Highland Division Trail Springfield, MA



Prepared For:



Springfield Community Preservation Committee

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STALL AND AND IN

August, 2021





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Acknowledgements and Funding

In This Section

- a. Project Shareholders
- **b.** Funding Sources

Acknowledgements

The following project stakeholders are acknowledged for their contributions to the project and Highland Rail Trail - East Forest Park Segment Feasibility Study Report



City of Springfield

Domenic J. Sarno, Mayor



Springfield Community Preservation Committee

- LaMar Cook, Neighborhood Rep.
- Gloria DeFillipo, Planning Board Rep.
- Juanita Martinez, Conservation Commission Rep.
- Robert McCarroll, Chair Springfield
 Preservation Trust
- Terry Mitchell, Neighborhood Rep.
- David Finn, Historical Commission Rep.
- Willie Thomas, Housing Authority Rep.
- Terry Rodriguez, Park Commission Rep.
- Ralph Slate, Neighborhood Rep.



East Forest Park

- Vera Craig
- Ryan Haley

We also thank all EFPCA members and neighborhood residents for their contributions to this project



City of Springfield Department of Parks Buildings and Recreation

- Patrick Sullivan, Executive Director
- Laura Walsh, Senior Parks Project Manager



- Christopher Cignoli, Director
- Andrew Krar, City Engineer



BSC Group, Inc.

- Robert Newton, Senior Project Manager
- Matthew Stephan, Project Engineer
- Rachel Salch, Project Landscape Architect

Funding

The Highland Division Rail - East Forest Park Segment Feasibility Study was funded by the people of Springfield through the Community Preservation Act.



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Introduction and Project Overview

In This Section

- a. Purpose of the Report
- b. Project Background
- c. Project Goals

Introduction and Project Overview

Purpose

This Feasibility Study Report has been prepared by BSC Group (BSC) for the City of Springfield (the City). The purpose of this Report is to provide the City with an overall assessment to determine the feasibility of developing the Highland Division Rail Trail – East Forest Park Segment into a bikewaywalkway for the residents of Springfield. The proposed multi-use recreational trail will begin at Hickory Street near Springfield College, running south approximately 1.75 miles to Tulsa Street near the Springfield/East Longmeadow Town Line. This route follows the abandoned rail corridor and will connect the residents from several neighborhoods to the local retail areas and Springfield College.



Project Background

The proposed route for the Highland Division Rail Trail follows the former Boston to Maine rail line corridor through Springfield, Massachusetts. The Highland Division Trail was formally abandoned by the owner, Guilford Transportation Industries, in 1993, thus opening the corridor for public and private development opportunities. A Master Planning Report was prepared for the City in 1997 that first discussed the possibility of using the now abandoned railroad corridor for a non-vehicle, recreational use. Both City and public interest in the project have remained strong, and in 2019, the City issued a Request for Proposals for the conceptual design and feasibility study of the East Forest Park Segment of the Highland Division Rail Trail.

Project Goals

As part of this Feasibility Study Report, BSC has worked with both the City and the Public to establish the key project goals, which are listed below.

- Provide a multi-use recreational trail through the East Forest Park Neighborhood to allow for recreational opportunities for both cyclists and pedestrians.
- Maintain a consistent, uniform paved trail width of 12-feet to give adequate space for bi-directional travel for cyclists and pedestrians.
- Provide a safe means for cyclists to cross two major intersections with high traffic volumes.
- Integrate the proposed improvements with the abutting properties as seamlessly as possible.

Warehouse Street Trailhead



Project Overview Map



Key Trail Features

Typical Section

The proposed typical trail section for this trail is a 12-foot-wide paved path that closely matches the existing horizontal alignment of the railroad corridor. 12 feet is considered a very comfortable width for bi-directional cyclist and pedestrian travel. A minimum width of 8 feet could be used where a specific segment of the trail is constrained by abutting features and at the intersection crossings. It is intended that the paved section of the trail will be raised approximately 12 inches above the existing grade. The purpose of this grade change is to limit the disturbance of any potential contaminants left behind from the railroad use, and to have limited impact to the buried Buckeye Gas Pipeline that shares the use of this corridor. Along the route where the trail abuts residential properties, a variety of screening options are available depending on the situation. Most of these areas will be screened with vegetative barriers of native plant materials. This type of screening will be primarily used along the trail to be more environmentally sensitive and create a more natural experience to the trail user. In certain locations where additional screening is required, a wooden privacy fence may be necessary. Barriers such as guardrails or retaining walls will be included where conditions warrant. An example of such an area is north of Lake Massasoit where the corridor is narrow and has a significant grade change along the western side of the trail.



