Operating efficiencies.

(4) Economic development effects.

(5) Cost effectiveness.

(6) Existing land use, transit supportive land use policies, and future patterns.

(7) Other factors. These may include additional factors relevant to local and national priorities and relevant to the success of the project, and are defined further in Appendix A and the policy guidance.

(c) In evaluating proposed New Starts projects under these criteria:

(1) As a candidate project proceeds through preliminary engineering and final design, a greater level of commitment will be expected with respect to transit supportive land use plans and policies, the non-Federal New Starts funding share of the project’s cost, and the project sponsor’s technical capacity to implement the project.

(2) For any criteria under paragraph (b) of this section that use incremental measures, the point for comparison will be defined in policy guidance.

(d) FTA may amend the measures for these project justification criteria. Any such amendment will be included in policy guidance.

(e) From time to time FTA may publish through policy guidance standards based on characteristics of projects and/or corridors to be served. If a proposed project can meet the established standards, FTA may assign an automatic rating on one or more of the project justification criteria outlined in this section.

(f) The individual ratings for each of the criteria described in this section will be combined into a summary project justification rating of “high,” “medium-high,” “medium,” “medium-low,” or “low,” through a process that gives comparable, but not necessarily equal, weight to each criterion. “Other factors” will also be considered as appropriate. The process by which the project justification rating will be developed, including the assigned weights, will be described in policy guidance.

##### **§ 611.205 Local financial commitment criteria.**

In order to approve a grant under 49 U.S.C. 5309 for a New Starts project, FTA must find that the proposed project is supported by an acceptable degree of local financial commitment, as required by 49 U.S.C. 5309(d)(4). The local financial commitment to a proposed project will be evaluated according to the following measures:

(a) The proposed share of the project’s capital costs to be funded from sources other than New Starts funds, including both the non-New Starts match required by Federal law and any additional state, local or other Federal capital funding (also known as “overmatch”);

(b) The current capital and operating financial condition of the project sponsor;

(c) The commitment of capital and operating funds for the project and the entire transit system; and

(d) The accuracy and reliability of the capital and operating costs and revenue estimates and the financial capacity of the project sponsor.

(e) From time to time FTA may publish through policy guidance standards based on characteristics of projects and/or corridors to be served. If a proposed project can meet the established standards, FTA may assign an automatic rating on one or more of the local financial commitment criteria outlined in this section.

(f) For each proposed project, ratings for paragraphs (a) through (d) of this section will be reported in terms of descriptive indicators, as follows: “high,” “medium-high,” “medium,”

“medium-low,” or “low.” For paragraph (a) of this section, the percentage of New Starts funding sought from 49 U.S.C. 5309 will be rated and used to develop the summary local financial commitment rating, but only if it improves the rating and not if it worsens the rating.

(g) The ratings for each measure described in this section will be combined into a summary local financial commitment rating of “high,” “medium-high,” “medium,” “medium-low,” or “low.” The process by which the summary local financial commitment rating will be developed, including the assigned weights to each of the measures, will be described in policy guidance.

#### **§ 611.207 Overall New Starts project ratings.**

(a) The summary ratings developed for project justification and local financial commitment (§§ 611.203(f) & 611.205(g)) will form the basis for the overall rating for each New Starts project.

(b) FTA will assign overall project ratings to each proposed project of “high,” “medium-high,” “medium,” “medium-low,” or “low” as required by 49 U.S.C. 5309(d)(5)(B).

(1) These ratings will indicate the overall merit of a proposed New Starts project at the time of evaluation.

(2) Ratings for individual projects will be developed upon entry into preliminary engineering, updated for entry into final design, and prior to an FFGA. Additionally, ratings may be updated while a project is in preliminary engineering or final design if the project scope and cost have changed materially since the most recent rating was assigned.

(c) These ratings will be used to:

(1) Approve or deny advancement of a proposed project into preliminary engineering or final design;

(2) Approve or deny projects for ESWAs and FFGAs; and

(3) Support annual funding recommendations to Congress in the *Annual Report on Funding Recommendations* required by 49 U.S.C. 5309(k)(1).

