

Appendix A Selection of the New Starts Baseline Alternative

In response to comments submitted by the transit industry and in recognition of the desire to simplify the New Starts evaluation process, the *Final Rule on Major Capital Investment Projects* eliminates the requirement for an evaluation (for the purpose of advancing projects through development and for annual funding recommendations) comparing the New Starts criteria for the build alternative against both the no-build and the TSM alternatives. Instead, the *Final Rule* requires that the proposed New Starts project be evaluated against a single "New Starts Baseline Alternative." FTA selects the New Starts Baseline Alternative for candidate projects prior to approving project entrance into preliminary engineering.

Like the TSM, the New Starts Baseline Alternative should represent the "best that can be done" to improve transit service in the corridor without major capital investment in new infrastructure. At a minimum, the New Starts baseline must include in the project corridor all reasonable cost-effective transit improvements short of the major capital investment often required for a New Starts project. The Baseline Alternative should include relatively low 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. The New Starts baseline should be designed to address identified transportation needs in the New Start project's service area and demonstrate the extent to which these problems can be solved without a proposed major capital investment such as a New Starts fixed guideway transit project. However, it is important to note that in some cases the New Starts Baseline Alternative may still result in substantial capital and operating costs, particularly in complex study areas with significant transportation problems.

It must be stressed that the New Starts Baseline Alternative only replaces the no-build and TSM alternatives for the purpose of FTA evaluation. It is expected that the alternatives analysis will result in the definition and evaluation of both no-build and TSM options, with one or the other selected to serve as the New Starts Baseline Alternative. As is obvious from the preceding definition, in most cases the New Starts Baseline Alternative will be the TSM alternative.

The New Starts Baseline Alternative must be defined so that comparisons with the New Starts project isolate the costs and benefits of the proposed major transit capital investment. Depending on the specific corridor and circumstances, and through prior agreement with FTA, the New Starts Baseline Alternative will be defined in one of three general ways:

- First, where the adopted financially constrained long range transportation plan includes all reasonable cost-effective transit improvements within the study area short of the proposed New Starts project, the no-build alternative that includes those improvements may serve as the New Starts Baseline Alternative.
- Second, where additional cost-effective transit improvements can be made beyond those provided by the adopted plan, the New Starts Baseline Alternative will incorporate those additional cost-effective transit improvements along with the actions in the adopted long range plan. In this case, the New Starts Baseline Alternative is essentially the TSM alternative.
- Lastly, where the proposed New Starts project is part of a multimodal alternative that includes major highway components, the New Starts Baseline Alternative will be the

proposed multimodal alternative without the New Starts project and its associated transit services.

In the majority of cases, the second definition listed above will serve as the appropriate New Starts Baseline Alternative. Most metropolitan areas where New Starts projects are proposed would likely fit in this category where additional transit actions short of a New Starts major capital investment are feasible. There will be selected cases where the first definition listed above is appropriate, but these appear likely only in highly urbanized corridors with high current levels of transit service. The third definition, multimodal corridors, will be reviewed closely on a case-by-case basis. FTA staff will work with local project sponsors to examine the specific circumstances related to the definition of alternatives.

FTA must determine whether the TSM alternative or the no-build alternative satisfies the definition of the New Starts Baseline Alternative for each proposed New Starts project. As general guidance, the use of the no-build or no-action alternative as the New Starts baseline is expected to be rare and limited to highly urbanized portions of major metropolitan areas with saturated transit coverage already present. Prior to formal approval of preliminary engineering, FTA must approve the definition of the Baseline Alternative. The following provides the procedure FTA will use to make the selection action.

Step 1: Review set of alternatives at the beginning of the Alternatives Analysis

This review occurs after the alternatives analysis has developed the detailed definitions of the alternatives, but before the technical analysis has begun. (see FTA's guidance on *Procedures and Technical Methods for Transit Project Planning* for more detail on the alternatives development process). FTA does not select a New Starts Baseline Alternative at this stage. The FTA action in Step 1 is simply to concur with the alternatives analysis study team that the no-build and TSM alternatives respond to the transportation problems in the corridor, that the policy and land-use setting is unbiased and consistent across the alternatives, and that the alternatives are defined in accordance with good planning practice, and are thus likely to result in an acceptable New Starts Baseline Alternative after the technical analysis is complete.

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

Step 2: Alternatives Analysis Sponsor Conducts the Technical Analysis and Finalizes the Alternatives

As noted previously, the definitions of the alternatives are continually refined throughout the alternatives analysis as various strategies, system design options, and project elements are tested. The result is a *Final Definition of Alternatives Report* and technical planning information about each alternative. In addition to information on the scope (design and operating characteristics) of each of the analyzed alternatives, the report should include their relative cost effectiveness, as measured by comparisons against the no-build alternative. The main indicator that confirms a properly defined set of alternatives is the cost effectiveness of the build vs. no-build and the TSM vs. the no-build, which can be calculated from the analysis results. Cost effectiveness is currently defined by FTA as the cost per hour of transportation system user benefits.

The TSM, by definition, is the most cost-effective alternative relative to the no-build and should conform to the relationships presented in Figure I below:

Figure I
Rule for Selection of an Appropriate TSM Alternative to Serve as the New Starts Baseline

For illustrative purposes, assume that the cost-effectiveness indices (CEI) are calculated as follows:

CEI for Build vs. No-Build = A

CEI for TSM vs. No-Build = B

The relationship between these measures should be $A > B$ (higher CEI means the alternative is less cost effective).

If the above relationship is not achieved, the definitions of the alternatives may be incorrect and the project sponsor must go back and define an acceptable TSM alternative to serve as the New Starts baseline. A different ordering is permissible in two cases:

1. **The no-build alternative contains most of the critical elements of a good TSM alternative.** In this case, the TSM alternative and the no-build alternative should be functionally indistinguishable. The only time this can happen is when the no-build alternative contains significant TSM-type improvements in the corridor.
2. **The TSM alternative does not make technical sense.** For projects where an existing rail line is being rehabilitated or a single-track facility is being upgraded to double track, no TSM alternative is likely to be significantly better than the no-build.

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

In addition to the evaluation of cost effectiveness described above, FTA may also review the supporting reports and thematic mapping information produced by the Summit software used to generate transportation system user benefits. This review will confirm the comparability of the Baseline and Build Alternatives operating plans and the identification of network coding or model specification errors which may skew the travel demand forecast results.

Step 3. Select the Baseline Alternative before entry into Preliminary Engineering

If an acceptable Baseline Alternative was defined during alternatives analysis, FTA will select the New Starts baseline in advance of, or in conjunction with, the approval to enter preliminary engineering. This determination will be based upon the review described above. If the TSM alternative is poorly defined, entry into PE will be denied until a proper TSM alternative is developed and presented. If the results of the alternatives analysis show that no cost-effective TSM alternative is possible, FTA may select the no-build as the New Starts Baseline.

FTA must make its finding on the Baseline Alternative before it begins to "process" (that is, review, evaluate, and rate the project's project justification and local financial commitment criteria) any request to advance a project into PE. Consequently, it is in the best interest of the project sponsor to submit to FTA its *Final Definition of Alternatives Report* with all necessary information (including SUMMIT-generated reports) in advance of a formal PE request, if possible. Early

submission (and achievement of each of the other milestones described in this guidance) of information ensures a more rapid processing by FTA of the formal PE request.