

UMass Amherst Design Center
Department of Landscape Architecture & Regional Planning

Along the Chicopee River from the Mills to the Ludlow Bridge -
Creating a Vision for Indian Orchard
in Springfield, MA

Graduate Urban Design Studio Spring 2012
Frank Slegers, Assistant Professor
MLA, DIPL.-ING. Landschaftsarchitekt



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Page	
3	Table of Contents
4	Acknowledgements
5 - 11	Studio Format, Goals, and Objectives
12 - 25	Site Analysis and Assessment - Understanding Indian Orchard as a place
12 - 13	History
14	Assets & Cultural Attractions
15	Regional Open Space
16 -17	Land Use
18	Open Space
19	Street Network & Tree Canopy
20	Public Transportation
21	Sidewalk and Walkability
22	Existing and Proposed Connections
23	Regional Watershed and CSO
24	Local CSO
25	Community Meeting
21 - 77	Design Proposals
21	Design Teams
28 - 37	Team - Yiwei Huang, Rocky Liu, Yan Yan
38 - 52	Team - Elizabeth Englebretson, Albert Wang, Jinglin Wang
53 - 66	Team - Scott Fulford, Tracy Murphy, Sparky Von Plinsky
67 - 79	Team - Ying Cao, Jing Huang, Shanshan Yu
80 - 81	Appendix: References and Bibliography

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Nathan Frazee and Frank Slegers, June 2012

Printed: 2012

Acknowledgements

The Department of Landscape Architecture and Regional Planning, UMass Amherst, continues the successful collaboration with the Office of Planning and Economic Development of the City of Springfield in the spring of 2012.

We left the core area of Springfield to draw our attention to the unique assets and opportunities of Indian Orchard. This neighborhood has not been covered yet by recent LARP Urban Design Studios. We focused on the exciting area along the Chicopee River from the Mills to the spectacular outlook at "Indian Leap" and the gateway for Indian Orchard at the Ludlow Bridge.

Our public presentations received again great feedback from engaged residents, community activists and planning professionals. The envisioning workshop at the American Legion at Oak Street helped us to investigate what people like and dislike, what they like to improve and strengthen and to develop our design objectives. We hope that we contributed with our research and creative work to support these efforts. We also hope that the proposals of this design studio can unveil the great assets that this neighborhood has and bring it to everybody's attention. Special thanks for the support and enthusiasm from the Indian Orchard Neighborhood Council

We think that we could intensify a conversation between the residents and the City. The work of the Graduate Urban Design Studio 2012 describes a comprehensive and process-oriented strategy with various facets that is documented in this report.

We are grateful for Mayor Sarno's continuous support of our creative work and his love for the City of Springfield.

We specially thank Scott Hanson from the Springfield Department of Planning & Economic Development for his untiring enthusiasm and great cooperation on this project.

We thank Michael Tully from the Springfield Parks Department for his useful input and engagement.

We thank also the Director of the UMass Amherst Design Center Michael DiPasquale for his ongoing assistance in coordinating our urban design studios over the years and exhibiting our work at the Design Center.

We are thankful to the faculty of the Department of Landscape Architecture and Regional Planning for participating and contributing their valuable comments during our studio reviews.

I thank all the students in this Urban Design Studio for their great work to develop creative ideas for the Springfield.

Special thanks to Nathan Frazee for his dedication and diligence in editing text and graphics for this report.

This studio articulates design visions along with strategic planning recommendations. They will make the unique assets and character of the area more accessible and legible to strengthen the identity of Indian Orchard as a place to live and work. Our plans will hopefully support the community of Indian Orchard to raise their profile in the City of Springfield to prioritize the allocation of investments and planning efforts. We hope our Graduate Urban Design Studio can contribute catalyzing the shaping of Indian Orchard and make it even a better place than it is today.

Frank Slegers,
Amherst, June 2012

Studio Format, Goals and Objectives

1.0 Studio Project Area

The Indian Orchard neighborhood is located in the northeastern corner of Springfield with approximately 9,000 inhabitants, beginning about four and a half miles from Downtown Springfield. Indian Orchard is not directly connected to the Interstate Highway system close-by and is somewhat segregated from the rest of the City.

Our project area is defined by the area around Indian Orchard Mills to the west, Chicopee River to the north, the Ludlow Bridge to the east, and the larger Main Street area to the south. Within our project area and the neighborhood there are a variety of great parks and the most unrecognized asset: the Chicopee River. The parks are: Myrtle Park, Cottage Hill Park, Hubbard Park (will be renovated in 2012-2013), Goodwin park, Long Pond Blog, Lake Lorraine Conservation Area.

The Chicopee River Watershed is the largest of the 27 major drainage basins in Massachusetts. It drains more than 720 square miles of central Massachusetts before joining the Connecticut River in the City of Chicopee - about seven miles down river. The Chicopee River is only 18 miles long and flows into the Connecticut River about 7.5 miles downstream.

Three main studio project areas can be identified:

Indian Orchard Mills

This is one of the landmarks of the Indian Orchard neighborhood. The Mills were constructed in the mid 1800's and were a place of industrial activities for over one century. With the fall of industrial production in the U.S., the Mills were neglected and abandoned. Today they house 130 tenants some small manufacturing enterprises and a productive artist community. The close-by falls of the Chicopee River are spectacular but hardly accessible and not engaged through pedestrian pathways or overlooks.

Main Street and the banks of the Chicopee River

The central portion of the Main Street corridor has a mix of smaller shops, bars, restaurants and some residential units. The commercial activities on the central Main Street portion offer basic services to the neighborhood. They cannot compete with the shopping mall on Boston Road that is only one to two miles away. The banks of the Chicopee River are, with the exception of a recently installed boat ramp, hardly accessible and poorly connected through an informal path on an abandoned railroad corridor. This corridor connects to a scenic overview in the east - Indian Leap. There was a railroad trestle on the Boston and Albany's Athol Branch with two both bridges from the 1870's and removed decades ago. The name Indian Leaps comes from a legend about local natives leaping to their deaths off. The riverfront is abutted by single and double renter-occupied residential units.

Ludlow Bridge Gateway

This is the entrance to the neighborhood from the north. It has a rather chaotic traffic pattern, disorganized commercially used buildings, and random residential units. The Chicopee River is not accessible or engaged.



The Indian Orchard neighborhood is located in the north-east corner of the city of Springfield. The Chicopee River divides the neighborhood from Ludlow to the north.



The Indian Orchard neighborhood is divided into three different areas for this project. Area (1) is the Indian Orchard Mill, Area (2) is Main Street and the Chicopee River waterfront, and Area (3) is the Ludlow Bridge and Indian Leap area.

Studio Format, Goals and Objectives

2.0 Project goals

The primary goal of the project is to unveil the unique assets and character of the area, to make these assets more accessible and legible to strengthen the identity of Indian Orchard as a lively place for its residents and people in the larger Springfield community with new opportunities for housing, recreation, working and commercial activities.

Crucial keys to attaining this goal will be creating a stronger sense of place throughout the project area, acknowledging the strong industrial heritage and improving connectivity to the existing public open spaces like the banks of the Chicopee River, the spectacular falls, the great parks, in the diverse residential areas. The open space system does not stop at municipal boundaries. It as to be developed with a sense for regional connectivity along rivers and streams and has to take potential connections like old railroad corridors.

Our approach balances four dimensions of sustainability:

- Environmental protection
- Economic growth
- Social and cultural development
- Aesthetic experience and appearance

2.1 Physical design objectives

We focus on the improvement of the physical environment to accomplish our human goal to revitalize the area around the Mills and the along the Chicopee River at Indian Orchard in Springfield, MA. The project area is diverse but lacks unity and legibility. Potential themes like the Chicopee River, the industrial heritage and the Main Street corridor are not reinforced.

These are general design objectives:

1. The over arching design objective for the three project areas is to become more distinguishable but unified at the same time. What are potential design elements that hold the area together? What are the proposed land uses that should be reinforced to create more distinct areas? What are the concurring planning tools?
2. Designing Main Street as the spine for the project area and beyond. How are gateways to Main Street legible from the west and the north? How is the Chicopee River accessible from Main Street?
3. Designing the edge of the Chicopee River as a system that connects to the City of Chicopee in the west and to the city of Ludlow in the east. Create view points and access points to the River and more legible connections to Main Street and other parks at Indian Orchard.
4. Making the rich industrial heritage a stronger design element in our area and creating synergies with the art community through public art.
5. Incorporating a system of trail and loops that encourage walking and cycling and tie into the nodal elements of the public open space system - parks, cemeteries, plazas, and potentially also vacant lots.

Studio Format, Goals and Objectives

Other design objectives are specific to our three focus areas:

Indian Orchard Mills

1. Propose land uses on western Main Street that build on the successful activities at the Mills and the great history of the place. Organize residential, commercial, institutional, and open space uses.
2. Create visions for residential uses within the industrial heritage of the Mills.
3. Engage the historic canal and the falls. Develop an educational concept to engage history.
4. Develop concepts to address the ecological challenges of the falls as a barrier for migrating wildlife.
5. Strengthen the art related activities in the public open space.

Main Street and Chicopee River Walk

1. Propose land uses that could give Main Street more definition. Organize residential, commercial, institutional, and open space uses.
2. Propose a path along the Chicopee River that reinforces accessibility to Indian Leap.
3. Create a vision for new housing that takes advantage of the vicinity to the Chicopee River and increases the diversity of housing stock at Indian Orchard.
4. Strengthen connections from Main Street to the Chicopee River.
5. Search for possibilities to make the industrial history a legible design theme on Main Street and at the River's edge.

Ludlow Bridge Gateway

1. Create a stronger profile and character for the area.
2. Create an attractive gateway from the Ludlow Bridge to Main Street. Consider pedestrians cyclists, and the automobile. Integrate the new plans from the City to reorganize traffic.
3. Propose land uses that organize residential, businesses, offices, public institutions, and open space uses.
4. Strengthen the connection to the Chicopee River and Indian Leap.

Studio Format, Goals and Objectives

3.0. Learning Objectives - Urban Design Studio as Public Service

The project will integrate a creative workshop, conducted in order to engage community members in the shaping of project goals and objectives. Groups of students and representatives of the project area will work together to identify specific program elements for the designated design areas.

Studio work will include in-depth study, analysis and assessment of the project area through on-site exploration and observation, interviews, sketching, institutional document research, historic research, and analysis of aerial photographs. Specific case studies will create a reference to support design proposals. Final design concepts and a vision plan will be presented to the UMass community, to the Indian Orchard community and City planning officials. The design drawings will also be exhibited in the UMass Amherst Design Center at Court Square, to further stimulate discussion within the community and to demonstrate a UMass presence in Springfield. The results will be published in a final studio report. Readings of keystone literature in urban design will give you a basic theoretical framework to communicate and understand the most important issues in the discipline.

3.1 Learning Objectives: Analysis and Assessment / Understanding the Design Area and Design Proposals

The following elements are analyzed and assessed to understand the design problem. Challenges and opportunities are identified and conclude the investigation. Your design proposals reflect a comprehensive understanding of the area and address the findings of the conclusions in a compelling and unifying design idea.

1. Survey stakeholders within the community. Observations, collages, and sketches.
2. Existing land use, activities, zoning, cultural milieu, power map of political structures and community dynamics
3. Open space system
4. Street network and hierarchy, trails
5. Natural systems: topography, water, street trees and vegetation
6. Urban grain and structure
7. Public transportation network

3.1.1 Survey and Observations

- Conduct face-to-face interviews and collect data through the visioning workshop, to develop and understanding of the social and political structure of the project area and the project's social context. Record on-site observations and sketch first impressions to make an initial intuitive assessment of the project area.
- Translate your findings with diagrams and articulate challenges and opportunities on a map/base model.

3.1.2 Cultural Milieu, Land Use, Zoning

- Analyze the cultural milieu, including population trends, age, ethnic background, poverty, education, work force, stakeholders, formal/informal power structure.
- Analyze existing land uses and develop a robust mixed-use land use pattern that envisions future development with respect to the cultural milieu.
- Describe the specific uses of buildings. Identify the names of businesses, institutions, and organizations associated with particular buildings.
- Propose new land uses, explain why, and propose new zoning as a planning tool.

Studio Format, Goals and Objectives

3.1.3 Public Open Space System

- Describe, analyze and assess the open space system of the project area and how it relates to the city context. Distinguish between nodal and corridor elements of the system. In a coherent open space network, the nodal open spaces are connected by open space corridors. Nodal elements include: Public parks and plazas, cemeteries, public and school playgrounds, forested areas. Corridor elements include: Sidewalks, pathways, recreational and bike trails.
- Identify missing links and connections. Observe accessibility during different hours of the day and night.
- Create a hierarchy of open space nodes, and create a hierarchy of open space corridors.
- Identify areas where the pedestrian system conflicts with or is in harmony with the vehicular system. Look carefully at whether and how pedestrian movement is facilitated.
- Create a conceptual proposal for a renewed open space system.

3.1.4 Street Network and Hierarchy, Parking

- Analyze the street system:
City Arteries connect neighborhoods and cities to one another. They are the primary connections. Neighborhood Streets are secondary connections. They are important links within a neighborhood and create a permeable network. Neighborhood Roads are tertiary connections.
- Design legible gateways for our project area

3.1.5 Natural Systems: Topography, Water, Vegetation

- Analyze and assess the topography of our project area.
- Analyze sewage and storm water systems of the area.
- Analyze and assess permeable and impermeable surfaces.
- Analyze and assess existing trees including street trees.
- Increase infiltration in your design proposals, identify areas for street tree planting, create a universal design.

3.1.6 Urban Grain and Structure

- Analyze and assess the urban grain of our project area in figure-ground drawings. Understand how urban grain reflects land use. Identify empty lots.
- Analyze and assess general ownership of residential areas: owner occupied vs. renter occupied.
- Develop proposals for improving the urban grain. Explore alternatives in figure-ground drawings. Use case studies of successful neighborhood urban grain/figure-ground to support your design ideas.

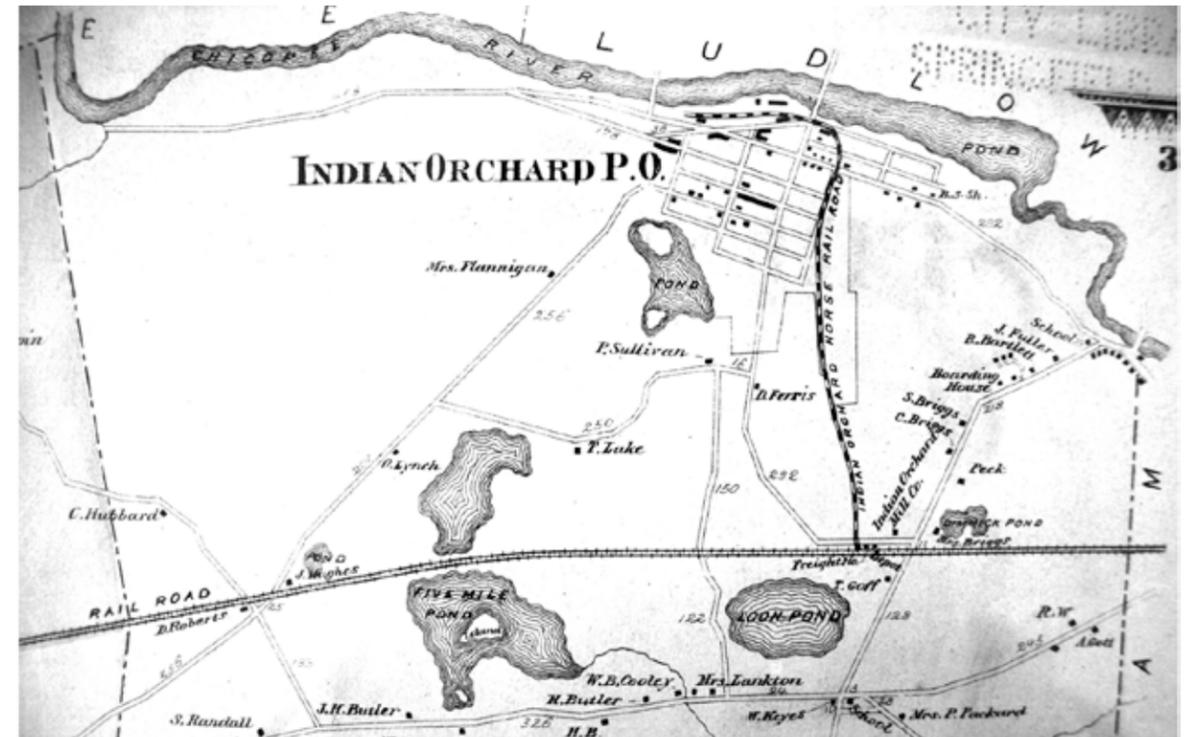
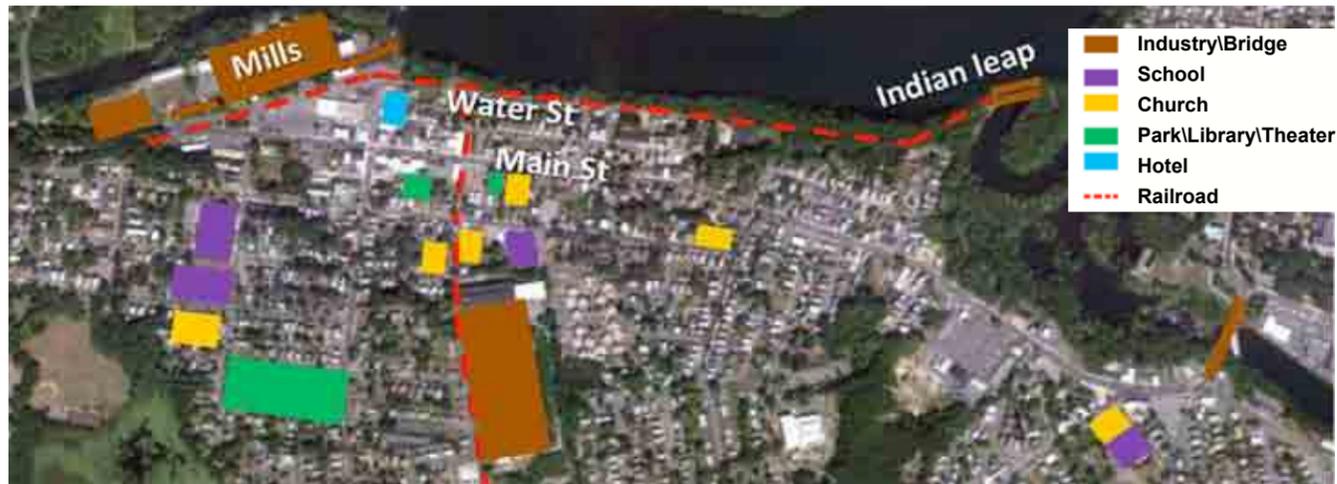
3.1.7 Transportation Network: Private Vehicular and Public Transportation

- Assess and evaluate the transportation network, including parking, bus lines and bus stops, trains.
- Understand the transportation network and how it relates to existing land uses, including public open space. Where do people live, where do they work, where do they go to school, where do they go out? How do they get there?
- Propose alternatives to improve public transportation.

Site Analysis and Assessment - Understanding Indian Orchard as a place

History

Indian Orchard has a long history of human inhabitancy. Native Americans had utilized the Chicopee River prior to European settlers. Remnants of these settlements are caves along the River within our project area that are forgotten and not utilized. The rivers served as an important energy source to mills which brought industrial jobs. Indian Orchard expanded because of the mills and was a tourist destination for shopping and entertainment along Main Street. Currently, Indian Orchard is one of 17 neighborhoods of the city of Springfield and is 1/4 of a mile from north to south and 1.2 miles east to west.



