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# Improving Connectivity of the Androscoggin Greenway Trail

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# Improving Connectivity of the Androscoggin Greenway Trail

Completed in partnership with the Androscoggin Land Trust

Rory Collins, Sarah Delany, Danielle Ward

Department of Environmental Studies, Bates College

April 12, 2019

## **Acknowledgements**

We would like to thank Francis Eanes and Karen Palin for their support, guidance, and feedback over the course of the semester. Our project would look extremely different without your help and expertise, and we couldn't have done this without you. Thank you to Joshua Nagine and Douglas Green, as well as the Androscoggin Land Trust and the City of Lewiston for providing us with a vision for a greenway in Lewiston, as well as copious resources, insights, and passion for the project as a whole. Your experience and commitment to the Lewiston community is inspiring, and we are incredibly grateful for your support for our project.

Thank you to our fellow ENVR 417 peers for providing insight, constructive critiques, and support over the course of the semester. We are so lucky to be a part of such a thoughtful, passionate, and driven group of students, and are grateful for the commitment to the work that all of you exhibited. To our non-project groups-- thank you for providing a space to air out concerns, tension, and stress surrounding our work this semester, but also for celebrating our accomplishments. Your support was felt consistently, and we loved having you all as a part of our work.

To our families and friends, thank you for bearing with our plentiful discussions about trails over the course of the semester. Your questions, excitement, and love kept us focused on our final goals when the end seemed far away, and your feedback and insight kept our project on track for the last ten weeks.

## Executive Summary

In post-industrial cities, access to green spaces is often difficult to maintain. The implementation of greenway trails, marked segments following or linking natural spaces, is beneficial to communities due to the increase in spaces for outdoor recreation, public health benefits, and connecting neighborhoods in municipalities to resources using a safe and maintained public walkway. The Androscoggin Land Trust (ALT) and the City of Lewiston have identified a need for such a greenway trail along the Androscoggin River, as well as a concrete cost assessment and rubric to assess feasibility. In this report, we provide two proposed trail routes for a greenway trail in Lewiston, and a rubric for assessing the implementation of different routes along the river. Also, the report includes a table and calculations assessing the estimated cost of implementation for both trail segments, as well as a list of stakeholders who would have vested interest in the creation of a greenway trail.

The criteria for feasibility of the proposed trail options is assessed using five separate criteria: adherence to the ALT goals, safety, accessibility, land use, and cost. Using these criteria, we assessed the task of connecting Lionel Potvin Park to Rancourt Preserve, with intermediary locations such as Simard-Payne Park, Veteran Park, the Tall Pines neighborhood, and the existing Androscoggin Riverside Trail. Two different trail routes are proposed, one that fulfills the criteria with a focus on ALT goals, safety, accessibility, and land use, and one that prioritizes cost over the other goals. From there, we created a chart delineating the necessary infrastructural implementations and their associated costs, and applied the costs to each proposed route. Finally, we composed a list of stakeholders in the possible construction of a greenway trail in Lewiston, including contact information and why each party might have vested interest in the project.

Per our cost assessments, we have determined that a trail fully meeting the ALT goals as well as safety, accessibility, and land use criteria has an estimated cost of \$1,036,590, while a more frugally constructed trail has an estimated cost of \$228,864. From here, we have compiled a list of recommendations to pursue the goal of a cohesive greenway in Lewiston. It is our intention that our project will be pursued along with the revitalization of downtown Lewiston,

and our procedure for assessment of feasibility will be implemented by other interested organizations and parties.

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## Introduction

Throughout the United States, greenway trails have been established to rejuvenate urban spaces, provide opportunities for outdoor recreation, establish connectivity with nature, and create corridors for active transportation. Waterfront revitalization began rising to popularity in the 1960s, when landscape architects began rethinking the use of natural space in urban areas (Muller 2012). This urban revitalization is exemplified in Milwaukee, Wisconsin; formerly an industrial brewing town. The revitalization of the Milwaukee Riverfront connected neighborhoods in downtown Milwaukee and created a more vibrant urban economy (Zimmerman 2008). Along with economic revitalization for the city, greenways can have important benefits for residents of the areas with trails. In a study on greenway use in Houston and Austin, Texas, residents described the trails as important both for recreation and transportation; although usage varied depending on the location of the trails, users identified them as contributing to an improvement in quality of life (Shafer et al. 2000). Additionally, increased conservation of land is an important benefit of the establishment of greenways. As the land conservation movement in the United States has grown over the years, states have had varied investment in it. Maine has an impressive tradition of land conservation that dates back to the early part of the twentieth century and continues strong today, and as of 2006 17% of state land was conserved (Cronan et al. 2010). This demonstrates the strong commitment to the conservation of green space statewide, cementing its importance in Lewiston.

In addition to the benefits of urban revitalization and land conservation, greenways have a number of positive impacts on public health, including support for active lifestyles, mitigation of air pollution and reduction in number of road injuries (Sallis 2004). The existing Androscoggin Riverside Greenway, which runs from Sunnyside Park to the Tall Pines development, provides many opportunities for increased health and active transportation, but lengthening and connecting the greenway exponentially increases these opportunities. Additionally, a greenway's ability to support healthy lifestyles is highly relevant to Androscoggin County residents, who reported that a lack of social support is the second greatest



self-reported barrier in the Exercise in Androscoggin County survey (Kemperman and Timmermans 2014, “Exercise in Androscoggin County”). The greenway would address this issue by creating a corridor for community members to use active transportation to reach and engage with destinations such as parks and businesses (Anderson et al. 2012, pg. 33).

Furthermore, the establishment of a greenway in Lewiston would be extremely beneficial for pedestrian safety. Creating an entirely separate pedestrian walkway encourages access to amenities and greenspaces, and does so in a way that removes threats of automobile traffic to pedestrians and bicyclists. Specifically, the intersection of Main Street and Lincoln Street has been identified by the Lewiston Pedestrian Safety Report in 2017 as a major area of concern, and is located between two gaps in the current greenway (“Pedestrian Safety Report” 2017, pg. 5). Dangerous intersections such as this one de-incentivize foot traffic, which is a detriment to the economic prosperity of downtown Lewiston. Establishing a safe, well marked greenway here would reduce pedestrian and motor vehicle collisions, and encourage active recreation and transportation in a corridor completely separate from automobile traffic, while also creating increased activity throughout the business district in Lewiston.

Despite these many benefits, urban revitalization through the establishment of green spaces has historically led to problematic issues, such as gentrification, which is a process of displacing original residents with an influx of more affluent populations (Anguelovski 2018). We believe that with thoughtful planning, greenways can strategically connect low income neighborhoods to downtown areas as free, open access resources, which would lessen the probability that the greenways encourage or contribute to negative impacts of gentrification. An example of this is present in Newtown Creek in Brooklyn, New York, where a nature walk was created without the accompaniment of the negative effects of gentrification. The cornerstone to this was the open access nature of the trail; because benefits were equally shared between all residents, current residents weren’t forced to relocate due to rising real estate prices and economic developments (Curran et. al 2012). This is the ideal solution for a greenway in Lewiston, due to the addition of green spaces without detrimental effects on the low-income population in the city. Through including local residents’ feedback in the planning process and placing emphasis on infrastructure connecting low income housing areas such as

Tall Pines to amenities, a greenway without negative consequences of gentrification has the potential to be established.

There are currently a number of green spaces that exist in Lewiston; however, there is no clear path between them. David Rancourt Preserve, Androscoggin Riverside Greenway, Simard-Payne Park, and Lionel Potvin Park are four major green spaces along the Androscoggin River in Lewiston that exist independently of each other. Although these are beneficial because they revitalize the area, conserve land, and support public health, there is an opportunity for them to be much more effective at achieving these benefits. If they were connected with a trail designated solely for active transportation, people could spend significantly more time using these spaces, maximizing their benefits. The creation of a connecting trail would also serve as a means to connect residents to the river, a currently underutilized natural feature in Lewiston.

The Androscoggin Land Trust (ALT) and the City of Lewiston have worked to conserve green spaces, support public health, and provide opportunities for Lewiston residents to use active transportation. In order to assist the ALT and the city in achieving these goals, we created a study with an aim of providing a plan to improve the connectivity of the Androscoggin Greenway Trail with the focus of improving recreation, active transportation, and access along the Androscoggin River, as well as to assist in the revitalization of urban waterfronts in Lewiston.

To achieve this aim, we determined three objectives:

**Objective 1:** Create and use a rubric for assessing the feasibility of establishing different route alternatives

**Objective 2:** Identify and assess major “pinch points,” or obstacles, to establishing trail routes

**Objective 3:** Utilize community connections to determine stakeholders and shared benefits of the Greenway to gain support for the trail and establish sources of potential funding

## Methodology

Each of the proposed steps in our methodology support one or more of our deliverables, which in turn, contribute to accomplishing our objectives and broader aim. Throughout our process we collaborated with our community partners, Joshua Nagine and Doug Greene, among others. At the end of our project we shared our Team Google Drive with Joshua and Doug so that they are able to access our work and disseminate the information as they feel is appropriate.

1. **Determine criteria for Greenway:** Using our research and discussions with our community partners and professors, we have identified the criteria for a successful Greenway in Lewiston. These criteria are listed below and in the form of a chart in our Appendix 3.
  - a. Meets ALT goals:
    - i. The trail is proximal to river.
    - ii. It conserves and enhances Lewiston Greenspaces.
  - b. Safety:
    - i. There are minimal road crossings.
    - ii. There is fencing (if it is within 5 feet of riverbank).
    - iii. It is separate from street traffic.
  - c. Accessibility:
    - i. The trail is at least 10 feet wide.
    - ii. The trail is paved.
    - iii. The slope is compliant with ADA criteria (should not exceed 8.3% increase or decrease).
    - iv. There is/can be visible, accessible signage to allow for clear navigation.
  - d. Land use:
    - i. The land that the trail runs over has cooperative owners.
    - ii. The trail is supported by stakeholders.

