
4 Implementation

Constructing a trail on the South Sudbury Industrial Track is physically feasible. This chapter discusses the steps that will need to be taken, if the project moves forward, in terms of right-of-way acquisition, design, construction, and trail operation.

A ACQUISITION OF THE RIGHT-OF-WAY

Interested citizens have met with officials of the Executive Office of Transportation to explore the possibility of state ownership of the right-of-way in Framingham and Sudbury. The Commonwealth now owns the right-of-way north of the Central Mass. line as far as Lowell, as discussed in Chapter 2. If the Commonwealth does not purchase this segment, then the communities would be responsible, unless other parties are identified.

Sudbury has Community Preservation Funds available, and those monies could be requested for acquisition. Framingham would have to appropriate or somehow find funds. There is a newly formed limited liability corporation expressly established to buy rights-of-way and hold them until public funds are available.⁵⁷

Whatever the funding source, the land would be acquired under the rules of railbanking, which allows for future reacquisition of the right-of-way for rail purposes, by CSX or by another railroad. Whether the right-of-way would ever be needed for rail purposes is unknown, but rail use in the near future is extremely unlikely.

Based upon documents made available by CSX, it appears that this right-of-way was acquired in whole or predominantly by fee simple, meaning the railroad bought the land outright. It is recommended that the communities or any other entity purchasing the land complete a title search prior to acquisition. The title search will identify how the right-of-way was originally acquired and any easements that were granted.

A Phase I environmental assessment ought to be done prior to acquisition. This visual survey and review of records will help determine the location, types, and possible extent of any pollutants in the right-of-way. CSX and the purchasers would appraise the right-of-way and then negotiate the price.⁵⁸

⁵⁷ Central Highlands, LLC; Craig Della Penna, Principal.

⁵⁸ CSX has done recent right-of-way appraisals in two other areas in eastern Massachusetts: Holliston-Sherborn and Fitchburg. Appraisals for a six-mile length of right-of-way in Holliston and Sherborn were \$670,000 per mile by CSX and \$165,000 per mile by the communities. In Fitchburg, a 4.2-mile right-of-way was appraised by CSX at \$8,900,000 and by the City of Fitchburg at \$1,540,000: \$2,119,000 and \$367,000 per mile, respectively. These figures are not intended as indicators of per-mile appraisals for the right-of-way in Framingham and Sudbury. Rather, they are provided to indicate the significant disparity between local and CSX appraisals.

If the communities were to decide not to proceed with a trail, CSX most likely would sell the right-of-way to others, either abutters or other parties. Although the communities would have the option of pursuing easements in the future, that approach would be much more difficult and probably more costly.

B Design and Construction

The next step after acquisition would be preliminary engineering and design. In this step, a design firm would survey the right-of-way, providing information on slopes, water tables, and wetlands. The preliminary engineering design plans would include a layout of where the trail would go, where fencing and buffering might be required, what types of drainage and bridge work would be needed, and wetland locations.

The final design plans would include detailed construction drawings that are used in the field to build the trail. They indicate what vegetation, if any, needs to be removed, what types of roadway crossing materials are required, and all the other details needed for construction. It is estimated that the design phase, from surveying through final design, would cost approximately \$330,000 (as discussed in Chapter 3, section F).

The local share, if any, would depend on the type of funding used and the guidelines in effect.⁵⁹ The design of the Hudson-Marlborough segment of the Assabet River Rail Trail was paid for with Enhancement funds with no local share. Present guidelines for Enhancement funding require that communities pay for design through the 25 percent stage. The communities could apply for funds from other sources to help pay for their share of design, including urban self-help and recreational trail funds administered by the Executive Office of Environmental Affairs.

MassHighway paid for the design of the northern segment of the Bruce N. Freeman Memorial Path using Surface Transportation Funds. Enhancement funds were used to pay for the design of the Nashua River Rail Trail, which is on a right-of-way owned by the Massachusetts Department of Conservation and Recreation. There was no local match. A community may also seek High Priority Project funding, which earmarks money at the federal level. One design issue is dealing with contaminated materials. The Department of Environmental Protection (DEP) has established best-management practices in regard to contaminants. DEP recognizes that there will be contaminants in a railroad right-of-way due to normal operations. These are deemed acceptable as long as they remain within the right-of-way. When a trail is built, the pavement acts as a cap, to contain any contaminants in the soil.