(d) FTA will assign overall ratings for proposed New Starts projects by averaging the summary ratings for project justification and local financial commitment. When the average of these ratings is unclear (e.g. summary project justification rating of “medium-high” and summary local financial commitment rating of “medium”), FTA will round up the overall rating to the higher rating except in the following circumstances:

(1) A “medium” overall rating requires a rating of at least “medium” on both project justification and local financial commitment.

(2) If a project receives a “low” rating on either project justification or local financial commitment, the overall rating will be “low.”

#### **§ 611.209 Project development process.**

(a) Preliminary engineering.

(1) A proposed project can be considered for advancement into preliminary engineering only if:

(i) An alternatives analysis has been completed;

(ii) The proposed project is adopted as the locally preferred alternative by the metropolitan planning organization into the metropolitan transportation plan;

(iii) The project sponsor has demonstrated adequate technical capability to carry out preliminary engineering for the proposed project; and

(iv) All other applicable Federal and FTA program requirements have been met.

(2) FTA’s approval will be based on the results of its evaluation as described in § 611.201 through 611.207.

(3) At a minimum, a proposed project must receive an overall rating of “medium” or better to be approved for entry into preliminary engineering.

(4) This part does not in any way revoke prior FTA approvals to enter preliminary engineering made prior to [EFFECTIVE DATE OF FINAL RULE].

(5) Projects approved by FTA to advance into preliminary engineering receive automatic pre-award authority to incur project costs prior to grant approval for preliminary engineering activities (potentially reimbursable upon funding availability). Upon completion of the National Environmental Policy Act (NEPA) requirements, FTA extends automatic pre-award authority to projects in preliminary engineering to incur costs for utility relocation and real property acquisition (potentially reimbursable when approved into final design), as well as for vehicle purchases (potentially reimbursable when approved for construction).

(i) This pre-award authority does not constitute a commitment by FTA that future Federal funds will be approved for the project.

(ii) All Federal requirements must be met prior to incurring costs in order to retain eligibility of the costs for future FTA grant assistance.

(b) Final design.

(1) A proposed project can be considered for advancement into final design only if:

(i) FTA has determined the project to be a Categorical Exclusion, or has issued a Finding of No Significant Impact (FONSI) or a Record of Decision (ROD) under NEPA for the project, in accordance with FTA environmental regulations at 23 CFR Part 771;

(ii) The project sponsor has demonstrated adequate technical capability to carry out final design for the proposed project; and

(iii) All other applicable Federal and FTA program requirements have been met.

(2) FTA’s approval will be based on the results of its evaluation as described in § 611.201 through 611.207.

(3) At a minimum, a proposed project must receive an overall rating of “medium” or better to be approved for entry into final design.

(4) This part does not in any way revoke FTA approvals to enter final design that were made prior to [EFFECTIVE DATE OF FINAL RULE].

(5) Projects approved to advance into final design receive automatic pre-award authority to incur project costs prior to grant approval for final design activities, demolition, and non-construction activities such as procurement of long-lead time items or items for which market conditions play a significant role in the acquisition price. This includes, but is not limited to procurement of rails, ties, and other specialized equipment, and commodities. These costs are potentially reimbursable upon grant approval.

(i) This pre-award authority does not extend to construction, nor does it constitute a commitment by FTA that future Federal funds will be approved for the project.

(ii) All Federal requirements must be met prior to incurring costs in order to retain eligibility of the costs for future FTA grant assistance.

(c) Full Funding Grant Agreements.

(1) FTA will determine whether to execute an FFGA based on:

(i) The evaluation and rating of the project as described in § 611.201 through 611.207;

(ii) The technical capability of the project sponsor to complete the proposed New Starts project; and

(iii) A determination by FTA that no outstanding issues exist that could interfere with successful implementation of the proposed New Starts project.

(2) FFGAs will be executed only for those projects that:

(i) Are authorized for final design and construction by Federal law;

(ii) Receive an overall rating of “medium” or better;

(iii) Have completed the appropriate steps in the project development process;

(iv) Meet all applicable Federal and FTA program requirements; and

(v) Are ready to utilize New Starts funds, consistent with available program authorization.

