

Spring 2014

Redefining America's Postwar Urban Renewal at the Northgate of Springfield, MA

Mohammed Abdelaal

University of Massachusetts - Amherst, mohammed@facil.umass.edu

Meilan Chen

University of Massachusetts - Amherst, meilanchen@larp.umass.edu

Zhuoya Deng

University of Massachusetts - Amherst, zdeng@larp.umass.edu

Ericka Duym

University of Massachusetts - Amherst, eduym@larp.umass.edu

Laura Keskula

University of Massachusetts - Amherst, laura.keskula@gmail.com

See next page for additional authors

Follow this and additional works at: https://scholarworks.umass.edu/larp_grad_research



Part of the [Environmental Design Commons](#), [Landscape Architecture Commons](#), and the [Urban, Community and Regional Planning Commons](#)

Abdelaal, Mohammed; Chen, Meilan; Deng, Zhuoya; Duym, Ericka; Keskula, Laura; Larico, Joseph; Liu, Bin; Liu, Shu; Liu, Wenjie; Nein-Large, Tharyn; Yu, Junzhi (Jason); and Zhou, Zhangkan, "Redefining America's Postwar Urban Renewal at the Northgate of Springfield, MA" (2014). *Landscape Architecture & Regional Planning Studio and Student Research and Creative Activity*. 37. Retrieved from https://scholarworks.umass.edu/larp_grad_research/37

This Article is brought to you for free and open access by the Landscape Architecture & Regional Planning at ScholarWorks@UMass Amherst. It has been accepted for inclusion in Landscape Architecture & Regional Planning Studio and Student Research and Creative Activity by an authorized administrator of ScholarWorks@UMass Amherst. For more information, please contact scholarworks@library.umass.edu.

Authors

Mohammed Abdelaal, Meilan Chen, Zhuoya Deng, Ericka Duym, Laura Keskula, Joseph Larico, Bin Liu, Shu Liu, Wenjie Liu, Tharyn Nein-Large, Junzhi (Jason) Yu, and Zhangkan Zhou

UMass Amherst Design Center in Springfield • Department of Landscape Architecture & Regional Planning
Graduate Urban Design Studio Spring 2014

Instructors:

Frank Slegers and Michael DiPasquale



Redefining America's Postwar Urban Renewal at the Northgate of Springfield, MA

Mohammed Abdelaal • Meilan Chen • Zhuoya Deng • Ericka Duym • Laura Keskula • Joe Larico • Bin Liu
Shu Liu • Wenjie Liu • Tharyn Nein-Large • Jason Yu • Junbo Zhang • Zhangkan Zhou

UMass Amherst Design Center in Springfield
Department of Landscape Architecture & Regional Planning
Graduate Urban Design Studio Spring 2014
Instructors: Frank Slegers and Michael DiPasquale

Redefining America's Postwar Urban Renewal at the Northgate of Springfield, MA

Mohammed Abdelaal, Meilan Chen, Zhuoya Deng, Ericka Duym, Laura Keskula, Joe Larico, Bin Liu, Shu Liu, Wenjie Liu,
Tharyn Nein-Large, Jason Yu, Junbo Zhang and Zhangkan Zhou

Contact:

Frank Slegers
Assistant Professor
Dipl.-ING, MLA, Landschaftsarchitekt
Department of Landscape Architecture & Regional Planning
109 Hills North
University of Massachusetts
111 Thatcher Road , Ofc. 1
Amherst, MA 01003-9357

E-mail: slegers@larp.umass.edu
Phone: 413-577-0848
Fax: 413-545-1772

© U Mass Amherst, Department of Landscape Architecture and Regional Planning - U Mass Amherst Design Center, 2014
Graphic editing: Shu Liu
Text and final editing: Frank Slegers
Printed: September 2014

Table of Contents



The larger studio project area in 1875 as a residential neighborhood with industrial uses along the railroad tracks. On the upper riverfront is Hampden Park - famous for the world's championships in track bicycle racing in the 1800's. Historic Map: "View of Springfield, Mass." Author: O.H. Bailey & Co., Publisher: O.H. Bailey & Co., 1875. Source: http://upload.wikimedia.org/wikipedia/commons/b/b7/1875_View_of_Springfield_Massachusetts_byBailey_BPL_10183.png

Page		
6	Acknowledgments	
7	Introduction	
8 - 9	Study Area and Context	<ul style="list-style-type: none"> - Studio Project Area - Studio Goals - Studio Process
10 - 14	Cultural Milieu: Cultural, Social & Economic Context	<ul style="list-style-type: none"> - Northgate's History - Springfield Economy - Economic Development in Downtown - Union Station Refurbishment - MGM Casino Project - UMass Center at Springfield
15 - 18	Natural Systems	<ul style="list-style-type: none"> - Hydrology, CSO, Permeable/Impermeable Surfaces and Topography - Street Trees & Vegetation Cover, Relationship to the Riverfront - Public Open Space System - Connecticut River Walk and Bikeway
19 - 21	Public Transportation System & Street Network and Hierarchy	
22 - 23	Urban Grain, Land Use and Zoning	
24 - 25	Landmarks, Buildings & Destinations	
26	Overall Assessment and Opportunities	
27	Design Proposals Overview	
28 - 34	Zhuoya Deng • Bin Liu: "G.A.T.E. Green Infrastructure. Art. TOD. Elasticity - A Gateway for a Sustainable Future in Springfield"	
35 - 47	Ericka Duym • Wenjie Liu • Jason Yu: "Northgate: History Informs the Future- Moving, Learning and Living in a Post Urban Renewal District"	
48 - 60	Mohammed Abdelaal • Joe Larico • Tharyn Nein-Large: "Reimagining Northgate - Overcoming the Mistakes of Urban Renewal"	
61 - 70	Meilan Chen • Laura Keskula • Shu Liu: "The Resilient City - Reclaiming the Legacy of Springfield, MA"	
71 - 79	Junbo Zhang • Zhangkan Zhou: "The Revitalized Northgate of Springfield by Design - Creating Room for People and Water"	
80 - 82	Appendix: Design Boards	
82	References	

Acknowledgments

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 2014. The studio is coordinated and sponsored through an agreement between the City of Springfield and the UMass Amherst Design Center.

This Graduate Urban Design Studio developed tangible design scenarios for the revitalization of an underutilized district in between the downtown and the North End neighborhood. Because this area is the northern gateway for downtown we called it the NORTHGATE. Our studio developed design proposals over a full semester that investigated topics around green infrastructure and urban agriculture, recreation and healthy living, housing possibilities, urban retail, and local transportation. These proposals were discussed with planning officials and a Springfield expert panel of planners, economists, historians and other stakeholders to receive professional and local feedback and expand our knowledge. The process was most beneficial in conceptualizing six diverse and vibrant visions for the area. The design proposals were discussed at our UMass Department of Landscape Architecture and Regional Planning and exhibited for five months in the Springfield Museums and part of the “Steampunk Springfield - Reimagining an Industrial City” exhibition. The work was also submitted to the American Society of Landscape Architects 2014 Awards - national professional organization to get further recognition.

We want to thank all the individuals that made this studio a great success. We specially thank Scott Hanson from the Springfield Department of Planning & Economic Development for his untiring enthusiasm, professional feedback and great support on this project.

We thank Mayor Dominic Sarno for his passionate support of the UMass Amherst Design Center in Springfield.

We further thank the contributors of the expert panel for their time and valuable input: Brian Connors, Phil Dromey, Alvin Allen from Springfield Planning & Economic Development, Wayne Phaeuf from The Republican, Bob Mc Carroll from the Springfield Historical Commission,

Jay Minkarah from Develop Springfield, and all other stakeholders and people that attended our meetings, came to our presentations and gave feedback and support of any kind.

We thank Bruce Rosenbaum to include us in his Steampunk exhibition and the Springfield Museums and their staff, specially Special Projects Coordinator Laura Scott for organizing the display in the museum.

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.

We specially thank all the students of the Graduate Urban Design Studio for their enthusiasm and exceptional quality work.

Finally we want to thank Shu Liu for her outstanding effort and dedication compiling and editing this report.

Frank Slegers and Michael DiPasquale,
Directors UMass Amherst Design Center in Springfield
UMass Department of Landscape Architecture and Regional Planning



Students and instructors of the Graduate Urban Design Studio 2014

Introduction

The goal of this project is to design and present visions for a district that makes Northgate a destination and capitalizes on its unique location and the specific assets of the City of Springfield. Our study area is hard to characterize for most people it is a “no-man’s land”. Because it is the northern gateway to downtown Springfield we named it the “NORTHGATE”. Future projects like the rehabilitation of Union Station and other city initiatives could make the area poised for yet another transformation: Redefining America’s Postwar Urban Renewal at the Northgate. The report presents visionary design proposals showing possible future scenarios to re-imagine and revitalize a unique urban district close to the heart of the City.



Workshop with expert panel in Springfield: Presentation Interventions and first design concepts and posters “Past-Present Future” of each team.

Study Area and Context - Studio Goals

Studio Project Area

The study area is the northern part of the Metro Center neighborhood in Springfield, MA. The boundaries are I-291 to the north, the railroad viaduct and Union Station to the south, the riverfront of the Connecticut River with the on-grade railroad train tracks and elevated I-91 to the west, and Franklin Street around the YMCA to the east. The area has been a fine-gridded residential area until the Second World War. Like many other cities in the US, postwar urban renewal largely transformed the area. The residential buildings were razed, I-291 and I-91 were built, and small blocks were combined into bigger blocks with large-scale auto-oriented thoroughfares to accommodate large scale light industry, transportation and distribution businesses.

Project area in the context of Springfield's seventeen neighborhoods.

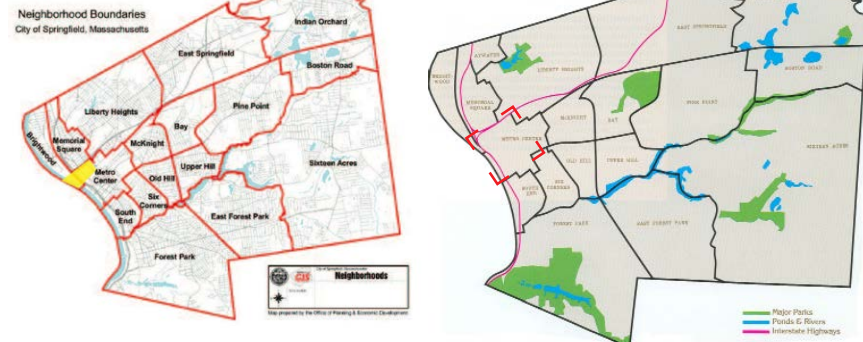


Image: "Choose Springfield, MA" http://choosespringfieldmass.com/city_neighborhoods/



Study Area & Context-Studio Goals, Studio Process

Studio Goals

The goal of this studio project is to design and present visions for a district that makes Northgate a destination and capitalizes on its unique location and the specific assets of the City of Springfield. The possibilities for other job-creating industries, the need for retail opportunities in the downtown area, and the vicinity of the Connecticut River with a lacking sense of connectivity. Revitalizing this quarter will create new places to work, will attract and engage residents and visitors alike. One task of this studio is to transform this goal into concrete design and policy objectives to shape the cultural, physical and economic environment of the project area.

Studio Process

- Study, analysis and assessment of the area through site trips, interviews, sketching, data collection and research, case studies.
- Establish consistent communication with an expert panel from Springfield.
- Present a variety of design concepts with new ideas.



We defined elements of the city after Lynch's research on legibility in the city. Our area has a lack of nodes, is separated by physical edges from the rest of the city. The landmarks like the old Needle Factory or the Union Station need restoration.

Cultural Milieu - Cultural, Social and Economic Context

Northgate's History:

The area has been a residential area from the late 1800's until the demolishments in the 1950's. Prior to WW2 nearly 1,600 families lived here. The majority were Jewish and Irish construction and factory workers. Access to the Connecticut River was limited through industrial activities and the railroad. Between Boston and Albany this early transportation connection existed since 1841. The railroad activities were at their height in 1925 - just before the current Union Station building opened in 1926.

The map on the other page shows the location of the former Hampden Park. This has been the first public park in Springfield-and the only that utilized the riverfront. The park was a popular destination for residents and international bicycle enthusiasts. It was Regarded as "one of the "finest such venues of it's type in the country". Postcards from 1883 show the 1/2 Mile bicycle racing track, baseball diamond and "trotting-track". Famous Springfield resident and world champion George Hendee raced here.

During post-war Urban Renewal 200 acres were demolished, the Federal Highway Act implemented I-91 and I-291. The mixed-used district of residences, a school and businesses were displaced. The result was an urban grain characterized by large blocks, wide set-backs, and over dimensioned arteries; Main Street, Dwight Street, and Chestnut Street. The area represents a characteristic urban renewal projects of the period.

Source: Springfield Masterplan, 1950/Passenger Train Journal-Robert Boudreau



Northgate, 1899



Trolleys on Main Street.



Historic rendering of Union Station.



Area today. Aerial from google(2014).

Cultural Milieu - Cultural, Social and Economic Context



Images: Wood Museum/Archives-Springfield Museums, 1950 Urban Renewal Drafted Plan

Cultural Milieu - Cultural, Social and Economic Context

Springfield Economy:

In Springfield, a mainstay manufacturing remains since tradition, and service industry has growing in importance. A diverse industrial base, as Springfield is home to significant insurance, chemical, paper, government, and health care facilities.

The Major Industry Trends of Springfield are:

- Manufacturing
- Fastest growing service sectors are healthcare and education.
- Professional service industry has been growing in importance.
- Small businesses are showing significant growth in the region.
- Major employers include:
 - Mass Mutual,
 - Big Y Supermarkets,
 - Baystate Health,
 - Mercy Medical,
 - Springfield College,
- Colleges and Universities: Western New England College, Springfield College, American International College, Springfield Community College, Cambridge College, UMass Springfield

Source: Greater Springfield Chamber of Commerce, Pioneer Valley Planning Commission

Economic Development in Downtown:

The Market Rate Housing:

- Residential Market Potential:

“... an average of 2,280 households represent the potential market for new and existing housing units within Downtown each year over the next five years. . .”

-Zimmerman Volk Report 2013

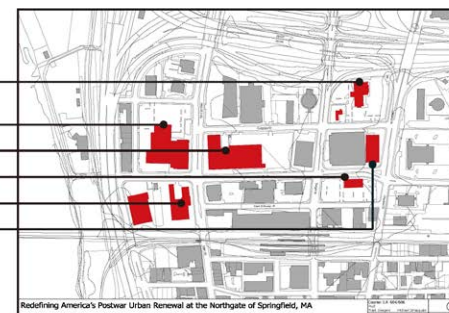
- The target potential residents with median incomes of \$50,000 or more are currently living within the Springfield city limits, Hampden County and the boarder Massachusetts.



Image Source: <http://www.neep.org/neep-supporters/business-leadership/case-studies/baystate-health/>; http://www.grotsky.com/site_hg/projects/financial/massmutual.html; <http://www.wlp.com/news/local/hampden/the-future-of-union-station-in-springfield>; <http://www.waymarking.com/gallery/image.aspx?f=1&=ada167ee-b704-4bf4-bf1a-80fed64389>; <http://www.postmarks.org/pop/2200/2273.htm>

NORTHGATE WORKFORCE Larger Employers

- Springfield Republican
- US Post Office
- Liberty Medical Arts
- Peter Pan Bus Lines
- Baystate Health
- Larger Employers
(10,000 employees in Western MA)



Source: Baystate Health



<http://www.trulia.com/rental-community/9000020227/Baystate-Place-414-Chestnut-St-Springfield-MA-01104/#photo-1>

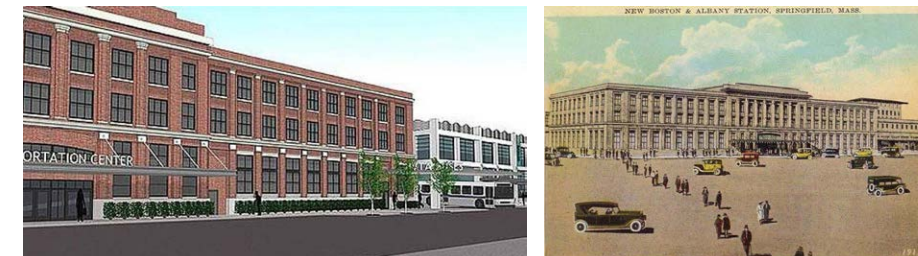
Cultural Milieu - Cultural, Social and Economic Context

- The ownership preferences shift to rental dwelling units, mixed-use neighborhoods, preferably in urban locations. Particularly among younger households, yielding a higher share of consumer preference for multi-family rentals.
- Approximately 22% of Springfield's households do not own an automobile (compared to just over 9% nationally).

Source: Zimmerman Volk 2013 Downtown Springfield Residential Market Potential Report



<http://www.homefinder.com/MA/Springfield/rentals/>, <http://wtax.com/podcasts/downtown-springfield-housing-demand-is-studied/>



Union Station Refurbishment:

The \$81 million project integrates multiple transit modes in one state-of-the-art transportation complex:

- Local and intercity bus;
- Amtrak intercity;
- Planned New Haven-Hartford-Springfield commuter rail;
- Taxi, bicycle and pedestrian travel

The Union Station will be reactivated as a regional landmark through the reuse of some 200,000 square feet of vacant historic building stock and the construction of a new downtown building on the adjoining development site.

The current plan does not utilize a strong connection to Main Street. There will be better connection and a new proposed north-south street as a connection between Frank B Murray and Liberty Street for the new Union Station.

The New Bus Terminal will replace the current Peter Pan Station which is at the west of the Union Station across the Main St.

Source: Springfield Redevelopment Authority: About Union Station

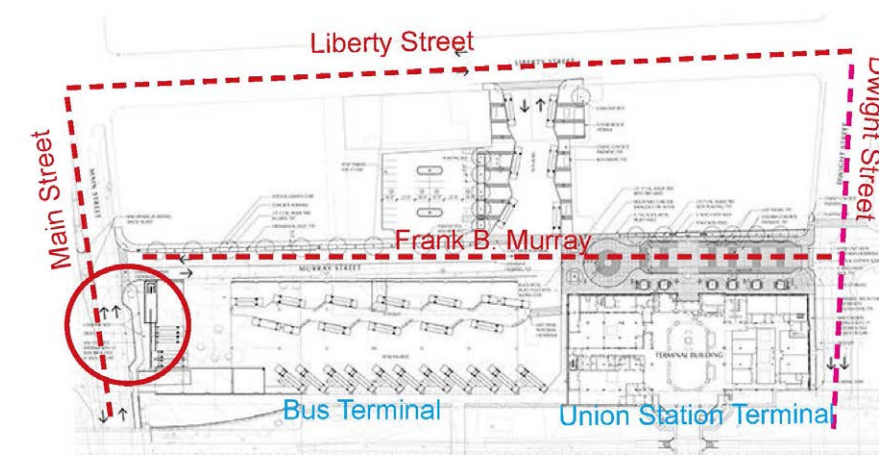


Image Source: <http://www.shadleyassociates.com/portfolio-union-station>

Cultural Milieu - Cultural, Social and Economic Context

Proposed MGM Casino Project:

- \$850 million multi-use plan envision an exciting and lively residential, retail, dining and entertainment district:
Sited between State & Union St Main St and Columbus Ave,
294 rooms Hotel,
125,000 sq. ft Casino,
4,800 parking spaces,
54 units apartments,
Refurbished 85,000 sqft office spaces,
43,000 sq. ft retail spaces (approximately 20 shops) with
eight-screen theatre,
18-lane bowling shops restaurants,
- 3071 direct permanent jobs, 2000 direct construction jobs.
- Attract traffic increase up to 26,006~30,724 visit per day during weekends in 2022.
- Trolley or public transit link the casino to further extend point of interest.

Source: Springfield Redevelopment Authority, MGM Casino Proposal Documentation



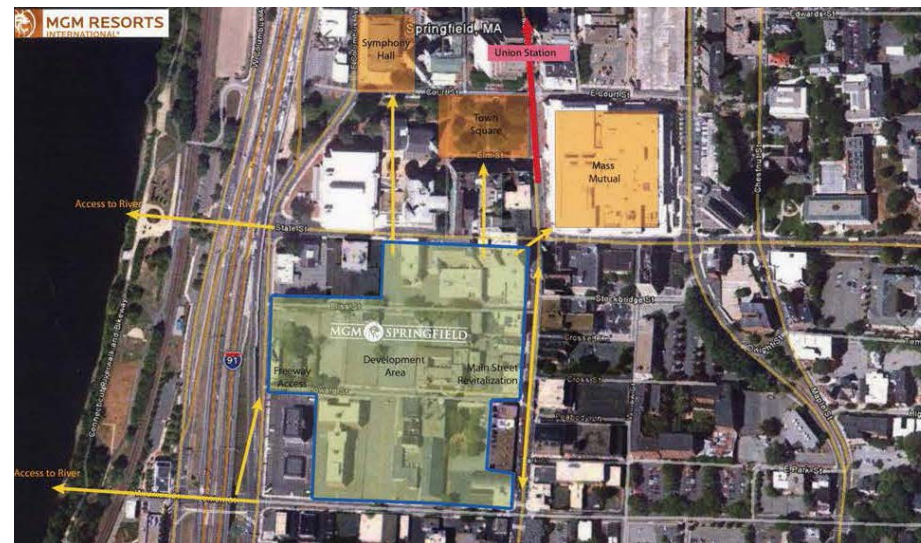
UMass Center at Springfield:

- Newly opened location at Tower Square is in close proximity to Northgate.
- A student body of 900 is planned. The location encourages downtown housing and living.



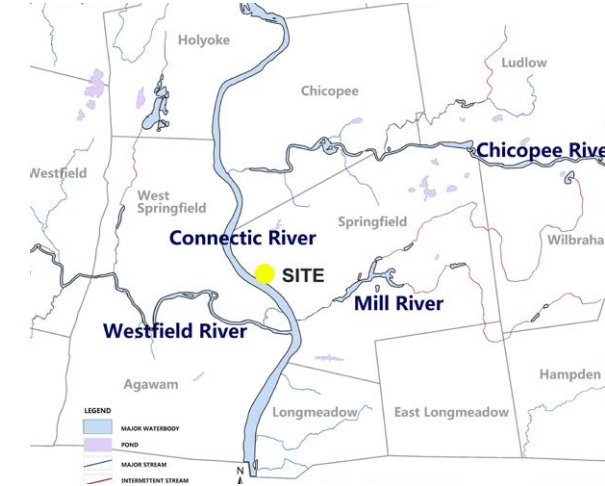
Renderings of proposed casino

UMass Center Tower Square



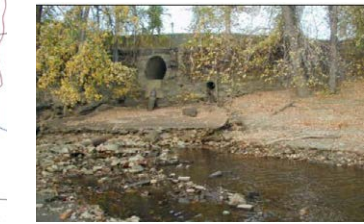
Plan of proposed casino area downtown south
Image Source: http://www.masslive.com/news/index.ssf/2012/08/mgm_unveils_downtown_springfie.html, <http://interactives.wvlp.com/photomojo/gallery/7234/1/mgm-springfield-casino-design-blueprints/>

Natural Systems - Hydrology, CSO, Permeable/Impermeable Surfaces and Topography

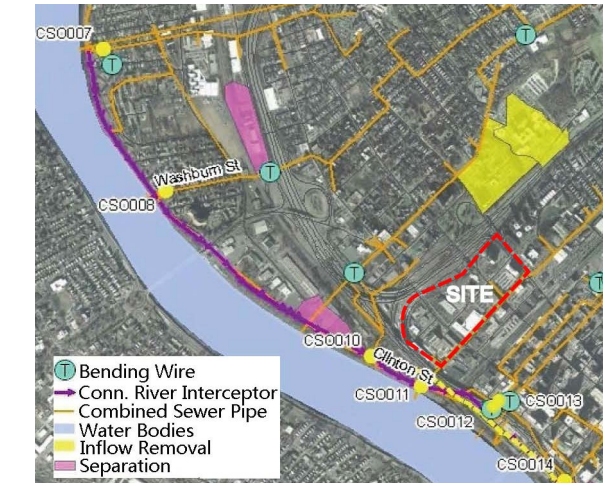


The Hydrology & CSO: Our rea is part of the Connecticut River watershed.

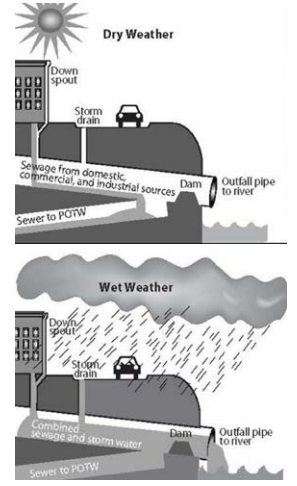
Source: <http://www.epa.gov/region1/eco/uep/cso.html>; <http://www.epa.gov/npdes/pubs/csossoRTC2004-chapter02.pdf>; A Fact Sheet#3: The Current State of the River; Combined Sewer Overflow(CSO) and Wastewater Capital Improvement Plan (CIP)



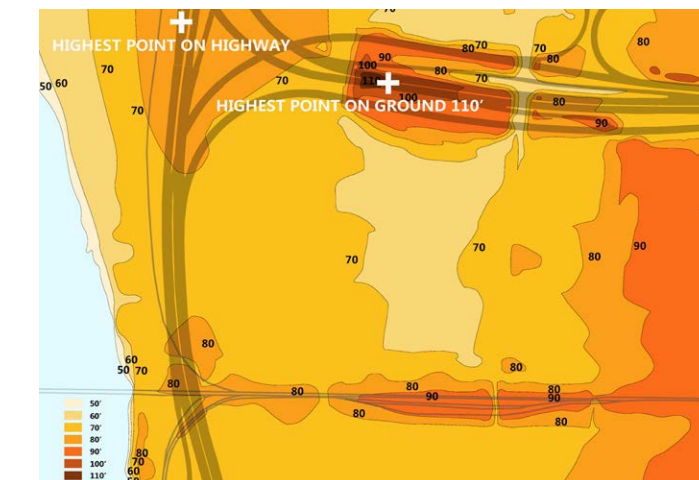
A Springfield CSO



Combined sewer systems are sewers that are designed to collect rainwater runoff, domestic sewage, and industrial wastewater in the same pipe. Our area has two CSO's. Alternative stormwater management reduces the number of out fall events and enhances the water quality.