⁵⁹ Chapter 90E, Bikeways: *Funding; expenditures; federal funds. Section 3. The commissioner shall expend ...funds as are appropriated or authorized by the general court ...Funds made available for the construction of bikeways shall be expended as follows: ... (c) One hundred per cent for the cost of unique regional bikeways and bicycle parking facilities, as determined by the commissioner.* The language regarding regional bikeway facilities resulted from the planning of the Claire Saltonstall Bikeway in the late 1970s. Just as local communities are not asked to pay for the design and construction of regional highway or transit facilities, it was decided that they did not have to be responsible for funding regional bicycle facilities.

There are some embankment areas where it would be useful to remove soil so as to widen the embankment, allowing for a wider trail. Finding places within the right-of-way where this material could be placed would most easily accommodate this removal. If the materials have to be moved from the site, then disposal costs would be incurred. A separate issue from “normal” right-of-way contamination is a spill or other incident. As noted, there have been derailments on the line.

Another contamination issue is whether there are sites adjacent to the right-of-way that might have contaminated it. A review of DEP’s database indicates that it is unlikely that any of this type of contamination occurred.

Major design concerns on the trail are the at-grade crossings. All trail users probably would be required to stop at all roadway crossings. Traffic control would need to be designed on a crossing-by-crossing basis. Some additional traffic controls on motor-vehicle traffic should be considered. These could include lowering some speed limits, increasing enforcement of the speed limits, and possibly narrowing the roadway at the trail crossings with the use of extended curbs, also known as bulb-outs.

The American Association of State Highway and Transportation Officials (AASHTO) design manual,⁶⁰ the *Manual on Uniform Traffic Control Devices* (MUTCD),⁶¹ and MassHighway’s *Project Development and Design Guidebook* would inform the design of intersections.⁶²

The design contractors, through the Massachusetts Environmental Policy Act (MEPA) process, would work closely with local conservation commissions and other concerned parties to ensure that environmental impacts are avoided or minimized and all required permits are issued. Issues to be addressed would include the clearing of vegetation, the design of the trail through flood plain areas and wetlands, the removal or capping of any contaminants, and the provision of parking (if any).

A rough initial estimate for construction is \$3,300,000, as discussed in Chapter 3, section F. As with funds for design, the communities could apply jointly for these funds through the MPO. It is expected that construction funds would be state or a combination of state and federal monies.

Although there are funds available from state and federal levels for design and construction, a community may decide to use local funds. This probably would give the community more flexibility and would most likely shorten the time required for design and construction.

C OPERATION OF A TRAIL

Safety, security, and maintenance are paramount to the operation of a trail, as discussed in Chapter 3, section F. Enforcement and education are important components of safe

⁶⁰ *Guide for the Development of Bicycle Facilities*, 1999.

⁶¹ Federal Highway Administration, U. S. Department of Transportation, 2003.

⁶² January 2006.

operations. Selective enforcement of speed limits at crossing locations would help reduce speeding. Education could be provided both to motorists who will cross the trail and to trail users. Parents and students, perhaps through parent-teacher organizations, the schools, and after-school programs, would need to be told that this trail, although separated from traffic for most of its length, does have crossings that require users to stop and cross as they would any road.

Maintaining the trail would be part of the community's overall responsibility, as occurs when a new street is added. Community-based organizations were formed along the Minuteman to take on some general maintenance and to provide a forum for discussion of issues that arose. On the Norwottuck Trail in western Massachusetts, many businesses are on a waiting list to sign on to the "Adopt-a-Trail" program. Such organizations could be formed in Framingham and Sudbury to help local staff. As indicated in Chapter 3, the local costs for maintenance and policing are estimated to be about \$12,000 per year, about \$8,000 for Framingham and \$4,000 for Sudbury.

Appendix A: History of Rail Ownership and Service

This appendix presents more detailed information on past ownership and use of the line.

