



Chapter 2

Project Evaluation Criteria

The New Haven – Hartford – Springfield Implementation Study will evaluate existing and anticipated future conditions along the corridor as well as determine the effectiveness of several different alternatives. If a project is implemented, it may also need additional environmental documentation. Also, if financing is sought through Federal Transit Administration (FTA) New Starts Funding, additional documentation will be required. In order to evaluate the effectiveness of any one alternative against another or the no-build condition, evaluation criteria are required. This section highlights some of the possible evaluation criteria that can be used for this project.

As potential criteria are considered, it should be kept in mind that there are both quantitative criteria that can be calculated and qualitative criteria that will need to be measured by the participants in the study and may be interpreted differently based on the perspective of each stakeholder. The process of evaluating the quantitative criteria will be the responsibility of the study team. The qualitative criteria will be developed through the Advisory Committee and the public participation process, which includes local governments and federal and state agencies.

This chapter discusses potential criteria for the overall service plan options, the station locations and the criteria for potential FTA New Starts Funding.

2.1 Criteria for Overall Service Options

When determining criteria, goals for the particular service must first be established. An initial set of ten goals are presented on Table 2.1-1 for consideration. These goals include measures of success as part of a transportation system, its potential benefit to the environment as well a potential economic benefits. For each goal, one or more evaluation criteria are recommended.



Table 2.1-1
Goals for Service Option Evaluation Criteria

Project Goals for Service Options		Evaluation Criteria (see below table for definitions)
1	Reduced travel delay	- Travel time savings
2	Convenient, fast and seamless service	- Travel time savings - Passenger miles - Intermodal connections at stations
3	Enhanced regional mobility	- Travel time savings - Intermodal connections at stations
4	Growth in rail transit usage on a cost effective basis	- Passenger miles - Fare box recovery - Net cost per passenger - Net cost per passenger mile
5	Reduction in auto emissions and improved air quality	- Vehicle miles traveled - Mode shift - Non-motorized access to stations
6	Opportunities for transit oriented development (TOD)	- Land use designations around stations consistent with TOD
7	Reduced reliance on single occupancy vehicles	- Vehicle miles traveled - Mode shift - Non-motorized access at stations
8	Opportunities for coordination with transit	- Intermodal connections at stations
9	Consistency with the constraints of anticipated funding, and local goals and objectives	- Consistency with funding constraints - Consistency with local goals and objectives, i.e. land use designations
10	Integration with growing freight rail traffic	- Required capacity improvements and costs

Criteria Definitions:

- **Travel time savings:** This is the measure of the time traveled by train from one station to another, compared to the same trip done by car or bus.
- **Passenger miles:** This is a measure of the length of all individual passenger trips by train during one year. A rail service with increasing riders, traveling more or less the same average number of miles each year, will have increasing passenger miles.
- **Intermodal connections at stations:** This criterion identifies whether there are potential connections with existing transit services to move riders between home and the rail station, and between the rail station and the workplace.



- **Vehicle miles traveled:** This criterion measures the change in automobile miles traveled that would result from former drivers opting to ride new transit alternatives.
- **Modal shift:** This criterion measures the percentage of commuters on a given trip opting to change from automobile to transit.
- **Fare box recovery:** This criterion measures the percentage of operating costs covered by fare revenue. It is a standard measure of productivity for transit services, including buses, light rail and commuter rail.
- **Net cost per passenger:** This criterion measures the annual required subsidy per passenger carried, regardless of the length of trip. It is a standard measure of productivity for transit services, i.e., buses and rail.
- **Net cost per passenger mile:** This criterion measures the annual required subsidy per passenger mile. It introduces the concept of distance. This is important, for while a commuter rail service may transport fewer passengers than a bus or light rail service, it typically carries the passengers farther. The services in fact cater to different markets, which require different measures that reflect their productivity. This criterion is a standard measure of productivity for commuter rail services.
- **Non motorized access to stations:** This criterion identifies whether or not station locations are convenient to reach for pedestrians and cyclists. The consulting team will review station locations to determine this detail.
- **Land use designations:** These will indicate whether or not TOD is consistent with the various community general land use plans for areas around potential future rail stations. The consulting team will review station locations to determine this detail.
- **Constraints of anticipated funding:** These pertain to the funding that would be needed, and what can be anticipated to be available for implementation of the selected service options. The consulting team will analyze available funding for these options.

2.2 Station Evaluation Criteria

In addition to service alternative evaluations, each of the station location alternatives will be evaluated. In order to determine the best new station locations, the following criteria are suggested:

Station Spacing – Ideal spacing between stations is approximately five miles. Stations with a greater distance may miss potential ridership and stations closer together typically have decreased level of service due to increased travel times.

Proximity to Riders – The ability of a station to attract riders is in part reflected by the current population and employment within a half-mile walking distance of the station.



Bus Service Access – The current bus service and potential for new bus service to and from the station can affect ridership.

Parking Availability – The ability of some stations to serve commuters is partially dependent on the number of parking spaces available for those driving to the station. Parking demand, existing available parking and the ability to provide potential new parking will be evaluated.

Transit Oriented Development Potential – The ability of a rail station to generate future economic development near the station.

Geometry and Site Characteristics – The constraints that the station surroundings and rail geometrics present could influence where stations are sited. For example, it would not be desirable to site a station on a banked rail curve, in areas with drainage problems, residential impacts on adjoining houses, etc.

Major Roadway Access – The proximity and ease of access to a station from nearby major roadways would influence the success of the rail service to draw passengers from private vehicles.

2.3 FTA New Starts Criteria

FTA provides funding for selected transit projects through a program known as “New Starts”. This funding source is intended to assist local agencies support the start-up of new transit services. This is a very competitive source of funding and as such, the FTA has established “New Starts” Criteria for ranking competing transit improvements across the country. Since these criteria dictate the ultimate success in receiving funding, they are to a large degree the evaluation criteria that will be used to determine the success of project scenarios. FTA projects are evaluated according to the following:

- Mobility improvements
 - Travel time savings and transportation system user benefits
 - Low-income households and employers within a half-mile of facility
- Environmental benefits
 - Regional change in air pollutant and greenhouse gas emissions
 - Net change in regional energy consumption
 - Current air pollutant attainment status
- Operating efficiencies
 - Change in operating cost per passenger mile
- Cost effectiveness
 - Change in capital and operating cost per passenger per year
- Transit-supportive existing land use, policies and future patterns
 - Existing land use
 - Growth management policies
 - Transit-supportive corridor policies
 - Supportive zoning regulations



- Tools to implement land use policies
- Performance of land use policies.
- Other factors (considered on a discretionary basis)
 - The degree to which the policies and programs (local transportation planning, programming and parking policies, etc.) are in place as assumed in the forecasts
 - Project management capability
 - Local initiatives such as public-private partnerships, etc.
 - Additional factors relevant to local and national priorities and relevant to the success of the project.

FTA also evaluates Financial Criteria, as projects must be supported by an acceptable degree of local financial commitment, including evidence of stable and dependable financing sources to construct, maintain and operate the system.