Senior Capstone Studio:
Landscape Planning and the Cultural Landscape

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This Greenway Plan has been prepared for the City of Lawrence, Massachusetts by the Senior Undergraduate Class of Landscape Architecture and Regional Planning (LARP) at the University of Massachusetts Amherst (UMass), under the direction of Professor Robert Ryan of the LARP program alongside teaching assistant Samantha Anderson. The purpose of this analytical report is to provide information regarding the existing conditions within the city, so that after assessment, recommendations can be made on how to better connect the cities valuable resources, not limiting connections to resources solely in the city itself.

The city although one of the poorest (average individual income is about $16,000 less than the rest of the country) in the Commonwealth of Massachusetts boasts a rich industrial history like many other mill towns in New England. The highly developed city is very culturally diverse which provides many opportunities for creative development but problems when it comes to reaching and communicating with the population as a whole. A 2010 census reports there are around 77,000 people living in the city, with the population concentrated mostly around the central northern area, above the Merrimack River.

To provide for a more culturally/historically relative Greenway plan the standard method of inventory and assessment was used to understand the conditions being worked with. In the assessment city history, regional resources, natural resources, present/past land-use, transportation, existing open/recreational space, amongst other facts were taken into consideration and prioritized. A broad strategy and recommendations to properly connect and highlight these resources and information was developed.
Large brick buildings are scattered across Lawrence, particularly in the North canal historic district along the Merrimack River and canal. These old mills, factories, and tenement buildings illustrate the 19th century industrial architecture style and the rich history of Lawrence.

In 1845 the Essex Company purchased land along the Merrimack River with the intent of harnessing the river’s power for the purpose of industry. Construction of the Great Stone Dam at Bodwell’s Falls was started in April 1845 by the Essex Company and Lawrence was officially recognized as a town in 1847. Industry flourished in Lawrence until the 1950’s when the textile industry began to quickly decline. In the 1920’s, at the height of its production, the textile industry in Lawrence was the largest in the world. Mill workers flooded into Lawrence, many of whom were immigrants and young women. (www.lawrencehistorycenter.org)

In the 1950’s the advancements in synthetic fabrics and the general southern migration of the textile industry led to a steep decline for the population and economy of Lawrence. During the late 1960’s there was a large influx of immigrants from the Dominican Republic and Puerto Rico, and today 74 percent of the population in Lawrence is Hispanic. (Wikipedia)

In more recent years Lawrence has seen an increase in private investment in the restoration and utilization of old industrial buildings for residential, commercial and mixed use purposes. Furthermore, Hispanic-owned businesses have picked up in downtown Lawrence, particularly along Essex Street. (Wikipedia) Because of the economic decline there was not as much redevelopment in Lawrence in the late 1900’s to decimate the old industrial infrastructure and much of it still stands today as a reminder of the city’s rich history.
One of the oldest streets in Lawrence, running through the center of the downtown historic district, Essex street has been the commercial epicenter of Lawrence since the mid 1800’s. Essex street runs east-west through downtown Lawrence from Union Street to Riverside Drive. The construction of Essex street goes all the way back to the establishment of Lawrence. Ground was broken in 1847 with what became known as Merchants Row. By 1900 Essex Street was not only the commercial hub for Lawrence, it had become a destination of its own. Today many handsome brick buildings still line the street, and it is still the center of commerce in Lawrence.
Proposed historic walks

In addition to our greenway, we propose several “historic walks.” To distinguish these routes we will provide street plantings and seating as well as historic informational signage. Making these routes more pedestrian friendly will also serve our objectives of providing safer routes to school, and stimulating the local economy.
When built in 1909, the main mill of the Everett Mills Company was the largest cotton mill in existence. The mill is made up of two buildings connected by a central pavilion, atop which there is a large Roman numeral clock facing west down Essex street. The combined structure is a 6 story, 780 ft. flat-roofed building. Everett mill was the site of the commencement of the “bread and roses strike” of 1912, started by a group of polish women mill workers who walked out in the middle of the work day when they realized their weekly pay had been cut. The strike, also known as the Lawrence textile strike, amassed a group of 20,000 mill workers by the end of the first week and quickly gained national attention. Conditions in all the textile mills were horrific. 40% of mill workers died by the age of 25. Overheating, over exhaustion, and the inhalation of tiny fabric particles and chemicals were just a few of the conditions that help to illustrate the character of the 56 hour work week for which they earned $9.
Lawrence Heritage State Park

Lawrence Heritage State Park provides a good access point for people who want to enjoy our proposed historical walk and greenway.

Adjacent to The visitor’s center. This small park mimics the ruins of an old brick mill building being taken back by nature with plantings against the walls and climbing across the steel beams overhead.
Located in what used to be the Essex Company “office and yard” complex, there now exists the Lawrence History Center. The complex consists of five red brick, flat-roofed structures dating from 1883-84. The buildings, which were designed by Hiram Mills have corbelled cornices and granite trim. The complex included an office, a carpenters shop, foundry, garage, and storage building and is surrounded by red brick wall.