Ownership

In 1870 the Framingham & Lowell Railroad was chartered to build a line from Framingham Center to Lowell. This line, opened in November 1871, was originally intended as a bypass route for freight and passenger traffic moving between points north and south of Boston. In 1881, the Framingham & Lowell was reorganized as the Lowell & Framingham Railroad (L&F), which then merged with the Old Colony Railroad in 1886, which in turn was leased to the New York, New Haven & Hartford Railroad (New Haven) in 1893. The New Haven used the L&F as a connecting route for freight traffic destined for points north of Lowell on the Boston & Maine (B&M) railroad system, but did not promote it as a through route for passengers.

The New Haven Railroad bankruptcy in 1961 ended with the sale of its assets to the Penn Central Corporation in 1968. Although the Penn Central Corporation declared bankruptcy in 1970, it continued to operate on the L&F right-of-way.

To deal with the problem of bankrupt railroads in the Northeast and Midwest, Congress passed the Regional Rail Reorganization Act of 1973. This act established the United States Railway Association (USRA), which was responsible for developing a plan for transferring viable lines to a new company to be known as the Consolidated Rail Corporation (Conrail).

The segment of the L&F between Framingham Center and South Sudbury was included in the Conrail System in 1976 because it seemed that that section had enough freight traffic to run without a subsidy. The former Massachusetts Executive Office of Transportation and Construction (EOTC), now the Executive Office of Transportation (EOT), leased the section between South Sudbury and the Chelmsford/Lowell line from the Penn Central Corporation. EOTC, in turn, contracted with Conrail to continue freight operations between South Sudbury and Chelmsford Center. The remaining segment of the L&F in Lowell was sold to the B&M.

In 1982 the Commonwealth of Massachusetts, through EOTC, purchased the segment between West Concord and North Acton, where freight operations were still active. Later that year, freight service between South Sudbury and West Concord was discontinued permanently, and EOTC purchased the rest of the right-of-way, track, and other fixed facilities between South Sudbury and State Route 3 in Lowell. These acquisitions were made to preserve the right-of-way for potential future transportation uses.

In the mid-1990s Conrail accepted a joint buyout offer for its entire system by the Norfolk Southern Corporation and CSX Transportation. Lines in Massachusetts were transferred to CSX, which assumed operation of its share of the Conrail system in 1999, including the right-

of-way segment between South Sudbury and Framingham that is now known as the South Sudbury Industrial Track, the subject of this report.

Service

Historical freight and passenger traffic on the Lowell & Framingham line was relatively light due to the rural nature of much of the surrounding territory.

Passenger

During the first four decades of operation, passenger service typically included three round-trips a day over the full length of the route: one morning peak trip, one evening peak trip, and one midday trip. All of these trains ran at least as far south as downtown Framingham, and most continued further south on the Old Colony/New Haven system. Arrival and departure times at Framingham Station (then called South Framingham) were usually scheduled to allow good connections for Boston-bound trains via the Boston and Albany Railroad (now the MBTA Framingham/Worcester line). One station, Nobscot, originally known as North Framingham, was located in the study area, north of Water Street. Two other stations were close to both ends of the study area: South Sudbury, just north of the Central Mass., and Framingham Center, just south of Route 9. Only the South Sudbury station remains; a commercial company uses it.

In 1917 the midday round trip between Lowell and Framingham was dropped to better serve wartime freight needs and was never restored. In 1932, during the Great Depression, the New Haven Railroad dropped many marginal or unprofitable services, including the northbound morning and southbound afternoon trips between Framingham and Lowell. In 1933, the Massachusetts Department of Public Utilities (DPU) authorized the New Haven to discontinue the two remaining passenger train runs between Framingham and Lowell, but required substitute bus service. A New Haven Railroad subsidiary operated this bus service until 1937, when the DPU allowed it to be dropped. An independent bus operator briefly revived the route in 1939.

Freight

Freight service on the L&F line in the early 1900s usually consisted of several daily trips in each direction. One of these trains would serve local customers while the remainder carried through traffic for interchange with the B&M at Lowell or West Concord. The connection with the B&M's Central Mass. Branch at South Sudbury was not a regular interchange point except during World War II. Through freight service to Lowell included trains to and from New Bedford and Fall River, which connected with New York-bound vessels operated by a New Haven Railroad subsidiary through the late 1930s. Through freight train service operated six days a week from New Bedford to Lowell until about 1950, when it was routed to Boston. Freight was then transported to Framingham via Readville and Walpole, where a local freight train from Framingham furnished service to L&F customers through the 1960s. From 1968 to 1973, Penn Central continued to operate through freight service from Boston to Lowell via the

L&F line, which it renamed the Lowell Secondary Track. Although through freight service ended in 1973, local service continued five days a week from Framingham.