Topography Analysis



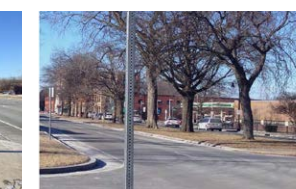
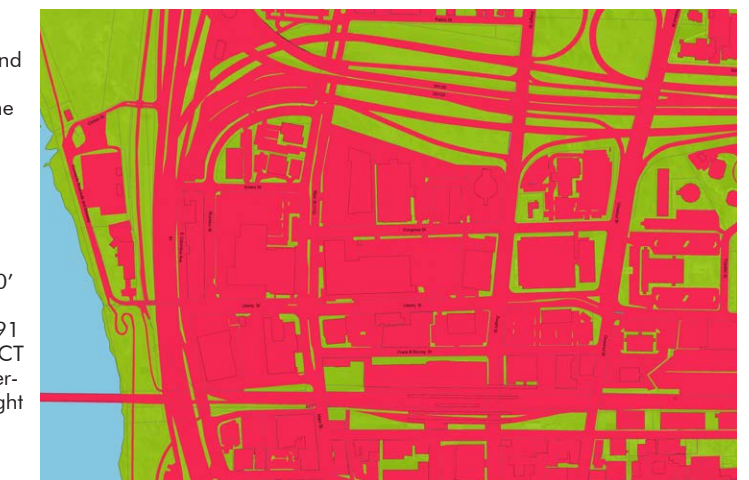
Permeable/ Impermeable Surfaces:

Permeable surfaces include buffer areas around the highway and areas along the river. The impermeable surfaces cover the majority of the area. They include sidewalks, roads, parking areas.

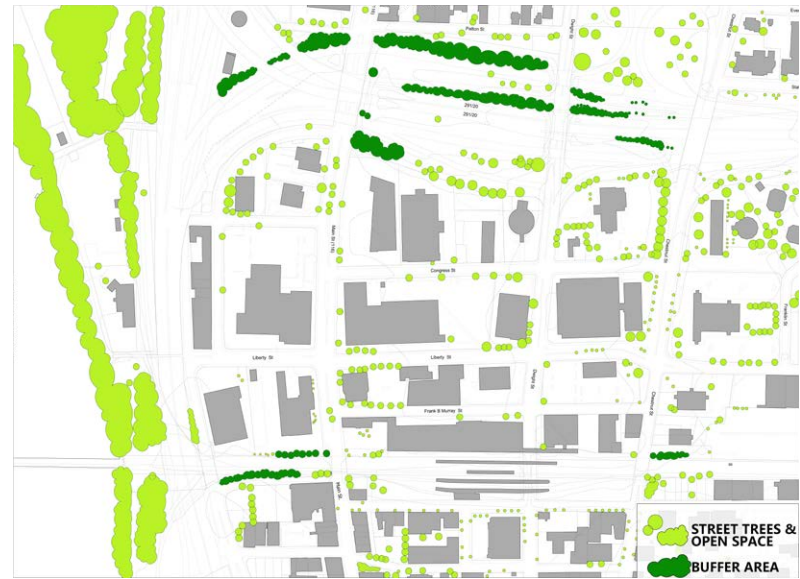
Topography:

Overall, the eastern part of the area is higher than the west, the slope going down from 110' to Connecticut River (about 50 '). The surface TRAIN TRACKS goes below the I-91 VIADUCT that connects with the I-291 VIADUCT on the north. I-291 goes east and crosses several NORTH-SOUTH ROADS (Main Street, Dwight Street, Chestnut Street).

Permeable & Impermeable surfaces in Springfield



Natural Systems - Street Trees and Vegetation Cover, Relationship to the Riverfront.



Main Street - section north of I-291.



Main Street underneath Highway I-291.



Downtown Main Street.



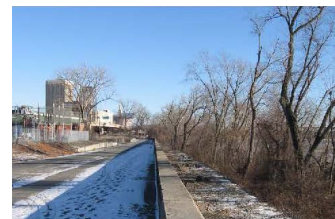
Frank B Murray Street facing east.

Street Trees and Vegetation Cover:

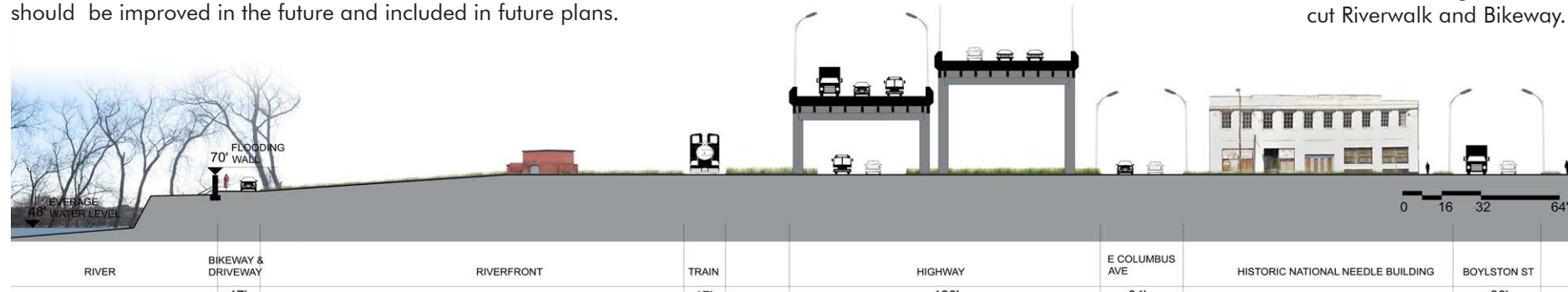
Dense vegetation cover can be seen along the highways and the riverfront. Street trees can improve the environment by providing canopy shade, filtering dust, enhance humidity during hot days. They also increase the aesthetic value. Overall there is a lack of coherent street tree plantings in the area. The same street may have different street tree patterns along the district. Street tree plantings should be improved in the future and included in future plans.



East Columbus Ave



Flood Wall along Connecticut Riverwalk and Bikeway.

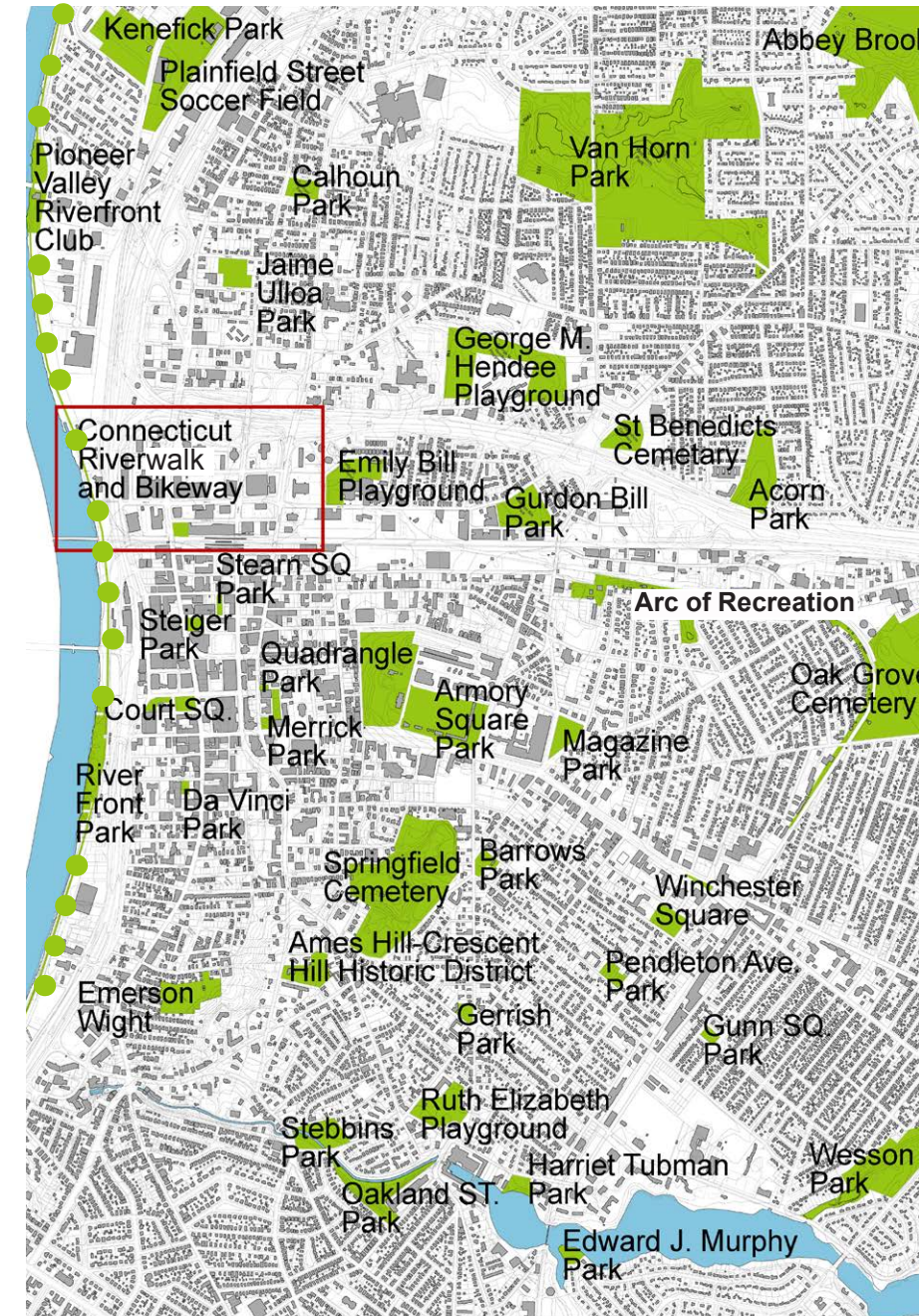


Section from the riverfront to Boylston Street facing north: The section displays the most important connection between the core area and the riverfront. It includes the Flood Wall, the Bike Way, the Waterfront area, the Highway, West and East Columbus Ave.

Natural Systems - Public Open Space System

Springfield has around 10% public open space. The only significant public open space in our area is the riverfront with the Connecticut Riverwalk and Bikeway. This path is accessible on Liberty Street where there is an on-grade railroad crossing and through an underpass close to Boylston Street. It is important to improve these connections and link to other assets of public open space in the City. This includes downtown Riverfront Park and Forest Park southwards and the smaller parks on the east of our project area: Emily Bill Playground, Gurdon Bill Park and the proposed Arc of Recreation.

There are other many potential under utilized green open spaces as well as existing open spaces such as forested and vacant lots that could be beneficial for wild life and infiltrations such as Chapin Terrace and are as near high ways. Amtrak, rail roads, and wide corridors can be improved to create better connections to major open spaces such as the Connecticut River Walk & Bikeway and Van Horn Park.



Arc of Recreation - Our area could connect to this abandoned rail line in the east.



Access to the Connecticut River Walk and Bikeway from the on-grade railroad crossing at Liberty Street.

Natural Systems - Connecticut River Walk and Bikeway



1. North Entrance with a lack of signage and parking availability.



2. Elevated paved path offering flood buffer and peaceful walk.



3. River front alcove providing habitat support and beaver activity.



4. Cinched outflow pipe draining into restful spot by the River.



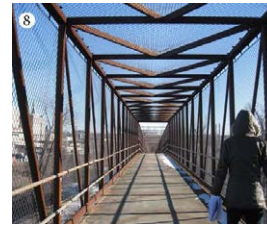
5. Double flood wall and fenced power station.



6. Large, vacant, river fronting building with open space.



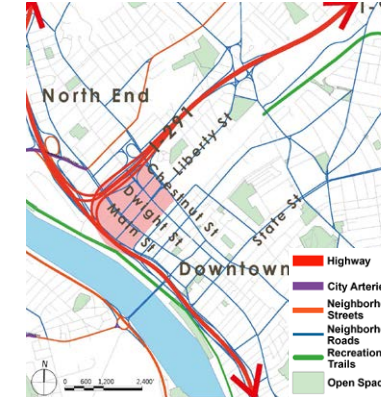
7. Curved topographic foot path and elevated steel bridge.



8. Overwhelmingly tight/secluded caged bridge overpass.



Parking and Public Transportation System & Street Network and Hierarchy



Transportation around the site



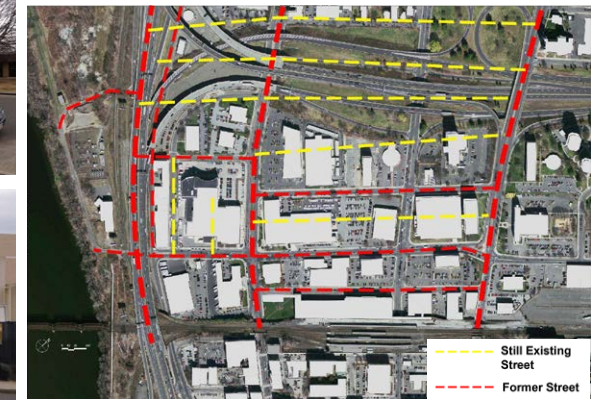
Parking in Northgate of Springfield

Parking and Public Transportation System:

- Commuting Statistic:
 - 22% of households in Springfield do not own an automobile (national average number is 9%).
 - 53.7% of the residents work in Springfield, while the other 46.3% work outside of Springfield (Zimmerman-Volk).
- Parking in Northgate:
 - Numerous privately owned parking lots including the Baystate garage (for employees only).
 - There is only one parking garage for public use, more should be proposed in the site.
 - On-street parking is on Liberty, Congress, and Boylston Streets.
 - Parking in all lot does not reflect usage, lots could be consolidated and more open to public use.
- Public Bus Service (PVTa):
 - The area is well serviced for local and regional travel: Most local buses run every 20~40 minutes. Most bus stops are just signs without cover, except for only one covered bus stop on Liberty St.
 - The hours of operation are not suitable to sustain night life
 - The Peter Pan Bus Terminal is major hub for regional and interstate bus travel.



Bus Route Destinations



Existing (red) and Former Vehicular Network (yellow)



One and Two-Way City Arterials

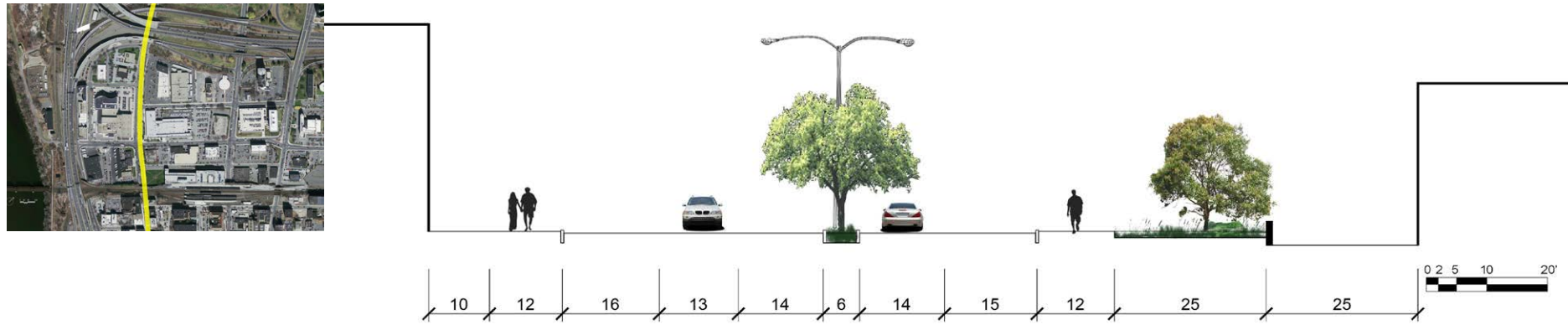


Street Network and Hierarchy

Inventory of the Most Important Streets in the Area:

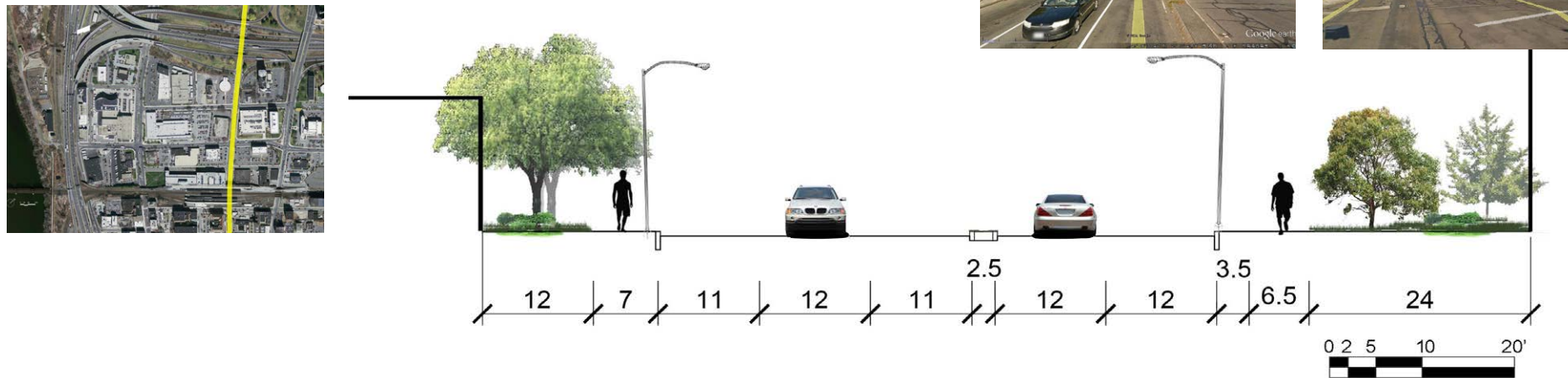
MAIN STREET:

- Over-dimensioned street width
- Wide sidewalk
- Street trees (Not consistent)
- Green island in the middle (Not consistent)



DWIGHT STREET:

- Over-dimensioned street width
- Wide Sidewalk
- Portions of very wide lateral planting strips
- Heaviest traffic

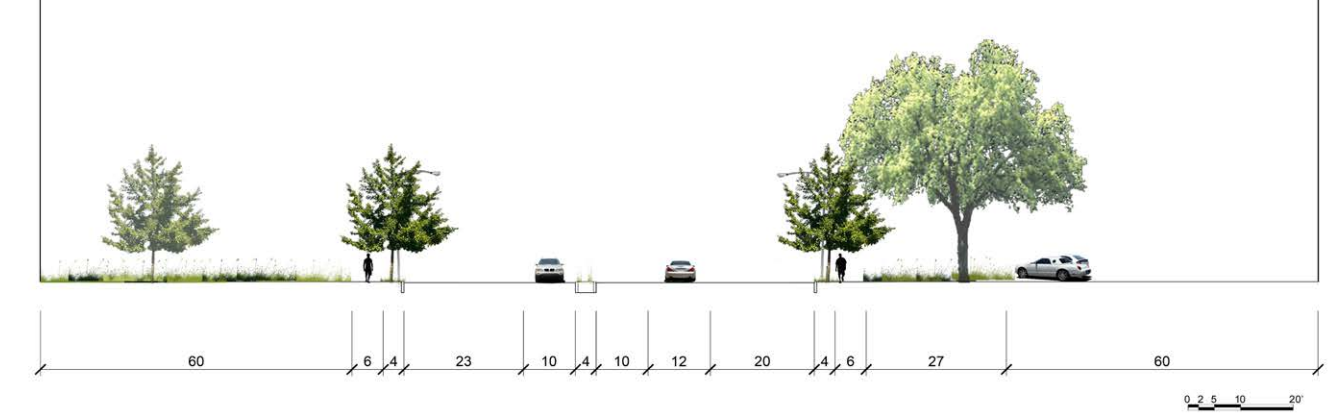


20

Street Network and Hierarchy

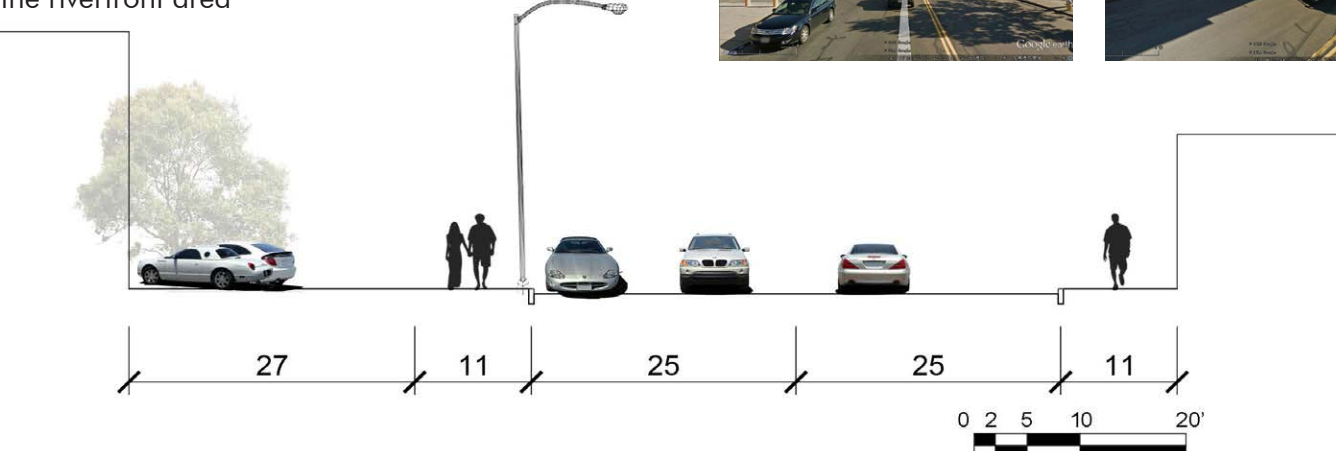
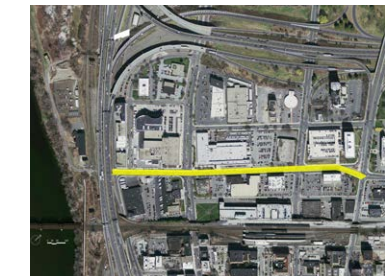
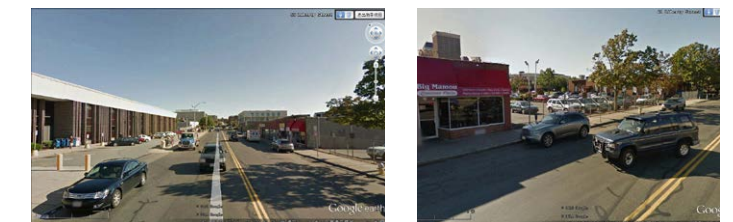
CHESTNUT STREET:

- Over-dimensioned street width
- Wide sidewalk
- Portions of very wide lateral planting strips
- Heavy traffic



LIBERTY STREET:

- Over-dimensioned street width
- Narrow sidewalk
- No street trees
- No legible pedestrian connection to the riverfront area



21

Urban Grain, Land Use and Zoning

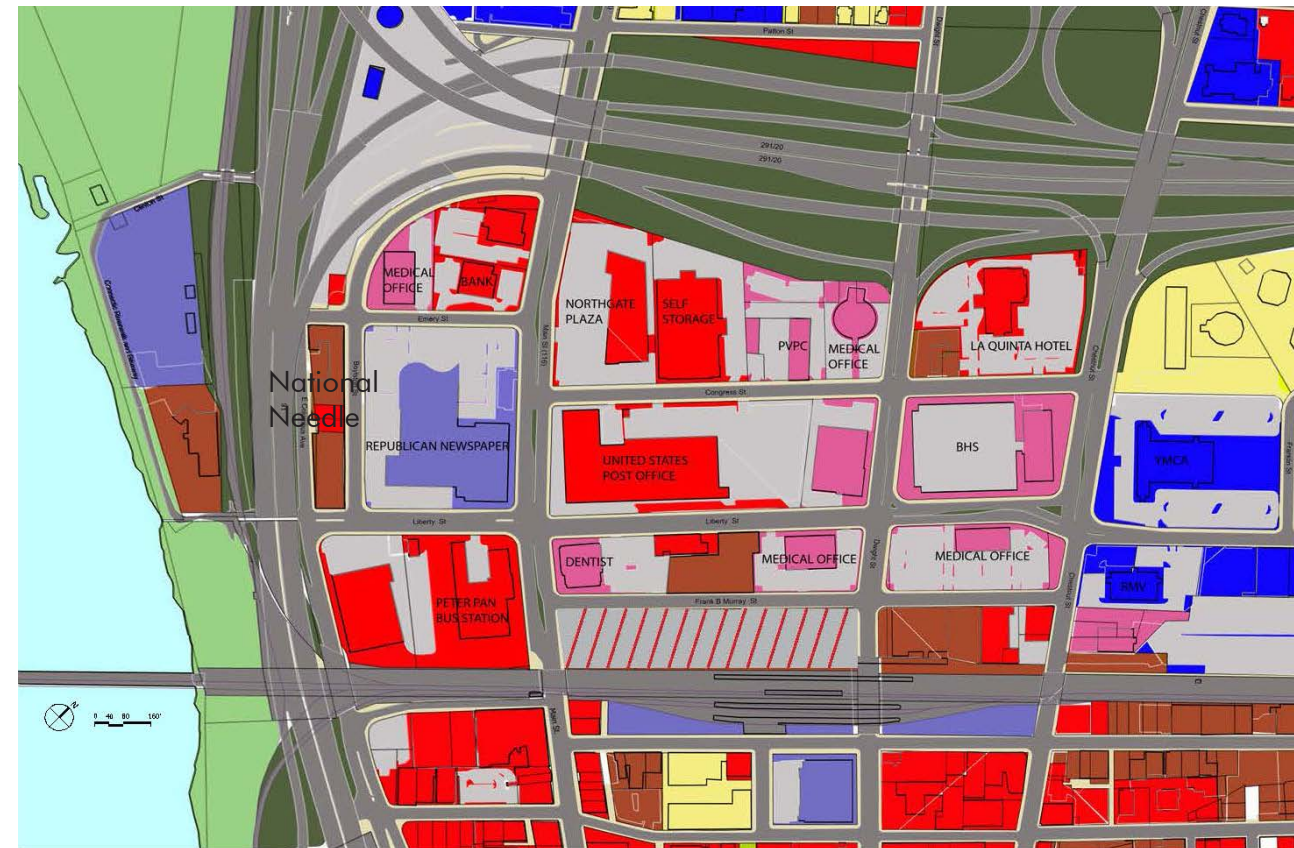
Existing Land Uses

The most common land use is parking followed by office space, commercial, and institutional. Only two lots are used for industrial. The largest and only public open space is the river front.