This 1882 map of Indian Orchard shows how the early development occurred around the Chicopee River with connections into Springfield. Noticeable is the Indian Orchard Horse Rail Road connecting the mills to the railroad from Springfield to Boston.



Chicopee River was known as Chicupe to Native Americans and had been inhabited prior to Europeans.



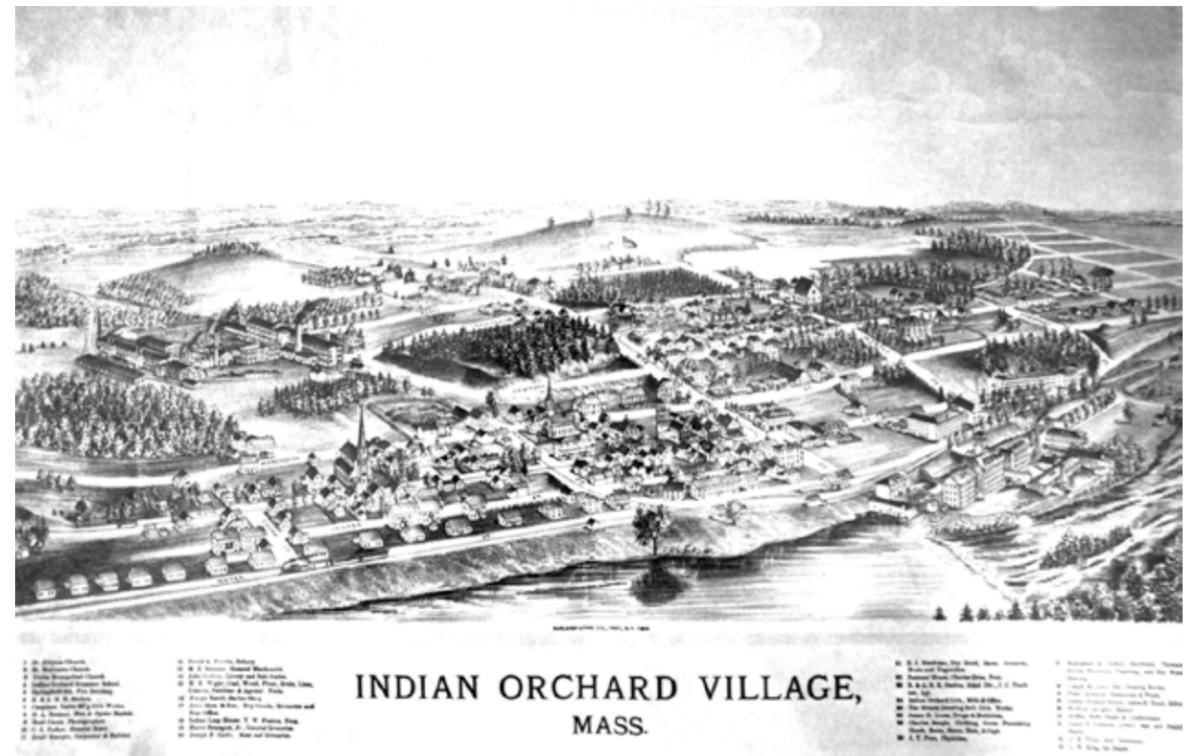
Indian Orchard Canal Company dates to the early 19th century, showing a strong connection to the river.



Large mill buildings were common along the Chicopee River providing jobs for a growing population.



Main Street was a destination of shopping and culture in the early 20th century.



This 1893 birds eye rendering shows the Indian Orchard Mill and how the adjacent land was the location selected for development.

Site Analysis and Assessment - Understanding Indian Orchard as a place

Assets and Cultural Attractions - Indian Orchard Mill, Main Street and Chicopee Riverfront

Indian Orchard has a variety of elements that serve as assets and cultural attractions. The Indian Orchard Mills is one of the primary attractions. It is currently houses art studios for a community of artists and small manufacturing enterprises. Exhibits and sales occur which draws in a variety of business and tourists. The Chicopee Riverfront could serve as a major asset and attraction for Indian Orchard, however, very little opportunities are in place for residents to interact with the water. Main Street still has a variety of historical buildings including The Grand Theater which had served the community since the early 20th century until its closure in 1990.



The falls on the Chicopee River were utilized to power the Indian Orchard Mills.



Indian Leap historical site is underused. It provides spectacular views but is not directly connected.



The Grand Theater was a destination point in the early 1900s and now serves as a location for a church group.

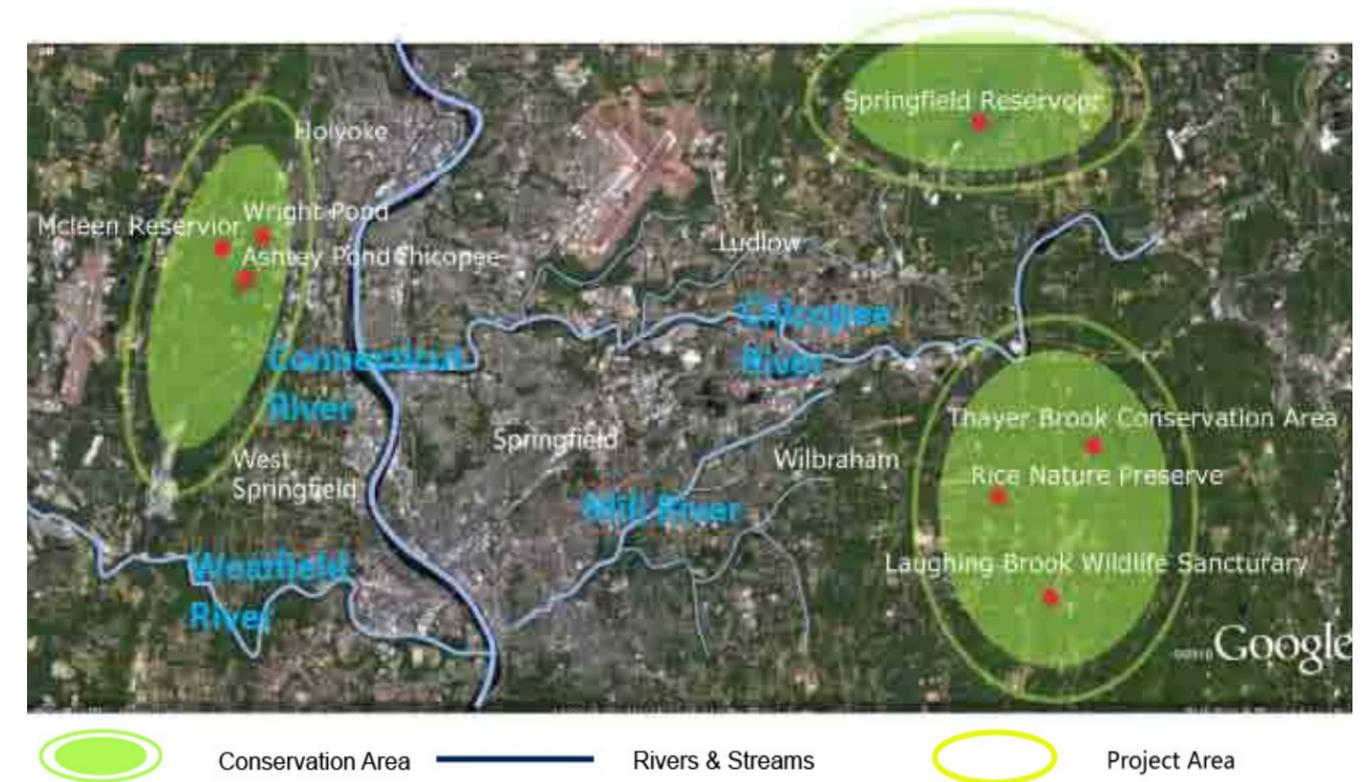


Painting by Peter Barnett of the Indian Orchard Mills art studios which services a community of artists.

Regional and Municipal Public Open Space Network

Indian Orchard is located in the northeast corner of the city of Springfield and is part of a larger green open space system for the entire city and region. Within Springfield the majority of attention is placed on the Connecticut River, leaving little attention to the Chicopee River which serves the community of Indian Orchard.

The task for this project is to create a riverfront that is more usable and desirable for the residents of Indian Orchard and address the lack of open space within the project site.



Public open space throughout the region includes three conservation areas, rivers and streams as well as smaller public open spaces within each community.

Site Analysis and Assessment - Understanding Indian Orchard as a place

Land Use and Public Open Space within the Project Area

The project site has a variety of land uses including residential, business and industrial. Main Street serves as the primary division between the land uses with most residential located to the south and Business located along the road. The industrial area consists of the Indian Orchard Mill and is located on the western portion of the project site and serves as a strong barrier between the rest of the city and the Chicopee River. The only green opens pace within the project site is located in the western side and has little connection to the majority of the residences.



The Indian Orchard Mills are a cluster of historic buildings that serve diverse tenants.



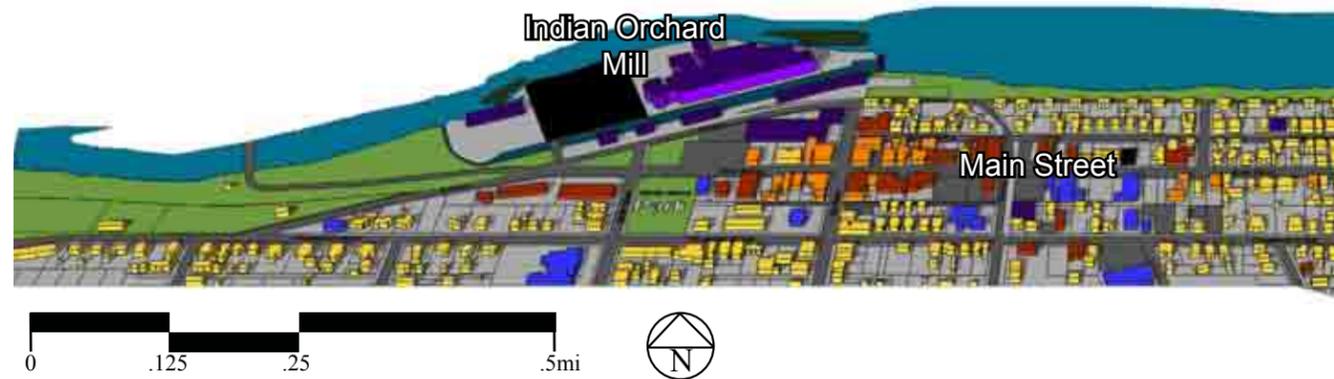
Typical image of the historical core at Main Street of Indian Orchard with commercial and mixed uses.



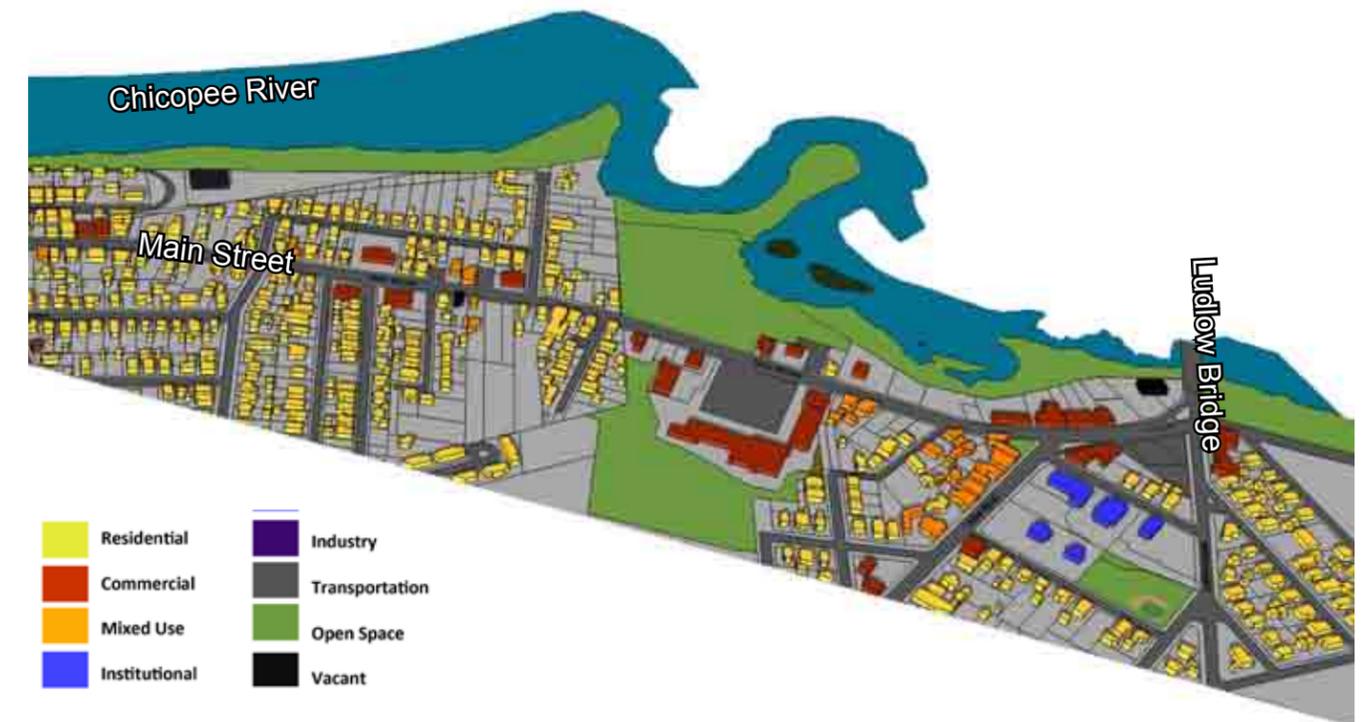
Residential B District is primarily comprised of single family houses with yards and street frontage.



The Residential C District has a variety of housing styles and has some of the higher density housings.



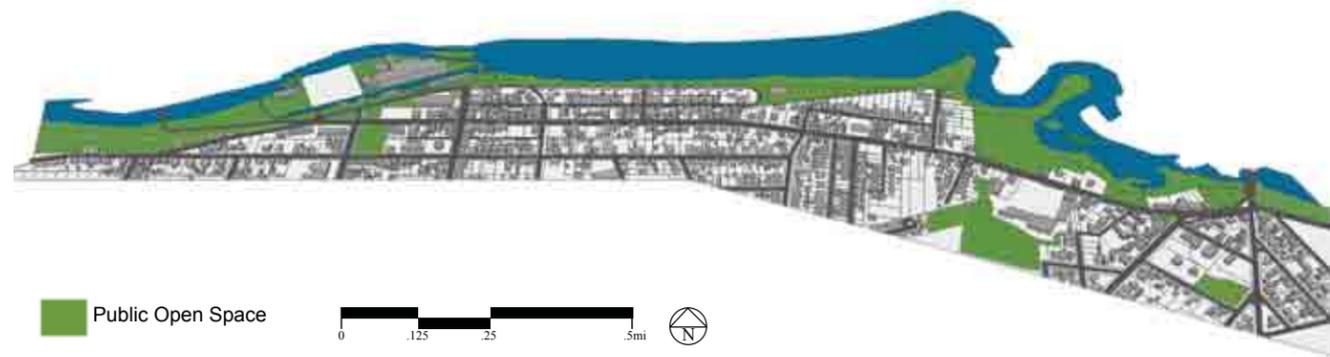
Overview of current land uses including public open space within our project area.



Site Analysis and Assessment - Understanding Indian Orchard as a place

Land Use and Public Open Space within the Project Area

Public Open Space is owned by a government body or private but open to the public for use and access. Typically the uses within this space are public recreation and inaccessible woodland. Within Indian Orchard, the majority of open space is located along the Chicopee River waterfront. However, the majority of this area is not accessible in its current condition it has the opportunity to be redesigned and utilized as a major resource for the Indian Orchard Neighborhood.



Myrtle Street Park is the one existing green open space located within the project area.



Indian Leap is a natural landmark on the riverfront. Accessibility is difficult.



This lot located adjacent to Myrtle Street Park could possibly be redesigned to provide more public open space.



The boat landing along the Chicopee River attracts swimmers but it has a ramp that is hard to access.

Street Network and Tree Canopy

Currently there are no public transportation services from Main Street to Boston Road and the Eastfield Mall. According to census data, 16.5% of Indian Orchard households do not have a car. Because of this it is important to have strong amenities within walking distance of the residential portions of the site.



Our area has a street system that lacks direct connections to the Chicopee River. There is little park and open space located within the project area. However, major conservation areas are located within the region which allow for the opportunity for greenway connections to create a continuous network.

Street Trees: Not continuous, lack connections. Do not form a network.



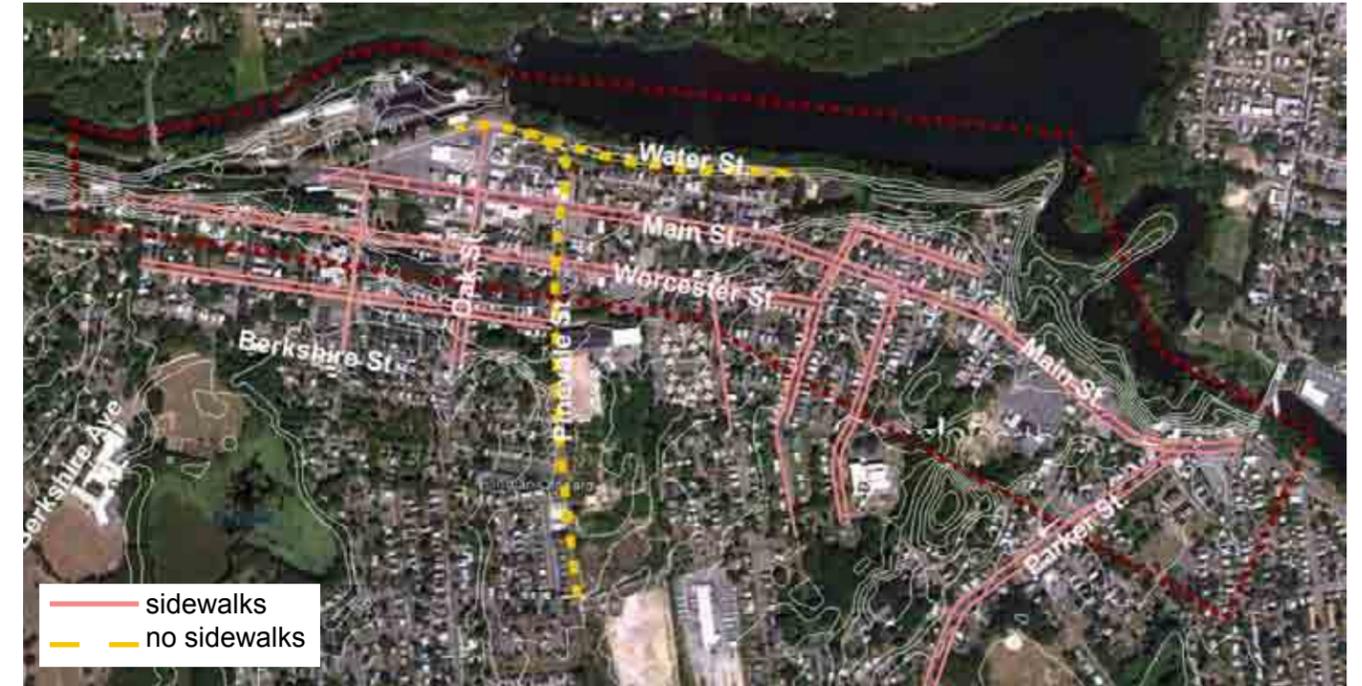
The street tree network indicates that there is a lack of continuity and an opportunity to increase tree canopy along almost all of the existing streets.

