

## **6.0 Commitment of Resources**

### **6.1 INTRODUCTION**

This chapter presents a discussion of the permanent commitment of resources of the South Coast Rail Alternatives and an evaluation of the potential “costs” of consumption of environmental resources during the short-term construction phase of the South Coast Rail Alternatives compared to the longer term productivity benefits associated with the operation of the South Coast Rail Alternatives. In accordance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality’s implementing procedures under Title 40, Part 1502 of the Code of Federal Regulations (C.F.R.), any Environmental Impact Statement (EIS) prepared pursuant to NEPA must include an analysis of both the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity, and of any irreversible or irretrievable commitments of resources that would occur should the action be implemented (see 40 C.F.R. 1502.16).

### **6.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

#### **6.2.1 INTRODUCTION**

Resources that would be irreversibly and irretrievably committed to the South Coast Rail Alternatives include funds, land, construction materials, energy and labor. However, based on social and economic studies undertaken for the analysis of potential impacts as a result of the South Coast Rail Alternatives, these are not considered to be in limited supply. Thus, the use of such resources in the construction of the South Coast Rail Alternatives would not adversely impact the availability of such resources for other projects both now and in the future.

Depending on the Build Alternative, it is estimated that expenditures for labor and materials during the construction phase would generate approximately 7,000 to 8,000 jobs for the Attleboro, Stoughton and Whittenton rail alternatives and 1,360 to 1,560 jobs for the Rapid Bus Alternative<sup>1</sup> (see Chapter 4.3 - *Socioeconomics*). The use of labor for the construction of the proposed Build Alternatives would thus be a temporary benefit consistent with local, regional and state plans for the maintenance and expansion of employment opportunities in the South Coast region.

The Build Alternatives could also irreversibly and irretrievably alter visual resources, historic resources, open space, Areas of Critical Environmental Concern (ACEC), farmland, plant, wildlife and fish communities and habitats and wetlands. The No-Build (Enhanced Bus) Alternative would also irreversibly and irretrievably commit funds, land, construction materials, energy and labor to maintain transportation facilities including rail facilities and the roadway network and to make limited improvements to existing Park and Ride facilities.

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<sup>1</sup> EOT. 2009. South Coast Rail Economic Development and Land Use Corridor Plan. Commonwealth of Massachusetts, Executive Office of Transportation and Public Works, and Executive Office of Housing and Economic Development. Prepared by Goody Clancy: Boston. Pg. 9.

## **6.2.2 NO-BUILD (ENHANCED BUS) ALTERNATIVE IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

The No-Build (Enhanced Bus) Alternative would result in an irreversible or irretrievable commitment of resources associated with maintenance and potential rehabilitation activities that could be taken over the short-term and long-term to address safety and level of service deficiencies of the existing transportation facilities. Maintenance of existing transportation facilities (rail and roadway) and rehabilitation of park-and-ride facilities and other improvements under the No-Build (Enhanced Bus) Alternative would require commitments of construction materials, energy, labor and funds. Land use along the highway alignments is generally designated as transportation/utilities. These alignments would not change and no substantial new construction or land acquisition would be required for the No-Build (Enhanced Bus) Alternative.

Over the short-term, commitments of funds, materials, energy, land and labor under the No-Build Alternative would be less than those under the Build Alternatives because construction of the proposed project would not occur. However, over the long-term, energy use under the Build Alternatives will generally be lower than the No-Build Alternative because of improvements in transportation efficiency.

The cost of long-term transportation facilities maintenance under the No-Build Alternative compared to the Build Alternatives is uncertain. The Build Alternatives may create a new rail line or roadway segments or enlarge an existing rail line or roadway that will need to be maintained in the future. The No-Build Alternative may require more maintenance to compensate for the increased use of existing transportation facilities (rail or roadways) without the Build Alternatives.

## **6.2.3 BUILD ALTERNATIVES IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

### **6.2.3.1 COMMITMENTS OF FUNDS**

The total commitment of public funds for the construction of the proposed Build Alternatives will be dependent on which of the alternatives is determined to be the LEDPA. Federal funding has been provided for environmental review and Preliminary Engineering for the expansion of South Station and the selection of layover facilities in Boston and for the reconstruction of freight rail bridges in the New Bedford area. While the South Coast Rail project would utilize these facilities, these federally funded facilities have independent utility, as described in Chapter 3. To the extent that financial resources for construction would be provided through federal funds, local funds and/or private investments, such resources would not be available for other uses.