The majority of commercial destinations of the site are located on Main Street, including Bank, Post Office and Peter Pan Bus Station, and La Quinta Hotel on north east. Land use of office in the area includes PVPC, several Medical Offices and a Dentist. The most important Industrial destination of the site is the Springfield Republican Newspaper on the Main Street. Several Institution use destinations including RMV and YMCA are on Chestnut Street. Several buildings and blocks in the area

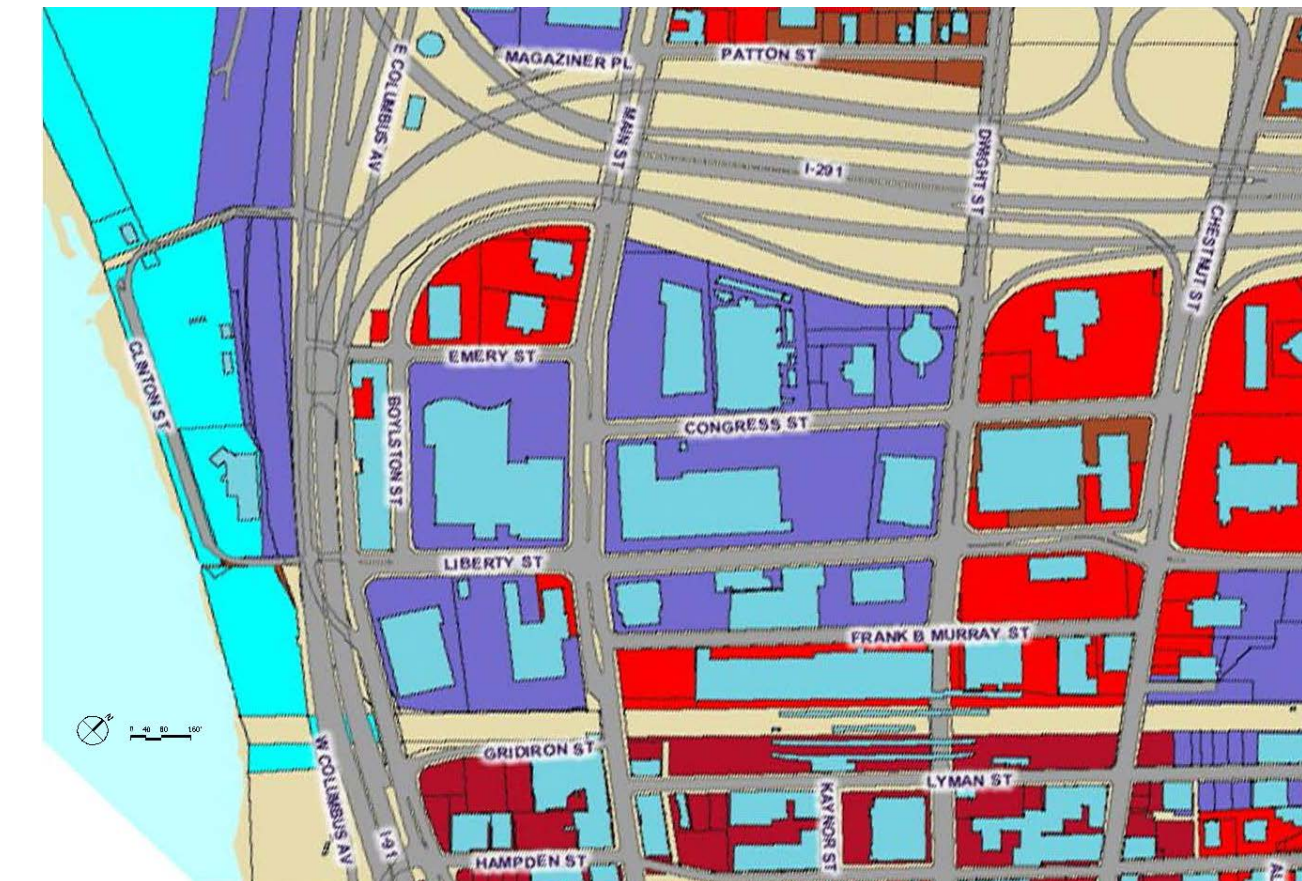
are vacant, including part of the historic National Needle Building. The concept of many design proposals is to reuse the vacant area and introduce new residential, commercial destinations that are compatible with the government proposal of new Union Station. Yet the introduced commercial use should not compete with the downtown commercial center on the south of the site. Bicycles are used by some people yet limited by the lack of distinct lanes. Change of width of arteries for adding bike line system into the area and its connection with the existing riverfront bike line would benefit the site.

- Commercial
- Mixed Use
- Residential
- Public Open Space
- Institutional
- Industrial
- Vacant Lot
- Parking
- Office Space
- Union Station



Zoning

The existing zoning patterns favor highway oriented services and heavy industrial industry. The vicinity to downtown should encourage different uses: Along Main Street pedestrian oriented shopping should be allowed to create a better link to downtown and encourage walkability. The existing zoning patterns would prohibit residential uses. In combination with the remodeled Union Station and the desire of market rate small apartments (Zimmerman Volk, 2013) this should be reconsidered. The area along the riverfront is not zoned as open space. This area should be rezoned to protect the riverfront and the natural resources.



- Business A
Pedestrian orientated shopping districts with residential allowed.
- Business B
Properties that provide services to heavy industry, Highway orientated automotive and service, No heavy industry.
- Industrial A
Full range of industrial and business use including heavy industry, Most associated with major urban center.
- Riverfront
Promote, protect natural resources Mixed use buildings, medium residential, lodging, medical and financial services.
- Open Space
Active and passive recreation with supporting primary use, Protected natural resource

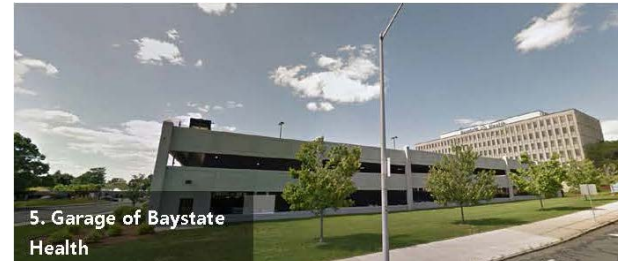
Urban Grain, Land Use and Zoning

Zoning

Urban Grain, Land Use and Zoning
Landmarks & Destinations.



15. PVTA Bus Terminal



5. Garage of Baystate Health



46. Residential



41. Medical Pavilion



3. Post Office



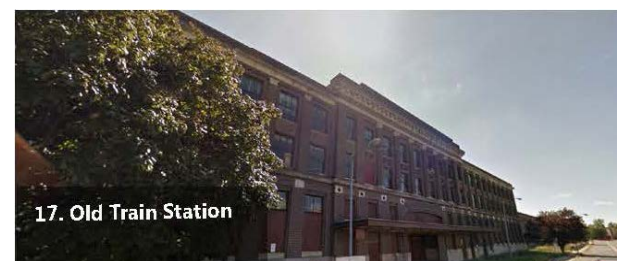
11. Diagnostic Imaging & Med Center



39. Uncle Bob Self



38. Commercial



17. Old Train Station



7. YMCA



20. Commercial Building



19. Commercial Building

Urban Grain, Land Use and Zoning

Building Uses in the Area

- | | |
|---|---|
| 1. Vacant Building for Lease | 22. O. W. Gifford Locksmiths |
| 2. Publishing Company | 23. Office Building |
| 3. Post Office | 24. Office Building |
| 4. USPS | 25. Local Assessment Bureau |
| 5. Garage of Baystate Health | 26. Good Year Auto Service |
| 6. Baystate Health | 27. Office Building For Lease |
| 7. YMCA | 28. Vacant Building |
| 8. N. Winer & Son Butter Eggs Cheese | 29. Vacant Building |
| 9. Massachusetts Registry of Motor Vehicles | 30. Vacant Building |
| 10. Liberty Medical Arts Building | 31. Office Building For Lease |
| 11. Diagnostic Imaging & Med Center | 32. Commercial Building |
| 12. Public Parking | A. Club X Static |
| 13. A. Omar & Son Furniture | B. All Star Insurance Agency |
| B. Felix Sandwich Shop | C. Olympic Deli |
| C. Big Mamou Restaurant | 33. New England Maintenance Depot |
| 14. Baystate Dental | 34. Vacant Building |
| 15. PVTA Bus Terminal | 35. Hampden County Physicians Association |
| 16. Bus Garage | 36. Freedom Credit Union |
| 17. Old Train Station | 37. Western Mass Kidney Center |
| 18. A. WGBY Public Telecommunication Center | 38. A. Space for Lease |
| B. Mass Live | B. North Gate Medical & Dental |
| 19. Commercial Building | C. H&R |
| A. Cherneik Insurance | D. Apothecary Center |
| B. Joseph Jewelers | 39. Uncle Bob's Self Storage |
| C. Panjabi Tadka Restaurant | 40. PVPC (Pioneer Valley Planning Commission) |
| D. Setar Restaurant | 41. Quality Medical & Physical Therapy |
| E. Luva Dining | 42. Budget La Quinta Hotel Rent-A-Car |
| 20. Commercial Building | 43. City Place Inn & Suites |
| A. Teresa's Southern Soul Food | 44. Senior Residential |
| B. New York Fired Chicken & Pizza | 45. Residential |
| C. Hampden Saving Bank | 46. Residential |
| D. Paramount Pizza | 47. Vacant Building |
| E. Board of Trading Block | 48. Gas Station |
| F. Graham's | |



General Assessment and Opportunities - Strengths to Build On

The Connecticut River Walk and Bikeway is the strongest asset at the Northgate. Recommendations:

- Provide more signage throughout area
- Improve feeling of safety by providing ample lighting
- Remove enclosing elements
- Remove unwanted invasives to increase habitat
- Increase connectivity from surrounding streets

There are traces of new art and culture that could enliven the district in the future. Recommendations:

- Expand exposure and provide greater canvas
- Designate Art District in the area

Strengths to Build On

- Riverfront and open space
- Diversity of buildings and history of site
- Existing medical and industrial land uses
- Existing vacant buildings and ample parking
- Union Station redesign/ increased accessibility to area
- Support for art community and increased residential use
- Proposed downtown MGM casino
- UMass Center at Springfield

Taking advantage of these opportunities will increase connection to place and build up local pride.



Design Proposals - Overview



G.A.T.E. Green Infrastructure. Art. TOD. Elasticity - A Gateway for a Sustainable Future in Springfield

Zhuoya Deng • Bin Liu

28-34

Northgate: History Informs the Future- Moving, Learning and Living in a Post Urban Renewal District

Ericka Duym • Wenjie Liu • Jason Yu

35-47



Reimagining the Northgate - Overcoming the Mistakes of Urban Renewal

Mohammed Abdelaal • Joe Larico • Tharyn Nein-Large

48-60

The Resilient City - Reclaiming the Legacy of Springfield, MA

Meilan Chen • Laura Keskula • Shu Liu

61-70



The Revitalized Northgate of Springfield by Design - Creating Room for People and Water

Junbo Zhang • Zhangkan Zhou

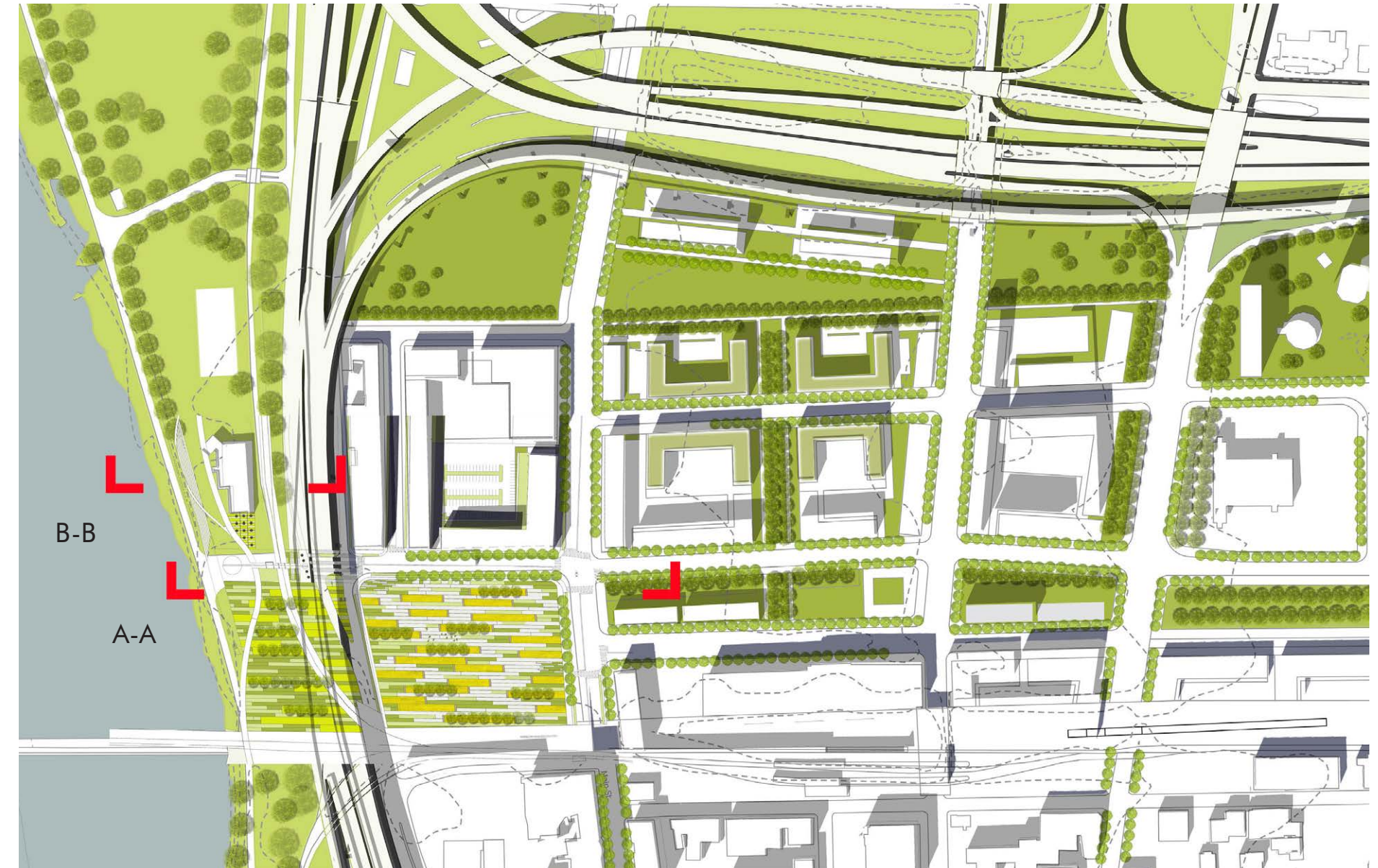
71-79

G.A.T. E. Green Infrastructure. Art. TOD. Elasticity - A Gateway for a Sustainable Future in Springfield

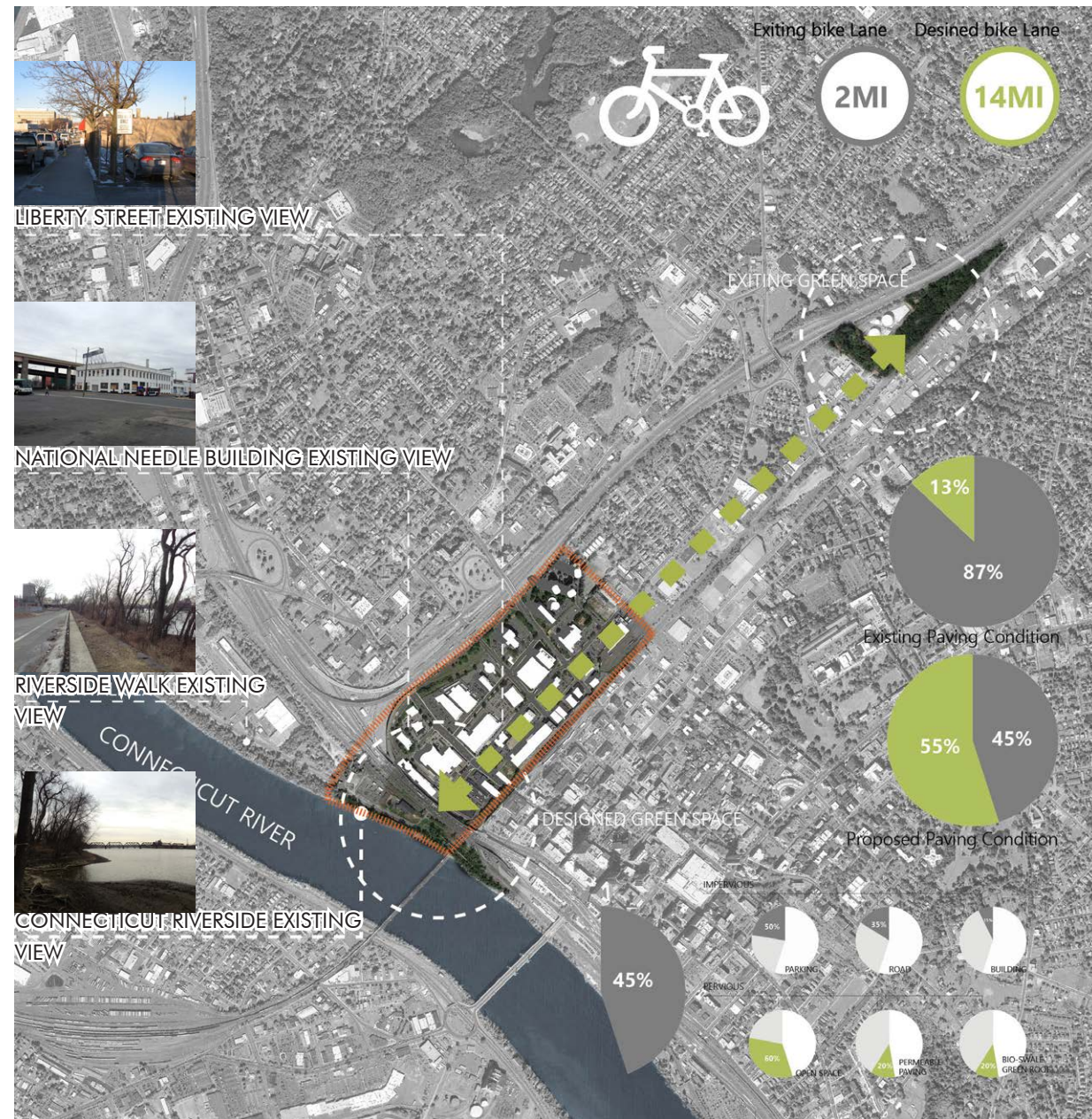
Project Statement

The Northgate is the area in Springfield between downtown and the North End neighborhood. After the urban renewal movement, the big and low story blocks replaced original building and this area lost its identity and be recognized as no man's land. The project rethinks

the urban renewal movement and apply the idea of green infrastructure and urban agriculture to create a more sustainable, friendly and appealing environment.



The Vision - The project preserves the important characteristics of the Springfield urban environment and, at the same time explores the new sustainable and diverse strategies to redefine the city of Springfield such as new green infrastructure and productive landscape, urban agriculture. The objectives will result in a more appealing place for people to visit and live and will revitalize this area with a new booming local economy.



Design concept plan with major interventions.

Background & Site Condition

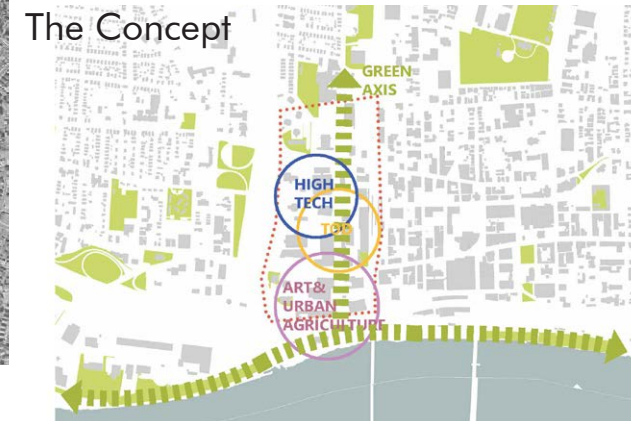
As a quite challenging site, Northgate is separated from the Connecticut River waterfront and Northend residential by the I-91 highway which is very unfriendly to the pedestrians; also the railway forms another edge between the site and Springfield downtown.

In this site, around 87% of the land is covered by impervious pavement, which is an important non-point pollution source and will greatly influence the quality of water flow into Connecticut River. Also the old city combined sewer overflow system keeps on dumping the untreated waste water into the river.

Without friendly walking environment and places to go, few pedestrians can be found during the day.

Because of the separation of I-91, the waterfront space is underutilized and the flood wall separates people and water. The space is not attractive.

The Concept



Concept

The Peter Pan bus station moves to the new Union Station and leaves one big lot that can be used for urban agriculture. This parcel will be designed for the new proposed art district and also a new type of productive urban landscape for people to visit and to educate them about food and nutrition.

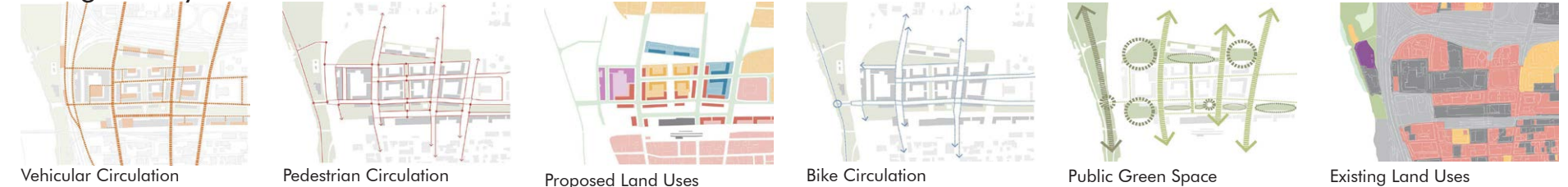
Goals and Objectives

1. Create an identity for each district in the Northgate.
2. Build new green connections within the existing green open space system.
3. Design legible places that people actively use and identify with.
4. Redesign new buildings that have a human scale and respond to the context.

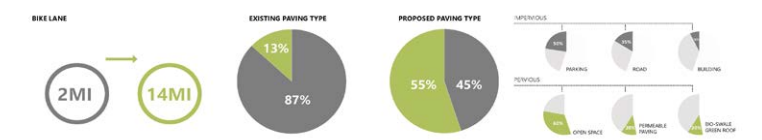
Phasing

This concept for redevelopment is guided by economic feasibility and improvement of ecological services. The project will be realized in three stages. The first stage is introducing art as the anchor to attract more people to come to this place. Preferred are the valuable historical buildings that provide ample room and an affordable resource for artists to have studios and exhibition spaces. Another important target in the first phase is the creation of a more pedestrian-friendly corridor under the I-91 highway to ease the strong edge between the Connecticut River waterfront. This is reinforced through the use of green infrastructure systems to build connections and strengthen the connection between art district and the riverfront. The second phase is utilizing Transit Oriented Development (T.O.D.) strategies with the rehabilitated Union Station as a catalyst. This includes developing mixed-use buildings combining commercial and residential uses. They will have easy access to the Union Station. The third stage is to create more chances for the medical industry to settle in the area. This sector will provide more job opportunities for surrounding residents.