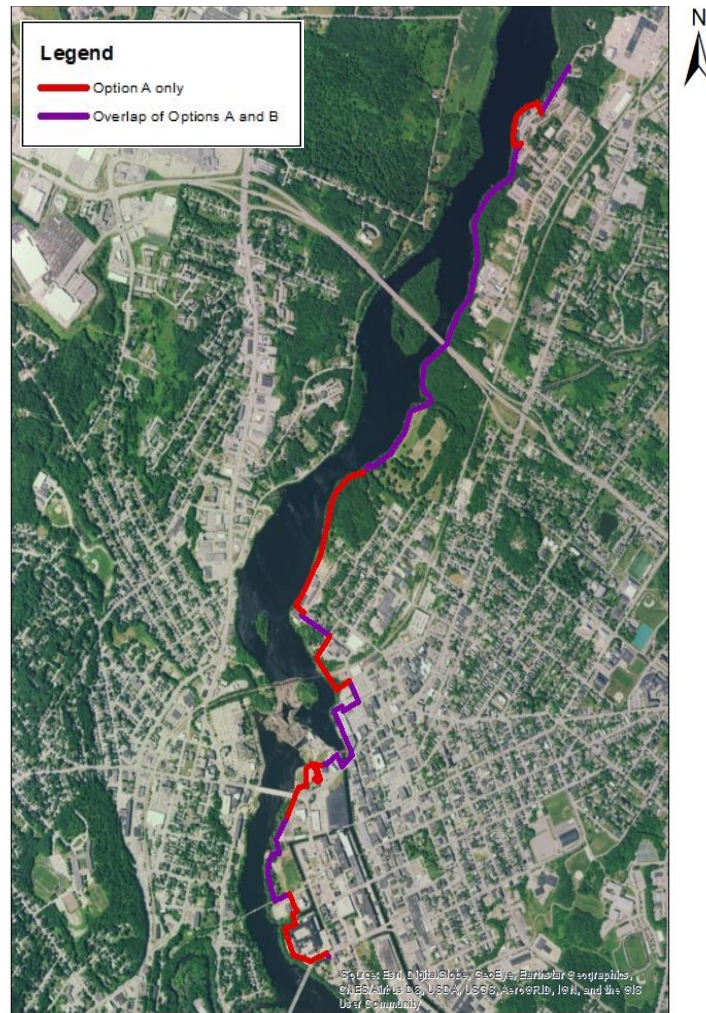
- iii. There are no issues with easements on the land that the trail runs over.
    - e. Cost:
      - i. There are no additional costs due to major obstacles i.e cost of building bridges over canals.
- 2. **Map route options:** Using GIS, we created roadmaps to illustrate the proposed route alternatives for the Greenway. We worked with Lewiston City Planner, Doug Greene, and his experience with mapping in Lewiston and the Auburn Greenway proposal to guide our mapping. We also worked with Camille Parrish from Bates College to help us obtain relevant layers for our maps.
  - a. We created an overview map, and then multiple section maps for each of the four segments. These maps can be found in Appendix 9.
    - i. We worked around the ‘pinch points’ in our routes, which is a term that Joshua Nagine suggested we use to describe an area where building a trail is logistically challenging and it is necessary to reroute the trail around obstacles.
- 3. **Take photographs:** In addition to maps, we used photographs to supplement our proposal for routes.
  - a. We took photographs to visually represent parts of routes and pinch points.
  - b. We consolidated photographs into one folder, which is in our Team Google Drive (this was shared with our community partners).
- 4. **Evaluate route options:** Using our GIS maps and our criteria for feasibility chart, we created radar charts to represent scores and allow for easy comparisons between segment options.
  - a. We made a corresponding radar chart for each segment map. These can be found in Appendix 6.
  - b. On all of the slope maps, the yellow represents slope that exceeds 8.3% increase or decrease. This was made using 10m Digital Elevation Models on GIS.
- 5. **Determine cost estimates:** Using a study by UNC Highway Safety Research Center, we determine cost estimates for each trail route alternative.

- a. We used pie charts to represent the total estimated costs of each option.  
These are Figure 3 and Figure 4.

6. **Identify and list stakeholders:** By consulting with our community partners and conducting our own research, we identified what groups, individuals, and businesses have a vested interest in the Greenway. Specifically, we focused on property owners that were relevant based off their proximity to our proposed trail. We determined what their priorities are with regards to the Greenway, with input from our partners and our research.
  - a. We created a document with a list of stakeholders, their contact information, and why they would be/are interested in the Greenway. This list can be found in Appendix 11.
7. **Presentation:** We presented our proposed route options and relevant accompanying data to Androscoggin Land Trust board members at the ALT office on April 8th at 3:30pm. We presented our findings using a Google Slides presentation. The purpose of this presentation was to provide the ALT with researched options and plans for implementation.
  - a. We created a Google Slides presentation introducing our project and summarizing our findings.
  - b. We prepared visual representations such as maps detailing the overall route as well as identified pinch points.
  - c. We met before the presentation to run through, as well as to break up speaking roles.
  - d. We presented our findings to board members of the Androscoggin Land Trust and others on April 8th.
  - e. We shared our presentation slides with our community partners.
8. **Final report:** We wrote and submitted our final report to Francis Eanes and Karen Palin on Friday, April 12th.

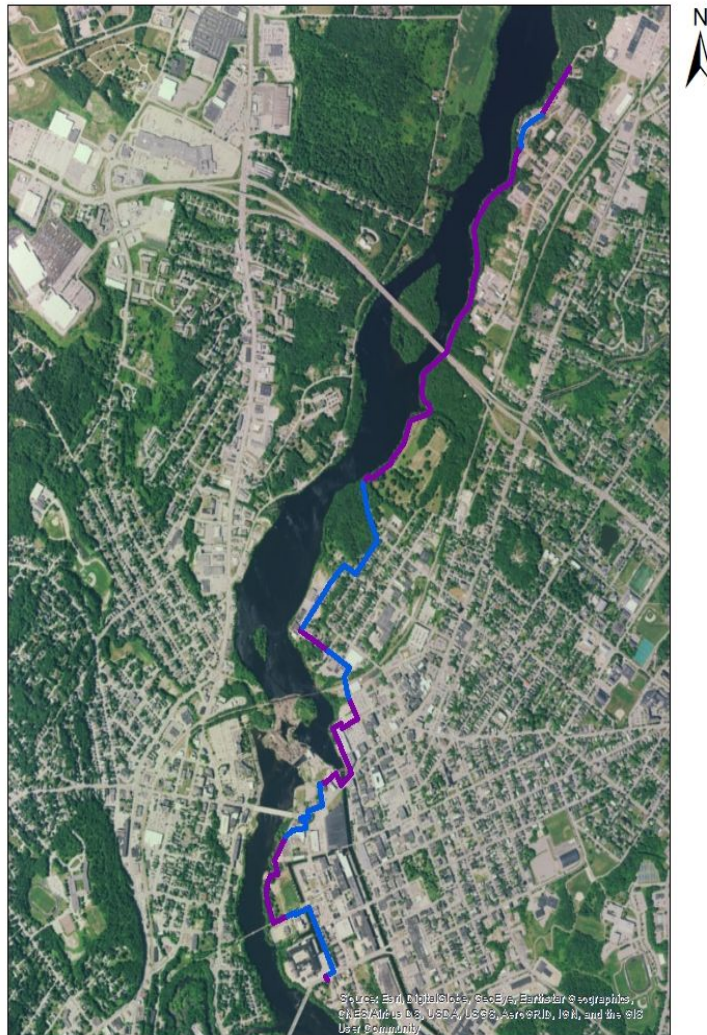
## Results and Discussion

Using GIS, we created two connected trails alternatives, which we referred to as “Option A” (our ideal route), and “Option B” (our more cost effective route). We used red lines to represent where the Option A trail would be when looking at an aerial map.



**Figure 1:** GIS map showing the entire “Option A” from Lionel Potvin Park to David Rancourt Preserve.

Similarly, we used blue lines to represent where the Option B trail would be when looking at an aerial map.

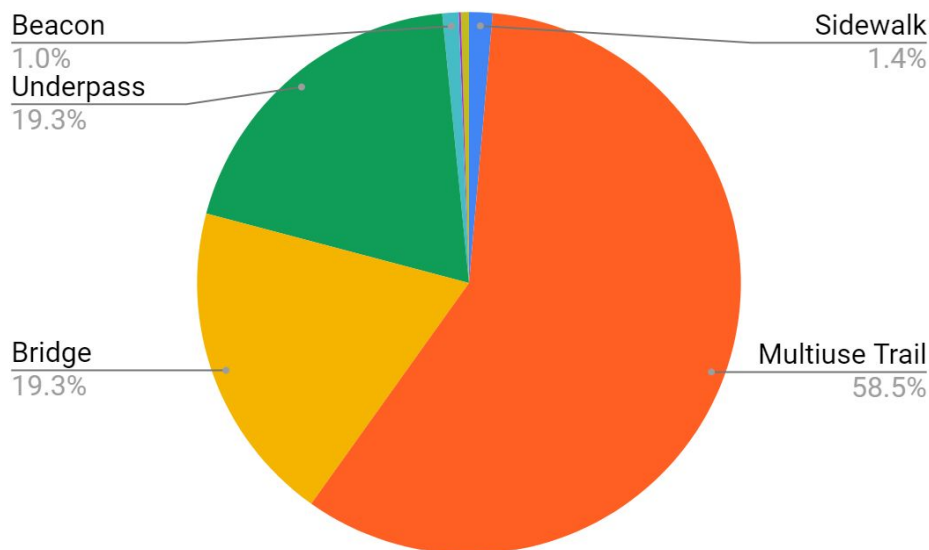


**Figure 2:** GIS map showing the entire “Option B” from Lionel Potvin Park to David Rancourt Preserve.

There was a significant amount of overlap for both options, so we use purple lines to represent where both trails would be. This map can be found in Appendix 9. Both “Option A” and “Option B” fully connect Lionel Potvin Park to the David Rancourt Preserve, which spans roughly 3.6 miles total. We divided the full “Option A” and “Option B” into four segments based on the green spaces that they connected. Each segment is mapped and can be found in Appendix 9. Using our rubric for grading trail segments (see Appendix 4), we created radar charts (see

Appendix 6) to grade each trail segment. Although we did not factor cost into the scores, given our criteria for feasibility, it is clear that “Option A” better meets our ideal trail criteria. The full scoring can be found in Appendix 5.

