

Economic Analysis of More Frequent & Faster New Haven Line Service

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Summary. Two economic analyses were conducted of the proposal to greatly improve service on the New Haven Line. Service will be enhanced by reconfiguring the tracks to provide dedicated express train service on the inner 2 tracks, and more frequent local train service on the outer 2 tracks. A **benefit/cost analysis** shows that a state investment in faster and more frequent service would yield benefits far in excess of the cost of the improvements. The investment results in a **benefit/cost ratio of 2.5** and generates over **\$9 billion** in long-term **user benefits** to both train riders and highway users. Benefits include things like travel time savings, vehicle operating costs, and improved reliability. A separate **economic impact analysis** was conducted to measure the impacts on the regional and state economy. It showed that improved rail service would generate over **\$6 billion** in long-term **business sales and output**.

Background. The New Haven Line is one of the nation's busiest commuter rail lines. It carries over 39 million passengers annually and ridership is steadily increasing. It serves a critical economic function by linking Connecticut businesses to the nation's economic capital in NYC; and it serves an increasingly important role in supporting economic development and commuting within Connecticut by linking Stamford, Norwalk, Bridgeport, and New Haven with smaller communities within the 45-mile corridor.

The New Haven Line has the potential to carry thousands of additional commuters, if we can fully utilize the four tracks that exist through most of the corridor. Today, only 2-3 tracks are in service at any one time due to the frequent repairs needed for components like bridges, tracks, and electric power. Some of the line's bridges are well over 100 years old, require frequent repairs and slower operating speeds. Improving the New Haven Line is critical to the economic success of the highly congested I-95 New York to New Haven corridor, both to attract and retain businesses and to attract the type of talent that demands more travel options and convenient transit access.

New Full Capacity Service (2+2) The *Let's Go CT* program includes funding for all the necessary infrastructure repair and reconstruct projects that will help restore track capacity. Besides the infrastructure repair program, *Let's Go CT* includes an additional **\$2 billion** to reconfigure and upgrade the Connecticut system to improve the frequency and speed of service. Sections of track, the signal system, communication system, and some stations (center island platforms for express trains) will be reconfigured to provide express train service on the 2 inner tracks, and local train service on the 2 outer tracks (2+2). This will accommodate more frequent local service and faster more frequent express service.

Economic Analysis Methods. The study team conducted two separate analyses:

- (1) **Benefit/Cost Analysis** (BCA), which compares the rail improvement cost to its value to travelers
- (2) **Economic Impact Analysis** (EIA), which highlights the additional business activity and jobs that the rail improvement will make possible.

The proposed 2+2 service was compared to existing service levels. Both the BCA and EIA for this comparison clearly demonstrate the value of more frequent and faster rail service to businesses and travelers.

Benefit Cost Analysis (BCA)

The BCA results are presented in Table 1. The analysis demonstrates that the benefits to rail and highway travelers are over two and one-half times greater than the cost of reconfiguring and upgrading the New Haven Line for 2 express service tracks and 2 local service tracks. With a present value of future benefits estimated at **\$9.7 billion** and a present value of project cost of \$3.9 billion (*including operations and maintenance*), the **benefit/cost ratio is 2.51**. This is an excellent B/C ratio for a major passenger rail enhancement. A high-functioning New Haven Line is essential for the continued growth of the New York – New Haven Corridor as a place to live and to do business.

Table 1
Benefit/Cost Analysis: Long-term Costs¹ & Benefits² of Improved Service

Type of Benefit	Present Value of Benefits and Costs
Project Benefits	\$9.7 Billion
Project Costs	\$3.9 Billion
Net Benefits	\$5.8 Billion
Benefit/Cost Ratio	2.51

Economic Impact Analysis (EIA)

Long-Term Benefits. The long-term impacts of the rail line enhancements on the economy are presented in Table 2. The analysis shows that improved express and local train service will enable **\$6.2 billion** in long-term cumulative *business sales and output*. This represents the potential economic growth that can be gained from reconfiguring and upgrading the New Haven Line to provide a higher level of service.