Site Analysis and Assessment - Understanding Indian Orchard as a place

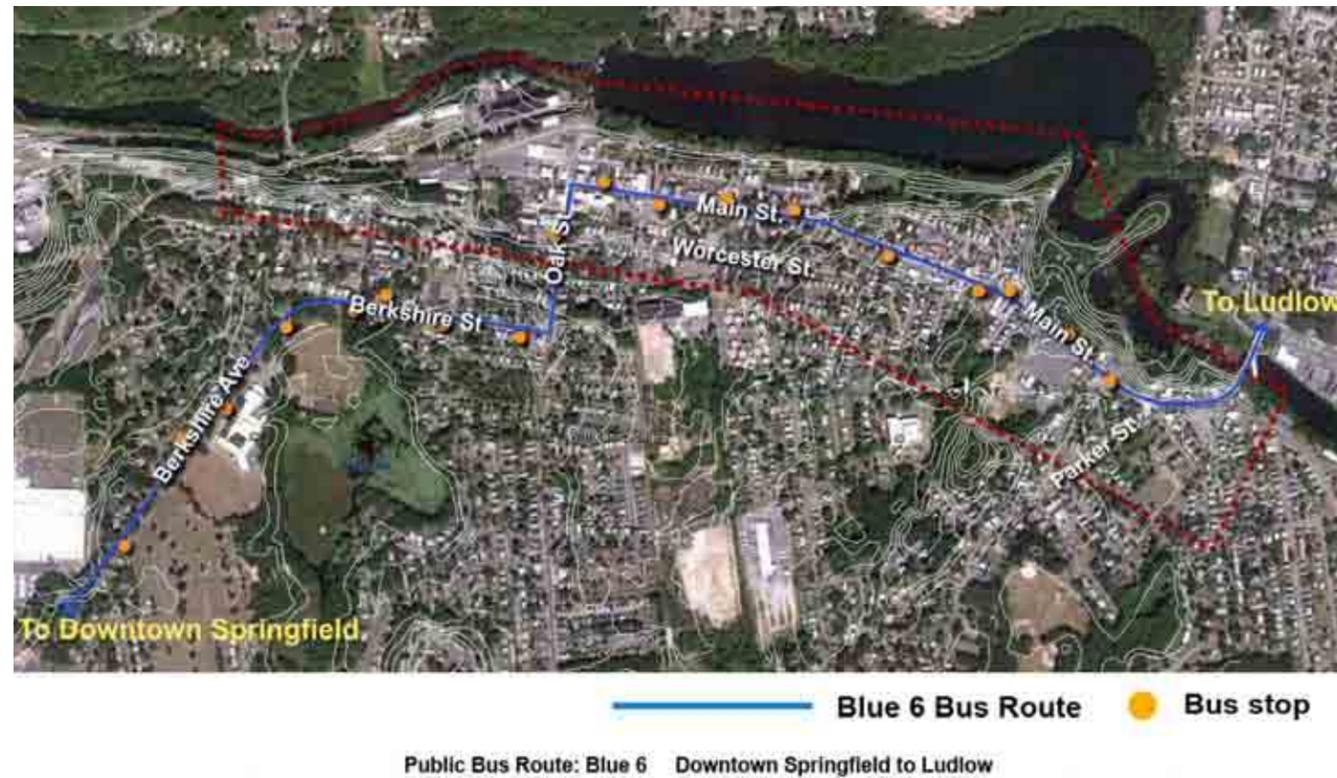
Public Transportation

The Pioneer Valley Transit Authority (PVTA) is the major provider of public transportation in downtown Springfield and the region. Although the system covers a great portion of our area there is only one bus line that goes through Indian Orchard. The hours of the PVTA are 6:00AM - 8:45PM during the weekdays and on weekends they work a reduced schedule of 8:00 AM - 9:00 PM. The fare for passengers over 13 is \$1.25. This current system does not provide public transportation connections from Main Street to Boston Road and Eastfield Mall.

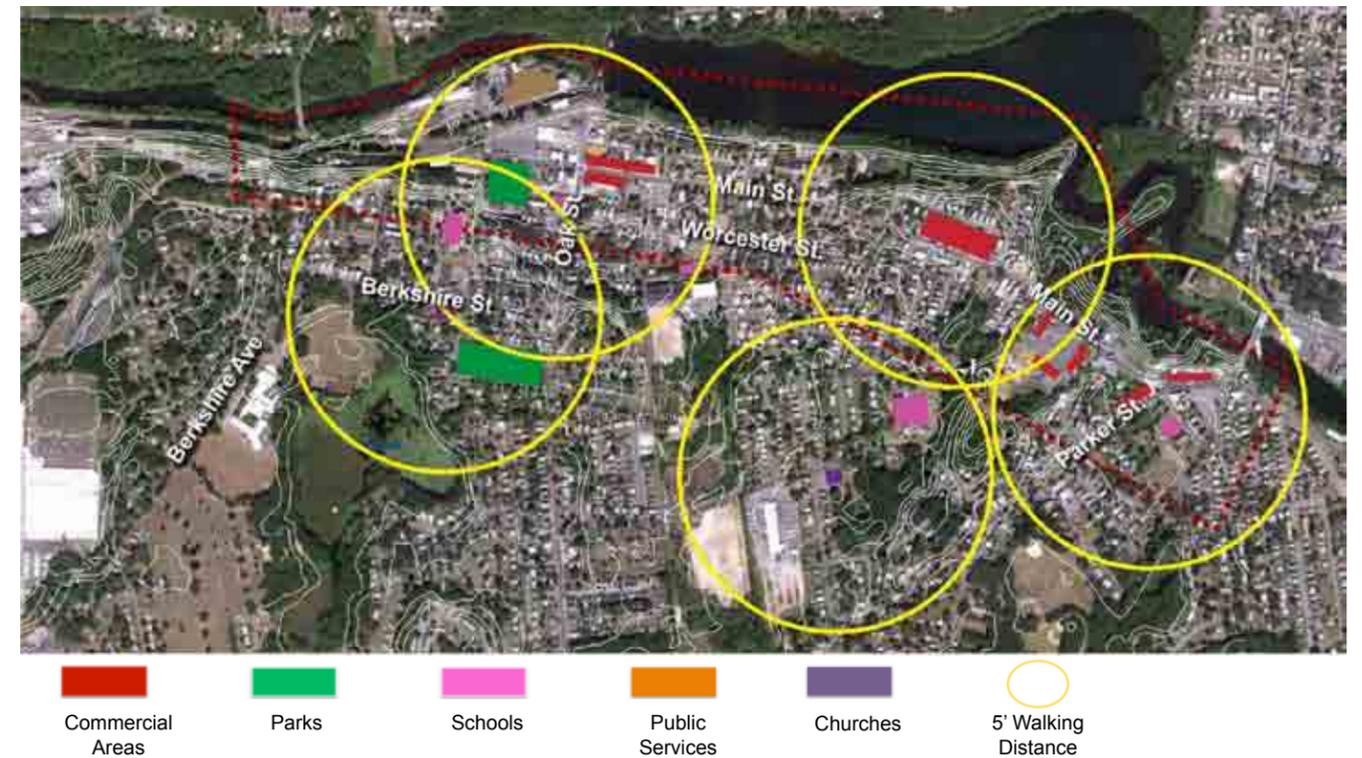
With the large percent of the population that rely on public transportation there is need for alternative modes of transportation. One of these modes of transportation is walking which requires proper sidewalks and crosswalks to ensure safety and easy access. Based on our walkability study, it appears that the majority of the study area is walkable from 5-15 minutes. Our team observed that Pinevale and Water Street have no usable sidewalks for pedestrians. These streets are critical because they could serve as a primary connection to the Chicopee River waterfront.



Public transportation only provides access to one street throughout the project area. This increases the demand for a strong pedestrian network, however, a majority of the sidewalks are not complete.



The only public transportation through Indian Orchard is the Pioneer Valley Transit Authority Bus 6 which travels from Ludlow to downtown Springfield. There are 10 stops within the project area for this bus.



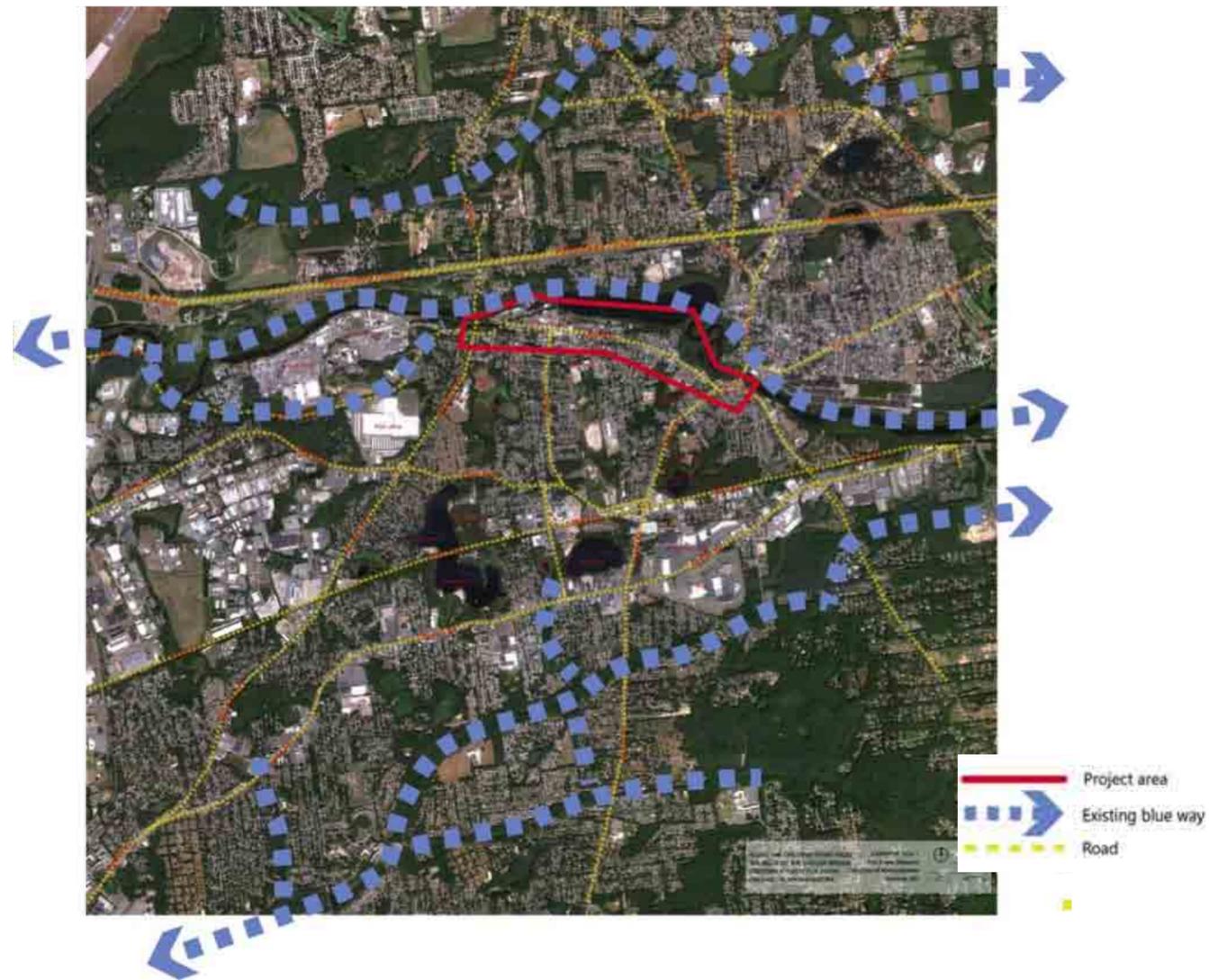
A walkability study shows that the majority of Main Street is within a walkable distance. Each ring represents a 5 minute walk making the entire Main Street approximately a fifteen minute walk.

Site Analysis and Assessment - Understanding Indian Orchard as a place

Existing and Proposed Connections

Within this project area a variety of opportunities exist to create a coherent system of regional recreational connections. Aside from the historical use of the Chicopee River for mills, there is little interaction and development for people to engage with the River. This area has a high potential to create pathways along the existing blueway system which would allow walking and bicycling along the waterways and increase recreational opportunities for the community.

Additional opportunities exist for park space throughout Indian Orchard and could serve as a catalyst for environmental awareness as well as engagement with the natural environment.



Indian Orchard has a variety of adjacent connections to neighboring communities and neighborhoods. These connections are mainly streams and rivers.

Urban Watershed and Impervious Surfaces

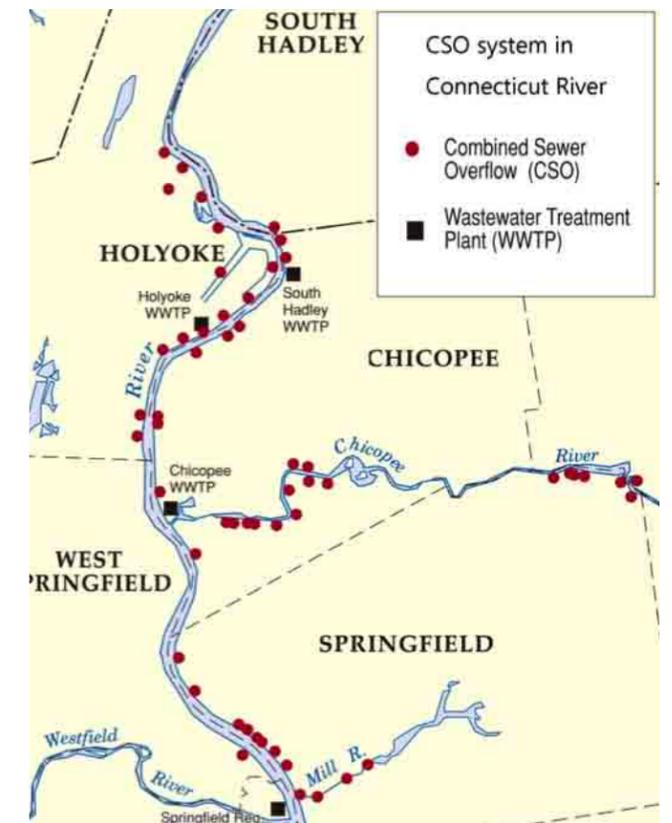
The majority of our project area is part of the Chicopee River watershed. This region has issues of Combined Sewer Overflows (CSO'S) that create seriously environmental and health issues associated with water quality. With the recent implementation of a dual channel system on Oak Street the water quality improved. The impact of the still existing CSO's within the neighborhood could be reduced through improving infiltration opportunities and providing places for water to go during storm events. By addressing these issues before the water enters the sewer system Indian Orchard could possibly further reduce the impacts and costs associated with CSO's.

Opportunities to reduce stormwater and runoff are:

- Creation of new water retention areas and on artificial wetlands on the riverfront
- Reduction of street sizes
- Increase street tree canopy
- Increase on-site infiltration on private properties
- Increase infiltration on the streets through bio-swales and stormwater planters
- Adapt existing architecture with green roofs and other on-site strategies to reduce runoff
- Improve educational opportunities to maximize infiltration



Indian Orchard is a small part of the much larger Chicopee River Basin.



This regional map shows the number of CSOs along the Connecticut and Chicopee River.

Site Analysis and Assessment - Understanding Indian Orchard as a place

Community Participation - Envisioning Workshop

A public envisioning workshop was held at the American League on Oak Street on February 8, 2012. This provided an enthusiastic group of residents of the neighborhood a chance to view the initial analysis that we conducted for feedback and input. We engaged in a discussion about potential opportunities and major challenges. This workshop provided information that we were not able to obtain through maps and data and shaped the major program elements to create our design and policy objectives. During our seven week studio we always went back to re-evaluate the outcomes of this workshop and compare them to our visionary proposals.



Community members gave valuable feedback and articulated own ideas.



Assets and opportunities for the Riverfront were explored in small groups.



The challenges and opportunities discussed helped shape the design process. Notes were placed on the aerial photograph. Red dots display major challenges and green dots assets.

Assets, Challenges, suggested solutions and voices from the workshop

This is a comprehensive list of assets, challenges and solutions. Some of the notes do not have direct relevance to physical design objectives but relate to policy objectives. They communicate important issues for planning and policy decision makers.

Assets:

- The Chicopee River - it is now even clean enough to swim in. In the summer people use the boat launch on Water Street to get into the water. This is also a popular spot to fish.
- Great views from Indian Leap.
- Great views from Sandy Hill.
- Myrtle St. Park, the Library and Cottage Hill Park are other popular destinations in the area.
- Encouraged about Indian Orchard Mill and the artists.
- Rich history.

Challenges:

- The Parker/Main intersection confuses vehicular circulation and is also hard for pedestrians to cross.
- Generally pedestrian crossing of Main Street is a problem.
- East and west ends of Main Street are not connected/no relationship to each other.
- Heavy vegetation behind the shops on Main Street blocks view of the Chicopee River.
- No coffee shops/ lunch counter type businesses on Main Street.
- It is difficult to get to the top of Sandy Hill.
- Boat Launch was designed poorly. It is too small to be really used as such.
- Indian Leap has a bad reputation for drug dealing and crime. Locals do not go there.
- Indian Orchard has the biggest tax base in Springfield but they are always treated like the step sister. The neighborhood gets no attention from the City.
- Funeral Home owner will tow people that park there but it is always empty unless there is a service.
- Only few local businesses remain, no doctors/dentist offices.

Voices from the meeting:

"I refuse to be a part of Springfield, when someone asks, I'm from Indian Orchard."
"They're taking all of the Indian Orchard signs away to make us all become Springfield. Let us be our small town in the big city."
"We were a village, we aren't anymore."
"If there were a coffee shop, I'd walk to it."
"Charm is all gone."

Suggested Solutions:

- A bike/pedestrian path and connections from Main and Parker Street to the River.
- Rail trail bicycle path bridging the Chicopee River on historic line. Teaming up with Ludlow for bicycle path along the River.
- Increase visibility of the River by clearing up heavy vegetation.
- Revamp Main street from Oak to Cedar. A gathering node at the end of Cedar St. to connect Main St. to the River. Family picnic areas on the River.
- Small Boat club or equipment rental shop at warehouse on Whipple(fishing gear, canoes, bicycles).
- Buffer noise of the commercial area to the Sandy Hill. Better connection to Sandy Hill.
- Slow down traffic on Main Street. Signage to promote River on Main St. Business owners are hesitant about on-street parking, but acknowledge it will slow down traffic and increase shopping activities.
- Create police substation. More visibility of police for safety.
- Information about Indian Leap posted for community and visitors. Establish a visitor center. Improve education about the history of Indian Leap. Highlight Indian Leap, geology of the area.
- Revamp National Hotel.
- Bring back "Summer in the Orchard" to Myrtle Street Park with music and movies.
- Bring back winter activities at Myrtle Street Park such as ice skating.
- No more housing, more public open space.
- Art industry of the Mills should be developed further to facilitate business onto Main Street
- People are proud of the history and want to make it more apparent e.g. through and preserving remaining historic structures.
- Remove Billboards near the Ludlow Bridge gateway.

Team Work:



Team

Elizabeth Englebretson, Albert Wang, Jinglin Wang

28-37



Team

Scott Fulford, Tracy Murphy, Sparky Von Plinsky

38-52



Team

Yiwei Huang, Rocky Liu, Yan Yan

53-66



Team

Ying Cao, Jing Huang, Shanshan Yu

67-75

Elizabeth Englebretson, Albert Wang, Jinglin Wang

Indian Orchard is a very unique neighborhood within Springfield Massachusetts. As well as having its own unique characteristics and opportunities Indian Orchard is geographically located with access to Ludlow, Chicopee, metro Springfield and several Conservation areas. The Urban Design studio focused on a small section of Indian Orchard including the waterfront and Main Street. After this teams initial analysis and the first community meeting we decided on 3 broad scale opportunities; Reconnect the community to the Chicopee River, Community building, and a Greenway providing more bicycle and pedestrian access to Indian Orchard and the surrounding areas.