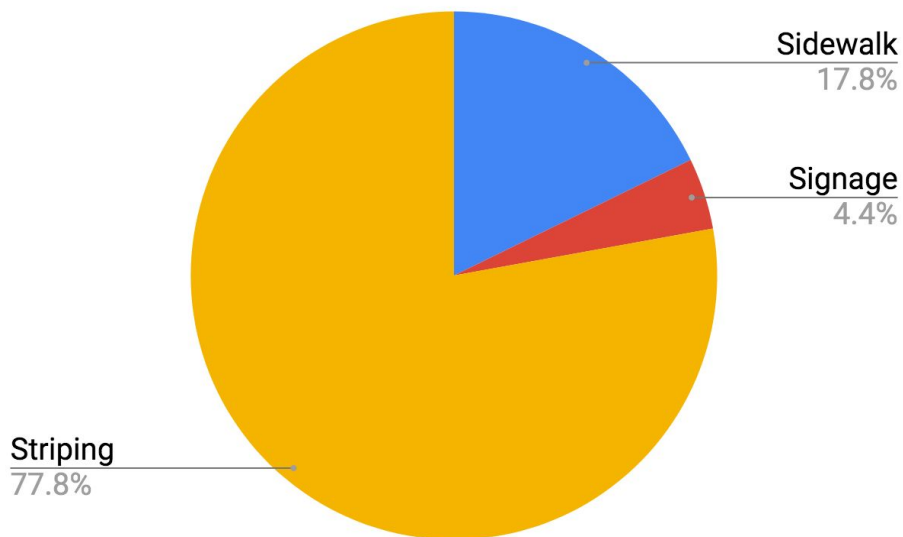
When considering cost, it was initially thought that “Option A” was going to be extremely expensive and require federal grants to implement. While federal grants are indeed necessary, the total cost may not be as expensive as we originally assumed. The estimated total cost of “Option A” was \$1,036,590. We estimated costs based on a study titled, *Costs for Pedestrian and Bicyclist Infrastructure Improvements: A Resource for Researchers, Engineers, Planners, and the General Public*. The cost assessment was written by UNC Highway Safety Research Center in 2013 in an academic context. It used around 1,747 costs entries were obtained from 40 states in the United States, including Maine (Bushnell et al. 2013, pp. 10). However, it should be noted that costs can vary widely depending on the location and the costs listed should be considered estimates, rather than accurate costs. For our estimates for “Option A” and “Options B,” we used average costs of certain infrastructure additions for pedestrian and bike trails, and used our judgement for where we thought they would be included in our proposed trails. The major costs for “Option A” includes the construction of a multi-use trail along the entire route, and the construction of a bridge and underpass (Figure 1).





**Figure 3:** Pie chart highlighting the percentages of total cost for “Option A.” The estimated total cost of this option is \$1,036,590.

We implemented the same strategy for estimating the total cost of “Option B.” The estimated total cost for “Option B” totaled \$228,864. For this option, the major costs are the striping of a route along the entire greenway, and the construction of a sidewalk on the west side of the street from Tall Pines to David Rancourt Preserve (Figure 2). Striping includes painting a line down the trail to make it more visible and to designate two “lanes” for the trail.



**Figure 4:** Pie chart highlighting the percentages of total cost for “Option B.” The estimated total cost of this option is \$228,864.

Upon completion of our final presentation to the ALT and community partners, it became clear that the estimated cost of “Option A” is a realistic goal for a connected and continuous greenway. Based on the numerous outlined social factors involved, the implementation of a cohesive greenway will be a major benefit to the community in Lewiston. Our cost estimate indicates that a federal grant is necessary for the completion of the project, and because “Option A,” was only \$1,036,590, then it would be feasible. However, human error and a need for more research on cost could be reasons for an objectively low cost estimate for “Option,” particularly in the cost estimate for the construction of an underpass at

the Main Street bridge (see Appendix 10). Moreover, it can be assumed that the estimated cost for “Option B” is low for the same reasons. However, our estimates suggest that is still far more cost effective and is feasible as a secondary option for Lewiston; however, it requires a sacrifice of safety, fulfilment of ALT goals, and connectedness that “Option A” exemplifies.

While working on this project we have been cognisant of the potential influence on gentrification that a trail may have in Lewiston. We understand gentrification as a process of displacing original residents with an influx of more affluent populations (Anguelovski 2018). Historically, green spaces in cities has led to this negative impact of gentrification. We recommend that the ALT and the City of Lewiston consider who the trail serves and who it may affect. Additionally, we believe it is important to involve local communities in the planning and implementation process when the greenway is constructed. With strategic and thoughtful planning, the possibility for gentrification associated with greenways can be avoided.

## **Recommendations for next steps**

The purpose of this project is to provide the ALT with researched options and feasibility assessments for connecting the Greenway. We are offering our work to the ALT so that they may use it to make decisions as they move forward in applying for grants and building the trail. Based on our findings and research, we believe funding will be a major factor in implementing the trail. At this point in time, we only have enough information to give rough estimates of costs; however, these estimates suggest that a federal grant is necessary to build most trail options for connecting the green spaces. If the City is prioritizing a lower cost trail alternative, we would recommend trails the second options (1B, 2B, 3B, and 4B). If the City is prioritizing a trail that meets the ALT goals, and maximizes safety, accessibility, and ease of land use, as defined earlier in our report, then we would recommend the first options (1A, 2A, 3A, 4A). We provided different options for specific ‘pinch points’ along the trail is so that the City can to customize either of the two general options. If the City is interested in spending more money on the part of the trail that is closest to downtown Lewiston, (for economic development, large number of trail users, etc.), then we recommend considering options 1A or 2A. The final route can be any of a number of combinations of different mapped segments, but “Option A” is the ideal scenario considering the aforementioned criteria. Regardless of their priorities moving forward, the City and the ALT can utilize our project to determine feasibility and rough cost estimates of route alternatives.

From our research we became aware of the numerous previous studies and proposals for greenways in Lewiston. Some of these reports have been published online and some only exist in print, as far as we know. We have consolidated relevant materials into one folder, which we believe can be useful for providing context, understanding the expressed need for a trail, and seeing others’ methods and findings. We suggest that the ALT uses this collection as a resource, both for the eventual implementation of a greenway in Lewiston and for other communities nationwide with similar goals.

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# Appendices

## Appendix 1: Contact Persons

Francis Eanes- Bates College professor of environmental studies capstone  
 Karen Palin- Bates College professor of environmental studies capstone  
 Joshua Nagine- ALT director and community partner  
 Doug Greene- Lewiston City planner, ALT director, and community partner  
 Camille Parrish- Bates College, GIS support  
 Sam Boss- Bates College Harward Center, community engagement support  
 Shelley Kruszewski- ALT executive director  
 Richard Burnham- Lewiston City engineer

## Appendix 2: Key for Segments

Trail segment	Trail route name	Trail description
Lionel Potvin to Simard Payne	1A	Behind Continental Mill
Lionel Potvin to Simard Payne	1B	Down Oxford St
Simard Payne to Pedro O'Hara's	2A	Along river, underpass over bridge to Heritage Park
Pedro O'Hara's to Riverside trail	3A	Mostly on Street
Riverside trail to David Rancourt	4A	Behind Tall Pines, sidewalk on same side
Riverside trail to David Rancourt	4B	Sewer easement behind Tall Pines

### Appendix 3: Feasibility criteria chart for route options



### Appendix 4: Rubric for Grading Trail Segments Feasibility

Each route option received a score (from 1-5) for each of the criteria above.

The scoring is defined below.

We assessed feasibility of each route option using this scoring and our criteria. We included an extra criteria called “ease of implementation.” However, we recognize our limited knowledge in addition to the moving parts involved in implementing a trail. Therefore, we suggest using this score as a roughly estimated guide.

#### ALT Goals:

- 1- Does not follow any of the goals of the ALT for a trail segment
- 2- Is not in view of the river and somewhat conserves greenspaces
- 3- Is somewhat in view of the river and mostly conserves green spaces
- 4- is mostly in view of the river and mostly conserves and preserves green spaces
- 5- Is in view of the river and conserves and preserves green spaces

#### Safety:

- 1- Frequently has road crossings, is not fenced next to river, is frequently near street traffic

- 2- Frequently has road crossings, is fenced when next to river, is frequently near street traffic
- 3- Has occasional road crossings, is fenced when next to river, is somewhat separate from street traffic
- 4- Has minimal road crossings, is fenced when next to river, is mostly separate from street traffic
- 5- Has no road crossings, is fenced when next to river, is fully separate from street traffic

**Accessibility:**

- 1- Is not ADA compliant, not paved, signage is not present
- 2- Is somewhat ADA compliant, not paved, signage is not present
- 3- Is mostly ADA compliant, paved or gravel in parts, signage is not present
- 4- Is fully ADA compliant, paved or gravel trail, signage isn't present
- 5- Is fully ADA compliant, paved, proper signage is present to allow for clear navigation

**Land Use:**

- 1- Landowners are not very cooperative, trail is not heavily supported by stakeholders, major issues with stakeholders
- 2- Landowners are somewhat cooperative, trail is somewhat supported by stakeholders, there are issues with stakeholders
- 3- Landowners are somewhat cooperative, trail is mostly supported by stakeholders, some minor issues with easements
- 4- Landowners are mostly cooperative, trail is fully supported by stakeholders, little to no issues with easements
- 5- Landowners are cooperative, trail is fully supported by stakeholders, no issues with easements

**Cost:**

- 1- Federal grants are most likely going to be required for this segment to be completed
- 2- Very expensive additional costs required to complete this segment. I.e adding a bridge over canal
- 3- Frequent and necessary additional costs needed. I.e widening sidewalks, adding fencing
- 4- Infrequent small and necessary additional costs needed. i.e widening sidewalks, adding some fencing
- 5- No additional costs are required to build the trail aside from paving and necessary fencing. I.e no bridges are required and sidewalks do not need to be widened



