

## Memorandum

---

**Date** 1/28/2009  
**To** File  
**From** Adam Streit  
**Subject** Portland North Evaluation Criteria

---

### Previous Evaluation Criteria

Project evaluation is a critical aspect for any transit project. It provides a basis from which the project may compete for funding. For the Portland North Alternatives study, the FTAs New Starts program was chosen as the vehicle for the project to obtain funding. In December 2008, the study team presented to the Maine Department of Transportation (MeDOT) a preliminary list of transit evaluation criteria and is shown below:

- Right-of-way
- Operations
- Economic Development
- Connectivity
- Costs
- Mobility
- Environmental
- Land Use
- Demographics
- Social

Many of these categories map into FTAs New Starts criterion.<sup>1</sup> To evaluate the potential commuter rail service, the above-mentioned criteria need to be defined in a manner consistent with the FTAs New Starts program. The New Starts program has six general categories which it uses to rate and evaluate projects for potential funding. These six categories are based upon:

- I. Mobility Improvements
- II. Environmental Benefits;
- III. Operating Efficiencies<sup>2</sup>;
- IV. Cost Effectiveness;
- V. Transit Supportive Land Use Policies and Future Patterns; and
- VI. Other Factors

---

<sup>1</sup> Retrieved January 13, 2009 from [http://www.fta.dot.gov/planning/newstarts/planning\\_environment\\_9063.html](http://www.fta.dot.gov/planning/newstarts/planning_environment_9063.html)

<sup>2</sup> FTA considers operating efficiencies to be evaluated as part of the cost effectiveness measure and so it does not receive a separate rating.

# Memorandum

(Continued)

Page 2 of 6

Figure I provides an overview of how each criterion impacts the overall summary rating of a project.

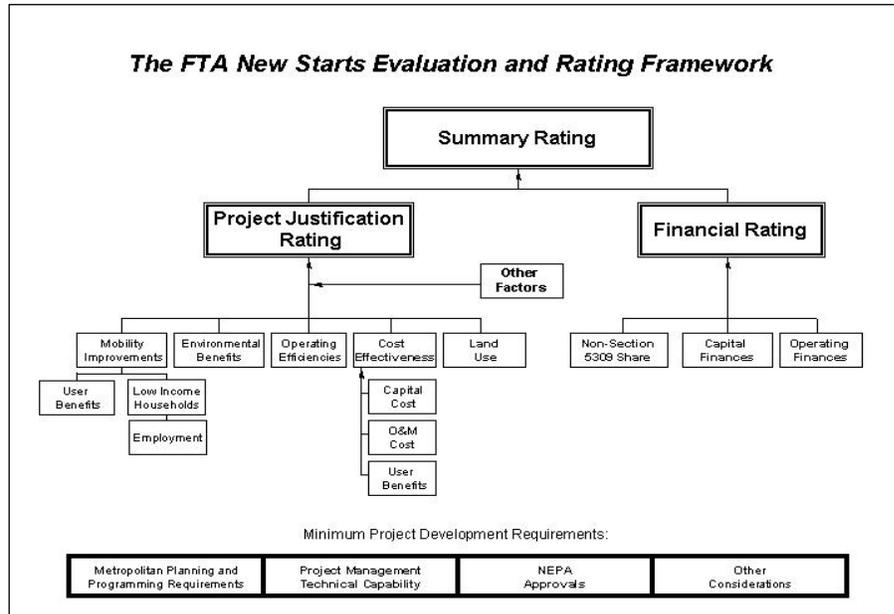


Figure I: Mapping of Evaluation Criteria for New Starts Application<sup>3</sup>

Within each of the six areas, specific metrics and evaluation criteria are defined and other pertinent information can be listed and explained. A summary of FTA's six criterion and the preliminary MeDOT evaluation factors (shown in *italics*) are presented in Table I-1.

The remainder of this memo describes how each of the preliminary evaluation criteria should be defined in the context of a New Starts application.

<sup>3</sup> Retrieved January 13, 2009 from

[http://www.fta.dot.gov/planning/newstarts/planning\\_environment\\_9063.html#II\\_Summary\\_Project\\_Justification\\_Rating](http://www.fta.dot.gov/planning/newstarts/planning_environment_9063.html#II_Summary_Project_Justification_Rating)

# Memorandum

(Continued)