(United States Department of the Interior National Park Service)

Since 1978 the Lawrence History Center has collected and preserved documents and artifacts that pertain to the history of Lawrence. The LHC is open to the public and shares it’s
Built in 1853 under the supervision of engineer Charles Bigelow, the Pemberton Mill was built for the production of cotton and woolen goods. Workers tenements were erected directly across the North Canal. This particular mill is the site of the worst industrial disaster in Lawrence history. At the time of the disaster, in 1860, new owners had recently purchased the mill. In an attempt to increase profits, the new owners jammed more machinery and workers into the mill. At 5:00 pm on January 10th, 1860 the mill collapsed killing dozens of workers instantly and trapping nearly 600 more. Rescue efforts went on into the night and an accidental fire started sometime during the night amongst the rubble. The estimates of the death toll from the collapse and subsequent fire range from 90 to 145. Most of the victims were young women, many of them Irish immigrants. The tragedy became a rallying point for efforts to improve safety standards in industrial workplaces. Pemberton Mill was rebuilt later that same year and it functioned erratically as a cotton mill until 1938. The structure is used today as a branch of the storage firm “Iron Mountain.”
Built in 1886, the Washington mill would later be bought by the American Woolen Company, the largest employer of mill workers in Lawrence. Located on the North Canal. Washington Mill has been converted into spacious apartment units. This is an exemplary urban revitalization project.
Located in the center of the Lawrence Downtown Historic District between Campagnone Common and Essex Street. The City Hall looks out over the Campagnone common.
Gleason and Blakely Buildings

Built in the 1890’s, the Gleason and Blakely buildings both exhibit the architectural style of old industrial Lawrence. Each building was added to the national register of Historic places.
The Henry K. Oliver school contains grades 1-8 with 530 students. The school is just North of Campagnone Common.

Built in 1871, this gothic style Catholic church served the multitudes of Irish Catholic immigrants who filled the mill buildings in Lawrence.
Old Public Library

On the corner of Haverhill and Hampshire Street. The Old Library was built in 1890, and added to the National Register of Historic places in 1978. The building’s original architecture is still intact, although it no longer serves the town as a library.
Our proposed historic routes, coupled with our proposed greenway will provide an experience of historical relevance as well as aesthetic pleasure. It is our hope that these access ways will encourage residents to walk instead of drive through downtown Lawrence as well as attract visitors from other cities.
North Canal

The North Canal was designed by Charles Storrow and James B. Francis, and built by Charles Bigelow in 1848. It was built by the Essex Company to carry the water of the Merrimack River above the river and direct the flow through gates over the huge turbines below the mill buildings to the textile machinery. (www.essexheritage.org) Today there are old abandoned mills along its shores as well as mills that have been converted into usable space, such as the Washington Mill lofts.

Great Stone Dam

The Great Stone Dam, designed by Charles Storrow in 1848, is a 900 foot dam at the site of Bodwell Falls. The site includes the gate keeper’s house, gate house and locks. (www.essexheritage.org). The dam has not undergone any significant structural change or repairs since it’s completion in 1848, a true testament to the sturdy construction of granite blocks laid in hydraulic cement and dowelled to the riverbed and to each other. The construction technology was brand new and revolutionary at the time of the dam’s creation. The dam exists today as one of the oldest pieces of infrastructure in Lawrence, a relic which enabled the initial industrial enterprise which in turn gave birth to the city itself. It provides historic reference as well as aesthetic and scenic opportunity, an opportunity which could be capitalized on much
Campagnone Common

Campagnone Common is the main park in the City of Lawrence. It is located on Common Street, directly across from City Hall. The common contains a fenced baseball field, complete with dugouts and spectator seating for those who want to catch a game. The Robert Frost Fountain, located across from the town hall, provides a place for relaxation. There is a playground located near Jackson Street with a slide, swings, a jungle gym, and monkey bars. Campagnone Common is named for the three Campagnone brothers of Lawrence who gave their lives during World War II. A number of war memorials are located at Campagnone Common. A Civil War memorial, erected in 1881, listing the names of the men from Lawrence who fought for the Union can be found. The common also is the home to the World War II memorial, the Spanish-American War memorial, the Gulf War memorial, and the Korean War memorial. Often referred to as the North Common, this space also provides for town gatherings and events.
Water Tower

Located on top of Tower Hill, the highest point in Lawrence, the water tower was built in 1896. A pumping station and a new reservoir (on Tower Hill) were constructed in 1874-75. In 1893 the first filter was completed. This was the first municipal filtration system for the elimination of bacteria established in this country. The reservoir had a capacity of 40,000,000 gallons. The water tower was built in 1896 to increase water pressure on Tower Hill. (http://queencityma.wordpress.com/2009/11/05/water-department-lawrence-ma/).

Today, the reservoir is empty, but the water tower still stands on Tower Hill, overlooking the cemeteries.