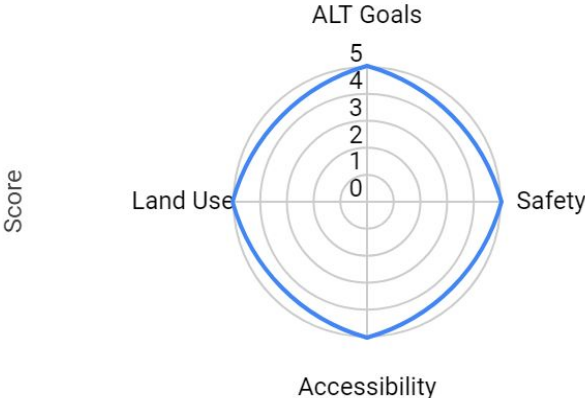
**Appendix 5: Trail Segment Feasibility Score Sheet**

Segment Option	ALT goals	Safety	Accessibility	Land Use	Total
1A	5	5	5	5	20
1B	2	3	5	5	15
2A	5	5	5	5	20
2B	4	3	5	4	16
3A	5	5	5	3	18
3B	4	4	5	3	16
4A	5	5	2	3	15
4B	3	4	5	3	15
					Option A total: 72
					Option B total: 62

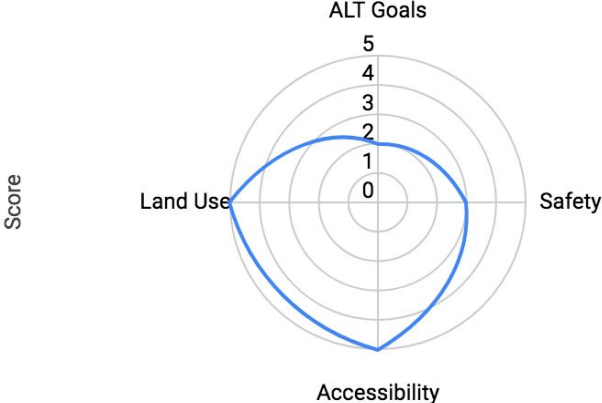
**Appendix 6: Radar Graphs indicating scores for each trail segments**