(3) When FTA decides to provide New Starts funds for construction of a New Starts project, FTA will negotiate an FFGA with the project sponsor during final design of that project. Pursuant to the terms and conditions of the FFGA:

(i) A baseline cost and baseline schedule of the project will be established and a maximum level of New Starts funds will be fixed;

(ii) The project sponsor will be required to complete construction of the project, as defined, to the point of initiation of revenue operations, and to absorb any additional costs incurred or necessitated to reach that point using non-New Starts funds;

(iii) FTA and the project sponsor will establish a schedule for anticipating Federal New Starts contributions during the final design and construction period; and

(iv) Specific annual contributions of New Starts funds under the FFGA will be subject to the availability of budget authority and the ability of the project sponsor to use the funds effectively.

(d) Commitments.

(1) The total amount of Federal New Starts funding obligations under ESWAs, FFGAs, and potential obligations under Letters of Intent will not exceed the amount authorized for New Starts under 49 U.S.C. 5309.

(2) FTA may also make a "contingent commitment" of New Starts funds, which is subject to future congressional authorizations and appropriations, pursuant to 49 U.S.C. 5309(g), 5338(b), and 5338(h).

#### **§ 611.211 Before and After Study.**

(a) During preliminary engineering, project sponsors shall submit to FTA a plan for collection and analysis of information to identify the characteristics, costs, and impacts of the New Starts project and the accuracy of the forecasts prepared during development of the project.

(1) The Before and After Study plan shall consider:

(i) Characteristics including the physical scope of the project, the service provided by the project, any other changes in service provided by the transit system, and the schedule of transit fares;

(ii) Costs including the capital costs of the project and the operating and

maintenance costs of the transit system in appropriate detail; and

(iii) Impacts including changes in transit service quality, ridership, and fare levels.

(2) The plan shall provide for:

(i) Documentation and preservation of the predicted scope, service levels, capital costs, operating costs, and ridership of the project;

(ii) Collection of "before" data on the transit service levels and ridership patterns of the current transit system including origins and destinations, access modes, trip purposes, and rider characteristics;

(iii) Documentation of the actual capital costs of the as-built project;

(iv) Collection of "after" data two years after opening of the project, including the analogous information on transit service levels and ridership patterns, plus information on operating costs of the transit system in appropriate detail;

(v) Analysis of the costs and impacts of the project; and

(vi) Analysis of the consistency of the predicted and actual characteristics, costs, and impacts of the project and identification of the sources of any differences.

(vii) Preparation of a final report within three years of project opening to present the actual characteristics, costs, and impacts of the project and an assessment of the accuracy of the predictions of these outcomes.

(3) For funding purposes, preparation of the plan for collection and analysis of data is an eligible part of the proposed project.

(4) Approval of the plan by FTA shall be a pre-requisite to approval of the project into final design.

(b) The FFGA will require implementation of the plan prepared in accordance with paragraph (a) of this section.

(1) Satisfactory progress on implementation of the plan required under paragraph (a) of this section shall be a prerequisite to approval of an FFGA.

(2) For funding purposes, collection of the "before" data, collection of the "after" data, and the development and reporting of findings are eligible parts of the proposed project.

(3) FTA may condition receipt of funding provided for the project in the FFGA upon satisfactory submission of the report required under this section.

#### **Subpart C—Small Starts**

##### **§ 611.301 Eligibility.**

(a) To be eligible for a project development grant under this part for a

new fixed guideway, an extension to a fixed guideway, or a corridor-based bus system, a project must:

(1) Be a Small Starts project as defined in § 611.105; and

(2) Have completed an alternatives analysis.

(b) To be eligible for a construction grant under this part for a new fixed guideway, an extension to a fixed guideway, or a corridor-based bus system, a project must:

(1) Be a Small Starts project as defined in § 611.105;

(2) Have completed an alternatives analysis;

(3) Receive a "medium" or better rating on project justification pursuant to § 611.303;

(4) Receive a "medium" or better rating on local financial commitment pursuant to § 611.305;

(5) Meet the other requirements of Chapter 53 of Title 49, U.S. Code; and

(6) Be authorized for construction by Federal law.

##### **§ 611.303 Project justification criteria.**

(a) To perform the statutorily required evaluations and assign ratings for project justification, FTA will evaluate information developed locally through alternatives analyses and refined through project development.

(1) The method used to make this determination will be a multiple measure approach by which the merits of candidate projects will be evaluated in terms of each of the criteria specified by this section.