Wood Mill

In 1905, the American Woolen Company built the largest mill in the world, the Wood Mill, just South of the Merrimack River. (http://en.wikipedia.org/wiki/American_Woolen_Company) The American Woolen Company was the greatest employer of textile factory workers in Lawrence. The company’s old worker’s tenements still exist south of the Merrimack River. Today the mill is mostly unused. The Wood mill and other buildings like it provide good opportunities for revitalization projects and the utilization of existing infrastructure that brings with it rich historical reference.
Arlington Basswood Historic District

Roughly bounded by Lawrence, Alder, Arlington, and Juniper Streets, the Arlington Basswood Historic District was added to the National Register of Historic Places in 1984. The area features Classical Revival architecture. (http://en.wikipedia.org/wiki/Arlington-Basswood_Historic_District). Direct connections to residential neighborhoods like this one and Prospect Hill historic District encourages residents to access and use the greenway. These connections will help bring these separate sub-communities together through shared recreation and trails.
Conclusion

Lawrence was built on the extremely successful textile industry of the mid 1800’s and early 1900’s. Since the industry’s decline, Lawrence’s economy has suffered significantly. Other old industrial towns like Lowell share a similar history to Lawrence as well as similar contemporary problems. Many of the mill workers tenements, as well as textile, factories and other industrial infrastructure have been destroyed, or significantly altered, however, due to the economic collapse as well as the decrease in population of the 1960’s, there was less redevelopment in Lawrence than would be expected. Several of the mills continued to serve industrial purposes like the Ayer Mill which is used today by New Balance. Other buildings became abandoned but remained in place as there was not the demand for redevelopment. These impressive buildings exist today as an opportunity for urban revitalization which simultaneously celebrates the rich and highly visible history of Lawrence. Development costs are lessened with the existing infrastructure and they provide a central location for commercial use as well as housing potential in downtown Lawrence. The close proximity to mass transit enables citizens to commute easily to areas like Boston where there is a greater abundance of jobs, but where housing costs are considerably higher. Locations like The Washington Mill lofts are a perfect example of such a revitalization project. These new apartments provide large spacious studio apartments at reasonable prices right on the River in downtown Lawrence, and just a quick walk from the Buckley transportation center.


http://1.bp.blogspot.com/_ksZNCnkWO-k/TD-KNYAaQ2cI/AAAAAAAAABw/yOAcupxXO0Y/
Natural Resources
By: Alexander Jardin

Intro

Lawrence's success and development during its industrial period is greatly credited to its proximity to an abundant flowing water source, the Merrimack River and its tributary the Spicket River. The Merrimack segments the city into northern and southern parts, as it runs from west to east.

The Spicket River enters the city at the north western corner coming from Metheun, it meanders southeast before linking with the Merrimack River. Although the Spicket River provides for vegetative growth along its corridor this section and further north is the most developed and has the least amount of tree canopy coverage.

The natural features of Lawrence are the major wetlands and forested areas mainly lining the cities borders. These areas have been mapped out for consideration, preservation, restoration, and redevelopment. Sustaining and valuing these resources should be a main priority to an area with such a low density spread of forest.
Water

Although a few aquifers exist under the city of Lawrence the primary drinking source is the Merrimack River. The river comes from New Hampshire and moves south into Massachusetts before moving northeast and emptying out into the Atlantic Ocean.

Several water recreation areas exist in the Lawrence, the largest being on the southwestern side of the Merrimack River within the city’s boundaries. The rest are scattered throughout the lower half of the city.

The Merrimack River every once in a while poses a problem for flooding. Because the Spicket River runs through Lawrence from the northwestern corner down to the Merrimack adds to the trouble. The area between the Merrimack and the Spicket is prone to flooding (highlighted in yellow on the bottom map). The Federal Emergency Management Agency has already reclaimed some of the property which a number of houses and structures rest along the Spicket River because of how problematic the flooding is. It seems if possible banning all future structure development and reclaiming all the properties directly adjacent to the Spicket River would be one of the only ways guaranteeing savior from the flood zone.

Information/maps courtesy of: mass.gov/mgis

http://maps.google.com
Topography, Geology, and Soils

The city of Lawrence around its western, southern, and eastern borders is elevated significantly more than the rest of the city. Where there is major development (central northern section) typically you would find nothing but urban fill, this combined with the fact that a great portion of the city is impervious surface (small map shows impervious surface highlighted in black), poses a problem for water infiltration. Most of the excess water is going to run off into the Merrimack River (the cities drinking supply). Areas that aren’t urban fill are elevated and again this provides for exceptional conditions for water run off to the impervious areas and then to the Merrimack River. The rest of the city is comprised of a large variety of very fine sandy loam, fine sandy loam, loamy sand, silt loam, and rocky outcrops.

The urban fill beneath Lawrence poses a big problem for infiltration even if certain systems to help percolate water beneath the pavement were implemented. At the moment the water treatment plant is the best solution for taking care of sewage and water that made its way into storm-drains, but this still does not account for the additional run off and what may come out of the combined sewer overflow (CSO) system when there is too much water. For this retention ponds seem like a formidable solution.

The percentage slopes of topography ranges anywhere from 1% - 35%, however a majority of the land (not including the heavily developed northern central section) is between 0-8%, and a greater portion of 3-8% rather than 0-3%. Since 0-3% is barely perceivable to the human experience these areas wont pose a problem for development, however any slope greater than 5% will pose a problem and may need additional attention.

Information/maps courtesy of: mass.gov/mgis
Sensitive Rare/Endangered/Valued Species Areas

Habitats for rare and valued species exist primarily along the Merrimack River Corridor and essentially are the same as the space encompassed within what would be a 200’ buffer zone. The cemetery at the north western corner of Lawrence also has an area considered a habitat for rare and valued species, however the portion of the cemetery is just over the border and actually lies in Lawrence's sister city, Methuen. If the broken segments of the Spicket River corridor could be better connected this area would also provide good habitat for rare and valued species. Currently the small separated parcels are too small for a significant population of flora or fauna.