Page 3 of 6

**Table I-1:** New Starts Evaluation Criteria Summary<sup>4</sup>

<b>Criterion</b>	<b>Measure(s)</b>
<b><u>Mobility Improvements</u></b> <ul style="list-style-type: none"><li>• <i>Mobility Metrics</i></li><li>• <i>Demographic</i></li><li>• <i>Connectivity</i></li></ul>	<ul style="list-style-type: none"><li>• Normalized Travel Time Savings (Transportation System User Benefits per Project Passenger Mile)</li><li>• The Number of Transit Dependent Riders Using the Proposed New Starts Project</li><li>• Transit Dependent User Benefits per Passenger Mile on the Project</li><li>• The Share of User Benefits Received by Transit Dependents Compared to the Share of Transit Dependents in the Region</li></ul>
<b><u>Environmental Benefits</u></b>	<ul style="list-style-type: none"><li>• EPA Air Quality Designation</li></ul>
<b><u>Cost Effectiveness</u></b> <ul style="list-style-type: none"><li>• <i>Capital Cost</i></li><li>• <i>Operating Cost</i></li></ul>	<ul style="list-style-type: none"><li>• Incremental Cost per Hour of Transportation System User Benefit</li><li>• Incremental Cost per New Rider (for informational purposes only)</li></ul>
<b><u>Operating Efficiencies</u></b>	<ul style="list-style-type: none"><li>• Operating cost per passenger mile</li></ul>
<b><u>Transit Supportive Land Use and Future Patterns</u></b> <ul style="list-style-type: none"><li>• <i>Current and future Land use</i></li><li>• <i>Right-of-Way Development</i></li></ul>	<ul style="list-style-type: none"><li>• Existing Land Use</li><li>• Transit Supportive Plans and Policies</li><li>• Performance and Impacts of Policies</li></ul>
<b><u>Other Factors</u></b> <ul style="list-style-type: none"><li>• <i>Economic Development</i></li><li>• <i>Social Considerations</i></li><li>• <i>Operations</i></li></ul>	<ul style="list-style-type: none"><li>• Economic Development</li><li>• Making the Case for the project</li><li>• Congestion Pricing</li><li>• Optional considerations.</li></ul>

## I. Mobility Improvements

The mobility improvements criterion map into the preliminary *mobility, demographic, and connectivity* considerations presented to MeDOT. An FTA New Starts application evaluates the following four measures:

- 1) User Benefits per Passenger Mile on the Project
- 2) Number of Transit Dependents Using the Project
- 3) Transit Dependent User Benefits per Passenger Mile on the Project
4. Share of User Benefits Received by Transit Dependents Compared to Share of Transit Dependents in the Region

**1) User Benefits per Passenger Mile on the Project** – This measure reflects the travel time savings, as measured by minutes of transportation system user benefits in the forecast year anticipated from the proposed project compared to its baseline alternative. In order to rate projects in comparison to other proposed New Starts, this measure is normalized by the annual passenger miles traveled on the New Starts project in the forecast year. The result is a measure of the intensity of the user benefits.

<sup>4</sup> Retrieved January 12, 2009 from [http://www.fta.dot.gov/documents/FY\\_2009\\_Eval\\_Process.doc](http://www.fta.dot.gov/documents/FY_2009_Eval_Process.doc)

# Memorandum

(Continued)

Page 4 of 6

**2) and 3) Number of Transit Dependent Individuals Using the Project and Transit Dependent User Benefits per Passenger Mile on the Project** – These two measures represent the number of transit dependents affected by the project and the intensity of the benefit per passenger. The first is self explanatory while the second is defined identically to the user benefits per passenger mile measure above but for transit dependent passengers. To obtain a rating for each, measure, values for each of the measures are aligned in ascending order and categorized into 5 groups, separated by breakpoints that identify logical groupings of values.

**4) Share of User Benefits Received by Transit Dependents Compared to Share of Transit Dependents in the Region** – This measure represents the extent to which the project benefits transit dependents compared to their regional representation. For example, if 10% of the user benefits for the project accrued to transit dependents, but they represented 20% of the region’s population, the measure would be 0.5, indicating that the project did not benefit transit dependents compared to their share of the region’s population.

## II. Environmental Benefits

Evaluation of the environmental benefits correlates between the MeDOT preliminary *environmental considerations* and the FTA environmental evaluation. FTAs evaluation of environmental benefits is those that would be realized through the implementation of a proposed project, using current air quality designations by EPA. This measure is defined for each of the transportation-related pollutants (ozone, CO, and PM-10) as the current air quality designation by EPA for the metropolitan region in which the proposed project is located, indicating the severity of the metropolitan area’s noncompliance with the health-based EPA standard (NAAQS) for the pollutant, or its compliance with that standard.

## III. Land Use and Future Patterns

The MeDOT current and future **land use** patterns and **right-of-way** development, considerations map into FTAs land use criterion. In its evaluation of the land use for New Starts projects, FTA explicitly considers the following transit supportive land use categories and factors:

1. **Existing Land Use**
2. **Transit Supportive Plans and Policies**, including the following factors:
  - Growth management;
  - Transit supportive corridor policies;
  - Supportive zoning regulations near transit stations; and
  - Tools to implement land use policies.
3. **Performance and Impacts of Policies**, including the following factors:
  - Performance of land use policies; and
  - Potential impact of transit project on regional land use.