(2) The measures for these criteria are specified in Appendix A and elaborated on in policy guidance issued periodically by FTA whenever significant changes are proposed and subject to a public comment period, but not less frequently than every two years, as required by 49 U.S.C. 5309(d)(6).

(3) The measures will be applied to projects defined by project sponsors that are proposed to FTA for Small Starts funding.

(4) The ratings for each of the criteria in § 611.303(b)(1)–(5) will be expressed in terms of descriptive indicators, as follows: "high," "medium-high," "medium," "medium-low," or "low."

(b) The project justification criteria are as follows:

(1) Cost effectiveness, at the time of revenue service.

(2) Economic development effects.

(3) Existing land use, transit supportive land use policies, and future patterns.

(4) Other factors. These may include additional factors relevant to local and national priorities and relevant to the success of the project.

(c) In evaluating proposed Small Starts projects under these criteria:

(1) As a candidate project proceeds through project development, a greater level of commitment will be expected with respect to transit supportive land use plans and policies, the non-Federal Small Starts funding share of the project's cost, and the project sponsor's technical capacity to implement the project.

(2) For any criteria under paragraph (b) of this section that use incremental measures, the point for comparison will be defined in policy guidance.

(d) FTA may amend the measures for these project justification criteria. Any such amendment will be included in policy guidance.

(e) From time to time FTA may publish through policy guidance standards based on characteristics of projects and/or corridors to be served. If a proposed project can meet the established standards, FTA may assign an automatic rating on one or more of the project justification criteria outlined in this section.

(f) The individual ratings for each of the criteria described in this section will be combined into a summary project justification rating of "high," "medium-high," "medium," "medium-low," or "low" through a process that gives comparable, but not necessarily equal, weight to each criterion. "Other factors" will also be considered as appropriate. The process by which the project justification rating will be developed, including the assigned weights, will be described in policy guidance.

#### **§ 611.305 Local financial commitment criteria.**

In order to approve a grant under 49 U.S.C. 5309 for a Small Starts project, FTA must find that the proposed project is supported by an acceptable degree of local financial commitment, as required by 49 U.S.C. 5309(e)(2)(c). The local financial commitment to a proposed project will be evaluated according to the following measures:

(a) The proposed share of the project's capital costs to be funded from sources other than Small Starts funds, including both the non-Small Starts match required by Federal law and any additional state, local, or other Federal capital funding (known as "overmatch");

(b) The current capital and operating financial condition of the project sponsor;

(c) The commitment of capital and operating funds for the project and the entire transit system; and

(d) The accuracy and reliability of the capital and operating costs and revenue

estimates and the financial capacity of the project sponsor.

(e) From time to time FTA may publish through policy guidance standards based on characteristics of projects and/or the corridors to be served. If a proposed project can meet the established standards, FTA may assign an automatic rating on one or more of the local financial commitment criteria outlined in this section.

(f) For each proposed project, ratings for paragraphs (a) through (d) of this section will be reported in terms of descriptive indicators, as follows: "high," "medium-high," "medium," "medium-low," or "low." For paragraph (a) of this section, the percentage of Small Starts funding sought from 49 U.S.C. 5309 will be rated and used to develop the summary local financial commitment rating, but only if it improves the rating and not if it worsens the rating.

(g) The ratings for each measure described in this section will be combined into a summary local financial commitment rating of "high," "medium-high," "medium," "medium-low," or "low." The process by which the summary local financial commitment rating will be developed, including the assigned weights to each of the measures, will be described in policy guidance.

#### **§ 611.307 Overall project ratings.**

(a) The summary ratings developed for project justification and local financial commitment (§§ 611.303(f) and 305(g)) will form the basis for the overall rating for each project.

(b) FTA will assign overall project ratings to each proposed project of "high," "medium-high," "medium," "medium-low," or "low," as required by 49 U.S.C. 5309(e)(8).

(1) These ratings will indicate the overall merit of a proposed Small Starts project at the time of evaluation.

(2) Ratings for individual projects will be developed upon entry into project development and prior to a PCGA.

Additionally, ratings may be updated while a project is in project development if the project scope and cost have changed materially since the most recent rating was assigned.