Information/maps courtesy of: mass.gov/mgis
Merrimack River

The Merrimack River originates from Franklin, New Hampshire where the Pemigewasset and Winnipesaukee rivers meet. The river moves southward into Massachusetts, bisecting Lawrence into northern and southern sections, then moves back northeast throughout the state before emptying into the Atlantic ocean. The river provided power not only to Lawrence but to several other cities during the 19th century. Mills lined the banks utilizing the moving source of energy to power mills mainly producing textiles. The River has a valuable place in American history not only because of its use for power but also in great American literacy by the likes of Henry David Thoreau and also served as inspiration for the name of a couple United States naval ships.

Map courtesy of: google.maps
http://en.wikipedia.org/wiki/Merrimack_River
www.nps.gov/lowe/planyourvisit/upload/River.pdf
Spicket River

The Spicket River (river and major flood zone pictured below) is a 15 mile long tributary of the Merrimack River that flows from its headwaters at Big Island Pond in Derry, New Hampshire to its confluence with the Merrimack River in Lawrence, Massachusetts. The southern 5% is the watershed that is located in the urbanized corridor or Lawrence and neighboring city Methuen. At the northwestern edge of Lawrence the Spicket River enters at Stevens Pond. Today the headquarters of Polartec textiles exists here. Much of the River corridor is urbanized and little to no buffer exists to separate the river from structures, streets, and parking lots. Intervention of this area is necessary. If redeveloped and taken care of the river could provide for a good natural habitat for plants, animals, and river dwelling species. At the moment it has little important fauna and

Map courtesy of: google.maps
Spicket River Greenway Plan Example courtesy of: groundworklawrence.org
Den Rock Park

Den Rock Park is a hidden valuable resource in the southeastern corner of the city of Lawrence. This 120-acre wooded preserve includes walking trails, water recreation areas, and granite rock outcrops perfect for rock climbing and scenic overlooks. It's location makes it an often unrecognized and underutilized resource. This park however should set an example for how the rest of the valuable natural resources should be treated and maintained.

Map courtesy of: google.maps
Open Space and Recreation

Being one of the youngest communities in the Commonwealth, demand in Lawrence for parks, open space and recreational amenities is high. The challenges of many vacant properties, abandoned alleyways, brownfield sites, and underutilized riverfront areas are opportunities for creative and innovative open space development. The 2009 Open Space Plan Goals are a framework to improve the city’s infrastructure and maintain it as a vibrant place to live, work, and play. To achieve this vision, the 2009 Open Space and Recreation Plan establish the following goals.

1.) Increase regular maintenance by dedication of more resources and decrease the amount of litter and debris in parks and open space.
2.) Improve safety and perception of safety through increased enforcement of illegal and unsafe activities in parks and open space.
3.) Decrease dependence and burden on the DPW by encouraging public-private partnerships to protect and maintain public space.
4.) Increase activity and attendance in parks by creating and implementing more active in-park programming.
5.) Increase attendance in parks by creating and implementing more passive park elements.
6.) Increase pedestrian and biking activity by encouraging walking and biking for exercise and enhancing safety and connectivity.
7.) Reclaim vacant lots and other abandoned and under-utilized land.
8.) Increase access to waterfront resources.
Lawrence is a small urban center located 25 miles north of Boston on the Merrimack River. It shares many characteristics with towns in both Essex County and the Merrimack Valley Region. Lawrence is a densely populated community of 76,976 people in the midst of a predominantly rural and suburban region. Lawrence is served by regional bus and rail as well as the nearby airport in North Andover. With Regional connections residents of Lawrence and neighboring communities could talk, bike and hike through a large portion of the Merrimack River Valley including New Hampshire as well as further south towards Boston.
The city of Lawrence has approximately 270 acres of existing open space. This translates to 3.7 acres of open space per 1,000 people. In comparison to Boston, which has a much higher population density, residents have 9.3 acres of open space per 1,000 people. This shows the major lack of open space throughout the town of Lawrence. Open space amenities in Lawrence include recreational fields and playgrounds, historic parks and monuments, boating, swimming pools, rock climbing, a skate park, community gardens, and nature trails. The majority of the parks in Lawrence are owned and managed by the city, with the exception of the Lawrence Heritage State Park Visitors Center, the Riverfront State Park, Abe Bashara Boathouse, and Pemberton Park, which are owned and managed by the State Department of Conservation and Recreation.
Manchester Street Park is a linear 5-acre parcel of land situated in the northwest corner of the city and bordering Stevens Pond at the head of Lawrence’s stretch of the Spicket River. Similar to many industrial sites in Lawrence there is a history of contamination on the site. After the renewal of the brownfield was completed the site now offers great new green space and serves as an excellent access point for the Spicket River Greenway. The park includes open space, a playground, and a community garden.
The Nina Scarito Park, located along the Spicket River, was previously a 2.7 acre industrial brownfield. Scarito Park stands today as a shining example of the value that a beautiful, community-designed open space can bring to a neighborhood. It is also the first new park to be completed as part of the Spicket River Greenway. “This is going to be a positive thing. It will bring more of the green areas needed, and create a lot of encouragement in the community. Once people see something positive in a vacant lot, it will encourage neighbors to keep the area clean as well.” – Ana Luna
Open Space - William Kennedy Community Park