NOTE: * LOCATION OF TIMBER RAIL FENCE AS REQUIRED BY ENGINEER.

Beginning of Trail – Hickory Street

The proposed Highland Division Rail Trail will begin at Hickory Street, located adjacent to the parking Lot 6 for the Springfield College International Residence Hall and the Fuller Arts Center. Trail placemaking signage and bike route traffic signage will be provided at the trailhead to indicate the beginning/ending of the trail. This connection is intended to provide the Springfield College students and the neighboring residential properties a convenient access point to the trail.

The trail will travel along the western edge of Lot 6 with a timber guiderail on the eastern side to separate the trail from the parked cars and a small retaining wall and fence to support the trail on the western side.



Beginning of Trail - Before



Beginning of Trail - After

Trail Across Existing Rail Bridge

Approximately 600 feet south of the Hickory Street/Springfield College trailhead, the trail will meet the existing 250-foot span railroad bridge over Lake Massasoit. The project intent is to reuse the existing bridge substructure elements and provide a new superstructure capable of accommodating the proposed multi-use trail section. A major component of the future design process moving forward will be a complete structural analysis performed on the bridge.

Features for the bridge crossing will include such items as wooden decking, metal safety rails, and decorative lighting to preserve the characteristics and aesthetics of an old railroad bridge, while still allowing users to feel safe.



Trail Across Bridge - Before



Trail Across Bridge - After

Trailhead - Warehouse Street

Approximately 700 feet south of the old railroad trestle across Lake Massasoit, there is an opportunity to provide a trailhead with public parking at the end of Warehouse Street. This land is currently owned by the Gulf Oil Company. Gulf Oil no longer has any facilities on this property with the exception of some monitoring wells. In preliminary discussions with Gulf Oil, they would be agreeable to explore the use of this land as a trailhead and parking area for the trail.

As a trailhead, the gravel parking lot would include accessible parking spaces, lighting, and notice board with information such as trail mapping, history, directions, and notifications.



Trailhead Opportunity - Before



Trail Adjacent to Warehouse Street Trailhead - After



Trailhead Opportunity - After

Street Crossing – Intersection of Allen Street and Island Pond Road

The trail will continue south for approximately 1,300 feet behind mostly industrial properties until it reaches the intersection of Allen Street and Island Pond Road. As stated previously, one of the project goals is to provide a safe method for cyclists and pedestrians to cross the busy intersections in the project corridor. By directing cyclists to dismount and cross using the pedestrian crosswalks and signals, the impact to traffic flow and signal timing is minimized. The project will be providing crosswalks to the center island between Island Pond Road and Access Road and then across Allen Street to where the trail can resume within in the rail corridor. Currently, there are no pedestrian facilities located along this route. Through development of this project, the intersection will have 8-foot wide painted crosswalks, sidewalk ramps, and appropriate signage will be incorporated to provide a safe means of crossing for both cyclists and pedestrians. Additionally, as part of this project, outdated traffic signal equipment will be replaced.

As the trail approaches the intersection, pedestrian level lighting (A) will be added to the trail approximately 300 feet in each direction. Additional signage (B) will notify the trail user that they are approaching a busy intersection and how they should proceed to safely cross. Removable bollards (C) will be placed at the ends for the trail to prevent motorized vehicles from entering the trail.



Trail Crossing at Intersection - Before



Trail Crossing at Intersection - After



Trail Crossing at Intersection - After

Street Crossing – Intersection of Sumner Avenue and Dorset Street

The trail will continue south for approximately 2,200 feet behind mostly residential properties until it reaches the intersection of Sumner Avenue and Dorset Street. Pedestrian facilities currently exist at this intersection; however, they will be enhanced with signage and restriping of the intersection crosswalks in a similar manner to the Allen Street intersection. Cyclists will be directed to dismount and cross with pedestrians. The existing outdated traffic signal equipment will also be replaced.

Similar to the Allen Street intersection, as the trail approaches the intersection, pedestrian level lighting (A) will be added to the trail approximately 300 feet in each direction. Additional signage (B) will notify the trail user that they are approaching a busy intersection and how they should proceed to safely cross. Removable bollards (C) will be placed at the ends for the trail to prevent motorized vehicle from entering the trail. The removable bollards will allow emergency and maintenance vehicle the ability to access the trail safely.