After proposing a Greenway (see map) we were able to locate areas with opportunity for further design intervention. Our three initial topics were subdivided into 6 zones within the focus area and connected to the proposed Greenway. The six areas of focus are represented on the map by color blocks. Wildlife/Ecology Education (Blue), Indian Leap (Purple), the Boat Launch (Light Blue), Indian Orchard Collective (Brown), a River walk/Greenway (Green) and Main Street Events (Orange).

The Wildlife/Ecology education, Indian Leap and Indian Orchard Collective are proposals that follow the initial idea of community building. The Indian Orchard Collective makes use of the vacant truck loading building on Whipple Street. During the community meeting it was suggested that this building be reused as a bait and tackle shop or boat rental. Within our proposal this area is connected to the proposed Greenway/River walk and would provide bicycle repair and rental, boat rental, seed exchange, farmers market location. The building and area could also serve the local schools as a satellite learning and service learning location.

Wildlife Ecology and Indian Leap provide areas to learn and observe the local ecology and heritage. The Boat Launch redesign and development of the Greenway/River walk would strengthen the community connection to the waterfront of the Chicopee River. The waterfront area within Indian Orchard is beautiful and unique. A section of the proposed Greenway would run along the Chicopee connecting Ludlow and Chicopee through Indian Orchard. The Indian Leap area, the Native American caves and the Indian



The design team observed several areas of interests and potential to work on individual site specific solutions for the selected issues facing Indian Orchard.

Orchard Mills Building all become destinations along this mile long section of Riverfront.

Even though it is one of seventeen neighborhoods within Springfield Indian Orchard has a very separate identity. Indian Orchard developed in parallel to Springfield and contains the oldest standing school building in Springfield and has its own Main Street.

Main Street provides the location and heritage to highlight this community. Our team is proposing free community sponsored events in the various park within Indian Orchard. Myrtle St. Park is located along Main Street adjacent to a large public parking lot. This location would be ideal for outdoor community events such as movies and music nights in the park. Main Street could also be shut down for 2 blocks to the east and west along Main Street with the intersection of Main/Oak as the central point. Community events and Street festivals would be given the opportunity to interact with existing restaurants/bars and shops.

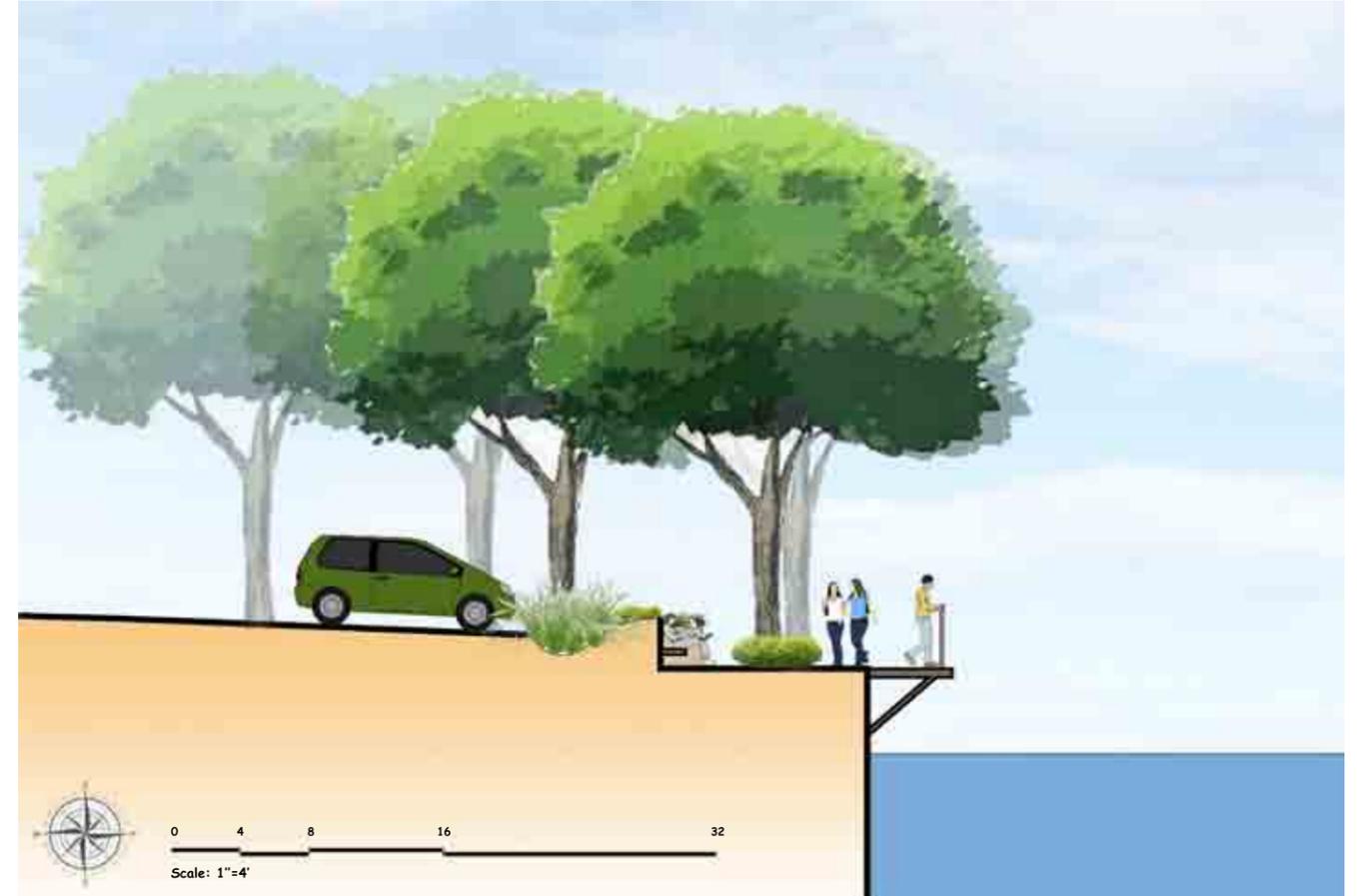


Indian Orchard Mill - Jinglin Wang

The Mills are a landmark in this neighborhood and embody the industrial history and current artist's studios. In order to realize the local culture and history of the site, a new visitors center on the original architecture site is proposed. This can help visitors and residents get the information about town events and provide a place for local art. In the front of the visitors center a redesigned parking lot adds spaces to the existing parking lot. A series of green infrastructure elements including infiltration gardens and bio-swales near the parking as well as permeable pavement are proposed to combat stormwater issues. Along the canal, a green corridor is proposed to provide a walkable path and seating area for visitors and residents to enjoy views of the iconic Indian Orchard Falls. Behind the visitors center, there will be a place for outdoor art galleries. The gathering spaces are intended to provide recreational opportunities for people. They also serve as access points to the Chicopee River enhancing the indoor-outdoor relationship. This is strengthened by a rail trail on Front Street crossing several bridges.



This redesign includes the addition of the Visitors Center and a Canal Walk to the Chicopee River. These additions serve to strengthen the connection to Chicopee River and serve as a destination point for visitors and residents.



A proposed canal overlook is built as a cantilevered system allowing for greater interaction and connection with the water. Additionally, bioswales and increased tree canopy allows stormwater to infiltrate and be treated prior to entering the river and canal.

Indian Orchard Mill - Jinglin Wang



Existing conditions beside the Mill include a canal that is fenced off and has very little connection with people visiting the site.



Phase one would allow the canal to be more accessible and include a basic walkway with seating and planters.



The final phase enhances results in a canal walk that is attractive and draws attention to a interesting and unique aspect of the neighborhood. The walkway is created by a cantilevered system that would require little alterations to the existing canal making it affordable and results in a quick improvement. Drawing people to the canal could spur further community interest in the existing historical elements and natural features throughout Indian Orchard Neighborhood.



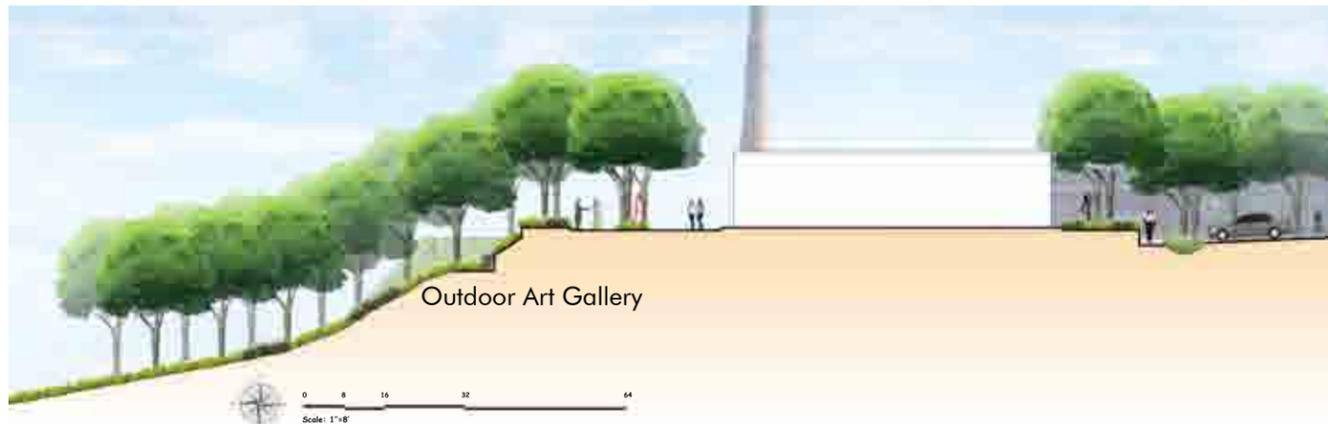
Debris and a vacant overgrown lot is all that remains on the lot beside the Indian Orchard Mills.



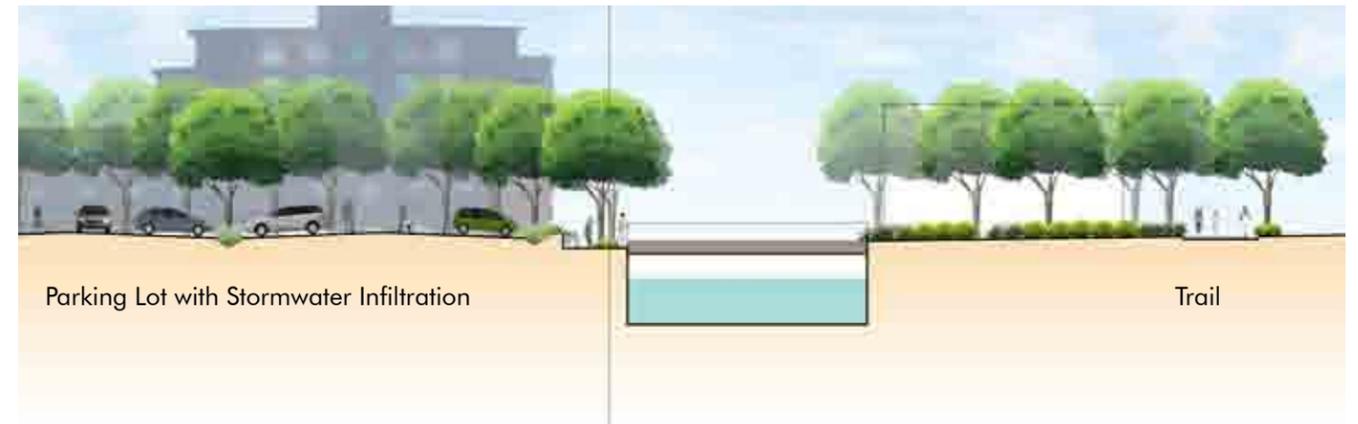
The initial phase includes the building of the Visitors center and cleaning up the site.



The final phase of the Visitors Center includes a park space that connects the canal to the Chicopee River. This serves as a critical connection back to the river from the downtown area. The connection will serve as a destination point for people visiting the area as well as residents.



Section A-A' shows how the proposed plan for the site. It has a variety of spaces for people and recreational activities and engagement within the site as well as ecological benefits in regards to habitat and stormwater infiltration.



Parking Lot and Main Street - Albert Wang

Redesigning Main Street allows for wide walking/bike paths and separates pedestrians and cyclists from potential dangers of automobile accidents. This also allows an increased tree canopy to be planted framing in the view as drivers enter the downtown area. The trees will also serve as a buffer to Main Street traffic on adjacent properties.

Addressing design issues within the parking lot allows spaces for out-door-eating as well as farmers market space to be incorporated.

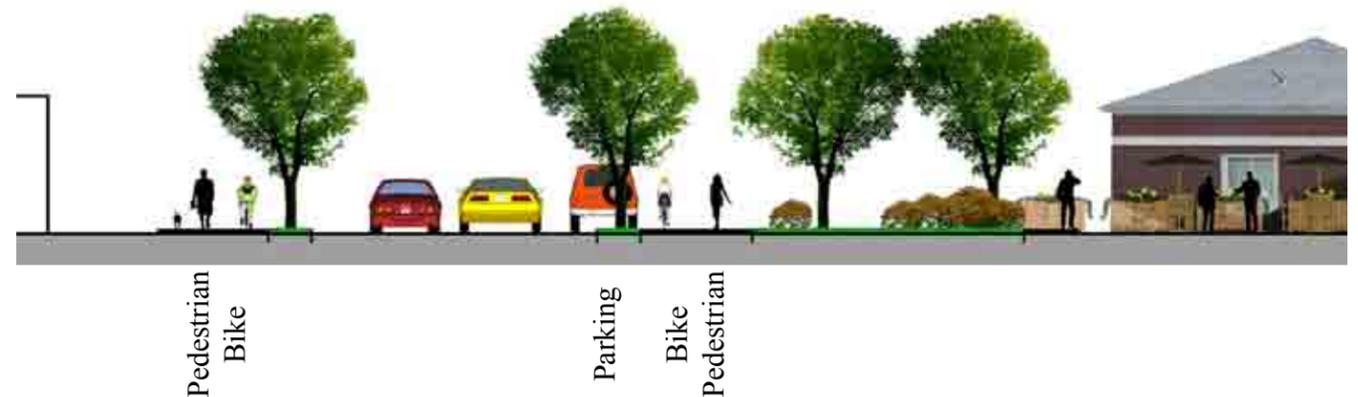
Adding plants and impervious space through out the design allows water to infiltrate into the soil and reduce potential stormwater from entering the Combined Stormwater Overflows (CSOs).



A redesign of the parking lot at the small commercial center allows for additional infiltration opportunities as well as a more desirable destination with restaurants and aesthetically pleasing places.



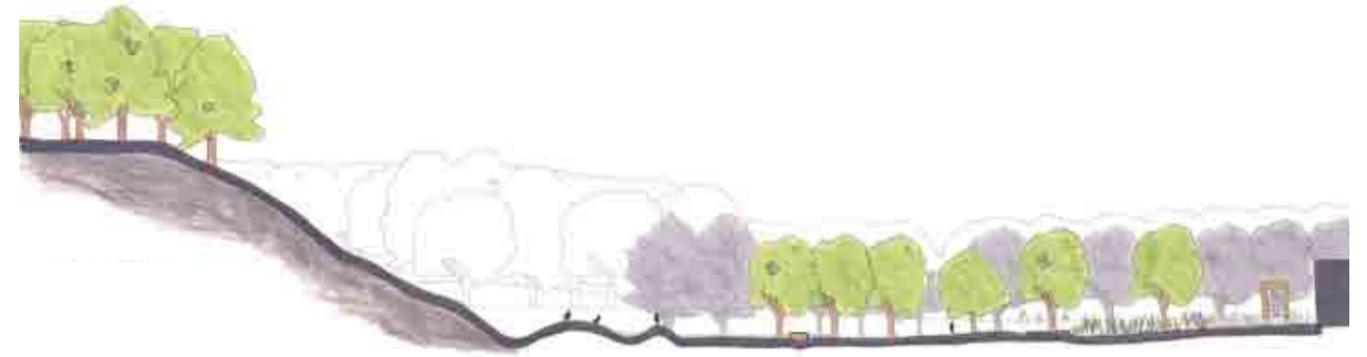
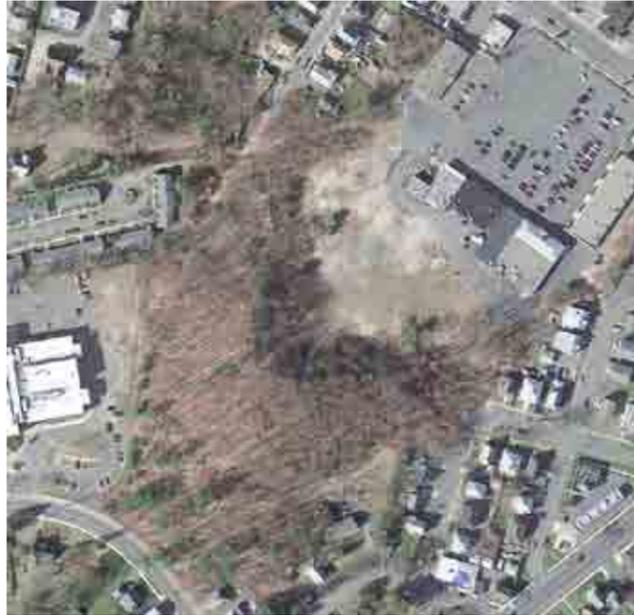
Permanent structures allow the space to be used as farmers markets and possibly out-door places to eat.



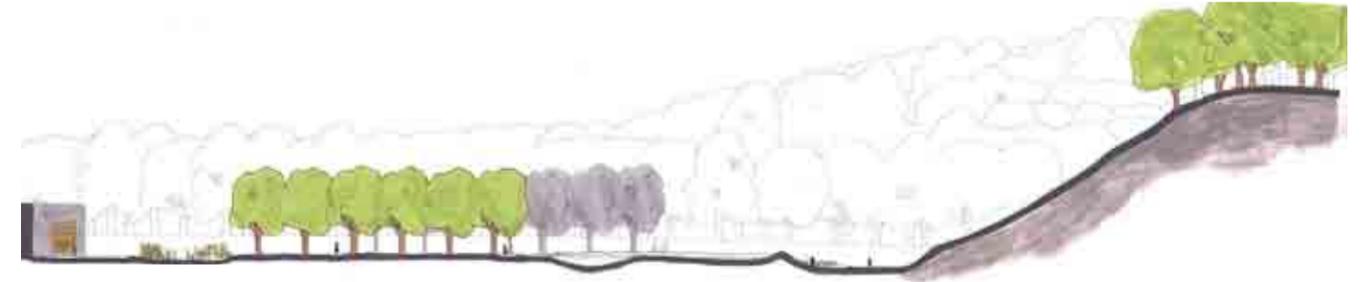
Bike and pedestrian paths are added as well as an increased in tree canopy.

Kame Conservation Area - Elizabeth Englebretson

Kame Conservation Area is located in the south/east side of the focus area. A proposed Greenway would connect the elementary school with the Chicopee River by passing over a saddle of the Kame and past a large open area directly behind the day-care and grocery store on Main Street. There is an opportunity to design a large natural playscape that could provide activities and entertainment for all age groups and abilities. This playscape could also provide winter play with earthen mounds that are for running and climbing and sledding. A large looping pedestrian and small bicycle path winds and connects two distinct play areas. The east play area contains grass, tree cover and hardscape. The west area has a dry river bed with fallen log areas for balancing and exploring. The underlying design of the sled ramp and mound area is a series of three animal paw prints that can be seen when viewed from above. These animal prints lead the eye across the landscape and are designed to encourage creativity and imagination.