At Kennedy Park, users can walk along the river on an off-road pathway. Completed in 2007, Kennedy Park Lawrence received assistance from the P.A.R.C. Program in acquiring and developing the land for park and outdoor recreation purposes. The park, which sits in the flood plain, will provide much-needed open space for local residents while helping to absorb storm water and minimizing the impact of chronic flooding on the surrounding neighborhood.
Skaters spent several years conducting research on skate park design, scouting out parks in surrounding communities, organizing meetings with city officials, and circulating a petition among city residents to garner support for the project. The park was transformed into a dynamic new recreation area with basketball courts, a mini-turf field, walking path, lawns, trees and plantings, and a picnic area next to the river. In addition, a new courtyard garden has been constructed on the south-facing side of the school with raised garden beds that provide an opportunity for outdoor classroom activities and schoolyard gardening.
Lawrence is located 25 miles north of Boston on the Merrimack River and is two miles south of New Hampshire. It has a land area of seven square miles with a density population of 72,000 people. There are approximately 10,000 people per square mile. Thus, it is a very dense city. It is part of Essex County and Merrimack Valley Region and bordered by Andover, Methuen, and North Andover. Interstate 495 crosses through the east of Lawrence and Interstate 93 is located outside of the western border. The dense road network connects Lawrence to its surrounding cities and New Hampshire. Most of the industry is found along the Merrimack River followed by commercial and surrounded by residential. The further from Lawrence one travels the further the residential areas are located, showing the transition from urban (dense) to suburban and rural. (Figure 1)
The majority of industry in Lawrence is along the Merrimack River according to Lawrence Open Space Plan. However, during a visit it was made known that the old mill buildings located along the Merrimack River are proposed to be restored to residential and commercial property. There is not much open space in Lawrence compared to the amount of residential. The open space is scattered and disconnected. These spaces allow for opportunities of connectivity to school, commercial areas and historic districts. Most of the residential is located further from the Merrimack River, with the densest areas being located in the northern part of Lawrence. However, this is planning on being changed. The Industry land use area that is located on the Merrimack River is planning on becoming residential/mixed used areas. This is due to the Greenway planning to allow economic growth for the city of Lawrence.
Lawrence is one of the youngest cities with 43% of its population being under the age of twenty four. The average age group is thirty two years old. It is about 60% Hispanic or Latino and one third foreign born. In the 1960’s immigration picked up again and many Hispanic and Asian immigrants came to Lawrence. The median household income $27,000 which is low compared to the nations median income of $50,000. Out of the 72,000 residents about 22,000 are under the age of eighteen. The majority of the youth is found in the northern part of Lawrence. Children and teens need places for recreation. Figure 3 shows the comparison of open space to the density of youth in Lawrence. There is very little open space available for the dense population of youth in the northern part of Lawrence. The proposed greenway will allow for safer walks for children and connections to recreation spaces.
With major interstate intersecting and surrounding Lawrence there is ample connections from Lawrence to its surrounding cities and New Hampshire. The Merrimack Valley Regional Transit Authority (MVRTA) recently constructed McGovern Transportation Center. This includes Lawrence’s MBTA Commuter Rail station. The commuter rail reaches destinations as far as Boston. Also, it is aided with a regional bus system that extends throughout Lawrence and to the neighboring cities.
Land Use - Composite Map
Lawrence has a land area of about seven square miles with a dense population of about 72,000 people. The majorities of people are Hispanic or Latino and are foreign born, due to the immigration increase of the 1960’s in Lawrence. It is an extremely young city having 43% of population are under the age of 24 with the average age being 32. About 30% of the population is under the age of eighteen. Taking this information into consideration we have compared the amount of open space with the density of youth in Lawrence. We found that the majority of youth are residents in the northern part of the city, where there is very little open space but many schools. We are looking to build stronger connections between schools and recreation areas while providing direct safer routes.

The majority of the commercial and industrial areas are located along the abandoned railroad and also along Essex St. This provides opportunity to bring people into the city and build the economy simultaneously through our greenway system. Unused industrial building will be regenerated in to mixed use building such as apartment lofts and shops, to build Lawrence’s economy.

Lawrence offers many historically significant sites and buildings, particularly in the North Canal District. Old industrial sites and mill buildings illustrate the city’s past as one of the largest textile industries in the nation and show the distinct character of mid-nineteenth to early-twentieth century industrial architecture. We will focus on several historic sites that we determined to be important for a concise integration of historical and cultural elements into our analysis.

The Pemberton Mill is the site of one of the largest industrial disasters in New England. In 1860, the mill collapsed, trapping and killing hundreds of mill workers, many of whom were young women. The Everett mill, situated just north of the eastern part of the canal was the starting point of the “bread and roses strike” of 1912, a huge textile strike which gained national attention. Another significant mill is the Wood mill, the largest of the Lawrence mills, and at the time of its construction the largest textile mill in the world. This mill was owned by the American Wool company, the largest industrial employer in Lawrence at the time. Workers tenements for the company have been preserved to the south of the Merrimack River and still exist there today. The great stone dam at the Western end of the North canal was built between 1845 and 1848 and has not been altered or repaved since. The dam is at the site of Bodwell’s falls.