The commitment of financial resources would produce a one-time benefit to the local and regional economy through labor and capital expenditures for construction and, secondarily, through the flow of these monies within the local economy. These benefits would take the form of a temporary increase in demand for goods and services provided locally, earnings of local employees and jobs. (see Chapter 4.3 - *Socioeconomics*). The long-term benefits of the project alternatives are described in the *South Coast Rail Economic Development and Land Use Corridor Plan*. The rail alternatives are anticipated to generate \$448 million to \$487 million in annual new business output by 2030.

Tax revenue losses are considered to be an irretrievable commitment associated with the Build Alternatives. Direct losses to the local governments as a result of the Build Alternatives include property tax payments that would be lost due to the acquisition of taxable properties within the proposed right-

of-way. The Stoughton Alternatives (electric and diesel), with the greatest amount of private property acquisition, would result in an intermediate loss of property tax revenue. The Attleboro Alternatives (electric and diesel), with an intermediate amount of private property acquisition among the rail alternatives, would result in the highest loss of property tax revenue. The Whittenton Alternatives (electric and diesel), with only slightly less private property acquisition than the Attleboro Alternatives, would result in the least amount of property tax revenue among the rail alternatives. The Rapid Bus Alternative, with considerably less private property acquisition compared to the rail alternatives, also would result in the least amount of property tax revenue loss, but at a rate disproportionate to this alternative's total private property acquisition requirement.

For most communities, with the exception of Fall River and New Bedford, the anticipated municipal property tax revenue loss would be on the order of 0.01 percent of their total municipal tax revenues, ranging from \$1,227.47 to \$5,604.59. The largest component of the property tax revenue loss calculation is the \$40,410.88 estimate of loss for the Fall River Depot Station, an order of magnitude greater than for any other single element except for the \$26,125.57 estimate of loss for the Mansfield Station. These amounts of loss of property tax revenue represent up to 0.06 percent loss of total municipal tax revenue for Fall River and Mansfield. Since the Fall River Depot Station property acquisition is common to all Build Alternatives, this value dominates the total property tax revenue loss calculation for all Build Alternatives. The Mansfield Station, in contrast, is unique to the Attleboro Alternatives, and the combination of these two values substantially increases the property tax revenue impact that would result from the Attleboro Alternatives as compared to other Build Alternatives. The Corridor Plan anticipates that property tax revenues will increase in cities and towns in the South Coast region, particularly in the areas around stations, due to the value added by new transportation access.

### **6.2.3.2 COMMITMENTS OF LAND**

As described in Chapter 4.2 – *Land Use and Zoning* and Chapter 3 – *Alternatives*, a total of 25.7 to 106.8 acres of acquired land would be committed for the construction and operation of the proposed project, depending on which Build Alternative is selected. The Rapid Bus Alternative would require acquisition of the least amount of land (25.7 acres), followed by the Whittenton (approximately 78 acres), Attleboro (approximately 88 acres) and Stoughton alternatives (approximately 105 acres). The land used in the construction of any of the Build Alternatives is considered to be an irreversible commitment during the time period that the land is used for construction and during the operational periods. Should, however, a greater need arise for the use of the land, or should the Proposed Project no longer be needed, the land could be converted and committed to another use. However, there is no indication that such a need for conversion could develop or would be desirable.

### **6.2.3.3 COMMITMENTS OF ENERGY AND MATERIALS**

The Build Alternatives would require the use of various types of fossil fuels, electrical energy and other resources during construction and operation. These resources are considered to be irretrievably committed to the project. At this time, these resources are not in short supply and considered to be readily available to the Build Alternatives. As a result, the use of these resources is not expected to result in an adverse effect upon the continued availability of these resources.

The Build Alternatives would require the commitment of various types of construction materials, including steel, aggregate, cement, asphalt (bituminous materials), electrical supplies, piping and other raw materials such as metal, stone, sand and fill material. Additionally, large amounts of labor and

natural resources would be committed to the fabrication and preparation of these construction materials. This commitment of resources is irretrievable but the resources are not in short supply and their use would not result in any adverse effect upon their continued availability. Much of the material accumulated for construction may at some time be recycled or used for fill or for some other use. In addition, to the greatest extent practicable, the Build Alternatives would use recycled building materials, thereby reducing the demand for new construction materials.