(c) These ratings will be used to:

(1) Approve or deny advancement of a proposed project into project development;

(2) Approve or deny projects for PCGAs; and

(3) Support annual funding recommendations to Congress in the *Annual Report on Funding Recommendations* required by 49 U.S.C. 5309(k)(1).

(d) FTA will assign overall ratings for proposed Small Starts projects by averaging the summary ratings for project justification and local financial commitment. When the average of these ratings is unclear (e.g., summary project justification rating of "medium-high" and summary local financial commitment rating of "medium"), FTA will round up the overall rating to the higher rating except in the following circumstances:

(1) A "medium" overall rating requires a rating of at least "medium" on both project justification and local financial commitment.

(2) If a project receives a "low" rating on either project justification or local financial commitment, the overall rating will be "low."

#### **§ 611.309 Project development process.**

(a) Project development.

(1) A proposed project can be considered for advancement into project development only if:

(i) An alternatives analysis has been completed;

(ii) The proposed project is adopted as the locally preferred alternative by the metropolitan planning organization into the metropolitan transportation plan;

(iii) The project sponsor has demonstrated adequate technical capability to carry out project development for the proposed project; and

(iv) All other applicable Federal and FTA program requirements have been met.

(2) FTA's approval will be based on the results of its evaluation as described in § 611.301 through 611.307.

(3) At a minimum, a proposed project must receive an overall rating of "medium" or better to be approved for entry into project development.

(4) This part does not in any way revoke prior FTA approvals to enter project development made prior to [EFFECTIVE DATE OF FINAL RULE].

(5) Projects approved by FTA to advance into project development receive automatic pre-award authority to incur project costs prior to grant approval for preliminary engineering activities (potentially reimbursable upon funding availability). Upon completion of the National Environmental Policy Act (NEPA) requirements, FTA extends automatic pre-award authority to projects in project development to incur costs for final design activities, utility relocation and real property acquisition, as well as for vehicle purchases, demolition, and non-construction activities such as procurement of long-lead time items or items for which market conditions play

a significant role in the acquisition price. This includes, but is not limited to procurement of rails, ties, and other specialized equipment, and commodities.

(i) This pre-award authority does not constitute a commitment by FTA that future Federal funds will be approved for the project.

(ii) All Federal requirements must be met prior to incurring costs in order to retain eligibility of the costs for future FTA grant assistance.

(b) Project construction grant agreements.

(1) FTA will determine whether to execute a PCGA based on:

(i) The evaluation and rating of the Small Starts project as described in § 611.301 through 611.307;

(ii) The technical capability of the project sponsor to complete the proposed Small Starts project; and

(iii) A determination by FTA that no outstanding issues exist that could interfere with successful implementation of the proposed Small Starts project.

(2) PCGAs will be executed only for those projects that:

(i) Are authorized for construction by Federal law;

(ii) Receive an overall rating of "medium" or better;

(iii) Have completed the appropriate steps in the project development process;

(iv) Meet all applicable Federal and FTA program requirements; and

(v) Are ready to utilize Small Starts funds, consistent with available program authorization.

(3) When FTA decides to provide Small Starts funds, FTA will negotiate a PCGA with the project sponsor during project development of that project. Pursuant to the terms and conditions of the PCGA:

(i) A baseline cost estimate and baseline schedule will be established and a maximum level of Small Starts funds will be fixed;

(ii) The project sponsor will be required to complete construction of the project, as defined, to the point of initiation of revenue operations, and to absorb any additional costs incurred or necessitated to reach that point using non-Small Starts funds;

(iii) FTA and the project sponsor will establish a schedule for anticipating Federal Small Starts contributions during the construction period; and

(iv) Specific annual Small Starts funds contributions under the PCGA will be subject to the availability of budget authority and the ability of the project sponsor to use the funds effectively.

(c) Commitments.

(1) The total amount of Federal Small Starts obligations under PCGAs and potential obligations under Letters of Intent will not exceed the amount authorized for Small Starts under 49 U.S.C. 5309.

(2) FTA may also make a "contingent commitment" of Small Starts funds, which is subject to future congressional authorizations and appropriations, pursuant to 49 U.S.C. 5309(g), 5338(b), and 5338(h).