These areas of historical significance can be connected with Lawrence’s open spaces to make a comprehensive circuit. Sites such as; Bellevue cemetery, The North Common, Pemberton park, and Lawrence Heritage State Park offer valuable opportunities for recreation and community activities. Physical and contextual connections between these open spaces and historic sites can create a cohesive and meaningful setting for recreation and transportation for Lawrence citizens.

Using the Lawrence rail corridor we will connect several historical and cultural assets together. We will design a greenway that promotes historical awareness while providing more open space for the youth of the city. It will connect from the rail corridor to the Spicket River, to the Merrimack River through Shawsheen Park and to Denmark Park. Along the Merrimack the old mills will be mixed use of residential and commercial, allowing for economic gain. The green way will promote historical education, recreation and pedestrian circulation throughout Lawrence.
Rail Corridor Analysis

An unused rail bridge has great potential to be converted into a pedestrian bridge that would connect people from the island to the other side of the Merrimack River while providing many great views.

Another rail bridge on the southern side of the river would allow people easier access into the southern part of Lawrence.
The area under the bridge has many drainage issues and a stormwater management system should be implemented in this area.

The area around the bridge is green space that is unused. There is potential for a small park here and to introduce more native vegetation. This space could also act as an access point into the park.
Rail Corridor Analysis

Many residential houses border along the edge of the rail trail. The relationship of these houses to the rail trail should be taken into consideration. The vegetation around the corridor is overgrown and should be replaced with low maintenance native species.

Bourgoin Park also needs some improvements. This spot could also be a major access point for the rail trail.
Rail Corridor Analysis

Manchester Street Park is located along Stevens Pond. This acts as the last open space of the rail trail in Lawrence. There places for both passive and active recreation.

A community garden is also located in this area. The rail trail could potentially connect all of these assets to other parts of Lawrence to make them more accessible to residents.
The Manchester Lawrence rail corridor, like the Manchester River Corridor, has many areas with great potential, as well as some areas that are in rough shape. The Lawrence Rail line is a 2.5 mile stretch of abandoned rail tracks along the western part of Lawrence. The corridor runs through a mix of industrial, commercial, and residential land uses in addition to areas of open space. This unused corridor is an ideal site for greenway development within the city.

The benefits of converting this abandoned rail line into a trail are plentiful. The obvious benefit from this conversion would be the over two miles of protected walking and biking trails. Not only would the rail trail create recreation opportunities and promote healthy living, it would also serve as a major connector to open spaces in the city. This rail trail could potentially connect Pemberton Park to numerous recreational fields, playgrounds, community gardens, and eventually the Spicket River Greenway at Stephens Pond.

In addition to recreational opportunities, there are also potential educational opportunities. Signage along the trails can help educate and inform people of the rich history of Lawrence, as well as teach people about the surrounding wildlife.

Although there is great potential for this rail trail, there are still many challenges to this site. Like the Manchester River Corridor, garbage accumulation and safety pose a problem to new development. Proper funding must acquired in order to provide proper maintenance to the trails. The new design itself will have to be as low maintenance as possible in order to ensure success. Connecting people through this new transportation trail will promote healthy activity and improve the quality of life for the citizens of Lawrence.
River Corridor Analysis

An island is formed between the northern canal and the Merrimack River to the South. This canal was once used to power the mills during the industrial age.

A potential overlook area would provide a great resting spot while allowing for scenic views.

Pemberton Park allows people to interact with the water and also has some great views of the river and old mills.
River Corridor Analysis

The Lawrence Heritage State Park and Museum provide valuable insight on the cultural and historical aspects of Lawrence. This area is very important to connect to.

Areas along the river would be great for proposed walks that provide access into all parts of the island.
River Corridor Analysis

On the easternmost side of the island there is green space that is currently being unused. This would be a great area for another park and access point for the proposed riverwalk. Providing a connection up into the Spicket River Greenway is also essential.
The Merrimack River Corridor and the Lawrence Rail Corridor provide many opportunities for potential greenway development. The development of greenways in the post industrial city of Lawrence would have many benefits to the environment as well as the city’s inhabitants. Greenways connect a series of protected open spaces and trails that can make communities more livable (americantrails.org). Protecting open spaces helps preserve and repair essential environmental areas that can be used by both residents and wildlife.

The Merrimack River runs through the center of Lawrence and was the essential driving force behind development during the industrial age. The River Corridor can be characterized by many large industrial mill buildings along either side of the river, as well as, along the man made canal. Although several of these mill buildings are still used in manufacturing today, a number of them remain unused or are in the process of being turned into residential apartments. A rise in population due to the development of apartments raises the need for the river corridor to become more livable. There are many opportunities for walking paths along the canal, river, and mill buildings to connect a series of open spaces/parks on “the island” (the strip of land between the river and canal).

The Merrimack River Corridor also has rich culturally value. The mill buildings represent a flourishing period in American history. Historical sites such as the Pemberton Mill and areas where the Bread and Roses strike occurred are also located inside of the corridor. Many of these culturally significant areas should be incorporated into future greenway development.