In 1982, after discontinuance of contiguous service north of South Sudbury in 1982, the segment south from there to Framingham Center was re-named the South Sudbury Industrial Track. The line acquired a new customer in 1980, a lumber dealer at South Sudbury, when the B&M abandoned the Central Mass. Branch. The last train ran on April 13, 2000; it derailed in Sudbury. In June 2001, CSX applied to the federal Surface Transportation Board (STB) for approval to abandon the line. In October 2001 the STB approved the abandonment.

The Town of Sudbury filed notice with the STB to request that abandonment be postponed in order to allow negotiations with CSX for acquisition of the line for use as a rail trail, with a small section proposed for a highway bypass. CSX, as the property owner, has requested and received several extensions for implementation of abandonment.

By August 2004, CSX had removed the rails and ties. Because the bridges would be used if a trail were built, CSX left those in place.

Appendix B: Excerpts from the Environmental Section of the Framingham-Sudbury Rail Trail Task Force Report⁶³

There are a number of environmental, ecological and wetland resources located along the CSX ROW in the towns of Framingham and Sudbury, Massachusetts. Some of these are highlighted in this section of this report. This section also details the regulatory status of each of the wetland areas and the anticipated permitting requirements for development of the site. The descriptions and recommendations are the consequence of a preliminary inspection of the ROW for the presence of wetland resources as regulated by the towns' Wetlands Protection Bylaws, the Massachusetts Wetlands Protection Act, and the Federal Clean Water Act.

Federal Wetlands Regulations

Wetlands meeting the regulatory definition are subject to jurisdiction under Sections 401 and 404 of the federal Clean Water Act. All of the wetland areas identified on-site are subject to federal jurisdiction. Under Section 401 of the federal Clean Water Act, projects which fill less than 5,000 square feet of federally regulated wetlands do not require an individual 401 Water Quality Certification provided that the work is done with a valid Order of Conditions and that 1:1 wetland replacement is provided. Projects filling greater than 5,000 square feet of federally regulated wetlands require an individual 401 Water Quality Certification. Pursuant to Section 404 of the federal Clean Water Act, the placement of fill material and other alterations within federally regulated wetlands require authorization from the U.S. Army Corps of Engineers (ACOE). Projects filling less than 1-acre of federal wetlands may be covered under the Massachusetts Programmatic General Permit (PGP). Projects eligible for coverage under the PGP may be automatic (non-reporting) if total wetland impacts are less than 5,000 square feet and a valid Order of Conditions is obtained. Projects filling 5,000 square feet to one acre are classified as Category II and are reviewed by the ACOE and other federal agencies to determine if the project meets the conditions of the PGP. Alterations to regulated wetlands in excess of 1-acre are not eligible for the PGP and require an Individual Permit.

Massachusetts Wetlands Regulations

The Act defines wetland resource types including vegetated wetlands, streams, ponds and floodplains. The potential resource areas within the project area are regulated by the Act based on one or more of the resource definitions described below.

Land Under Water Bodies and Waterways (LUWW): As defined at 310 CMR 10.56 (2), LUWW is the land beneath any creek, river, stream, pond or lake. The boundary of LUWW is the mean annual low water level; therefore, intermittent streams do not contain the resource

⁶³ This excerpt is from the task force report of January 24, 2004.

area LUWW. Work within LUWW must not impair the water carrying capacity of the stream channel, ground or surface water quality, or the capacity of the land to provide fisheries or wildlife habitat.

Bank: As defined at 310 CMR 10.54 (2), a Bank is the portion of the land surface, which normally abuts and confines a water body. The upper boundary of Bank is the first observable break in slope. Work within Bank may be allowed provided that it does not impair the physical stability of the Bank; the water carrying capacity of the channel within Bank; ground and surface water quality; and fisheries and wildlife habitat. If proposed activities alter 10 percent (or 50 feet, whichever is less) or more of the bank on this site, a wildlife habitat assessment would be required. Alterations above the 10 percent (or 50 feet) threshold may be allowed if there is no adverse effect on wildlife habitat.