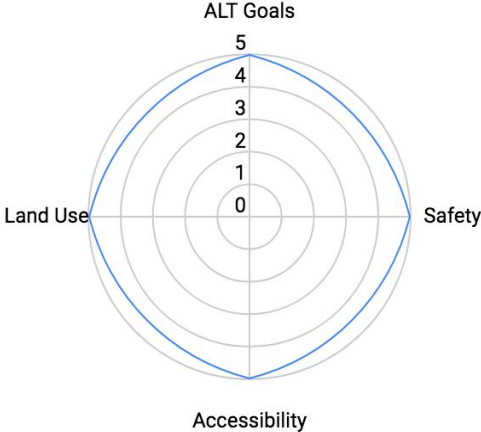
### Option 1A



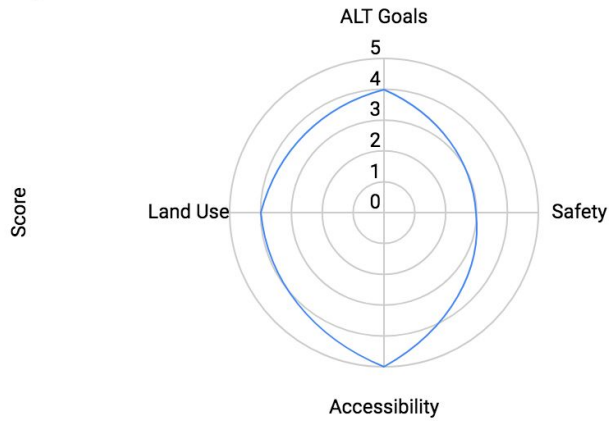
### Option 1B



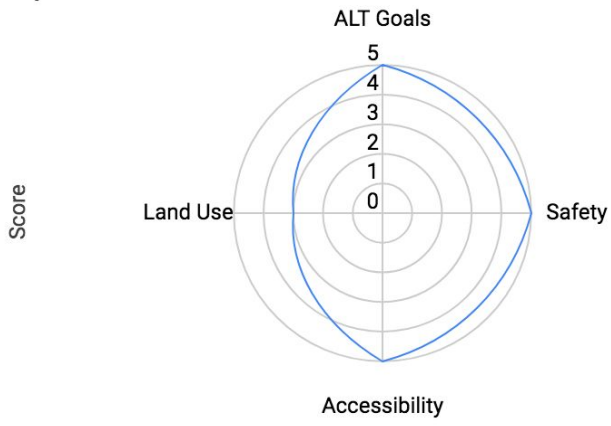
### Option 2A



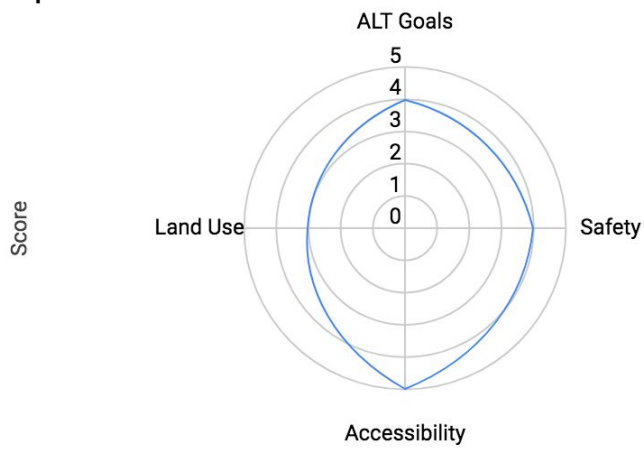
### Option 2B



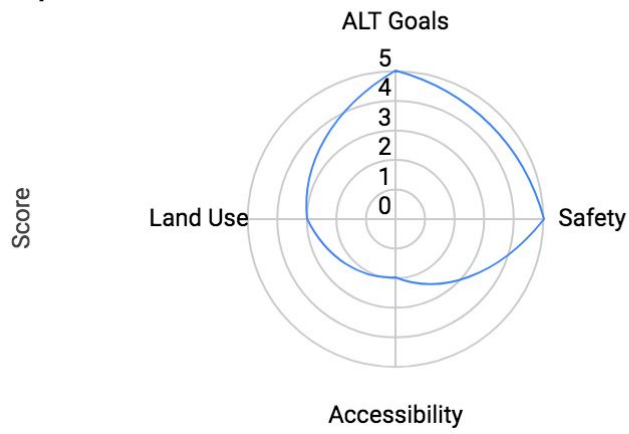
### Option 3A



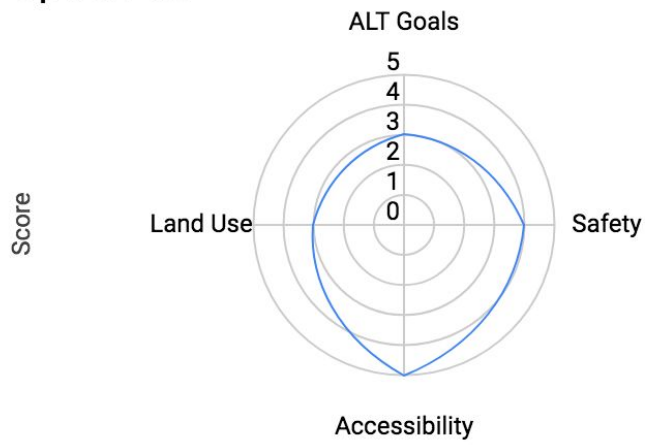
### Option 3B



## Option 4A



## Option 4B



## Appendix 7: Areas of Focus



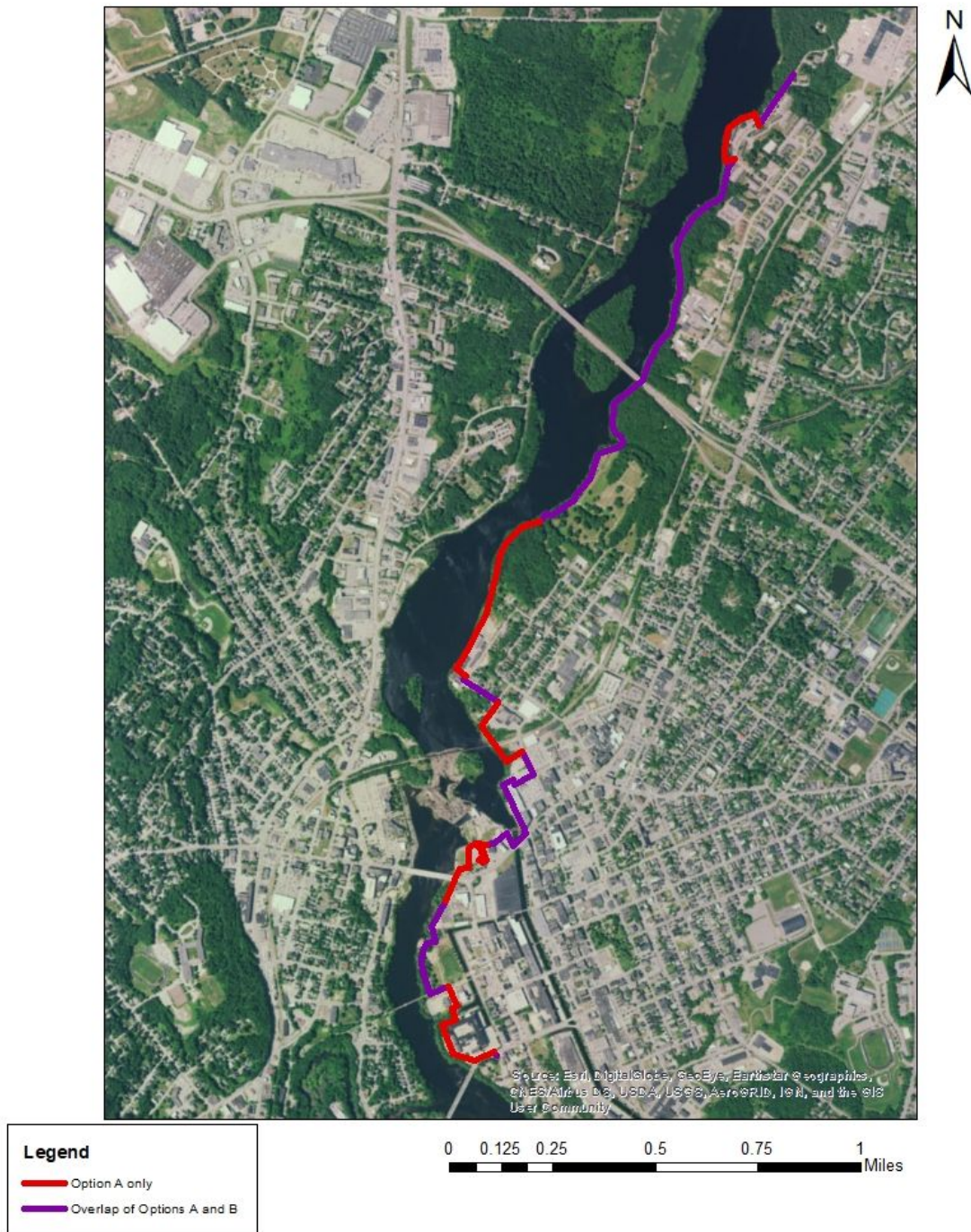
## Appendix 8: Key for GIS Maps

Map Segment	Color
Option A	Red
Option B	Blue
Overlap of Options A and B	Purple

## Appendix 9: GIS Maps of Trail Options (Overviews and Segments)

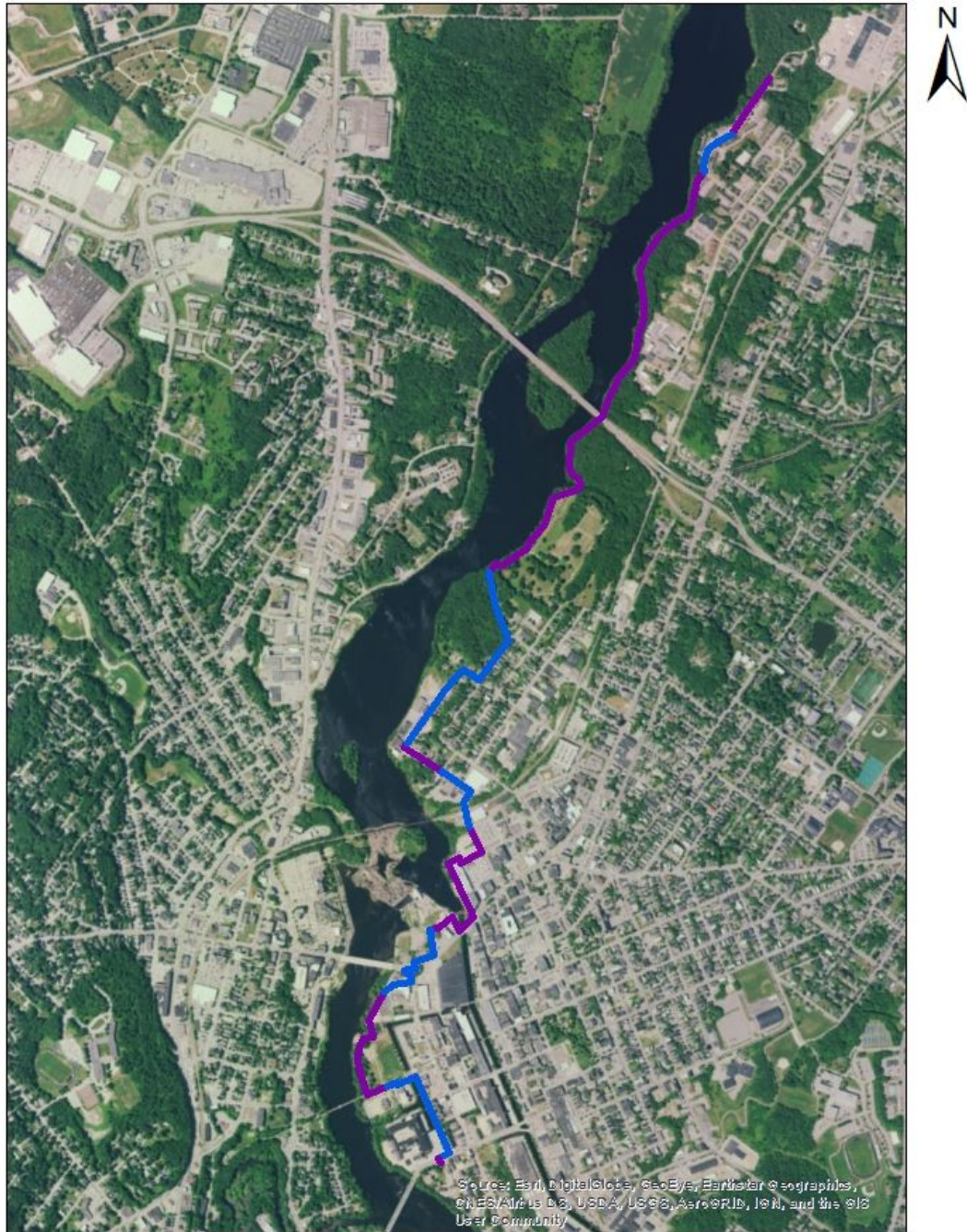
Overview for entire trail Option A:

### Extension of Riverside Greenway Trail Option A



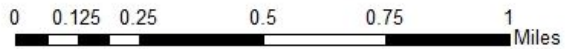
Overview for entire trail Option B:

## Extension of Riverside Greenway Trail Option B



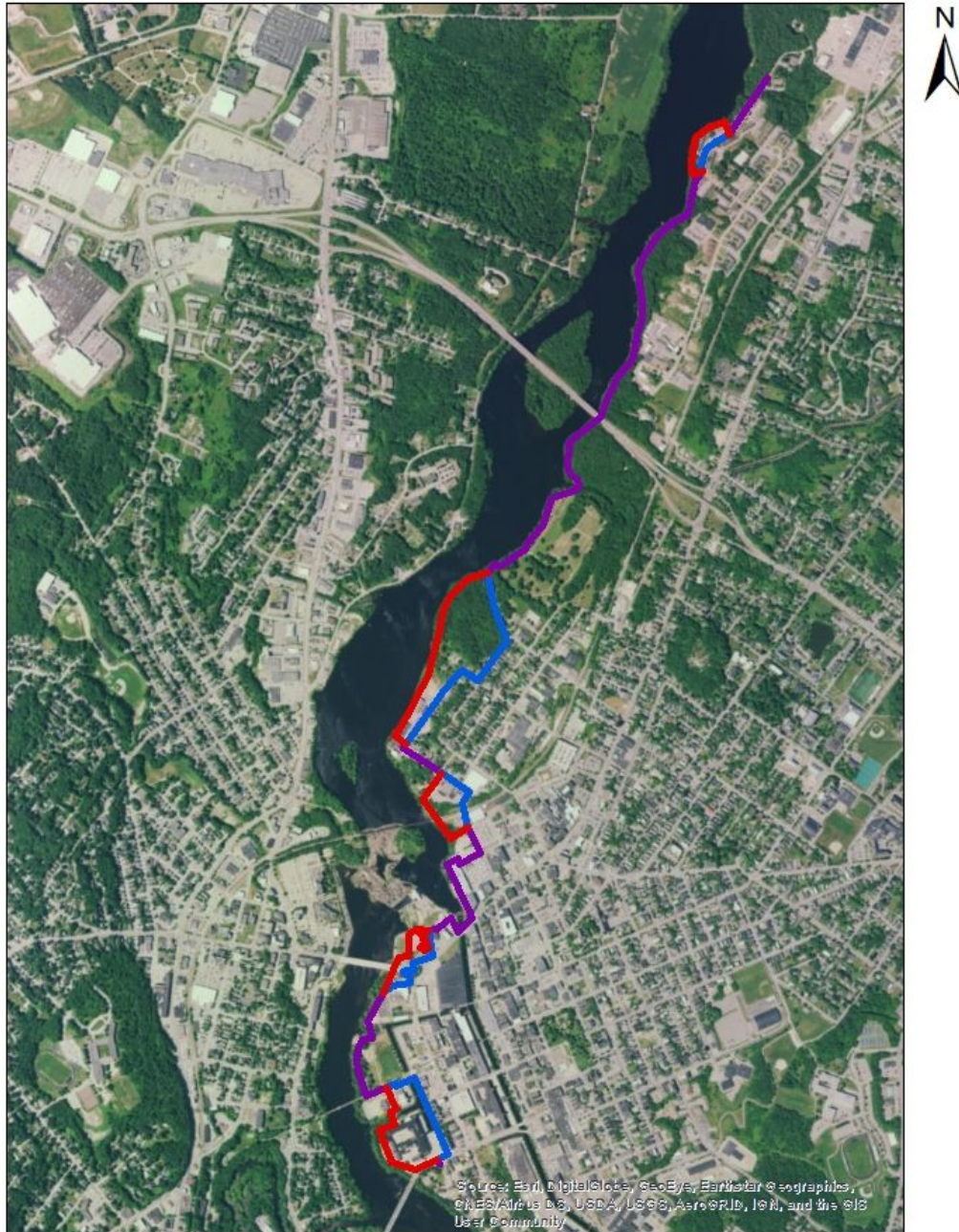
**Legend**

- Option B only
- Overlap of Options A and B



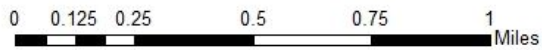
Overview of both options for entire trail:

### Extension of Riverside Greenway Options A and B



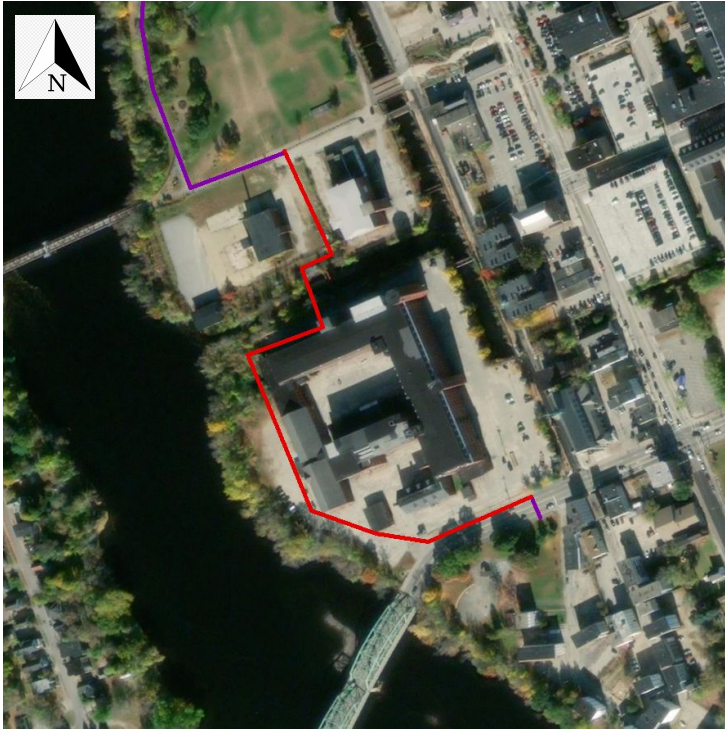
**Legend**

- Option A only
- Option B only
- Overlap of Options A and B





Option 1A:

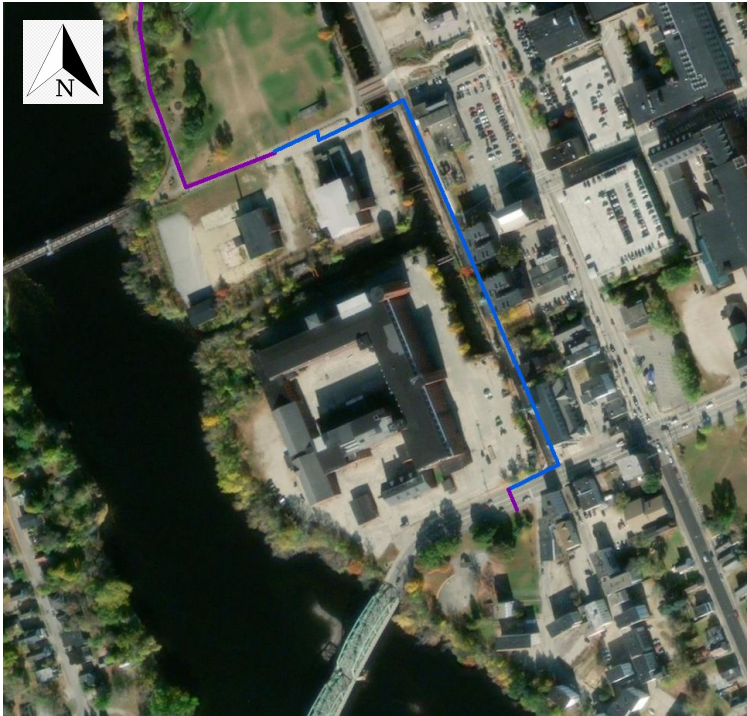


Option 1A Slope:

\*See **Methodology** section for explanation of how this, and all other “slope” maps were made.



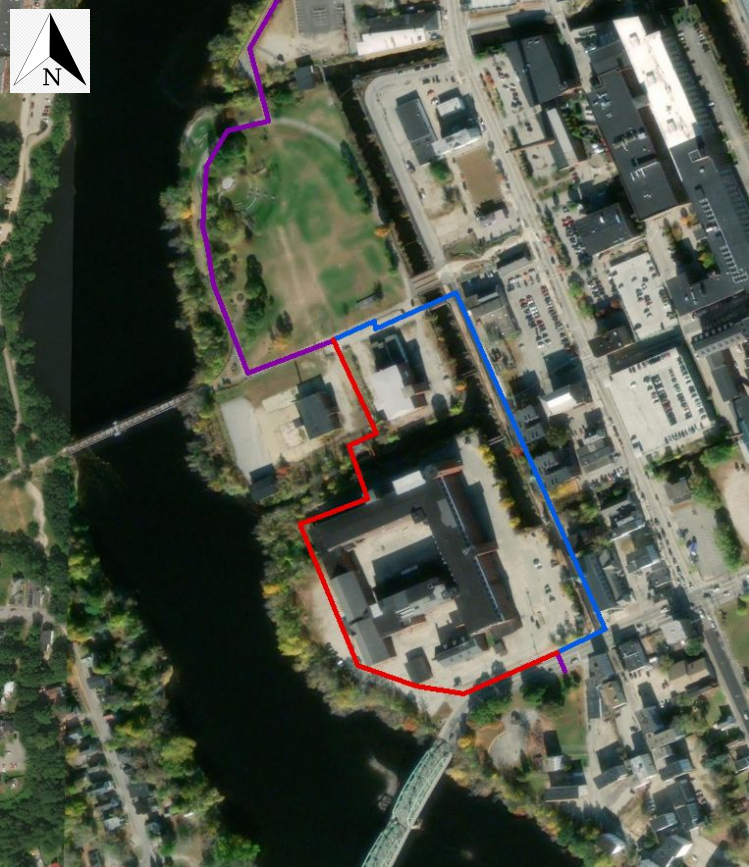
Option 1B:



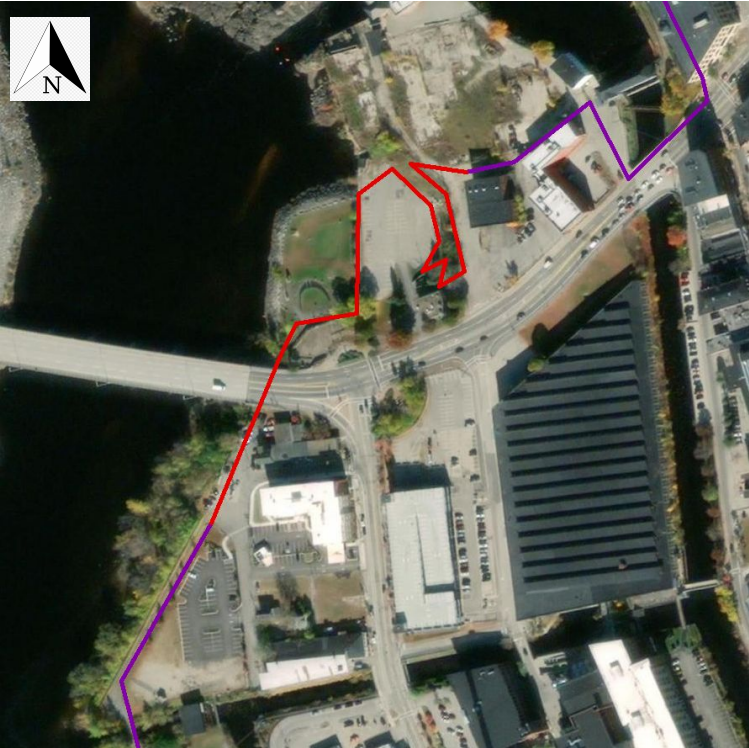
Option 1B Slope:



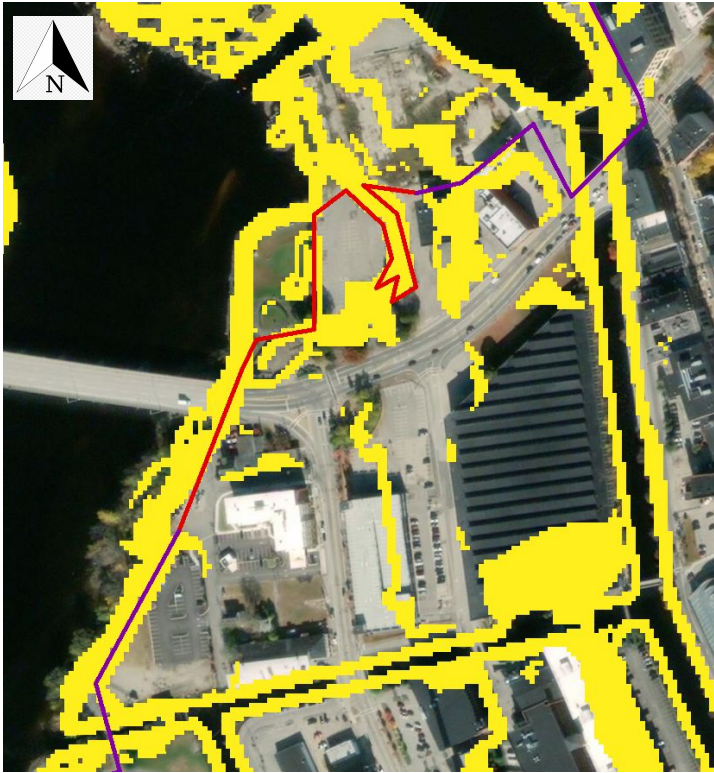
Option 1A and B:



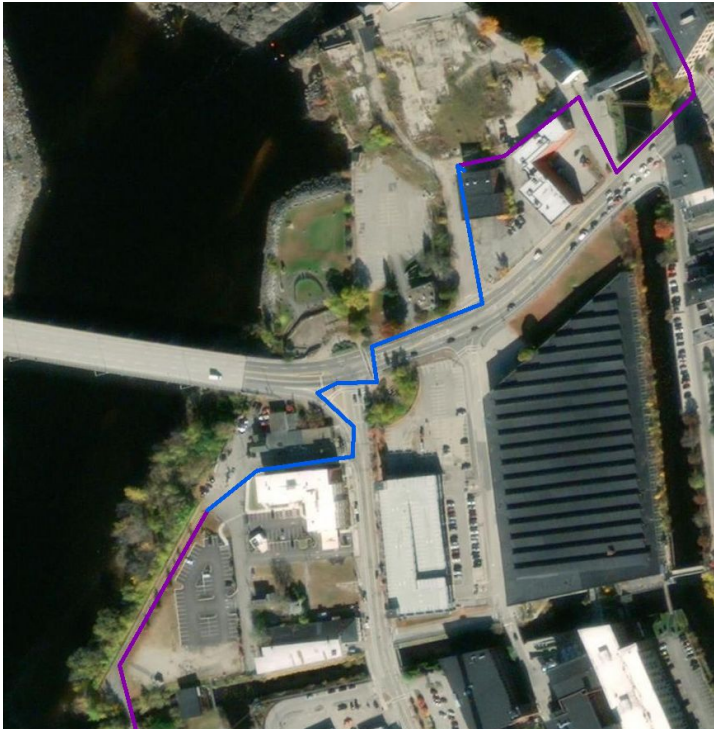
Option 2A:



Option 2A Slope:



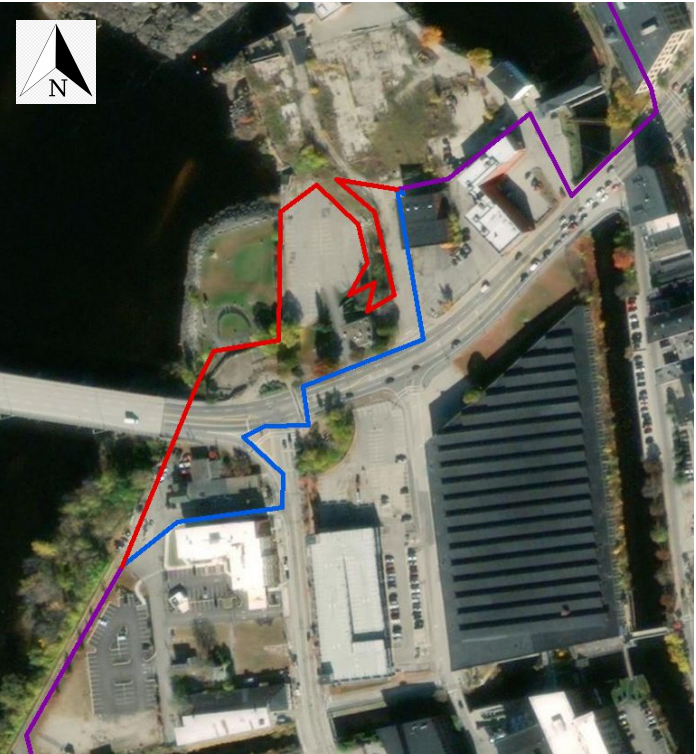
Option 2B:



Option 2B Slope:



Option 2A and B:



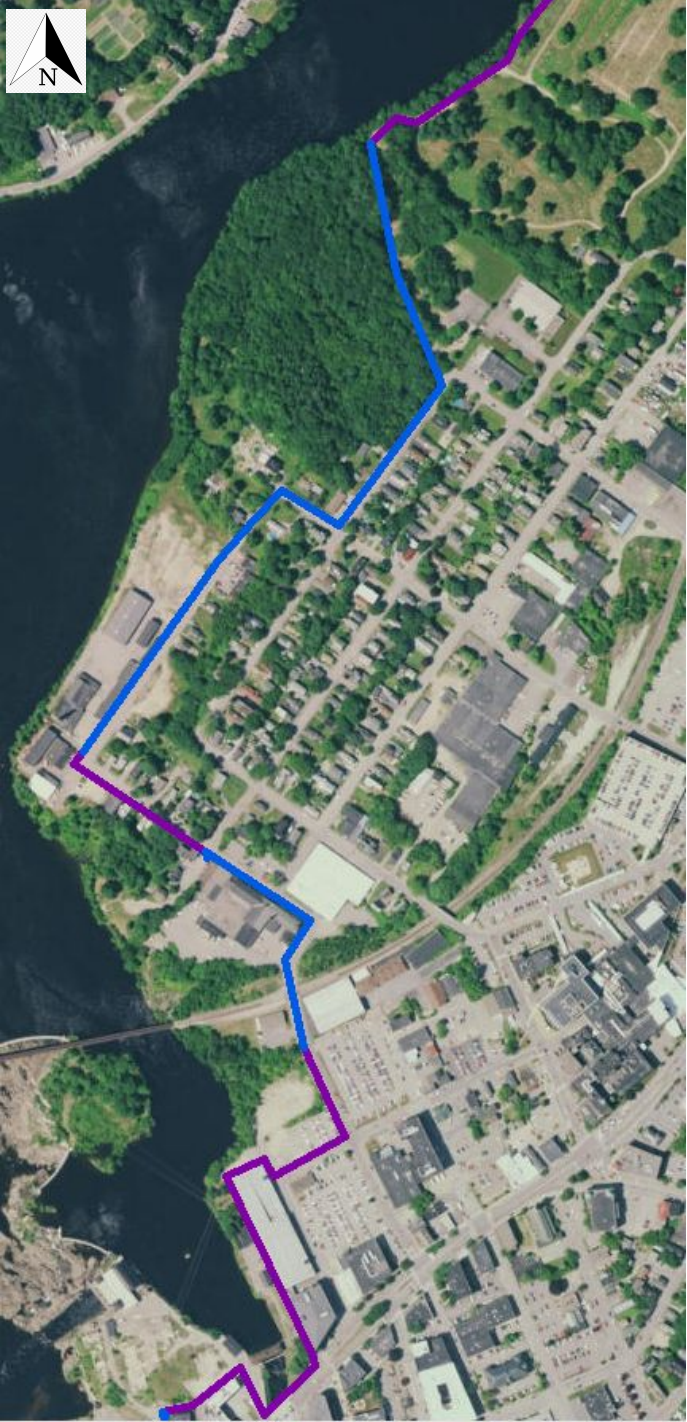
Option 3A:



Option 3A Slope:



Option 3B:





Option 3B Slope:



Option 3A and B:



Riverside Greenway Trail:



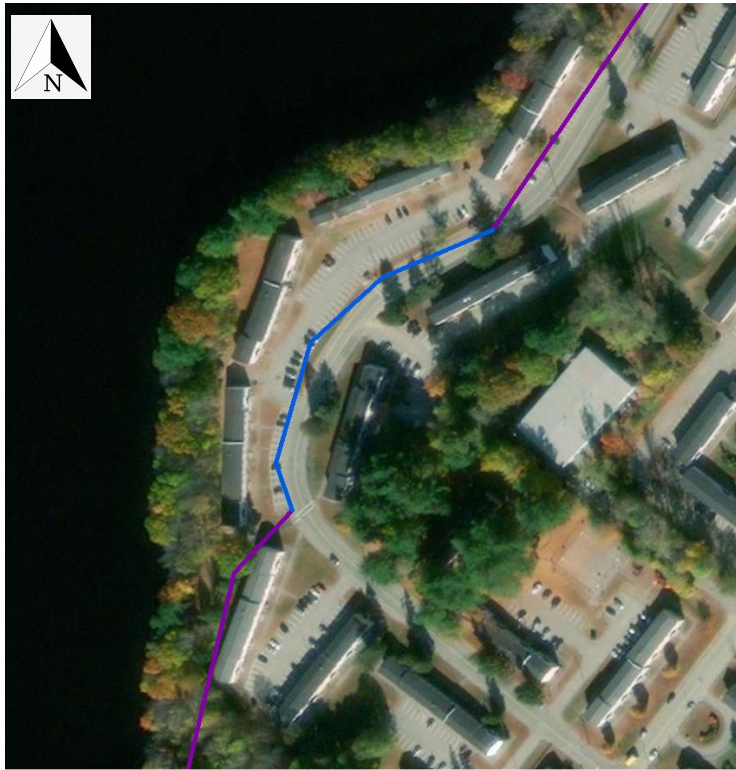
Option 4A:



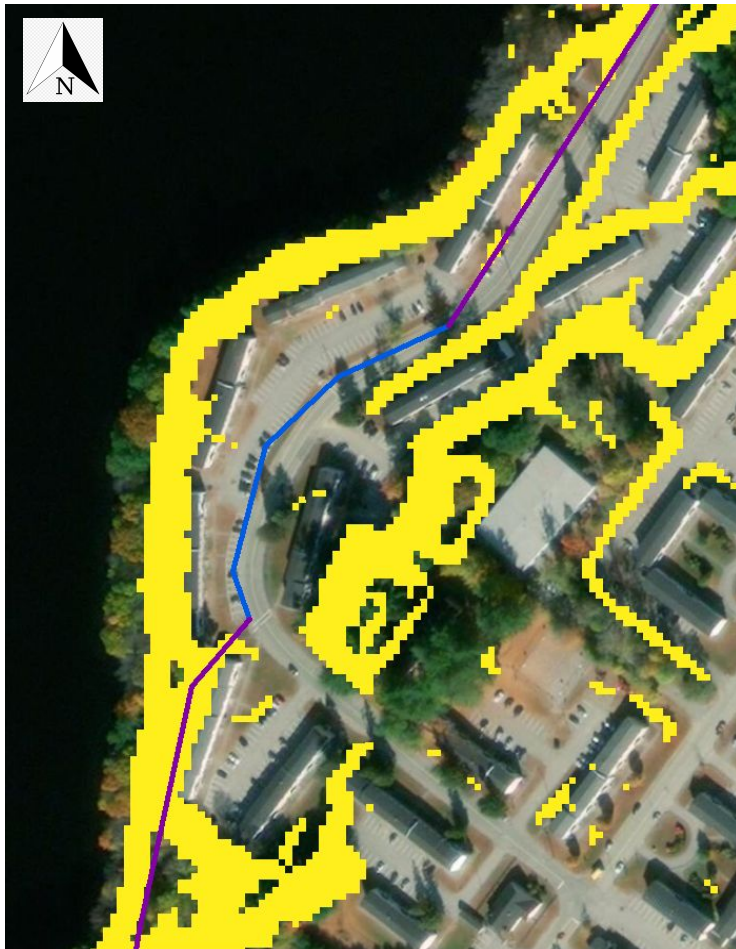
Option 4A Slope:



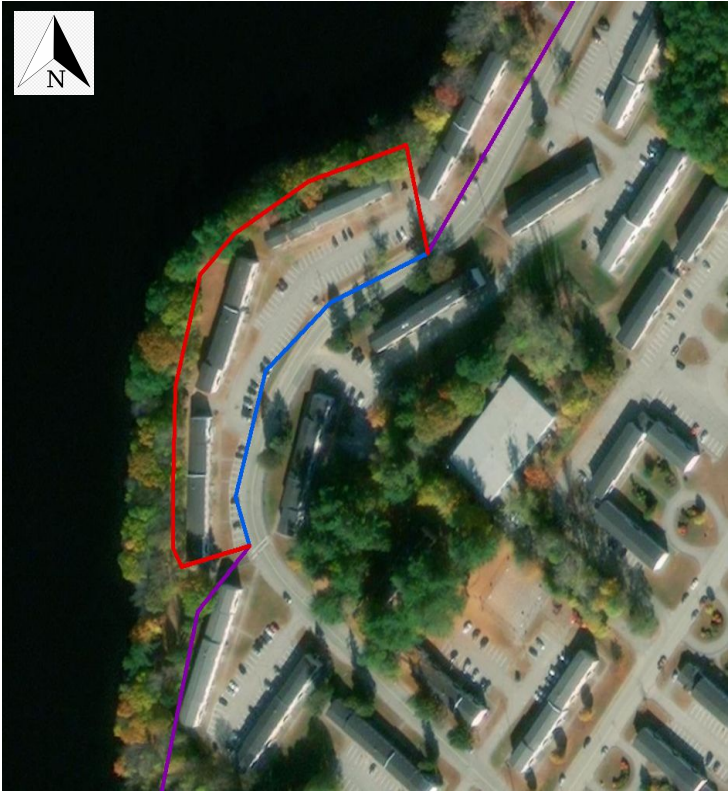
Option 4B:



Option 4B Slope:



Option 4A and B:



## Appendix 10: Cost Breakdown Sheets

Cost for Entire Trail Option A:

Trail Element	Unit	Average Cost per unit	Location needed	Unit needed	Average cost of segment
Concrete Sidewalk (4 ft)	linear foot	32			
Concrete Sidewalk	linear foot	32	4A	452	14464
Concrete Paved Shoulder	Square foot	6.64			0
Crosswalk	each	\$770			\$0
Multi-use trail	mile	\$481,000	1A, 2A, 3A	1.26	\$606,060
Bridge	each	200,000	1A	1	200000
Fencing	linear foot	\$130	4A	0.27	\$35
Flashing beacon (RR)	each	\$10,000	3A	1	\$10,000
Bollard (street closure)	each	\$650	3A	2	\$1,300
Underpass	each	\$200,000	Main St	1	\$200,000
Trail signage	each	\$500		10	\$5,000
Street closures	each	\$500-120,000	Chapel St Alley	1	Variable
					1036859.1

Cost for Entire Trail Option B:

Trail Element	Unit	Average Cost per unit	Location needed	linear feet	Unit needed	Average cost of segment
Concrete Sidewalk (4 ft)	linear foot	32	4B		1272	40704
Concrete Paved Shoulder	Square foot	6.64				
Crosswalk	each	\$770				
Multi-use trail	mile	\$481,000				
Bridge	each	200,000				
Fencing	linear foot	\$130				
Flashing beacon (RR)	each	\$10,000	3B		1	\$10,000
Bollard (street closure)	each	\$650				
Underpass	each	\$200,000				
Trail signage	each	\$500				
Street closures	each	\$500-120,000	Chapel St Alley			
Paint pavement	square foot	3.4		10480	52400	178160
						228864

**Appendix 11:** List of Relevant Property Owners

Segment 1 A and B:

**Property:** 1 Cedar St (Potvin Park)

**Property Owner:** Lewiston City of Playground

**Property:** 2 Cedar Street (Continental Mill)

**Property Owner:** ROY CONTINENTAL MILL LLC

**Property:** 2 River Street

**Property Owner:** CEDAR RIVER LLC

**Property:** 43 Cedar Street  
**Property Owner:** CEDAR RIVER LLC

**Property:** 46 Cedar Street  
**Property Owner:** Franco-American Heritage Center at St. Marys

**Property:** 88 Oxford Street  
**Property Owner:** VURGASON THOMAS O JR

**Property:** 65 Oxford Street Rear  
**Property Owner:** City Of Lewiston

**Property:** 76 Oxford Street  
**Property Owner:** City of Lewiston

**Property:** 74 Oxford St  
**Property Owner:** S & S REALTY GROUP LTD

**Property:** 64 Oxford St  
**Property Owner:** S & S REALTY GROUP LTD

**Property:** 49 Beech St  
**Property Owner:** City of Lewiston

**Property:** 1 Beech Street  
**Property Owner:** Museum L-A

**Property:** 35 Beech St  
**Property Owner:** Lewiston Mill LLC

**Property:** 46 Beech St  
**Property Owner:** City of Lewiston

**Property:** 46 Beech St Rear (Simard-Payne)  
**Property Owner:** City of Lewiston

**Property:** 2 Chestnut Street  
**Property Owner:** LEWISTON & AUBURN RAILROAD CO



**Property:** 8 Chestnut St

**Property Owner:** LEWISTON & AUBURN RAILROAD CO

**Property:** 50 Oxford St

**Property Owner:** GLADU ROBERT T GUERIN ANDRE M

**Property:** 46 Oxford St

**Property Owner:** Robert Gladu, Andre Guerin

**Property:** 681 Lisbon Street Rear

**Property Owner:** City of Lewiston

## **Appendix 12:** List of Identified Stakeholders and Their Contact Information

### Land Preservation and Conservation

**Name:** Androscoggin Land Trust

**Contact:** 207-782-2302

201, 86 Main St, Auburn, ME 04210

<https://androscogginlandtrust.org/contact/>

**Proposed method of contact:** propose routes in formal presentation first week of April

**Interest:** conserve Androscoggin and establish greenway for public use

**Name:** Rails to Trails

**Contact:** 267.332.4267

230 South Broad St., 17th Floor, Philadelphia, PA 19102

<https://www.railstotrails.org/contact/>

**Proposed method of contact:**

**Interest:** supports building trail networks to enhance public health

**Name:** East Coast Greenway

**Contact:** Kristine Keeney

New England Coordinator 203.530.7194

KRISTINE@GREENWAY.ORG

**Proposed method of contact:** propose routes in formal presentation first week of April

**Interest:** supports building trail networks to enhance public health

**Name:** National Park Service Northeast Region Director - Gay Vietzke

**Contact:** 215-597-7013

1234 Market Street, 20th Floor

Philadelphia, PA 19107

**Proposed method of contact:**

**Interest:** expressed support for connectivity of Greenway in L/A and conserve Androscoggin River

**Name:** Androscoggin Greenway Continuation Organization *could not find*

**Contact:**

**Proposed method of contact:**

**Interest:**

**Name:** Riverwalkers *could not find*

**Contact:**

**Proposed method of contact:**

**Interest:** expand and improve trails in Lewiston/Auburn

#### Downtown Development

**Name:** LA Trails

**Contact:** 207-782-2302

201, 86 Main St, Auburn, ME 04210

<https://androscogginlandtrust.org/contact/>

**Proposed method of contact:**

**Interest:** expressed support for connectivity of Greenway in L/A and conserve Androscoggin

**Name:** Platz Associates

**Contact:** (207) 784-2941

2 Great Falls Plaza # 7A, Auburn, ME 04210

<http://platzassociates.com/contact/>

**Proposed method of contact:**

**Interest:** develop mills/revitalize downtown

**Name:** Downtown Lewiston Association

**Contact:** 4 Lisbon Street

Suite #302

Lewiston, ME 04240

<https://downtownlewiston.com/about-us/contact-us/>

**Proposed method of contact:**

**Interest:** involved in Lewiston's Commercial Downtown District

**Name:** LA Museum L/A

**Contact:** [\(207\) 333-3881](tel:2073333881)

35 Canal St, Lewiston, ME 04240

<https://www.museumla.org/contact>

**Proposed method of contact:**

**Interest:** revitalize and connect community to downtown

**Name:** John F Murphy Homes

**Contact:** [\(207\) 782-2726](tel:2077822726)

800 Center St, Auburn, ME 04210

<https://www.jfmhomes.org/contact-us>

**Proposed method of contact:**

**Interest:** offers housing and opportunities for individuals with disabilities; owners of land near Rancourt Preserve

Public Health

**Name:** Healthy Androscoggin

**Contact:** [\(207\) 795-5990](tel:2077955990)

124 Lisbon St, 2nd Floor, Lewiston, ME 04240

<https://healthyandroscoggin.org/about-us/contact-us/>

**Proposed method of contact:**

**Interest:** promote public health and connection to Androscoggin

**Name:** St. Mary's Nutrition Center

**Contact:** 207-513-3848

208 Bates Street

Lewiston, Maine 04240

<https://www.stmarysmaine.com/nutrition-center/contact-the-nutrition-center>

**Proposed method of contact:**

**Interest:** support healthy lifestyles/people and resilient communities

**Name:** CMMC Health Initiative/YMCA *could not find cmmc health initiative*

**Contact:** [\(207\) 795-4095](tel:2077954095)

62 Turner Street Auburn, Auburn, ME 04210

<https://www.alymca.org/contact>

**Proposed method of contact:**

**Interest:** enhance health and recreational activity for youth

**Name:** Community Concepts

**Contact:** [\(207\) 795-4065](tel:2077954065)

240 Bates St, Lewiston, ME 04240

<http://community-concepts.org/contact-us/>

**Proposed method of contact:**

**Interest:** build and support Lewiston community

### Government

**Name:** Lewiston Police Department

**Contact:** [\(207\) 795-9010](tel:2077959010)

171 Park St, Lewiston, ME 04240

<https://www.lewistonmaine.gov/Directory.aspx?did=29>

**Proposed method of contact:**

**Interest:** support safe Lewiston community

**Name:** City of Lewiston Engineer- Richard Burnham

**Contact:** [RBurnham@lewistonmaine.gov](mailto:RBurnham@lewistonmaine.gov)

(207) 513-3003 ext. 3415

**Proposed method of contact:**

**Interest:** oversees execution of city projects/built environment

**Name:** City of Lewiston Planner- Doug Greene

**Contact:** [DGreene@lewistonmaine.gov](mailto:DGreene@lewistonmaine.gov) (207) 513-3125

27 Pine St. 3rd Floor

Lewiston, ME 04240

**Proposed method of contact:** directly contact/update on progress and work

**Interest:** revitalize downtown and promote economic growth

**Name:** Housing and Urban Development

**Contact:** [1 \(202\) 708-1112](tel:12027081112)

<https://www.hud.gov/contact>

**Proposed method of contact:**

**Interest:** equal access to public amenities

**Name:** Department of Transportation

**Contact:** [207-624-3000](tel:207-624-3000)

**Proposed method of contact:**

**Interest:** concerned with all modes of transportation/pedestrian safety