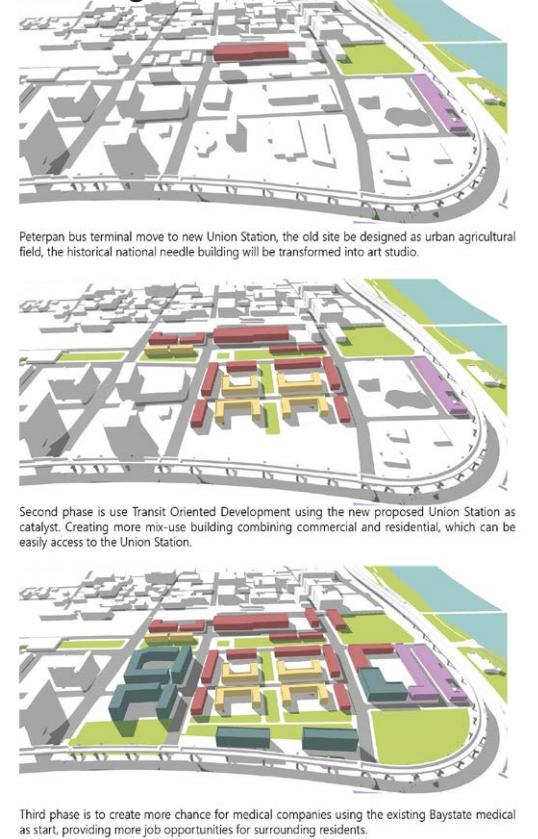
Design Analysis



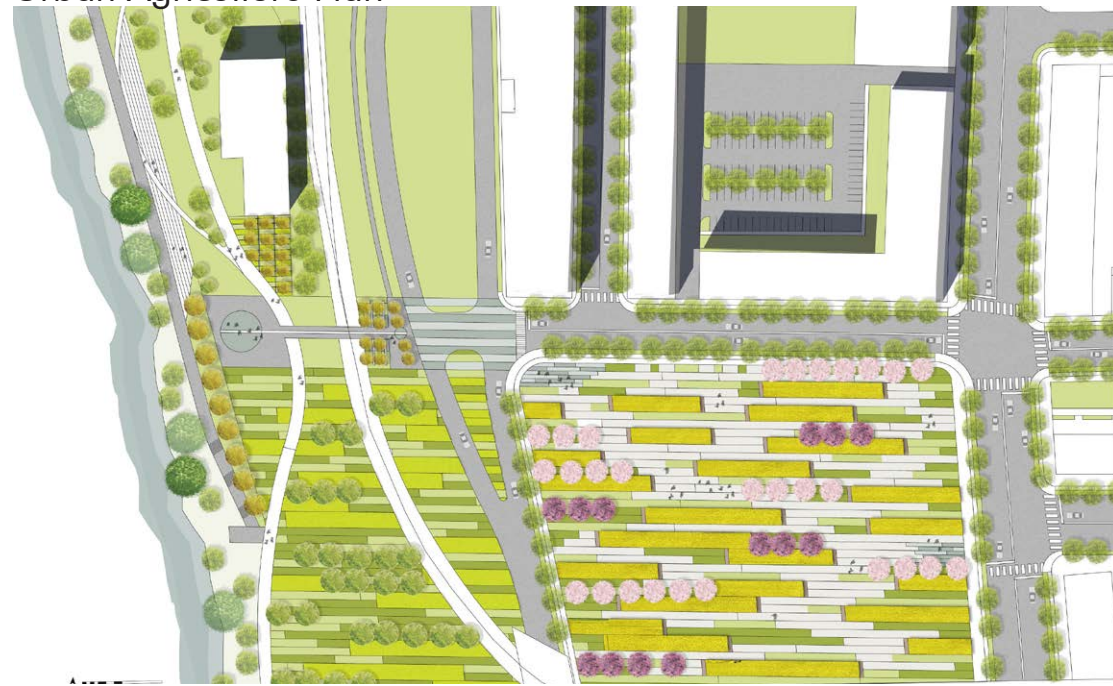
Proposed Building Types



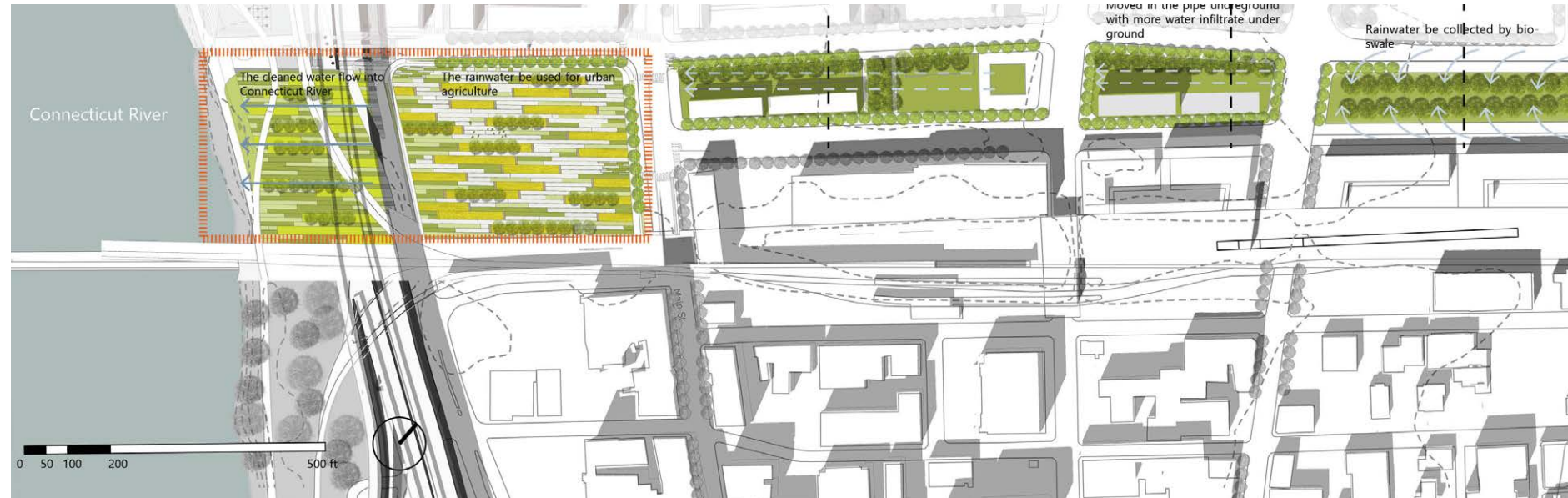
Phasing



Urban Agriculture Plan



Green Infrastructure Spaces



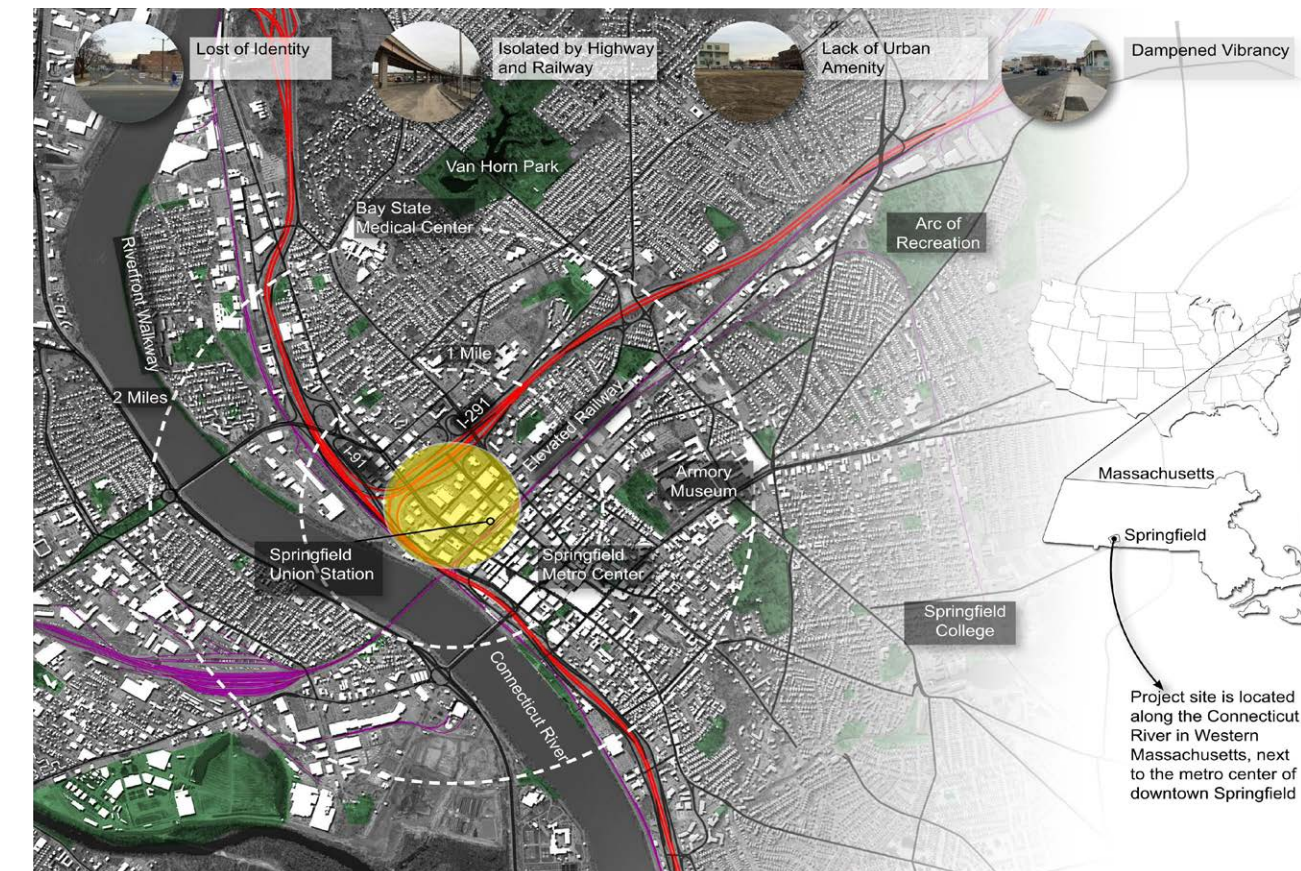
Art, urban agriculture and green connections are catalyzing the revitalization in the new district. - View of former Peter Pan Station from Main Street.



Project Statement

How can landscape architects learn from the history of their urban sites? How can the analysis of what "once was" play a role in framing the future? In many instances, a landscape has the ability to speak of its history to a larger audience through its character, ecology, human interaction, its magnificent tree specimens or its unique materials, all telling tales of a deeply rooted history. With urban renewal sites of the 1950's

and 1960's, cities were deprived of these tales and wide paths were paved for innovation, modern development, and the automobile. As the American city becomes increasingly popular for sustainable life, revisiting pre-renewal concepts in planning and design have become important precedents for study. This project seeks to revisit these precedents as building blocks for contemporary design, not just for the Northgate District and for the city of Springfield MA as a whole, but perhaps as a model for other post-industrial American cities.

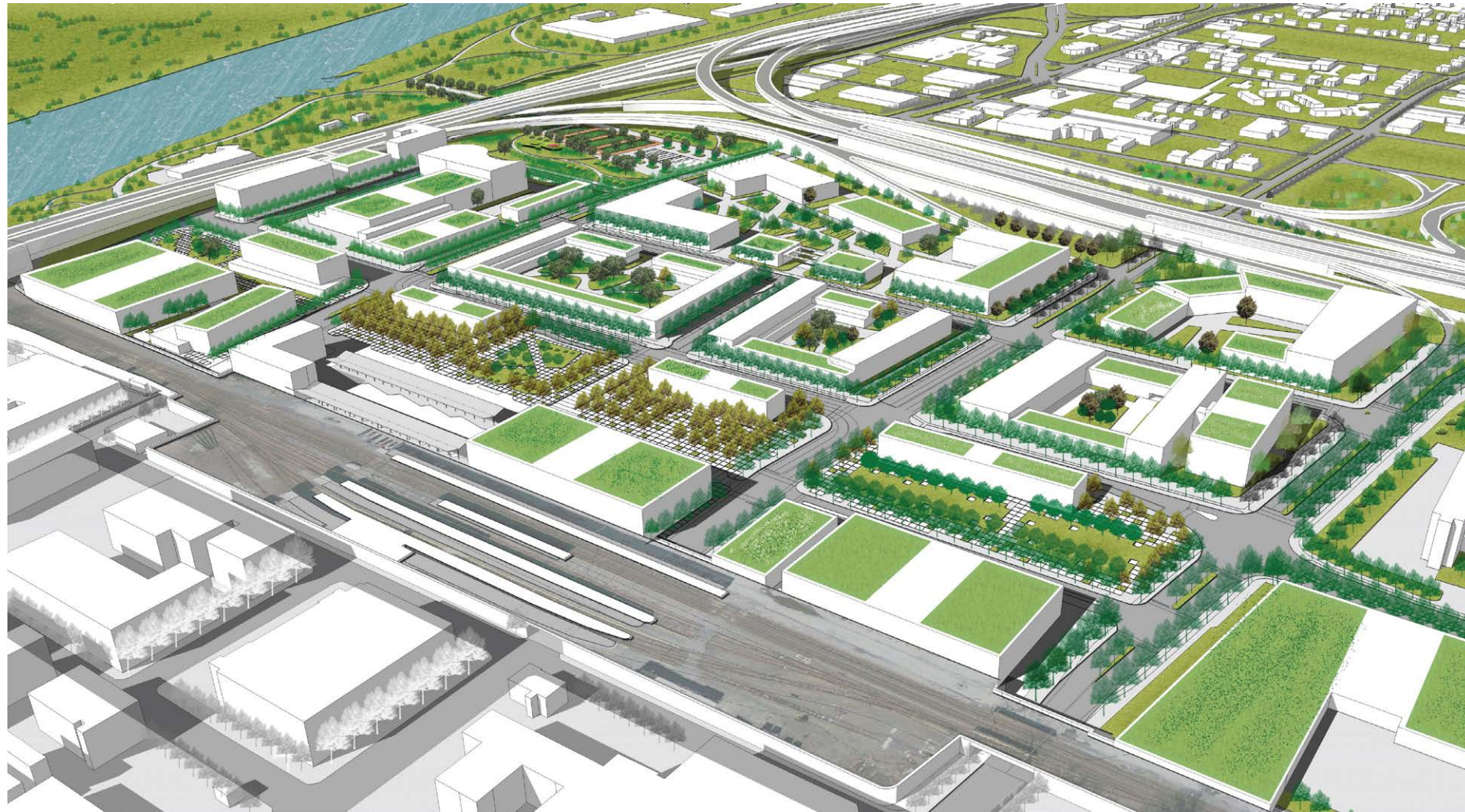


Context

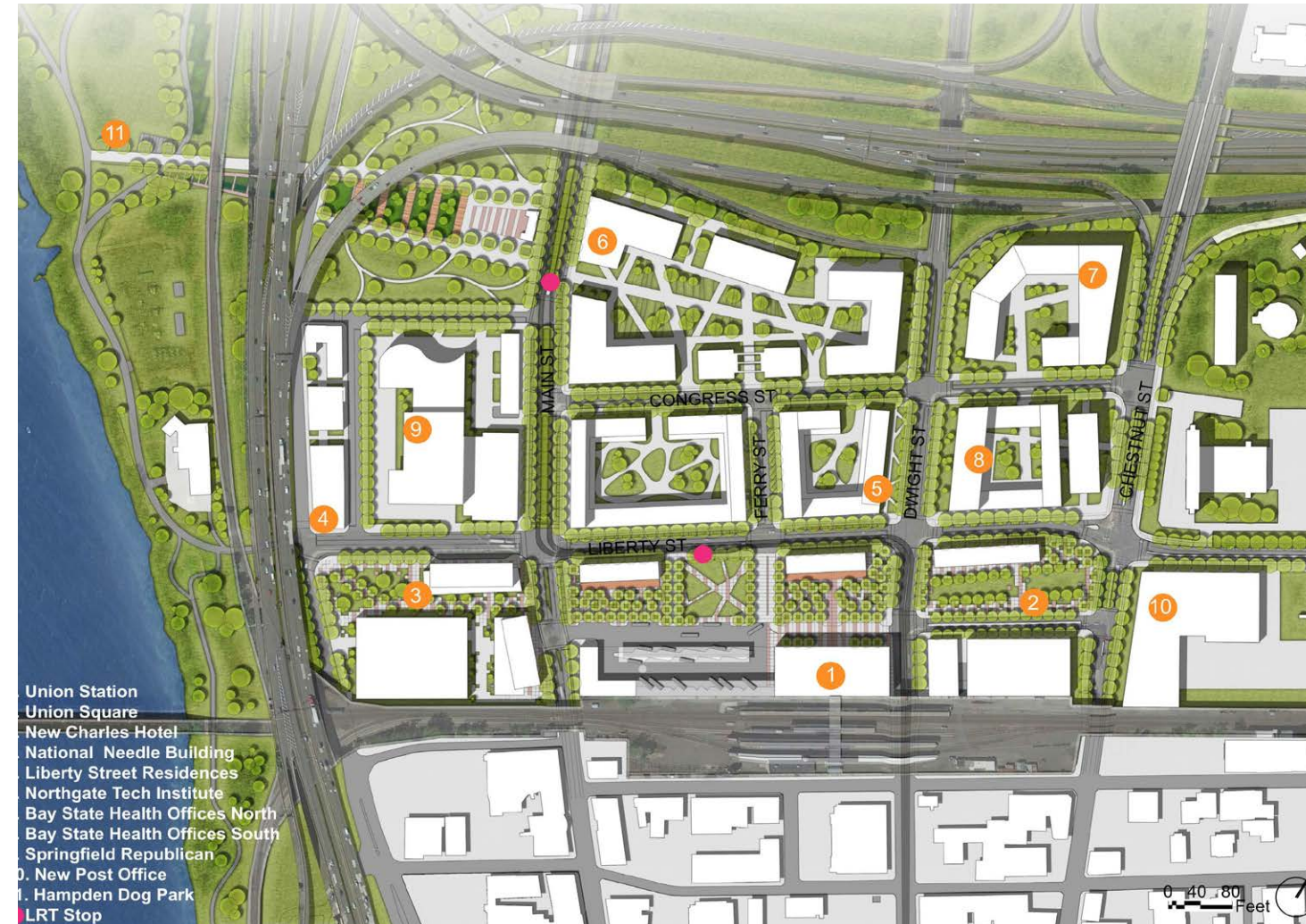
The "Northgate" of Springfield is situated along the Connecticut River in Western Massachusetts. Its centralized location along the North Eastern rail network gives it the potential for becoming a regional transportation hub.

Northgate: History Informs the Future- Moving, Learning and Living in a Post Urban Renewal District

Ericka Duym • Wenjie Liu • Jason Yu



Aerial View The social milieu of the district consists of young professionals, travelers, and long-time residents that recall a once vibrant transportation hub, and residential neighborhood.

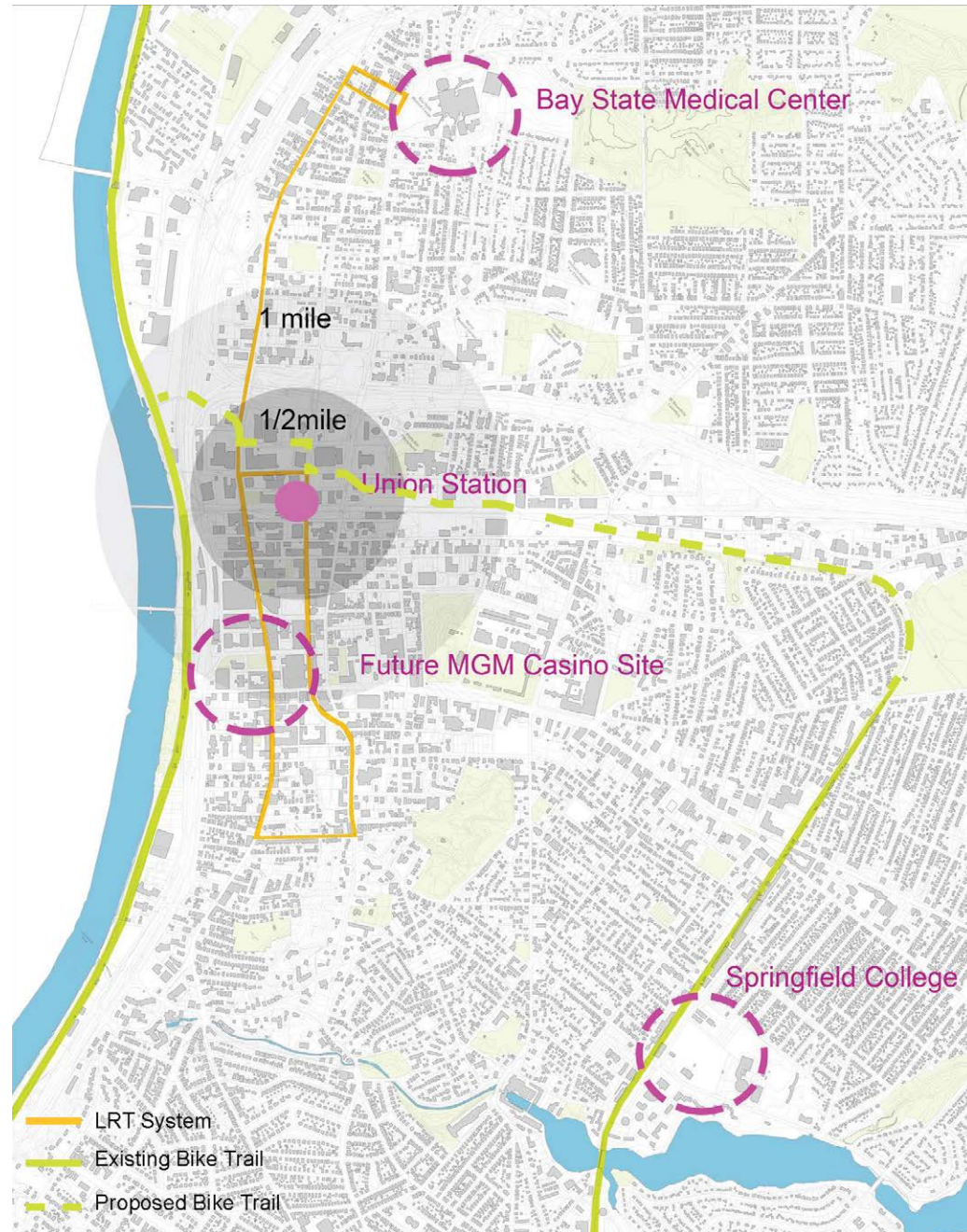


Master Plan

- I Luis met his wife during his schooling at the Northgate Tech Institute, and they now are hoping to open up a small business on Liberty Street.
- II Paul and Kristen both have jobs that keep them traveling-living near Union Station is an advantage!
- III Tony owns and operates his small automotive business and is keen on hiring UMass Springfield grads to help in his shop.
- IV Janeka-Professional artist seeking new studio space and adjacent outdoor display area at the National Needle Building.
- V Ret.Lt.Ed Dawes, recalls the day he stepped off of a train at Union Station upon returning home from WW2.
- VI Rebekah, hired as a nurse at Baystate takes full advantage of the Light Rail system for her commute from her home in the downtown.
- VII Sid and Vic, retired couple who enjoy biking from their home on Franklin street to the riverfront.
- VIII Students and Faculty at UMass Springfield Center are excited for new facilities on Congress Street.

Northgate: History Informs the Future- Moving, Learning and Living in a Post Urban Renewal District

Ericka Duym • Wenjie Liu • Jason Yu



Major Goals and Objectives

Inspired by memories of a once energetic, vibrant and well-connected industrial hub, this design proposal invites historic land use, pedestrian systems, and street rail back to the Northgate through contemporary reinterpretation.

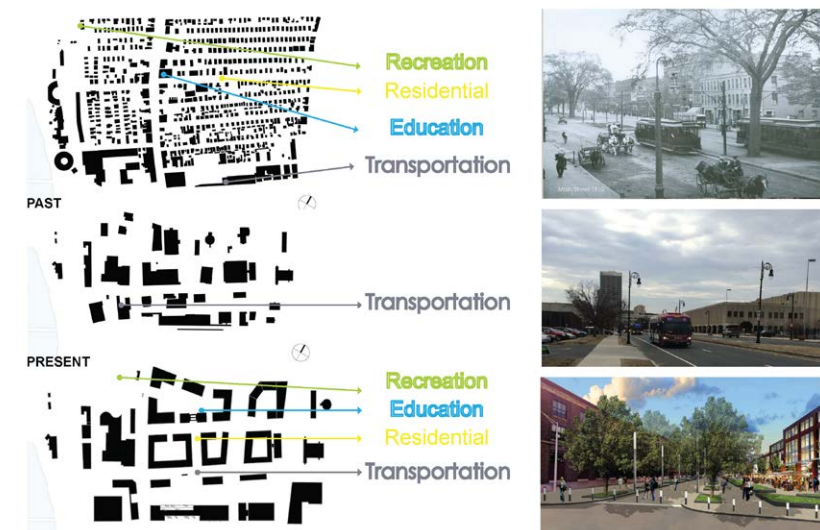
Key interventions include a proposed Street Car system, a redesigned public square and mixed-use residential blocks.

A core vision for this district is for the design, land use, and character to spark the rebirth of active urban life.

Past Industry



Future Industry



Site Potential

This site is capable of connecting the city by light rail, finishing the last portion of the Arc of Recreation, and revitalizing Union Station as a transportation hub for the greater region.

Early History Analysis

Residential, educational, and industrial land uses once dominated the landscape, and the Hampden Bicycle Park drew visitors to the site's once accessible riverfront.

Renewal History Analysis

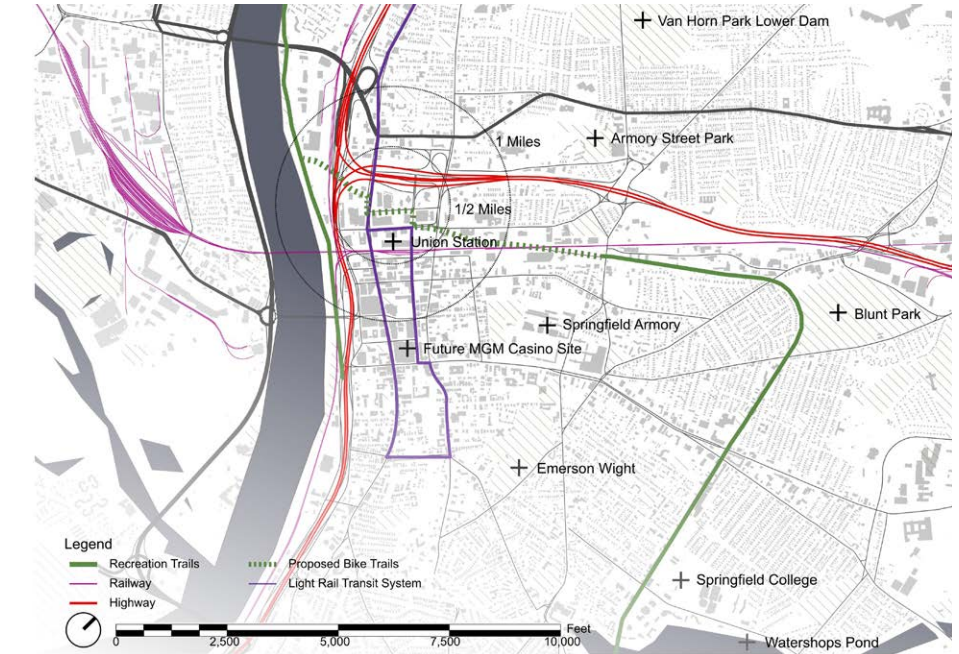
Residential, educational, and industrial land uses once dominated the landscape, and the Hampden Bicycle Park drew visitors to the site's once accessible riverfront.

Current Analysis

Population growth of the city has held steady, however industry and accessibility to open green space and amenity in the Northgate district have declined.

A History

The Springfield resident at the turn of the 19th century witnessed a vibrant Northgate, brimming with industrial activity, from passenger trains entering the Union Station on their way to Boston and Albany, to families traveling to and from work along Main street by trolley car, and visitors arriving by the hundreds from all over the world to witness bicycle races at the nearby Hampden Bicycle Park. The Northgate district was a clear gateway to the city, and a key stopover for those traveling regionally. As time progressed, and the automobile took precedent, urban renewal efforts altered the life and fabric of the Northgate, disconnecting its residents from their riverfront, demolishing their homes for interstate systems, and restructuring its once active main street into a wide, cumbersome scale. As a current living proof of urban renewal efforts of the American Industrial city, the district stands as a clear urban cultural landscape telling the story of change, renewal and rebirth.