Bordering Vegetated Wetlands (BVW): As defined at 310 CMR 10.55 (2), BVWs are freshwater wetlands, which border on creeks, rivers, streams, ponds, and lakes. Fifty percent or more wetland indicator plants and evidence of hydrology determine the boundary of BVW. Work proposed on a site may alter up to 5,000 square feet of BVW provided that the lost area is replaced according to standards provided at 310 CMR 10.55 (4)(b).

Bordering Lands Subject to Flooding (BLSF): As defined by 310 CMR 10.57(2)(a), BLSF is “an area with low, flat topography adjacent to and inundated by floodwaters rising from creeks, rivers, streams, ponds or lakes. It extends from the banks of these waterways and water bodies; where a bordering vegetated wetland occurs, it extends from said wetland.” The boundary of BLSF is the estimated maximum lateral extent of floodwater, which will theoretically result from the statistical 100-year frequency storm.

Riverfront Area: As defined at 310 CMR 10.58 (a)(3), Riverfront Area is “the area of land between a river’s mean annual high-water line measured horizontally outward from the river and a parallel line located 200 feet away.”

Isolated Lands Subject to Flooding (ILSF): subject to regulation if they annually support at least 1/4-acre foot of water to an average depth of 6 inches. This must be determined by engineering calculation to determine if the required storage volume and depth can be achieved within the depression. Furthermore, the watershed contributing to the wetland or rise in groundwater must also provide the required volume of runoff.

Town Wetlands Protection Bylaw: The Towns of Framingham and Sudbury have Wetland Protection By-laws. These bylaws provide additional protections to resource areas and extend Conservation Commission authority beyond the limits provided or regulated under the state and federal statutes.

Regulatory Summary

- A number of federal, state and locally regulated wetland areas were identified on the project site. Wetland resources identified on the site include: Bordering Vegetated

Wetland (BVW), Bank, Land Under Water Bodies and Waterways, Bordering Land Subject to Flooding, and possibly Isolated Land Subject to Flooding.

- The following perennial streams were identified within the project area or adjacent to it: Hop Brook, Dunsdell Brook, Landham Brook and Baiting Brook. Therefore, the resource Riverfront Area does exist within the project area.
- Review of FEMA mapping for Framingham and Sudbury has determined that designated mapped 100-year floodplain (Bordering Land Subject to Flooding) exists within the project area.
- A review of the 2000-2001 Massachusetts Natural Heritage Atlas has shown there are no certified vernal pools. Vernal pools do not have to be certified to be protected, however. The Sudbury Wetlands Bylaw presumes any area that holds 200 cu. ft. of water for two continuous months in the spring is considered a vernal pool. It is likely that there are several areas meeting these criteria along the ROW in Sudbury.
- There is an area of estimated rare species habitat within the project area.
- Any alteration or work proposed within the state and locally regulated wetlands would be limited to 5,000 square feet of alteration, although the permitting of this alteration is discretionary on the part of the Commission, unless the proposed work qualified as a “limited project” (310 CMR 10.53). A Notice of Intent would need to be filed with the town Conservation Commissions of each town under the Act and local bylaw for approval of alteration of a wetland resource area or for work within 100 feet of BVW or Bank, or, in Sudbury within 100' of any vernal pool or within 25' of any isolated land subject to flooding meeting the local criteria of 1/8 acre foot of water 6" deep in a one-year storm event.
- In Framingham, the criterion for review is 125'.
- Notification to the Corps of Engineers and individual Water Quality Certification in accordance with federal regulations would be required if greater than 5,000 square feet of federally regulated wetlands were to be altered. Any wetlands alterations on the site will require at a minimum 1:1 wetland replication that meets applicable performance standards.

Potential Resource Areas

Deep marshes located near the junction of the ROW with Belknap Road just north of Grove Street. Deep marsh may also be found along the westerly side of ROW in the Hop Brook area north of Water Street and west of Garden in the Woods. This site also includes a beaver lodge.

Shallow marsh or shrub swamp may be found along Grove Street and at the intersection of the ROW with Belknap Road, along the westerly side of the ROW in the Hop Brook area, and along the ROW in Sudbury between Water Street and Route 20.

Deciduous wooded swamp can be found in a number of sites along the project area in both Framingham and Sudbury. Specifically between Belknap Road and Edgell Road, between Frost and Water Streets, and in various locations north of Water Street to Route 20 in Sudbury.