The Merrimack River itself is a Class “B” river and is therefore deemed safe to swim and recreate in. Areas of the river, such as by the Great Stone Dam, are already heavily used by residents during the warmer months. Fishing is a popular area by the dam, as fish tend to gather near the dam. Action and recreation with the river. Although the water is safe to swim in, garbage does tend to gather along stoppages in the river. Proper maintenance and clean up programs have to be considered when greenway planning in these areas.
Spicket River Analysis

The Spicket River Greenway meets the rail corridor at Stevens Pond. There is a possible connection between these two trails at this point. An unused green space along the Spicket River has potential to be used to help with flooding in this area. A high school is located in this area and is a very important asset to connect to.
Spicket River Analysis

Moving further along the Spicket River, there are many athletic field and parks that are being connected through a series of paths. However, there are still some green spaces that are not being taken advantage of. These areas could be used as additional parks, parking access, or even potential farmer’s markets. These areas could be connected by paths running along the river.
Spicket River Analysis

The Spicket River Greenway then runs south connecting several more parks until it meets the Merrimack River. Lawrence General Hospital is located along the river as well. It is important to provide the hospital with a connection to the park across the street to be used as a potential meditation garden for patients and workers. The terminal of the greenway should also have a connection to the eastern part of the island for easy access.
Conclusion

The Spicket River Greenway is a huge asset to the residents of Lawrence. The majority of the city’s parks are located along the river and provide people with both passive and active recreation. The proposed and existing trails along the river connect each space to one another which allows for easy access and a more pedestrian friendly environment.

Proposing connections to the rail corridor and the Merrimack River corridor is very important. These connections complete a closed loop system which weave together all of the important open space, commercial areas, and historical features of Lawrence. This system of connections, with the Spicket River Greenway being the spine, make the city a healthier and more livable place.

Although many spaces are connected by this greenway, the current conditions of the spaces are sub par. Many of the spaces lack the maintenance that is essential to make the space a usable entity. As with the rail corridor, special consideration to the maintenance aspect of the parks have to be under careful consideration. These considerations will have to carry over into the design aspect of new spaces. Low maintenance designs should be implemented in order to relieve economic pressure on the city. Low maintenance native species are essential in these areas to ensure that the vegetation will not be overgrown and consume a space. Not only is this practice more eye appealing, it is more sustainable to the environment.

The Spicket River Greenway, along with some proposed improvements, makes the city of Lawrence a better place to live. This ecological and trail corridor provide great, usable connections to important spaces for the city’s residents. This greenway is a great blueprint for future greenway development in Lawrence.
Concept

Develop commercial/recreational area along the Merrimack River that is accessible to people from in and around Lawrence through a series of proposed trails and walks, green infrastructure systems, and mass transit services. These proposed systems work together to form a greenway that connects to major open space and commercial areas in Lawrence and its surrounding communities.
Goals/Objectives

Improve connectivity between commercial areas, mass transit centers, and open space
Develop safe routes to schools
Provide both passive and active recreation
Promote community interaction and stimulate local economy
Increase the amount of green infrastructure to create a more pedestrian friendly environment
Regional Greenway Plan

By making connections to the Bay Circuit Trail, Andover Bike Trail, and the Methuen Rail Trail, people will be more likely to travel along the newly planned Lawrence Greenway and Spicket River Greenway. Highlighting alternative modes of travel and regional bus routes will help join Lawrence with the surrounding cities and towns. Another goal for our regional greenway is to make as many connections as possible to spaces immediately outside of Lawrence including the Bird Sanctuary in Methuen, the collection of conservation land in Andover, and Lake Cochichewick in North Andover.
The two major corridors we have created follow the rail line and the Merrimack River. This greenway plan will also provide access to the ecological corridor that runs through Coyne, Costello, Shawsheen, and Den Rock Park. Connecting the existing open space and recreation with green infrastructure was an important goal when working at all scales.
Greenway Focus Areas

The majority of our efforts have been focused on three main corridors. The Rail Corridor begins at Manchester Street Park and concludes at the Great Stone Dam. The Merrimack River Corridor begins at the Great Stone Dam and ends at the Mouth of the Spicket River. The Spicket River Corridor begins at the Merrimack River, meanders through Northern Lawrence and terminates at the Manchester Street Park. For a more detailed analysis of the area, our team has selected focus areas which will include perspectives, sections, and analysis.

In the analysis above, there are several important features being highlighted. All of the existing Lawrence Parks are labeled and are represented by a light green. The potential open spaces are all represented by the darker green and heavily revolve around our three corridors. The study of children and their relation to open space is very important, therefore, the schools have all been highlighted in blue. We have also highlighted some areas of interest including Lawrence General Hospital, the Lawrence Town Library, and The Great Stone Dam.
Focus Area - North End of Rail Corridor - Alex Jardin
Perspective - North End of Rail Corridor - Alex Jardin

Before

After
The rail trail has great potential to become a major aspect in the citywide greenway plan. This abandoned corridor is currently in rough shape. Much of the vegetation in the corridor is overgrown and unsightly. There are no pedestrian paths to walk on or areas for passive recreation. In order to create a trail in this area, a central path is being proposed to allow for walking and bike riding. Seating and other amenities will be provided for people walking along this path. The vegetation will be improved by using low maintenance native plant species. Drainage problems will be addressed by proposing a series of rain gardens acting as a system. The facades of the abandoned buildings will be revamped by encouraging public art. This art will make these buildings more appealing to visitors. This proposed walk and improvements will have many benefits for the people of Lawrence.
Perspective - Rail Corridor - Pat Corey

Before

After
Before

After

Perspective - Rail Corridor - Pat Corey
Focus Area - Essex Street - Pat Sephton

This illustrates an example of some of the alterations we intend to implement along our proposed historical routes. Intermittent removal of street side parking will create space for street plantings and rain gardens. These modifications coupled with seating and historical signage will create much more desirable walking routes for pedestrians in Lawrence.
The canal is located in the North Canal Historic District. This District is known for its industrial use in the past. To the south is the island that comprised of Mill buildings that are currently being renovated from industrial buildings to residential. As part of our greenway goals, we are proposing that several of the industrial building be changed to mixed use buildings. This will provide housing for new residents and job opportunities for the city. Connecting the greenway to this mixed use area will provide economic growth for Lawrence, bringing people from all over into the city.