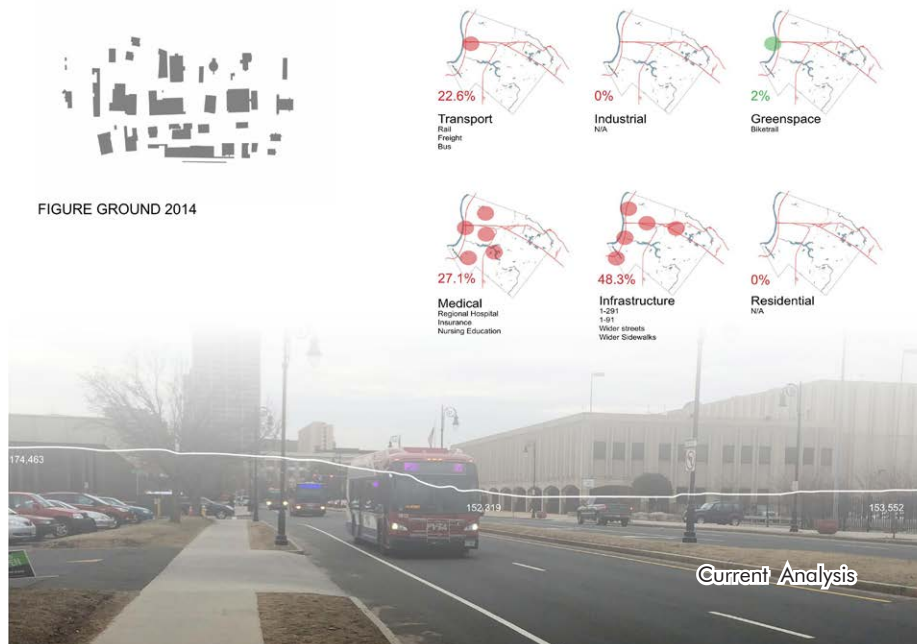
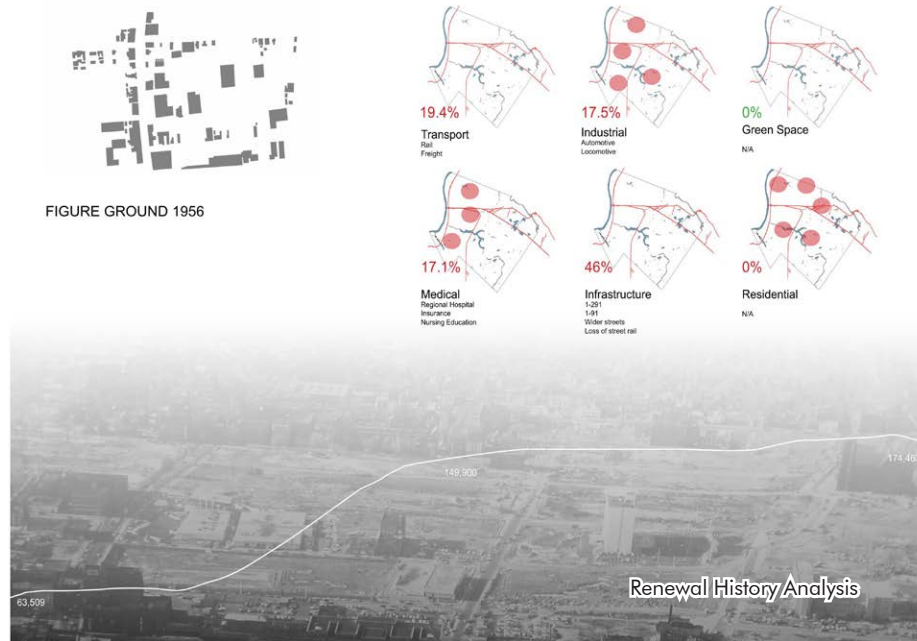
Northgate: History Informs the Future- Moving, Learning and Living in a Post Urban Renewal District

A Disconnect

The Northgate District of Springfield is commonly referred to as “no-mans land”, and is generally thought of as a pass-through from the northern residential areas, to the metro center to the south. Although plagued by a lack of character, a wide urban grain unlike its surroundings, and a severed connection to its riverfront, the Northgate has the strong advantage of becoming the key gateway for travelers, commuters, and residents entering the city by bus, train, car, and bike. Users of the site are primarily employees (of about 1,000), and patrons of the rail and bus lines. Elements that support a disconnect are as follows:

- Severed connection to the Connecticut River. 1950’s construction of I-91 and 291 displaced 1200 homes, dozens of businesses, and activities that linked the city to its riverfront and the North End.
- Unmatched urban grain. When traveling north from the Metro center, one passes through several stately granite tunnels, brimming with history, leaving a narrowed urban metro center behind, and arriving into the Northgate, where wide setbacks, low buildings, and pavement dominate the experience.
- Weakened regional connectivity. The Northgate has a rich history in providing Springfield with the reputation of being a key rail hub between Boston and Albany with the presence of Union Station. At the height of activity in 1925, nearly 1,400 traffic movements occurred at Union Station, compared to only approximately 200 currently. Developments for revitalizing the Station are underway, and may provide a catalyst for future urban activity.

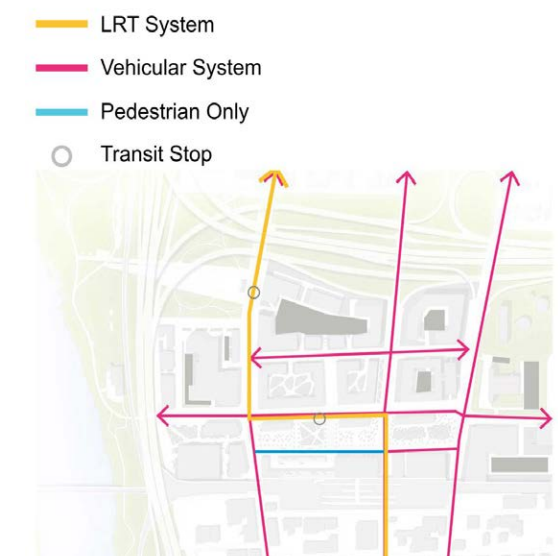
- A First Look. This analysis, concept process, and design integration comes at a time when the City of Springfield has just begun to look at the wider context of the Northgate, and how its programming as a district may add to Union Station, and to the city as a whole. Officials from city planning and redevelopment offices have provided feedback and encouragement during the analysis and planning. Results from this work will aid in shaping the direction of current plans and development.



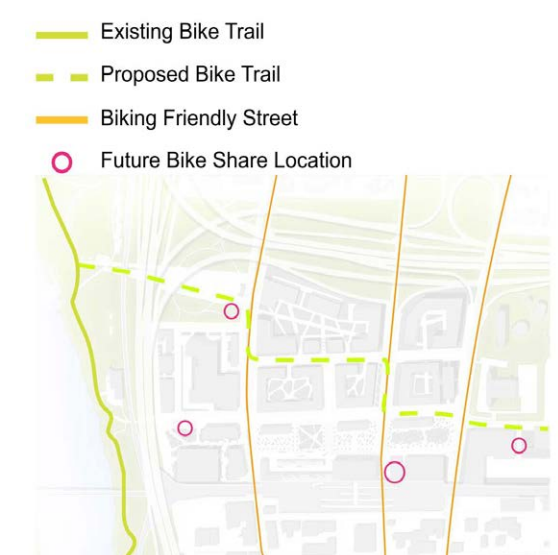
Concept Transition and Framework



Stormwater Management



Transportation System



Bike Trail System

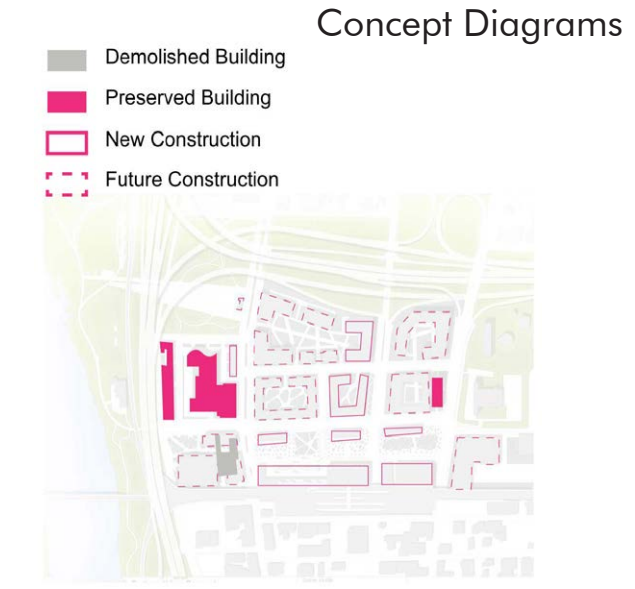
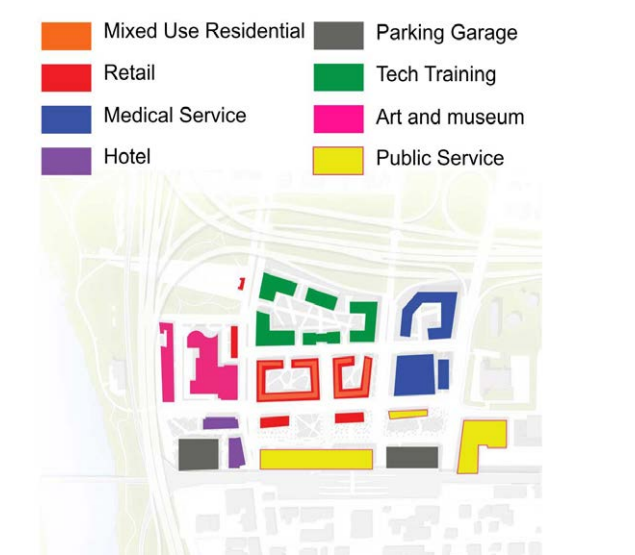


Figure Ground



Land Use

Concept Diagrams

Northgate: History Informs the Future- Moving, Learning and Living in a Post Urban Renewal District

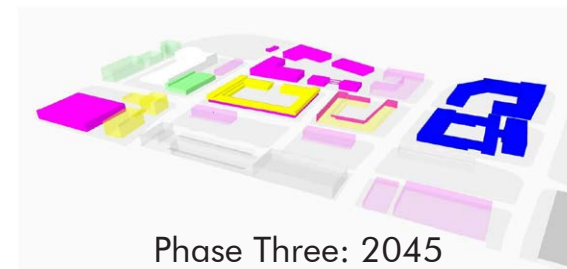
Development Statistics & Phasing:



Regional Ridership		
Local Ridership		
Residential	0 Units	
Art/Cultural Events	5 Events	
Retail/Commercial	22,146 SF	
Institutional	71,522 SF	
Healthcare	248,404 SF	



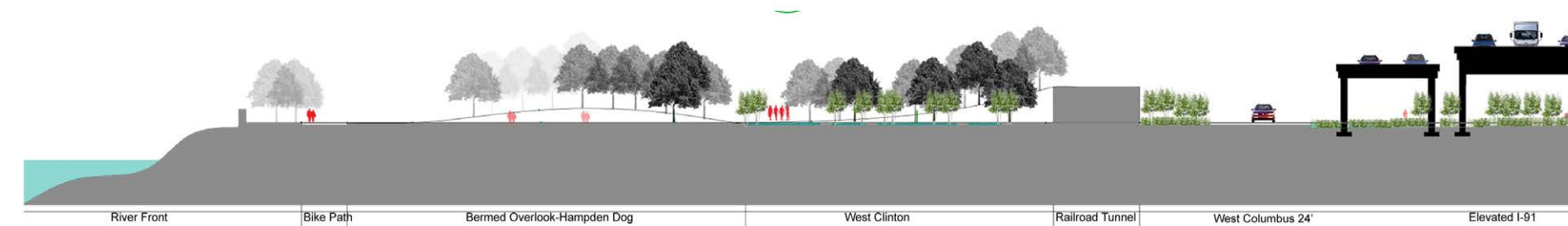
Regional Ridership		
Local Ridership		
Residential	32 Units	
Art/Cultural Events	28 Events	
Retail/Commercial	65,744 SF	
Institutional	234,046 SF	
Healthcare	355,039 SF	



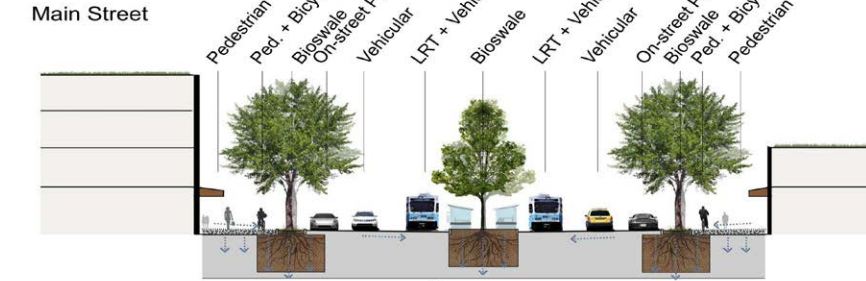
Regional Ridership		
Local Ridership		
Residential	80 Units	
Art/Cultural Events	57 Events	
Retail/Commercial	109,346 SF	
Institutional	542,702 SF	
Healthcare	420,399 SF	

Phasing

The phasing scheme for this design centers heavily around the development of Union Station, and the growth of the health care industry. Phase one sees infrastructure upgrades, and the installation of the Light Rail system.



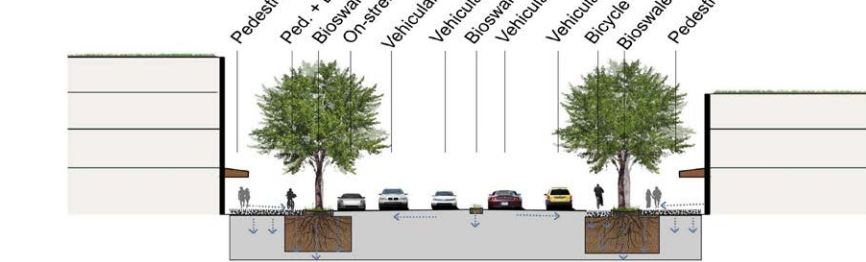
STREET HIERARCHY



Main Street with Original Tunnel



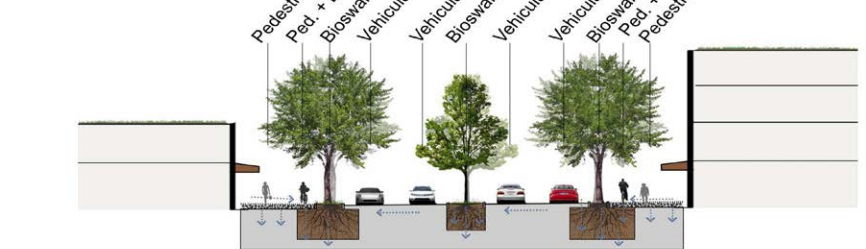
Dwight Street



Dwight Street with Revised Tunnel



Chestnut Street



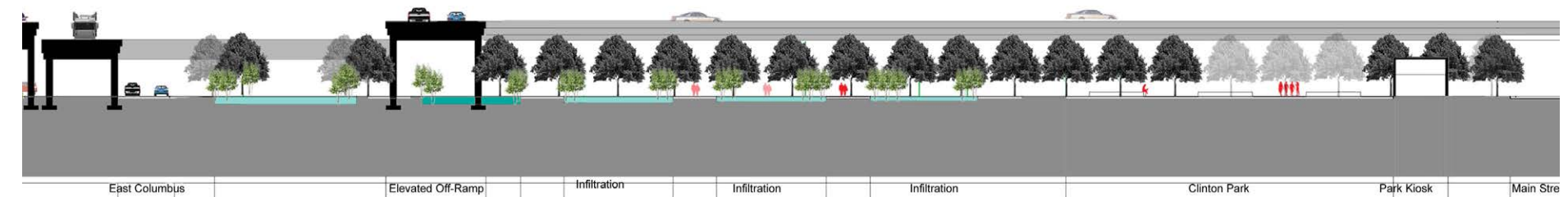
Chestnut Street with Revised Tunnel



Ericka Duym • Wenjie Liu • Jason Yu

Street Hierarchy

Re-dimension the streets and add more forms of sustainable transportation methods. Chestnut street remains an automotive friendly corridor, streets near Union Station become tailored to the flow of pedestrian traffic, and the bicycle. Main Street reclaims its wide median, incorporating a light rail stop, and grand street trees.



Northgate: History Informs the Future- Moving, Learning and Living in a Post Urban Renewal District

An Impaired Ecology

82% of the Northgate is covered by impervious surface, making it the dominant form of impairment of the Northgate's ecology. In addition to this, two Combined Sewer Overflows are located along the rivers edge, discharging directly into the Connecticut from the Northgate. Intersecting runoff from the over-dimensioned roads, parking lots and elevated highways becomes crucial towards this design. Collection occurs along Chestnut, Dwight, and Liberty Street, with infiltration occurring along the historic Clinton passageway to the river. Tree canopy is extremely weak within the Northgate District, and combined with an excessive amount of pavement, heat island effects are greater. A solution made for this is to reduce dimensions of both Chestnut and Dwight Street, and adding buffered vegetation strips. The district also suffers from over-use of the automobile. Sustainable forms of transportation such as biking and walking are obsolete from the current area. Only two percent of Springfield's workforce uses public transport as means for travel, and the walkability of the site is poor. Taking advantage of low-impact transport, such as electric street rail would greatly reduce the number of automobiles, and increase public transit ridership, as well as connect the district to key areas throughout the city.

A Design

The overall design for this project is centered with historically significant land uses, and transportation systems. An analysis of Northgate's functions at the turn of the century lead to informed decisions that many of its previous elements can be reintroduced as contemporary program elements, of which will aid in propelling Springfield forward economically, culturally, and environmentally. The reintroduction of street rail to the Main, Liberty and Dwight streets reconnects the Northgate to both the metro downtown, as well as areas in the north end, such as Bay State Medical Center, and residential neighborhoods. This plan incorporates storm water management and gradual infiltration along the once Clinton Street passage to the river and Hampden Dog Park/Interpretive Loop. Utilizing historic patterns of circulation, while incorporating modern infrastructure practices not only allows the public the more connection to regional recreation, but also guides them through the history of Urban Renewal, and industrialization.

This site has the potential to become both an amenity district, and a gateway for the city as a whole, and a feasible area for multi-unit housing and mixed-use buildings.

Development Statistics & Phasing:

Transportation/
Connectivity



Union Station Hub
-Regional Transport
-Multi-modal



Light Rail
-Connect districts
-Cleaner transport



Bike Lanes
-Promote recreation
-Cleaner transport



Street Hierarchy
-Cars VS. People
-People VS. Cars

Residential/
Community



Housing
-Condominiums/
multi-unit
-City housing
demand



Retail
-Create Jobs
-Add amenities



Art District
-Reuse buildings
-Promote creativity



Community Spaces
-Engage residents
-Indoor/Outdoor

Education/
Industry



School
-Educate the work-
force
-Historic land use



Office
-Medical industry
growth
-Reinforce industry



Hotel
-Historic land use
-Growth of visitation



Services
-Add amenity
-Ease of access

Ericka Duym • Wenjie Liu • Jason Yu

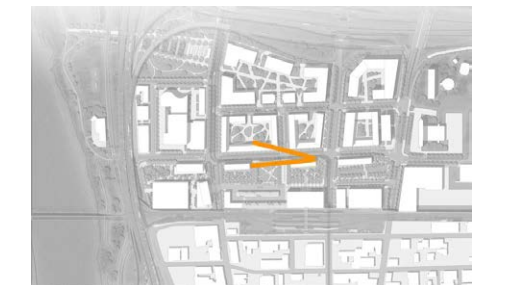
An Afternoon at Union Station

Once seeing nearly 1500 traffic transactions daily, the Union Station in Northgate will once again serve the city and the greater region with rail and bus transit.



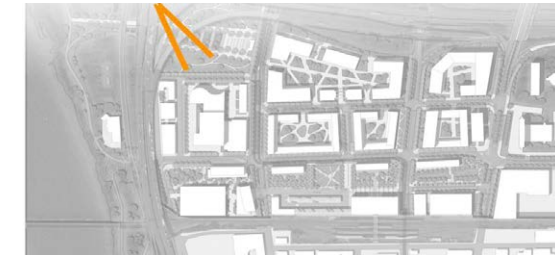
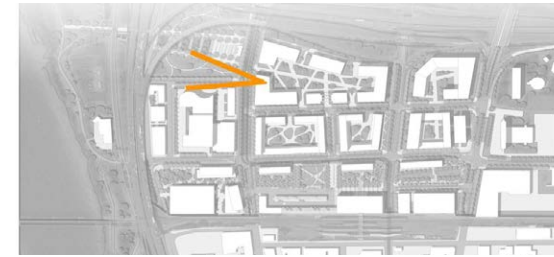
Life on Liberty Street

The street will incorporate bus, light rail, traditional vehicular, bike and pedestrian traffic. With mixed use residential and retail buildings, the area once again becomes a vibrant entry to Union Station.



Northgate: History Informs the Future- Moving, Learning and Living in a Post Urban Renewal District
Clinton Underpass Park

Erica Duym • Wenjie Liu • Jason Yu
Utilizing an Underpass



A creative alternative for a park on the Main street that uses the historic Clinton street as the primary route to the riverfront.



Connecting to the district's riverfront becomes a challenge of navigating infrastructure, both rail and highway. Taking advantage of underutilized space beneath Interstate 91 creatively invites historic Clinton Street back into the program and allows for direction of storm water.

Reimagining Northgate - Overcoming the Mistakes of Urban Renewal

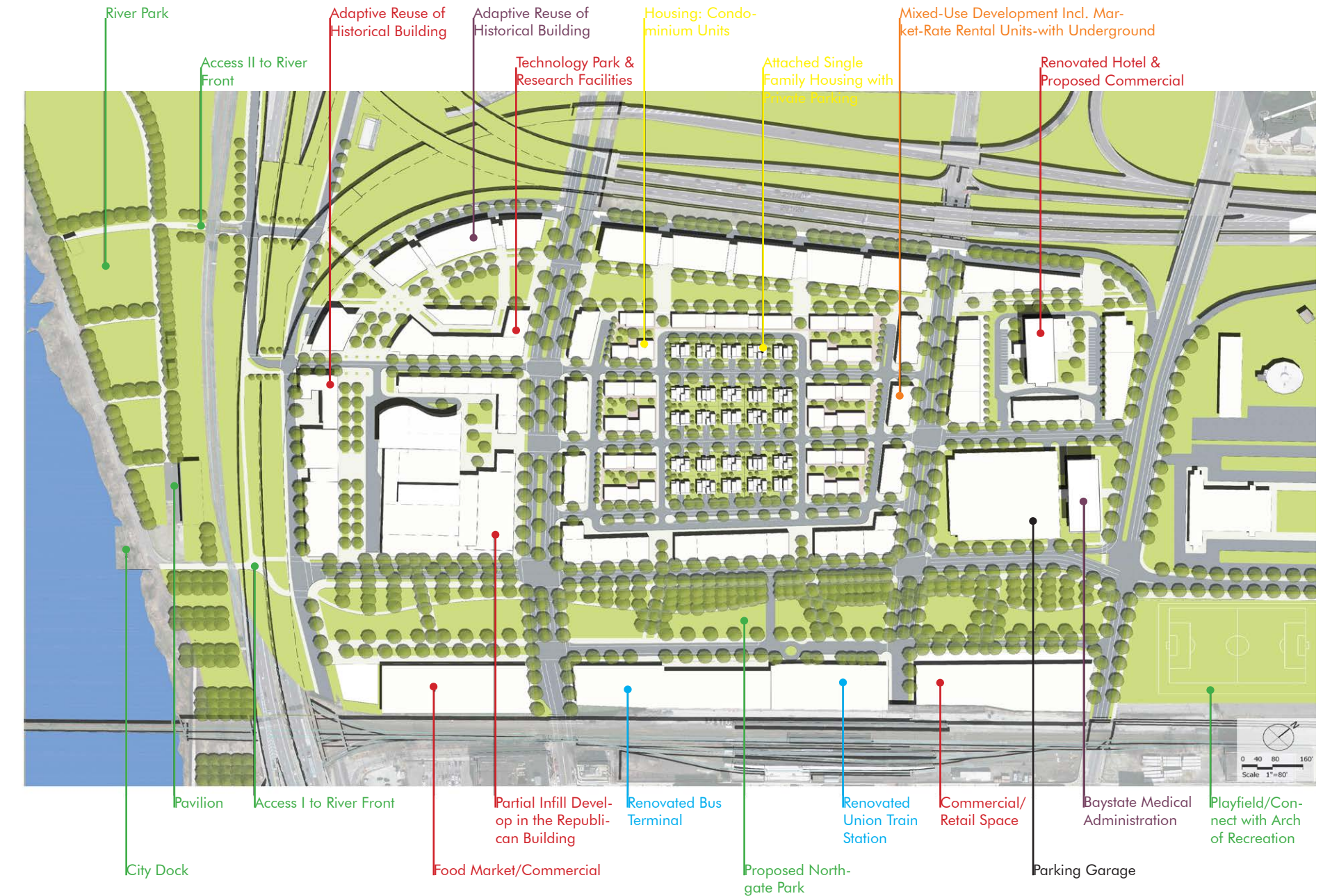
Project Statement:

The vision for the Northgate is to create a sustainable multi-use district to rehabilitate the area, introduce new business as well as green infrastructure to assist in water management and facilitate increased pedestrian use.

The vision includes connectivity to the river via a new park system, and the utilization of local public transit opportunities. It takes an under-utilized site and makes it an amenity for the whole city.



Mohammed Abdelaal • Joe Larico • Tharyn Nein-Large



Reimagining Northgate - Overcoming the Mistakes of Urban Renewal



Context

The Northgate is located just north of Downtown Springfield Massachusetts. It is located between the Connecticut River Walk and Bikeway as well as the Arc of Recreation, an abandoned rail trail to the east.

The Site

- In the 1950's and 60's the Northgate area of Springfield was altered forever by the Urban Renewal Movement.
- Hundreds of residential buildings were demolished and streets removed to make way for super-blocks to accommodate large scale industrial and commercial development.
- Interstates 91 and 291 were built shortly thereafter effectively and the highway continues to be a barrier to the river.
- Parking lots and other impermeable structures dominate the landscape.