Trail Crossing at Intersection - Before



Trail Crossing at Intersection - After



Trail Crossing at Intersection - After

Trail at Martin Luther King, Jr. Charter School

The trail will continue south for approximately 2,800 feet behind mostly residential properties until it reaches the driveway to the Martin Luther King, Jr. Charter School. Just prior to the school property, there is a location owned by the City for a potential connection to Dorset Street at the intersection of Blaine Street. The trail will require easements from the school at this location to cross their property. This trail will pass adjacent the school and their recreation area, providing a connection to the neighborhoods and potential recreational opportunities for the students themselves.

It is proposed that a split rail fence will be located between the school's recreation field and the trail to signal a separation of the two uses without the visual barrier of a solid wall.



Trail at School - Before



Trail at School - After

End of Trail – Tulsa Street

The project will end close to the East Longmeadow town line with a connection to Tulsa Street. Tulsa Street was chosen due to its central connection to the surrounding neighborhood. The long term goal is to continue the trail into East Longmeadow and connect with other trail systems along this route into Enfield, CT. The City of Springfield and the Town of East Longmeadow have begun the discussion about continuing the trail. The municipalities and the user groups have all expressed interest in continuing the trail.

Trail Screening Options

As stated previously, one of the project goals is to integrate the proposed trail with the abutting properties as seamlessly as possible. Where the trail runs behind primarily residential properties, screening will be provided in order to give homeowners more privacy, reduce noise from the trail, and discourage trespassing. Options for screening include natural solutions such as screenappropriate plantings, or fencing with privacy slats for narrower or more restricted areas. The goal is to provide safety and security to both the homeowners and the trail users. Each case will be reviewed for the appropriate screening methods.

Future Trail Continuity

This proposed segment of trail ends less than 500 feet from the East Longmeadow town line. The design of the trail will allow for a potential future project to continue south along the Highland Division Rail Trail into and through East Longmeadow, if desired.



Trail Screening Options - Before



Trail Screening Options - After



Anticipated Project Challenges

In This Section

- a. Right-of-Way Aquisitions
- **b.** Right-of-Way Encroachments
- c. Environmental Impacts
- d. Traffic Impacts

Anticipated Project Challenges

Right-of-Way Acquisitions

While the majority of the Highland Division Rail Trail corridor is City property, there are several areas that are privately owned and will require right-ofway acquisitions. These areas include:

- Hickory Street to the railroad bridge
- Gulf Oil property at the end of Warehouse Street.
- Land on either side of the Sumner Avenue / Dorset Street intersection
- Trail through the Martin Luther King, Jr. Charter School property to the end of the project.

Future design and funding for the project should include budgeting for the above right-of-way acquisitions.

Right-of-Way Encroachments

Conversely, there are several abutting properties along the project corridor that have encroached within the City-owned right-of-way. A key component of the project design moving forward will be working with the individual homeowners and reaching agreements for the removal/relocation of various structures, such as fencing or sheds, that will be impacted by the construction of the trail.

Environmental Impacts

BSC has conducted a wetlands investigation along the corridor of the rail line. The only areas of wetlands that were identified are along the banks of Watershops Pond.

While soil testing was not conducted during this study, it is anticipated that the soils along the rail corridor have some level of contaminants within them that are typical of all rail beds. For this reason, the proposed trail section is built up on top of the existing soils to limit the handling and potential disposal of the rail bed material.

Traffic Impacts

In general, the overall project is not anticipated to have a significant impact on traffic operations. The goal, in fact, is that it may help reduce congestion by providing non-vehicle local commuting options. However, there will likely be temporary traffic impacts during the construction of the intersection improvements at Allen Street and Sumner Avenue. The new traffic signals and slight lane modifications for the crosswalks will provide a benefit to the motoring public. BSC has conducted preliminary traffic analysis to verify the impacts these minor improvements would have on the flow of traffic through the two major intersection crossings. Further detailed traffic analysis will be required to optimize the signal timing.

Public Participation, Construction Costs, and Next Steps

In This Section

- a. Public Participation
- b. Conceptual Design and Construction Cost Estimates
- c. Next Steps

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Public Participation, Construction Costs, and Next Steps

Public Participation

It is vital to a project of this scope to have active participation from the public. Throughout this study, it was obvious there was tremendous support from the community for the creation of this recreational trail. The Project Team has had several meetings with select groups within Springfield to present the layouts and concepts and generate discussions on what is most important and how to proceed. Several attempts were made to have in-person public information meetings to discuss the project, however, due to Massachusetts COVID-19 protocols, it became evident that in-person meetings were not going to be allowed during 2020. On March 31, 2021 and May 26, 2021, virtual public presentations were made, and the presentation material was made available on the City website. These public presentations generated great discussions and thoughtful comments. In addition, a public email account was created for those who wished to submit their comments through email. Below is a summary of many of the comments made by the public.

