



Millers River
Consulting

Downtown Athol: A Revitalization Plan

LA&RP
Landscape Architecture
& Regional Planning



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Executive Summary

Situated in the picturesque rolling hills north of the Quabbin Reservoir, Athol, Massachusetts is the prototypical New England mill town. The regional identity has been shaped by an agrarian and industrial past containing countless cultural and historic resources and exceptional natural beauty, which provide incomparable educational and recreational opportunities today. Like other New England mill towns however, Athol has been subject to the economic shocks of the last half century, which has seen major industries relocate out of state or off-shore. The consequences of the loss of major industry can be seen throughout the town with boarded up factory buildings and a Main Street struggling to maintain its identity.

Our Studio Team, Millers River Consulting (MRC), has been tasked with delivering creative, out-of-the-box suggestions to help revitalize the downtown area of Athol (Figure 1). The boundaries of our Downtown Study Area (DSA) include the Main Street corridor, which comprises the spine of the DSA and its adjoining streets, neighborhoods, and parks. The DSA is hemmed in by the course of the Millers River to the north and the railroad tracks to the south. This once economically vibrant area is filled with both historic resources and natural amenities like the Millers River, which has shaped the town's identity. Since the closing of mills in the DSA and adjacent areas, the study area now contains empty storefronts, vacant mill spaces, and large areas of impervious parking lots.

Existing market trends in Athol are characterized by economic leakage from the DSA. Development of the North Quabbin Business Park is currently underway southeast of the study area near the junction with Route 2 and includes an 80,000-square-foot Market Basket and an additional 100,000-square-feet of restaurant and retail space. The plan also includes the development of 35 acres and is expected to feature a new hotel and 100,000 square feet of commercial space. The development of this park has been assisted by a \$1 million dollar grant from MassDevelopment in addition to the \$35.9 million dollars leveraged from private investment and \$2.065 million dollars committed from town funds. The project is projected to bring in a significant amount of tax revenue and create approximately 600 jobs.



FIGURE 1: STUDY AREA



**Project Site
Athol, MA**



Prepared by Milers River Consulting
December, 2014
All data from MassGIS



FIGURE 2: SCOPE OF WORK, DOWNTOWN ATHOL

While the development of the North Quabbin Business Park is undoubtedly an economic boon for Athol, the impact that this development will have on the revitalization of downtown Athol remains unclear. Businesses in the DSA are already struggling to remain financially solvent and likely will not be able to compete against the types of commercial or retail outlets that move in to the business park. Alternatively, this potential economic threat presents the DSA with an opportunity to focus its redevelopment on creative ventures and niche businesses that fill needs in town and the region that are currently unmet. Identifying these opportunities has been our primary task.

In order to address these issues, our team's methodology has consisted of research of academic literature, town documents, previous UMass research, and precedent case studies on subjects related to downtown revitalization. Additionally, our team conducted two separate workshops with Athol residents in order to identify areas and issues of key importance. Finally, our team conducted numerous site visits in order to develop key recommendations for specific sites of intervention. The following report lays out our conclusions that have been drawn from these sources.

Introduction

The picturesque town of Athol, located in the North Quabbin region of Western Massachusetts, was originally settled in September of 1735. The town was initially called Pequoiag in honor of the Algonquian Native Americans that were indigenous to the area. After the township was established about thirty years later in 1762, the name was officially changed to Athol. This name, which means “pleasant place”, was the name given to the rolling hills of Blair Atholl, Scotland, where one of the original founders of the town hailed from. Athol certainly fits the profile of a pleasant place; the town is known for its peaceful and picturesque natural heritage that includes the Millers River and miles of conservation land.

In its youth, the town of Athol saw an economic boom in agriculture and hunting. Due to its asset of waterpower, various factories and mills sprung up along the Millers River. By the year 1868, only about one hundred years after establishing its township, Athol was known as “Tool Town” due to its thriving manufacturing economy that included the L.S. Starett Company, which is the town’s biggest employer to this day. Due to this booming of industry, commerce, and transportation, Athol was the hub of the North Quabbin area at the beginning of the 20th Century.

The 1930s is when the situation started to change for Athol. The trolley lines that Athol depended on gradually began to close due to the increase in private automobiles. In addition, the flooding of four towns in Massachusetts to create the Quabbin Reservoir caused the nearest railroad route to be deserted. The biggest blow to Athol’s economy came in the 1950s, when the Route 2 bypass was established. This circumvented the previously direct access to the downtown portion of Athol, severely hurting the downtown business economy.

Today Athol still has all of its unique charm though it is lacking the vigor that it once had decades past. The demographic trends listed below set the context for a majority of the issues that Millers River Consulting seeks to remedy with our proposals. These demographics clearly show that Athol is reflective of surrounding towns in the region but has fallen behind in many ways from the rest of the state. While educational attainment may be low in the town compared with the state as a whole, Athol’s rich industrial heritage is a strength that MRC has drawn upon with its recommendations.

Overview of Regional Demographics						
	Athol	Greenfield	Orange	New Salem	Wendell	Warwick
Median House Value	\$154,900	\$182,700	\$162,400	\$235,100	\$197,900	\$189,100
Median Income	\$48,414	\$48,370	\$44,825	\$72,656	\$48,000	\$55,859
Educational Attainment of Bachelor Degree or higher	14.1%	25.6%	14.3%	37.9%	44.4%	32.0%
% Involved in Manufacturing	16.5%	7.5%	14.7%	8.3%	10.9%	15.5%
Vacant Housing	11%	5.80%	8.70%	4.90%	11.60%	21.20%

TABLE 1. IMPORTANT REGIONAL DEMOGRAPHICS
Source: 2008-2012 American Community Survey 5-Year Estimates

Report Themes

Athol possesses a wealth of historic resources and a vibrant culture. The residents of Athol are proud of their industrial heritage and the MRC team aims to draw upon these resources in order to return economic vitality and cultural vibrancy in the DSA. Like many postindustrial New England Mill towns, Athol faces a host of challenges, which range from vacant mill space and housing stocks to economic stagnation and higher levels of unemployment. In order to address these issues and provide recommendations for the town of Athol moving forward, Milers River Consulting has extensively studied the town's resources as well as case studies from other similar cities. The six areas that we will address are the following:

Land-use and Zoning

Task one includes analysis of existing land-use and zoning and its constraints on development and redevelopment. Athol's main goals stated in their master plan include encouraging commercial and industrial uses to locate in appropriate areas in Town as defined by the zoning, and to promote small scale and home-based businesses.

MRC seeks to address and clarify zoning issues to encourage a more cohesive zoning plan within the DSA. We envision implementing a Mass 40R zoning ordinance for a short term goal to promote density in the DSA, and acquire financial aid from the state to do so.

We recommend Adaptive Reuse Programs to provide businesses and developers with bonuses and incentives to not only achieve increased development density, but to develop strategic adaptive reuse strategies for the existing historical buildings.

Implementing overlay districts would be crucial in the Main Street district to promote historic preservation. Long term, we wish to implement form-based codes to regulate and promote historic form for buildings at a smaller scale for Main Street and Exchange Street.

Commercial Parcels

The DSA is located adjacent to the Millers River and we as a team are planning to investigate linkages between recreational tourism and the potential for new businesses in the downtown. The town needs the support of local business in order to increase local jobs and to increase the tax base. Fortunately, Athol is committed to bringing in unique, niche businesses. In this section, we will endeavor to meet the objectives of the residents and to provide solutions that will help to improve the economic sector in the town.

Vacant Parcels

Athol is seeking to redevelop and revitalize the DSA. This goal will be met in part by inventorying and analyzing vacant parcels as potential infill sites. There are several documents provided by the town that will aid in MRC's analysis and help guide any infill recommendations that we make. One particular resource that has been extremely helpful is a map being produced by the Planning

Department that shows vacancy and blight in the DSA.

Traffic Flow and Pedestrian Access

It is a goal of the Town to encourage the use of existing transit services and to expand public transit services for residents. As a team, MRC collected information from the following sources: a public charrette detailing residents' feedback on transportation improvements, transportation data from the Master Plan, and precedent studies from "Rethinking Streets." Increasing the walkability of downtown and imposing complete street policies will be important in Athol.

Aesthetics

Athol has the potential for creating a vibrant and visually appealing downtown: unique historical appeal, ample properties perfect for business development, and a passionately positive outlook on the future. In order to ensure that our improvements align with Athol's community vision and local character, MRC has consulted: Zoning Bylaws, Visual Survey of existing buildings, Athol's Master Plan, Athol's Community Vision and Action Plan, Public Artists, and Residents that can define the local character. By consulting these sources, MRC hopes to drastically improve the aesthetic appeal of the town in order to foster a community personality, encourage economic development, and cultivate a love for downtown Athol.

Architectural interest of downtown buildings is the most important physical component of a downtown business district in the economic, functional and aesthetic sense. Some of the most influential qualities that visitors notice about a town are the condition, style, and historical quality of its buildings. One of the main goals of Athol's revitalization project is historic preservation, because the most effective strategy to ensure the success of a New England mill town is to nurture and preserve their historic buildings.

Market Trends

Athol, like many other mill towns in Western Massachusetts, has been afflicted by the declines in the manufacturing industries and the shifting economic landscape. This shift has been characterized by a restructuring of industrial production offshore and the growth of a knowledge-intensive and tertiary, service based economy in the United States. In order to better understand market trends and develop strategies to identify potential business opportunities in downtown Athol, Millers River Consulting researched important ESRI data and other sources of data. MRC also studied the regional economic trends in order to identify unmet business gaps that niche businesses could fill in downtown Athol to draw in visitors from the region. A further exploration of the potential for ecotourism's impact on economic development is also in order.

Goals of the Team

To research each task in depth and to provide appropriate recommendations for solutions. These should be financially feasible for the town so that each may be implemented in stages over the course of the next six months to a year, two to three years, and five years. Another goal is to provide

long lasting solutions that will create a viable place for residents to work, enjoy, and live in.

The Methods of the Team

Data

Millers River Consulting conducted research on best practices derived from a selection of relevant case studies in order to provide the client with appropriate solutions to the problems facing downtown Athol. We collected a wide array of data from many different sources such as ESRI, case studies, and town documents. We collected qualitative data from Athol residents to help us determine which issues are important to those who live there.

Site Visits

At least once per week, MRC conducted site visits to downtown Athol. During these site visits we analyzed the existing land-use and zoning, as well as the existing commercial developments, vacant lots, aesthetics, traffic flow and pedestrian access, and market trends. We also explored the Allan Rich conservation. We visited most of the adjacent residential areas in our study area to see how they pertain to our main focus in the DSA.

Photos

Throughout our site visits we have taken many photos of existing commercial developments, vacant lots, aesthetics, traffic flow and pedestrian access, and assets of the town. We have also gathered many pictures from stakeholders in the town. Many of these pictures have historical context attached to their importance in our project.

Structure of the Report

The following report is organized around six main themes of Land-use and Zoning, Commercial Development, Vacant Parcels, Traffic Flow and Pedestrian Access, Aesthetics, and Market Trends. Within each section is a description of the topic's background, existing conditions, and team findings, then a literature review and pertinent precedent and case studies. Finally, each section will conclude with a summary of the team's findings, recommendations for the client, and a proposed timeline for implementation.

Summary

This report was produced by MRC, a team of graduate students including: Brendan Conboy, Nicole Forsyth, Christina Pillarella, Katelyn Silva, Robert Hummel, and Ian Kolesinskas. This final report is the culmination of Dr. Darrel Ramsey-Musolf's Studio course at the University of Massachusetts Master's program in Regional Planning. The final report should serve as a useful guide for Athol to move forward with specific recommendations at specified intervals.

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Theme: Land-use and Zoning

Background

Throughout Athol's history, its development and land-use patterns have been strongly tied to the transportation infrastructure of different eras, and to the Millers River. During the 16th century, the Native Americans were drawn to the river for fishing, and eventually the Europeans started harnessing the river's power for industry. Athol became a large mill town, with 12 different mills located along the river. Eventually activity and employment downtown began to decline in the mid-twentieth century as the use of truck transport increased, and as highway bypasses, including routes 122 and 202, were built around downtown Athol, thereby drawing traffic and activity away from the town center.

Outside of downtown, settlement patterns have also been affected by the town's transportation infrastructure. The town's original center was located on upper Main Street along the path of the Fifth Massachusetts Turnpike, established through Athol in 1780. The village center shifted from upper Main Street and the Uptown Common area to the current downtown after the start of the rail service to the downtown depot area.

The current land-use patterns in Athol greatly reflect its history and follow historic land-use trends. Prior to developing its manufacturing base, Athol was an agricultural community, and historical agricultural landscapes and farms still remain the early settlement areas of Moore and Chestnut Hill. Most of the town's commercial and industrial development is still focused in the downtown and along the Millers River. Similarly, the residential land-uses continue to be concentrated near the historic village centers, though in recent years, there has also been low-density residential development along major road corridors outside of downtown.

Athol intends to update their 2004 Master Plan, which currently states that its main goals are to encourage commercial and industrial uses and to locate them in appropriate areas in town as defined by zoning, to promote more small-scale and home-based businesses, and to protect the town's natural resources and open space through zoning and supporting land-uses in order to encourage heritage and recreational tourism. Objectives include supporting the diversification of the employment base by encouraging an increase in small and medium-sized businesses in a variety of sectors in order to reduce the current economic dependence on the few major employers. Reviewing the current zoning regulations and zoning district's boundaries to ensure that they are not negatively impacting desired residential, commercial, and industrial development, as well as encouraging infill commercial and residential development and vacant and underutilized parcels in and near the downtown are essential objectives. Encouraging actions that will help balance residential, commercial and industrial development and promoting a diversity of housing choices that will meet the needs of current and future residents is also essential.

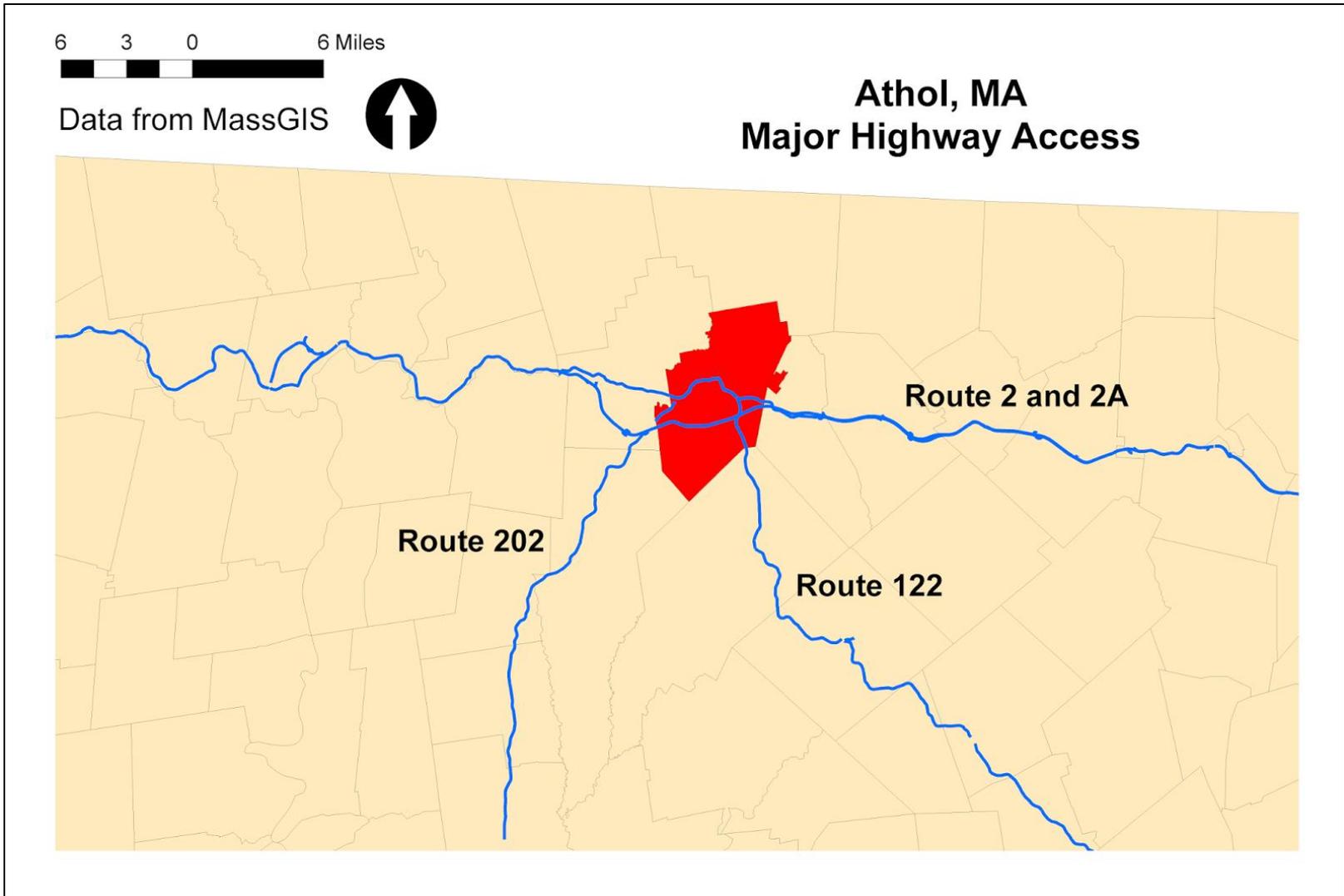


FIGURE 3: ATHOL IN RELATION TO MAJOR HIGHWAY ROUTES

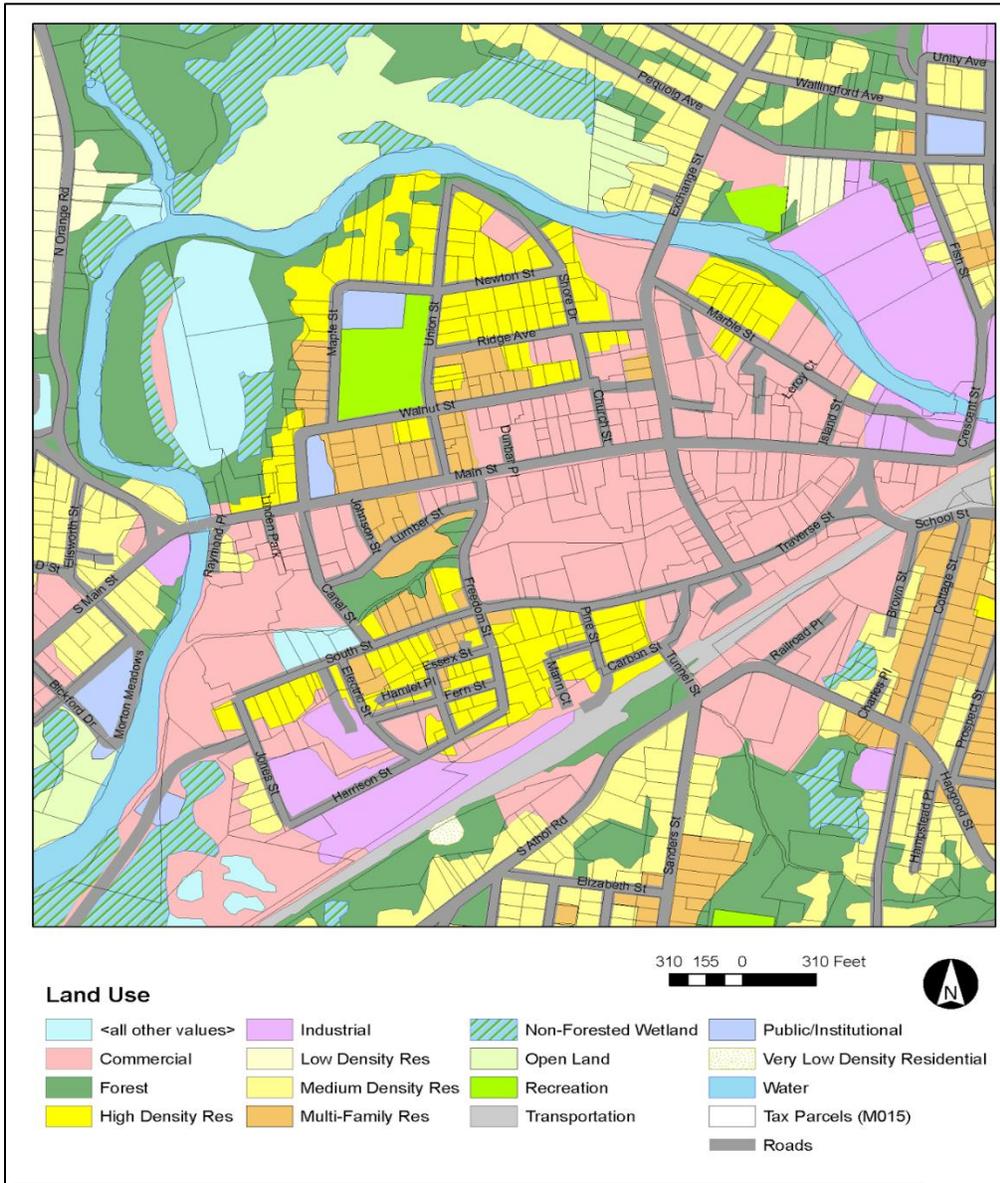


FIGURE 4: ATHOL'S CURRENT LAND USE

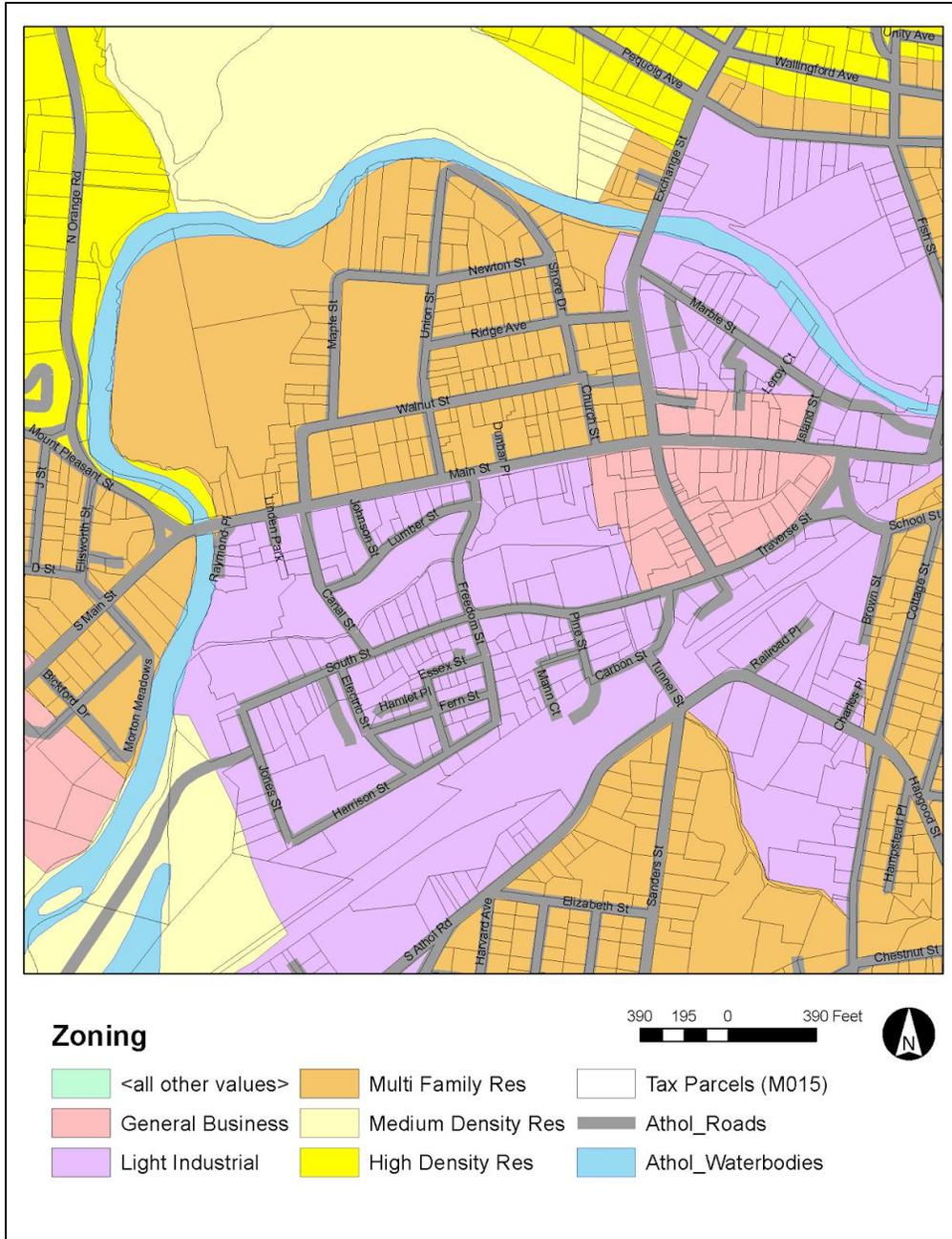


FIGURE 5: ATHOL'S CURRENT ZONING

Existing Conditions

Between 1971 and 1999, the amount of developed land in Athol grew by 28% and the amount of residential land increased by 35% (Master Plan, 2004). Large lot residential development has been the dominant pattern of land conversion in Athol in recent years, and it appears that this upward trend may continue.

As of 1999, forest covered 76% of the town's land acreage, with 1.5% cropland, 1.4% pastureland,

3% surface water, 1.6% non-forested wetlands, and orchards and nurseries at .1%, therefore the total agricultural land-use is 83.8% (ibid). Residential covered 11.7%, recreation .08%, commercial .7%, industrial .4%, urban open and public 1%, transportation .2% and waste disposal .1%, and as a result the total developed land was 14.9% (ibid).

After housing, the next most common land-uses in Athol are urban open and public lands (cemeteries, public and institutional structures and green space, parks and vacant lands), recreation areas and facilities, commercial uses, and industrial activities. The town's four commercial and industrial zoning districts, which allow many commercial uses by right, are predominantly located downtown or along Route 2A or rail corridors.

Changes in land-use between 1971 and 1999 include Agriculture and Natural Resources decreasing by 4%. Forests decreased by 3.1%, cropland by 10.7%, and recreation land by 2.8%, however the area of 'other' open land increased by 23.8%. Urban public and open space increased by 56.8%. In terms of development, residential land increased by more than 35.4%. Multifamily residential increased by more than 250%, composed of smaller residential lots that are between $\frac{1}{4}$ and $\frac{1}{2}$ of an acre, which increased 11.6%. The largest increase was the lot sizes of over $\frac{1}{2}$ an acre, which development increased by almost 67%. Other developed land increased by 11.3%. In terms of commercial development and industrial, the commercial sector increased by 4.4% and the industrial sector increased by 7.9% (ibid).

The current zoning districts and zoning regulations have been established since 1965, and there have been a number of revisions and amendments to the code since then. Primary zoning districts include Rural Single-Family Residential (RC), which constitutes 89.8% of the total acreage in Athol, Medium Single-Family Residential (RB), which constitutes 5.3% Multi-Family Residential (RA), which constitutes 2.7% of the total acreage, General Commercial (G), which constitutes 1.9% of the total acreage, Neighborhood Commercial (CB), which constitutes 0.2% of the total acreage, Central Commercial (CA), which constitutes 0.1% of total acreage, and Industrial, which constitutes 0.0% of the total acreage. Overlay Districts currently implemented include the Flood Plain District, which allows uses permitted by right granted they do not require structures, fill, or storage of materials or equipment, which are prohibited. There is also a Groundwater Protection District, which allows most activities permitted by right. However, prohibited uses include landfills, dumps, industrial and commercial uses which discharge wastewater, and sewage systems.

Potential Future Patterns of Development (as identified by the Master Plan)

In regard to potential future patterns of development, the first step is to determine the land area that could potentially be developed. Then, for remaining undeveloped acreage, exclude land areas with characteristics or environmental constraints that would make development impossible or unlikely. Finally, estimate the total number of new homes and commercial/industrial square footage that could result if every piece of unprotected land were to be developed (ibid).

According to the Master Plan, there are 13,297 acres that are potentially developable in Athol. Developable land includes 12,560 total acres of Rural Single-Family Residential (RC), 518 total acres of Medium Single-Family Residential (RB), 115 total acres of Multi-Family Residential, 98 total acres of General Commercial (G), 3 total acres of Industrial (I), and 0 total acres of Central Commercial (CA) (ibid).

In conclusion, Athol's Master Plan identifies a summary of land-use and future development issues that need to be addressed. These issues include: the need to diversify the town's economic base, the realization that dependence on manufacturing has made the town economically vulnerable during manufacturing downturns, securing land for commercial and industrial development and adaptive reuse, redeveloping vacant and underutilized buildings, minimizing impact on open space, recreation, and historic areas, as well as increasing mixed-use density development (ibid).

Team Findings

Workshop #1

During our first workshop in October 2014, many participants pointed out the confusion of the zoning districts. Zoning primarily residential areas to include commercial that has no plan might implement de facto mixed-use. Businesses that may not be desirable in the middle of a residential neighborhood, like a liquor store or adult uses store, could conceivably locate in these areas, according to current zoning. The primary workshop findings are:

- Confusion about the zoning districts and uses
- Appropriate locations of businesses within downtown
- Vacant lots and buildings need to be repurposed

Workshop #2

During our second workshop in November 2014, many did not feel that the locations of businesses in the downtown residential areas were necessarily negative, however they expressed a certain level of indifference. They said that if there were to be businesses in the neighborhoods, they would like to see commercial businesses such as grocery stores rather than liquor stores. Another thing the residents pointed out is the location of several restaurants in the residential neighborhoods, which now have been identified as vacant buildings. Another issue that was heavily expressed regarding land-use in the workshop by all parties was the Ocean State Job Lot parcel. Many would like to see the brook day lighted, as well as more attractive and compact uses.

The secondary workshop findings are:

- Parks and open space need to be enhanced
- Protection of existing open space is important
- Address the Job Lot parcel with proposed repurposing

Site Visits

During the site visits, we noticed that the Light Industrial zoning district downtown might hinder development. This is especially the case on Main Street where business owners might be deterred from moving a business in due to a more extensive permitting process and risk of lower property values. We noticed a fair amount of vacancies in town.

An area of high concern was the parcel that includes Ocean State Job Lot, a senior center which is not located in an appropriate building, a Chinese restaurant, the Sherwin-Williams paint store, and a milling factory building. The area of impervious surface is overwhelming in regard to how much of it is actually used for parking. Unfortunately, we found no delineation between the road and parking area, and it proves an extremely dangerous area for pedestrians.