## Appendix A to Part 611—Description of Measures Used for Project Evaluation

### A. New Starts

#### I. Project Justification

FTA will evaluate candidate New Starts projects according to the six project justification criteria established by 49 U.S.C. 5309(d)(2)(B). These measures have been developed according to the considerations identified at 49 U.S.C. 5309(d)(3) ("Evaluation of Project Justification"), including Other Factors.

From time to time, but not less than frequently than every two years as directed by U.S.C. 5309 (d)(6), FTA publishes policy guidance on the application of these measures, and the agency expects it will continue to do so. Moreover, FTA may choose to amend these measures, pending the results of ongoing studies regarding transit benefit and cost evaluation methods. In addition, FTA may establish warrants for one or more of these criteria through which an automatic rating would be assigned based on the characteristics of the project and/or its corridor. FTA will develop these warrants based on analysis of the features of projects and/or corridor characteristics that would produce satisfactory ratings on one or more of the criteria. Such warrants would be included in draft policy guidance issued for comment before being finalized.

(a) Mobility Improvements.

(1) The total number of trips using the proposed project, with extra weight given to trips that would be made on the project by transit dependent persons.

(2) If the project sponsor chooses to consider project trips in the horizon year in addition to the current year, trips will be based on the weighted average of current-year and horizon-year.

(b) Environmental Benefits.

(1) Incremental annualized capital and operating cost of the project compared to the monetized value of the anticipated direct and indirect benefits to human health, safety, energy, and the air quality environment that are expected to result from implementation of the proposed project compared to:

(i) The existing environment with the transit system in the current year or,

(ii) At the discretion of the project sponsor, both the existing environment with the transit system in the current year and the no-build environment and transit system in the horizon year.

(2) Environmental benefits used in the calculation would include:

(i) Change in air quality criteria pollutants,

(ii) Change in energy use,

(iii) Change in greenhouse gas emissions, and

(iv) Change in safety.

(c) Operating Efficiencies.

(1) The change in operating and maintenance (O&M) cost per "place-mile" (passenger capacity of a vehicle multiplied by its annual revenue miles of service and summed over all vehicles in the transit system) compared to:

(i) The existing transit system in the current year or,

(ii) At the discretion of the project sponsor, both the existing transit system in the current year and the no-build transit system in the horizon year.

(d) Cost Effectiveness.

(1) The annualized cost per trip on the project, where cost includes changes in capital, operating, and maintenance costs compared to:

(i) The existing transit system in the current year, or

(ii) At the discretion of the project sponsor, both the existing transit system in the current year and the no-build transit system in the horizon year.

(e) Public transportation supportive land use policies and future patterns.

(1) Existing corridor and station area development;

(2) Existing corridor and station area development character;

(3) Existing station area pedestrian facilities, including access for persons with disabilities; (4) Existing corridor and station area parking supply; and

(5) Existing publically supported housing in the corridor.

(f) Economic Development.

(1) The extent to which a proposed project is likely to enhance additional, transit-supportive development based on the existing plans and policies to support economic development proximate to the project including:

(i) Growth management plans and policies;

(ii) Policies in place to support maintenance of or increases to the share of affordable housing in the project corridor; and

(iii) Performance and impact of policies.

(2) At the option of the project sponsor, an additional quantitative analysis (scenario-based estimate) to estimate indirect changes in VMT resulting from changes in development patterns that are anticipated to occur with implementation of the proposed project. The resulting environmental benefits would be calculated, monetized, and compared to the annualized capital and operating cost of the project.

(g) Other factors. Other factors may be considered in the project justification rating. Others factor may include, but are not limited to:

(1) The multimodal connectivity the proposed New Starts project will provide;

(2) Environmental justice considerations and equity issues;

(3) Livable Communities initiatives and local economic activities;

(4) The degree to which there are policies in place to locate federal, and other major public, facilities and investments in proximity to the proposed project;

(5) Consideration of innovative procurement, and construction techniques, including design-build turnkey applications; and

(6) Additional factors relevant to local and national priorities and to the success of the project.