Development of the proposed alternatives and implementation of mitigation would result in a temporary increase in energy and fuel consumption during construction. The initial operation of the Build Alternatives may result in a slight increase in energy consumption when compared to the No-Build (Enhanced Bus) Alternative. However the Build Alternatives would be expected to result in a long-term decrease in energy consumption, through increased travel efficiency along new or improved transit routes (rail or bus) during operation.

#### **6.2.3.4 COMMITMENTS OF LABOR**

Depending on the Build Alternative, it is estimated that the construction phase would require the commitment of labor resources in the amount of approximately 7,000 to 8,000 jobs for the rail alternatives and 1,360 to 1,560 jobs for the Rapid Bus Alternative<sup>2</sup> (see Chapter 4.3 - *Socioeconomics*). These workers will, by necessity, not be available for other projects during the construction period and should be considered as irretrievably committed to the proposed project.

### **6.3 RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY**

#### **6.3.1 INTRODUCTION**

NEPA requires the disclosure of the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity, in other words, the tradeoffs between the potential adverse impacts of the proposed project and the potential long-term benefits of the proposed project. This section defines “short-term” as being construction related and “long-term” as being the operational phase of the proposed project.

#### **6.3.2 SHORT-TERM USES**

The No-Build Alternative would not require substantial construction and this would not result in any short term impacts. Short-term construction impacts of the build alternatives would be associated with the economics of affected and displaced businesses; traffic detours; pedestrian and bicycle access; noise and vibration; and air quality, including dust. The construction of the Build Alternatives would create economic benefits during construction, in the form of jobs and the direct and indirect demand for goods and services associated with construction activities (see Chapter 4.3 - *Socioeconomics*).

The public transportation system between the South Coast region and Boston does not meet current and future regional transportation needs, as described in Chapter 2 – *Purpose and Need*, Chapter 3 – *Alternatives* and Chapter 4.1 - *Transportation*. If the Build Alternatives were not constructed, the

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<sup>2</sup> EOT. 2009. South Coast Rail Economic Development and Land Use Corridor Plan. Commonwealth of Massachusetts, Executive Office of Transportation and Public Works, and Executive Office of Housing and Economic Development. Prepared by Goody Clancy: Boston. Pg. 9.

transportation service provided by the existing transportation network between the South Coast region and Boston would continue to decline and demand for transportation would increasingly go unmet, both qualitatively and quantitatively.

The Build Alternatives would have greater impacts during the construction period than the No-Build Alternative. The environmental effects of the Build Alternatives are described in detail in Chapter 4 - *Affected Environment and Environmental Consequences* and Chapter 5 – *Indirect Effects and Cumulative Impacts*. Depending on the alternative, adverse direct construction impacts may include residential and commercial displacements, disruption of existing traffic patterns, temporary noise and dust, and the disturbance of soils, vegetation, wildlife habitat, wetlands and open space. Most of the adverse impacts can be minimized through mitigation, as described in detail for each resource topic in Chapter 4 and summarized in Chapter 7 – *Mitigation, Permitting and Draft Section 61 Findings*. Beneficial short-term construction impacts include economic benefits to the South Coast region through the generation of new employment and local expenditures.

### 6.3.3 LONG-TERM PRODUCTIVITY

The operation of the Build Alternatives may have long-term adverse impacts including the encroachment/fragmentation of wildlife habitat, wetland filling, impacts on vegetation and open space, impacts on historic resources, impacts on visual resources, increased use of deicing salts, minor increases in pollutant loadings to surface water bodies, and incompatibilities with local land uses and community character as a result of noise. Most of the adverse impacts can be mitigated, or avoided, depending on the alternative. The alternatives themselves present trade-offs between the long term productivity impacts on different resource categories.

The long-term benefits of the Build Alternatives include improved transportation access (both qualitative and quantitative) and enhanced access to important employment centers, educational and community facilities. The Build Alternatives would also contribute to improved safety conditions and air quality and reduction of Greenhouse Gas emissions, as described in Chapter 2.0 - *Purpose and Need*, Chapter 3 – *Alternatives*, Chapter 4.1 – *Transportation*, Chapter 4.2 – *Socioeconomics*, Chapter 4.4 – *Environmental Justice* and Chapter 4.9 – *Air Quality*.

In comparison to the short-term and long-term environmental consequences and mitigation, the operation of the Build Alternatives would contribute to the overall enhancement of the quality of life in and throughout the South Coast region. The Build Alternatives would improve travel conditions and efficiency, thus contributing to long-term productivity.