During our site visits, we explored many of the parks and open space areas located within downtown, identified by residents as assets to the community. Fish Park could use some attention; however the conservation area is a great area for walking, hiking, birding, fishing, and kayaking. Despite the opportunities it provides for recreation, we feel as if the signage is not adequate to invite residents and visitors seeking recreational activities.

Town Documents

Land-use & Zoning, Master Plan

Athol's Master Plan section on land-use and zoning explains the history of Athol's development patterns, which have been strongly tied to the transportation infrastructure of different eras, and the Millers River. Outside of downtown Athol, settlement patterns have also been affected by the town's transportation infrastructure due to the shifting of the original town center, which in turn was due to the rail service.

The current land-use patterns in Athol greatly reflect its history and follow historic land-use trends. Prior to developing its manufacturing base, Athol was an agricultural community. Most of the town's current commercial and industrial development is still focused in the downtown along Main Street and Exchange Street. Similarly, Athol's residential land-uses continue to be concentrated near the historic village centers, though in recent years there has also been low-density residential development along major road corridors outside of the downtown.

Athol is often seen as less rural than many neighboring towns, and is considered one of the employment centers for the region. According to the 1999 land-use data, residences, commercial and industrial activity, and other developed land-uses account for 15 % of the town's total land area, while the remaining 85% predominantly contains forest, as well as some farms. Some of this land remains undeveloped as a result of the town's conservation efforts.

Design Guidelines (1997)

This document was created in 1997 to analyze the strengths and weaknesses of Athol's historical

downtown area. In addition to identifying these strengths and weaknesses, the publication (which was funded by a Community Development Block Grant through the Massachusetts Small Cities Program of the Department of Housing and Community Development) also implemented strict design guidelines that include signs, entrances/doorways, awnings/canopies, color, maintenance/structure, wood restoration, building equipment/hardware, ADA standards, site improvement, and standards for rehabilitation. At its core, the article believes that the restoration and revitalization of downtown buildings is the most important component of any downtown business district because “building life is extended, business activity is enlivened, and downtown morale is positively stimulated.”

Ensuring that the DSA also has structured traffic flow, suitable parking, comprehensible signage, brightly lit walking areas, and appealing landscaping are just as vital in creating a successful downtown revitalization plan. Considering these improvements, the outlook on downtown Athol is very positive. While some of the historical buildings do need extensive rehabilitation, the majority of them only need minimal aesthetic improvements. The rest of the article brings the reader through each set of design guidelines in an easy to understand assessment that provides a unifying theme for downtown Athol.

Literature

The following articles were selected due to their relevance to land-use and zoning. In particular, we wish to gain valuable knowledge in land-use and zoning issues in regard to case studies that support Athol and their goals for land-use and zoning. Gaining valuable knowledge and insight from these articles has helped us to formulate recommendations for Athol, and how to implement these recommendations. The appropriate allocation of uses that compliment zoning districts is the primary focus in regard to Athol.

“Preservation of Small Town Character in the Town Center of Rutland, MA”

Throughout the United States, many small towns are facing nearby development pressure. Many downtowns are dying or in danger due to competing large commercial developments outside the center of town. More economic opportunities and incentives are needed in order to survive. In Rutland, Massachusetts, a small town of approximately 6,200 people, the townspeople are taking a step back to view their town and evaluate their situation before they lose their community character. In order to preserve their community character, Rutland needed to have a long-range plan for the town center that considered both the historic integrity and the need to maintain or expand business uses in the town center. A part of this process would also include assessing the zoning in the center of town.

This article is relevant to Athol because it expresses the economic struggles and needs of a small town in New England recovering from former industrial glory. The town center is highlighted as one of the most important physical features of the small town character. Athol’s downtown is one

of the most vital parts of the town, and with appropriate allocation of businesses, has much potential to be the economic driver of the town. In this article they explain the tools and techniques used to enhance and alter the land-use and zoning to promote success in the economic revitalization of town, as well as historic and cultural preservation. This article promotes many case studies that are relevant to Athol.

A recommendations drawn from this article includes a first step in advancing the case of historic preservation locally, which is to initiate a comprehensive historic preservation plan in the town. With the assistance of an outside preservation consultant, the Historical Commission could complete such a plan. The appropriate method when creating a Historic District is to first demonstrate these initiatives on a small scale to gain popularity with the town. To assist with economic revitalization, the National Main Street Program should be researched because of its many policies that aim to both preserve community character and enhance economic vitality. Combining the efforts of national programs such as Main Streets and in-town participation will help small towns achieve economic success. While many of the zoning actions are integrated into either the historic preservation or downtown revitalization initiatives, they are key elements in preserving the character of small towns.

In conclusion, the best information provided by this article includes several useful recommendations to implement in regard to land-use, zoning, preservation, and economic development. There are many useful tools and techniques in regard to defining and preserving small town character. The article stresses the importance of participation and involvement by residents as well as town officials and organizations for a successful initiative. Much of the initial process in regard to preservation and economic development initiatives starts with reworking the zoning to promote appropriate land-uses.

“Smart Growth’s Blind Side”

Smart growth is a planning framework for guiding sustainable urban development. On one hand, smart growth promotes compact, dynamic development intended to improve urban neighborhoods by creating jobs, attracting residents, and increasing tax revenues. Smart growth, however, has a policy blind side--it fails to recognize connections between urban industrial land and the activities it supports with smart growth goals of limiting sprawl and revitalizing central cities. This article supports a claim of a policy blind side by documenting smart growth’s omission of policies for revitalizing urban industry. For many cities and planners, adopting smart growth sprawl-containing strategies is associated with the conversion of relatively inexpensive industrial-zoned land to land zoned for mixed-use commercial and residential development. This often has the effect of weakening the economic base in these locations and reducing the supply of job-producing land in an urban environment which in turn contributes to industrial sprawl elsewhere.

This article is relevant to Athol because we are recommending 40R Smart Growth zoning moving forward with the vision plan. However beneficial the ordinance is, it is important to keep in mind

the pros and cons of such a regulation. It is important for Athol to address the risk of industrial land in town, however being careful in the process. While exerting efforts to reduce this risk, such as the proposal of explicit local policies to preserve industrial land and jobs while pursuing smart growth, it is important to keep in mind the challenge it provides to attracting new manufacturers and preventing further industrial decline.

Recommendations drawn from this article include utilizing a blend of public and private partnerships to overcome the challenges of urban industrial revitalization. Local governments could inventory their industrial land, provide this information to private developers, streamline approvals, and reduce redevelopment costs in an effort to spark conversion of industrial land to residential and other nonindustrial uses. It is recommended that local planners, developers, and communities make smart growth objectives more explicit in comprehensive plans that have outcomes such as sustainable economic development. Planning's professional body needs to emphasize the positive benefits of industrial development for urban revitalization. They must also strive to make connections with local industrial planning in regard to the smart growth movement.

In conclusion, the best information provided by this article includes the review of the recent industrial policies of 14 different cities in an effort to reveal the disconnect between urban industrial development and smart growth approaches. Green-Leigh and Hoelzel found that local industrial policies initiated by cities has resulted in significant amounts of industrial land being converted to other uses in the name of smart growth. Although development pressures to convert industrial land to higher densities and other uses persist, the national economic crisis has led to a call for strengthening manufacturing. It is important for practitioners to isolate the reasoning behind smart growths direction towards discouraging industrial suburban sprawl and revitalizing central city industrial areas.

“Rethinking Streets: Urban Mixed-use. Second Street, Long Beach, CA

The Urban Mixed section of Rethinking Streets is geared towards land-use and zoning. Second Street incorporated wide green stripes and sharrows (painted signs on the street) to give bicyclists a more comfortable travel lane on the busy strip. This gives a signal to pedestrians, bicyclists, and drivers alike that this lane is shared among the three users, while the sharrows indicate that bicyclists should follow the flow of traffic much like the cars. These added bike lanes proved beneficial to businesses, since studies showed 15% of shoppers travel by bike, and 80% of businesses observed an increase in business after the implementation of the green stripes. The implementation also increased the numbers of bicyclists simply because they felt safer traveling on that street, and in turn the number of crashes declined roughly by 25%. The green lane was implemented to encourage the bicyclists to take control of the lane, so that they would be out of the way of the door zones of cars. Before the renovation, Second Street was a popular destination for bikes, but with added infrastructure like the green stripes and decorative bike racks for bike parking, it has become even more popular.

This article is relevant to Athol because it shows how implementing more pedestrian and bike friendly streetscapes could potentially boost the economic revitalization of downtown Athol. Adding easier pedestrian and bike access would encourage more traffic of that kind to downtown Athol. Enhancing the aesthetics of downtown Athol would also be achieved by implementing these techniques, making the downtown more inviting to residents and visitors. Adding amenities such as bike racks, bike lanes, and signage would also alert people to the initiative and promote the new access.

Recommendations drawn from this article include implementing outer lanes in both directions on the street. Coloring them with bright green paint calls attention to the mix of bikes and cars in the lane. Installing oversized white sharrows over the green paint is also important. These are symbols indicating that bikes share the travel lane with cars, and should travel in the flow of traffic.

In conclusion, the best information inferred from this reading is that the implementation and use of such simple amenities have a strong positive influence on communities. These strategies have a strong positive influence on businesses, since they draw more pedestrian and bike traffic to the downtown. In regard to land-use and zoning, locating these amenities within the downtown would most likely draw more attraction of residents to the downtown, and therefore, in turn, more businesses may locate there.

Precedents

“Yoking Form-Based Codes and Historic Districts”

This article is important because it explains how form based codes and historic districts can co-exist. Form Based Codes (FBC) is a zoning tool that requires WHAT from WHO. FBC is usually used for redevelopment or new development, not preservation, and may result in inappropriate alterations or renovations of historic buildings. First, the article describes FBC as a tool for historic preservation in contrast to historic district overlay zoning. Next the author describes hybrid codes, which incorporate or synthesize components of traditional zoning and form based codes. Good hybrid code has preservation-minded provisions to protect existing buildings, avoids inappropriate alterations, and yields compatible infill. According to the Form Based Code Institute, most historic areas could use both a historic district overlay and a form-based code. This scenario may not always be realistic due to the challenge of implementing either tool.

This article is relevant to Athol because the town has many historic buildings that could benefit from changes to their zoning. This article also addresses how to prevent the shock of a total overhaul of a town’s facades by experimenting first at a small-scale level. This can be done by implementing FBCs on a small section of town, most reasonably the downtown commercial districts. Despite being a big initiative towards radical change, this can prove to residents that targeted FBCs and major infrastructure investments have the potential for much positive yield within a community. Positive yield may be demonstrated through new compatible housing units, a more unique and

uniform physical look, and more density.

Recommendations drawn from this article include the suggestion that most historic areas should be implemented with both FBCs and a historic overlay district; however this is not always easily achieved. While FBCs are often implemented in historic district guidelines, they are an inadequate substitute for historic overlay zoning for a community's most important historic areas. FBCs however, can discourage demolition because development that would replace a demolished building would be smaller and more compact, which is hardly a financial gain. Also, FBCs prescribe the design features based on the building's location, type, and associated standards. The focus is primarily on building form and site-planning issues such as frontages, while avoiding dictating architectural styles and details. A lot of work goes into crafting these standards for infill development, which allows them to be prescriptive enough to be implemented administratively.

In conclusion, the best information inferred from this article is the idea that Historic Districts should be used to protect significant cultural areas while FBCs can help future development become significant. FBCs are more effective than conventional zoning in addressing the relationship between the public and private realms; the form and mass of buildings; and the scale and design of streets, lots and blocks. Hybrid codes between FBCs and historic overlay districts have been successfully implemented however, as expressed in the Beaufort, South Carolina case study presented.

“Seven Communities Honored with EPA Smart Growth Award”

In 2012, the U.S. Environmental Protection Agency (EPA) recognized seven communities with its National Award for Smart Growth Achievement. The EPA created the award in 2002 in order to recognize creative and sustainable initiatives that protect and strengthen the health, environment and local economy within communities. The 2012 award winners were recognized in four categories, which include: overall excellence in smart growth, equitable development, Main Street or corridor revitalization, and programs and policies. The recipients of this award include Lancaster, California, Denver, Colorado, Brattleboro, Vermont, and Portsmouth, Virginia.

This article is relevant to Athol because it shows that smart growth initiatives do in fact produce results. It is important to study the benefits of such programs when considering the implementation of them. The article explains how smart growth can encourage communities to revitalize brownfield sites, in turn bringing jobs and amenities in. Smart growth initiatives installed in Athol would transform vacant and forgotten spaces. Turning these spaces into bustling neighborhood centers would create thriving spaces for public and community engagement.

Recommendations drawn from this article include implementing smart growth initiatives to transform forgotten and underutilized spaces into economic and communities centers. This can be achieved by investing in new streetscape design, public facilities, affordable homes, and local businesses. These projects would demonstrate how redesigning a corridor could spark new life into a

community without much effort.

In conclusion, the best information inferred from this article includes case studies demonstrating the effectiveness of employing smart growth initiatives. This includes the redevelopment of Denver's historic and ethnic neighborhoods, turning an economically challenged area into a vibrant, transit accessible, district. The community's master plan presents affordable housing while adding energy-efficient middle-income and market-rate homes. Because of extensive community engagement, development will include actions to improve the health of residents, reduce pollution, and control storm water runoff. Safer streets, job training and education programs will transform neighborhoods into models for economic, environmental, and socially sustainable places to live.

“From Skid Row to LoDo: Historic Preservations Role in Denver’s Revitalization”

This article demonstrates that historic buildings can serve as the impetus for revitalization of an area. The article documents how Denver transformed what was considered the blighted, albeit historic, area of Lower Downtown into a resource through historic district designation status in the mid 1980s. The story of that success owes much to the efforts of the mayor at the time, Federico Pena, who had an ambitious revitalization plan for the city and he believed that the historic warehouses in Lower Downtown could serve as a catalyst for the revitalization of the entire downtown. They feared that a historic district designation would stifle investment and reduce property values by imposing onerous restrictions. Despite these claims, the city council passed the Lower Downtown Historic District Ordinance in 1988. Contrary to opponents' fears, the historic district designation has been a tremendous boon to the city spurring private sector investment and spawning development.

This article is relevant to Athol because the town's infrastructure and culture are heavily representative of historical context and identity. Historic preservation maintains the character of a town, and this is especially important in small New England mill towns. Much like Athol, this section of Denver witnessed a period of economic boom in the industrial sector, however a rapid decline followed. This article gives valid insight on how to recover from such a loss.

Recommendations drawn from this article include transforming the uses of the downtown from traditional industrial uses, to more contemporary uses. However, in doing so, it is important to maintain the historical integrity. Maintaining an identity within town is a priority to small towns. This article recommends imposing demolition controls and setting strict design guidelines for new construction and the rehabilitation of existing structures and streetscapes.

In conclusion, the best information inferred from this article is before the historic designation in the Lower Downtown district, the vacancy rate was 40% and 30% of the properties had been foreclosed upon. In addition to widespread demolitions, blighted conditions prevailed. After the designation, dozens of historic buildings were renovated to accommodate offices, art galleries, restaurants, bars, housing, and retail uses. Conversion of warehouses into lofts began, and younger residents began

moving in. Lower Downtown housing stock grew from 89 units to more than 600 units within eight years. The secret to historic district zoning success is that scarcity and certainty create value in real estate. Historic buildings are a scarce resource. Tax Yield per Acre (TYPA) Analysis

Our team's assessment included analyzing Tax Yield per Acre (TYPA) of parcels we identified as vacant or underutilized. The concept of TYPA is to analyze currently vacant or underperforming parcels within downtown Athol and deliberate uses that could be proposed and implemented for those parcels. The next step is to research diverse typologies taken from the surrounding context and apply them to the parcel you are analyzing. Typologies that yield a high dollar amount in regards to taxes are optimal. Choosing typologies that are both dense, and located on a small parcel generally yield the optimal tax yield per acre. In this process, we selected three parcels that we felt were underutilized or were deemed vacant.

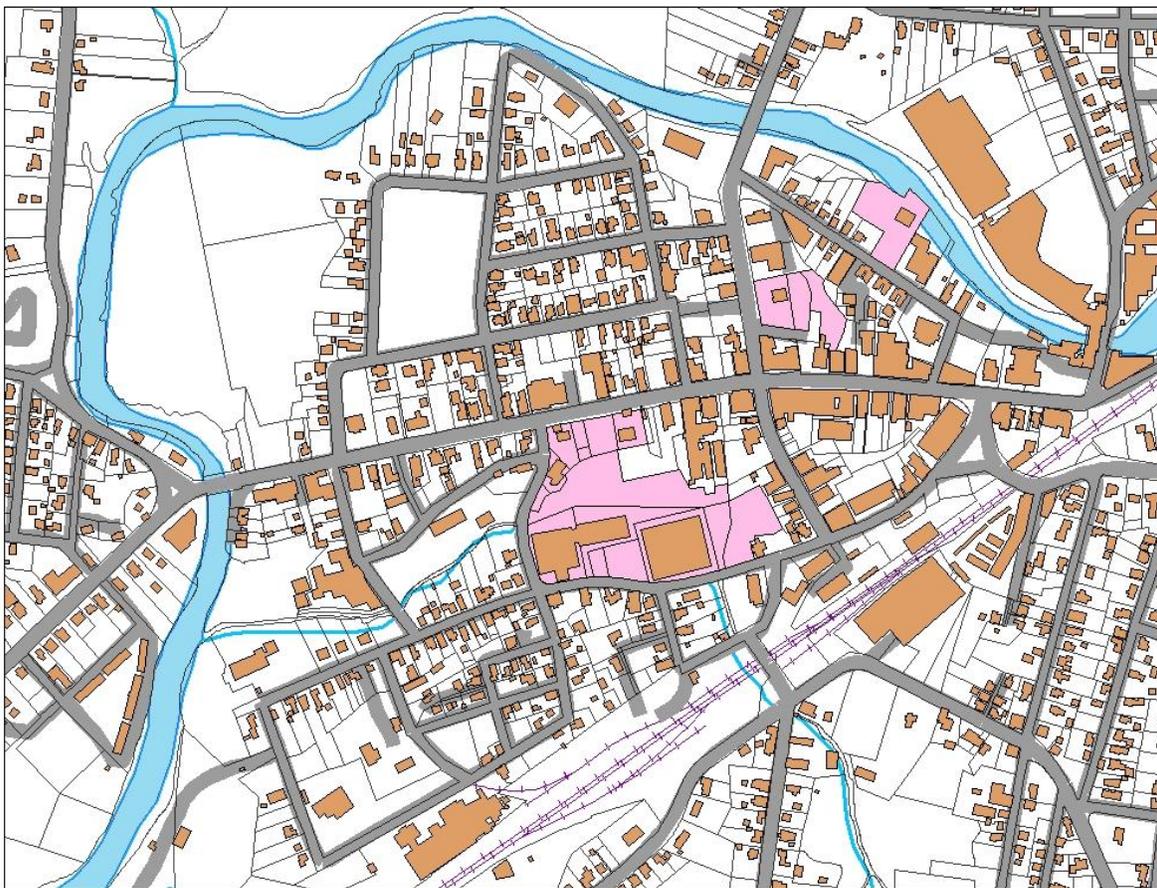


FIGURE 6: TYPA FOCUS AREAS

Marble Street TYPA Analysis

At the present time, the Marble Street parcel is used as automobile storage and contains a garage. The main usage on Marble Street, however, is residential. A fair number of the buildings along

Marble Street have been kept up in terms of aesthetics. Our chosen parcel for redevelopment is 1.15 acres and produces \$1,673 per year in taxes. The existing building on the parcel fits in with the surrounding area, which is primarily zoned for commercial and industrial. There are several two story houses and two or three story commercial/mixed-use buildings across the street from the site. The surrounding commercial/mixed-use buildings display brick as the primary material, so we chose mixed-use building typologies that also have this characteristic. The selected building typologies have a first floor that serves as commercial use for offices or retail stores and the top floors serve as apartments and permanent residences. Please see the maps below.

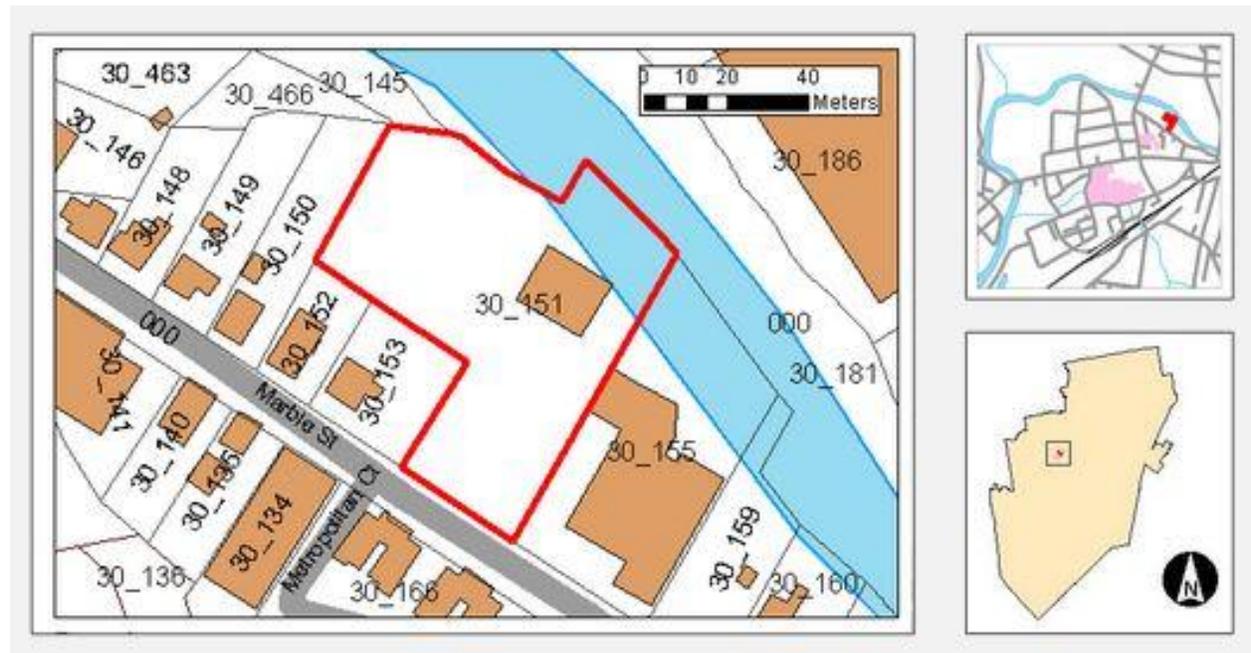


FIGURE 7: MARBLE STREET PARCEL

These are the various maps for the Marble Street TYPA analysis.

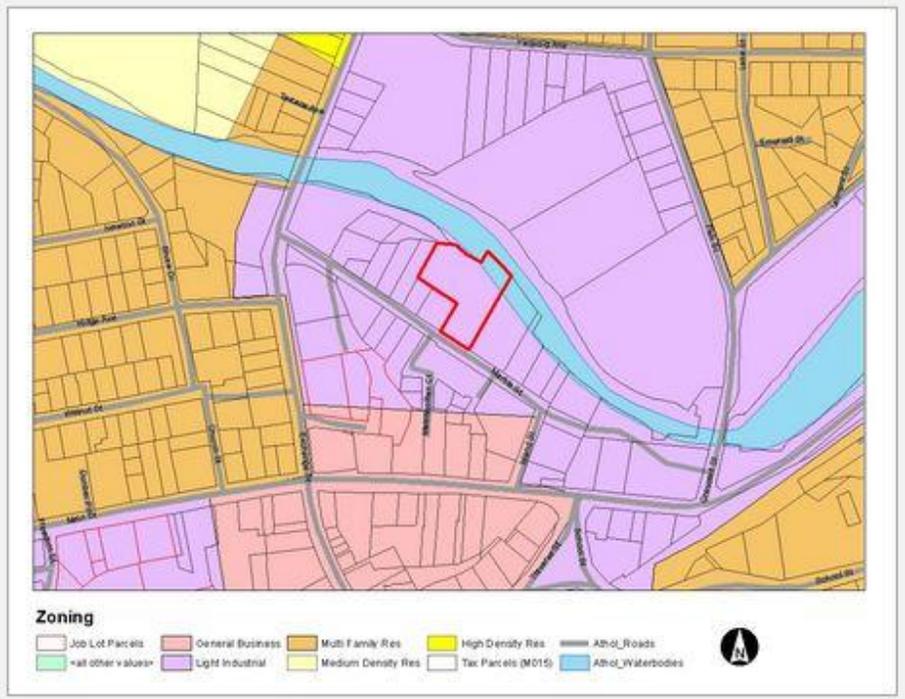


FIGURE 8: MARBLE STREET ZONING

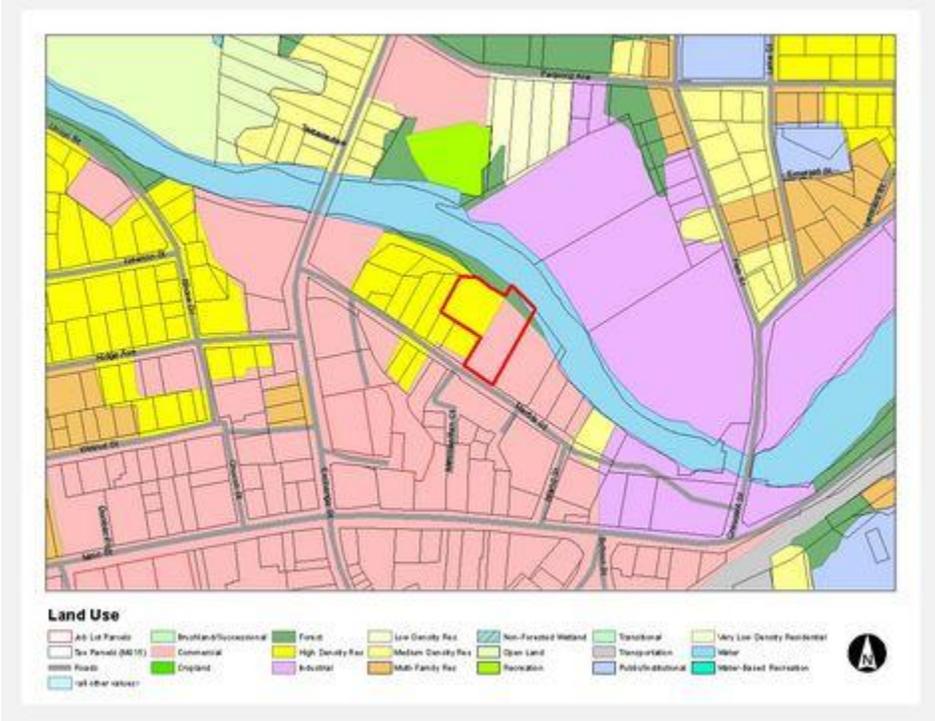


FIGURE 9: MARBLE STREET LAND-USE

Our team proposal for this parcel is to build two mixed buildings, one being 2 floors and the other being 3 floors. They will be sited and attached together on the lot. This mixed-use development will impact the community by allowing for both new residents and prospective businesses. We believe that the neighborhood characteristics would be impacted minimally due to similar materials and surrounding uses as the other buildings in the area. Applying the selected typologies from the contextual area, we determined that there would be an increase in tax yield per acre of the site. If you chose to implement the 2 story mixed-use building typology, the site would yield \$21,237.75 annually.

Exchange Street TYPA Analysis

The second project area for our TYPA proposal consists of three parcels located on Exchange Street. This area comprises 1.35 acres of land zoned for Retail Business. The total assessed value of the Exchange Street parcels is \$172,000 and the TYPA is \$2,348. The area currently consists of a rundown gas station and a small parking lot. The parcels hold no value to the community as the gas station does not have a function and it has remained vacant for quite some time. This project area proximate to Main Street and has the potential to contribute to the greater downtown as a mixed-use area. Please see maps below.