Introduction

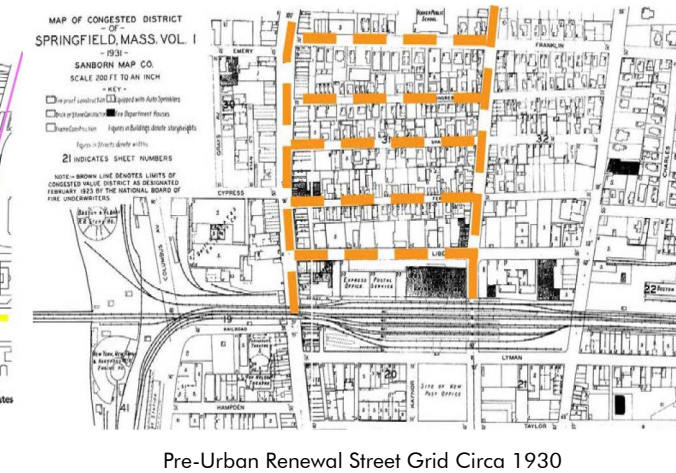
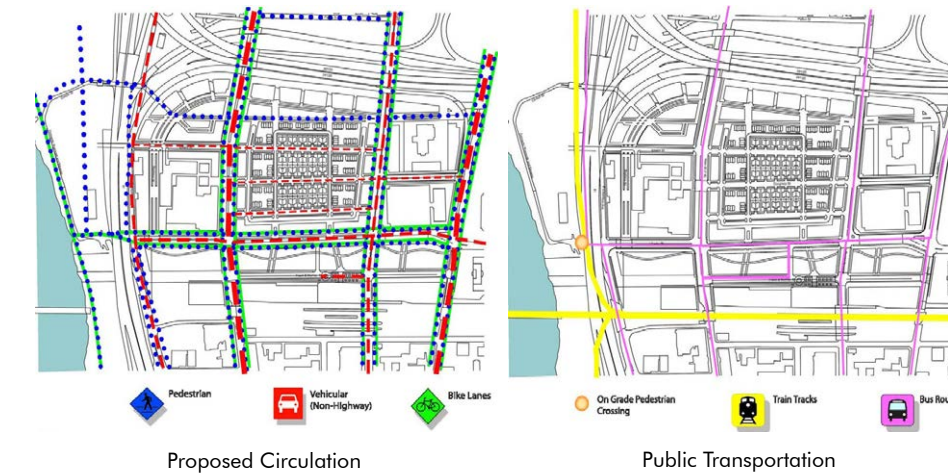
In the 1950's and 60's the Northgate was altered forever by the Urban Renewal movement, at which time hundreds of residential buildings were demolished, and streets removed to make way for super-blocks to accommodate large scale industrial and commercial enterprises. Interstates 91 and 291 were built shortly thereafter effectively cutting the city off from the Connecticut River, and isolating the Northgate area from downtown and the north end.

Today the Northgate is not the industrial center it was intended and the highway continues to be a barrier to the river. Parking lots and other impermeable structures dominate the landscape. Be it poor planning, or a lack of economic stability in the years following, initial concepts for the site were never realized. Instead of a flourishing industrial and commercial center for the city of Springfield, the result has largely been a hodge-podge of building uses from medical offices, to a post office, and The Republican newspaper.

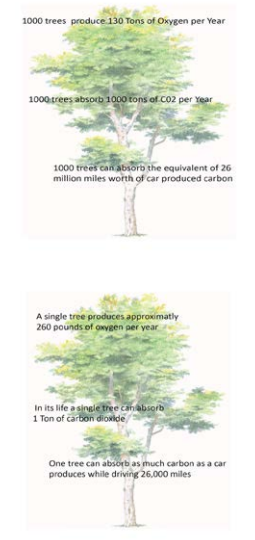
The entire site is largely paved, and no pervasive style dominates the area. In addition to an overabundance of parking lots, there are large irregular setbacks of the buildings from the road, as well as a serious lack of street trees, creating an open, exposed feeling for pedestrians. There are also a number of abandoned, largely empty, or soon to be vacated buildings on the site.

Overall the site lacks character and amenity that might identify the area as unique to Springfield. We consider the current state of the site to be the result of mistakes from the past that we wish to rectify in our design. The Northgate area of Springfield is located between the downtown city center and the North End. It is a site with strongly defined edges. The Northgate is largely overlooked by much of the city's residents, and in need of revitalization.

Some of the advantages of the site are the location of the Peter Pan Bus terminal as well as Union Station which will be undergoing a \$75+ million restoration in the coming year consolidating the two into a large multi-modal center for the city. When combined with regular commuter travel, hundreds of people pass through the site each day. There are possible connections to the Arc of Recreation (an abandoned rail trail) to the east of the site and an on grade train crossing located at the west end of Liberty St. that leads to an existing trail system along the Connecticut River. The Northgate is also centrally located to many of the larger employers in Springfield. To reestablish a residential component to the site we referred to the per-urban renewal street grid. The smaller blocks makes for a more pedestrian friendly experience for the new mixed use neighborhood. Commuting options make Northgate attractive for residential development.



Mohammed Abdelal • Joe Larico • Tharyn Nein-Large

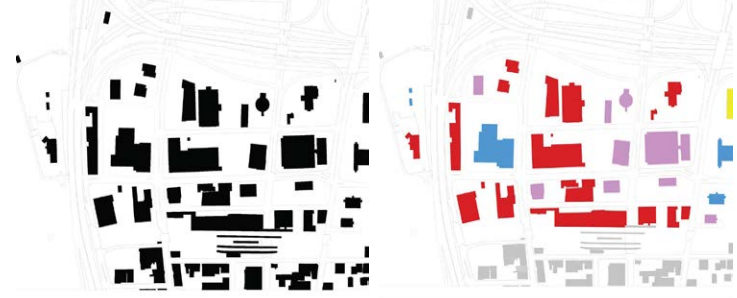


- 7.3 Acres of Proposed Park
- 69% of Market for Housing are Younger Singles and Couples
- 90% Existing Impervious Surface
- 1969-Median Built Year of Houses in Springfield



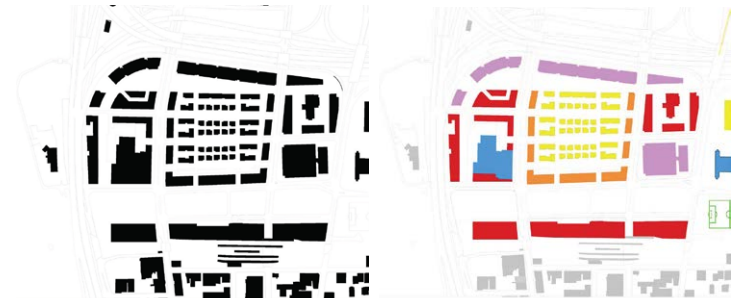
Reimagining Northgate - Overcoming the Mistakes of Urban Renewal

Land Use/Figure-Ground Diagrams:



Existing Figure Ground

Existing Land-Use



Proposed Figure Ground

Proposed Land-Use

Land Use/Figure-Ground Diagrams:



Existing

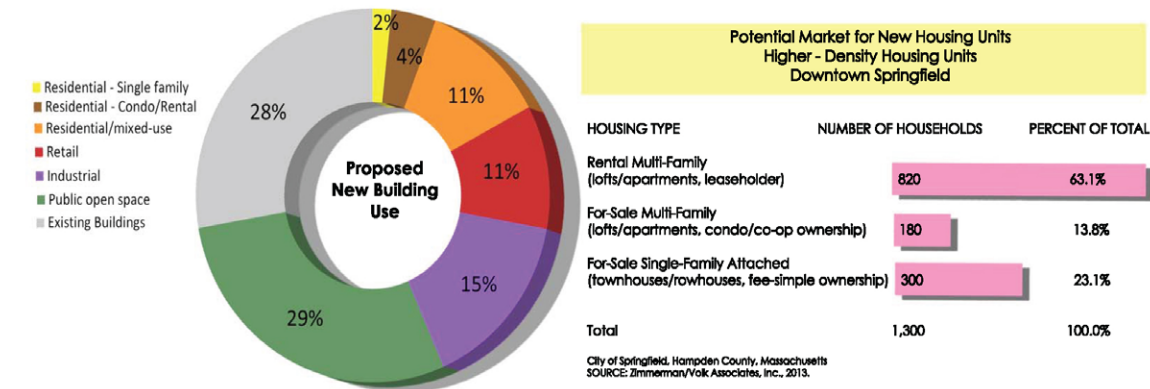
Phase 1

Phase 2

Phase 3

The Vision

- To establish a new park system that makes connections between Northgate and Union Station, to the river and current recreation networks.
- To Reestablish a mixed use residential area based on the pre-urban renewal street grid.
- To overcome the mistakes of the past, the vision for the Northgate area of Springfield is to rehabilitate the area and introduce new business, but green infrastructure as well, to assist in water management and facilitate increase pedestrian use.
- The vision includes added connectivity to the river, as well as reinforcing the "gateway" as a threshold and entrance between districts. Attractions must be created to take advantage of the volume of passers through.



Mohammed Abdelaal • Joe Larico • Tharyn Nein-Large

Main Uses and Typologies



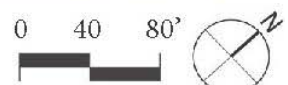
Proposed Commercial Space

Mixed-Use Development Incl. Market-Rate Rental Units-with Underground Parking

Housing: Condominium Units

Attached Single Family Housing with Private Parking

Research/Lab. Facilities

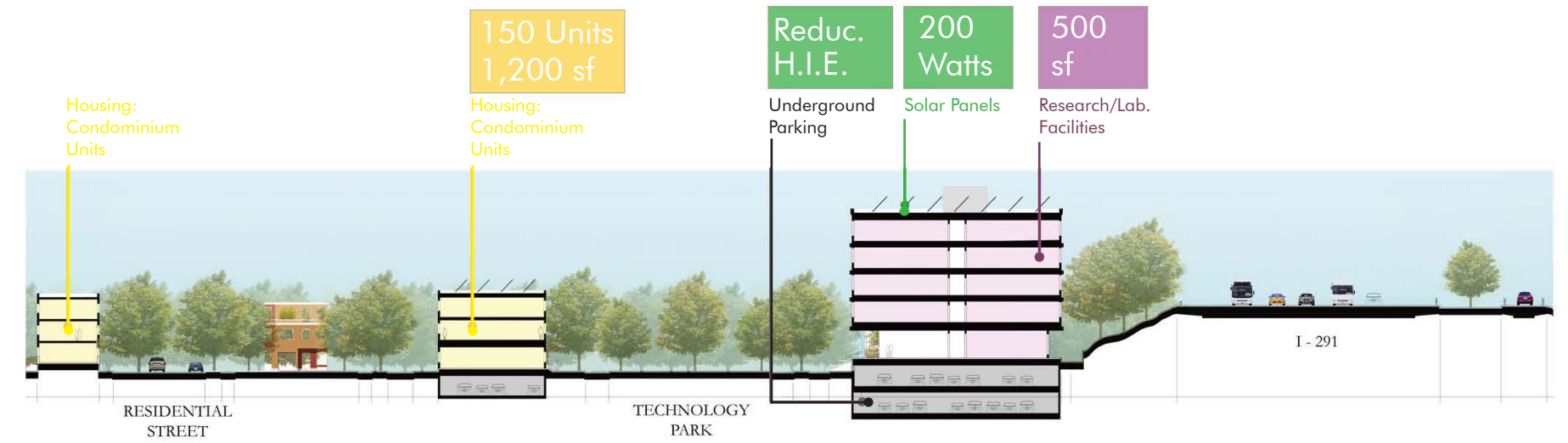


Reimagining Northgate - Overcoming the Mistakes of Urban Renewal

Mohammed Abdelaal • Joe Larico • Tharyn Nein-Large

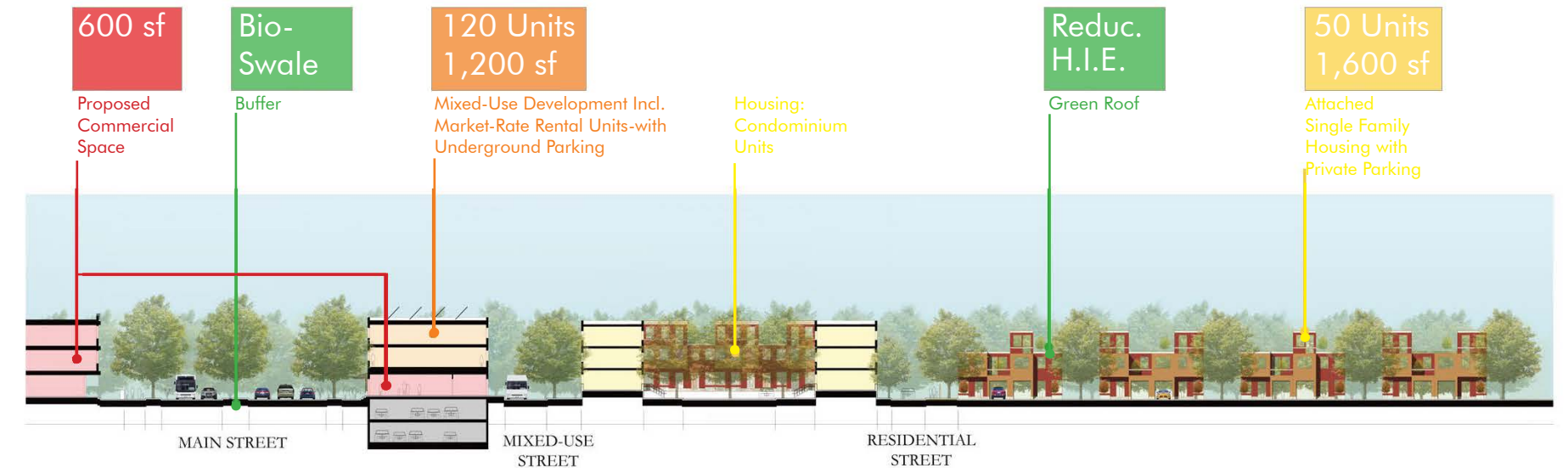


Research/Lab. Facilities Proposed Commercial Space Housing: Condominium Units Attached Single Family Housing with Private Parking Mixed-Use Development Incl. Market-Rate Rental Units with Underground Parking



Section A-A

0 10 20 40'



Section B-B

0 10 20 40'

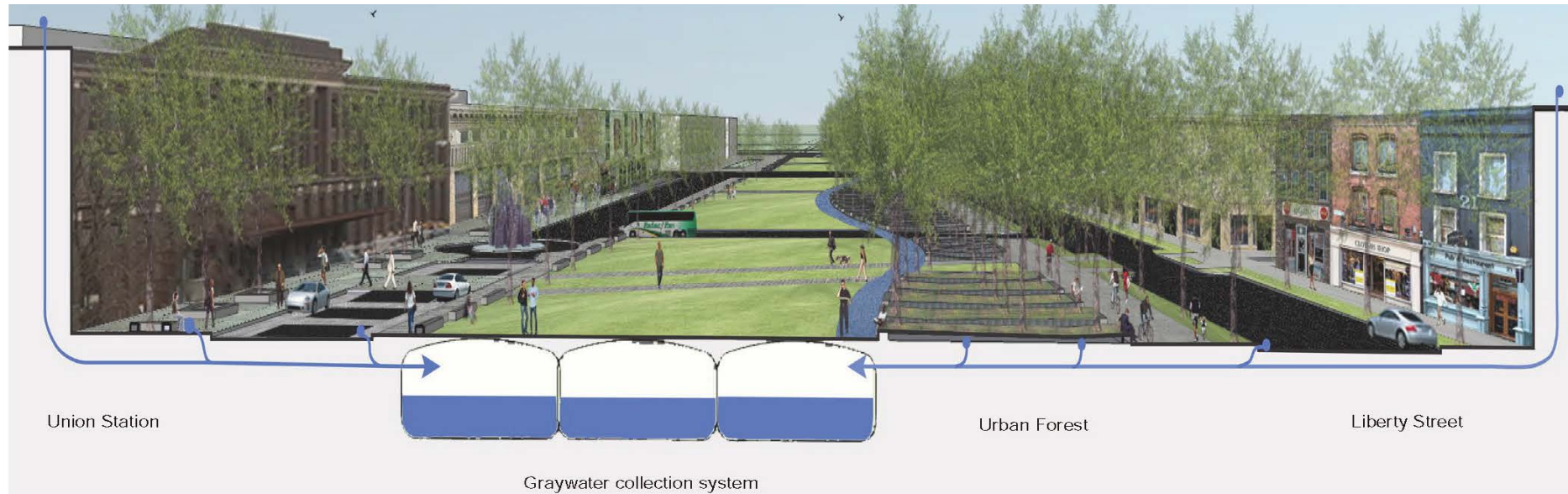
Reimagining Northgate - Overcoming the Mistakes of Urban Renewal

Mohammed Abdelaal • Joe Larico • Tharyn Nein-Large

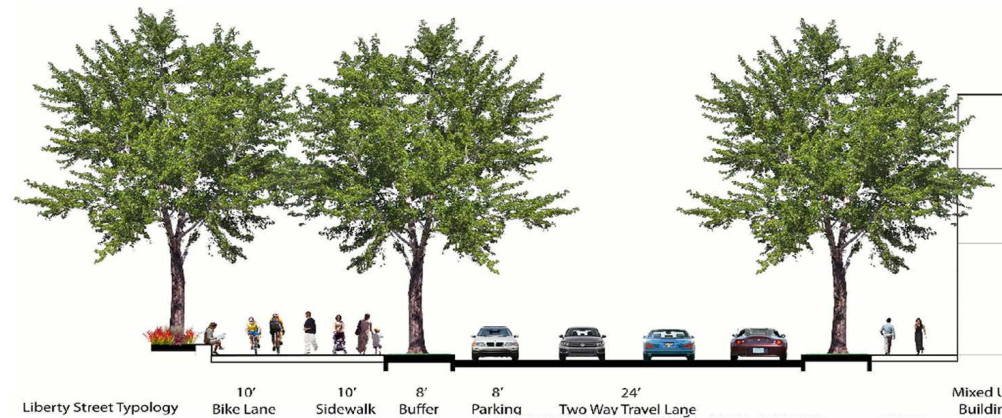
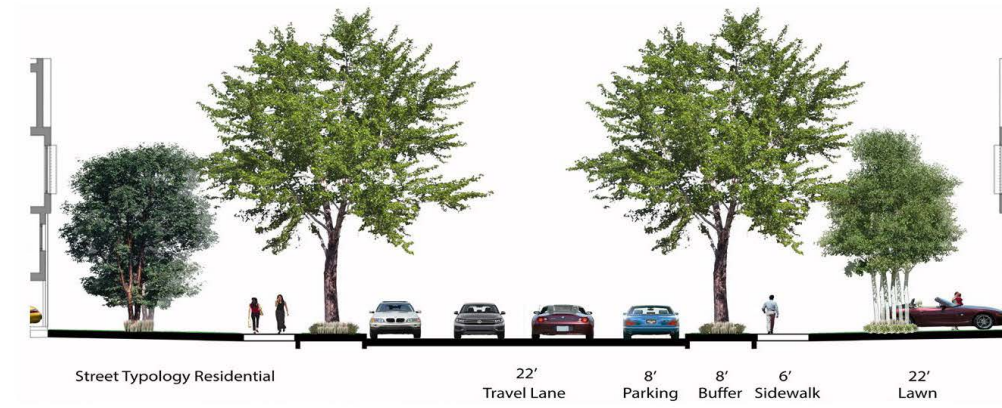
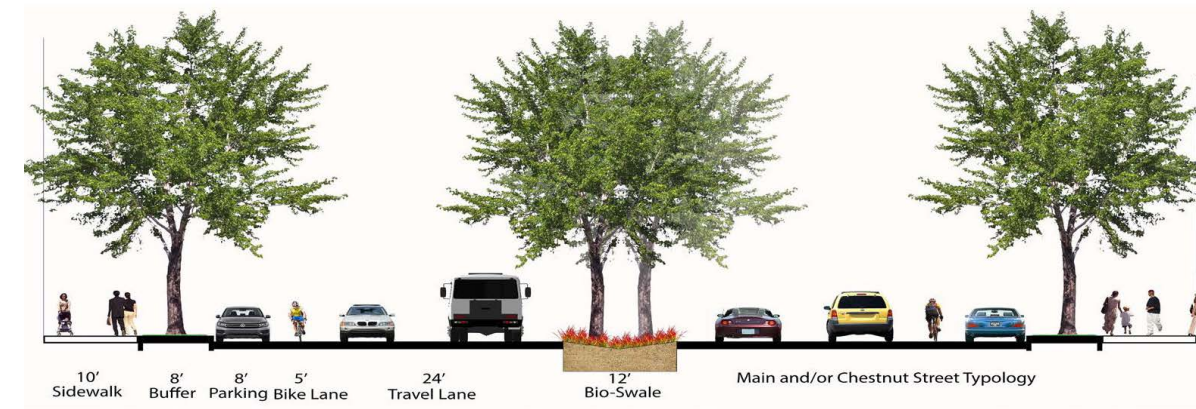


Housing: Condominium Units
 New Pedestrian Friendly Streets
 Attached Single Family Housing with Private Parking
 Shared Residential Back-Yard
 Green Roof

A proposed new type of housing/neighborhood that captures history, contemporary, dense, pedestrian friendly, sustainable in terms of design/economy, and with sufficient green infrastructure.

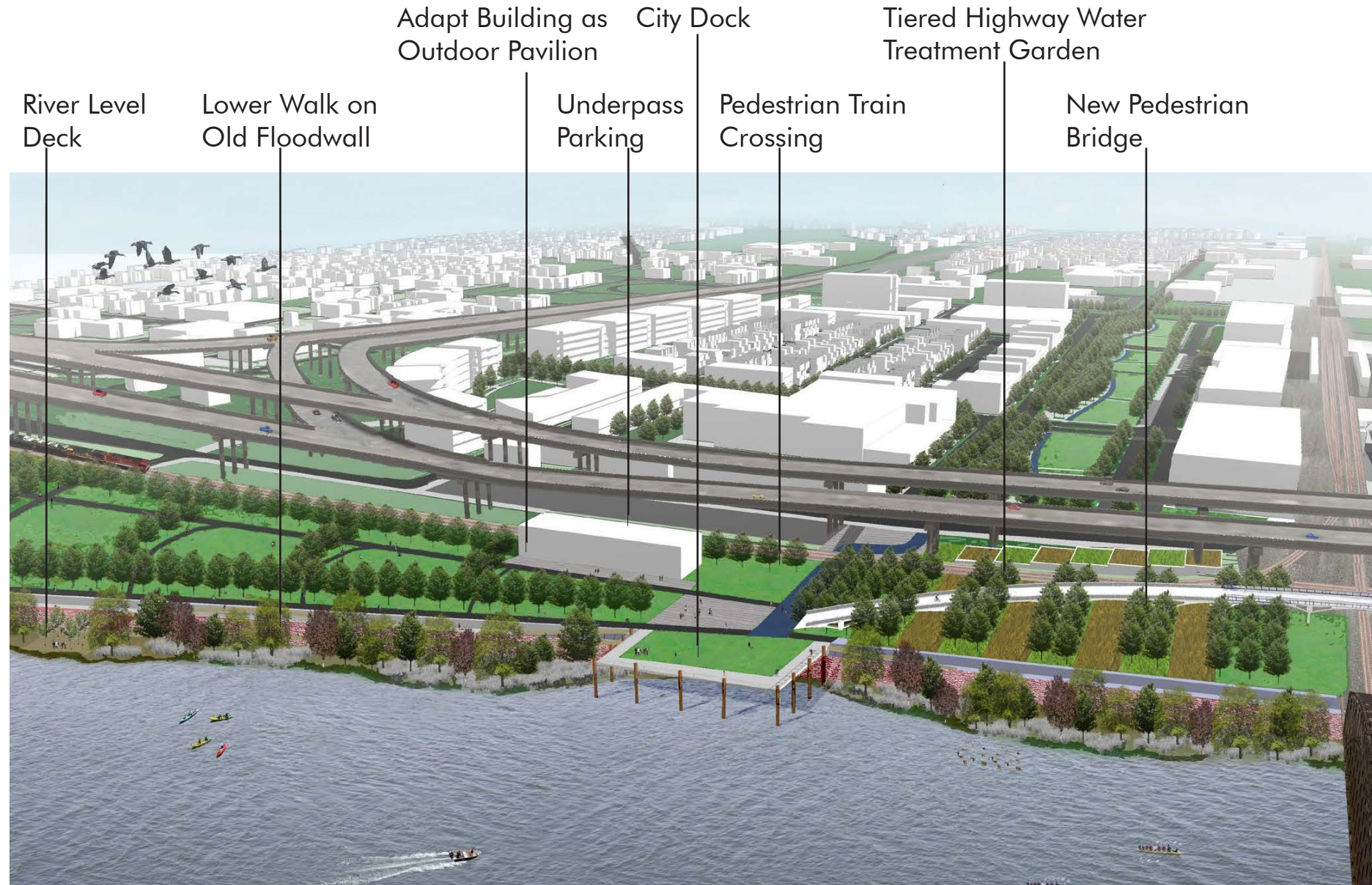


Section Perspective of Northgate Common including the gray-water collection system with storage under the park.