FTA also permits project sponsors to submit information in support of an optional “other land use considerations” category.

# Memorandum

(Continued)

Page 5 of 6

The evaluation of transit supportive existing land use and future patterns is similar for Small Starts projects, but eliminates the growth management and “other land use considerations” factors and simplifies the reporting of information supporting the remaining factors. More information on the land use evaluation process for Small Starts projects can be found in Appendix A of the *Interim Guidance and Instructions for Small Starts*.<sup>5</sup>

FTA considers projects which meet the minimum existing ridership threshold of 3,000 daily boardings to be in corridors with transit-supportive land use appropriate to the proposed level of investment.

FTA takes into consideration the stage of development of a proposed project in its evaluation of land use information. For example, the planning and policy oriented factors (existing land use, containment of sprawl, and corridor policies) are relevant in evaluating projects in all stages of project development, but particularly useful for projects early in project development. On the other hand, the implementation-oriented factors (supportive zoning regulations, implementation tools, and performance of land use policies) are more applicable in evaluating projects more advanced in preliminary engineering or final design.

## IV. Cost Effectiveness

Initial **capital costs** and annual **operating costs** are an important factor in consideration of a project. In its evaluation of the cost effectiveness of a proposed project, FTA considers the incremental cost per hour of transportation system user benefits in the forecast year.

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 New Starts project. The cost effectiveness measure is calculated by (a) estimating the incremental “base-year” annualized capital and operating costs of the project (over a lower cost “baseline” of transit service), and then (b) dividing these costs by the projected user benefits. The result of this calculation is a measure of project cost per hour of projected user (i.e. travel-time) benefits expected to be achieved if the project is added to the regional transit system.

Proposed projects with a lower cost per hour of projected travel-time benefits are evaluated as more cost effective than those with a higher cost per hour of projected travel-time benefits.

FTA believes that the cost per hour of transportation system user benefits is a sound measure for cost effectiveness - and preferable to the prior measure of incremental cost per new rider - because it (1) captures the benefits which accrue to *all* transit users (including existing transit riders), including both direct time savings and other attributes of premium transit services such as service reliability, safety and security, branding, span of service, etc. (2) better reflects the *cause* of ridership increases – improvements in travel time and other attributes of major transit capital investments such as reliability, security, and permanence – rather than simply the patronage *outcome*; (3) reflects the nature of the service being provided by the candidate project (for example, the measure distinguishes the benefits of long vs. short trips); and (4) does not penalize those agencies which are already providing a high level of transit service in a corridor for which a

---

<sup>5</sup> Retrieved on January 13, 2009 from [http://www.fta.dot.gov/documents/SS\\_Interim\\_Guidance\\_73106.pdf](http://www.fta.dot.gov/documents/SS_Interim_Guidance_73106.pdf)

# Memorandum

(Continued)

Page 6 of 6

major capital investment is proposed. However, Jacobs notes that reliance on time savings as the basis for estimates of transport benefits tends to under-emphasize the benefit of recruiting new transit riders away from automobiles, even if the time savings associated with shifting to transit from automobile is negligible.

Table IV-2 below presents the thresholds FTA will use in FY 2009 for assigning a *High, Medium-High, Medium, Medium-Low* or *Low* cost effectiveness rating for each proposed project. FTA publishes updates to these breakpoints annually to reflect the impact of inflation:

**Table IV-2 Cost Effectiveness Breakpoints**

High	\$11.99 and under
Medium-High	\$12.00 - \$15.49
Medium	\$15.50-\$23.99
Medium-low	\$24.00-\$29.99
Low	\$30.00 and over

## V. Other Factors

The “other” factors portion of the New Starts application takes into consideration other qualitative and quantitative factors that may be used in Consistent with §5309(d) and (e), FTA also includes a variety of other factors when evaluating project justification, including:

- Effect of the project on **economic development**;
- The nature and extent of the transportation problem or opportunity in the project corridor as described in the “Making the Case” document;
- If the project is a principle element of a congestion management strategy, in general, and an auto pricing strategy, in particular; and
- Any other factor which the project sponsor believes articulates the benefits of the proposed major transit capital investment but which is not captured within the other project justification criteria. In the instance of the Portland North project, any social justice considerations may be considered in evaluation.

Consistent with SAFETEA-LU, FTA intends that economic development should be an “other factor” of particular significance for the FY 2009 evaluation cycle. Through its ongoing rulemaking process, FTA hopes to define specific measures for evaluating the economic development impacts of candidate New Starts projects. Until such measures are defined and subject to industry comment, FTA encourages project sponsors to submit information which they feel best justifies the anticipated economic development impacts of their proposed New Starts or Small Starts investments.