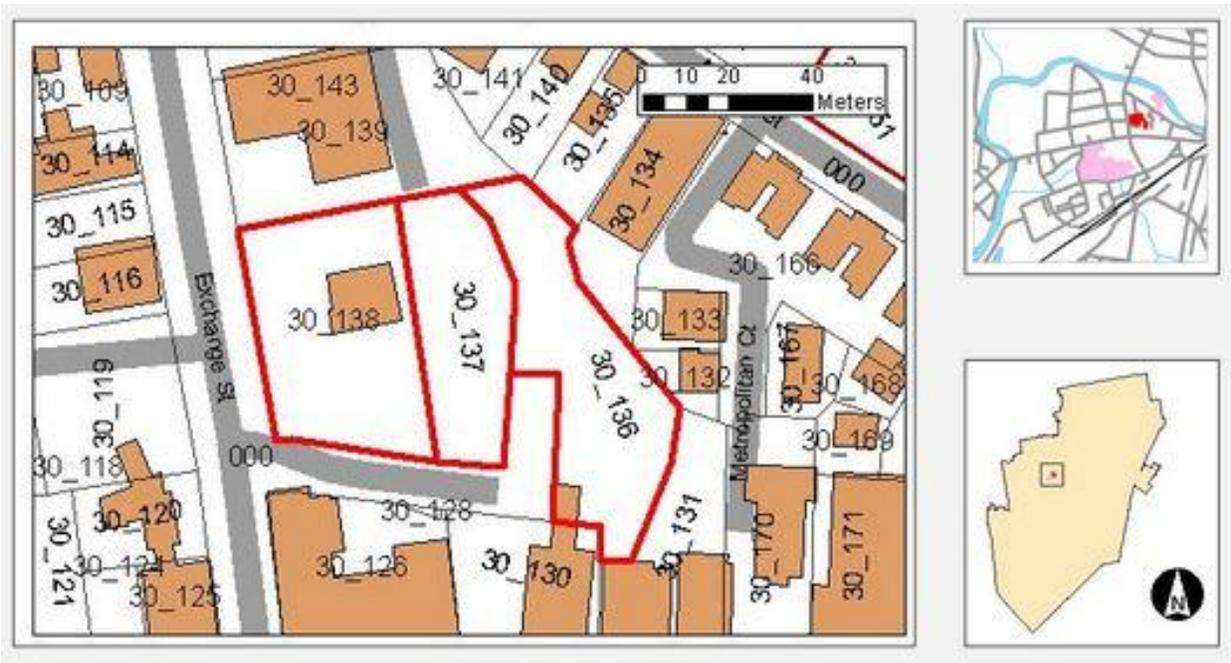


FIGURE 10: EXCHANGE STREET PARCEL

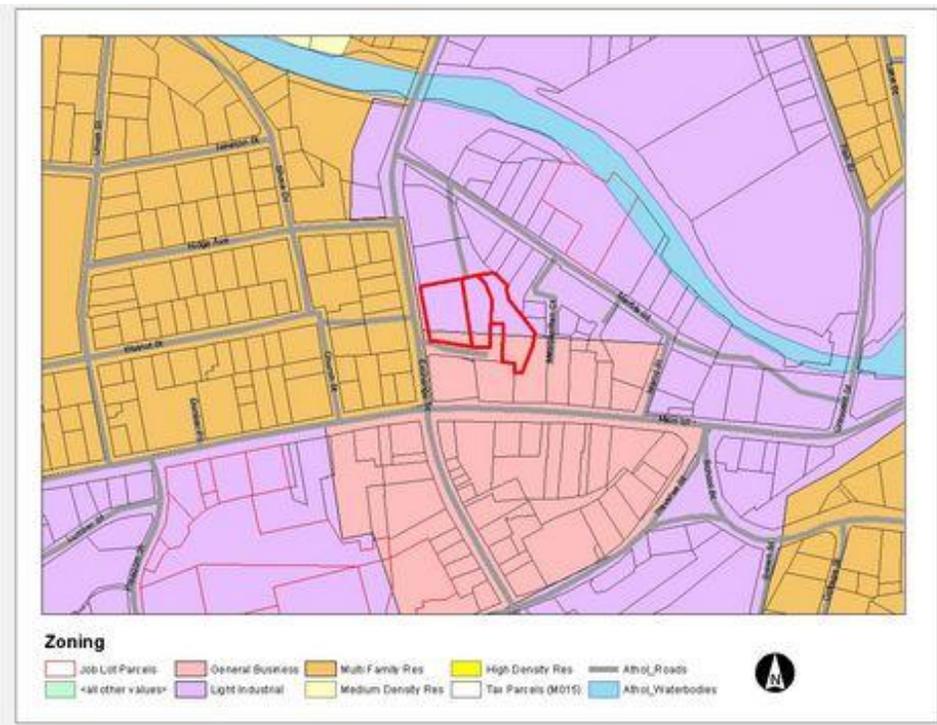


FIGURE 11: EXCHANGE STREET ZONING

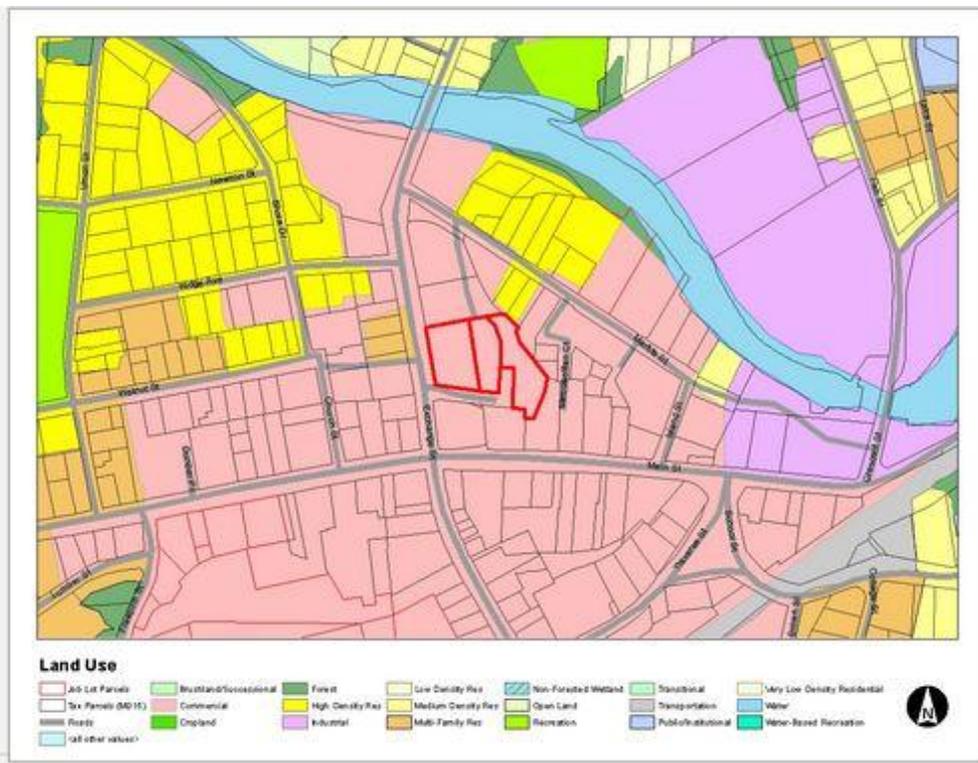


FIGURE 12: EXCHANGE STREET LAND-USE

Our goal is to redevelop this site with building types that are consistent with the neighboring parcels of land, which mainly consist of two-story buildings. This selected building typology will allow for opportunities to attract residents and businesses to the DSA by providing both commercial and living space.

Our team's proposal for this parcel is to redevelop the vacant parcel with the construction of 2-story mixed-use buildings. This project would impact the neighborhood character by providing space for new commercial businesses on the first floor and serving as an alternative housing option for residents on the second floor.

Ocean State Job Lot Parking TYPA Analysis

The 14 Ocean State Job Lot parcels total 7.91 acres. The agglomerated parcel faces South Street and Freedom Street. At present, the parcel contains a paint store, Ocean State Job Lot, the Old Lee Shoe Factory, Cumberland Farms, and Athol's Senior Center. The 7.91 acre parcel is located on top of the historic Lord Pond and the Mill Brook, which is currently channeled underground. The current assessed value of the parcels is \$2,991,300 and the TYPA is \$99,445.

Overall, the parcel is vastly underutilized with an abundance of impervious parking space. Our team's proposal for the large parcel consists of implementing a mix of building types and uses that would fit together to make it a place where people will work, live, and play. First, the redevelopment would contain multiple floors of mixed-use. Second, it would contain an urban grocery store or co-op that would fit within the mixed-use area. Third, the proposal would contain multiple floors of commercial use. The maps are below.

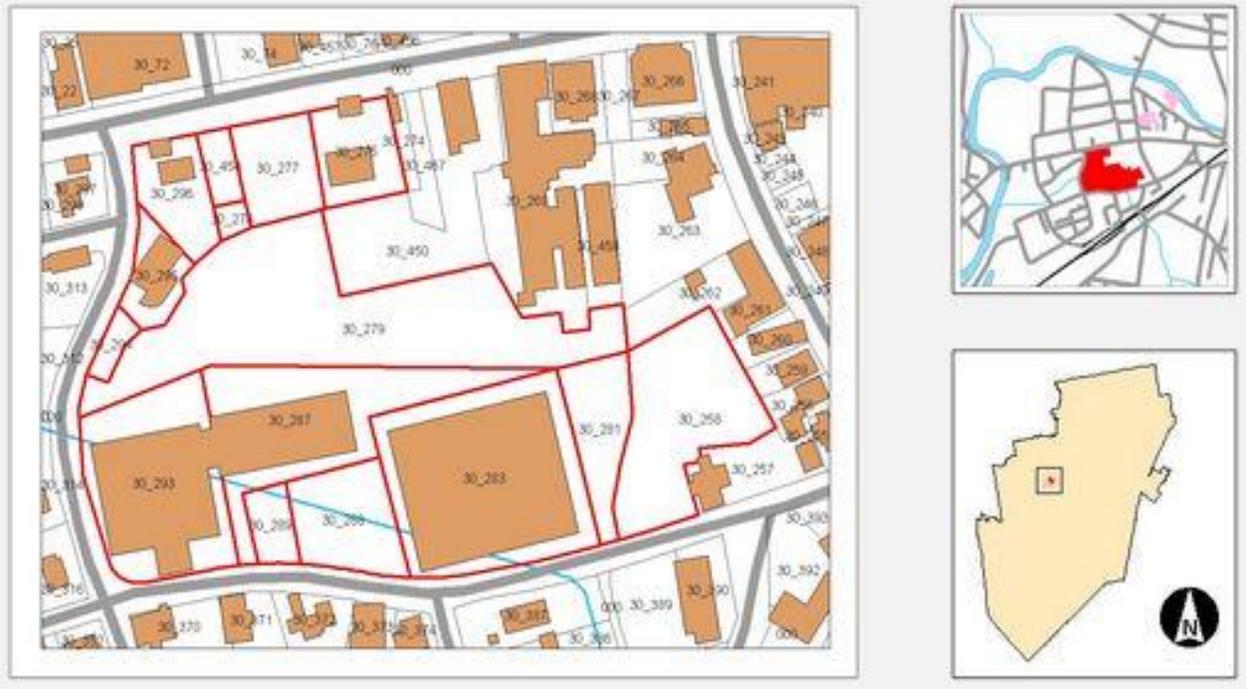


FIGURE 13: OCEAN STATE JOB LOT PARCEL

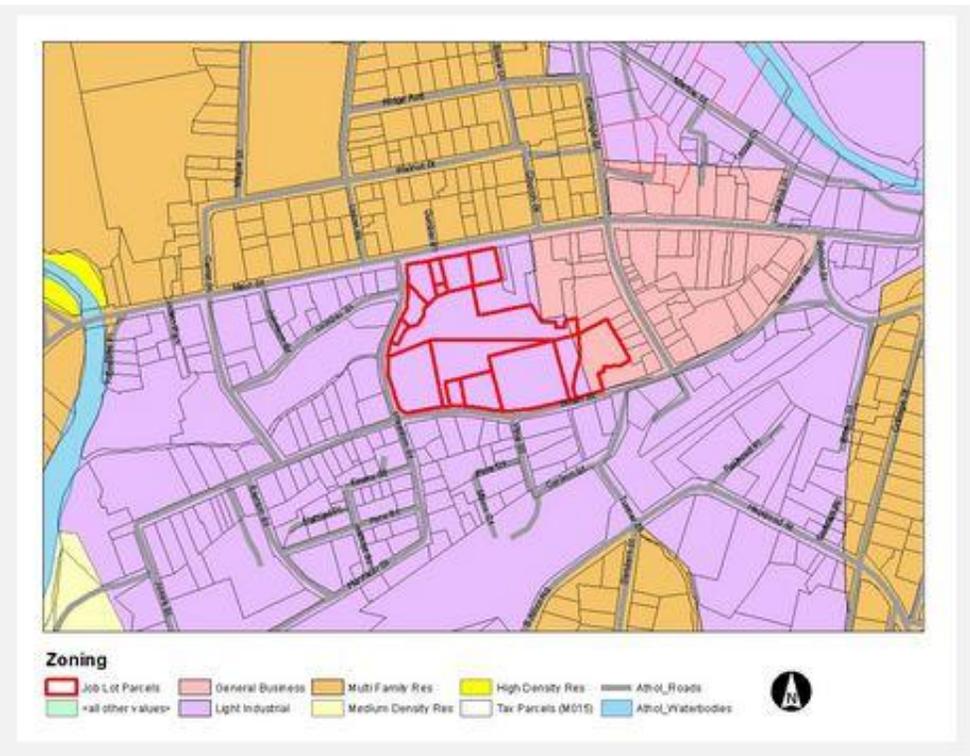


FIGURE 14: OCEAN STATE JOB LOT PARCEL ZONING

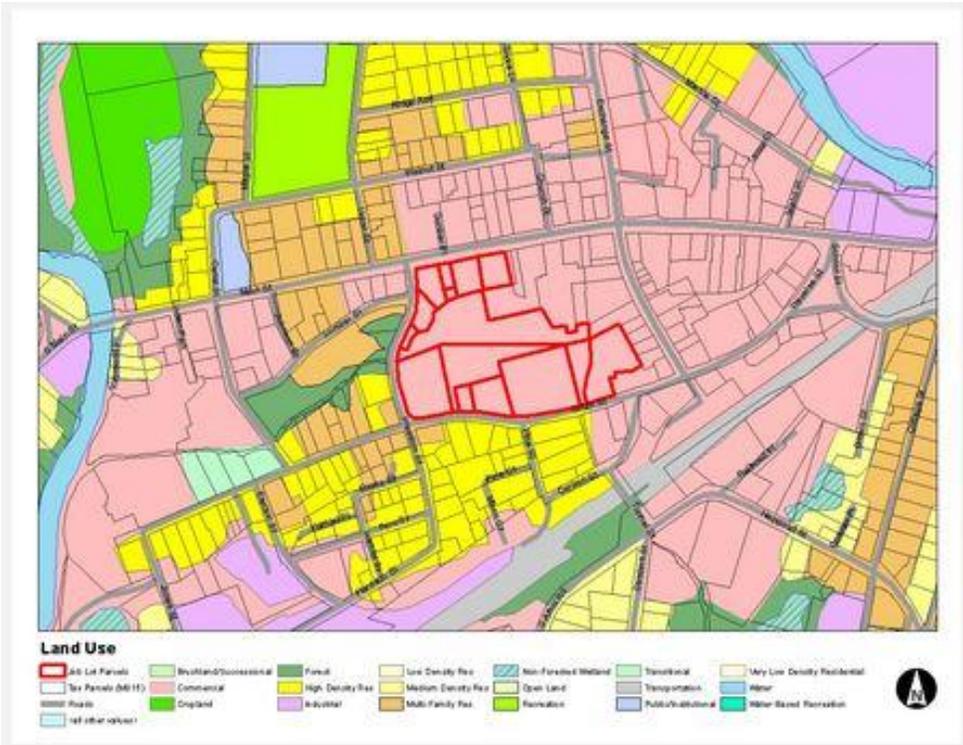


FIGURE 15: OCEAN STATE JOB LOT PARCEL LAND-USE

Summary of Team’s Assessment

As a team, we feel as if there need to be major changes in zoning to increase appropriate commercial and retail location in the downtown. Defining zoning districts more appropriately to discourage de facto mixed-use and implement overlay districts to define residential and commercial more adequately are also issues that need to be addressed. The zoning bylaws and regulations were first enacted in 1965 and need to be reevaluated to see if they still support the community’s vision for its future and future development.

Zoning is a way to encourage development and land-uses that agree with the community’s values and its vision for the future. We feel that the Ocean State Job Lot parcel is a major land-use issue that needs to be addressed with mixed-use intent. The recreation areas, which residents identified as assets for the community, need to be focused on for making them more accessible and promoted, as well as sprucing them up for use. Zoning provides another means for Athol to protect important town features.

Deliverables

As part of the Land-use and Zoning analysis, MRC conducted two Lynch Analyses of areas that need improvement in terms of aesthetics, land-use, and application to the zoning district. A Lynch Analysis is a tool that helps to identify issues and assets within a community involving edges of an area, paths which include streets and pedestrian ways, districts which involve the character of certain areas within a community, nodes, which are places where people gather, and landmarks, which can be nodes or simply identifiable objects or places within a community.

Lynch Analysis One: Harrison Street Block

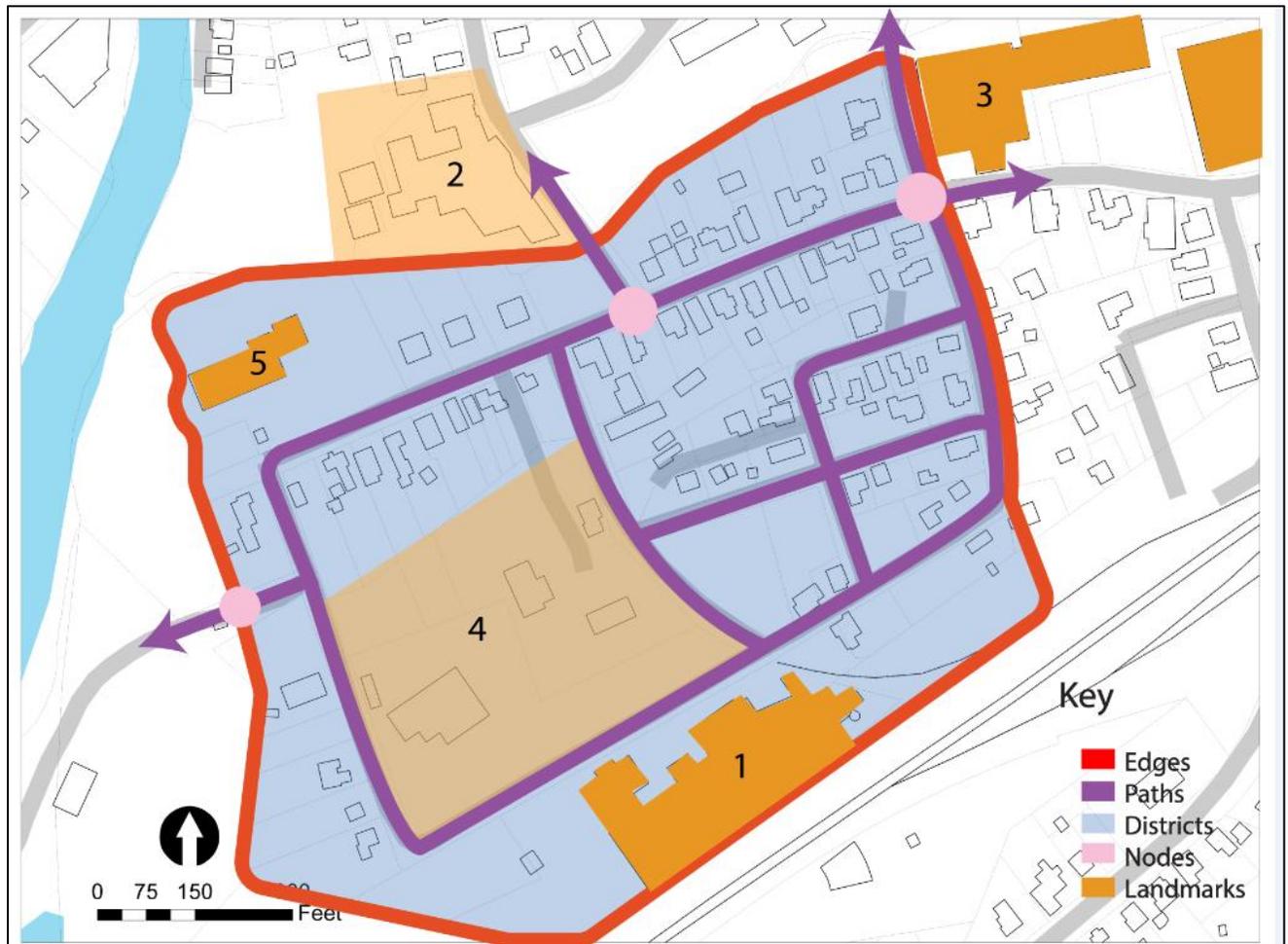


FIGURE 16: LYNCH ANALYSIS-HARRISON STREET BLOCK

The Lynch Analysis of the Harrison Street Block identifies the edges outlined in red of the neighborhood as the parcels north of South Street, west of the NSTAR/Mass Electric parcel, south of the Athol Table parcel, and east of Freedom Street and South Street intersections. The district, which is defined in this model by the blue stripes, is the Harrison Block District.

The paths are defined by the purple lines as several streets that intersect throughout the Harrison Street Block. Landmarks are defined by the orange lines, and include (1) Athol Table Manufacturing parcel, (2) Cass Factory parcel, (3) Ocean State Job Lot parcel, (4) NSTAR/Mass Electric parcel(s), and (5) 84 South Street abandoned factory parcel. There are currently no identifiable nodes.

As demonstrated by the Lynch Analysis, the paths provide adequate access and circulation to residences and businesses. The landmarks include a former industrial business, which is now a vacant parcel after a fire destroyed the buildings. This, as well as the abandoned factory on South Street, have potential for redevelopment. The Job Lot parcel also has potential for redevelopment, better suited for mixed-use development and potentially daylighting the stream offering a green space for the residents of the Harrison Street block. Athol Table and the NStar parcels are an example of how light industrial zoning allows a potentially detrimental mix of residential and industrial/commercial uses.

Currently, there are no identifiable nodes for residents and employees of the companies to spend time. This could be resolved by providing parks or other green space areas for recreational use through development of the parcels discussed above.

Lynch Analysis Two: Main Street & Exchange Street

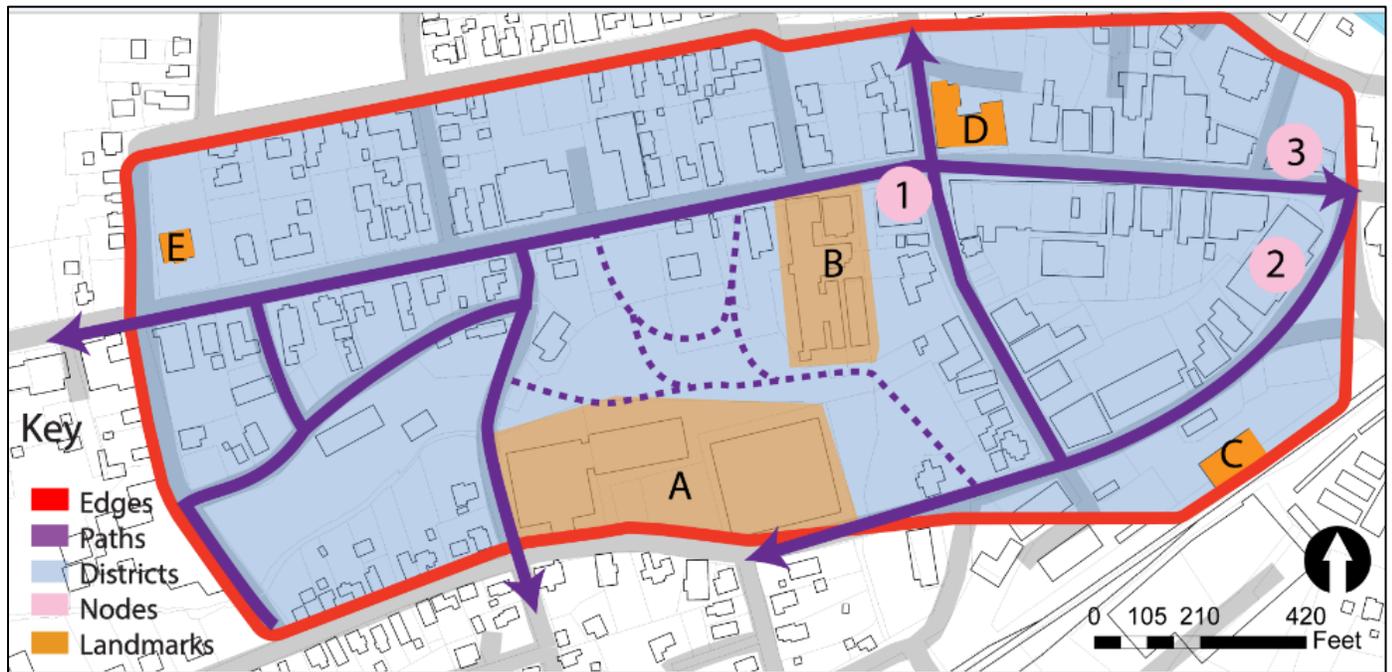


FIGURE 17: LYNCH ANALYSIS-MAIN STREET & EXCHANGE STREET

The Lynch Analysis of the Main Street and Exchange Street areas identifies the edges outlined in red of the downtown to encompass the businesses and buildings north of Main Street. The eastern

boundary is east of Traverse Street and the library, the southern boundary is south of the train station and job lot parcels, and the western boundary is west of the Environmental Center and along Canal Street. The district, which is defined in this model by the blue stripes, is the Main and Exchange Street District.

The paths are defined by the thick solid purple lines, which represent the main roads such as Main Street, Exchange Street, and Traverse Street. The thinner solid purple lines represent secondary streets such as Lumber Street, Johnston Street, and Dunbar Place. The dashed magenta lines represent walking paths of pedestrians. Landmarks are defined by the orange lines, and include (A) Ocean State Job Lot parcel, (B) the Casket Factory parcel, (C) Athol Train Station, (D) Pequig Building, and (E) the Environmental Center. Nodes are represented in pink, and are defined by (1) Veterans Park, (2) YMCA, and the (3) Library and park.

As demonstrated by the Lynch Analysis, the paths serve as strong definitions of space along this corridor. Route 2A (Main Street) is the primary conductor of traffic through the DSA. Exchange Street is a secondary conductor of traffic through the DSA. Dunbar Place presents confusing paths. The street is also dangerous, running haphazardly through the Job Lot parcel. This street has no clear definition between street and parking lot. The walking paths demonstrate paths which pedestrians take through the Job Lot parcel to access different parts of the downtown, however there are no defined pedestrian spaces, deeming this area unsafe for pedestrian access.

The nodes represent places where people gather. Veterans Park's mission is to serve as a place for people to gather and reflect on the Veterans, however, its design is not currently conducive to that activity. The YMCA and the library are currently defined as assets to the community, and places where residents gather frequently.

The landmarks represent places that are easily recognizable and stand out of the landscape. Landmarks we have identified include the Environmental Center, which is undergoing the process of conversion into a Natural History museum. This is beneficial in terms of attracting residents and visitors to downtown Athol. The Casket Factory is an underutilized industrial building that supports historical infrastructure and has the potential to become a mixed-use driver of economy. The Job Lot parcel has the potential to be redeveloped for mixed-use and daylighting of the stream, creating open space. The historic train station is currently being used by a freight line, however it has potential for use as a commuter line to Greenfield, and perhaps as far as Boston. The Pequig building, formerly a hotel, is one of the buildings that stands out the most. This building rises four stories over the DSA, and supports ornate brick work and historical features.

Recommendations

Implementing Form Based Code

A form-based code is a land development regulation that fosters predictably built results and a high-quality public realm by using physical form and characteristics for the organizing principle for the

code as opposed to separation of uses. Form-based codes are very place specific and usually regulate at the neighborhood scale or smaller. These codes are especially useful in urban centers but can also be used in existing or new village centers. Form-based codes address the relationship between building facades and the public realm, the form and mass of buildings in relation to one another, and the scale and types of streets and blocks.

The regulations and standards in form-based codes are presented in both words and clearly drawn diagrams and other visuals. They are keyed to regulating plan that designates the appropriate form and scale (character) of development, rather than only distinctions in land-use types. This approach contrasts with conventional zoning's focus on the micromanagement and segregation of land-uses, and the control of development intensity through abstract and uncoordinated parameters (i.e. FAR, dwellings per acre, setbacks, parking ratios), to the neglect of an integrated built form. Not to be confused with design guidelines or general statements of policy, form-based codes are regulatory, not advisory. They are drafted to implement a community plan.

Form Based Codes: A Step by Step Guide for Communities

Most communities that choose to implement form-based codes seek outside help for lack of time for that staff to undertake the project on their own. This guide is aimed at educating and informing municipal staff about form-based code and the implementation process to help them prepare for the process, facilitate and monitor consultants, and administer the new code. Conventional Euclidean zoning has resulted in single use districts separated by ever increasing distances. This has caused social isolation as well as a decrease in the efficiency of walking and mass transit as transportation modes. A community might want to adopt form-based code if they are unsatisfied with new development. Form-based codes proactively guide development so the community gets what it wants out of new construction. Template codes are available for communities who don't want to start their form-based code from scratch. The Smart Code, created by planning firm DPZ, includes model ordinance language, standards, requirements, and procedures for review (Chicago Metropolitan Agency for Planning, 2012).

Overlay Districts

Implementing overlay districts in the Main Street area for historic preservation will be essential. An overlay district is used to establish alternative land development requirements within a specific area of your community that requires special attention, such as an environmentally sensitive area or rapidly developing strip corridor. The overlay is usually superimposed over conventional zoning districts. It consists of a physical area with mapped boundaries and written text spelling out requirements that are either added to, or in place of, those of the underlying regulations. Overlays are also frequently used as standalone regulations to manage development in particular areas of a community.

The first thing to do when establishing overlay districts is to assemble stakeholders and get input

from residents, developers, and interest groups whose constituencies might be affected by the overlay district. Next, identify areas of the community where an overlay district may be appropriate, then determine whether an overlay district is the right solution. Once that is concluded, decide specific overlay boundaries and requirements, then adopt an ordinance and revise the comprehensive plan.

Implementing Adaptive Reuse Programs (ARP)

Adaptive Reuse Programs (ARP) serve a purpose to revitalize certain areas of a community by facilitating the conversion of older, economically distressed buildings to apartments, live and work units, or hotel facilities. This will help to reduce many vacant spaces as well as preserve the architectural and cultural past of those areas, thus creating a more balanced ratio between housing and jobs in the region's primary employment center (Los Angeles DBS, 2005). Instituting a strategy to encourage the reuse of vacant buildings that have outlived their original purpose and to put them back into productive use is important, as is maintaining historic features. The City of Los Angeles has implemented these strategies effectively. They achieve success of bringing vitality back to the core by implementing these ordinances. They make it easier to obtain a building permit, waive underlying density restrictions, grandfathering in non-conforming floor area, setbacks and heights, and make it so no new parking spaces are required among other things.

The adoption of a proactive Adaptive Reuse Policy and strategy will create many benefits to the region. These include redevelopment of blighted sites and structures. Promoting infill development that utilizes existing public infrastructure, which can control costs for local government, is also important. These policies will also create new economic activity at difficult sites and buildings, helping to eliminate neighborhood slum and blight. Promoting a green redevelopment strategy, recycling existing buildings and sites, as well as maintaining neighborhood fabric and historic natures are critical (The Economic Development Corporation of Erie County, 2008).

Propose Mass 40R zoning

The Smart Growth Zoning Overlay District Act, Chapter 149 of the Acts of 2004, encourages communities to create dense residential or mixed-use smart growth zoning districts, including a high percentage of affordable housing units, to be located near transit stations, in areas of concentrated development such as existing city and town centers, and other highly suitable locations. Chapter 40R was designed to encourage communities to adopt such zoning by offering cash payments as well as two important non-financial benefits. These include control over the location, size, and other characteristics of new projects through design standards and infrastructure certification, and a way to attract developer interest by creating pre-approved districts with a fast approval process (Executive Office of Housing and Economic Development, 2014).

Projects must be developable under the community's smart growth zoning adopted under Chapter 40R, either as of right or through a limited plan review process akin to the site plan review. Upon

state review and approval of a local overlay district, communities become eligible for payments from a Smart Growth Housing Trust Fund, as well as other financial incentives such as 40S, or School Insurance where towns get money for students who move into these housing projects to go to school (ibid).

Issues with 40R zoning include the time and cost to create a 40R district, which can be significant. Planning and legal costs can run from \$35,000-\$65,000 and can be difficult for smaller communities to fund without state grants or developer funding. It may become easier and less expensive going forward, however, as the Department of Housing and Community Development published guidance in March 2008 on creating a bylaw and a guidebook on creating design standards and reports that at least two smaller communities (Weymouth and Georgetown) have put together preliminary applications with little or no use of outside consultants (ibid).

Interviews with planners suggest it also takes a year or more to go through the planning, public hearing, application, local zoning approval, and final state approval processes, though a few districts went through it more quickly. However, once the district is created, developers can expect a relatively quick review process as Chapter 40R requires localities to issue a decision on an application for project approval no later than 120 days after it is filed unless the parties agree to waive the requirement (ibid).