 Several comments were made regarding a possible connection/extension of the trail into East Longmeadow.

There is a desire by both communities to extend the trail into East Longmeadow in the future.

• Will there be an opportunity to provide flower boxes along the bridge section that could possibly be sponsored by local groups?

Flower boxes can be incorporated into the design of the pedestrian bridge over Lake Massasoit.

• Will a condition assessment of the bridge substructure be performed during the design?

A condition assessment of the bridge will occur within the design phase of the project.

• Will there be a need for land acquisitions to complete the project?

There are a few areas that of the trail corridor that are privately owned. Land acquisitions or permanent easements will be required.

 How will the trail be screened to provide separation between the trail and the residents? Plantings, fencing?

Each location will be assessed for screening needs. Plantings and fencing are two methods of providing the desired privacy.

• Can intersection crossings have exclusive trail crossing signal phase?

The traffic control signals operations will be assessed during the design phase. Traffic data will be collected to determine the appropriate signal phasing. It is anticipated that providing an exclusive trail crossing phase will have a negative impact on the motor vehicle congestion within these busy intersections.

• Can the project provide parking area near the East Longmeadow line?

Locations for appropriate parking areas near the East Longmeadow line will be investigated in the design phase.

 How do we keep motorized users off the trail? How do we keep people from using the trail at night?

Removable bollards are proposed where the trail crosses a roadway to help keep larger motorized vehicles off the trail. Enforcement of the rules of use set by the City will be required by the Department of Public Safety.

• Concern with people parking on side streets to access the trail.

No parking signs can be installed on the side streets that abut the trail to deter parking in these areas. Dedicated locations for public parking will be promoted to help keep people from parking on the side streets.

• Will the entire length of the trail have lights on it?

It is not proposed that the entire length of the trail be lit. Lighting is only proposed for a short distance down the trail where it crosses the roadway intersections.

• Has the City reached out to the local businesses for support?

The City has made informal inquiries to the local business for support. Further discussions will occur during the design phase.

Overall, the general opinion of those who attended the public presentations and left comments via email, showed support for the trail and are excited to see the trail move forward into detailed design.

Conceptual Design and Construction Cost Estimate

As part of the Feasibility Study, a conceptual design was developed to capture major design elements and features of the proposed trail. This design effort was the basis of the cost estimate that was prepared for this study. BSC has prepared a conceptual design construction cost estimate to help identify the large cost items in preparation of funding applications. The estimate includes major items such as paving, traffic signal equipment, lighting, and bridge refurbishment. Right-of-Way acquisitions and possible encroachment negotiations are not included in this cost.

The total anticipated cost based on the conceptual design is \$4,900,000 inclusive of major construction elements, incidentals, contingencies, and design costs.

Next Steps

The next step in order for the project to continue moving forward is to secure funding based on the Feasibility Study Report, the Conceptual Design Plans, and the Cost Estimate. The intent of these materials prepared for this Study is that they may be used to support an application to a funding source. Any application for funding should include both design fee costs as well as anticipated right-of-way acquisition costs.



Attachments

In This Section

- a. Construction Cost Estimate
- b. Conceptual Design Plans

HIGHLAND DIVISION TRAIL CONCEPTUAL DESIGN ESTIMATE OF QUANTITIES & ITEM COST

CITY	SPRINGFIELD	OVER	
TYPE	TRAIL	CLASS	
SPAN	1.75 miles	BR. WIDTH	10'
ROAD	HICKORY ST TO TULSA ST	ROAD WIDTH	12'
CALC.	MS	CHKD.	RN