The project area crosses four *perennial streams*. These include: Hop Brook, Landham Brook, Baiting Brook, and Dunsdell Brook. There is *100-year floodplain* associated with Landham Brook, Hop Brook and Baiting Brook.

The project area passes through *Zone II* and near *Interim Wellhead Protection Areas* near Hop Brook and Garden in the Woods and also on the east side of the ROW in Sudbury south of Route 20.

There is an *isolated wetland*, which may or may not be a certifiable vernal pool located north of Pine Street in Framingham and near the project area. There are several potential and two known vernal pools along the trail in Sudbury.

Estimated Habitat of Rare Wildlife and Vernal Pools

According to the 2000-2001 Edition of the Massachusetts Natural Heritage Atlas, the site does include an estimated habitat of rare wildlife located in the project area. This potential site is located north of Water Street and includes portions of Hop Brook and the Garden in the Woods. There are no certified vernal pools along the ROW, however there are two documented vernal pools in Sudbury and some isolated wetlands in both towns, which could include certifiable vernal pools. A conclusive evaluation of the project area for vernal pool habitat must be done in the springtime (between March and June) when vernal pool activity and hydrologic criteria are more evident. Should vernal pool habitat or state-listed rare species be identified on the site, it may present a constraint to development on the property.

Outstanding Resource Waters

According to the Surface Water Quality Standards (314 CMR 4.00) and the 1990 Designated Outstanding Resource Waters of Massachusetts, the site does not contain any known Outstanding Resource Waters; however, the vernal pools will be considered Outstanding Resource Waters.

Drainage from the project area discharges into Landham Brook along the northern portions of the project area and Baiting Brook and Dunsdell Brook in the southern portions of the project area. All flow eventually to the Sudbury River.

Appendix C: User Demand

Estimates of demand have been made using counts from the Minuteman Commuter Bikeway. Two methods are used: comparing on-road bicycle counts in the corridors before path construction, and comparing journey-to-work data.

The number 3,000 will be used for a typical weekday use of the Minuteman at a given point.⁶⁴ Counts done on roads in the Minuteman corridor in September 1980 yielded a peak-period count of 220 bicyclists.⁶⁵ The Minuteman counts were done at four locations spaced along the 11-mile length of the corridor. Framingham/Sudbury counts, done at three locations along the 4.8-mile corridor, yielded a total of 21 bicyclists and 37 pedestrians. The Minuteman Commuter Bikeway corridor bicycle count is about 10 times as high as the Framingham/Sudbury corridor bicycle count. (Pedestrians were not counted in the Minuteman corridor.) This yields an estimate of 300 daily users for the Framingham-Sudbury facility (3,000 weekday Minuteman users times 10 percent).

For the second method, journey-to-work data are compared: the number of people in the two corridors who bicycled or walked to work. In the Minuteman corridor, of the 142,840 resident workers, 18,623 (13.0 percent) walked to work and 2,604 (1.8 percent) bicycled to work. In total, 21,227 (14.9 percent) bicycled or walked to work. The corridor numbers are from 1990, several years before the Minuteman was built. In Framingham and Sudbury, 1,015 (2.4 percent) walked to work and 90 (0.2 percent) bicycled to work. In total, of the 83,751 resident workers, 1,105 (1.3 percent) bicycled or walked to their jobs. The ratio of percentage of walkers and bicyclists in the two corridors is 14.9 to 1.3, or 11.5 times as high in the Minuteman corridor as in Framingham and Sudbury. This yields an estimated weekday use for the corridor of about 250 users.

The above results are reported in Chapter 3, section A.

⁶⁴ Minuteman users were counted from 7:00 AM to 8:30 PM on Tuesday, June 17, 1997. The total number of users, 2,524, included bicyclists (1,376), pedestrians (422), and skaters (726). This number is rounded up to 3,000 to account for the hours not counted (before 7:00 AM and after 8:30 PM) and for possible increases from 1997 to 2006.

⁶⁵This number includes 68 bicyclists at the Alewife terminus, 79 at Arlington Center, 49 at Massachusetts Avenue and Marrett Road in Lexington, and 24 at Hartwell Avenue and Routes 4/225 in Bedford.