Section South - North



Section North - South



Section East - West



Sandy Hill Playscape at the Kame

Scott Fulford, Sparky Von Plinsky, Tracy Murphy

Our proposal is to enhance the experience of living and working in Indian Orchard by playing to its plentiful man-made and natural strengths while also celebrating its rich heritage.

Three primary objectives are addressed: first, improve the legibility of the Main Street corridor and clarify the gateways at either end; second, define the area of Main Street between Rogers Avenue and west of Lyons Street as a transitional area which connects the gateway districts at either end of Main Street; and third, enhance the relationship with the Chicopee River by both raising the awareness of the river and making it more accessible.

The concept of a time line to connect the Native American heritage at the east end of Main Street with the Industrial Heritage at the west end was sought. With this in mind, destination anchors were placed at both ends of the Main Street corridor; including highlights and augmentations of the existing resources at Myrtle Street Park and the Indian Orchard Mills at the west end. Development of new programming at the vacant gas station and on the east end at Sand Hill, Kame Conservation area.

Between these two anchor points a gateway is sought that will enhance the connection and aesthetics of Indian Orchard. This will be done through various methods to define thresholds such as paving, art and plantings. This will also provide the opportunity to make connections to the Chicopee Riverfront.



The design team observed several areas of interests and potentials to work on individual site specific solutions for the selected issues facing Indian Orchard.

Additional opportunities were presented to reconfigure Main Street so that it could accommodate bicycle traffic, street plantings and wider pedestrian ways. Traffic issues were also addressed considering needs of pedestrians, cyclists and motorists.

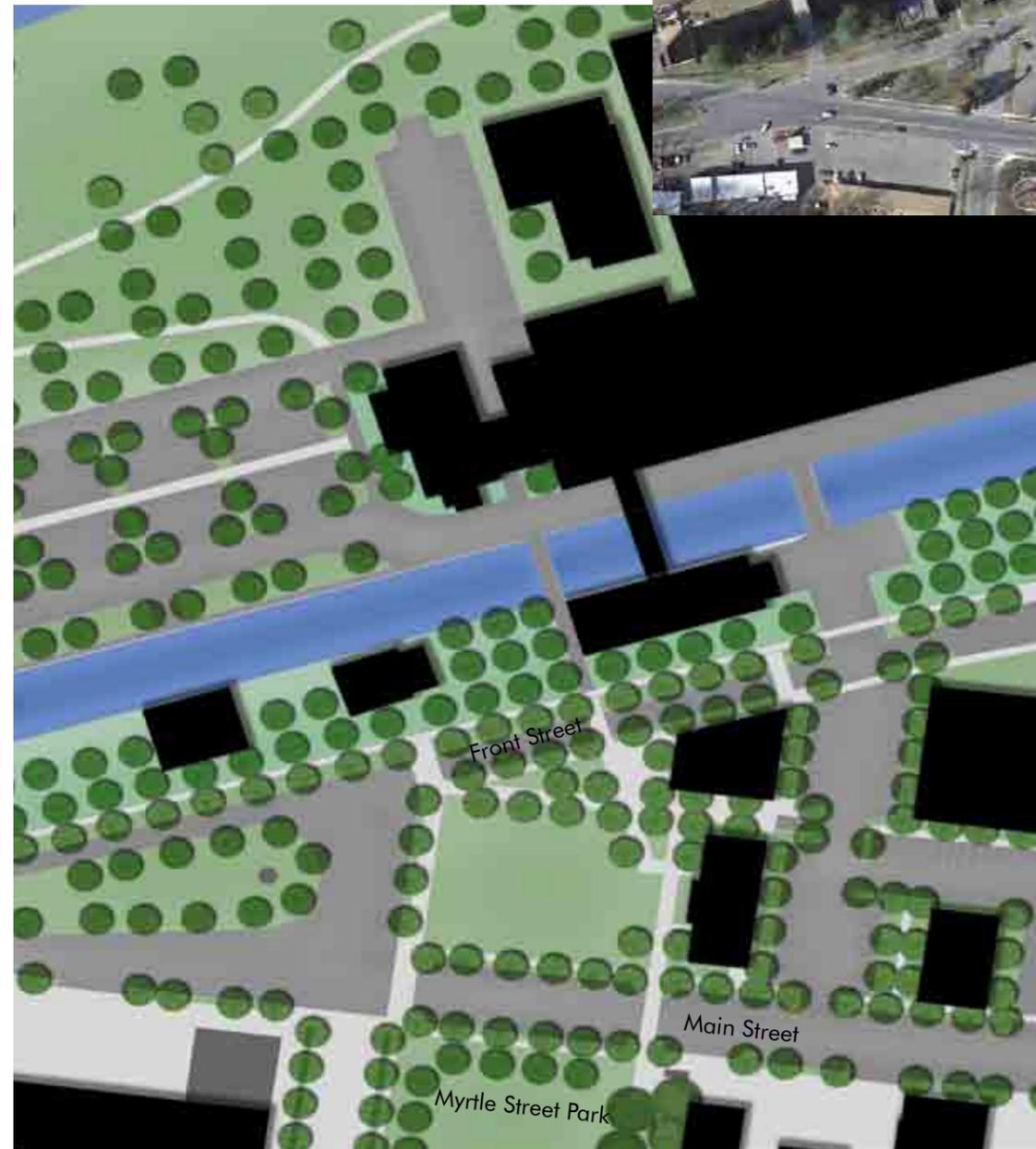
The Chicopee Riverfront could be transformed utilizing the railroad right-of-way that runs along the river. Creating a walking/cycling trail with connection to surrounding greenway networks as well as to Main Street would allow passive and active recreation. There would also be major ecological improvements including habitat for native animals and removal of invasive plants.

The trail along the railroad would strengthen the connection to the industrial site at the east end of Water Street and the vacant gas station at the east end of Main Street. Amenities would be included along this corridor including picnic facilities, rest areas and heritage and historical centers. These areas could improve the quality of life for inhabitants and could draw in tourists.

Indian Orchard Mill and Main Street Gateway - Tracy Murphy

The area around the Indian Orchard Mills is the western gateway into the neighborhood. Dense canopies of big trees in an orchard-like fashion transform the area. The industrial heritage of the area is celebrated through public art and public events.

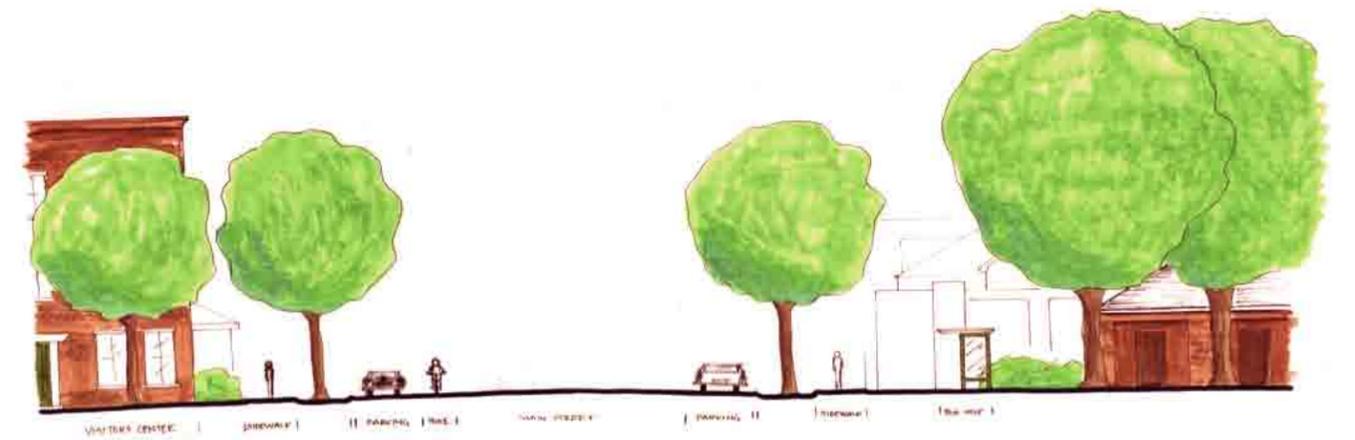
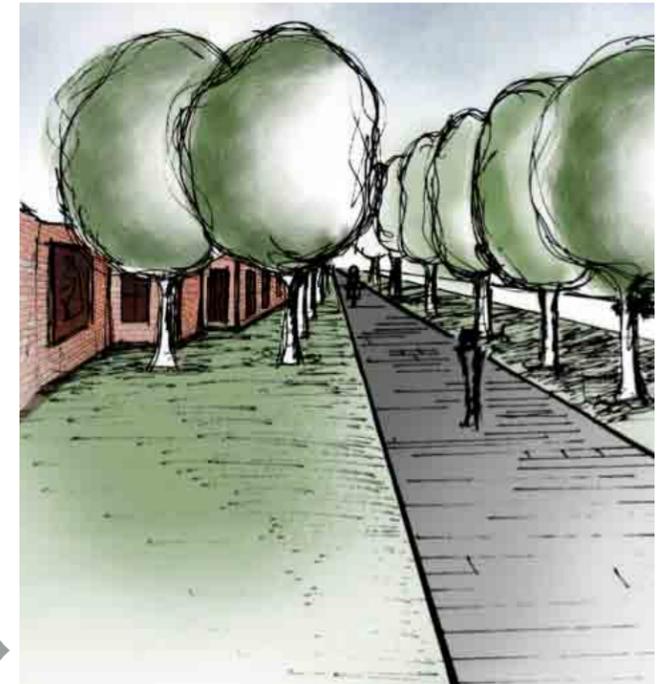
A network of pedestrian crossings and bicycle lanes improves accessibility. Myrtle Street Park expands towards the Mill and creates a welcoming green gateway for diverse public uses and events.



Plan view of the western gateway at the Indian Orchard Mills.



The existing image (left) shows a rail line no longer in use and a street segment lacking sidewalks. Below is an initial phase solution. The rail line is removed and replaced with a sidewalk for pedestrians. Trees serving as a buffer to protect pedestrians from street traffic. Art is displayed along the path. The final phase (below) shows how additional trees and a fully developed plan of the area can be devoted to pedestrians. This increases walking activities in Indian Orchard and makes it a much more attractive place for visitors as well as current residents.

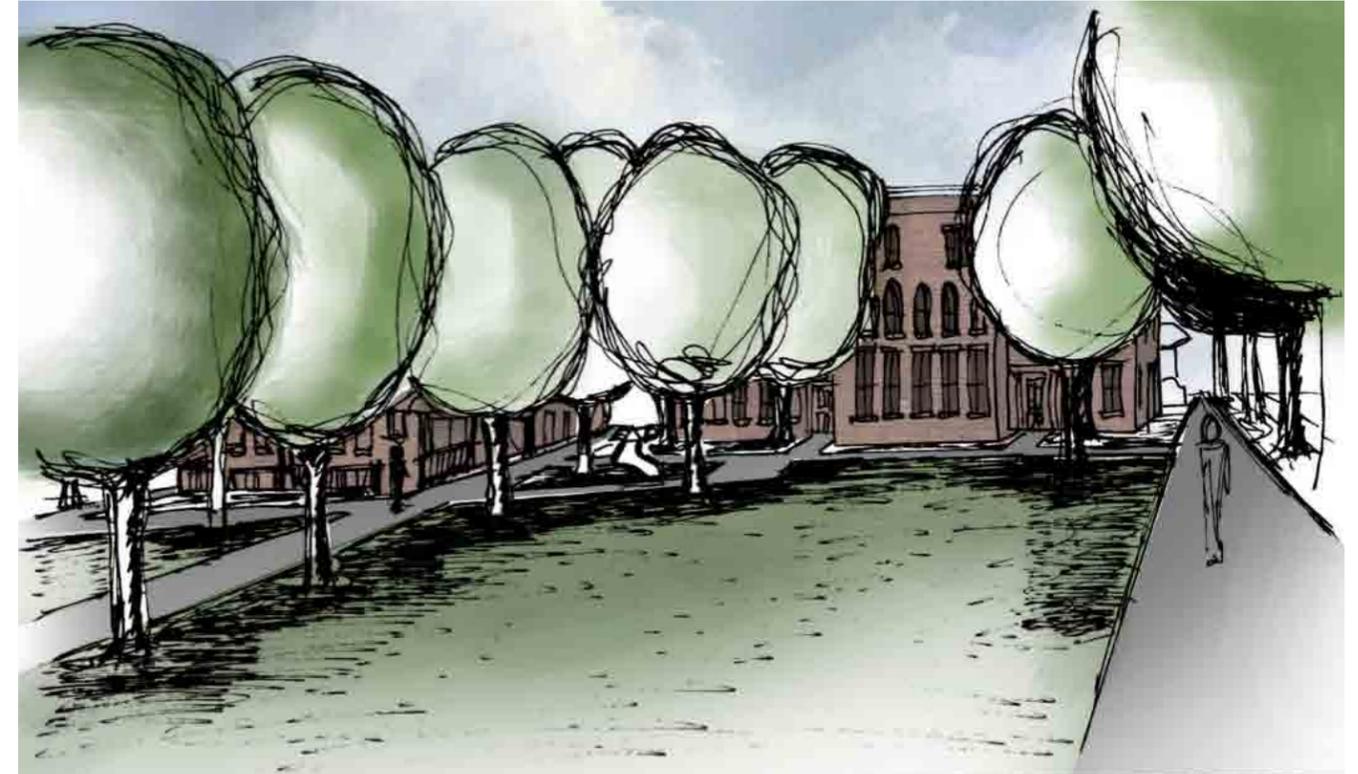
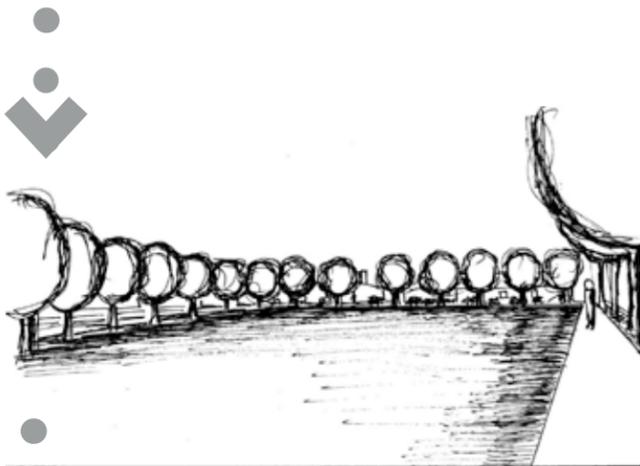


Section through the redesigned Main Street facing east. A new visitor center creates a new architectural landmark adjacent to the proposed new park.

Indian Orchard Mill and Main Street Gateway - Tracy Murphy



The existing photo (left) shows a lot in vicinity to the mill. It is under utilized - only a small number of automobiles actually park in this large lot. The design proposes this site to become public park. In the first phase (below existing) the asphalt is removed and replaced with turf and trees. The final phase (right) shows how additional trees and buildings could be placed to define the space and provides a new destination. People use it to take a break from work or hold public events.



Section from the Canal to Main Street. A system of pedestrian crossings is aligned with big trees.



Main Street to Indian Leap - Scott Fulford

Through a three phase process a design was created that enhances the existing conditions of Main Street and addresses traffic, stormwater, and zoning issues. A redesign allows for infiltration terraces to be created in the median and increased trees to be planted. Along with this more emphasis is put on pedestrian and cyclists routes. Additional crosswalks are included to strengthen the connection of the south side of the neighborhood with the Chicopee Waterfront. An orchard and path system is created on the north to create connections to Indian Leap and a railroad converted river walk.



A variety of issues along Main Street in Indian Orchard are addressed in this plan. These solutions provide connections to the River and Kames as well as creating a more sustainable ecological design.



Phase 1 consists of adding crosswalks to Rogers Avenue, planting an orchard on the north side of Main Street, creating a footpath through the orchard to connect to Indian Leap and the Chicopee River path, and creating a footpath from Rogers Ave connecting to the Kame.

Phase 2 consists of a Main Street terrace construction which provides stormwater infiltration and defines the residential zones. More crosswalks are added to connection the south area of Main Street with the river. Five new commercial buildings are proposed to define The Orchard Center as an attractive and coherent destination. New open space at the center provides locations for farmers' markets other community gatherings. Reconfiguring or parking increases efficiency and appearance and provides ecological services such as stormwater infiltration.



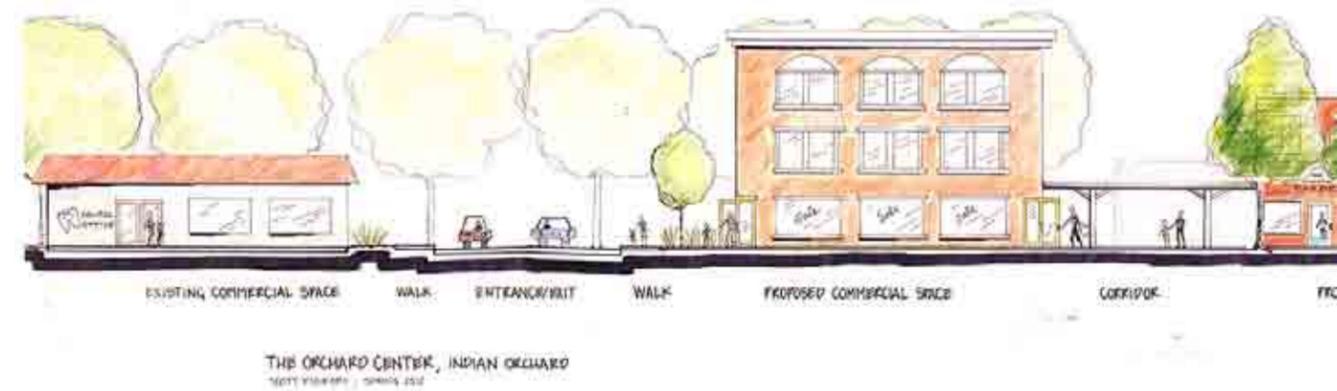
Phase 3 completes Main Street terrace area and the zoning is converted to residential. The orchard is planted on the south side of Main Street where the former used car lot is currently located. Additional new open space is added to enhance neighborhood residential and commercial property and north-south connections.