HIGHWAY ITEMS

ITEM NO.		UNITS	ITEM DESCRIPTION	Unit Price	Bridge Quantity	Trail Qanitity	Intersection Quantity	Combined Quantity	Bridge Cost	Highway Cost	Intersections Cost	Total Cost
101.		AC	CLEARING AND GRUBBING	\$15,000.00	0	3.2	0	3.18	\$0.00	\$47,727.27	\$0.00	\$47,727.27
129.2		SY	OLD PAVEMENT EXCAVATION	\$25.00	0	0	6635	6635.2	\$0.00	\$0.00	\$165,880.56	\$165,880.56
152.		CY	PROCESSED GRAVEL	\$45.00	0	368	0	368.0	\$0.00	\$16,561.11	\$0.00	\$16,561.11
170.		SY	FINE GRADING AND COMPACTING - SUBGRADE AREA	\$6.00	361	2684	6635	9680.4	\$2,166.67	\$16,104.67	\$39,811.33	\$58,082.67
402.		CY	DENSE GRADED CRUSHED STONE FOR SUB-BASE	\$75.00	0	3106	1474	4580.3	\$0.00	\$232,935.19	\$110,587.04	\$343,522.22
440.		LB	CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL	\$0.40	1083	46200	19906	67189.0	\$433.33	\$18,480.00	\$7,962.27	\$26,875.60
443.		MGL	WATER FOR ROADWAY DUST CONTROL	\$50.00	1	30	13	44.3	\$35.75	\$1,524.60	\$656.89	\$2,217.24
450.23		TON	SUPERPAVE SURFACE COARSE - 12.5	\$120.00	40.63	1386	746	2173.1	\$4,875.00	\$166,320.00	\$89,575.50	\$260,770.50
450.31		TON	SUPERPAVE INTERMEDIATE COARSE - 12.5	\$120.00	41	1386	746	2173.1	\$4,875.00	\$166,320.00	\$89,575.50	\$260,770.50
476.		SY	CEMENT CONCRETE PAVEMENT	\$100.00	0	0	207	206.7	\$0.00	\$0.00	\$20,666.67	\$20,666.67
482.3		FT	SAWCUTTING ASPHALT PAVEMENT	\$3.50	0	0	586	586.0	\$0.00	\$0.00	\$2,051.00	\$2,051.00
503.1		FT	GRANITE CURB TYPE VA3 - CURVED	\$70.00	0	0	50	50.0	\$0.00	\$0.00	\$3,500.00	\$3,500.00
644.	*	FT	CHAIN LINK FENCE (SPRING TENSION WIRE) (LINE POST OPTION)	\$40.00	0	580	0	580.0	\$0.00	\$23,200.00	\$0.00	\$23,200.00
697.		FT	SEDIMENT FENCE	\$8.00	0	13769	0	13768.5	\$0.00	\$110,148.00	\$0.00	\$110,148.00
748.		LS	MOBILIZATION	\$5,000.00	-	-	-	-	\$15,000.00	\$9,000.00	\$6,000.00	\$30,000.00
751.		CY	LOAM BORROW	\$60.00	0	679.93	0	679.9	\$0.00	\$40,795.56	\$0.00	\$40,795.56
765.		SY	SEEDING	\$2.25	0	6119	0	6119.3	\$0.00	\$13,768.50	\$0.00	\$13,768.50
767.31		SY	STRAW MULCH	\$2.00	0	6119	0	6119.3	\$0.00	\$12,238.67	\$0.00	\$12,238.67
815.		EA	TRAFFIC CONTROL SIGNAL	\$180,000.00	0	0	4	4.0	\$0.00	\$0.00	\$720,000.00	\$720,000.00
818.42		EA	PEDESTIAN SIGNAL HEAD	\$5,000.00	0	0	8	8.0	\$0.00	\$0.00	\$40,000.00	\$40,000.00
821.	*	EA	LIGHTING	\$8,000.00	7	9	0	16.0	\$56,000.00	\$72,000.00	\$0.00	\$128,000.00
860.106		FT	6 INCH REFLECTORIZED WHITE LINE (PAINTED)	\$0.85	0	781	0	781.0	\$0.00	\$663.85	\$0.00	\$663.85
861.106		FT	6 INCH REFLECTORIZED YELLOW LINE (PAINTED)	\$1.00	0	105	0	105.0	\$0.00	\$105.00	\$0.00	\$105.00
		LS	BRIDGE REBUILD	\$925,000.00	1	0	0	1.0	\$925,000.00	\$0.00	\$0.00	\$925,000.00
		EA	BIKE RACK	\$80.00	0	4	1	5.0	\$0.00	\$320.00	\$80.00	\$400.00
		EA	TREE	\$800.00	0	10	0	10.0	\$0.00	\$8,000.00	\$0.00	\$8,000.00
		LF	TIMBER FENCE	\$50.00	0	3132	0	3132.0	\$0.00	\$156,600.00	\$0.00	\$156,600.00
		EA	BOLLARD	\$1,500.00	0	16	0	16.0	\$0.00	\$24,000.00	\$0.00	\$24,000.00
		SF	RETAINING WALL	\$60.00	0	580	0	580.0	\$0.00	\$34,800.00	\$0.00	\$34,800.00

SUBTOTAL MAJOR ITEMS \$3,476,344.90

MINOR ITEMS AND INCIDENTALS (10%) \$347,634.49

> CONTINGENCY (15%) \$573,596.91

SUBTOTAL CONSTRUCTION COST \$4,397,576.30

DESIGN COSTS (10% CONSTRUCTION COST) \$439,757.63

\$4,900,000 CONTRACT TOTAL = SAY