Reimagining Northgate - Overcoming the Mistakes of Urban Renewal

Mohammed Abdelaal • Joe Larico • Tharyn Nein-Large



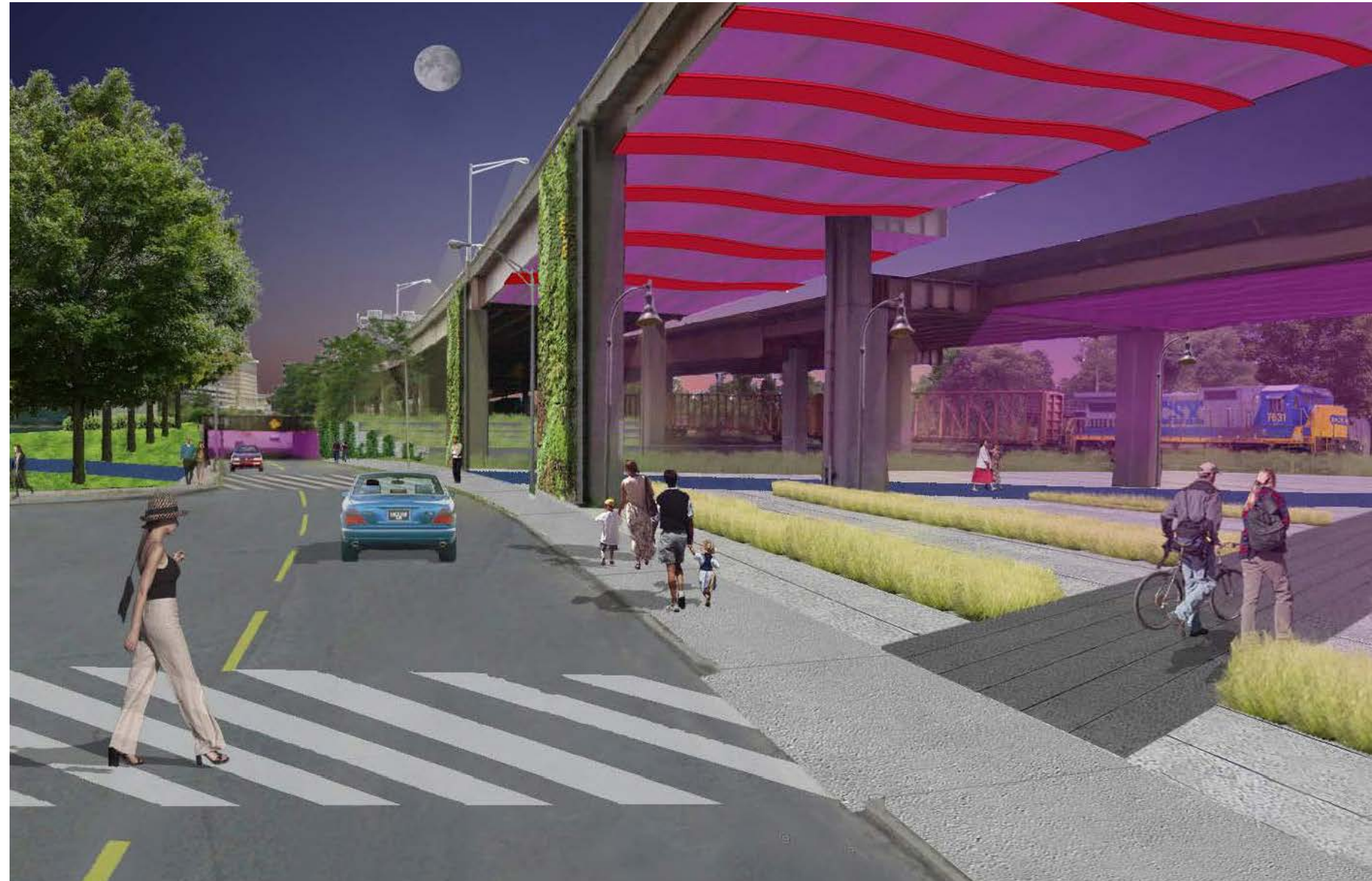
One of the overriding concepts of this design was to establish a connection from Northgate to the river. The new greenway culminates in an immersive river experience leading to a large dock and connecting to the existing walk and bikeway.



The creation of the river park reclaims the Connecticut River for Springfield. A large deck is intended to represent a city dock, bringing visitors right over the river. Adaptive reuse of the existing, vacant warehouse makes for an industrial style pavilion.



The Design of the Northgate Common references to a meandering river. Landform on the right eludes to a cool, shaded embankment with an urban forest where one can stop and relax. Across the stream is meadow for recreation and sun worship.



One of the overriding concepts of this design is to establish a connection from Northgate to the Connecticut River. The new greenway culminates in an immersive river experience leading to a large dock and connecting to the existing walk and bikeway.

Project Statement

Springfield, like many former manufacturing cities across the country, is affected by economic instabilities and uncertainties such as stable or declining population rate; high percentage of building vacancies; low growth; limited funding; and high unemployment.

Considering these realities and when thinking about true sustainability it seems illogical and contradictory to tear down to aesthetically rebuild better.



Mikal, lives in the upper Liberty neighborhood and loves walking, biking, canoing and kayaking. He bikes to work downtown at the UMass Design Center and often has lunch at the Depot Marketplace.



Stephanos and Agata were born and lived in Northgate till the 1950's urban renewal razed their childhood homes. They have lived downtown since and would love to see their old home district alive again.



Anna and her husband are both ecologists who were consulted for the floodplain restoration. They are considering opening up an office in one of the buildings with a green roof and complete solar power.



Carolina lives downtown and is an aspiring artist who right now is a buyer for the new art craft gallery on Liberty St. She also helps curate at the Needle Gallery.



The Pasqual Family lives in the adjacent North End neighborhood and is looking for more safe, local and cultural activities they can do as a family.



Jen, is interested in local food, farming, and a space to film her new cooking show. She is a chef at a popular spot in the marketplace and also works weekends at the farm.



Canelo, a young successful artist, is looking for a local place that combines living, studio, and outdoor installation and graffiti space. He often travels out of state to sell his work and is excited about the new weekend art fairs.



Shanica, a single mom, hopes to move out of Liberty street subsidized housing when she graduates from cosmetology school in 2 year. She hopes to work at her favorite salon which just opened on Main Street.



The Resilient City connects a wide variety of city residents, provides activity and enjoyment; business opportunities; outdoor recreation; and habitat restoration.

The Resilient City - Reclaiming the Legacy of Springfield, MA

Meilan Chen • Laura Keskula • Shu Liu



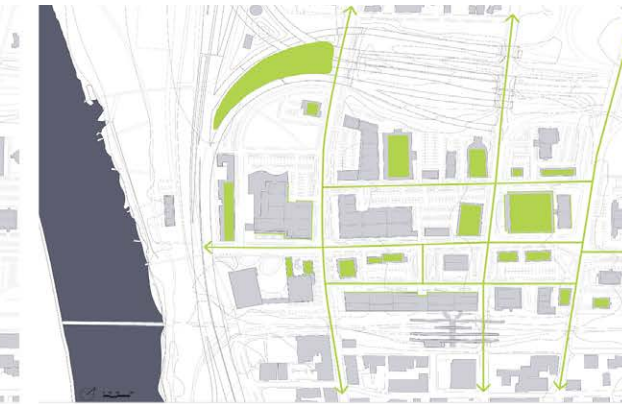
- | | | |
|---|--|--|
| 1 Bike share, cafe/ ice cream, live music, gallery | 5 Bioretention pond | 9 Community commercial kitchen, greenhouse farm, duck pond |
| 2 Riverfront Walk/ Bikeway access and Land art installation | 6 Art of the Republic covered artist marketplace | 10 Trader Joe's, salon, used clothing shop, coffee shop |
| 3 Combined Columbus Ave | 7 Local small business food marketplace | 11 Retail infill in existing underutilized post office space |
| 4 Historic National Needle building as Artist loft/studio/gallery | 8 Elevated restaurant overlooking city | 12 Union Station Intermodal transport center |

The master plan shows proposed features. Building energy is enhanced by roof gardens or solar panels which are installed on all buildings in the district.



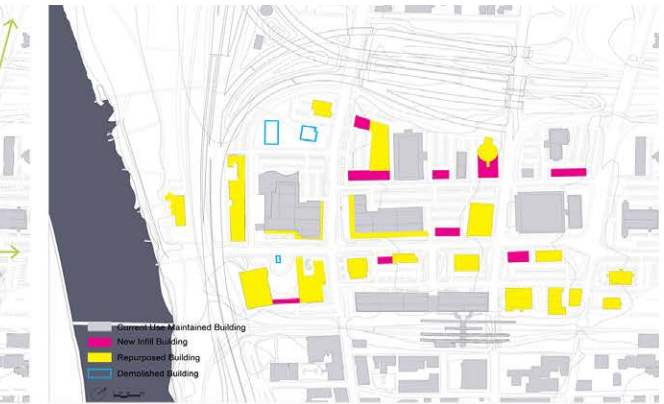
Open Space

- 10% Existing
35% Ft Proposed
- Enhance riverfront experience
 - Create open space for neighborhood



Green Infrastructure

- Treat stormwater
- Improve urban climate
- Increase biodiversity
- Improve human health
- Reduce energy expense



Building

- 25,000 sqft. demolished
- 66,000 sqft. building infill
- 69,000 sqft. greenhouse space
- 130,000 sqft. total new construction
- 340,000 sqft. Re-purposed



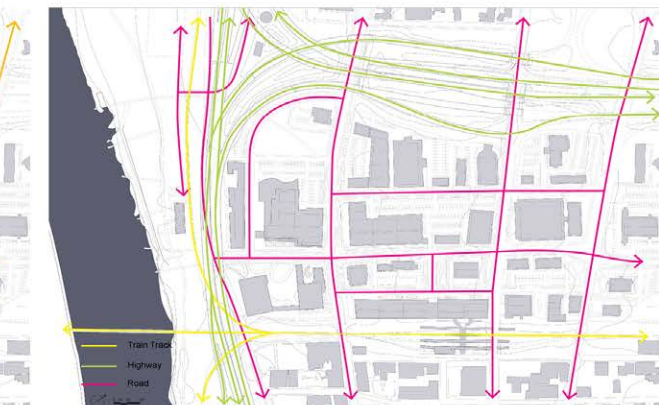
Pedestrian Road

- 19,300 Ft Existing
27,970 Ft Proposed
- Improve the quality of existing pedestrian paths
 - Add pedestrian paths to increase accessibility to the riverfront



Bike Lane

- 3,380 Ft Existing
25,420 Ft
- Increase the quality of existing bike lane in riverfront park
 - Make every street accessible by biking



Traffic

- Keep the current condition of the highway, and on-grade train crossing
- Change Chestnut st to two way
- Combine E. Columbus Ave with W. Columbus Ave. to eliminate vehicular and pedestrian conflicts between National Needle Building and underpass sculpture park
- Reduce energy expense

Current 10% open space is increased to 35%, natural habitat drainage swales are added along all streets, and the streets themselves become more walkable and appealing with bike lanes, improved sidewalks and street trees.

The Resilient City - Reclaiming the Legacy of Springfield, MA



Introduction

A rethinking of what it means to be sustainable in the current economic and environmental climate is recognizing existing potential, reclaiming as many buildings as possible, re-purposing uses and forms, rehabilitating existing natural features and habitats and reestablishing new ones. Obesity rates among city children are also high and when providing for the future, a recultivation in the health of the population and guaranteed system of food security should be implemented. These are all characteristics of a resilient city. This resiliency in combination with the addition of market rate artist live/work/studio space; a changing outdoor sculpture park; a year round indoor local food marketplace and extensive greenhouse; a commercial kitchen designed to inspire cottage industries; new retail and institutional uses and green infrastructure and open space remediation will revitalize the city and make it once again a notable destination. The resilient city-reclaiming the legacy of Springfield for residents, visitors and the future.

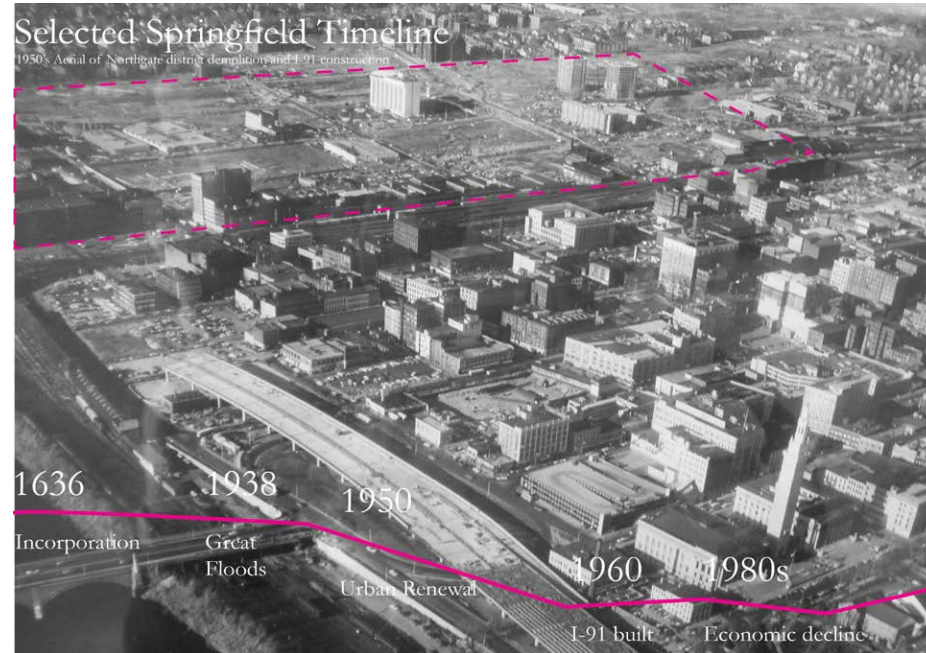
The Context

- Springfield**
Springfield is the 3rd largest city in the state, and the 4th largest in New England. Population is diverse with the largest percentages being of Hispanic, White and African American nationalities respectively. It lies in the Connecticut River floodplain.
- Northgate**
Northgate, was once a flourishing residential neighborhood district. Urban renewal of the 1950's, set to incorporate the automobile, demolished this character. Now, conditions show the economic decline as largely underutilized and vacant spaces, excessive impervious surface, and little open space.
- Connection with Northend Neighborhood & Downtown**
The Northgate district's adjacency to downtown Springfield makes it a prime area for a new revitalization designed to support and increase economic stability and tourism to the city at large. The site is also adjacent to Northend Neighborhood on the north.



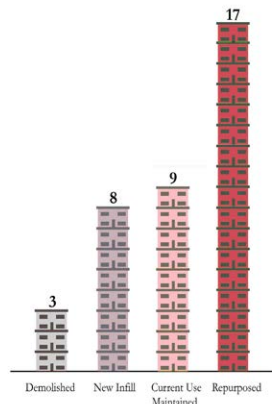
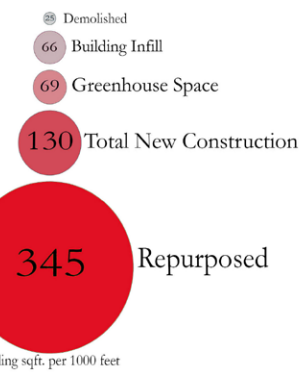
The Resilient City - Reclaiming the Legacy of Springfield, MA

Meilan Chen • Laura Keskula • Shu Liu

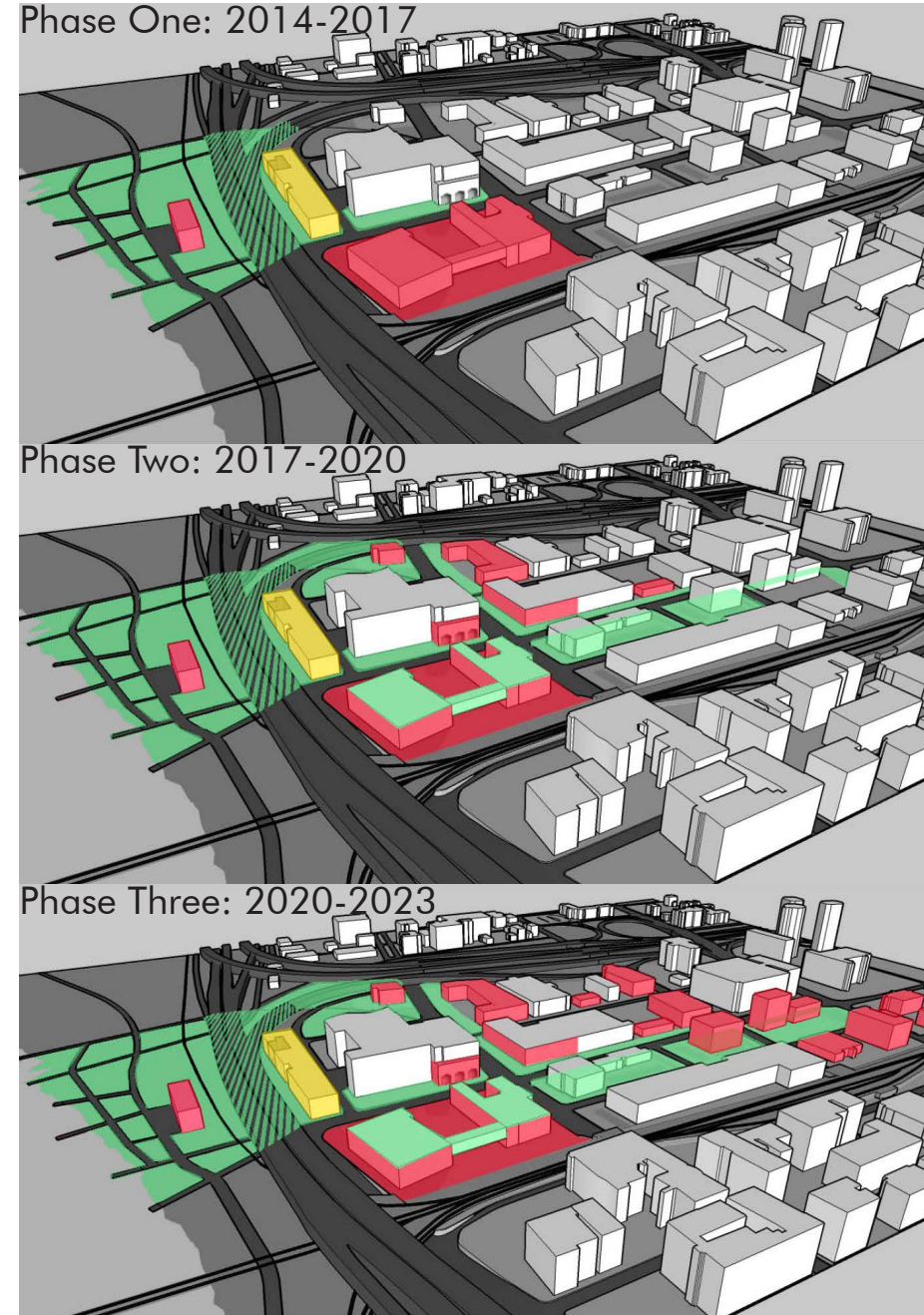


According to many, the great floods were the catalyst for economic decline of the city. Northgate was heavily impacted, and to enable the success of urban renewal, I-91 construction seemed practical. This essentially cut the city off from its river.

REPURPOSE buildings



The Resilient City, through a phased 9 year plan, demolishes 3 buildings, constructs 8 and re-purposes 17. The starting point is focused around increasing access to the river, and attracting new markets to the area.



Considering the current economic instability and uncertainty of the city, and when thinking in line with true sustainability, it seems illogical and unpractical to tear down sound buildings to aesthetically rebuild better. Instead, recognizing existing potential becomes the feasible approach.

The Resilient City - Reclaiming the Legacy of Springfield, MA

Meilan Chen • Laura Keskula • Shu Liu



Starting along the riverfront, pedestrian access is enhanced, habitats are restored and outdoor activities are encouraged.



A former bus maintenance terminal is re purposed as an indoor/small business marketplace offering the best local, and made to order, food from the area. This and adjacent space will be covered by a greenhouse farm helping to provide food security.



Empty space used for parking and storage under the highway I-91 becomes a large green open space with Bioretention pond which is the important part of the stormwater management system.



An adjoining community kitchen provides a platform for area residents to start new cottage food businesses. A duck pond and chickens are outside to provide eggs for the complex. The resilient city is designed to help Springfield reclaim its legacy.



Vacant space under the I-91 is re-imagined as a seasonally changing outdoor sculpture park holding competitions and displaying the work of area and notable artists. Water is collected off the overpasses and runs to an adjacent large retention basin.

The Resilient City - Reclaiming the Legacy of Springfield, MA

Meilan Chen • Laura Keskula • Shu Liu



← The National Needle Building



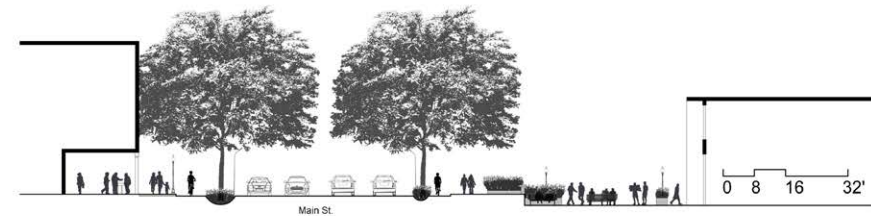
→ The Republic Building

A historic building is re-purposed as artist live/ work/ studio/ gallery lofts. The former street running directly along the front has been removed to increase outdoor space and eliminate traffic conflicts.

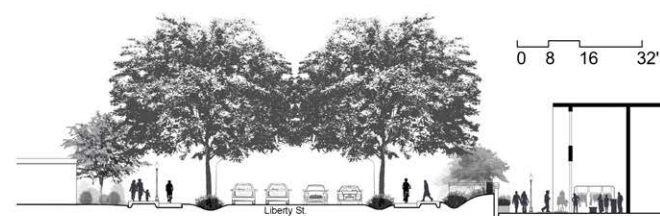


An underutilized indoor/ outdoor arcade along Main Street is reclaimed as art and community fair space. This space will both attract visitors and provide an outlet for residents to sell their work.

Section 1



Section 3



Section 2



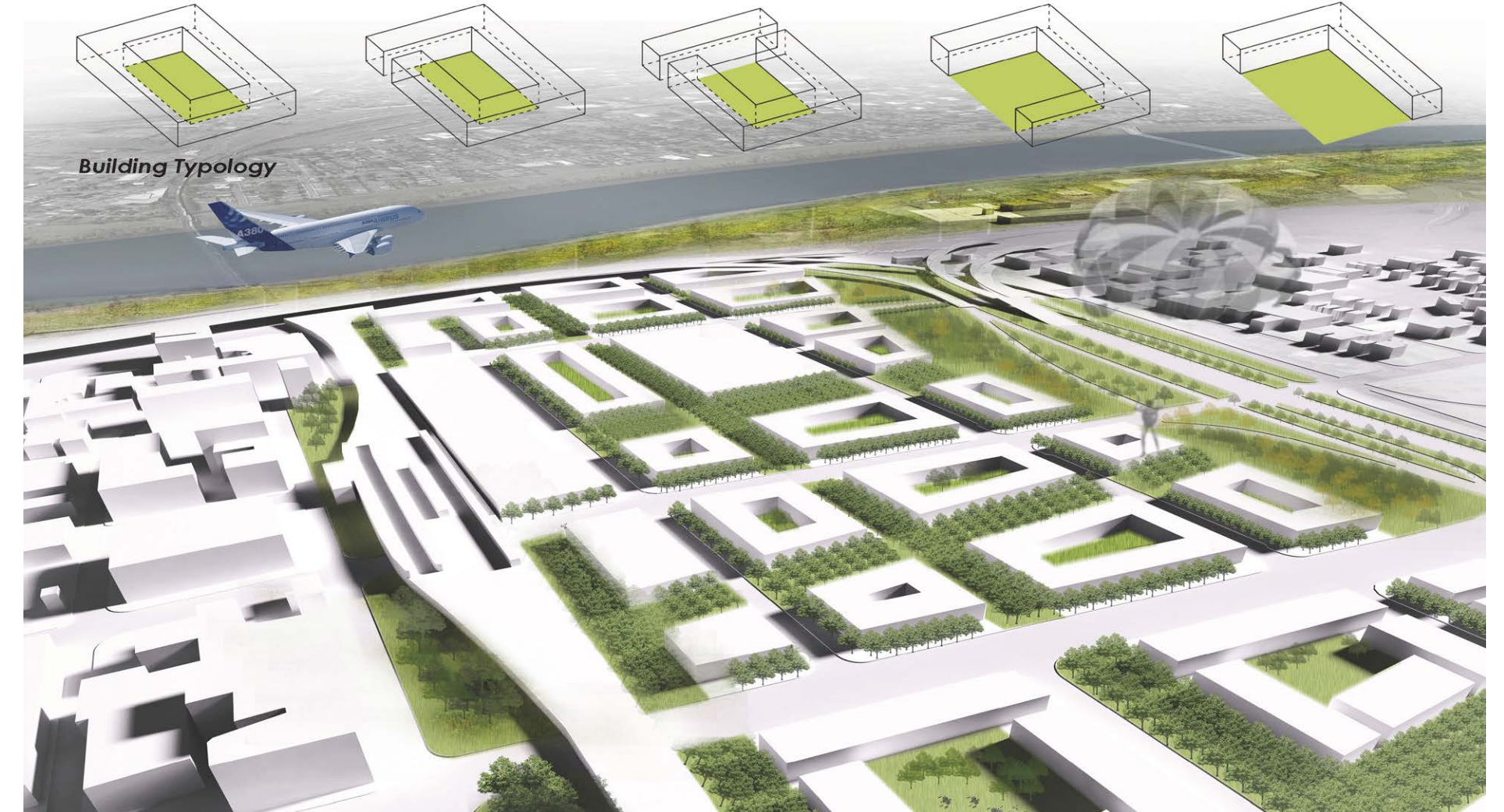
The Revitalized Northgate of Springfield by Design - Creating Room for People and Water

Junbo Zhang • Zhangkan Zhou

Project Statement

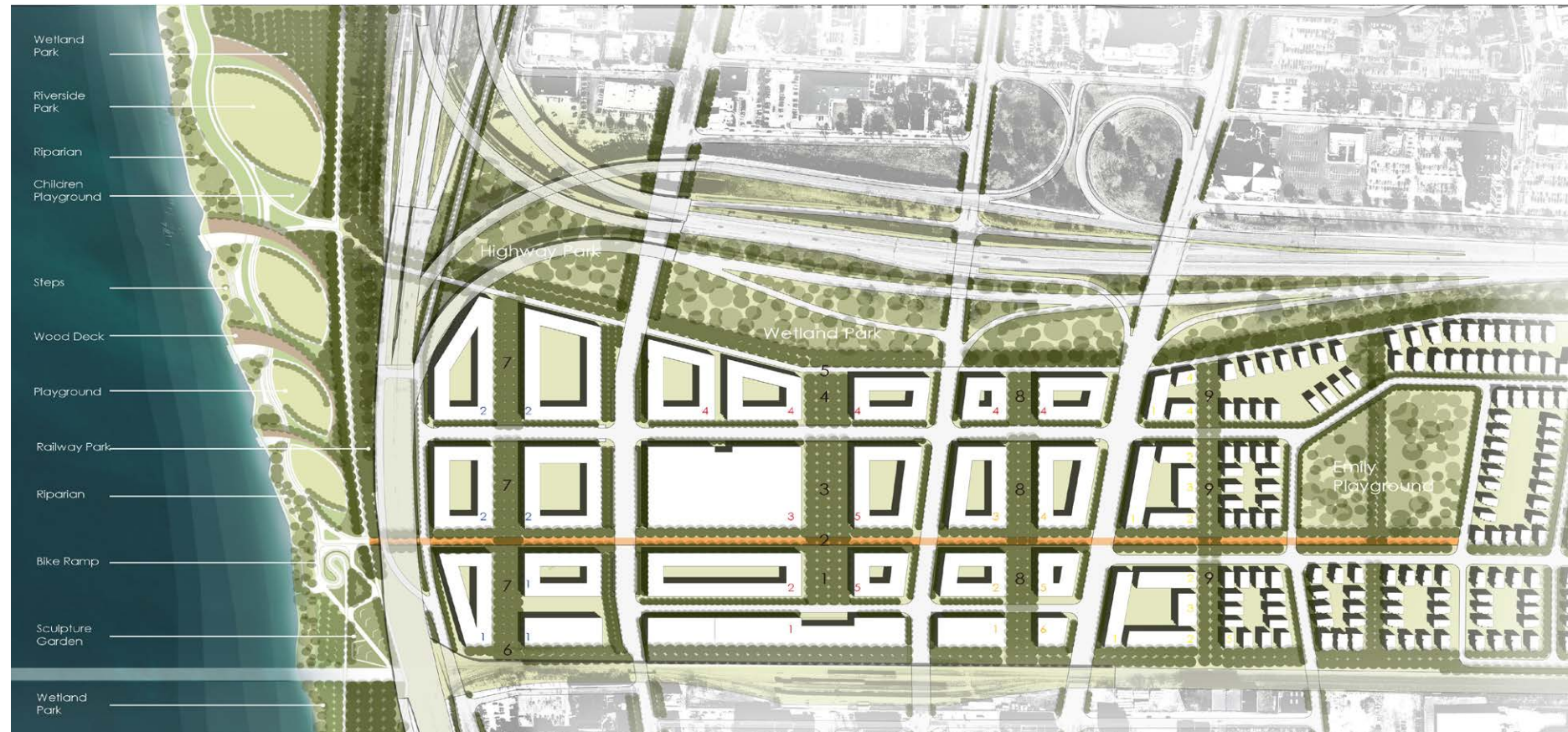
The site is situated north of downtown Springfield with four major urban features: the vibrant Union Station and Downtown Springfield to the west and north, and an residential area and parks to the East. Northgate Springfield presents several immediate challenges in the area as well as Springfield as a whole.