Main Street to Indian Leap - Scott Fulford

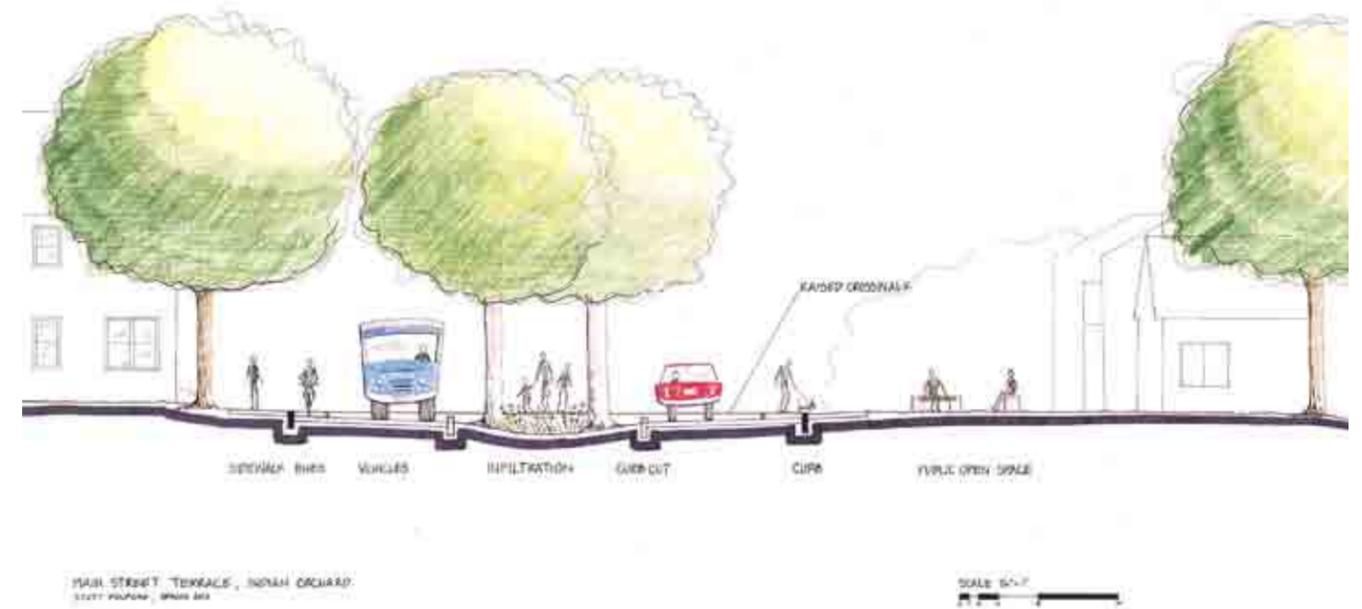


This perspective shows how the redesign of Main Street would provide bicycle lanes, increased pedestrian networks and crosswalks for easy access to Indian Leap and the riverfront walk.

The terraces along Main Street have curb cuts allowing water flow along the street to enter into infiltration areas. The vegetation and trees will help uptake water reducing the amount entering storm sewers. Additionally, the terrace in the middle allows a safe area for pedestrians crossing Main Street.



The redesign of Main Street will allow for more infiltration with planting beds and street trees as well as amenities for residents and tourists when visiting Indian Orchard.

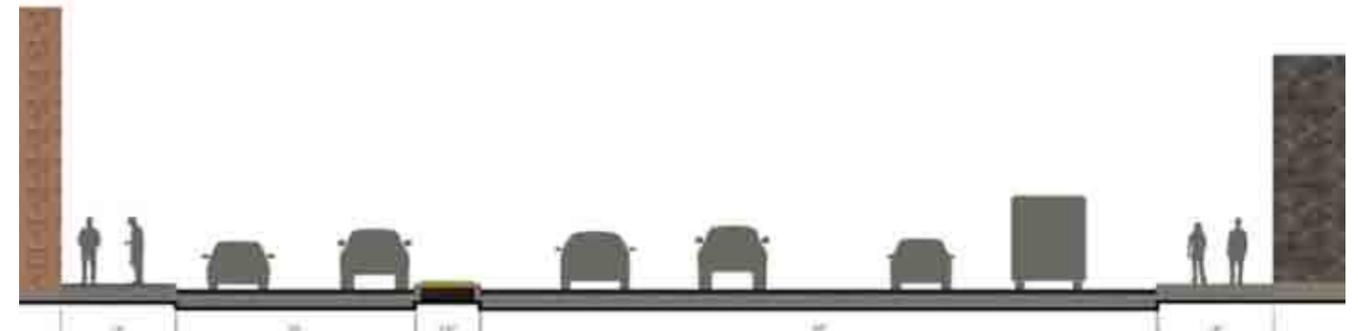


This section shows how the infiltration areas would work and how the pedestrian crosswalks are raised as a traffic calming device. Additionally, amenities are used to create a more desirable walk and increase quality of life.



Main Street - Ludlow Bridge Gateway - Sparky Von Plinsky

The intersection at Main Street and Ludlow Bridge is one of the gateways into the Indian Orchard Neighborhood. Currently this area is just a mix of concrete and asphalt with vacant lots. A redesign of this area is imperative to create the type of atmosphere and aesthetics to enhance the Main Street corridor throughout Indian Orchard. Improvements of the layout and addition of green space helps to create an entrance that is desirable and appropriate for the site.



The existing section of Main Street shows a lack of street trees and an automobile dominant layout. Pedestrians are placed to either side with little to no amenities along the street.



A gateway is created entering Indian Orchard from the Ludlow Bridge. Added plants and redesigned traffic patterns allow for a more aesthetic and desirable entrance into the neighborhood.



The redesign of same area shifts the emphasis away from the automobile and allows for a more pedestrian friendly environment. Added spaces for water to infiltrate and street trees will help reduce stormwater overflows.



Several birds-eye images show how a revamp of that area would include a lot more street trees and a more evenly balanced pedestrian/automobile layout.

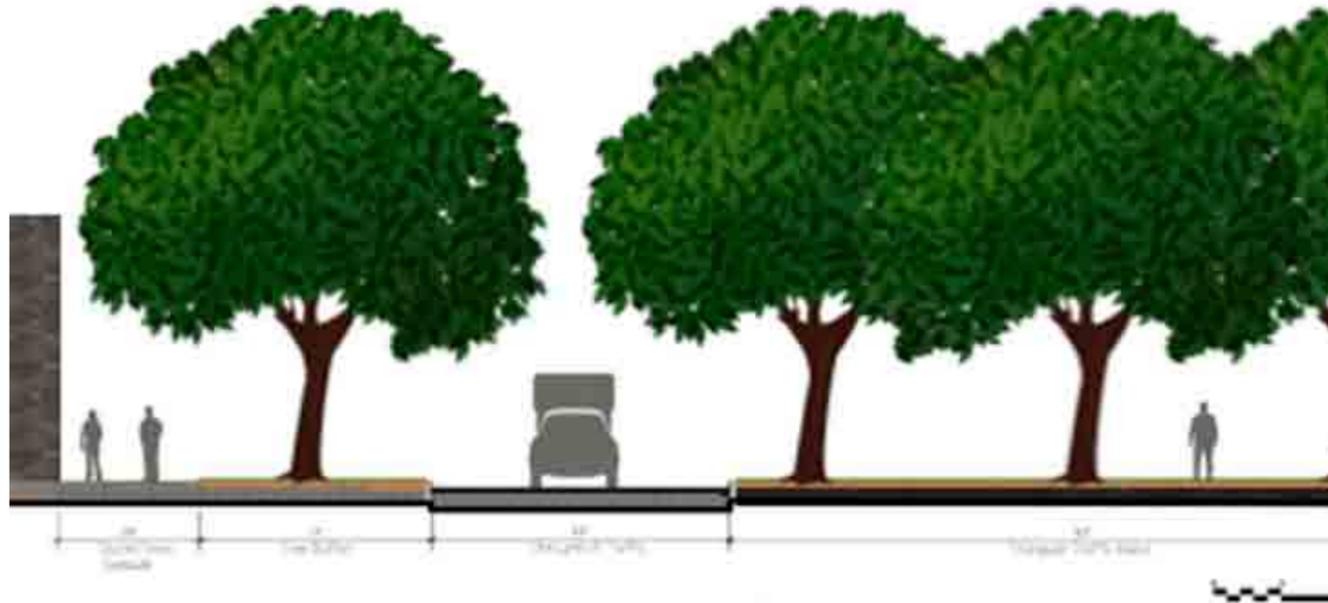
Main Street - Ludlow Bridge Gateway - Sparky Von Plinsky



The original image (left) shows a lack of street trees and vast amounts of asphalt. The redesign (below) shows more street trees and a more pleasant entrance into Indian Orchard Neighborhood.



The existing site (right) is a vacant lot and not pleasant to view when entering Indian Orchard. The redesign (below) shows how the area could be more pedestrian- and resident-oriented with amenities and signage for tourists.

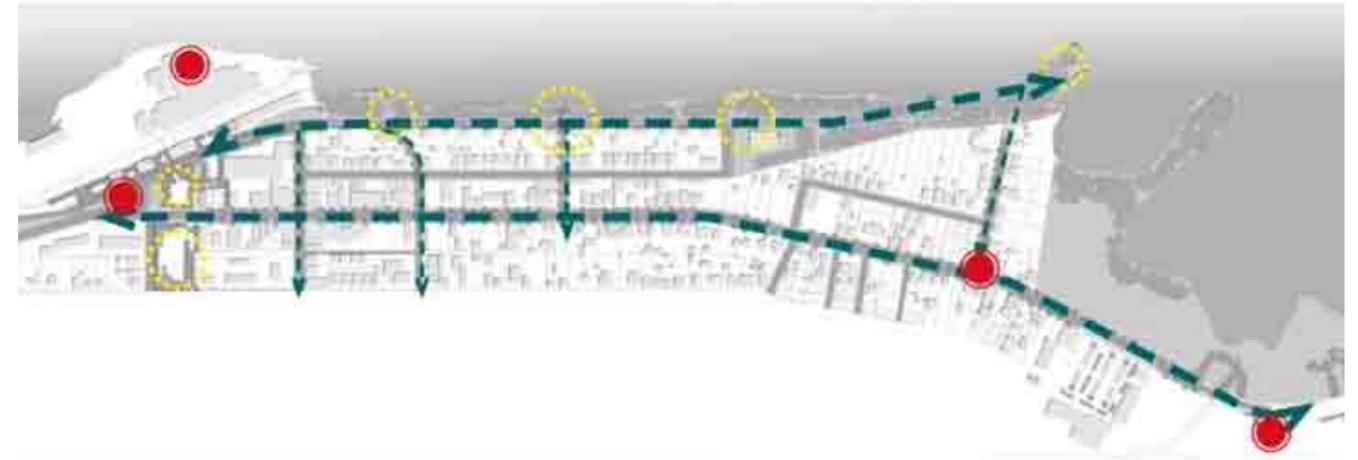


The proposed section shows how increased tree canopy can have a drastic change on the physical quality of space along the road. The redesign also allows for the median to become more permeable and planted.

Yiwei Huang, Rocky Liu, Yan Yan

The focus of this project is to revitalize the riverfront of the Chicopee River in the Indian Orchard Neighborhood in Springfield. The site contains a variety of historic elements; however, our spatial analysis came to the conclusion that the five elements of the city as they were described by Kevin Lynch do not reinforce each other and are not legible: nodes, landmarks, corridors, district and edges. Our proposal reorganizes and redesigns the elements in the area and creates a neighborhood will a rich experience for residents and visitors alike.

Our group focuses on designing the area around Indian Orchard Mills in the west and Indian Leap in the east. We also transformed Main Street and the waterfront to create a coherent interconnected system that encourages walking and bicycling. Our two design areas contain the most important historical, cultural and natural information in the project area. Our idea is to reshape the Indian Orchard Mill area and Indian Leap to make them more accessible and more interpretive of their unique historical, cultural and natural characteristics. Main Street will become the spine of the neighborhood providing a strong west-east connection and offering great gateways to the Chicopee River.



The design team conducted an analysis after Kevin Lynch. We located nodes, paths, edges, districts and landmarks. These observations were used to create a group master plan for the Indian Orchard Neighborhood.



Following the Lynch Analysis, the design team created a plan that connects the identified major nodes in the west and east. Main Street will become the green spine of the neighborhood.



Main Street - Indian Orchard Mills Gateway - Yiwei Huang

Proposed architecture defines the Indian Orchard Mills Gateway and a new park. The existing underutilized parking lot is transformed into an area of mixed commercial and community service uses. The public park reduces the amount of impervious surfaces. Tree canopy and other vegetation provide shade in the summer. This new neighborhood park is used for large gatherings and becomes a place for people to relax and interact with one another. To the north the park invites to enter the trail or the Indian Orchard Mills.

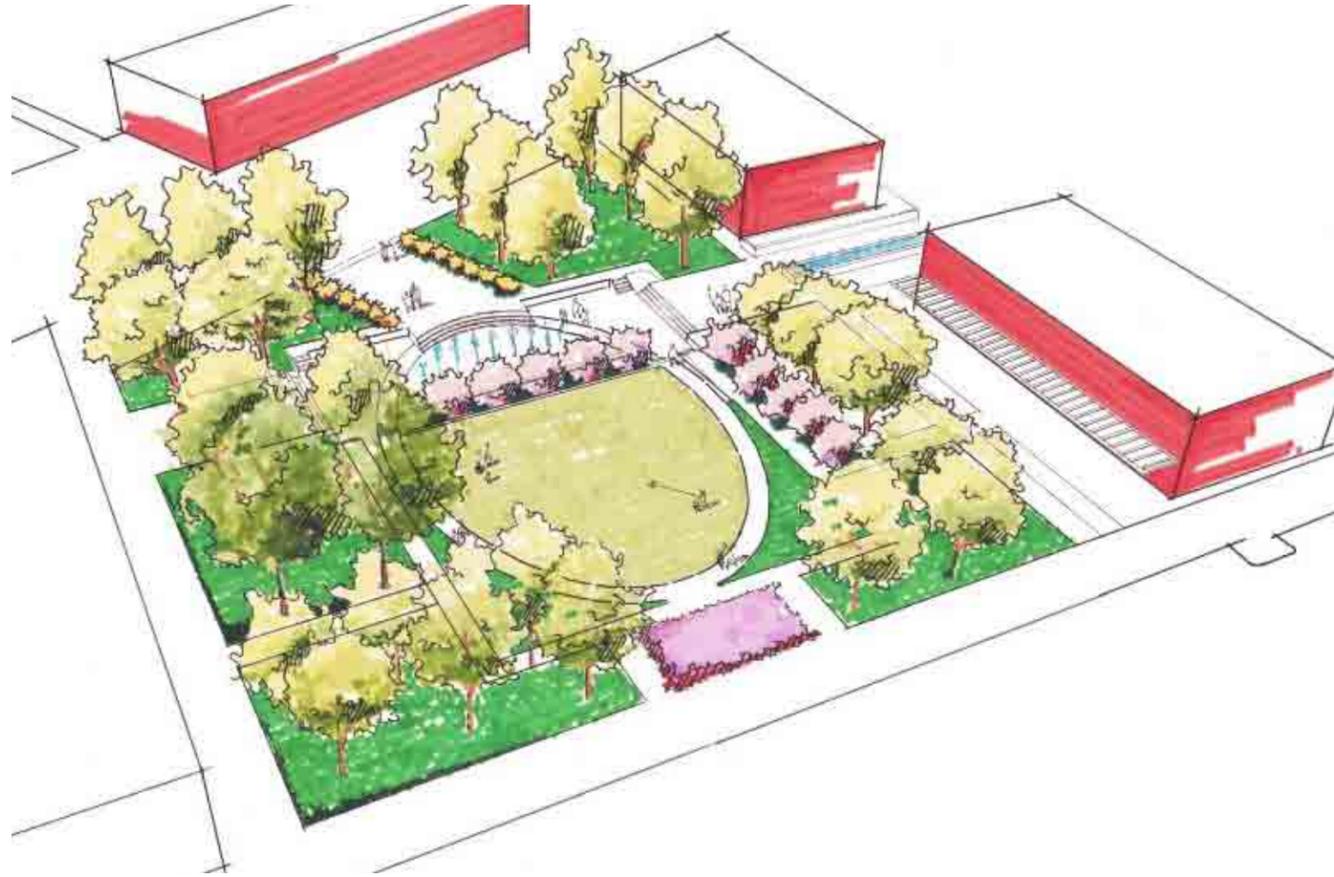


The park creates spaces for people to congregate and relax. The richness of surface materials and plantings shape a place that will serve a variety of uses and attracts tourists and residents.



This location already provides one of the best views across the canal to the Indian Orchard Mill. It is currently paved and not used (left). With the proximity to the Indian Orchard Mill this site could be revitalized with a display of art that is produced inside the mill. Asphalt and concrete will be replaced with more permeable vegetation such as turf and trees. They will soften the harsh character of the site and have a positive impact on stormwater infiltration and quality. The proposed design (below) shows this place in a later phase. Art and people interact and becomes a destination for the neighborhood, the City and the region.

Main Street - Indian Orchard Mills Gateway - Yiwei Huang



New buildings are placed to frame the new public park. A diverse path system reinforces uses along the edges and connects to trails and sidewalks in the area.



Sectional elevation from east to west.

The current conditions for the site (right) display abandoned railroad tracks and a historic brick structure. This site is located at the canal across the Indian Orchard Mill. The proposed design invites pedestrians and bicyclists from the neighborhood and other areas in the region and the city because it is integrated into a larger network of pathways and trails along the Chicopee River. Running, walking and cycling are healthy physical activities that increase the overall quality of life within the area. Lush plantings will provide buffers to automobile traffic and create a much more aesthetically pleasing walk.

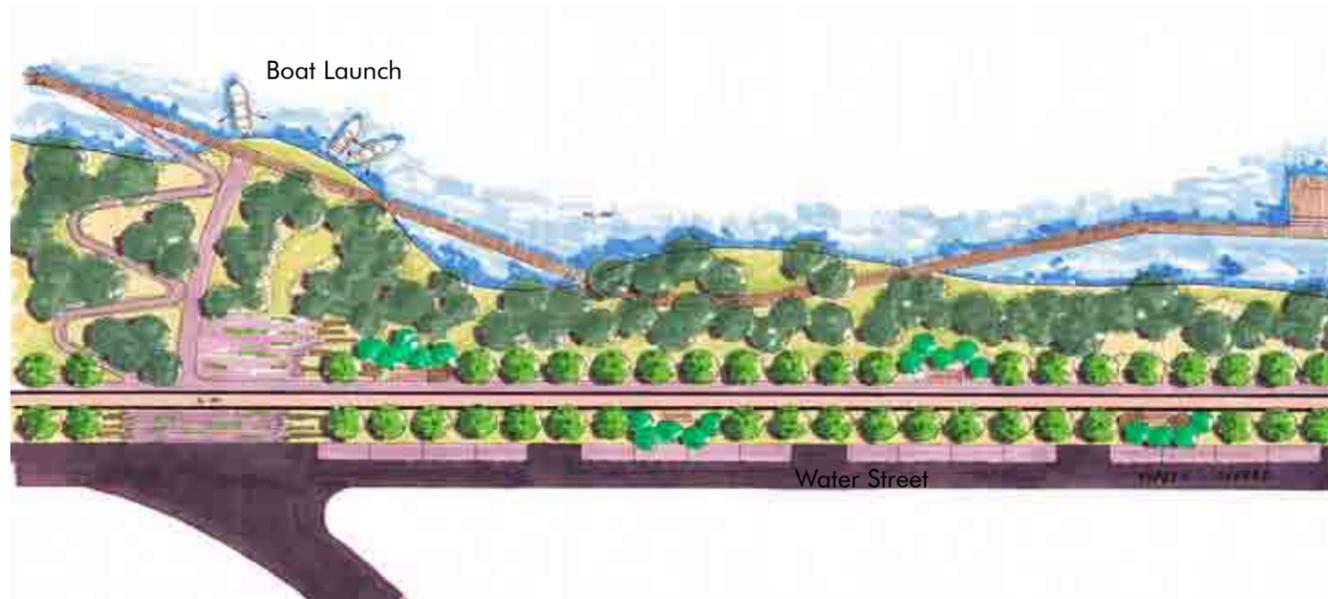


Chicopee Riverfront - Rocky Liu

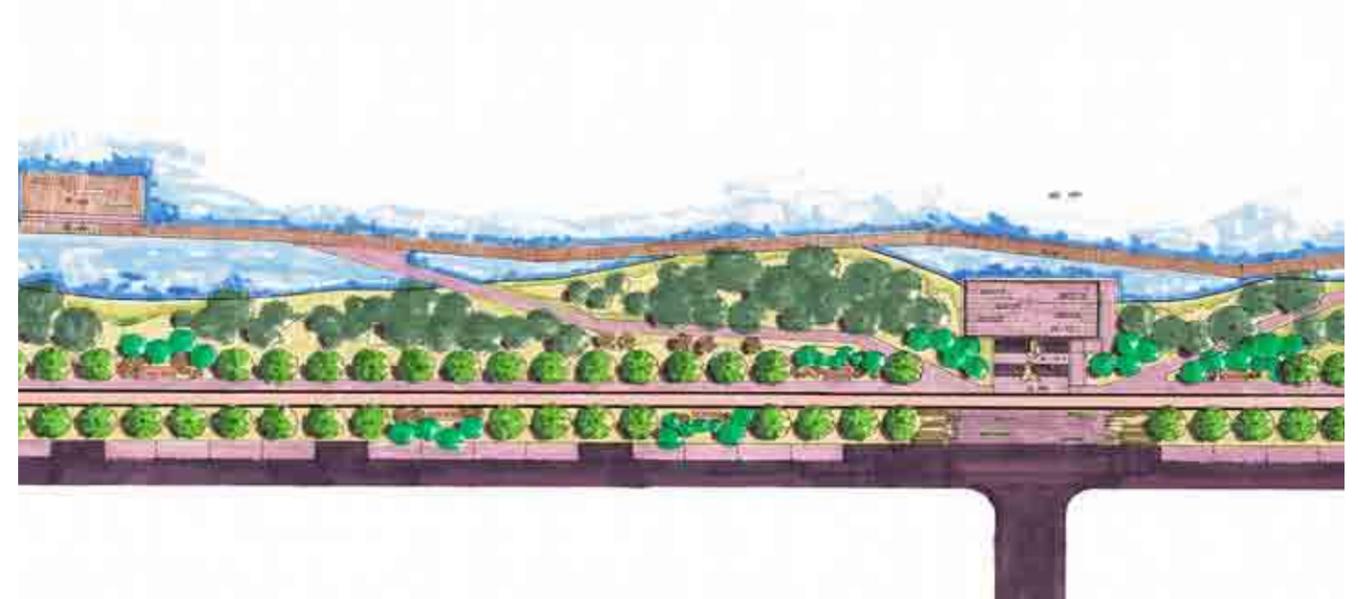
The focus area is the Chicopee riverfront. The design proposes a unique path system in this area. The path begins on the old railway route along the water's edge. Reused old and sustainable new materials transform this corridor into a new bicycle/pedestrian trail. Pedestrian path and bicycle path parallel each other but are executed with different materials to distinguish them. A secondary pedestrian path is proposed on the lower level and closer to the water's edge. This path meanders between outlooks on the River and the forested areas inside. It provides people a variety of experiences along the trail.