Northampton, Massachusetts provides an example of how this regulation can be implemented effectively. Northampton's Sustainable Growth Overlay District (40R) is a mixed-used, pedestrian-orientated zone reusing a former state hospital site located just outside the city's downtown. Covering approximately 16 acres, the 40R zoning allows for 156 units on multiple parcels. By rezoning the hospital site, the city earned \$200,000 in 40R zoning incentive funds, plus another \$120,000 in 40R implementation funds when the 40-unit Village Hill Phase II project broke ground and leveraged over \$16 million in private investment. Village Hill and other projects that occur in the district brought new residents, businesses and vitality to the area (Executive Office of Housing and Economic Development, 2014).

Time Line for Implementation

Six months to one year

1. Overlay District
 - a. Modify the "light industrial" zoning district to make it easier to get permitting for businesses in the downtown among other updates prior to implementation of the overlay district
 - b. There must first be a clear and defensible purpose for implementing the overlay district such as stated goals and objectives from a local plan or study, such as a historical preservation incentive

- c. Make sure there is an adequate number of people on the planning board/staff to bring many different ideas and strategies to the table
 - i. Encourage collaboration with other organizations in the community
 - d. Compile a study or report that details the purpose and goals of the overlay district, and ensures that it is tied to the objectives of the Comprehensive plan or the states goals of the community
 - i. Stress the economic benefits of rehabilitation and that preservation can be affordable, and use local and relatable examples to show it can be achieved reasonably in Athol
 - e. Make sure the application information is compiled into a formal application to demonstrate the need for the overlay district, and that the boundary is simple and clearly defined
 - f. The local governing body must approve the application before it is voted on
2. Historical Preservation Guidelines for Overlay District
- a. The guidelines should encourage the preservation of historic buildings by describing rehabilitation approaches that are economical for the new development market, yet do not sacrifice the overall historic character of the district or the individual buildings
 - b. Preservation of the architectural features integral to the historic character of the neighborhood should be emphasized
 - c. Clear images and descriptions of preferred preservation practices are presented
 - d. The guidelines should offer various options for the rehabilitation of individual structures and describe their visual impact on the historic character of the building and streetscape
 - e. A clear glossary should be included that helps individuals understand the language of historic rehabilitation
 - f. Include as many pictures and figures to provide examples that easily convey points
 - g. Make sure to explain tax credits and other benefits involving the historical designation
 - h. Preserve and create historically accurate streetscapes throughout the restoration and develop design guidelines that support the restoration of front facades and entrance stoops
 - i. Stimulate support and interest in the development of adjacent properties and neighborhoods, attracting people back to the area
 - j. Secure predevelopment funding that is essential in enabling the sponsor to accomplish preliminary work to obtain project approval and permanent funding (National Trust for Historic Preservation, 2002)

Two to Three Years

1. Massachusetts 40R Smart Growth Zoning
 - a. Determination of an Eligible Location: According to the following requirements, MRC has estimated that Athol is in fact eligible.
 - i. At least part of the district must be within a half mile of a transit station or terminal
 - ii. In an area of concentrated development that is primarily commercial or mixed-use
 - iii. Area is otherwise deemed “highly suitable”
 - b. The 40R bylaw or ordinance must allow as-of-right residential development at least 8-20 units per acre, depending on building type, and require that at least 20% of the “bonus units” be affordable to households with incomes below 80% of area median for at least 30 years.
 - c. Determine where Athol would like to locate this district.
 - d. State and Local Approval Process
 - i. To create the district, the locality must develop a detailed application
 1. This includes the zoning bylaws/ordinance and any design standards it elects to impose, hold a public hearing on it after public notice, finalize it
 - ii. Submission of application to Massachusetts Department of Housing and Community Development (DHCD) for preliminary determination of eligibility
 - e. The application must also include a certification by a municipal engineer or public works official that development will not over-burden transportation, water, public and/or private wastewater systems, and other infrastructure as it exists or may be practicably upgraded and describe any such planned infrastructure upgrades, including the timing for completion (within 5 years of the application or other reasonable time approved by the DHCD) and the entities responsible for completion.
 - f. Once DHCD makes a preliminary determination of eligibility for the proposed district and bylaw, the zoning bylaw or ordinance and design standards must be approved locally by two-thirds of Town Meeting or City Council, then by the State Attorney General and finally once more by DHCD.
 - g. After the 40R zoning has received final DHCD approval, developers can apply for “plan approval” of projects. The Local approval authority must file its decision within 120 days of the application and projects can only be denied for significant adverse project impacts that cannot be adequately mitigated or noncompliance with the local 40R bylaw/ordinance, including design standards. To help meet this deadline, DHCD recommends that local bylaws include language allowing for a

voluntary “pre-application” review of the developer’s concept plan.

- h. After approval, the statute authorizes two types of payments to municipalities
 - i. An upfront “zoning incentive payment”
 - 1. \$10,000-\$600,000 depending on the increase in number of units that can be built in the district as of right compared to the underlying zone
 - ii. Density Bonus payment
 - 1. \$3,000 per unit when building permits are issued for projects using the overlay zoning or Chapter 40B
 - a. A companion law (Chapter 40S) enacted in November 2005 provides “school cost insurance” as an additional incentive. Under it, communities are eligible to receive payments from the State to fill the gap if approximately half of the new property and excise taxes generated by development in the 40R district plus the Chapter 70 (State school aid) payments for the public school students living in new housing developed in the 40R district does not fully cover the cost (based on the district per pupil average cost) of educating those children. The 40S payment is subject to appropriations. It is up to the municipality to request 40S payments (Executive Office of Housing and Economic Development, 2014).



FIGURE 18 PROPOSED LOCATION FOR 40R HOUSING

2. Adaptive Reuse Program

- a. Create a scoring system to evaluate projects for adaptive reuse utilizing evaluation criteria that will include:
 - i. Age of structure, ex: structure must be at least 20 years old and present functional challenges to redevelopment
 - ii. Structure has been vacant or underutilized for a minimum of 3 years
 - 1. Underutilized being defied as a minimum of 50% of the rentable square footage of the structure being vacant, or structure being utilized for a use for which the structure was not designed or intended for.
 - iii. Structure is not generating significant rental income
 - 1. Significant rental income is defined as 50% or less than the market rate income average for that property class
 - iv. Project is in compliance with the investment and growth criteria of town framework
 - v. Demonstrated evidence of financial obstacle to development without public

- assistance
- vi. Demonstrated support of local government entities
- vii. Structure or site presents significant public safety hazard and or environmental remediation costs
- viii. Site or structure is located in a distressed census tract
- ix. Structure presents significant costs associated with building code issues associated with new development making the project financially unfeasible to engage in without public assistance
- x. Site or structure is presently delinquent in property tax payments (The Economic Development Corporation of Erie County, 2008)
- b. Offer attractive incentives for developers to adapt the existing buildings to newer uses
 - i. Expedited processing and permitting
 - ii. Waive development related fees
 - iii. Expedited zoning procedures
 - iv. Different standards of development (grandfathering of non-conforming characteristics)

Five years

1. Form-Base Code Regulation

- a. Form-based code should completely replace any existing overlay districts and all land-use zoning codes that currently exist
 - i. The historic overlay district of downtown would be a temporary implementation while the form-based codes were being written and proposed
 - ii. The end result would be a district that has only a code that regulates the urban form of an area without the constraints of land-use controls and the arbitrary design standards set out therein
- b. Create an existing conditions analysis and inventory
 - i. It is critical to understand clearly what the existing patterns of development are in a community. This record of existing conditions-especially of areas that the community identifies as special, or significant-can help develop a code that fits local characteristics
 - ii. Include:
 - 1. Street types (by setback, walkway, roadway, and landscape)
 - 2. Block types (shape, size, alleys, parcel size)
 - 3. Building types (footprint, profile, street front, access by car or pedestrian, service areas)
 - 4. Open space types (front, back and side yards, squares and parks,

- undeveloped parcels with urban zoning)
 - 5. Parking types and location (parallel, diagonal, lots)
 - 6. Natural features (creeks, significant trees, views, hills, etc.)
 - c. Hold a public visioning charrette
 - i. What do the residents want to see implemented? What do they used to define the character of downtown Athol?
 - d. Determine appropriate spatial basis for regulation (districts, transect, streets or special zones)
 - i. There are a number of different approaches that can be taken in determining how FBC will be defined and regulated
 - 1. Neighborhoods, districts, corridors
 - 2. Transect
 - 3. Street-based regulating plan
 - 4. Special purpose zones
 - ii. What parts of the community are appropriate for different types of development?
 - e. Develop urban standards (streets, block, building placement, height, land-uses, etc.)
 - i. Define and code the urban standards for the different parts of the community
 - ii. The result will be a set of diagrams for each zone that clearly establish standards for the key ingredients of an urban place
 - 1. Street and sidewalk widths
 - 2. Building placement
 - 3. Building height
 - 4. Building profile
 - 5. On-site parking
 - f. Develop architectural standards (building or frontage typologies, etc.)
 - i. Identify the different types of buildings and how they front the street to define the public realm
 - ii. The FBC builds on this information to define what types of buildings fit into the different parts of the community
 - iii. The code then lays out clearly which types of buildings are appropriate in the different districts for different lot widths
 - g. Allocate and illustrate standards
 - i. Final step to the process is to prepare the standards in a format that is graphic, well-illustrated, jargon-free, and easy to understand
 - ii. This format should include all information and regulation relevant to a particular district (street type, neighborhood, ect.) in once concise piece.

(Local Government Commission of California, 2012)

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Theme: Commercial Developments

Background

The town of Athol has a selection of different types of businesses, and a small number of the businesses sell second hand goods and products. The existing commercial development has failed to fill the gap that was created when the industrial sector started to decline over the past 20 years. The town needs the support of local business in order to increase local jobs for the residents and to increase the tax base. Athol is committed in bringing in unique businesses to make it a more attractive place to work, shop, and live. Our team reviewed the major commercial streets in the town to examine what is working and not working in promoting economic development.

The residents voiced that they would like to see a wide variety of businesses that can be successful in the DSA and eventually expand in other areas. The locations in the town where most people are shopping are located outside of the Athol downtown boundary. They indicated that they shop in bigger neighboring towns instead of Athol because they cannot buy what they want or need.

Existing Conditions

Existing conditions of commercial development includes a small base of different types of businesses. Most of the existing commercial development is either banks, industrial, or local stores. In order to foster local shopping and to promote the business sector downtown, attracting niche shops, which can compete more easily with large retail in other towns, may be a winning strategy. The main streets in the town that contain commercial development are Main Street, Exchange Street, Freedom Street, and Marble Street. The downtown commercial area is a short walking distance to the high density, multi-family residences that are located elsewhere within the downtown. Our plan going forward with economic development is to locate new economic development opportunities that create jobs and help the local economy while fitting in with the town's location.

Some of the prominent commercial developments in the town are Ocean State Job Lot, Cumberland Farms, The Blind Pig, Tool Time Pizza, Athol House of Pizza, and Sherwin Williams Paint. Some of the locations close early every day or have strange hours of operations and this discourages residents to shop at these specific locations. However, there are other locations that close much later because the demands of eating establishments are present. The Cumberland Farms gas station is open 24 hours a day because they provide goods that are not present in many locations in the town. There is no major supermarket or small boutique grocery store in the DSA. We researched that there is a small farmer's market that runs all year long in two different locations depending on the time of the year and weather.

Team Findings

Existing Data

Athol Current Demographics	#	%
Total population	11,584	100%
Under 5 years	646	5.6%
5 to 9 years	704	6.1%
10 to 14 years	783	6.8%
15 to 19 years	792	6.8%
20 to 24 years	720	6.2%
25 to 29 years	646	5.6%
30 to 34 years	683	5.9%
35 to 39 years	730	6.3%
40 to 44 years	795	6.9%
45 to 49 years	890	7.7%
50 to 54 years	986	8.5%
55 to 59 years	798	6.9%
60 to 64 years	648	5.6%
65 to 69 years	473	4.1%
70 to 74 years	363	3.1%
75 to 79 years	316	2.7%
80 to 84 years	265	2.3%
85 years and over	346	3%

Table 1. Athol's Current Demographics

Source: 2010 U.S. Census, American Fact Finder

There is relevant data in the economic development chapter in the current master plan. The Master Plan has not been updated since 2002, so most of the demographics are outdated. MRC included information and data was most relevant to the existing conditions of Athol. MRC included the information that a business owner would want to know before locating in Athol's downtown area. A business owner interested in expanding his or her operation may consider a number of factors before deciding to locate in Athol or any other location:

1. One of these considerations may be the availability of land, which is properly zoned and has the necessary utilities.
2. Another may be the availability of labor.
3. Are there enough candidates for the new positions? Do they have the skills necessary for the jobs or can they be easily trained?

These questions point to some of the characteristics of a community that can be assessed using population statistics such as population, labor force, unemployment, and educational attainment.

Population information can also show changes in the potential labor force over time.

It is important to explore the relationships between population growth, municipal services, municipal finances, and the local and/or regional economy. Communities of different size populations require varying levels of municipal services. As population increases, towns may find themselves needing to keep pace by providing new schools, fire stations, police cruisers, and sewer and water lines. Municipal finances relate to the manner in which towns generate revenues to pay for these community services. The health of a town's finances status may be reflected by the amount of money in the town's stabilization fund, the proportion of municipal funds used to support core government services, the bond rating, and the residential property tax rate. Most of the revenue generated by Massachusetts' towns is in the form of real estate and personal property taxes. If the local economy is strong and commercial and industrial businesses are expanding, one relatively immediate result may be that a larger proportion of the total revenues required to support these municipal services can come from the business sector, instead of from residential property taxes.

Workshop

In our first workshop charrette, many of the residents identified the current businesses that they felt were assets in the town. They also indicated what new economic development opportunities they would like to see in the future. After processing information gathered from illuminating participant comments at the first workshop, MRC developed initial ideas for recommendations. Workshop comments are listed below:

- Niche businesses
- Places to get lunch/ dinner
- Locations for teenagers to go socialize
- Coffee shops
- Places to get fresh food
- Job creating businesses

In our second workshop charrette, we split up the topics to get more feedback on what the residents wanted to see in the future regarding economic and commercial development. The new information that was received from the residents is incorporated in the team's final recommendations.

- Coffee Shops
- Ice Cream Parlor
- Small grocery stores
- Skate Park for the teenagers in the town
- Locations for teenagers to go socialize
- Businesses that helps to promote tourism on the Miller's River
- Job creating businesses

An Analysis of the Current Employment Demographics

TABLE 2. ATHOL'S CURRENT EMPLOYMENT DEMOGRAPHICS

Regional Employment Demographics						
	Athol	Greenfield	Orange	New Salem	Wendell	Warwick
Labor Force	5,197	9,682	3,671	565	498	366
Employed	4,811	8,901	3,453	526	471	338
Unemployment	386	781	218	39	27	28
Unemployment Rate %	7.4%	8.1%	5.9%	6.9%	5.4%	7.7%
Educational Attainment of Bachelor Degree or higher	14.1%	25.6%	14.3%	37.9%	44.4%	32.0%
% Involved in Manufacturing	16.5%	7.5%	14.7%	8.3%	10.9%	15.5%
% Involved in Educational services and health care	30.4%	31.3%	27.5%	34.4%	37.9%	42.7%
% Involved in Construction	4.4%	4.7%	3.4%	5.6%	6.4%	4.3%
% Involved in Retail Trade	12.8%	11.2%	9.5%	9.2%	4.1%	8.5%
% Involved in Professional, scientific, and management	6.1%	4.8%	4.7%	5.0%	8.4%	7.5%
% Involved in Art, entertainment, and recreation,	4.7%	10.4%	7.5%	4.9%	7.4%	1,3%
% Involved in Finance and insurance, and real estate	3.9%	4.8%	7.5%	2.1%	0.0%	0.5%

2008-2012 American Community Survey 5-Year Estimates

Athol compared to the other communities around the region has the second largest labor force and the second largest employment opportunities for jobs. It is important to note that the towns of Athol, Greenfield, and Orange are much larger than the small towns of New Salem, Wendell, and Warwick. Athol's unemployment rate is lower than Greenfield but is higher than three of the four smaller communities. The residents in Athol have a much lower educational attainment than four out of five of the other communities. The towns of Orange and Athol have about the same percentage of residents that have a bachelor degree or higher. The low educational attainment would be one issue that MRC would like to improve through future recommendations. When discussing Athol's manufacturing sector, it is higher than all five of the communities. The manufacturing sector is very important to the town of Athol because a few major companies support most of the jobs.

The town of Athol also has a large employment percentage that is involved in educational services and health care. This is very important because the town of Athol will have a future population that will need the support of these services. Compared to the other towns, Athol does not have the largest percentage of this sector at the time but it is growing. The town of Athol has a larger employment sector of retail trade than the five other neighboring communities. Overall from looking at the employment percentages, the town of Athol has a large manufacturing sector and that sector dominates the rest of the employment in the town.

Site Visits

From our site visits in our scope of work, we have noted and recorded the major commercial

developments by taking photographs as well recording notes on the different buildings and businesses. We have also discussed within our group and with the client the components of economic development that we have observed while conducting our site visits. We have taken photographs of the commercial buildings in the downtown and those photographs will be found at the end of the report in the appendices. Similar to what was discussed in the existing conditions, we took note that the economic development approach will be affected by the new Market Basket that will be located outside of the DSA. One of our objectives will be to encourage businesses that will be able to thrive in the DSA with the new Market Basket being built. MRC does not recommend any type of business that would have to compete with the new development in the North Quabbin Business Park.



FIGURE 19 BLIND PIG RESTAURANT

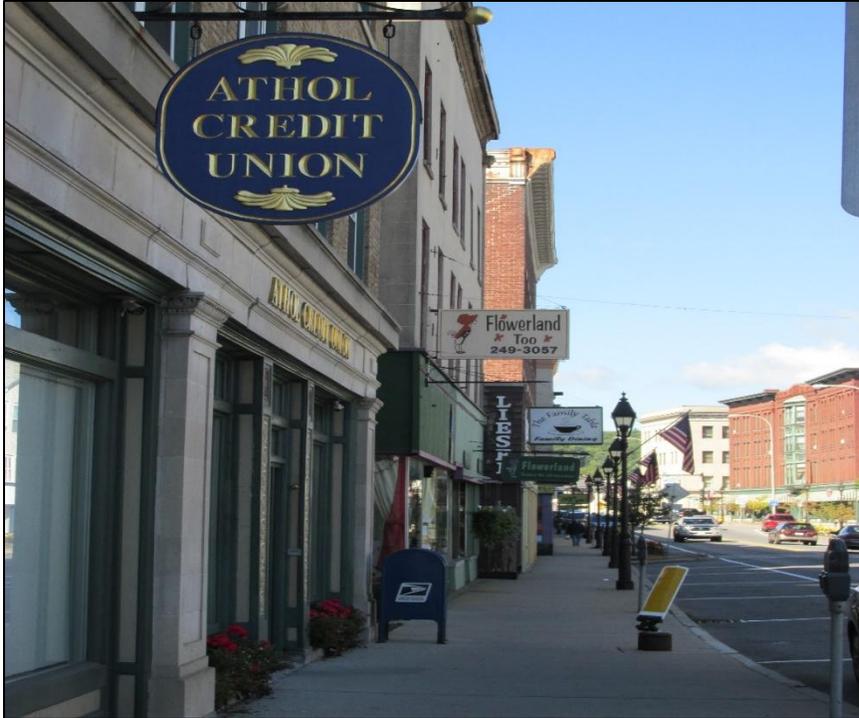


FIGURE 20 COMMERCIAL DEVELOPMENT LOOKING WEST ON MAIN STREET



FIGURE 21 ATHOL DENTAL ON EXCHANGE STREET

Town Documents

Economic Development, Master Plan

The latest Master Plan was created in 2002. The economic development section starts with some goals that the town wants to accomplish. One shared goal of both MRC and the Master Plan to encourage economic development which is balanced with the preservation of natural resources and the cultural landscape in order to maintain and enhance Athol's economic, environmental, and cultural integrity. Another shared goal is to promote the vitality of the DSA through redevelopment and increased tourism. MRC, we would like to expand on the tourism benefits and incorporate that plan in redeveloping the downtown businesses. A third goal is to provide an environment in which local business and industries can succeed and expand.

The Athol Master Plan (2002) states, "There was an 18% reduction of the labor force from 1990 (5,258 jobs) to 2000 (4,299 jobs)" (p. 9). This might have been caused by the out-migration of Athol residents between the ages of 20 and 34. The Town of Athol Master Plan explained that, "in 1990, 59.1% of the people that work in Athol live in Athol and 17.6% of the workers in Athol travel from Orange" (p.10). The high amount of journey to work employees caused our team to believe that over 40% of the salaries earned are being spent outside of Athol. The Athol Master Plan explained, "before the recession hit the entire country, the unemployment rate was 4.4%" (p.11). The Athol Master Plan indicated, "in 1990, the educational attainment for adults ages 25 and over for bachelor degrees or higher was 12.3%" (p. 15). That was lower than the surrounding towns, county, and state. The Athol Master Plan stated, "in 1990, the per capita income was \$12,444 compared to the state average of \$17,224" (p.16). One potential reason for the lower per capita income is the decline in the number of manufacturing jobs. Another reason might be a cause from shrinking households. This collected data helps to the team to understand what the demographics are before recommending any solutions to the town.

2005 Economic Development Guide

The economic development guide is a supplement document to the Master Plan. It includes the vision of what Athol wants to do to encourage new development within the most needed areas. The principles help to guide the town on the right direction on how to analyze and encourage new development within the existing commercial development. It also includes the accomplishments that the town and the Athol Economic Development and Industrial Corporation have achieved. It explains the future opportunities that they would like to achieve in the coming years.

The Athol Economic Development Plan (2005) stated, "Athol town meeting of 2003 voted to approve zoning for industrial and commercial use" (p. 3). This helps to increase new businesses in areas that might not be able to be located because of the zoning restrictions. The Athol Economic Development Plan indicated, "Chapter 422 of the Acts of 2004, An Act Establishing the Athol Economic Development and Industrial Corporation (The Athol EDIC) was enacted by the Massachusetts legislature" (p. 3). This subgroup in the town will help to find new methods of

increasing economic development within the resources that they have at hand. The findings of the economic development guide include a collection of seven principles. Those principles include: identify stakeholders, create a profile, create an inventory, evaluate the profile and inventory, identify approach, develop policies, and implementation. One of their findings was the major employees in 2005, which included Athol Memorial Hospital, Royalston Regional School District, Castine Moving & Storage, Filtronics Extrusion, Girardi Distributors, The L.S. Starrett Company, Niagara Cutter Space Age, and Electronics Whipps, Inc. The economic guide also includes an inventory of available industrial sites in 2005, which includes North Quabbin Business Park, L.P. Athol Industrial Complex, Vice Shop Site, Shoe Factory Building, Silk Factory, and Athol Table Manufacturing.

Literature

MRC has gathered data and made observations about the economic development sector in Athol. We researched, read, and analyzed literature, precedent information, and case studies that involves both of the topics and the specific recommendations that we are interested in implementing. One of the reasons why we selected these readings was because MRC was interested in how to revitalize downtown of old mill towns, how to repurpose old mill building for a new sector economic development, establish a makerspace, and implement mixed-use.

"Manufacturing Services and Servicing Manufacturing: Knowledge-Based Cities and Changing Forms of Production"

This article discussed the shifting landscape of manufacturing to a more inclusive form of both service and manufacturing together, vertically integrated. Daniels & Bryson's paper aims to break down the distinction between 'services' and 'manufacturing'. Daniels & Bryson (2002) explained, "We propose that the emphasis on service/manufacturing terminology needs to be replaced by two related issues: first, a focus on knowledge and information that identifies and explains the complex web of connections that exist within and between companies" (p. 13). Daniels & Bryan also explained, "the second issue is for researchers interested in the service industry to stop ignoring manufacturing on the grounds that they are somehow not involved in services" (p.13). The point of the article is to focus on knowledge as the key factor of production.

This is relevant to the town of Athol because 85.7% of Athol residents have an educational attainment of high school graduate or higher. According to the U.S. Census FactFinder data, only 14.1% of Athol's residents have an educational attainment of a bachelor degree or higher. The idea of a makerspace would to help encourage the residents that have skills, but not the money, education, and space, to build on their skills. It is relevant because not everyone in the town can afford a college education or would want to go to college.

Our recommendation is to incorporate local educational institutions with this 'makerspace' in the hopes that it will translate into entrepreneurial ventures in Athol. A makerspace is a physical location

where people gather to share resources and knowledge, work on projects, networks, and build. Makerspaces provide tools and space in a community environment, a library, community center, private organization, or campus. The recommendation of a makerspace would be to locate within the facility in the Casket Factory at 339 Main Street. The Athol's Economic Development and Industrial Corporation and the Chamber of Commerce would be in charge of managing the process. Another recommendation that comes out of a possible makerspace would include also creating a possible satellite community college campus with one of the local community colleges.

One takeaway that MRC took out of this article is that there is more than one way to be part of a town's working economy. Another takeaway is that not everyone can afford to go to college and an alternative means of creating jobs is to establish a makerspace. The information in this literature backs up the notion that there is more than one method of producing with personal skills or knowledge in a town. This article also helps to identify a possible local place for residents to take community college classes.

"From Mill Town to Mill Town: The Transition of a New England Town from a Textile to a High-Technology Economy"

This article describes the success story of Maynard, Massachusetts. The town of Maynard had a thriving mill until it closed in the 1950s and the town lost 1,200 mill jobs. Over the next ten years, the town recovered by drawing in industrial companies to occupy the abandoned mills. Mullen & Armstrong (1986) stated, "what made Maynard stand out from the other old mill towns in the 1960's was the reindustrialization of Maynard occurred because of the presence of all of the basic assets needed to attract industry; the patient, passive role of town government; the entrepreneurial skills of the mill owners in attracting new companies; and the emphasis on marketing toward new, innovative, growth-oriented companies" (p. 3). The article explained the three different types of companies that were occupying these mill spaces. Mullen and Armstrong explained, "They were readily available, inexpensive space near parent firms and research facilities was crucial to all three types of companies" (p.6).

This is relevant to the town of Athol because one of Athol's greatest assets is the potential to redevelop and reoccupy these factories with thriving businesses of today like Maynard did in the 1980s. These large mills used to have thriving industrial companies. This is a model of a solution that Athol could take to reoccupy these mills with companies. The article stated that following the steps that Maynard took does not guarantee success. It would be useful to try some of the methods that Maynard used to repurpose and reoccupy some of the old mills buildings. This process would need the help from many different departments and committees in the town to accomplish the goal of filling the empty mills with job creating industry.

While the article itself was written in 1986, making it fairly dated, this is a great example to apply to Athol. Athol is the same boat with many of the old mill towns that have lost industry over the last 50 years and now are puzzled with what to do with the empty mill buildings. Our recommendation

would be to identify and attract the empty at lower cost so investors would be more willing to repurpose them for into a new use.

One takeaway that MRC took out of this article is that this article is a successful story that took upfront work from the town and good market strategy to attract different types of companies to fill the empty mill buildings. Another takeaway was that a big difference between Maynard and Athol is Maynard is closer Boston and that helps its market value for companies that want to be close to the major business sectors. Athol needs to determine what types of new industrial enterprises they want to see be used in the mill buildings. The Maynard case study is a great example but Athol needs to find what exactly will attract the reuse of the mill buildings in accordance to the demand of the region.

Precedents

“New Suburbanism: Reinventing Inner-Ring Suburbs”

Rusin & Slater (2013) stated, “Residents are looking for shorter driving distances to commercial, cultural, leisure, and work opportunities. As a result, the next big wave of development will focus on creating nodes of mixed-use infill projects in these suburbs.” (p. 1). The article explains the use of mixed-use, not mixed up use, as well as sequences of uses, parking challenges, and attaining authenticity. Rusin & Slater explains, “it is hard to integrate large anchor stores and parking lots easily within pedestrian environments” (p.1). Creating mixed-use projects in areas that are not walkable might not be a practical solution. Rusin & Slater notes, “The first step in adding density and diversity to large existing sites is to free up land that is now devoted to surface parking” (p.1). The article discussed building mixed-use near transit and this is something that Athol would be interested in accomplishing long term in the future.

This article is relevant to the town of Athol because Athol is a town that was developed before the automobile was popular and a mixed-use area could fit nicely within downtown. The DSA is compact, with a short walking distance from one end to the other. Main Street and Exchange streets, provides most of the commercial industry. Those areas are short walking distances to high density, multi-family residences located within the downtown. The article also discusses the planning technique of form-based code, which helps to unify sections or areas in the way that the structure built and functioned. Promoting compact development near where possible transit options in Athol might push for the need to bring back the rail line that used to serve with the other neighboring towns.

One recommendation from reflecting on this article about walkability centers is that creating a small mixed-use center in the DSA in the Ocean State Job Lot would help to improve walkability and create walking paths in the DSA that would assist residents’ potential shopping nodes. The mixed-use area would also help to promote walkability. Second, creating compact mixed-use could help to make more transit opportunities possible. Third, the mixed-use area will serve more purposes than

what the current site can at this time. This topic will be discussed in more detail in the commercial development recommendations.

One takeaway point is that mixing uses horizontally, in separate buildings, allows more flexibility than stacking different uses vertically in the same building. That technique might be successful when a developer or a town has a large area to play with but in Athol's case, creating a mixed-use area would be a balance when building vertical and horizontal. Another important take-away message is implementing flexible form-based code focuses on place, infrastructure, and urban form to give the market freedom to enable the right uses to come into a downtown. A third takeaway from the article is that implementing mixed-use strengthens when parking is decreased and the density is increased.

“Planning for Marijuana: The Cannabis Conundrum”

This article discussed how the sector of medical marijuana dispensaries might be a potential new business sector that could fit within the existing commercial development of the town. Németh & Ross (2014) explained, “Planning for Medical Marijuana Dispensaries can be a difficult issue and this article shows how these establishments may be viewed as locally unwanted land uses” (p. 2). The article raises and answers the questions: how do local jurisdictions regulate how and where medical marijuana dispensaries operate, and how equitably do common marijuana land use models distribute these facilities? Németh & Ross answers that,” states and localities control potential impacts from medical marijuana dispensaries through a combination of licensing, operation, and land use restrictions, all of which aim to protect the health, safety, and welfare of host communities.” (p.4). Németh & Ross go on to explain, “some argue that operational restrictions can be more flexible and enforceable than zoning standards, especially when an industry is in its infancy and actual local impacts are unclear or unknown” (p.4). Németh & Ross explain, “States leave zoning to local jurisdictions, which most often prohibit medical marijuana dispensaries in residential or mixed-use districts but allow them in commercial districts.” (p. 4-5).