Bird View



The Revitalized Northgate of Springfield by Design - Creating Room for People and Water

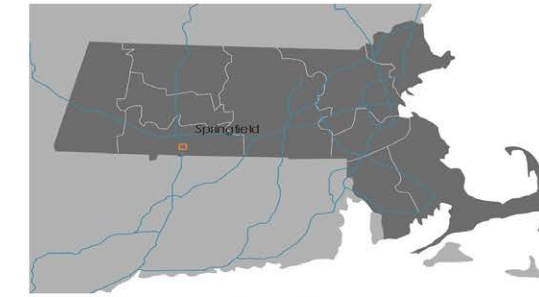
PLAN & PROGRAMS



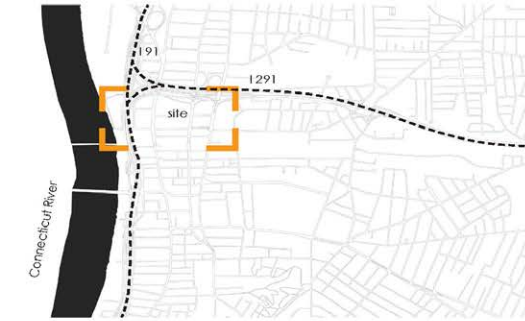
- | | | | | |
|--------------------|-----------------------------|------------------|---------------------|--------------------------|
| 1. Union Green | 7. Hi-Tech Park | 1. Union Station | 1. Community Hall | 1. Apartment |
| 2. Pedestrian Walk | 8. Community Garden | 2. Union Hotel | 2. Community Gym | 2. Studio/Loft |
| 3. Market Square | 9. Stormwater Garden | 3. Market | 3. Community School | 3. Townhouse |
| 4. Forest Park | | 4. Office | 4. Health Services | 4. Bed & Breakfast |
| 5. Pedestrian Walk | 1. Light Industry | 5. Retail | 5. Community Club | 5. Single Family Housing |
| 6. Railway Park | 2. Hi-tech Medical Industry | | 6. Grocery Store | |

Visions

The Northgate envisions a district that effectively connects the components that make Springfield a successful city with comfortable gathering spaces, bicycling routes, pedestrian friendly walkways, and a culturally vibrant city. Tree planted streets with serve as the arteries for this connections, linking pedestrians to local and riverfront destinations via pedestrian-oriented pathways and sidewalks, bikeways, and the city bus system.



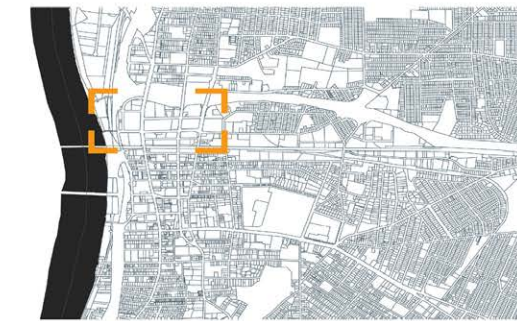
Location



Site

Revitalized Northgate of Springfield by Design

-Creating Adaptive, Flexible and Resilient community of Northgate



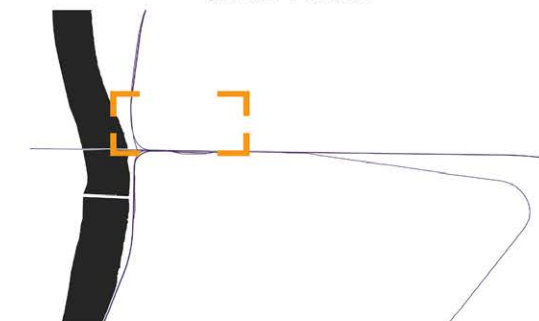
Urban Parcel



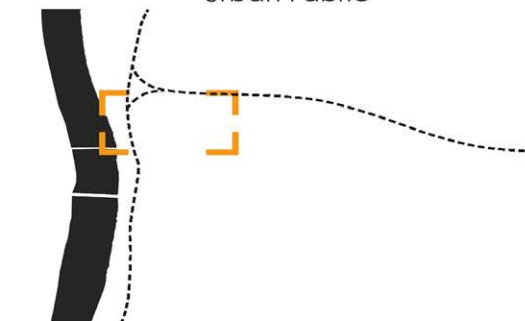
Urban Fabric



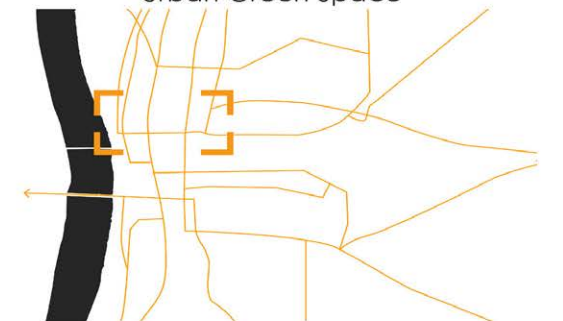
Urban Green Space



Railway



Highway



Bus Line

Site Analysis

The Northgate proposal strives to rethink the urban fabric just north of the downtown neighborhood. The site is situated in an area with four major urban attractors: a vibrant Union Station and Downtown Springfield to the South, the Connecticut Riverfront to the west, Interstate Highways to the west and north, and the residential area and parks to the East.

The Revitalized Northgate of Springfield by Design - Creating Room for People and Water

Site Assessment

- Connection and Accessibility Limits:
Surrounded by I-91, I-291 and railway.
Weak connections between downtown and North Gate.
Not easy for people go to riverfront
- Open Space Limits:
Large areas of impermeable parking lots
- Missing Ecological System
- Flooding Issue
- Missing Street Canopy
- Large Number of Abandoned Buildings

Tunnels



Highway



Waterfront



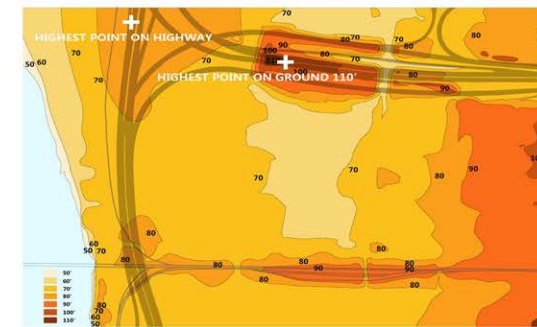
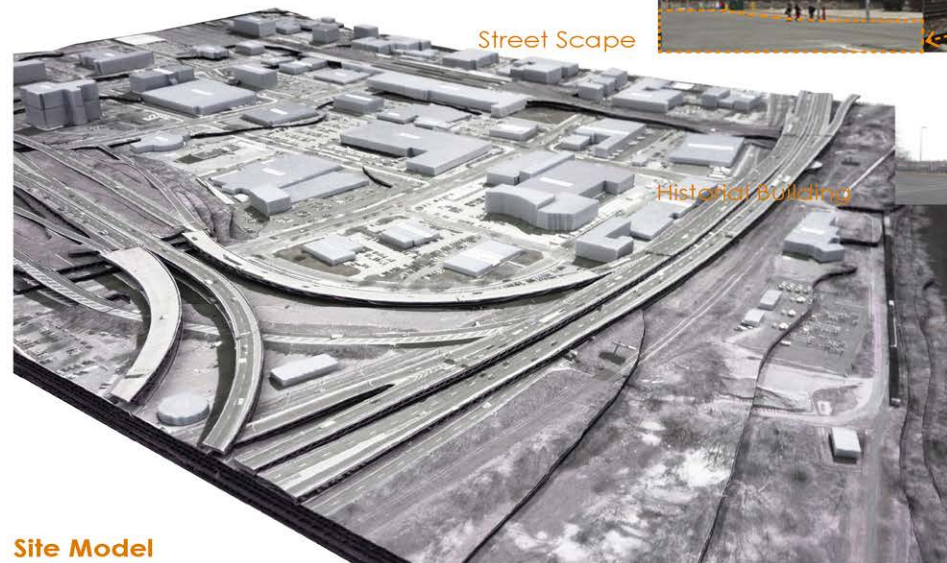
Street Scene



Historical Buildings

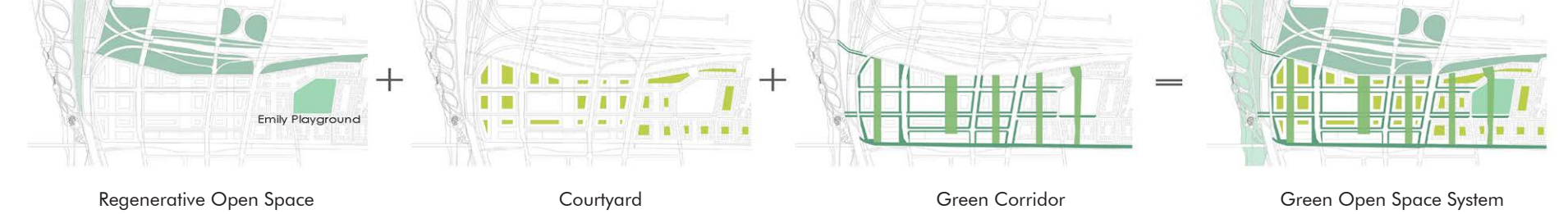


Site Model

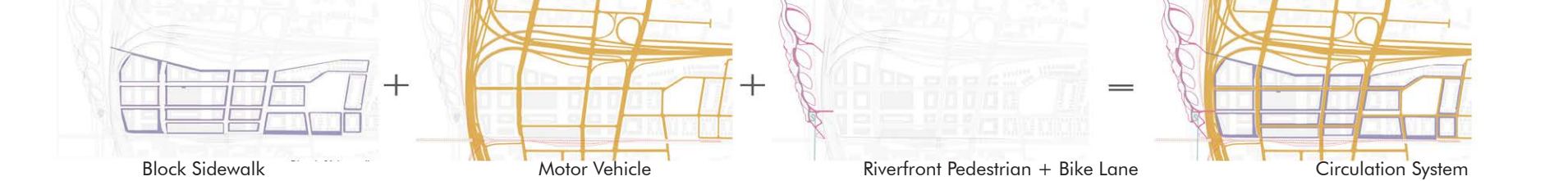


- The Northgate lacks usable and accessible open spaces that do not connect to the larger open space network.
- Railway and highway “box” the site, it is hard for people to come in and out the site.
- Northgate is currently featured by a large amount of surface parking and vacant land, which result in an isolated district and extreme lack of place identity.
Hard surfaces create problem of CSO (Combined Sewer Overflow), and containment runoff discharge into Connecticut River.
- The Connecticut riverfront is currently dominated by an eight feet high flood wall and an unpleasing riverfront landscape which makes it inaccessible to people.
The Riverbank is also full of effluvial landfill with polluted soil and water.
- Poor urban public facilities and lack of urban diversity come together with low economy and high unemployment rate.

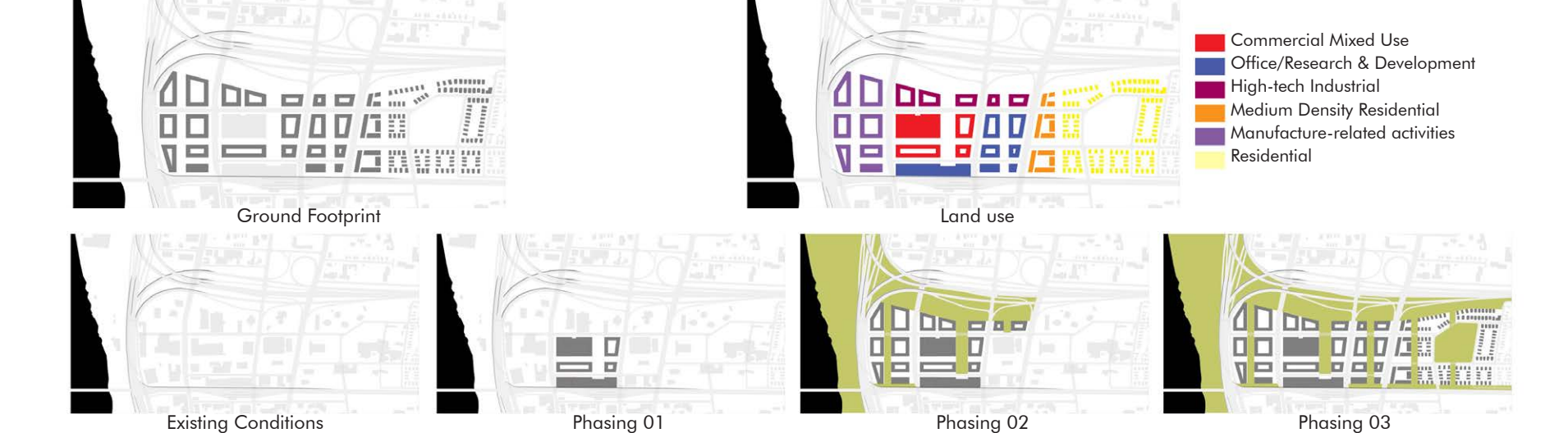
Open Space Typologies



New Circulation-New Moving Experience



Site Process



Health Community by Design

Responding to the big challenges and to build an adaptive, flexible, and resilient built environment in the Northgate, the proposal envisions landscape as a framework for urban design and planning. The missing gaps of the regional open space network will reconnect as green corridors link the existing open spaces to the riverfront. Starting from Emily's Playground, a pedestrian greenway covers four blocks and directs people to the Connecticut River. A linear wetland park in the north is part of site and provides multiple functions in terms of highway buffer, linkage, stormwater management, and bio habitats for wildlife.

The Revitalized Northgate of Springfield by Design - Creating Room for People and Water

Junbo Zhang • Zhangkan Zhou

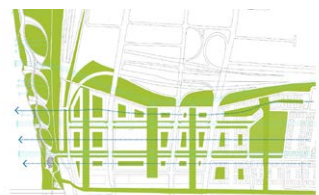
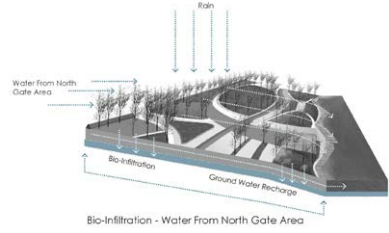
Large Scale Green Open Space Connection

Northgate Eco-Riverfront Park

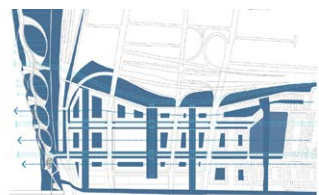
Room for Water
Room for People
Room for Wildlife



Creating Room for Flooding



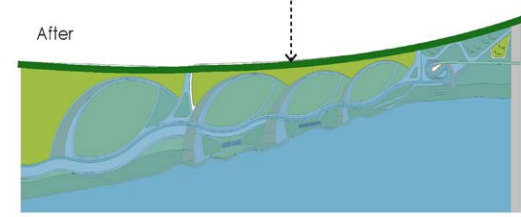
Days without Storm Events



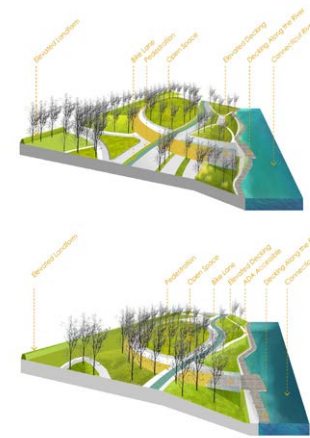
The connected green open space increases infiltration and thus water quality.



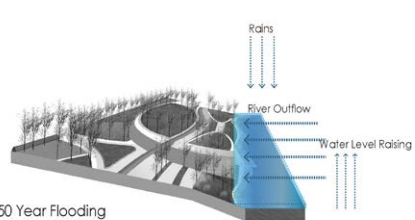
Soft Infrastructure Replaces Flooding Wall



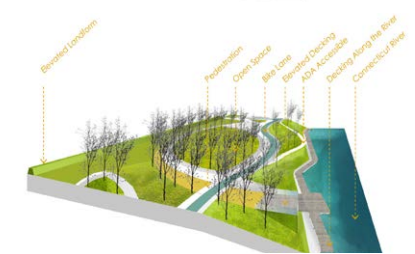
Creating Room for People



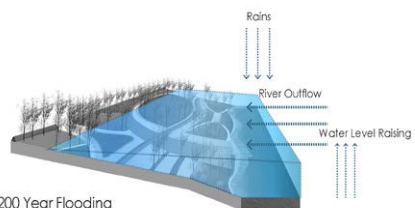
Creating Room for Flooding



50 Year Flooding



200 Year Flooding



Regional Open Space System



Proposed Open Space System

Union Green



Green infrastructure strategies are highly recommended in the design. Green roofs, stormwater gardens, bio-swales and constructed wetlands create a green infrastructure system in the area to create a sustainable and vibrant community. The idea of implementing landscape as a framework is represented as layered approaches of ecology, connectivity, and recreation. Five green fingers of open space involve possibilities for a diverse and adaptive urban fabric that will grow, evolve, and adapt over time. Riverfront Park consists as a series of playgrounds and wetlands that provide functions for recreation, infiltration, bio-habitat protection, and flood control. The existing Post Office on Liberty Street will be renovated and re-purposed as a dynamic meeting space and an indoor market. By reinforcing the indoor and outdoor connections, an all-new dynamic focal point is going to be achieved. Union Green serves as a center area for the district. Residents, visitors and commuter come to the Northgate to meet, shop and relax in the district's iconic urban open space.

The Revitalized Northgate of Springfield by Design - Creating Room for People and Water

Junbo Zhang • Zhangkan Zhou



Northgate as a Prototype for Urban Renewal

Northgate is a healthy community that catalyzes the revitalization of city of Springfield by design. Landscape plays a significant role in site planning and place making. It is a medium the city is built from. Landscape performs as infrastructure cleaning the water, increasing infiltration, and providing habitat for wildlife. Collecting stormwater locally and infiltrating runoff into the soil on-site are the key strategies of stormwater management. Instead of utilizing a flood wall to protect city, the river will be given more space and to provide a more flexible and dynamic way to deal with flooding issues. The open spaces of the riverfront could be flooded during the flooding season. After flooding, the riverbank is easy to recover and maintain its function as a riparian edge. Northgate provides a prototype of urban renewal practice that could be manifested in other cities like Springfield.



Appendix: Presentation Boards



Zhuoya Deng and Bin Liu
 "G.A.T.E. Green Infrastructure. Art. TOD. Elasticity - A Gateway for a Sustainable Future in Springfield"

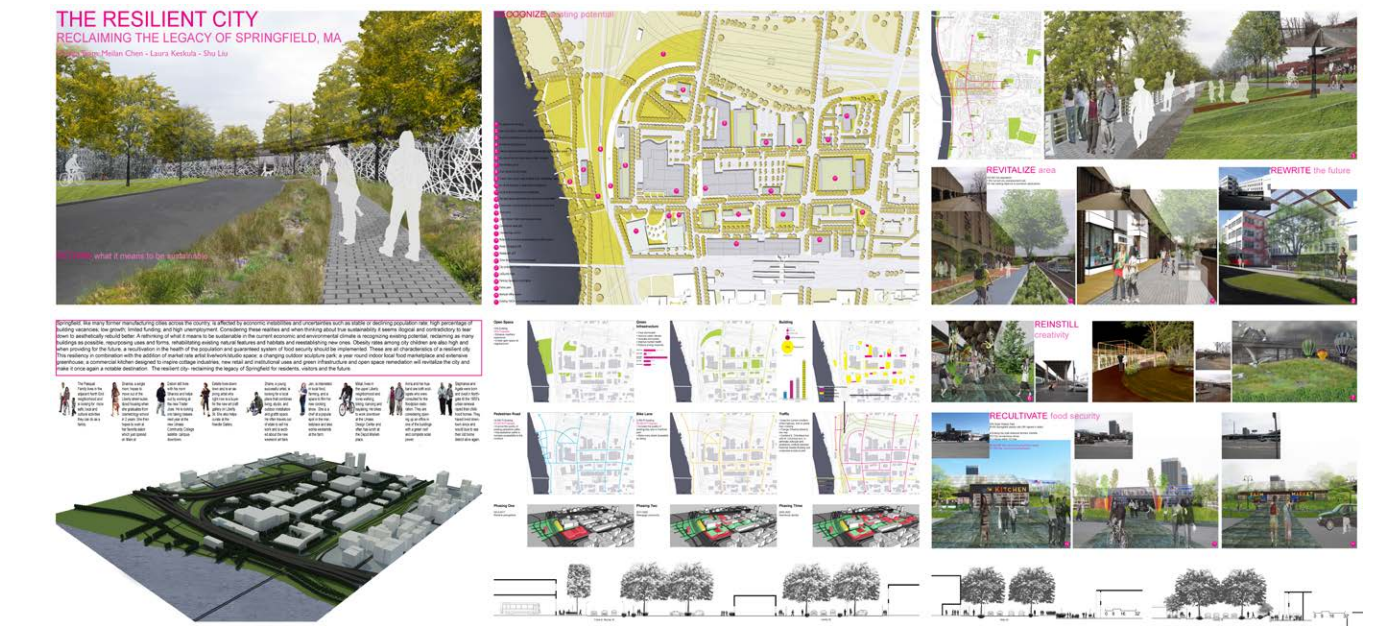
Appendix: Presentation Boards



Mohammed Abdelaal, Joe Larico and Tharyn Nein-Large
 "Reimagining Northgate - Overcoming the Mistakes of Urban Renewal"



Ericka Duym, Wenjie Liu and Jason Yu
 "Northgate: History Informs the Future - Moving, Learning and Living in a Post Urban Renewal District"



Meilan Chen, Laura Keskula and Shu Liu
 "The Resilient City - Reclaiming the Legacy of Springfield, MA"

Appendix: Presentation Boards



Junbo Zhang and Zhangkan Zhou
 "The Revitalized Northgate of Springfield
 by Design - Creating Room for People
 and Water"

References

Relevant Previous Studio Work:

- "Springfield's "X"- From Crossroads to Center." UMASS Amherst Design Center, Undergraduate Urban Design Studio, LA 497 A, Fall 2012/2013. LA 497 A
- "The Revitalization of Springfield's North End – Envisioning New Housing and Places to Live, Work, and Recreate." UMASS Amherst Design Center, Graduate Urban Design Studio, Spring 2013. LA 604A
- "Reconnecting People to Springfield's Riverfront: from the South End to Forest Park", UMass Amherst Design Center, Urban Design Studio Fall 2011, LA 497 A
- "Creating Livable • "Neighborhoods in Old Hill and Six Corners", Spring 2011, Graduate Urban Design Studio, LA 604
- "Springfield's Upper Lyman Warehouse District Visions for Revitalization", UMass Amherst Design Center, Fall 2010, Senior Urban Design Studio, LA 497 A
- "From the Quadrangle to the River", Spring 2010, Graduate Urban Design Studio, LA 604A
- "Making Connections – Envisioning Springfield's North End", Fall 2009, Senior Urban Design Studio, LA 497 A
- "Revitalizing the South End – The Gateway for Downtown Springfield", UMass, Spring 2009, Graduate Urban Design Studio, LA 604
- "Designing The ARC OF RECREATION – The Railroad Corridor from Armory Street to State Street", UMass, Fall 2008, Senior Urban Design Studio, LA 497 A
- "Designing the Crossroads of Mason Square – Railroad Corridor meets State Street Corridor". UMass, Spring 2008, Graduate Urban Design Studio, LA 604
- "Population 7 - Lyman Street Art Intervention." LA 597 Q, 2012. http://scholarworks.umass.edu/larp_grad_research/18/