This cross-section shows how the design allows for a separated bicycle and pedestrian path. Trees and understory vegetation create a distinct edge. Additionally, a series of platforms are placed along the path to allow residents and visitors to view and interact with the Chicopee River.



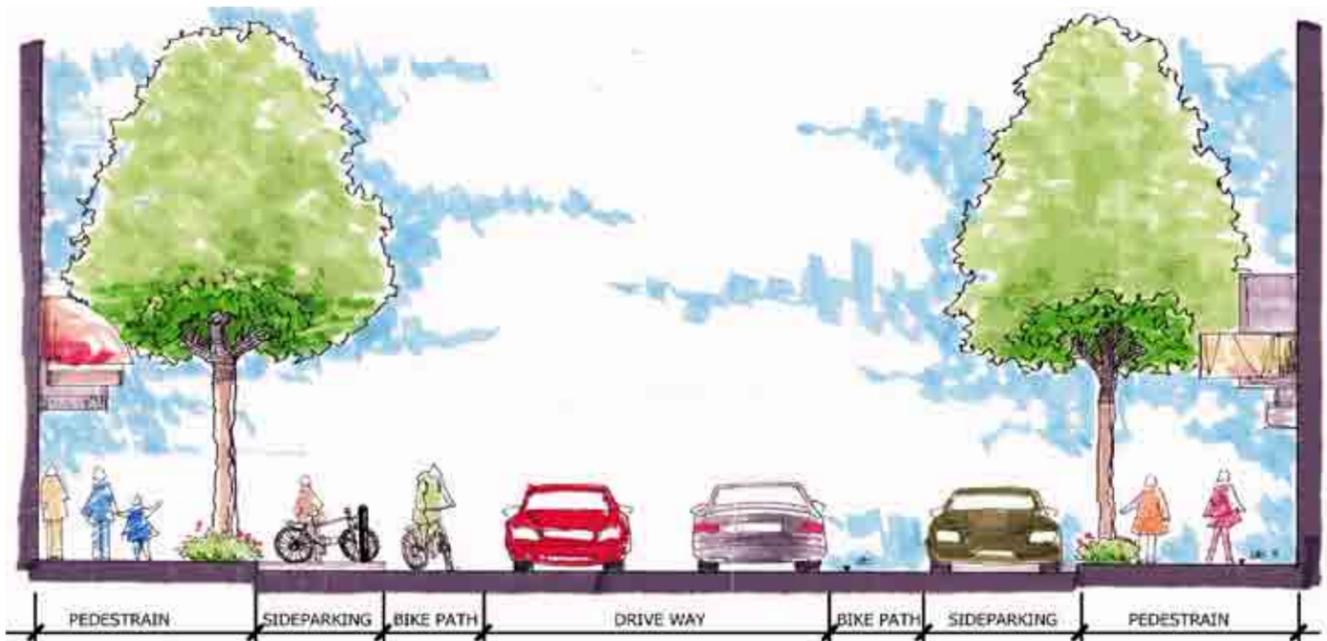
The riverfront design incorporates improved pedestrian and bicycle networks as well as a stronger connection to the waterfront. Boardwalk structures allow pedestrians to walk over the water providing a strong engagement.



Chicopee Riverfront - Rocky Liu



The design extends to Main Street where a redesign allows for a stronger pedestrian-friendly environment that would be more desirable to visit.



The street space is clearly defined into corridors for pedestrians, bicycles and cars. Big street trees and awnings above shop windows create a canopy and pedestrian-friendly scale.

The existing trees along the riverfront (right) are a great asset but there is very little connection to the river. There are no defined pathways for pedestrians along the road. The proposed design (below) includes distinct places along the Chicopee River. The addition of a sidewalk with local art allows for a stronger sense of identity and a desire for residents to engage with the landscape.



Platforms and decks overlook the river and become destination points. They provide usable open space for residents and visitors of the area.

Chicopee Riverfront & Indian Leap- Yan Yan

Indian Leap is a scenic landmark in the landscape with spectacular views towards the Chicopee River and a dense growth of trees and shrubs. This site is sacred to the Native American tribes that once populated this area. This area is historically significant and named for an event where the chief, women and children leapt to their deaths when they knew that they were about to be massacred or enslaved. Currently, there are remnants of two abandoned bridge that connected Indian Orchard with the other side of the Chicopee River. The design seeks to maintain the impression of wilderness in the area while making very simple interventions to better connect Indian Leap with the residential and commercial districts of Indian Orchard. Three distinct destinations are planned on the River's edge. These improvements will serve to draw residents as well as visitors to some of the most historic areas in Indian Orchard Neighborhood.

Indian Leap Street serves as the main entrance from Main Street to Indian Leap. The street is redesigned with sidewalks, street trees, on-street parking spaces, and bicycle paths. A second connection to Indian Leap is created with a pedestrian path and bicycle path that connects to the Indian Orchard Mills along the riverfront park. A third connection is a pedestrian path that meanders along the Chicopee riverbank.

A steel structure is proposed to mark the overlook of a former bridge head. This structure allows visitors to experience a sense of the industrial past as they get a glimpse into the history of the location. Rough granite blocks are remnants of the bridge head that were found on-site. They are now placed in a serial fashion along the path to delineate the former railway's path. The blocks invite pedestrians to sit and rest. Big, naturally shaped boulders that are also found on-site depict another layer of history. They hold carved images and tell the story of the Native Americans who once inhabited this area. They are placed around the bridge as well as along the pathways creating an atmosphere of silence and peace to honor the history of the Native Americans. A path with a 5% slope goes down to a deck under the bridge. It will allow people to enjoy the view of the Chicopee River at different levels. From the deck, both a handicapped accessible ramp and a hiking path connect to another deck along the river bank. Here people can get closer to the water, watch wild birds and plants. The deck also allows to be used as an outdoor classroom.



This redesign of Indian Leap allows residents and tourists visit some of the most remarkable historical sites within Indian Orchard. Elements are designed to educate people about the events that occurred there.



Paths and structures are placed through the terrain and provide pleasant walks and intimate locations to interact with the landscape.



The area around the bridge head (above) is blocked off. Through a phased proposal this site could be redesigned to allow residents and tourists to come to this location as a destination. A new overlook has design elements that refer back to the original bridge. People will perceive a glimpse of the past and simultaneously enjoy spectacular views onto the Chicopee River. This intervention strengthens the identity and history of Indian Orchard.



Chicopee Riverfront & Indian Leap- Yan Yan



The waterfront's current condition (upper left) lacks connectivity to the water. New connections are proposed through trails and a mix of existing and new plantings. On the new trails are gathering nodes to rest as well as overlooks onto the Chicopee River.



Bridge Head

This cross section explains the improved accessibility from the former bridge head. A 5% sloped pathway connects to the waters edge.



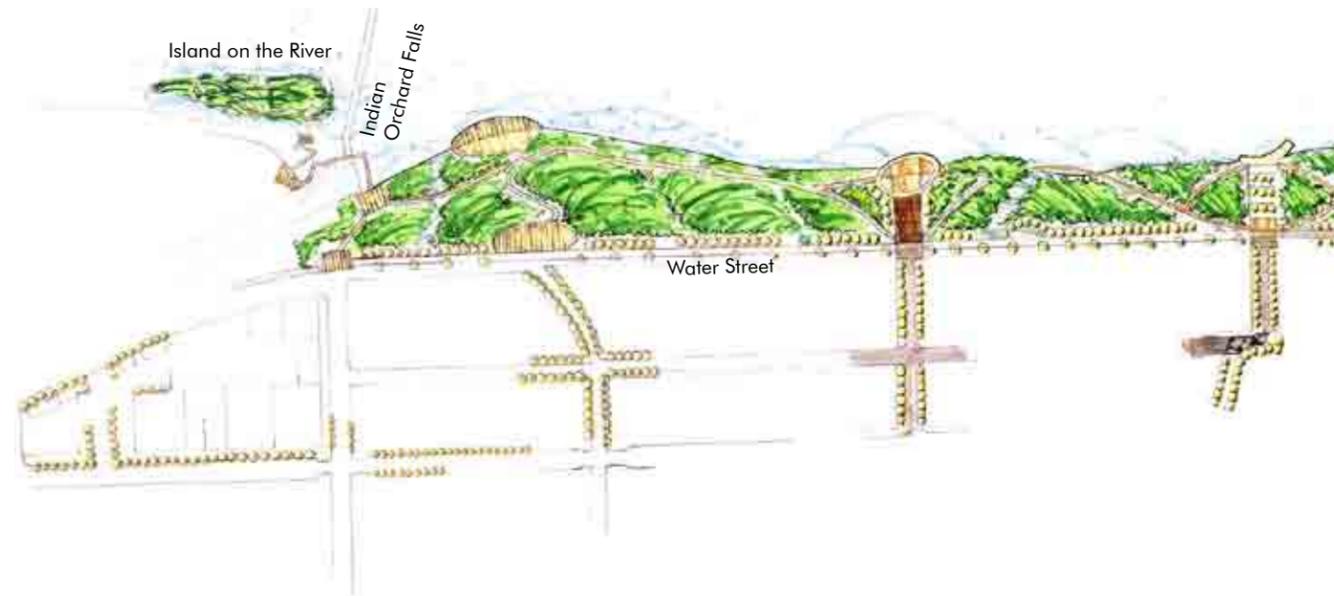
Ying Cao, Jing Huang, Shanshan Yu

Indian Orchard is located on the Chicopee River and with unique riparian views. However, the neighborhood lacks a structured pedestrian network to the riverfront. The undeveloped riverbanks are a barrier for people to utilize this precious natural feature. The Chicopee River has potential to be developed into a waterfront park that satisfies the community's desire for an accessible public amenity that provides venues for public gathering, community events and riverside observation.

To achieve this, a master plan was created that proposes continuous green ribbons of walking and bicycle trails along the banks of the river. These ribbons link to Main Street by several visual entrances and two entry squares. A lower terrace pedestrian path runs along the riverside and is shared by pedestrians and bicycles. This circulation pattern builds the framework for riverfront park. A series of multi-purpose play fields are incorporated by the pedestrian path and include a fishing spot, observation deck, seating, picnic areas, and a plaza for gatherings and performances. The variety allows for diverse experiences on the river ranging from unique dining opportunities to expansive public event programs.

Indian Leap had once a bridge that served passenger and freight trains until the construction of the Quabbin Reservoir in the 1930's interrupted rail service. The bridge was still used as a pedestrian bridge to accommodate direct access for workers from Ludlow to get to the Indian Orchard Mills. Some older people in the neighborhood still remember the existence of the bridge as a pedestrian connection.

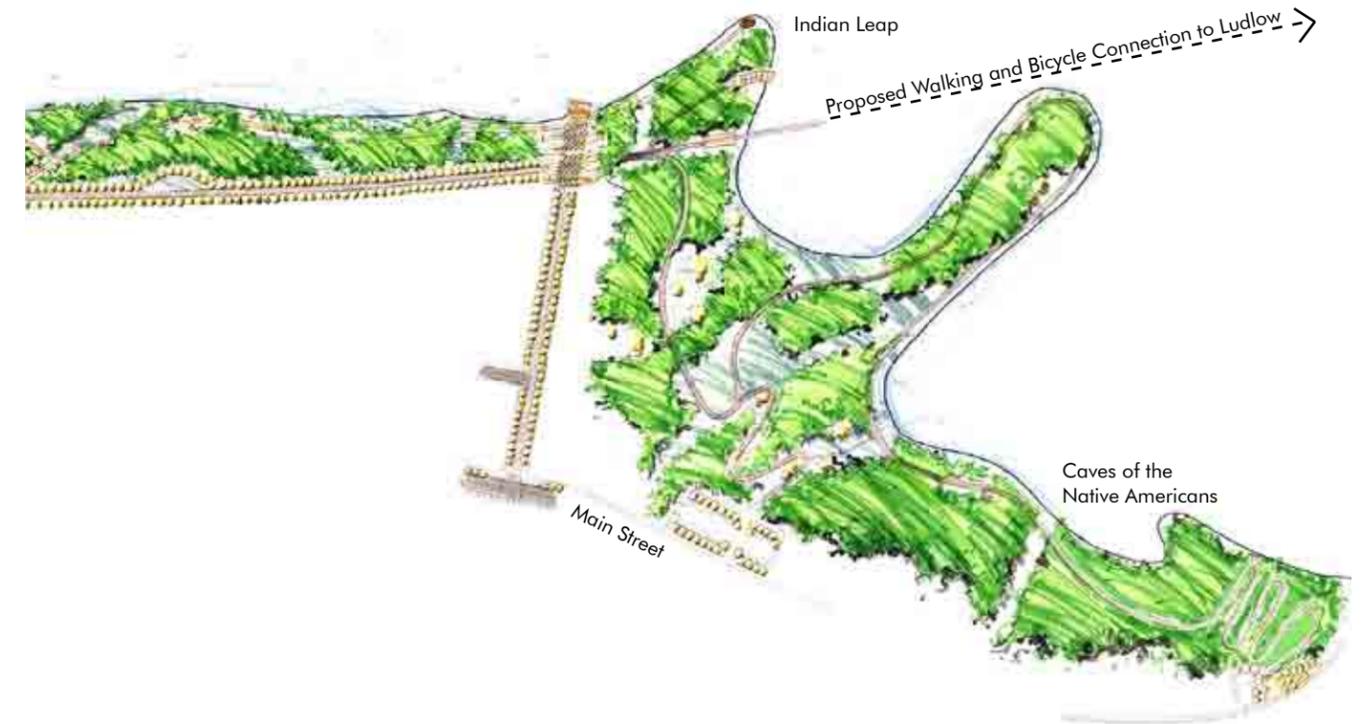
Our design proposes to rebuild the bridge and create a pedestrian and bicycle path crossing the Chicopee River strengthening the connection between Indian Orchard and Ludlow. In addition, it would become a landmark that evokes and reminds visitors and residents of the historic industrial past.



This master plan provides a major redesign along the waterfront that allows residents as well as tourists to interact with the water and waterfront. To increase connectivity the design provides connections to Main Street.



Our concept diagram shows the major new and proposed connections and nodes in the neighborhood.



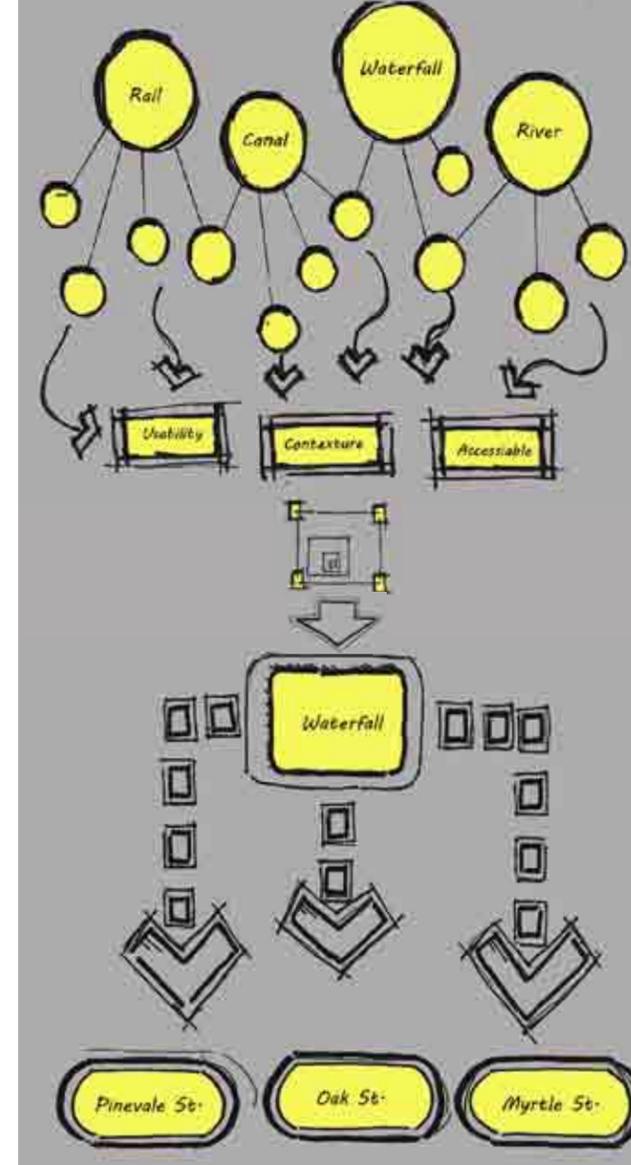
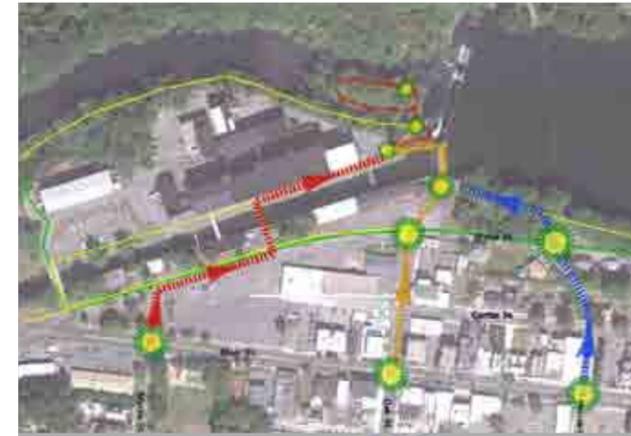
Chicopee Riverfront - Jing Huang

The Indian Orchard Mill is the anchor at the end of the riverfront corridor to the west of our project area. The primary objective for this section is to bridge the path systems into the Indian Orchard Mill and to create coherent pedestrian connections to the mixed use commercial areas on Main Street. A unique path connects to an existing island in the Chicopee River and allows to see the spectacular falls from a short distance.