This article and topic is relevant to the town of Athol because Massachusetts is in the process of awarding bids across the state for medical marijuana dispensaries. These dispensaries will need to have growing facilities to operate. There are many underutilized mill buildings in Athol and this type of business needs large amounts of space to operate. Winchendon mentioned the potential reuse of mill buildings as facilities for growing marijuana, so having case studies about the topic is helpful for when the next round of bids are open and to inform how this idea could be implemented in Athol. It useful for the town to consider the idea because mill buildings have the right square footage and it will help to create jobs and a new business sector.

One of the recommendations that MRC has drawn from reading and examining this article and topic is to establish a medical marijuana growing facility in one of the empty mill buildings. Partnerships with the neighboring towns of Greenfield and Gardner are necessary because it is more

likely that a bigger town would receive a bid for a dispensary than Athol or Orange. Repurposing a mill building would be a better option than building any new building because the structure is already in place and many of the mill buildings are a set distance away from nearby schools and residences.

What we learned from this article is that the topic of repurposing an old mill building for marijuana growing depends on where the medical marijuana dispensaries are located and what the current laws are at the time. The partnership is crucial for any use of growing facility. With the potential for communities to see medical marijuana dispensaries as locally unwanted land use, planners need to avoid siting them in socio-economically vulnerable areas. This study looks at crime statistics, quality of life data and land use around medical marijuana dispensaries. As legalization efforts increase across the country, many planners will be faced with these issues. Implementing efforts to establish a growing facility would help both the local economy and job seekers.

“Rethinking Streets: Main Streets. Clematis St., West Palm Beach, FL”

This article discussed how a vehicle-centered Main Street was transformed into a place where pedestrians felt comfortable. This specific case study was from Clematis Street in West Palm Beach, Florida. Sclossberg, Rowell, & Sanford (2013) explained, “They accomplished this goal by widening the sidewalks, adding trees, and including street furniture on the sidewalks helped make that happen” (p. 79). This street went on a road diet just like West Lancaster Boulevard, reducing three lanes into two in the DSA. Sclossberg, Rowell, & Sanford noted, “The major impact was a reduction in crime in the area, since the street had been home to many illegal activities. The areas revitalization project filled retail vacancies and brought in \$300 million in private investment.

This article and topic is relevant to the town of Athol because West Palm Beach and Athol have similar problems and their revitalization technique would help to improve commercial development and also reduce crime in the DSA. These are both problems that the town of Athol is facing right now. The success of the case study welcomed back families with kids with block parties and festivals. It would be beneficial for Athol to consider street calming techniques and making it a place where people would want to socialize. The goal would be to reduce the crime and drug in those areas.

One of the recommendations that MRC has drawn from reading and examine this article is to use street calming techniques to encourage new commercial development along Main Street. The first step would be to get more input from the residents. Before implementation, you would want to know if this is a major problem to address based on the feedback of the residents. The second step would be to study how the changes would help or hurt the major businesses downtown. In this case, it might help the businesses by making it more pedestrian friendly and cars are more likely to stop if they are driving slower. The third step would be to use removal material to simulate what it would look like and work like if the changes were permanent. Fourth, if the feedback were great then you start to apply for grants and implement the changes.

One point to note from this article is that they kept the same speed limit while slowing down the traffic. That might be because most of the traffic before any changes was done were going over the speed limit. Another takeaway is that the street calming changes were accomplished with new facelift of the library. This is similar to how they upgraded the library and built a new park behind it. A third takeaway of the case study is that most of the funding came from outside the town and private investments. State and national grant funding are important to help accelerate the process.

Summary of Team's assessment

The team's assessment of economic development is that new and creative methods of increasing economic development are needed for Athol. MRC has come to the conclusion that our strategy at encouraging economic development must be creative and support the precedent readings that the team has read.

Recommendations

Creating a Downtown Revitalization Plan

Creating a downtown revitalization plan would help to implement a strategy that can be used to target the empty storefronts and help the existing businesses. MRC has read in the 2014 Community Development Strategy that one of the town's objectives is to create a downtown revitalization plan that encourage the development, expansion or retention of small businesses in the DSA. Our proposal is for the town to combine research and resource to accomplish that goal.

Establish a Makerspace

Establish a makerspace in one of the existing vacant or underutilized buildings that can help to encourage new business by providing the material that they need to run their business from scratch. Some possible locations options are the old casket factory at 339 Main Street, one of our TYPA locations at 158 Marble Street, and 25-41 Exchange Street (Plotkin's furniture store and the town owned Maroni building).



FIGURE 22. CASKET FACTORY, POTENTIAL MAKERSPACE LOCATION



FIGURE 23. T.E.S.L.A./ WAG WORCESTER

Medical Marijuana

Create plans that can help to support and market old mill buildings to be repurposed for growing medical marijuana. The plan would be to repurpose one of the old mill buildings so it can grow medical marijuana for the necessary future dispensaries in the town and area. The size of the existing

mill buildings could possibly be a great opportunity for new business ideas. Within and outside of the Downtown Study Area are various buildings that are suitable for such a use (e.g., size, parking, access to truck routes). While there may be critics to this use within a downtown area, the state has sanctioned registered marijuana dispensaries with conditions of operation, such as a 500' foot buffer between the dispensary and any school or childcare facility.¹ That said, the team feels that this use, under the guidance of the planning department and town council would be an economic boon for Athol. Lastly, this is just one possibility to reduce the commercial vacancy rate of empty mill buildings while also acknowledging the nearby residential and educational uses.

Establish a Relationship with the Local Community College

MRC had read that the Town of Athol is interested in establishing a satellite community college with Mount Wachusett Community College. The town needs to keep extending the partnership with the local community colleges to create a satellite campus in one of the vacant buildings downtown. Creating a satellite community college would provide jobs in the area and also give the residents education classes that would help them increase new knowledge and technical skills that can help them with a variety of jobs. Mount Wachusett Community College in Gardner is 16 miles away so the partnership could possibly benefit for both the town and community college. Some possible locations for a satellite community college are the shared space in the casket factory at 339 Main Street, our TYPA locations at 158 Marble Street, and 185 Exchange Street.

¹ <http://www.mass.gov/eohhs/gov/departments/dph/programs/hcq/medical-marijuana/info-for-municipalities.html>



FIGURE 24: GREENFIELD SATELLITE COMMUNITY COLLEGE, NORTHAMPTON

Replacing Ocean Job Lot with Mixed-Use Development

The plan would include replacing the Ocean State Job lot parking lot with two and three floor mixed-use buildings. The first floor would consist of commercial use and the second and third floors would consist of residential. The mixed-use buildings would face South Street and this would blend in with the residential area. The possibility of daylighting the Mill River on the parcel behind the mixed-use could benefit aesthetics in the downtown. Daylighting is the redirection of a stream into an aboveground channel. Also, typically the goal is to restore a stream of water to a more natural state. The project would encourage more people to travel to this area of the downtown. The mixed-use plan could possible include an urban small market for downtown residents to buy food. Aldi's market could be good choice for the price of their food and the small footprint of their stores. Presently, there is no walkable market to get fresh food and the residents expressed that they would like to see that type of convenience in the project area. The Athol farmer's market is great, but it is only active one day a week. Residents would have to either take the bus or drive to get to Market Basket or Hannaford in Orange.



FIGURE 25: EXISTING USE OF OCEAN STATE JOB LOT



FIGURE 26: OCEAN STATE JOB LOT

Time Line for Implementation

Six Months to 12 Months

Create a downtown revitalization plan with the help of the Office of Planning and Community Development, the Economic Development and Industrial Corporation, and the Athol Chamber of Commerce. This plan would include grant opportunities and incentives that would help to encourage new businesses on Main and Exchange Street.

1. Establish a dialogue to determine the goals of this plan.

2. Create a 12-24 month timeline for completion of the different sections of the plan.
3. Gather public participation from residents through different workshops.
4. Discuss the main goals and the results from the workshop with the major stakeholders.
5. Put all of the sections together to complete the plan.

Two to Three Years

Begin the makerspace program and have the downtown location established for new businesses

1. Have the selected building space picked out and have control of the building. The location could possibly be one of the recommended buildings that our team has indicated.
2. Seek local investors that want to see this type of program succeed and grow. Start to get in contact with local companies in the North Quabbin region and if needed contact major national investors to see if they are interested. Big companies are willing to lend money to support education/ skill opportunities.
3. Start to work with investors and the local community to repurpose the selected building so that it equipped and up to code with the necessary tools.
4. Seek out state and national grants that involve creating a makerspace.
5. If the town cannot get either investors or grants then start a co-funding source that would support the necessary money to create a makerspace.
6. Open the makerspace for potential businesses.

Five years

Implement the market plan when there is another round for medical marijuana locations in Massachusetts. The state of Massachusetts is currently awarding medical marijuana dispensaries in their first round and they are awarding medical marijuana dispensaries by the different regions in the state and the process has taking a few years to run. If the process increases in the next few years, Athol has the empty buildings to grow and if they create a partnership with Gardner or Greenfield.

1. The first step would be to examine the current zoning and to consider what restrictions would be attracted to the location of a growing facility in the town. The growing facility must be sited in either the Central Commercial (CA), General Commercial (G) or Industrial Commercial (I) zoning districts.
2. Determine which mill building could be adapted into a marijuana growing facility. The possible mill building could be a vacant building within the study area.
3. Create a partnership with one of the larger surrounding towns to work together. If one of these locations receive a bid to have a medical marijuana dispensary then it would be helpful to have a working relationship with them. The two most likely choices would be Gardner or Greenfield.

4. Conduct a due-diligence report on the current marijuana regulations and opportunities of medical marijuana in Massachusetts. The possibility of a growing facility relies on future law changes and future decisions so it might take longer than expected to start implementing.
5. Have the partnership set up, have control of the building, and have an agreement to establish a marijuana facility.

Launch a satellite community college in the DSA with one of the local colleges. The town of Athol has expressed that they would like to create a satellite Mount Wachusett Community College and that the town has reached out to them to further the discussion.

1. Keep in touch with Mount Wachusett Community College in Gardner to see if they are still interested in a partnership that would expand classes in an Athol satellite location
2. If Mount Wachusett Community Colleges were still interested in expanding classes to Athol, then to start to locate what building you would want to use. MRC has indicated that Casket Factory building could possibly be used for both the makerspace and the satellite community college. Combining the uses could help to promote assistantship opportunities for the residents.
3. Repurpose one of the recommended buildings or another building in the DSA for educational use.
4. Survey the town residents to see what types of classes that they are interested in learning.
5. Establish a satellite community college in Athol that provides an affordable education for the local residents.

Encourage the construction of a mixed-use area in the Ocean State Job parking lot and begin to attract new business and potential residents. Start to plan for the possibility of daylighting Mill Brook.

1. Discuss with the Athol Economic Development and Industrial Corporation the idea of replacing the Ocean State Job lot plaza with mixed-use development. The idea of daylighting Mill Brook would also be included in the discussion because it would be easier to implement this now than later.
2. If the corporation is in favor of looking into the possibility, then start to survey the local residents to see what exactly they would like to see be included in the mixed-use development.
3. Examine the zoning to make sure that the idea and concept would fit within what is allowed in the specific zoning district.
4. Create a plan on how the exposed brook would look and be constructed. This would also include examining case studies on how communities have transformed underutilized parking lots into mixed-use areas. Case studies on daylighting streams should be included in the proposal. A private consultant group should be considered under this step.
5. If the planning and research were successful, the next step would be to start to publicize and

market that the town is interested in creating a mixed-use area.

6. The last step would be the implementation of a mixed-use area with eliminating the parking and building new mixed-use structures in the place.

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Theme: Vacant Parcels

Background

Athol is seeking to redevelop and revitalize its downtown area. This goal will be met in part by inventorying and analyzing vacant parcels as potential infill sites. Literature on the topic explains how to identify blight and how it can impact a community. Other precedents can guide our group on the adaptive reuse of industrial and mill buildings as well as provide a direction for the nature of the new uses. Commercial, residential, and industrial uses must all be considered in the reuse of Athol's abandoned buildings and the infilling of its vacant lots.

Existing Conditions

Vacant Parcels are one of the major issues for Athol in general. Disinvestment and poor land use have resulted in a historically compact town center that is presently pockmarked with parking lots and abandoned buildings. By visiting the Downtown Study Area and talking to residents it is evident that these 'gap teeth' in the downtown are eyesores. As illustrated by Figure 49, large areas of impervious surface found within the scope of our project site have ill effects such as contributing to the urban heat island effect, causing runoff and polluting water bodies during storm events, and imposing barriers to wildlife movement while contributing nothing to Athol residents' quality of life (Frazer, 2005). However the relationship between the current lack of certain uses such as affordable and senior housing and the presence of dead spaces in the DSA means that the problem is actually a solution; reuse and infill development can provide new housing options (Athol Economic Development Industrial Corporation, 2004).

Team Findings

Workshop 1

In our first workshop, many residents mentioned the vacant parcels and abandoned buildings as negative aspects of the DSA. The second workshop presented similar sentiments, but residents were more proactive in their comments and talked about how they wanted to see appropriate businesses fill in these 'gap teeth'. Athol residents presented the following views at the first event:

- Loitering and vacant building on Traverse Street
- Burnt down factory site has potential for reuse
- Job Lot Site is a concrete jungle but has potential
- Cluster of industrial buildings (casket factory) needs to be renovated
- York Theater is not being utilized
- Eddy's restaurant, Mobile Station are vacant
- Exchange Street, Marble Street, Orange Street are blighted and run down

These comments from the public clearly show that vacant parcels and abandoned buildings are on the minds of residents. They recognize the need to change and have helped us to identify specific

areas in Athol that need improvement.

- Dentist next to library is a newly renovated building that looks nice
- Chiropractic Center in the old mill building that is being revitalized
- Kayaking access near the bridge
- Fish Park, Allen Rich Park
- Trails, hiking
- Community Garden

Here, we were told that renovated and revitalized buildings are seen as valuable by community members. This lends credence to MRC's recommendations for adaptive reuse of mill sites and historic buildings in town.

Workshop 2

- Sign and façade programs have come and gone but aren't solutions
- Better aesthetics will come about on their own with more occupancy
- Tear down Maroni and the one next to it because they are an eyesore
- Farmers market on vacant lots

Further suggestions included using the Plotkins Furniture building as the site of an indoor mall similar to Thornes Market in Northampton, Massachusetts. Turning the York Theater back into a theater was also mentioned. While the second workshop did not focus as closely on vacant parcels, residents did express that new uses and tenants were more important than purely aesthetic improvements.

Site Visits

During a series of site visits to the Downtown Study Area, MRC catalogued vacant parcels, abandoned buildings, and underutilized spaces in Athol using maps and photographs. We were able to identify over 18 parcels to be redeveloped. These were spread throughout the downtown and are found in both the commercial and residential sections. As mentioned in the Land Use section of this document, our team created a tax yield per acre analysis by selecting 18 parcels across 3 sites. The 3 areas identified were located at the Ocean State Job Lot, Exchange Street, and Marble Street.

Town Documents

The Housing and Economic Development Plan from 2004

This document talks about key housing issues in Athol. Limited supply of rental housing stock is an impediment to providing affordable housing opportunities in the community. No senior housing or assisted living facilities have been produced in Athol over the past 10 years. The document recommends that existing housing units should be converted to affordable and accessible units, while new infill buildings should be consistent with the scale and design of existing buildings in the historic downtown. It says that infill development should be pedestrian oriented with 2-3 stories of mixed use. In redesigning the Job Lot site, MRC is proposing 2-3 story mixed use, commercial, and

residential buildings. These structures are consistent with the Housing and Economic Development Plan and are scaled to enable walkability.

Athol's Draft 2014 Community Development Strategy

One of the goals for the Community Development section of this document is to “prioritize vacant town-owned buildings for reuse, renovation, demolition, etc.” The Historic and Scenic Resources section recognizes the Town’s goal to identify, promote, and protect Athol’s historic resources. One of the objectives is to create Historic Districts within the Town and to increase public education regarding the history of Athol. The Economic Development section identifies the goal of supporting new commercial and industrial development in order to improve employment opportunities. A recommendation for achieving this goal is to find funding to restore vacant and underutilized buildings.

Literature

Robert Moses and the Visual Dimension of Physical Order

This article analyzes the use of images to shape perceptions about blight conditions in New York City in the 1950s. The motivations and processes behind slum clearances are examined and criticisms are lent. Urban Planner Robert Moses instructed the Committee on Slum Clearance of the City of New York to create slum brochures to present evidence of blighted conditions to judges, politicians, and the public. The most significant element present in the brochures was photographs used to identify and designate blighted areas. The most common themes used to depict blighted conditions were empty lots, back alleys, and abandoned buildings. Robert Moses viewed blight as a physical problem that required physical solutions, such as clearance and new development. Areas targeted for clearance and redevelopment were often mixed-race or working class and were designed to attract private developers.

One of the most interesting aspects of this article is the inclusion of some of the photographs that Moses used to illustrate blight. While the photographs show urban form that is inconsistent with modernist architecture’s ideal of wide open spaces interspersed with superblock buildings, by today’s planning standards the areas pictured are successful mixed use, walkable neighborhoods of brownstones with thriving street life. This article attempts to explain how one person’s blight is may be another person’s vibrancy. While slum and blight conditions can legitimately cause a negative perception of a community, one must be conscious of the subjectivity and ideology behind these terms.

Athol displays some of the common themes of blight in its downtown such as empty lots and vacant buildings. The Town has identified a Slum and Blight Survey Area and the majority of this area has already been surveyed, though some crucial areas have yet to be documented. The information provided in this article can be used to help MRC in identifying blighted conditions and areas in need of redevelopment. What MRC may perceive to be eyesores could hold a different place in the minds of residents. When selecting the sites for the tax yield per acre analysis and site redesign, we based

our locations on what the community members in our workshops identified to be underutilized spaces.

In Defense of Old Industrial Spaces

In this article, the author draws upon the example of Williamsburg, Brooklyn to make the case that old industrial spaces can be complementary to gentrification and the 'creative class'. Curran argues that creativity and innovation need to be incorporated and embraced in a broader spectrum of economic activity that includes both new and traditional manufacturing. Curran found that rather than gentrification driving traditional manufacturing out, traditional manufacturers clung on due to the locational advantages and social capital provided by Williamsburg.

Curran's case study of Williamsburg was chosen in order to study the relationship between gentrification and the displacement of traditional manufacturing activities in order to determine whether gentrification was indeed driving traditional manufacturers out of Williamsburg. The demographics of Williamsburg make it an ideal case study site for such questions as it is an extremely diverse place with a long industrial legacy. Curran created a database of manufacturing and certain wholesale industries that had left or moved to Williamsburg between 1998 and 2002. She also conducted in depth semi-structured interviews with selected manufacturers. Curran found that rather than gentrification driving traditional manufacturing out, traditional manufacturers clung on due to the locational advantages and social capital provided by Williamsburg. The 'grittiness' of Williamsburg in turn has made the location 'hip' and spurred an interaction between industrial activities and creative economies.

This research is relevant to Athol because it highlights the importance of pursuing a broad industrial and creative strategy. Athol needs a diverse economic base that includes both traditional manufacturing and creative industries. If the town can be made 'hip' by building upon the opportunities for young people to collaborate between creative economic activities and traditional manufacturing activities, Athol will have a more solid foundation for the future.

Precedents

A Revitalization of New England's Small Town Mills

In this paper, the authors explain the historical and contemporary importance New England small mill towns. Reusing the often abandoned complexes calls for a plethora of creative solutions within the proven framework of project goals and actions.

In the early American industrial revolution and into the early 1900s, the mills of New England drove the economy of America. Their products included textiles, guns, shoes, and clocks. Despite the loss of the industries these buildings were once used for, they are now being revitalized for a wide array of contemporary uses, such as universities, colleges, museums, shopping centers, artist lofts, theaters and software companies, as well as housing. In order to have a reusable mill complex, one must keep up with maintenance and not neglect to make needed repairs, as well as ensuring structural integrity.

It is clear that smaller buildings, or larger complexes divided into multiple buildings are better suited for revitalization. The article discusses market feasibility, which includes identifying regional trends and concerns such as demand for housing or specific housing types such as assisted living. Cost-benefit scenarios of the possible reuses should also be analyzed. The public sector has a role to play in mill reuse and strategies include tax breaks, grants and loans for improvements, relaxation of performance standards, and zoning variances. The EPA's research on mill and brownfield redevelopment explains that they contribute valuable architecture and history, desirable locations, potential economic and social revitalization, and the accommodation of future growth.

This research is relevant to the client because it reiterates that adapted factories and mills may be used as assisted living or senior housing, as well as low-income homes, all of which Athol needs. Suggestions for success from this article: concentrate on revitalizing only the best mills; regional market clusters should be identified; small mills fill more quickly; master plans should support mill reuse; public-private partnerships are vital; a singular point of contact in town government is best for the developer; historical preservation must be balanced with the need to create functional spaces; adaptive reuse takes time and understanding.

Tactical Urbanism

Tactical Urbanism describes low cost, small-scale, and impermanent planning interventions that may be fully, partially, or unsanctioned by local government. The Tactical Urbanism 2 Manual defines and gives a historical context to tactical urbanism and city repair, as well as a spectrum onto which project types fall. The document primarily serves as a catalogue of tactics with case studies and anecdotes on implementation. The manual ends with a list of case study sources and a Tactical Library that shows books, guides, and manuals related to tactical urbanism.

The manual explains that common forms of capital improvement such as stadiums, large parks, and convention centers are often at a scale of cost, complexity, and implementation time that is incomprehensible and not relatable to many residents which leads to participatory fatigue and NIMBY-ism. Tactical urbanism provides a means of improvement that is more accessible because it occurs incrementally and at the neighborhood or block level. Five characteristics are presented to typify and guide projects: phased approach; local ideas for local challenges; short term commitment and realistic expectations; low risks with potential for high rewards; and building social capital and organizational capacity between citizens and public, private, and non-profit institutions. Tactical urban projects may be sanctioned by local government, unsanctioned, or something in between. They represent a creative outlet for artists and residents, new ways to participate in civil society, and a low cost means for governments to test out planning ideas.

The tactics most relevant to Athol are the Guerilla Gardening, Pavement to Plazas, Pavement to Parks, Depave. There is evidence of guerilla gardening in Athol: during a site visit we saw watermelons growing on vines that were entangled in a chain-link fence behind a Chinese restaurant

(Figure 50). Pavement To Parks and Plazas uses moveable furniture such as tables and chairs, inexpensive planters, repurposed materials, and paint or other decoration to turn inhospitable asphalt wastelands into public spaces where any person can hang out. Finally, Depaving involves removing unnecessary hardscapes in order to reduce nonpoint source pollution and allow for habitat restoration, tree planting, and gardening.

Summary of Team’s assessment

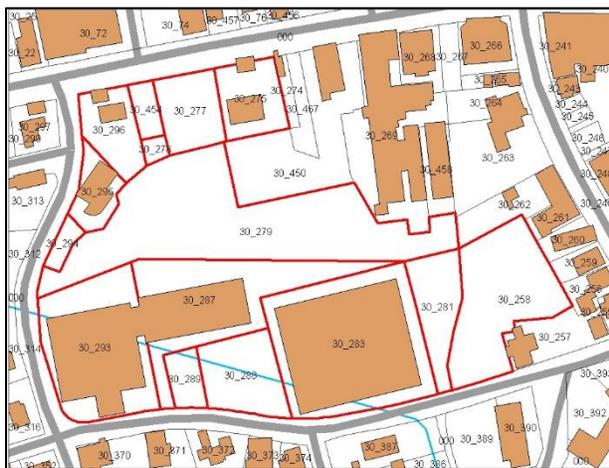
Miller’s River Consulting feels that Athol must take stock of its vacant parcels and abandoned buildings in order to understand the holes in its urban fabric that need mending. Fortunately for the team, highly visible vacancies offer the chance for high impact solutions. The possibilities for infill and reuse are myriad and MRC jumps at the chance to illustrate ‘what if’ scenarios using Sketchup, Photoshop, and Illustrator. The visual results of playing out the possibilities can be used to impassion and excite residents who may be apathetic or resistant to change downtown.

Deliverables

MRC has prepared a series of designs for abandoned and underutilized sites downtown. The Job Lot Redesign creates a vision for a mixed use block featuring retail, office space, apartments/row houses and cottage houses. These new buildings surround the daylight Mill Brook and new public park space. The Cass Park Proposal takes the site of a former toy factory and creates a multifaceted park with a bike path, picnic area, event space, and playground.

Ocean State Job Lot Redesign

Based on our TYPA analysis, MRC proposes a long-term redesign and redevelopment of the Ocean State Job Lot Parcels (see Figure 28). In 1870, the block containing the Casket Factory, Cumberland Farms, and Ocean State Job Lot was the site of Lord Pond and the Mill Brook (see Figure 28).



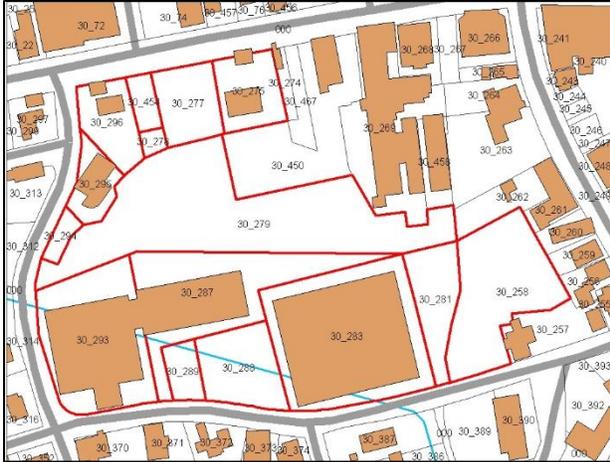


FIGURE 27)

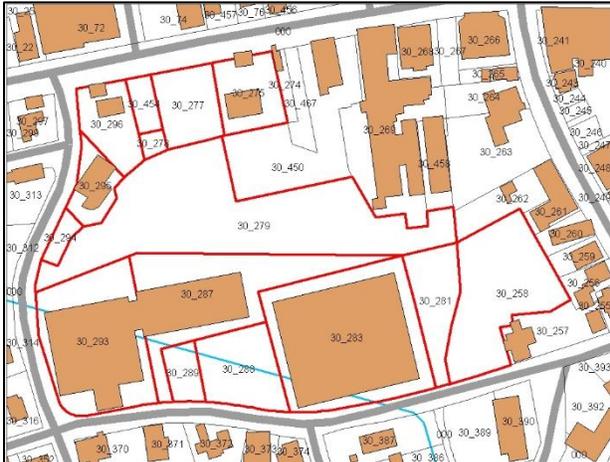


FIGURE 27: JOB LOT PARCELS IN DSA

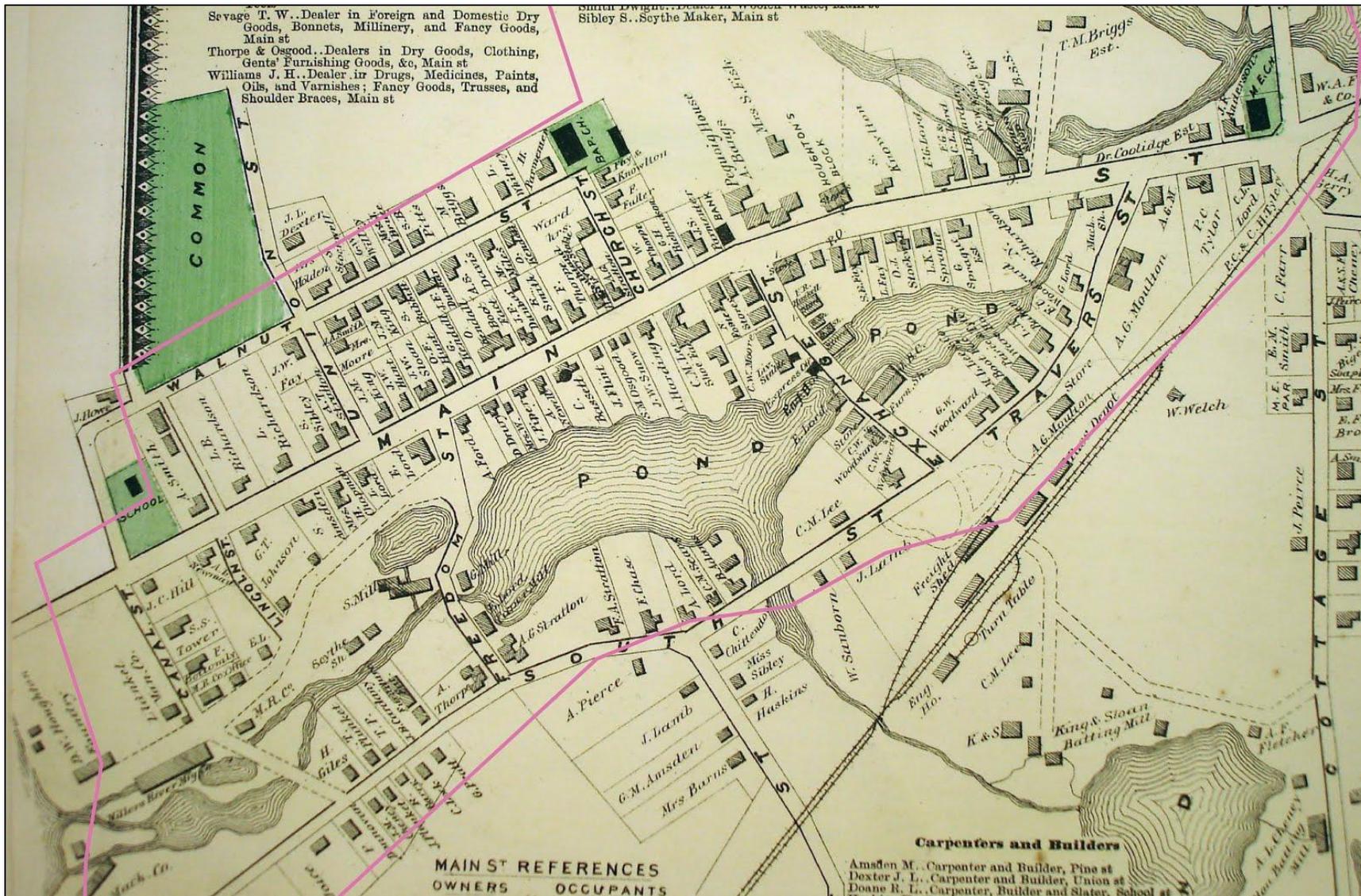


FIGURE 28: DOWNTOWN ATHOL PARCELS, HIGHLIGHTING LOCATION OF LORD POND, 1870

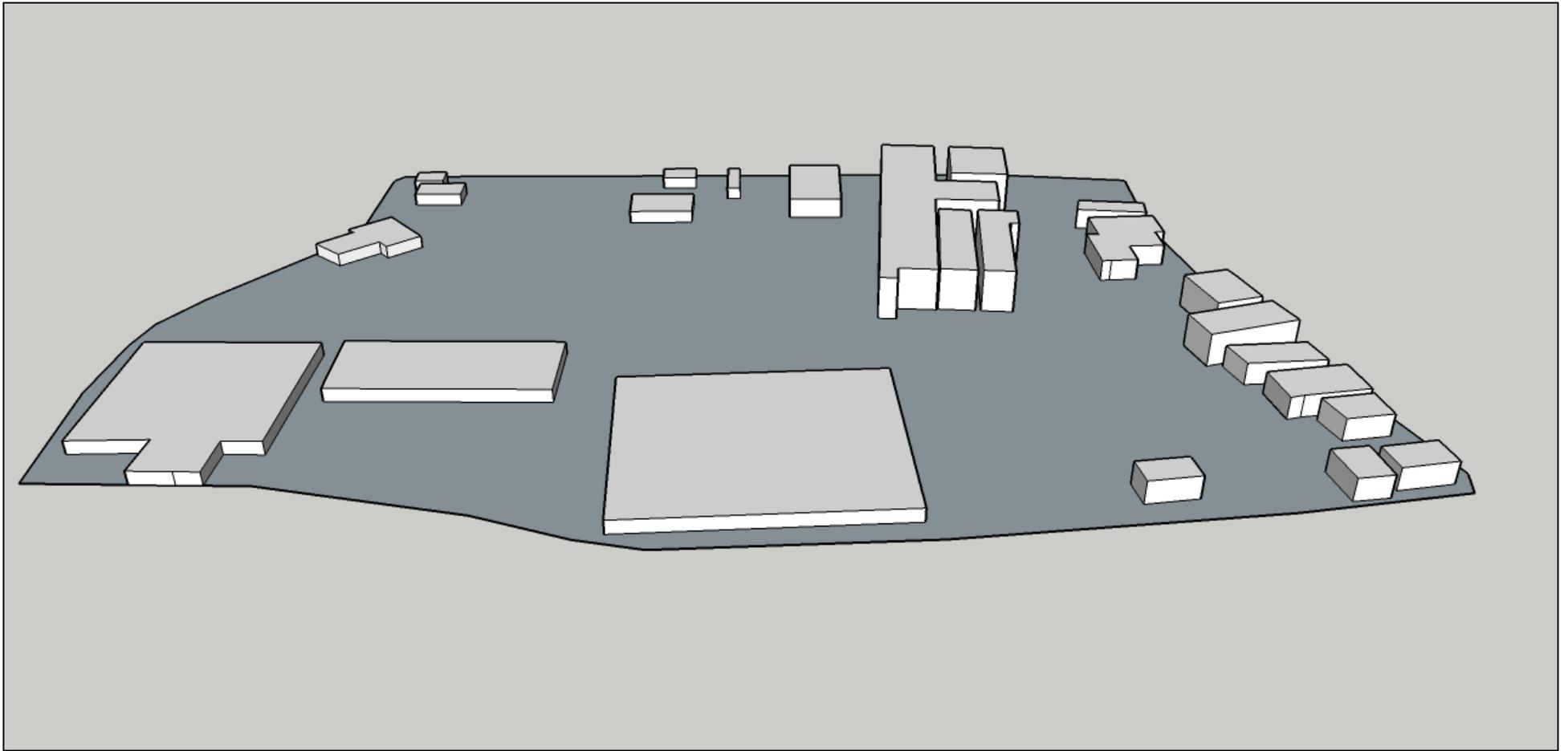


FIGURE 29: JOB LOT EXISTING CONDITIONS LOOKING NORTH

This SketchUp rendering shows the existing structures in the Ocean State Job Lot site. Note how the three wide, single floor buildings are inconsistent with the urban form of the rest of the block. There is also a large amount of underutilized space.