The Great Stone Dam built in 1848 is located along at the western edge of the island and may act as a main access point in our greenway plan. Several other features along the canal are the Washington Mills, which are being transformed to lofts, several pedestrian bridges crossing the canal and also the Immigrant City archives which provides documentation and ethnic history of the district.

To encourage use of this area we have proposed a walk along the canal. The canal will be transformed from a place to pass through to a place to come rest, shop or learn about the history of Lawrence. It will include retail shops, cafes and pocket parks located along the north and south of the canal. Canal Street will be an extension of Essex Street, enlarging the commercial hub and building the economy. The street will be made pedestrian friendly, proving crosswalks where needed, buffers and lighting to provide safety. Repairs will be made to bridges crossing the canal to ensure use. There is a large amount of impervious surface along Canal Street. In order to deal with water runoff and storm water management, tree plantings and rain gardens will be implemented where needed to improve infiltration. In terms of historic preservation, cantilevered over looks will be built along the dam with plaques stating facts on the history of Lawrence while providing seating for rest and contemplation.

The walk along the canal will reach Pemberton Park and continue to The Great Stone Dam where it will connect with the rail line. It will provide economic growth, historic preservation, and open space for rest and recreation, housing and job opportunities while strengthening the greenway plan.
Historic preservation and education will take place through cantilevered overlooks. They will have plaques on them stating facts on the city, mainly the North Canal District. Overlooks provide places for people to gather or rest and view the canal all while learning the history. Tree plantings along the canal provide shade for those walking, frame views across the canal and deal with water runoff. They also act as a buffer from the street.
Canal Street is currently unfriendly for pedestrians. There are no crosswalks along it, sidewalks are narrow and have no shade due to the fact that there are hardly any trees planted along it. It is surrounded by several unused textile mills with run down facades. These mills will be renovated for mixed use, apartments and retail such as café’s and a variety of shops to promote economic stimulus. Crosswalks will be implemented where needed, and pedestrian bridges will be restored connecting the north and south of the canal. Tree plantings will be planted along the sidewalk along with small rain gardens to catch water runoff from the street and buildings, providing infiltration before the water leaks into the canal.
Design alterations to the boat ramp at Pemberton Park are suggested to encourage interaction between people and water. Large stairs that curve along the shore line of the river will replace the grown in stones that are unwelcoming to visitors. They will provide seating, places for people to fish and provide a wide enough ramp for boat drop off. Native plantings will replace invasive species, adding wildlife habitats while framing views of the Casey Bridge for a beautiful scenic site. Similar alterations along the west edge of the canal adjacent to The Great Stone Dam will also take place. Connections from the dam to the rail trail will be provided for easy access. The damn will be a historic site used for different recreational purposes.
This focus area continues along the East portion of the Spicket River. Dr. Nina Scairto Park stands today as a great example of the value that a beautiful, community-designed open space can bring to a neighborhood. It is also the first new park to be completed as part of the Spicket River Greenway. Brook Street connects Scarito Park to an open space at the corner of E Haverhill St and Newbury St. This open space lies in a heavily residential area and would make an excellent area for a farmer’s market promoting sustainability and community engagement.

The next important site along the Spicket River is Misserville Park. At one time this park had no green space but after a series of transformations the space had become a new recreation area with basketball courts, a mini-turf field, walking paths, lawns, trees and plantings, and a picnic area next to the river. Adjacent to the park is James F. Leonard school and Lawrence General Hospital. I have proposed a corridor that will connect these two sites with Storrow Park, create safe ways of pedestrian travel, and provide more green space and street vegetation. I have also proposed a more highlighted path through the forested area to reach Storrow Park. This will provide an outdoor space for students, patients of the hospital, and residents of the area.
Making a connection from Lawrence General Hospital to Storrow Park will particularly interesting because of the grade change between the two sites. Once the pedestrian crosses Prospect St they are then presented with a large series of stairs. An effort can be made to highlight the stairs, as they are hidden and set back from the road. Also signage can be posted at the bottom of the hill in order for pedestrians to be informed that Storrow Park is located at the top of the hill.
Before

After
Perspective - Corner of Allen St & General St - Bill Black

Before

After
Implementation

1st Year Plan: Implement signage, street plantings, and seating along the section of Essex Street in downtown Lawrence, and establish maintenance program. This is the most active area of our proposed greenway. Heavier use and exposure will promote interest and investment in future development.
5 Year Plan: Develop plans for our proposed walk along the North Canal, constructing cantilevered overlooks, educational signage, and street plantings, connecting the Spicket River Greenway to the railway corridor.
10 year Plan: Construct trail, add amenities, and implement plantings along the abandoned rail corridor to create a full greenway circuit through Lawrence.
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