## II. Local Financial Commitment

FTA will use the following measures to evaluate the local financial commitment to a proposed New Starts project:

(a) The proposed share of total project costs from sources other than the Section 5309 major capital investment program, including other Federal transportation funds and the local match required by Federal law;

(b) The current financial condition, both capital and operating, of the project sponsor;

(c) The commitment of funds for both the proposed project and the ongoing operation and maintenance of the project sponsor's system once the project is built.

(d) The reasonableness of the financial plan, including planning assumptions, cost estimates, and the capacity to withstand funding shortfalls or cost overruns.

## B. Small Starts

### I. Project Justification

FTA will use several measures to evaluate candidate Small Starts projects according to the three project justification criteria established by 49 U.S.C. 5309(E)(4)(B), taking account of the considerations identified in 49 U.S.C. 5309(3)(4) ("Project Justification"), including Other Factors.

From time to time, but not less than frequently than every two years as directed by U.S.C. 5309 (d)(6), FTA publishes for comment technical guidance on the application of these measures, and the agency expects it will continue to do so. Moreover, FTA may choose to amend these measures, pending the results of ongoing studies regarding transit benefit and cost evaluation methods. In addition, FTA may establish warrants for one or more of these criteria through which an automatic rating would be assigned based on the characteristics of the project and/or its corridor. Such warrants would be included in the policy guidance so that they may be subject to public comment.

(a) Cost Effectiveness.

(1) The cost per trip on the project, where cost includes changes in capital, operating, and maintenance costs compared to:

(i) The existing transit system in the current year, or

(ii) At the discretion of the project sponsor, both the existing transit system in the current year and the no-build transit system in the horizon year.

(b) Public transportation supportive land use policies and future patterns.

(1) Existing corridor and station area development;

(2) Existing corridor and station area development character;

(3) Existing station area pedestrian facilities, including access for persons with disabilities;

(4) Existing corridor and station area parking supply; and

(5) Existing publically supported housing in the corridor.

(c) Economic Development.

(1) The extent to which a proposed project is likely to enhance additional, transit-supportive development based on the existing plans and policies to support economic development proximate to the project including:

(i) Growth management plans and policies

(ii) Policies in place to support maintenance of or increases to the share of affordable housing in the project corridor; and

(c) Performance and impact of policies.

(2) At the option of the project sponsor, an additional quantitative analysis (scenario-based estimate) to estimate indirect changes in VMT resulting from changes in development patterns that are anticipated to occur with implementation of the proposed project. The resulting environmental benefits would be calculated, monetized, and compared to the annualized capital and operating cost of the project.

(d) Other factors. Other factors may be considered in the project justification rating. Others factor may include, but are not limited to:

(1) The multimodal connectivity the proposed Small Starts project will provide;

(2) Environmental justice considerations and equity issues,

(3) Opportunities for increased access to employment for low income persons;

(4) Livable Communities initiatives and local economic activities;

(5) Consideration of innovative procurement, and construction techniques, including design-build turnkey applications; and

(6) The degree to which there are policies in place to locate federal, and other major public, facilities and investments in proximity to the proposed project.

(7) Additional factors relevant to local and national priorities and to the success of the project.

## II. Local Financial Commitment

If the Small Starts project sponsor can demonstrate the following, the project will qualify for a highly simplified financial evaluation:

(a) A reasonable plan to secure funding for the local share of capital costs or sufficient available funds for the local;

(b) The additional operating and maintenance cost to the agency of the proposed Small Starts project is less than 5 percent of the project sponsor's existing operating budget; and

(c) The project sponsor is in reasonably good financial condition, as demonstrated by the past three years' audited financial statements.

Small Starts projects that meet these measures and request greater than 50 percent Small Starts funding would receive a local financial commitment rating of Medium. Small Starts projects that request 50 percent or less in Small Starts funding would receive a High rating for local financial commitment.

FTA will use the following measures to evaluate the local financial commitment to a proposed Small Starts project if it cannot meet the conditions listed above:

(a) The proposed share of total project costs from sources other than the Section 5309 major capital investment program, including other Federal transportation funds and the local match required by Federal law;

(b) The current financial condition, both capital and operating, of the project sponsor;

(c) The commitment of funds for both the proposed project and the ongoing operation and maintenance of the project sponsor's system once the project is built.

(d) The reasonableness of the financial plan, including planning assumptions, cost estimates, and the capacity to withstand funding shortfalls or cost overruns.

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