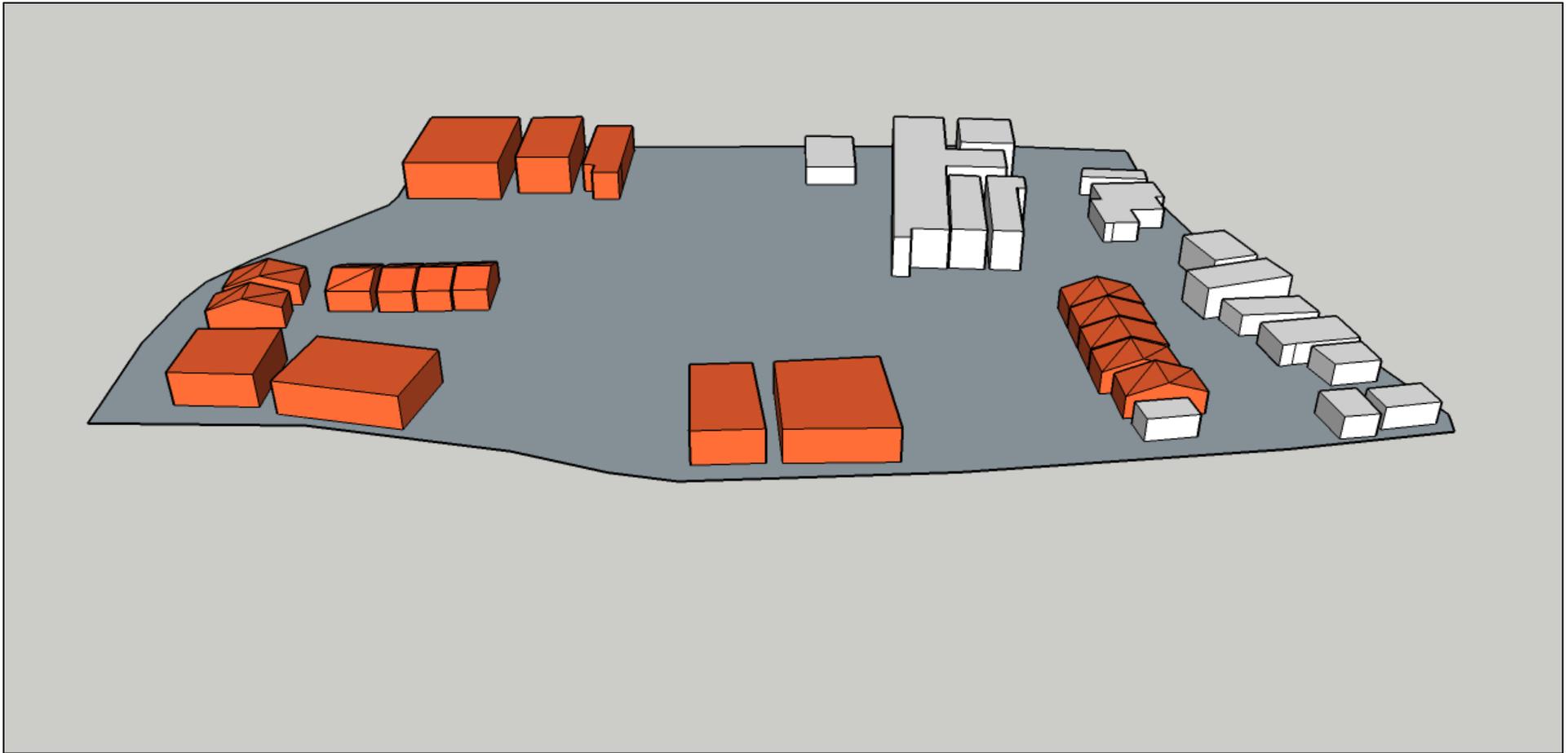


FIGURE 30: JOB LOT PROPOSED REDESIGN, LOOKING NORTH. NEW BUILDINGS ARE ORANGE

This image shows the new proposed structures in orange. The 5 buildings with pitched roofs on the right are 2 floor apartments or row houses. The 4 structures in the bottom center and bottom left are 2 floor mixed use. The 6 pitched roof structures on the left are cottage houses. The 3 buildings in the top left are 3 and 4 floor commercial structures with retail shops on the ground level and offices in the higher floors.

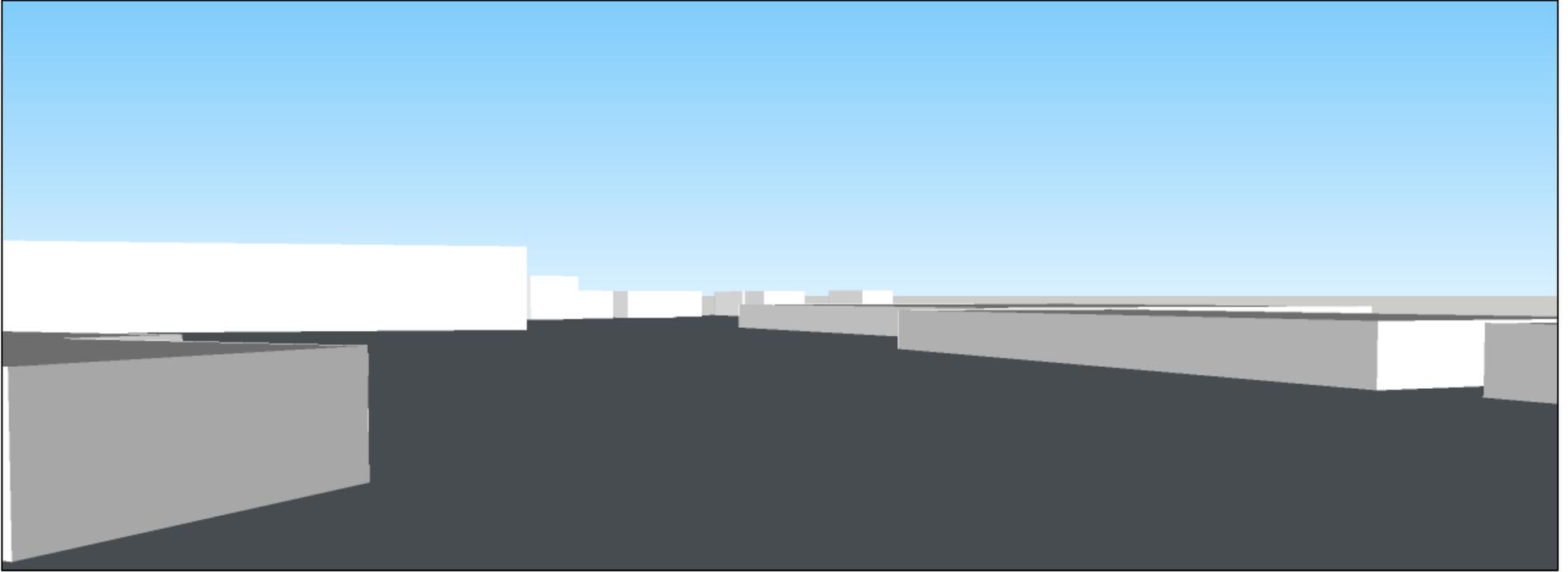


FIGURE 31: JOB LOT EXISTING CONDITIONS, LOOKING EAST

This SketchUp shows the view of the Job Lot site as it exists at the present time. The space is visually unappealing with its juxtaposition of 3 and 4 story structures in the background with the single story, broad buildings in the foreground and vast area of parking lot.



FIGURE 32: JOB LOT PROPOSED REDESIGN, LOOKING EAST

This rendering used SketchUp to create the buildings and then used Photoshop to paint the other elements on top of it. This image shows the daylight Mill Brook and reestablished native plant species. Recreational trails follow the brook on both sides and mature trees provide shade. The new commercial buildings are visible on the left and the 2 story cottage residences are on the right. The private front yards are delineated from the public park space by a stone ledge. The depaved and revegetated center area of the block acts as a green infrastructure element to capture and infiltrate stormwater runoff from adjacent rooftops and other impervious areas.

The daylighting project may be eligible for a number of grants to help defray the costs of design, construction, and maintenance. The EPA's Urban Waters Small Grants Competition, Clean Water State Revolving Fund, and Targeted Watersheds Grants might be a good fit for this project. In addition, the Franklin Regional Council of Governments, located in nearby Greenfield, recently received a Section 319 Nonpoint Source Grant from the State of Massachusetts to rehabilitate the western branch of the Millers River.

“Cass Park” Background

The Cass Toy Factory manufactured and sold a wide variety of children’s toys and musical instruments, including pianos, drums, chalkboards, and wooden furniture, for over 100 years. In January 2012, the factory located on Canal Street in downtown Athol burnt to the ground (Figure 33). (Levenick, 2012) Today, the site is a brownfield with rubble and haphazard elements.

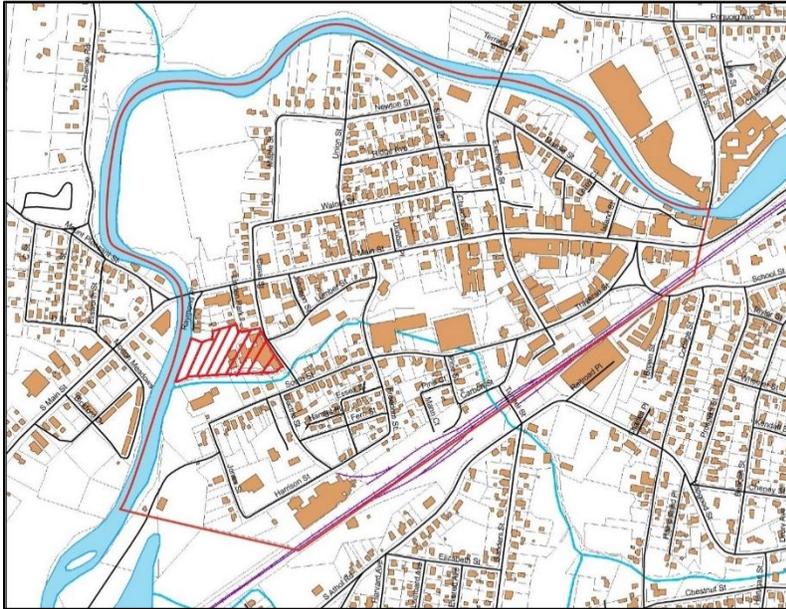


FIGURE 33: SITE OF CASS PARK PROPOSAL



FIGURE 34: CASS TOY FACTORY, 2010 (WCVG.COM)



FIGURE 35: CASS TOY FACTORY, JANUARY 2012 (K&G PHOTOGRAPHY)



FIGURE 36: CASS FACTORY "GROUND ZERO," 2014

While conducting site visits to Athol, we noticed that this area, consisting of two parcels providing just over 3 acres of land, would be the perfect location for a park. The site is close to an intermittent stream, as well as abutting the Millers River. We noticed that while the northern side of downtown has Fish Park, the southern side does not have any park. With that, Millers River saw this as an excellent opportunity to come up with a proposed park design.

“Cass Park” Design Proposal

The Cass Toy Factory manufactured and sold a wide variety of children’s toys and musical instruments, including pianos, drums, chalkboards, and wooden furniture, for over 100 years. In January 2012, the factory located on Canal Street in downtown Athol burnt to the ground. (Levenick, 2012) Today the site is a brownfield with rubble and haphazard elements.

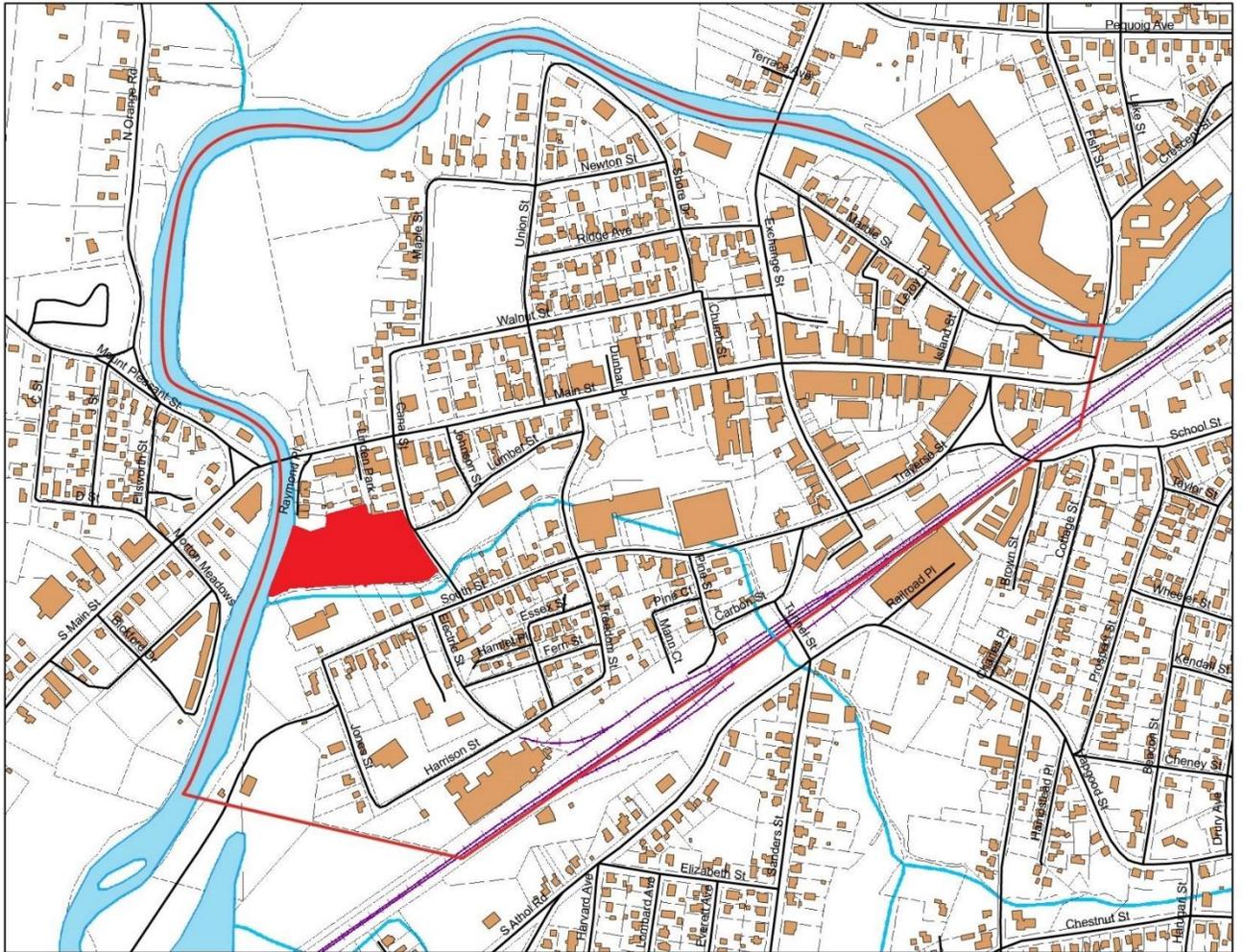


FIGURE 37: FORMER CASS FACTORY LOCATION



FIGURE 38: FORMER CASS FACTORY SITE, 2014

While conducting site visits to Athol, we noticed that this area, consisting of two parcels providing just over 3 acres of land, would be the perfect location for a park. The site is close to an intermittent stream, as well as abutting the Millers River. This park fills a need because on site visits we noticed that while the northern side of downtown has Fish Park, the southern side does not have any park. Also, the residents exclaimed that they would really like to see a skate park to provide the teenagers with activities. With that, Millers River saw this as an excellent opportunity to come up with a proposed park design.

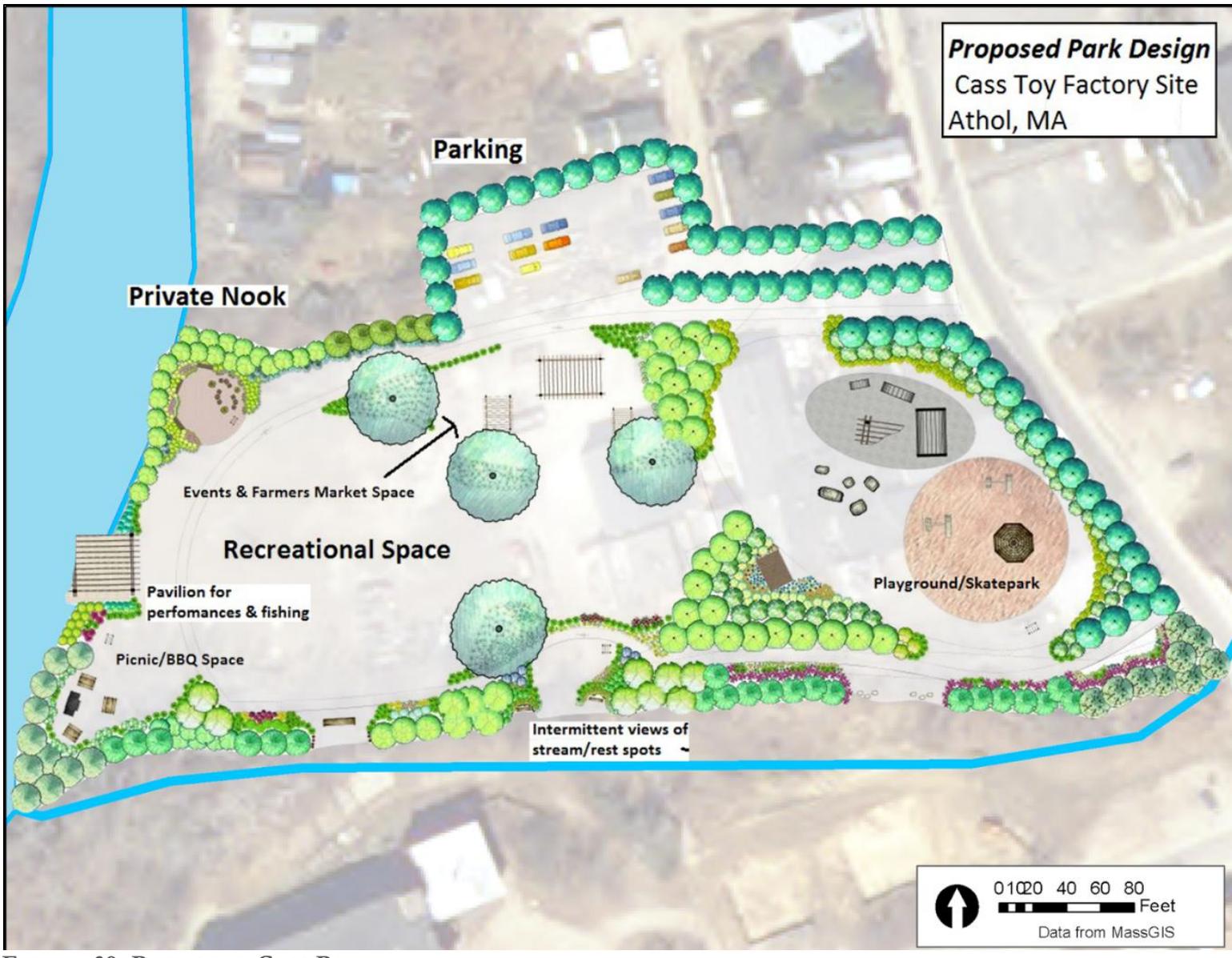


FIGURE 39: PROPOSED CASS PARK

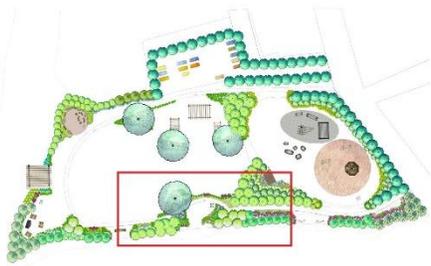


FIGURE 40: BIKE PATH

This pedestrian path circulates throughout the park, encouraging walking, running, and biking. Throughout the park, this path ties you to each area, and exposed you to many different views and experiences.

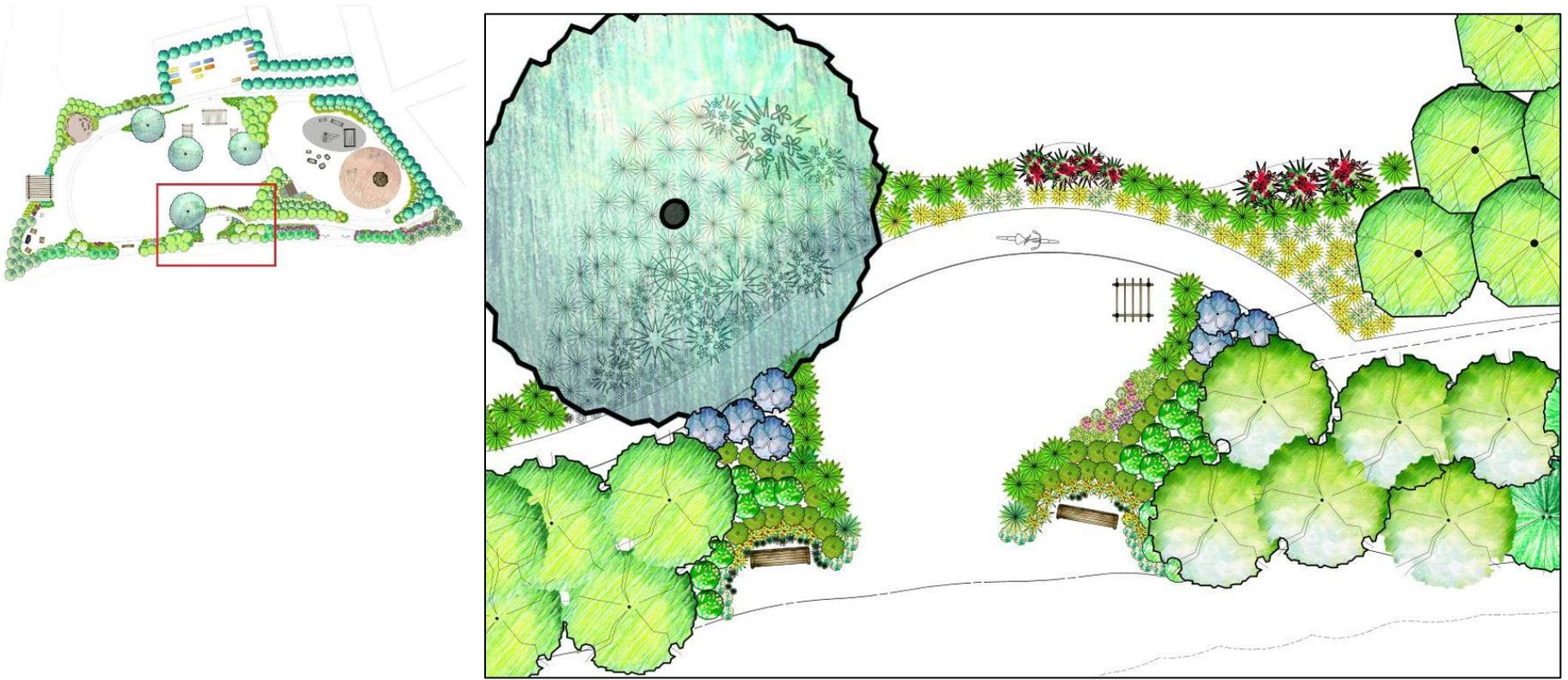


FIGURE 41: BIKE PATH PULL-OFF

The south side of the park has many rest areas off the pedestrian path which encourages reflection and rest, with intermittent views of the stream.

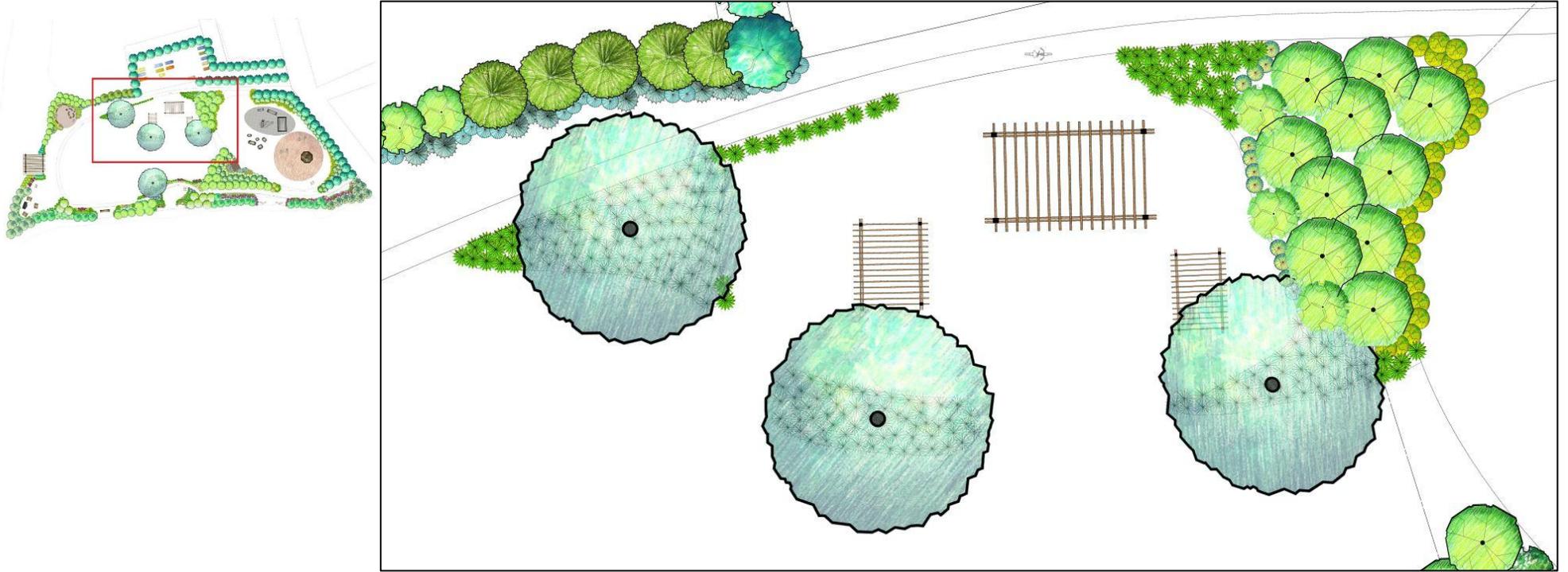


FIGURE 42: EVENT/FARMER'S MARKET STATION

This area encourages markets, activities and events with permanent structures.