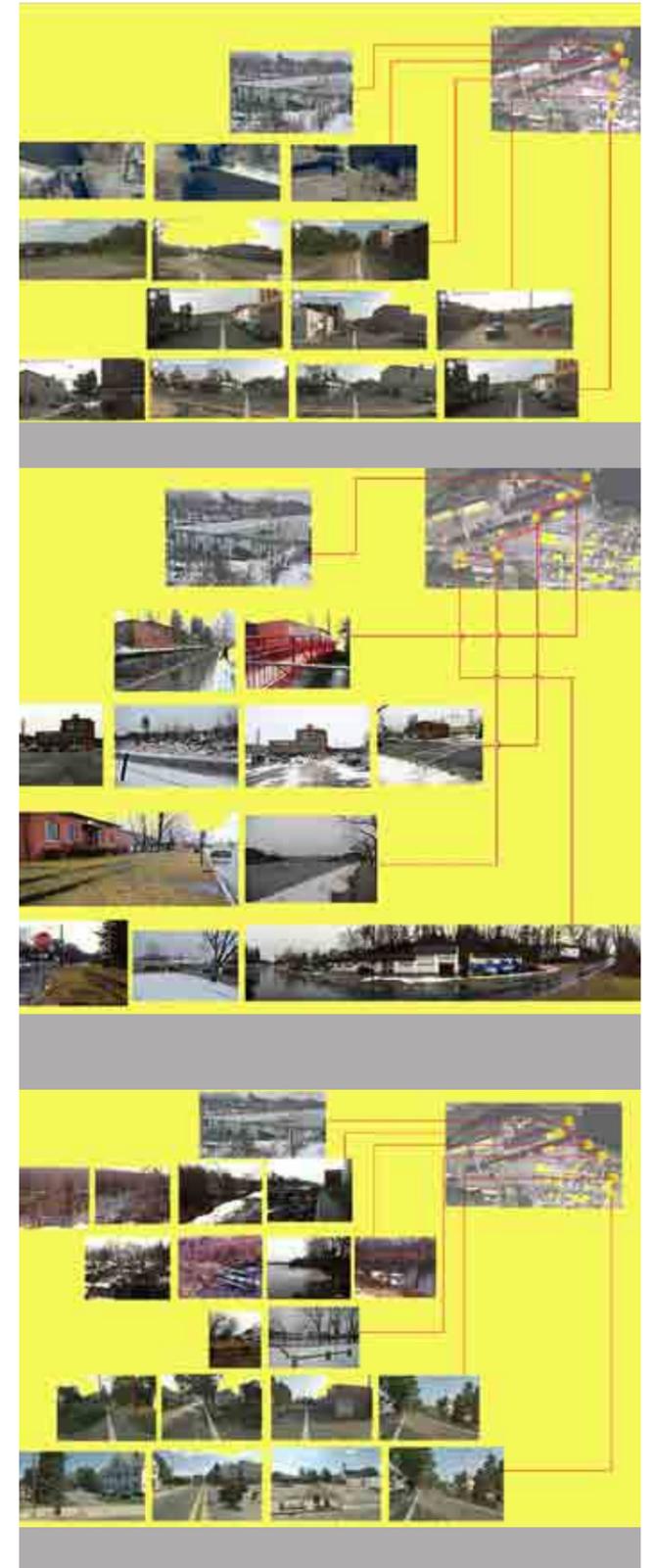
The proposed street trees create a new pattern that encourages walking and reduces heat island effects. New vegetation on the riverfront strengthens ecosystem benefits. The paths and overlooks along the riverfront park are incorporated in this focus area.



The proposed plan has a dense street tree pattern and improves plantings along the riverfront. Increasing tree canopy will help reduce stormwater overflow and the impact of combined-sewer-overflows.



This diagram illustrates the process of selecting the site and the new qualities to be addressed.

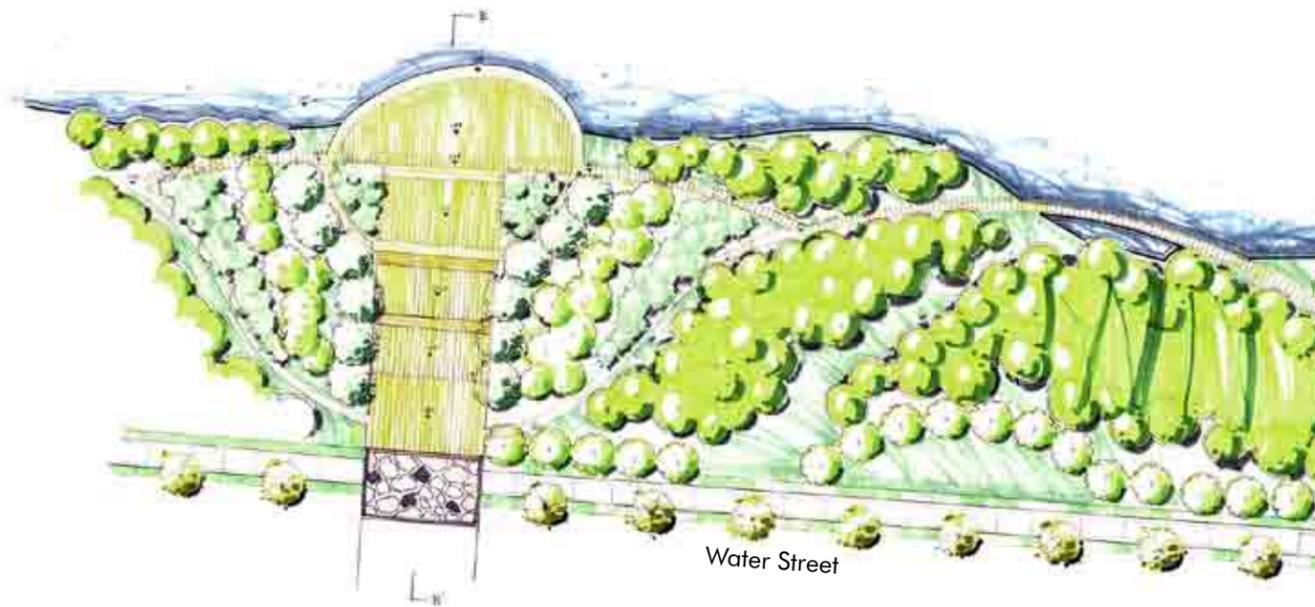


Chicopee Riverfront - Shanshan Yu

Focusing on the Chicopee River, open space opportunities were proposed. The master plan utilizes the natural characteristics of the river to shape pleasant views of one of resources that created Indian Orchard Neighborhood. A series of sitting nodes face the Chicopee River down at the water's edge. They are connected through a pathway that is going up and down to provide access from the small gateways on Water Street. A diverse mix of existing and proposed vegetation responds to the site. Visitors will engage nature through a richness of experiences. The new places on the water encourage a diversity of activities: resting, chatting and enjoying the view of the Chicopee River. Looking at this park as a corridor was important in the design process. This corridor links the Indian Orchard Mill to the west with the Ludlow Bridge in the east. Along this path, visitors are able to interact with the riverfront in a way that does not detract from future uses of the area. Additionally, connections are created to Main Street from the waterfront. These passageways allow people to connect to the waterfront strengthening the accessibility of the new park. Main Street serves as the primary corridor through Indian Orchard in that most people travel by bus or automobile.



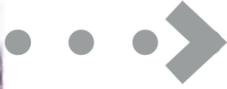
Diverse layers of vegetation create a rich experiences on the pathways. The wooden deck provides a prospect on the Chicopee River while the pathways are offset from the node to allow for undisturbed walking and biking.



This master plan shows how the rich path systems that is incorporated in the design. The vegetation strengthens the ecosystem services provided by the park.



Chicopee Riverfront - Shanshan Yu



The pedestrian paths are designed with a low gradual slope along the steep topography of the bank. This allows for easy and universal access to enjoy the spectacular prospects on the Chicopee River.



This typical cross section displays the main riverfront overlook. This overlook could also be used for concerts and large gatherings of people at a unique location. All the overlooks are accessible with wheelchairs.

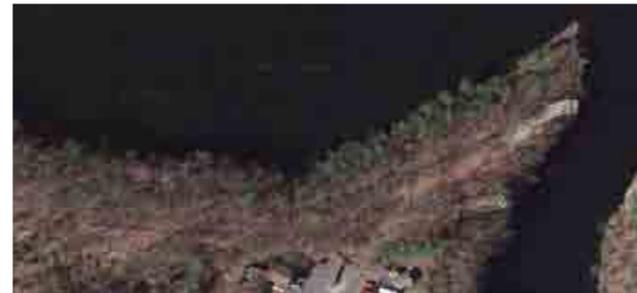


Indian Leap - Cao Ying

Indian Orchard lacks a coherent open space system to connect natural resources with residential areas. The most significant open space in this project area is the Chicopee riverfront property, which provides significant recreation development opportunities. However, the waterfront is undeveloped for pedestrian use and lacks function for residences to utilize the space. In addition, the riverfront lacks visual access and walkable paths into the community. Myrtle Street Park is the public open space at the end of Main Street to the far west. A lack of gathering public open spaces for residents limits the opportunity for communication and interaction.

This section focuses on the potential of Indian Leap area to become an accessible destination for a variety of leisurely activities including fishing, observation, walking and seating. To achieve this, a series of nodes were added with different functions along the two paths, including a fishing spot, an observation deck extended over the river and a reformed observation on Indian Leap. The steep slopes with a 30 feet elevation difference

is a challenge for the connectivity of downtown Indian Orchard from Main Street to the banks of the Chicopee River. To combat this issue, a zigzag ramp with 5% slope was created to make a connection between the upper and lower pedestrian paths. This grade is ADA accessible and can be traversed with a wheelchair. Preservation of the natural riverbank environment was considered and most of the woodland lots were retained and thinned out sensitively as much to create new sight lines to the River. A new bridge over the Chicopee River at Indian Leap will reestablish and reinforce the regional pedestrian and bicycle network. Another new connection is proposed to connect the caves of the Native Americans down below.

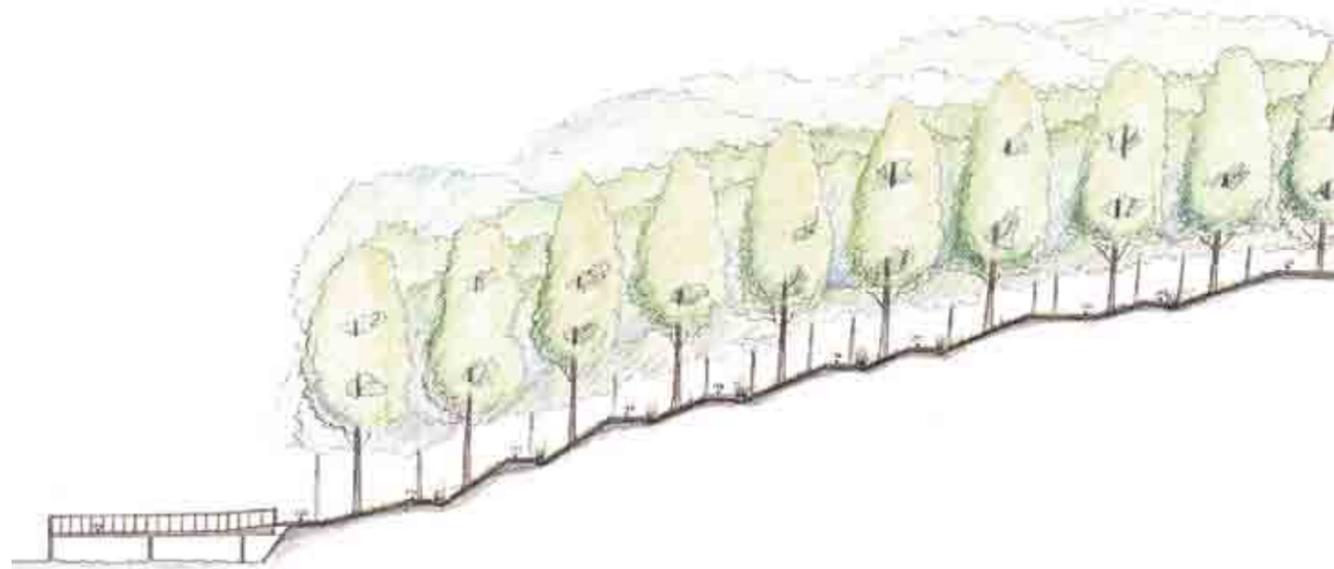


This master plan shows the addition of path systems throughout Indian Leap. These connections extend into the neighborhood and to outlooks over the riverfront and Indian Leap.

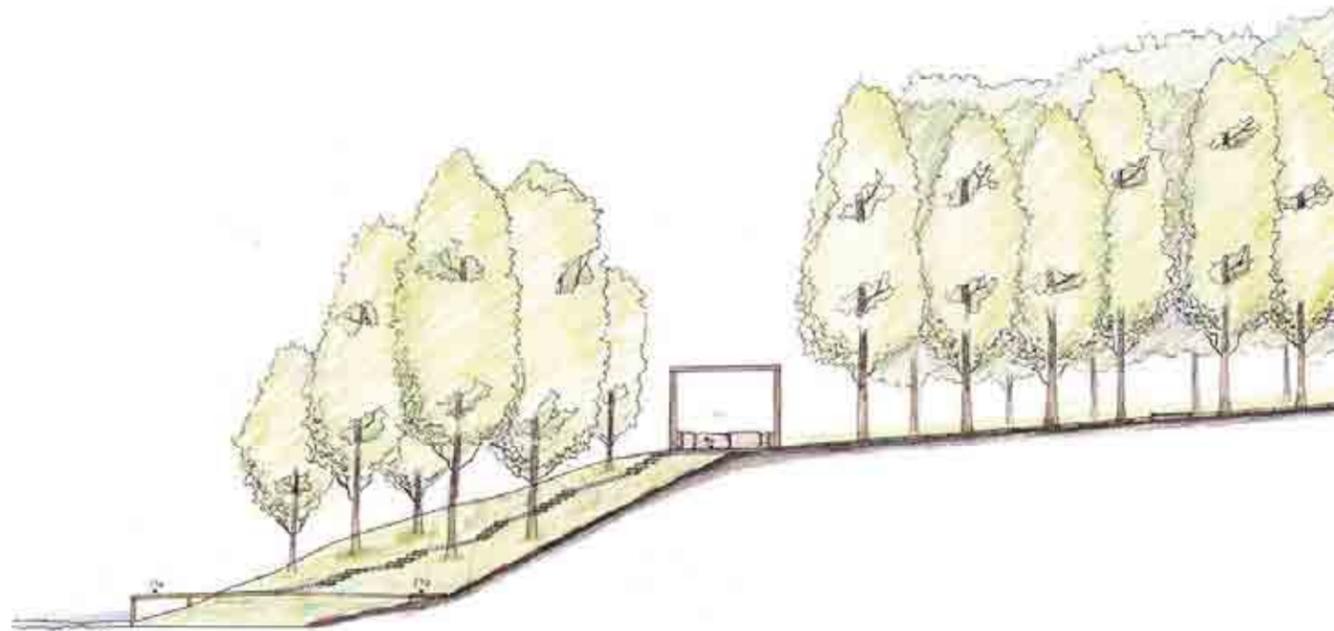


Indian Leap currently (upper left) is connected through a small trail in the woods. It has minimal amenities and is not inviting to the public. Implementation of short term improvements (upper right) shows how a better defined path could make more use of this underused jewel in the neighborhood. As a long term solutions (below) shows a built structure is proposed to create a landmark and stepping stone in the woods that would serve as a new destination.





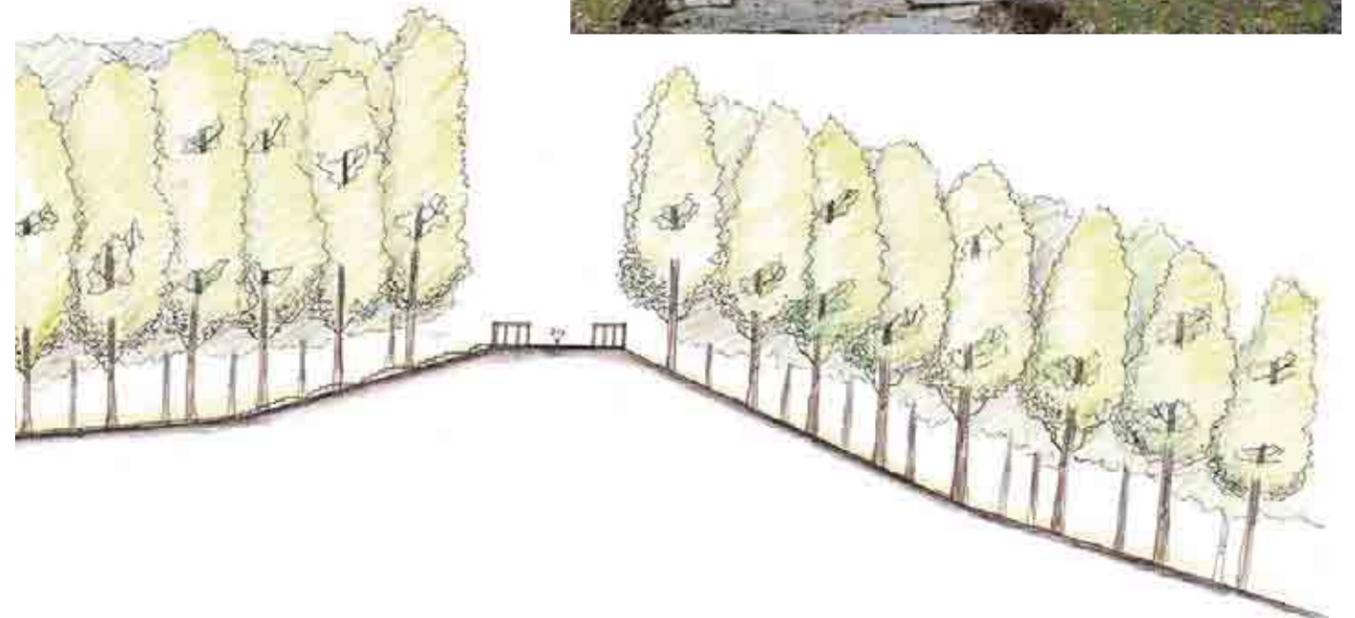
A series of platforms along an ADA accessible ramp with a 5% gradient offers an easy and delightful walk through the woods down to an observation deck the Chicopee River. The deck allows tourists and residents to gather and interact with the water.



This section illustrates the severe elevation changes. A 5% zigzag ramp exceeds ADA compliance standards. Thus general maintenance procedures and requirements are facilitated.



The current conditions (upper left) illustrate the present-day difficulties to use the embankment for walking. Slight improvements (upper right) include creating an edge for a new path and defined zigzag turns. Sensr.itive thinning out of wooden areas will create new sight lines to the Rive The long term improvements (right) include natural stone slabs for the path and new plantings to create even more inviting experiences for residents and visitors.



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