Through the construction and operation of the Build Alternatives and depending on the LEDPA, the following improvements would occur:

- Improvement in availability of public transportation between the South Coast region and Boston, as expressed in meeting ridership demand, with the rail alternatives providing the greatest improvement (meeting up to 63% of demand) and the Rapid Bus Alternatives the least (meeting 44% of demand).
- Improvement in the quality of transit service between the South Coast region and Boston, in terms of travel time and reliability. The Stoughton and Whittenton rail alternatives would provide the greatest improvement (with a travel time of 76 to 96 minutes), followed by the Rapid Bus Alternative (with a travel time of 103 minutes). While the travel time for the Attleboro Alternatives would represent an improvement in service, the reliability of the Attleboro Alternatives is very poor

due to inadequate operational capacity at South Station, causing extensive delays on the Attleboro Alternatives and impacting the reliability of the overall rail network.

Even with the expansion of South Station, the Attleboro Alternative would perform poorly with low reliability and would also negatively impact the performance of four other transit lines. Addressing this poor performance would require construction of a fourth track north of Forest Hills to Back Bay Station. Construction of the fourth track would be extremely costly, involve a very lengthy construction schedule and result in impacts to open space and parkland and require multiple property takings, including property takings of open space that was created to mitigate impacts of transportation improvements. The performance of the Attleboro Alternative and the construction costs, schedule and environmental impacts associated with the fourth track create a situation for the Attleboro Alternative analogous to the Middleborough Alternative, which was eliminated from consideration earlier in the environmental review process.

- Reduction in Vehicle Miles Traveled (VMT) and reduced congestion. All Build alternatives would result in a reduction of the number of miles driven by automobiles, as the Build Alternatives would induce commuters to travel by train or bus rather than drive between Boston and the South Coast region. Fewer cars on the road would ease congestion along highway corridors, resulting in time benefits.
- Improvement of air quality. The reduction in driving as a result of the Build Alternatives would reduce emissions of pollutants by mobile sources, thereby contributing to cleaner air.
- Reduction of Greenhouse Gas emissions. The reduction in driving as a result of the Build Alternatives would contribute to reduced emissions of CO<sub>2</sub> and other greenhouse gases.
- Improved safety conditions for motorists, bicyclists, pedestrians and school children along the main highway corridors and in the roadway network, as a result of reduced traffic congestion due to the Build Alternatives.
- Reduction in automobile related noise, due to reduction in automobile Vehicle Miles Traveled.
- Enhanced regional mobility. In addition to improving access between the South Coast region and Boston, the Build Alternatives would also enhance mobility within the region by including interregional links that provide one-seat rides from one municipality to another.
- Improvement in access and travel time to jobs colleges, hospitals, and Boston for environmental justice populations in Fall River, New Bedford and Taunton, as described in Chapter 3.3 - *Alternatives*.
- Smart Growth benefits. According to the South Coast Rail Economic Development and Land Use Corridor Plan,<sup>3</sup> commuter rail service to the South Coast would generate nearly \$500 million in new economic activity every year. This is new growth by the year 2030 that would not occur without the new infrastructure. The rail connection is projected to create between 3,500 and 3,800 net new jobs within the Commonwealth by 2030—about two-thirds of which would locate in the South Coast region with the remaining third in Boston-Cambridge and other communities outside the region.

The construction of the Build Alternatives would be phased and only portions of the project area would be committed as a construction site at any given time (see Chapter 3.2 – *Description of Alternatives*). Therefore, the land area to be used during the various construction phases is considered as a short-term use while during the operation of the proposed project this land area is considered to be a long-term use. The productivity of this land, in terms of its economic productivity in generating property and sales

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<sup>3</sup> EOT. 2009. *South Coast Rail Economic Development and Land Use Corridor Plan*. Commonwealth of Massachusetts, Executive Office of Transportation and Public Works, and Executive Office of Housing and Economic Development. Prepared by Goody Clancy. Boston.

taxes, would be lost during this period and in the long-term, but may be recovered through the economic development predicted by the Corridor Plan.

The construction period will generate new productivity in terms of new construction related employment, new payrolls and purchases of materials, supplies and services. As a result of the proposed project, non-construction related employment would be generated temporarily during the period of construction, with the addition of new purchases both from construction related activity and the added expendable income resulting from the generated part-time and permanent employment.

Depending on the alternative, the long-term effect of the construction and operation of the proposed project would be to more fully meet the existing and future demand for public transportation between Fall River/ New Bedford and Boston, Massachusetts to enhance regional mobility (see Chapter 2 – *Purpose and Need*).