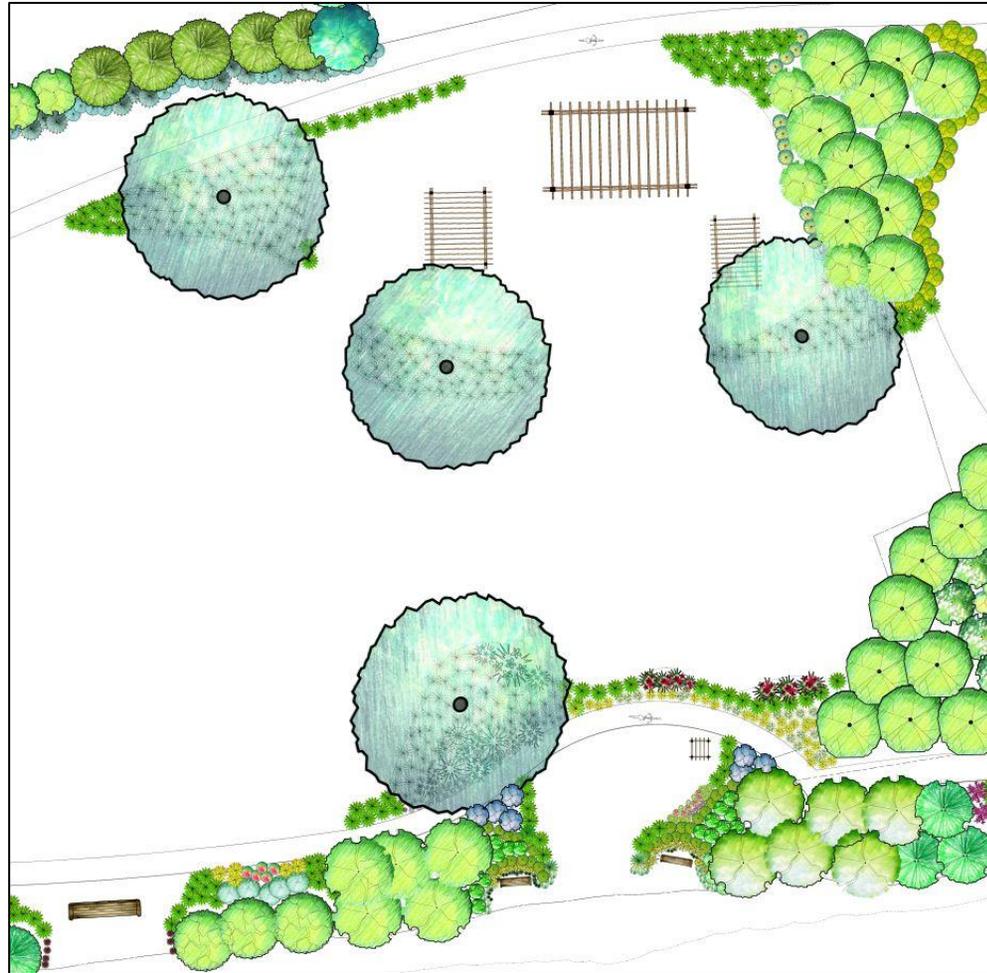
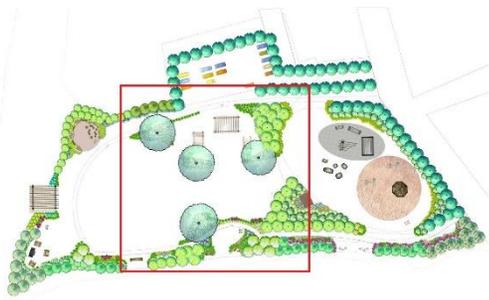


FIGURE 43: EVENT/FARMER'S MARKET STATION AND BIKE PULL-OFF IN RELATION TO EACH OTHER

This image shows the relationship between the bike pull-off, the recreation area, and the farmer's market area. The recreation as well as the farmer's market area are fairly exposed, however, the bike pull-off shares a sense of seclusion and intimacy.

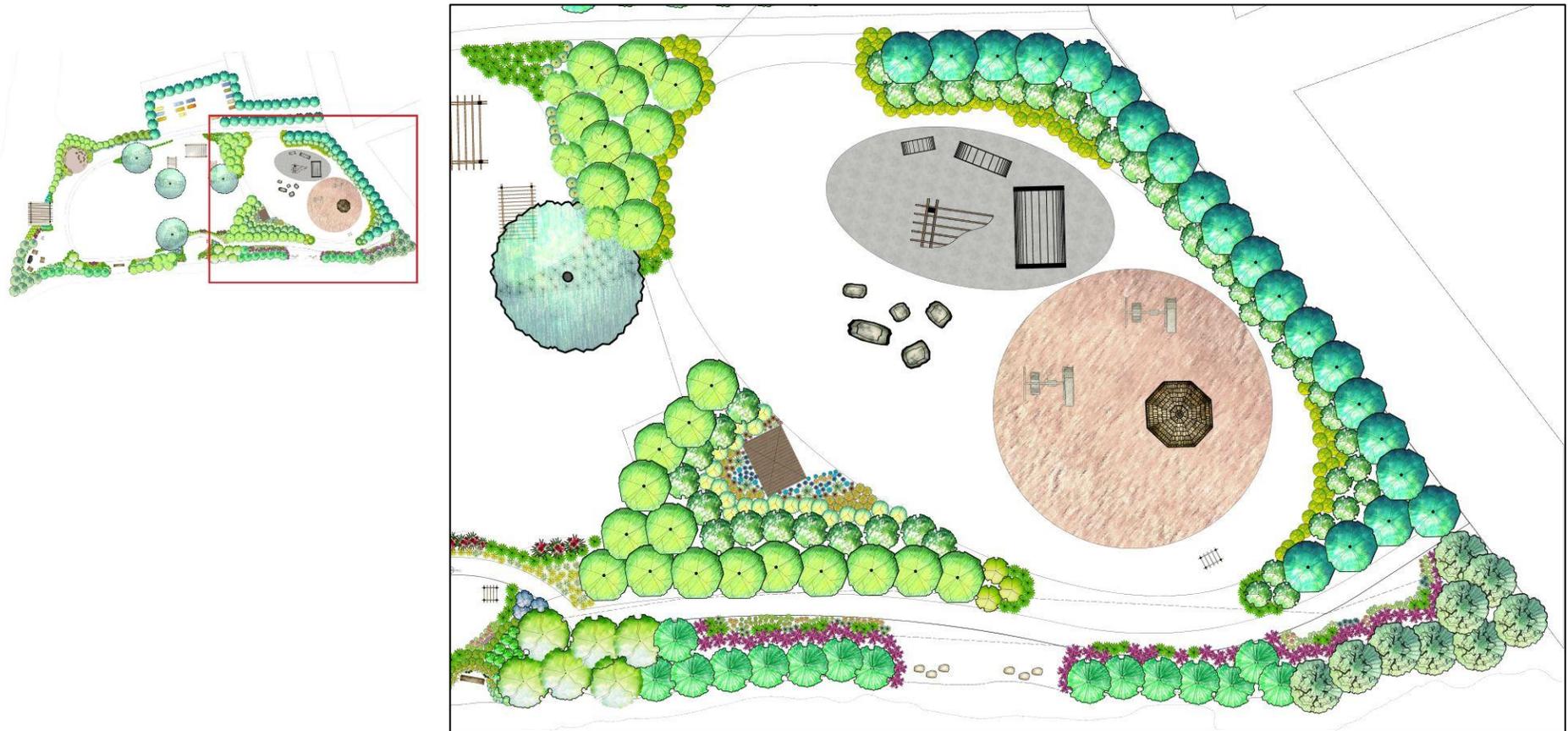


FIGURE 44: SKATE PARK/PLAYGROUND

The playground and skate-park offer recreation for children and adolescents.

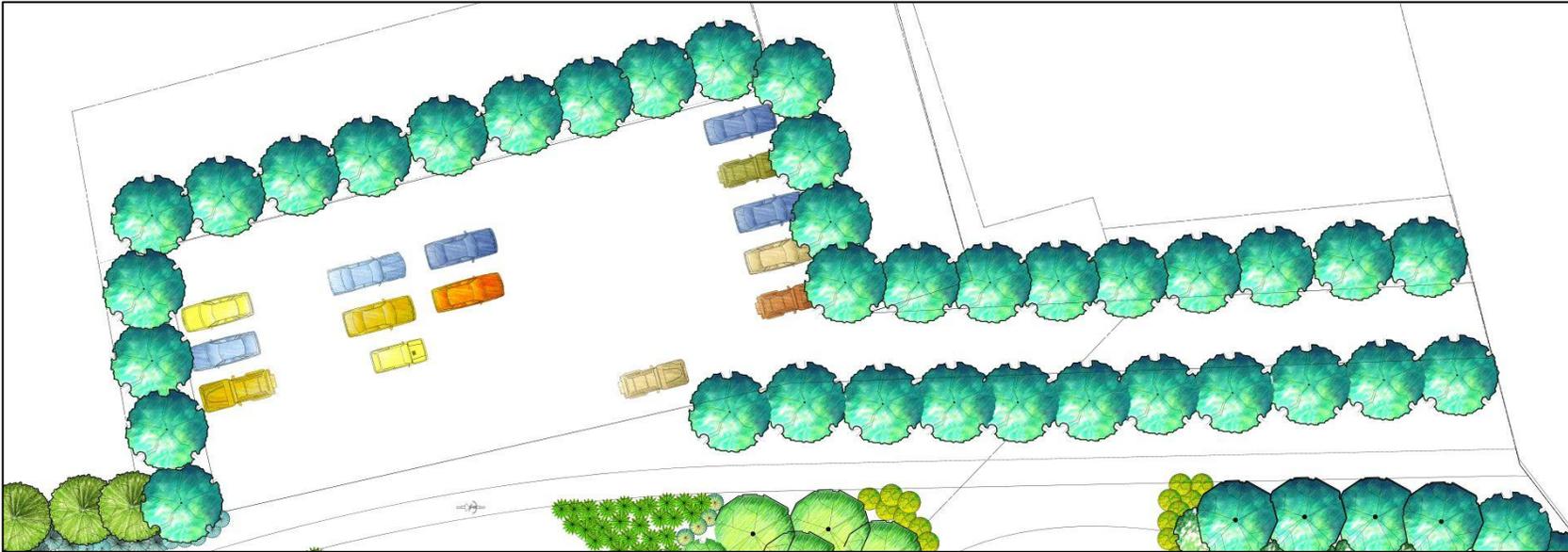
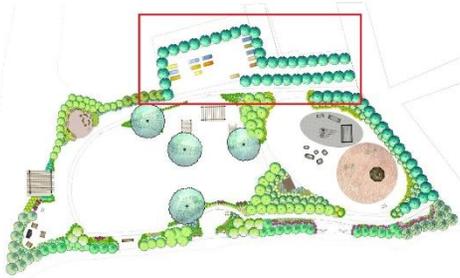


FIGURE 45: PARKING AREA

Provides parking for residents who are not in close proximity to the park with access next to the access for pedestrians.

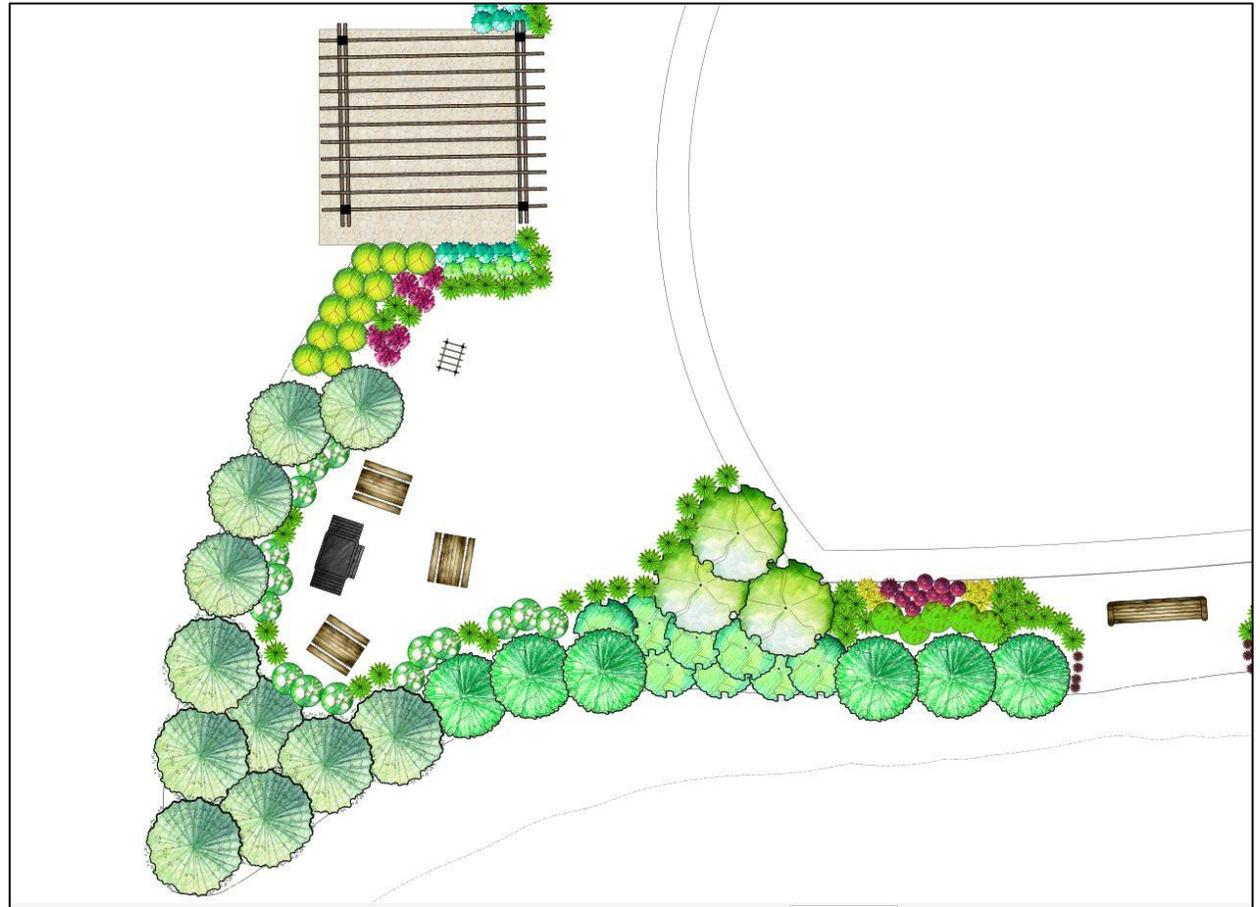
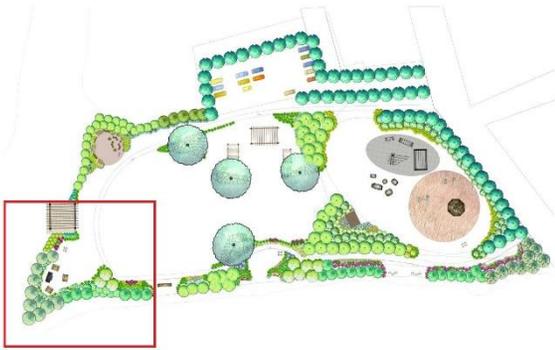


FIGURE 46: PICNIC/BBQ & PAVILION AREA

Provides an area for families to enjoy a barbeque and picnic while listening to music from the pavilion.

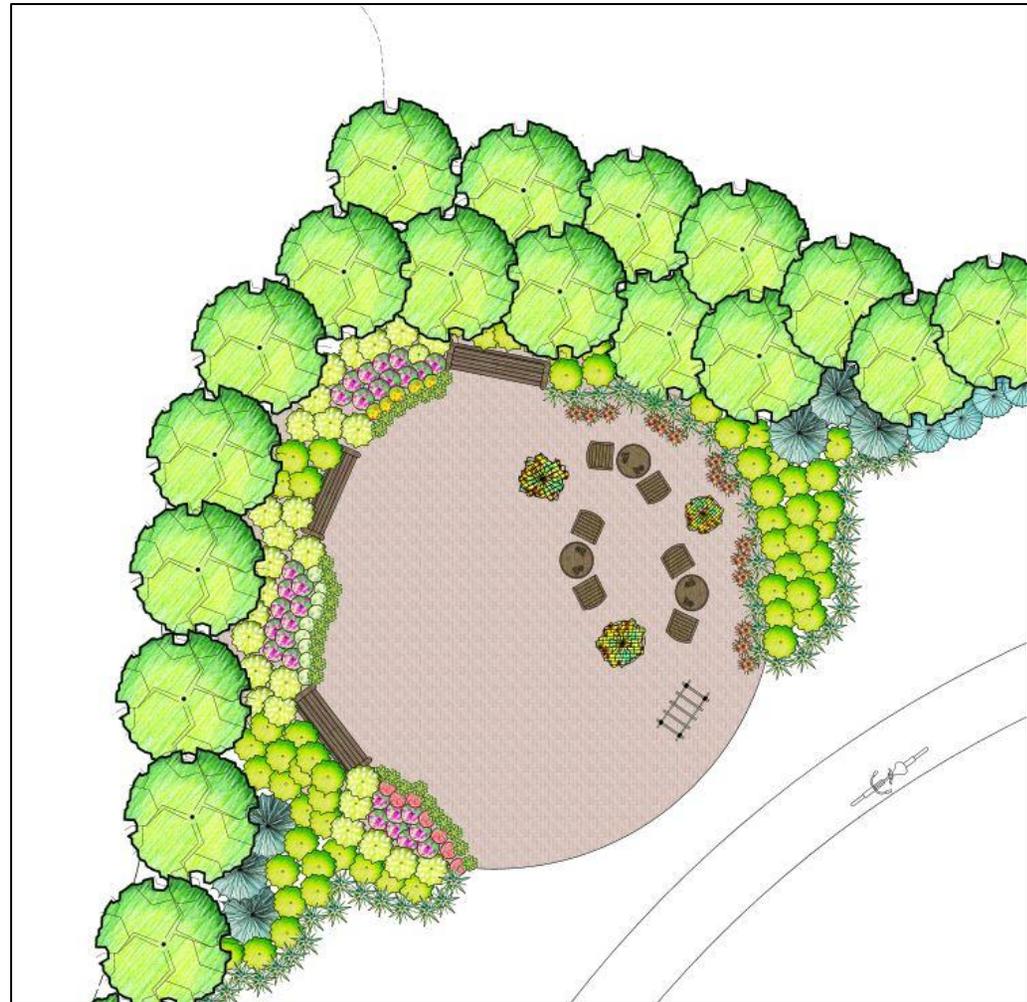
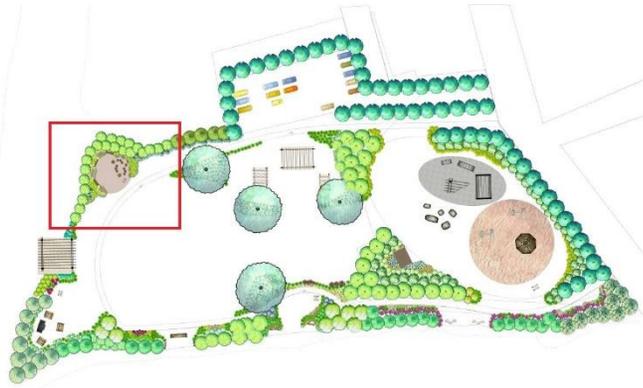


FIGURE 47: PRIVATE NOOK AREA

Provides a cozy and semi-private node for gathering and enjoying coffee and the company of another person to engage in conversation, or perhaps a place to read by oneself.

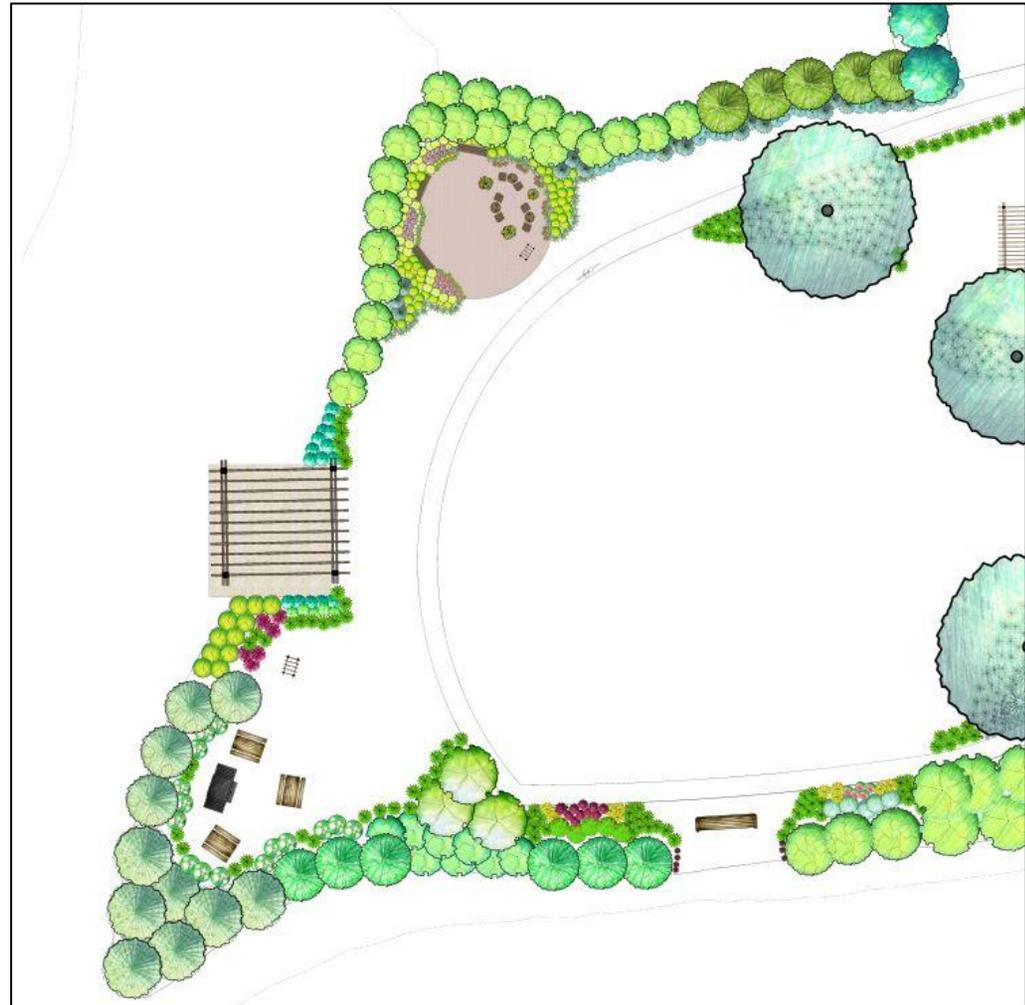
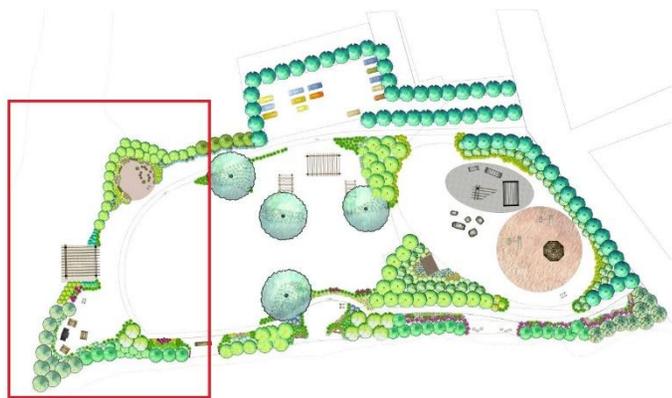


FIGURE 48: NOOK, PICNIC, AND RECREATION AREA IN RELATION TO EACH OTHER

Shows the recreation area, picnic area, and nook in relation to each other.

Recommendations

Encourage Adaptive Reuse

The town should encourage adaptive reuse of existing buildings/structures to protect historic buildings and maintain good urban form while allowing for a mix of uses and activities. The existing abandoned structures are in varying states of repair, so an analysis of their viability should be conducted in order to select the buildings with highest potential. As demonstrated in the TYPA analysis, 2-4 story commercial and mixed use buildings are excellent income generators for the town. The presence of historic but abandoned or underused 2-4 story buildings downtown means that supporting the reuse and rehabilitation of these sites should be a priority for Athol. The large, open floor plans of factory buildings call for unique and creative reuse strategies. Some solutions include research laboratories, data centers, educational facilities, and housing units. More novel uses may take the form of indoor skateboard parks, rock climbing gyms, or breweries.

Pursue New Infill Development

Pursuing new infill development will provide additional opportunities and bring vibrancy to the area by accommodating current residents and attracting diverse newcomers. By utilizing a form-based code, historic overlay district, or other zoning tools, Athol will have control over new development that decides to locate downtown. New uses that can serve current residents as well as businesses and housing meant to attract visitors and new residents should be sought. Identifying underutilized sites through further TYPA analysis and public input will help the town to plan for the accommodation of future growth and set the stage for creating the type of community that residents want.

Time Line for Implementation

Six Months to One Year

1. Issue a request for Tactical Urban projects to get the community creatively involved in revitalization. First steps may include pop-up shops and restaurants or murals and art installations.
2. Partner with community groups to pursue projects like depaving and creating plazas and parks on vacant lots could be a next step. This will require some investment in planters and street furniture but gives the town a chance to test out sites for future permanent improvements.
3. Continue to identify and catalogue vacant, abandoned, and underutilized sites for redevelopment. Use a mix of methods including TYPA analysis, community workshops such as the dot exercise, and Lynch analyses.
4. Seek continued funding from the PARC grant programs to use in park developments like the Cass site proposal

Two to Three Years

1. Look for development to serve the immediate needs of residents such as a grocery store, bait shop, or small restaurant. Help current residents move downtown by providing senior and affordable housing.

2. Identify and attract employers from regional industries.
3. Encourage developers to reuse existing buildings in order to preserve and enhance the historic structures while keeping the downtown walkable.

Five years

1. Begin to attract visitors by seeking uses such as museums, boutique shops, and marketing town assets such as boating and fishing on Millers River, and trails in Allen Rich Park and outside of town.
2. Develop housing to bring new residents such as cottage housing. Embrace density downtown to preserve open space, prevent sprawl, and enable walking and bicycling.
3. Work with surrounding communities, especially Orange, to foster a regional identity.

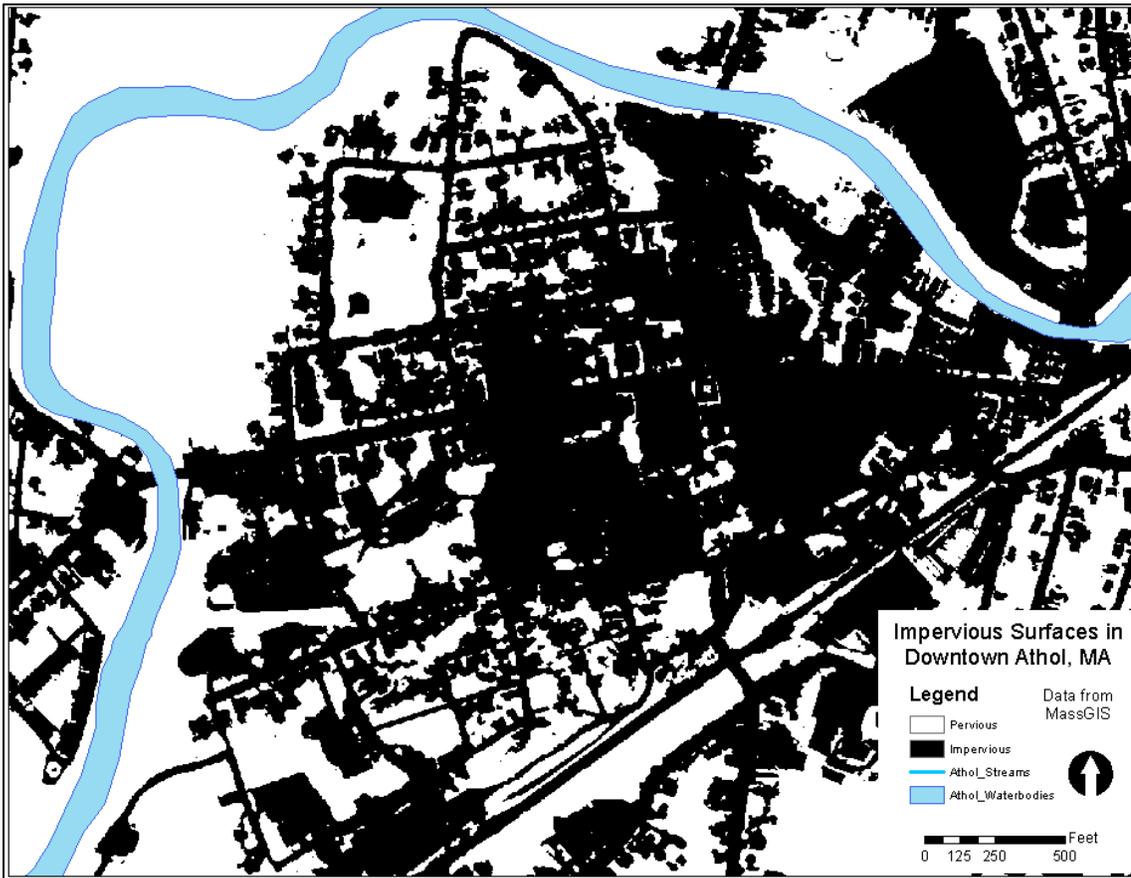


FIGURE 49: IMPERVIOUS SURFACES IN DOWNTOWN STUDY AREA



FIGURE 50: EVIDENCE OF GUERRILLA GARDENING IN ATHOL

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Theme: Traffic Flow and Pedestrian Access

Background

The road infrastructure of the Town of Athol is comprised of three state highways (Route 2, Route 2A, and Route 32) and over 70 miles of local roadways. Route 2 provides access to Interstate 91 and to the employment markets in Gardner (11 miles), Fitchburg (25 miles), Leominster (28 miles), and Boston (71 miles). Running parallel of this route is Route 2A, which serves as Athol's Main Street, and provides links to the towns of Orange (5 miles), Phillipston (7 miles), and Templeton (10 miles). Route 32 forms junction with Route 122, providing access to Worcester (34 miles).