¹ Projects costs are discounted and include capital costs as well as increased operating, maintenance, and other costs.

² The BCA method accounts for all future costs and benefits, but discounts or lowers the value of future costs and benefits to be comparable to current dollars. A discount or interest rate is applied to reflect the lower value of benefits received 20 years from now as compared to receiving benefits today. Costs are also discounted.

Table 2
Economic Impact Analysis: Long-term Economic Growth Benefits³

Type of Economic Benefit	Cumulative amount of benefit from replacement
Additional Business Sales	\$6.2 Billion
Additional Gross State Product	\$3.9 Billion
Additional Wage Income	\$2.8 Billion

Short-Term or Construction Benefits. The impacts of the project’s construction spending on the economy were analyzed separately. These impacts are limited to the time period during project construction and are not considered to be a permanent boost to the economy. Construction impacts are presented in Table 3. Construction spending is expected to generate **\$9.1 billion** in additional business sales during the construction period.

Table 3
Economic Impact Assessment: Short-Term or “Construction” Impacts

Type of Economic Benefit	Cumulative amount of benefit from construction
Additional Business Sales	\$9.1 Billion
Additional Gross State Product	\$6.3 Billion
Additional Wage Income	\$4.9 Billion

Job Impacts. The economic impact of job growth is accounted for in the ‘Additional Wage Income’ reported in Tables 2 and 3. However, there is no good way to portray the *cumulative* job impacts, so these are presented separately in Table 4. It presents both the new jobs created during construction and the long-term or permanent jobs.

Construction Jobs. The project will provide a **major boost to construction and related** industries during the multi-year construction period. The construction project is expected to support **4,000 – 6,000 jobs** during the period of construction. However, these are not permanent jobs, and will mostly disappear once construction is complete.

³ Values for the EIA table are the cumulative totals for the stream of benefits over the study period which extends to 2050. They are not discounted as in the BCA, and the individual categories cannot be added since both Gross State Product and Wage Income are components of Business Sales.

Permanent Jobs. The long-term impact of the New Haven Line service improvements on jobs will be substantial. For every year following the opening of the new facility, the improved transportation efficiency and lower travel costs will save households time and money, and create a competitive advantage for the region’s businesses. These transportation cost savings will support the creation of **2,000 – 3,100 jobs over the life of the upgrades rail line.**

**Table 4
Economic Impact Assessment: Construction & Permanent Jobs**

Type of Job	Number of Jobs
<u>Construction Jobs</u> <i>(for duration of construction)</i>	4,000 – 6,000 jobs
<u>Permanent Jobs</u> <i>(for the life of reconfigured rail line)</i>	2,000 – 3,100 jobs

Conclusions

The proposed enhancement to the New Haven Line will substantially improve the speed, reliability and comfort of the New Haven – New York service. It will leverage the substantial demand for long-distance travel in the commuter corridor and reinforce the attractiveness of Fairfield County’s cities and towns as highly desirable places to live, work, and raise a family. The enhancement project will create an efficient system of local and express train service on revamped and enhanced infrastructure that will last for generations to come.

The two economic analyses show the region and state will gain benefits that far exceed the cost of replacement.

- **Benefit/Cost Analysis** shows that users will realize **\$9.7 billion dollars in benefits** such as reduced travel time and improved travel reliability (includes both rail and highway users). This provides a **B/C ratio of 2.51**, or a return of **2.51** dollars for every dollar spent to reconfigure and upgrade the rail line.
- **Economic Impact Assessment** shows that the improvements will yield over **\$6.2 billion in business sales and output** over a 25-30 year period after it is constructed.
- **Construction spending** will generate another **\$9.1 billion** in business sales during the period of construction.

The economic analyses demonstrate that enhanced New Haven Line service increases the region’s economic competitiveness and provides substantial opportunities for economic growth.