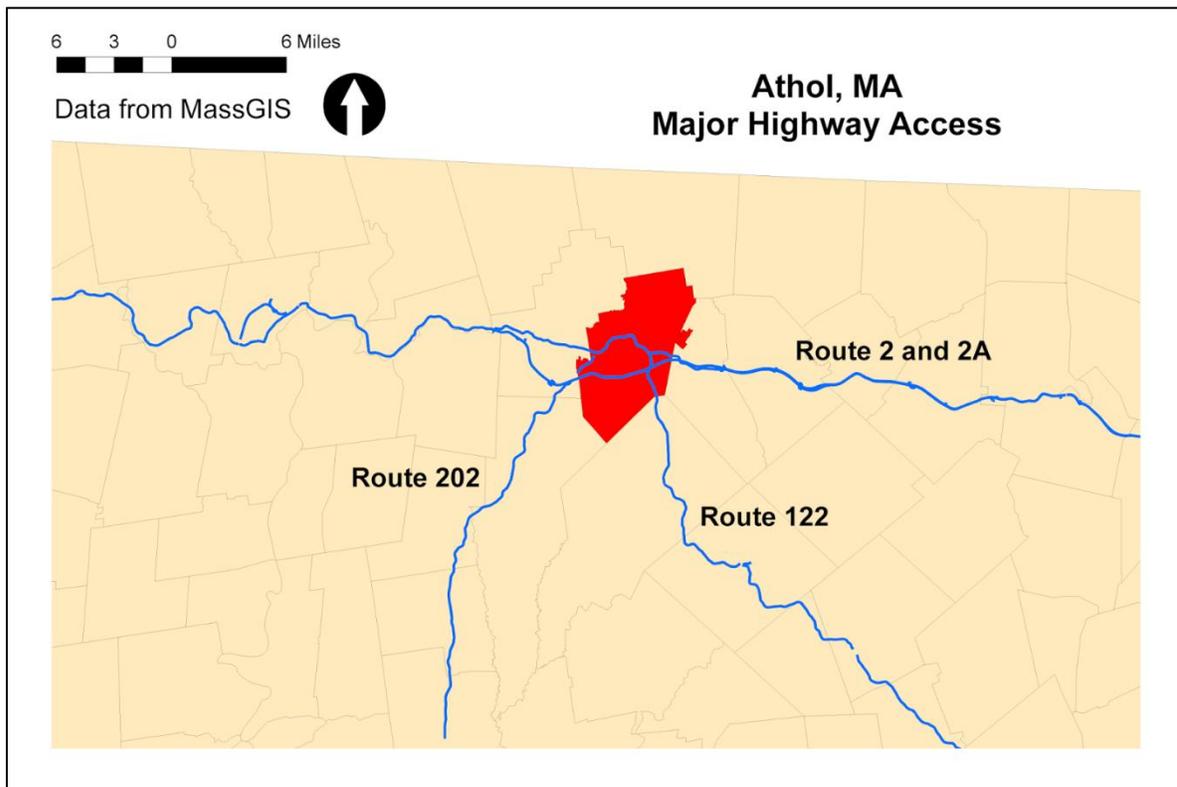


FIGURE 49: MAJOR HIGHWAY ACCESS IN ATHOL

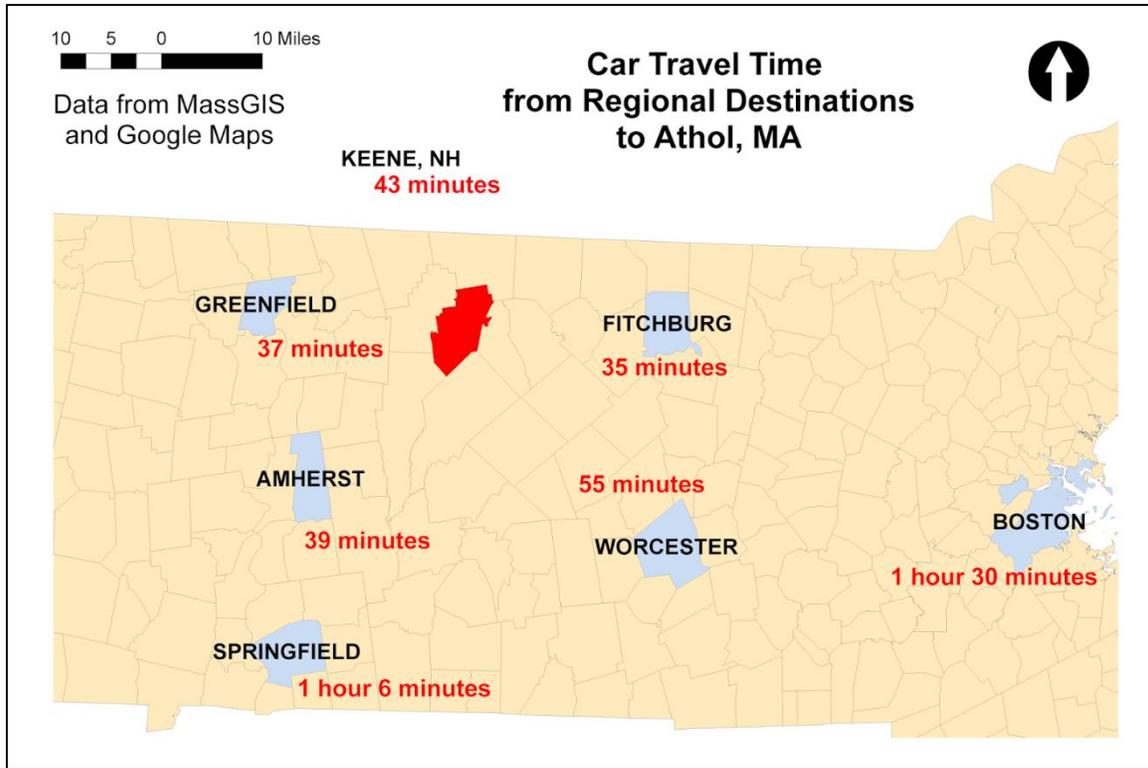


FIGURE 50: CAR TRAVEL TIME FROM REGIONAL DESTINATIONS TO ATHOL

There is freight rail service in Athol provided by Guildford Rail Systems (GRS). This service runs parallel to Route 2, following the course of the Millers River. Manufacturers for shipping raw materials and products use the line, which has four stations that serve Athol’s downtown commercial and industrial district. The G-Link is a fixed-route bus service that is ran by the Franklin Regional Transit Authority (FRTA) and the Montachusett Regional Transit Authority (MART). This service, which has five stops along Main Street, connects residents of Athol and Orange to the towns of Greenfield and Gardener. The G-Link also connects with the Fitchburg Intermodal Center, where riders can use their commuter rail service to access Boston and other points to the east.

Existing Conditions

The Town of Athol faces geographic isolation due to its location in the northern end of the Quabbin Region and the northwest corner of Worcester County. Relatively low population densities and the decreasing job market in Athol limit the potential for public transit as a travel mode, leaving personal vehicle travel as the primary mode of transportation. These factors also contribute to the current shortfall between the budget necessary to maintain Athol’s infrastructure and its ability to generate revenue. Much of the Town’s road and sidewalk infrastructure is out-of-date and requires repair or full replacement. A number of intersections in the downtown also require safety improvements. There is also a need to

provide walking and bicycling trails in the downtown to improve the pedestrian realm and increase the connectivity to recreational areas. Improvements have the potential to increase the viability of downtown Athol in terms of its traffic flow and pedestrian access.

Currently the G-Link serves as the only mode of public transportation for town residents. The route service provides 7 trips each way per day from Greenfield to Athol and 6 trips each way per day from Gardner and Orange. Service times are concentrated in accordance to peak traveling period frequencies in the morning, early afternoon, and evening. The lack of trips offered in the afternoon limits the convenience for residents to travel. However, the FRTA and MART provide a Dial-a-Ride service for those who are unable to get to the scheduled bus stops. This service is used to accommodate for the scheduled stops that are far apart or located in unsafe areas along the route. Although this is provided, it highlights the issues that exist within the current service. With these conditions, along with the current absence of a transit rail line, there is a need to increase public transportation options for the residents of Athol.

Athol's Main Street (Route 2A) serves as the primary road downtown and provides a sense of the town's character. The functional classification of this road is identified as a minor and principal arterial, and a major collector. Main Street is aesthetically pleasing and showcases many of the town's historical buildings. This street supports two 12 ft. travel lanes and two 8.5 ft. parking lanes. The sidewalk on the right provides 8 ft. for pedestrian travel, and the left sidewalk is 6.5 ft and uses an additional 4.5 ft. to accommodate for street trees.

Although this road serves as an asset for the town, it is in need of maintenance and safety improvements. Main Street is included in the Transportation Improvement Program and was due to go out to a bid in 2003 for a widening and infrastructure improvement project. The road is also the subject of a \$2 million Improvement Project. In a study performed by the Montachusett Regional Planning Commission, Main Street was identified as being one of the town's roads that involve the highest frequency of accidents. In particular, Athol's Master Plan notes that the intersection of Main Street and Exchange Street was ranked as one of the 25 highest accident locations in the Montachusett Region in 1995.

Exchange Street provides access to town businesses including the Athol Press and the Sterling House Association. This road is a priority for infrastructure and safety improvements. Exchange Street supports two travel lanes at 36 ft. and 19 ft, an 8 ft. parking lane and a 7 ft. sidewalk. This road does not effectively support travel due to its excessively wide driving lanes and lack of sidewalk space for pedestrians. The current conditions of Exchange Street, compared to Main Street, make the street aesthetically unappealing and structurally ineffective.

The need for infrastructure improvements on these two streets can be taken as an

opportunity to implement a redesign solution that will help improve the traffic flow and pedestrian access in downtown Athol. The redesign of these roads should follow Complete Streets initiatives in order to optimize their potential to accommodate all travelers. The goal of Complete Streets involves providing safety and access to users of the road through accommodating a number of transportation options. Complete Streets initiatives work to support pedestrian, bicyclist, transit, and automobile transportation. Approaches can be implemented in a redesign that makes effort towards optimizing the pedestrian realm, as well as meeting sustainability goals. Through redesigning Main Street and Exchange Street, the town can increase its potential to provide more transportation options, which has been identified as a significant need for the Town of Athol.

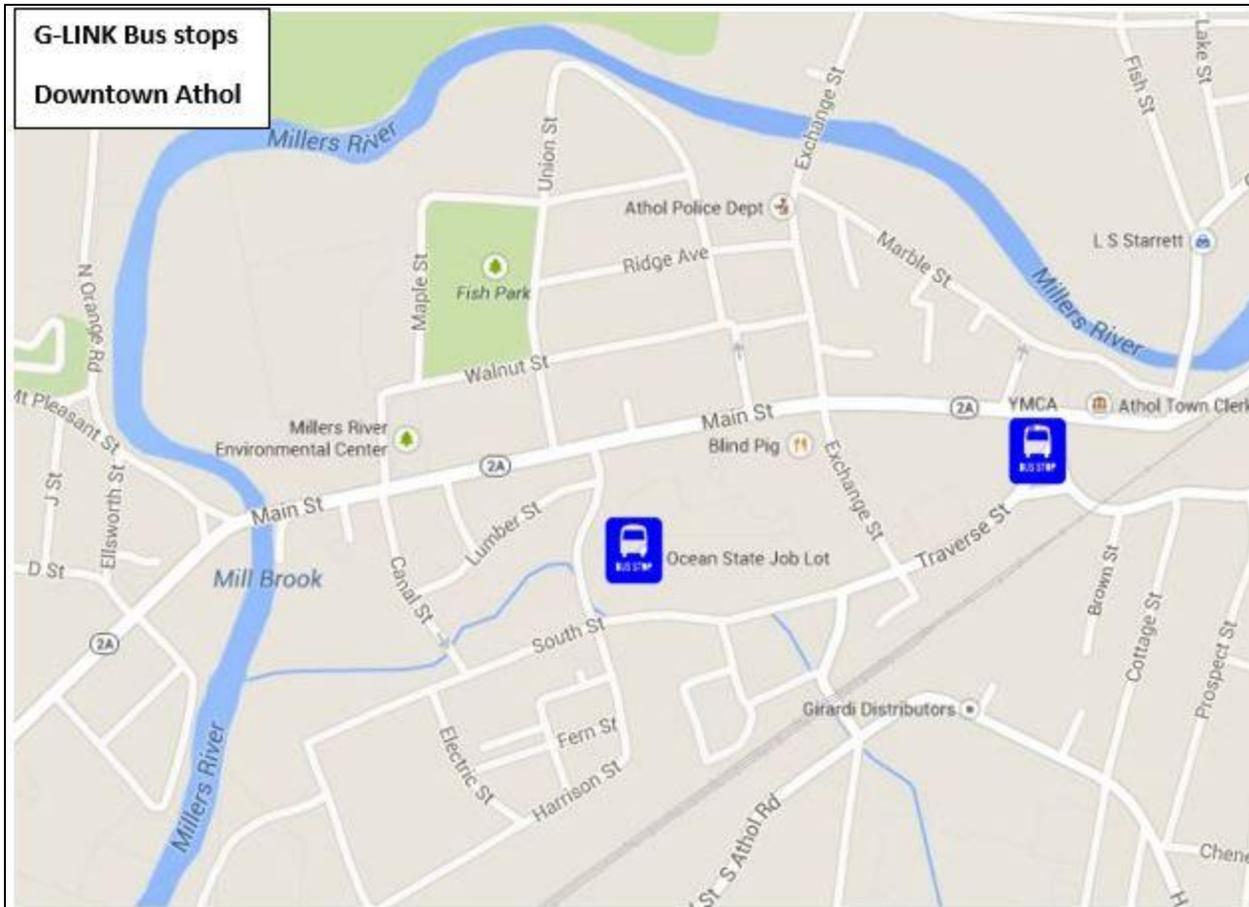


FIGURE 51: MAP OF G-LINK BUS STOPS IN DOWNTOWN ATHOL



FIGURE 52: EXAMPLE OF EXISTING ROAD CONDITIONS



FIGURE 53: EXAMPLE OF EXISTING SIDEWALK CONDITIONS

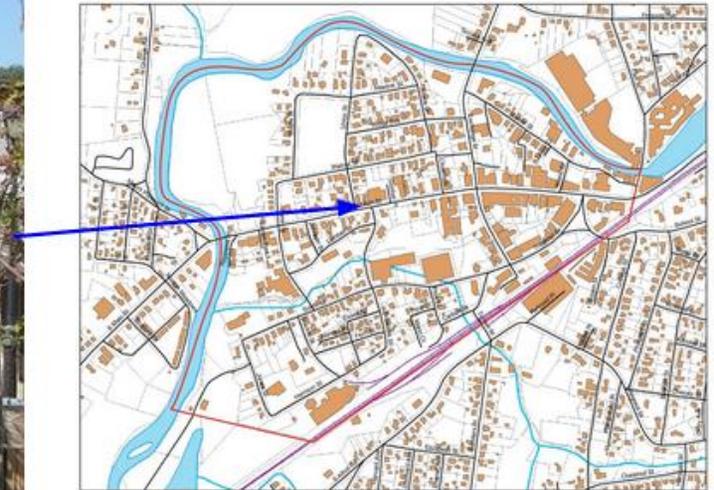


FIGURE 54: EXISTING CONDITIONS AND LOCATION OF MAIN STREET



FIGURE 55: STREET SECTION SHOWING EXISTING CONDITIONS OF MAIN STREET

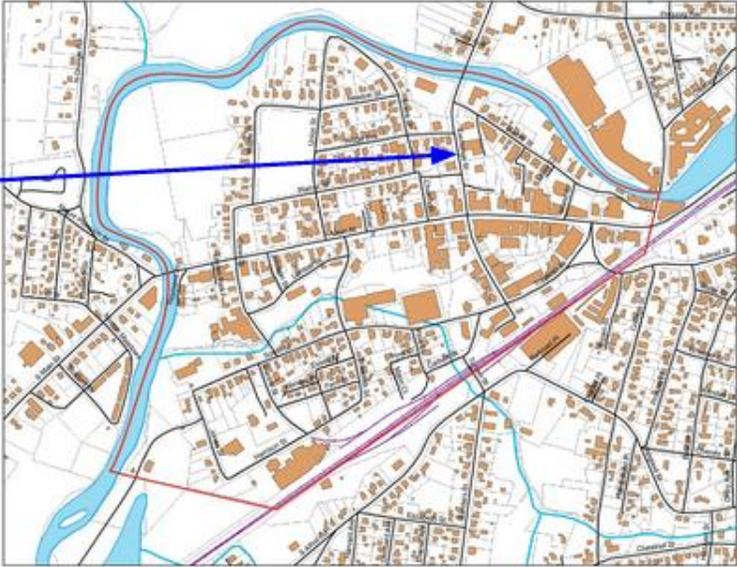


FIGURE 56: EXISTING CONDITIONS AND LOCATION OF EXCHANGE STREET



FIGURE 57: STREET SECTION SHOWING EXISTING CONDITIONS OF MAIN STREET

Team Findings

Workshops

During the two public charrettes led by Millers River Consulting, residents of Athol identified the traffic and pedestrian issues that they felt should be prioritized for improvements.

Workshop 1:

It was mentioned that Church Street, Exchange Street, Main Street, Marble Street, Orange Street, School Street, and Sanders Street are all in need of updating and infrastructural improvements. These streets were reported to be rundown, subject to blight, and lacking proper signage. The residents identified that the train tunnels were uncomfortable to walk under since they were not well lit and the sidewalk infrastructure was lacking in repair. Many infrastructural improvements are needed throughout downtown to increase pedestrian safety.

The parking lot area of the Lord Pond Plaza and the space behind it was reported to be rundown and displaying drainage problems. The public suggested that calming strategies should be used in order to control the traffic flow in these areas. The infrastructure of the parking lot should be improved to show clear delineation between parking, the street, and pedestrian access.

It was expressed that the public felt as though the train station is currently being underutilized. They would like to see a commuter rail line proposed for that station with access to Boston, Greenfield, and Worcester. There is a desire for more public transportation options, like the extension of the bus service, as well as walking and biking trails.

Workshop 2:

Residents would like to see more places for pedestrians to sit and spaces for gathering outside. Aesthetics as well as functionality for these areas is important to express a welcoming environment to residents and visitors alike. Aesthetics of the roads, as well as bike lanes and related improvements are encouraged by the residents to make Athol seem more receiving to visitors.

Pedestrian safety is another concern. Main Street and Exchange Streets have been identified as dangerous intersections to both automobiles and pedestrians alike. There needs to be infrastructural improvements to the streets to allow effective traffic calming strategies. Walkability is another idea that residents would like to see expanded. Being able to walk with ease to many parts of the downtown is important.

Parking was also an issue the residents identified. Parking is hard to find during peak business hours, and at frequently visited locations like the post office. The residents would like to see the bus service expanded.

Currently, there are two bus stops located downtown, and the bus service runs infrequently. Residents suggested a shuttle service to be run locally in Athol.

Town Documents

Transportation, Master Plan (2002)

The main objectives for transportation that Athol defines in their Master Plan include the identification of intersection safety improvements and congestion safety measures for Route 2 and main roads, improving sidewalks and crosswalk safety in the village centers, exploring the feasibility of providing walking and bicycling trails throughout Athol, and raising the awareness of the existing transit service throughout the town. These objectives are consistent with the data that was collected from the public charrettes and site visits performed by MRC.

The Montachusett Regional Planning Commission prepared a chapter within this section of the Master Plan, which highlights how Athol would benefit from creating a more pedestrian-friendly network within the DSA. Athol has an abundance of natural resources that make the town attractive for recreational purposes. It is suggested that sidewalk improvements should accommodate for walking, jogging, and the creation of multi-purpose trails for biking, hiking, and other recreational activities. Building on Athol's existing resources gives the Town potential to become a tourist destination, which can help sustain the local economy, provide increased opportunities for self-employment, and enhance community pride.

Athol's Draft Community Development Strategy (2014)

This document highlights infrastructure and transportation improvements that are currently prioritized by the Town of Athol. The objectives for infrastructure improvements include repairing the infrastructure at Grove Street, Marble Street, Exchange Street, and the Lord Pond Plaza. Athol has been investing in local, CDBG, and other funding for the upgrading of the Town's infrastructure, however, these efforts have fallen short of needs for these repairs. It is suggested that using Chapter 90 Funding with the assistance of engineering planning could help make projects on existing systems more cost effective. This document also suggests that the Town should seek funding from the Capital Improvements Committee for planning and matching funds in the Annual Budget. In 2014 Athol was awarded \$895,533 in CDBG funding for improvements to Grove and Highland Streets and to provide housing rehabilitation assistance to eight units.

The Draft Community Development Strategy also emphasizes the importance of establishing regional connections through modes of public transportation. The Town would like to expand their regional bus service, which is supplemented by the G-Link. The G-Link

is recognized for being successful with creating regional links through its demand-responsive service. Athol's objective is to support the existing local bus transportation system as an economic development strategy through supporting existing services and establishing new terminal and bus routes that would include access to the Westminster Train Station and Greenfield to enhance regional links. This document suggests that the rehabilitation of the Town's sidewalks and providing bicycle racks and lanes with compliance to current design standards will help with efforts to increase the use of this local bus transportation system.

Literature

"The Pedestrian, Downtown, and the Planner"

"The Pedestrian, Downtown, and the Planner" discusses the importance of roles in pedestrian activity. It not only evaluates pedestrian movements in downtown areas, but also discusses the roles of pedestrian malls, underpasses, plazas, and arcades in relation to downtown revitalization. This article recognizes the importance of pedestrian activity and gives an evaluation of foot traffic movements and how to encourage pedestrian flow. Morris & Zisman (2008) stated, "much of the advantage of downtown: only downtown offers the multiplicity of generators, intricately interwoven, that impel large numbers of people to intermingle through moving, offering countless possibilities for the unexpected" (p. 152). What this means is that more people in a downtown area helps to promote bikability and walkability. Morris & Zisman noted "since walking is the primary mode of movement within downtown, the principal task of the planner concerning transportation in this area is to make life more pleasant for the pedestrian. Careful planning will determine the predominant pedestrian routes" (p. 156)

This article on pedestrian walkability is important to the overall goal of improving how the residents move within the DSA. It needs to be done in manner that makes pedestrians feel safe. If they don't feel safe in the DSA then they will not shop long or they will not come back again. It is important to consider traffic calming techniques to make people feel safe crossing the street.

During our numerous site visits to downtown Athol, we noted that the streets were significantly lacking in both the quality and quantity of crosswalks. If there is increased foot traffic in this area, then Athol will be in dire need of more. Road diets and traffic calming measures must be implemented to make the downtown more pedestrian friendly. Also creating a bike lane on Main Street would make people view this area as a place to shop and eat.

One takeaway from the article is that there must be a purpose behind recommending transportation modes. It must be done to solve a problem in the area that you are studying. A second takeaway is the conclusion at the end expresses that in designing method of

transportation; you need to think of people first. A third takeaway is that too often the argument loses sight of the people concerned and of the city values, functional and cultural as well as economic, that are being sought.

“Exploring the Relationship between Neighborhood Social Interactions and Urban Sprawl in U.S. Metropolitan Regions”

This article discusses “the relationship between urban sprawl and neighborhood social interactions.” Carvajal (2011) noted that, “academics, practitioners and planners have previously described how some of the features that characterize this type of development might encourage greater dependence and reliance on the automobile because of the physical separation among land-uses” (p. 1). Carvajal explained, “sprawl is broadly defined as a type of development characterized by spatial segregation of land-uses, low residential density, lack of common and public spaces, and lack of centers of activity that is prevalent in many U.S. communities” (p. 9). Carvajal provided a broad definition of sprawl as a “form of urbanization distinguished by leapfrog patterns of development, commercial strips, low density, separated land-uses, automobile dominance, and a minimum of public open spaces” (p. 10).

This LARP Master thesis is relevant to Athol because one of the main challenges that Athol faces is the reestablishing community ties within the DSA. While Athol is far from urban, there is the need to reestablish an urban “core” in the DSA. With the recent renovation of the public library and multiple parks within the DSA, Athol still appears to be a ghost town. Filling in vacant businesses with combination of improvement to those social spaces in the town should get Athol back on track in terms of social interactions. There is evidence of some types of sprawl in the DSA. Creating bicycle paths might help to connect some of those areas together.

From reading this thesis, it supports the recommendations of increasing bicycle lanes and increasing the G-Link bus line. These recommendations would help to connect people with different parts of the town. The emphasis is the connection of different parts of the DSA. Creating new bicycle lanes downtown would give resident methods of traveling across the town. One takeaway from the master thesis is that urban sprawl separates people from their surroundings because it takes longer to travel when everything is spread out. Another takeaway is different modes of transportation are needed when trying to solve urban sprawl issues. A third takeaway is that high density areas such as a mixed-use center would help to improve the need for extending the G-Link buses as you would expect more residents to come shop at the mixed-use center.

“Rethinking Streets” N. Williams Avenue, Portland Oregon

In North Williams Avenue in Portland Oregon, they made pedestrian and bike improvements to help bring investment to a neighborhood that was recovering from urban

renewal projects. Sclossberg, Rowell, & Sanford (2013) noted, “streetscape improvements were made in 2006, including improved crossings, landscaping and repaved sidewalks. They wanted to increase bikability throughout the 1.9 mile section” (p.93). Sclossberg, Rowell, & Sanford explained, “before the lanes, there were almost no cyclist on the street, and city staff were worried that the lanes wouldn’t be used. A decade later there are so many cyclist using the lanes that plans are in place to expand the facility” (p. 94). The new street bicycle lanes helped to increase commercial development on the street and it doubled the rent.

This case study from Oregon is relevant to the town of Athol because the need of bicycle lanes helped to transform the 2-mile section in Portland into a bicycle friendly area that helped to make it safer and helped to increase economic development along the road at the same time. The case study stated that new increase transit and pedestrian friendly crosswalks helped to fill many of the storefront vacancies. This would be a helpful solution for Main Street in Athol. Main Street is not an active street to bike or walk along and new improvements in the case study helped. One of the recommendations that our team would like to implement is extending bicycle lanes with the help of MassBike. This recommendation cannot be done without the improvements of sidewalks, crosswalks and the streetscape. Creating a bike lane along the main roads in Athol is one way to encourage cyclists to use them. The recommendation would need to survey residents that would be interested in using the bicycle lane daily.

One takeaway from the case study is that creating a bicycle lane helped to fill the vacant storefronts and Athol could use some help with that issue. Another takeaway from the case study is that the 1st transformation is just one step at a long-term project that will build overtime. A third takeaway is that the speed limit did not change while the driving habits of the driver drove with caution on the road with cyclists biking next to them.

“Self-Organized Pedestrian Crowd Dynamics: Experiments, Simulations, and Design Solutions”

This article proposes design solutions that are expected to increase the efficiency and safety of train stations, airport terminals, stadia, theaters, public buildings, and mass events. These design solutions resulted from experiments that were performed to test simulation models of pedestrian flows for corridors, bottleneck areas, and intersections. Helbing, Buzna, Johansson, & Werner (2005) noted, “self organized means that these patterns are not externally planned, prescribed or organized, e.g. by traffic signs, laws, or behavioral conventions” (p. 5). These interactions are more reactive and subconscious than based on strategic considerations or communications. Problems in pedestrian crowds typically arise due to counter flows, bottlenecks, or intersecting flow.

This article is relevant to Athol because it explains how pedestrians are self-organized and

how they flow in different situations. It is important to understand the problems that can arise in different dangerous situations. This could be a problem when pedestrians are in a tight space in the DSA or possible on the G-Link buses, or inside the train station. One of our team recommendations after reading this article is to make public transit safer to prevent disasters or incidents from occurring. The article explains some major issues that have occurred from a high amount of people together when disaster strikes. One method of prevent any issues is by setting up a max amount of people (fire code) within a store downtown, on a bus, on a train.

One takeaway from article is that this issue has been studied in depth on how to prevent disasters in groups of pedestrians. Another takeaway is counter flows are most effective when they are organized in a few wide lanes with stable interfaces. However, mass events, opposite flow directions must be artificially separated as the lanes become sensitive to perturbations. A third takeaway is that staircases can serve as a hazardous obstacle in panic situations. It would be a matter of time when pushy crowd would start and someone would end on the floor. The danger is greater going down the staircase because someone could be trampled.

“Pedestrianization strategies for downtown planners: Skywalks versus pedestrian malls”

High levels of pedestrian activity have characterized city centers for centuries. During the past thirty to forty years, however, the volume of pedestrians on downtown streets has steadily decreased to the point where Americans on foot constitute an endangered species. This article discusses two leading strategies for separating pedestrian activity from vehicular traffic. This article compares pedestrian malls and skywalks in terms of their urban design, economic impacts, transportation and access, and contribution to downtown image. The article concludes with a series of questions that planners need to address before formulating recommendations for their downtown.

This article is relevant to Athol because they have the potential to close smaller roads in the town and develop pedestrian malls. Examples of streets that could do this are Dunbar Place, which would be beneficial to the safety of pedestrians who frequently cross through the Job Lot parking lot. Exchange Street could also be closed for autos and reopened as a pedestrian mall to encourage biking and walking to potential stores and restaurants in the area.

Recommendations from this article include making the mall areas as attractively designed as possible, and make them well-used public spaces, which is a common goal of most downtown plans. It is important to take into account the three levels of human activity in public spaces. These are necessary compulsory activities such as walking, shopping, or waiting for a bus. Optional activities such as sunbathing, strolling, or sitting are chosen only if the conditions are inviting. Social activities such as talking, people watching, and

community events depend on the presence of other people.

In conclusion, the best-designed public spaces are those that successfully encourage the most optional and social activities. Skywalks are designed primarily to accommodate pedestrian flow and quick stop shopping. Pedestrian malls by contrast have a greater potential to facilitate optional and social activities, but only if they are sufficient activities to attract people to come and stay. Retail development is a key downtown planning objective underlying both pedestrian strategies, but the resulting structures and development potentials differ.

Precedents

“Complete Streets Come of Age: Learning from Boston and other Innovators”

This article highlights strategies to make areas more pedestrian and bicycle friendly. The Complete Streets movement, now ten years old, came into being in late 2003 in response to car-centric planning. This article explains in detail the common features of Complete Streets which involve ample sidewalks, improved standards for street tree planting and other landscape elements, bike lanes, dedicated bus lanes, comfortable and accessible transit stops, frequent crossing opportunities, median islands, and curb extensions. Boston in particular is the case study.

This article is relevant to Athol because many of the techniques Boston used could be implemented in Athol. Important findings that have been included in this report are the use of multimodal transportation, friendly to bikes and pedestrians alike, as well as ‘greenscaping’, which adds trees and landscape elements to the downtown.

Recommendations from this article include implementing features such as ample sidewalks, improved standards for street tree planting and other landscape elements, bike lanes, dedicated bus lanes, comfortable and accessible transit stops, frequent crossing opportunities, median islands, and curb extensions. Defining a set of aspirational complete streets goals that go beyond multimodal accommodation to emphasize green infrastructure and advances in streetscape design is important. This should be made possible through technology such as the use of structural soil to extend the life of street trees and the use of sensors to provide real time information on parking availability.

In conclusion, the ideas that Boston has implemented have become an example for cities and towns all over the country and across the world. Boston’s website was designed to function as an educational tool for cities across the world, a virtual space where diverse audiences could explore the tenets of complete streets design, monitor development of the guidelines in real time, and view proposed and real projects.

“Evaluating the Pedestrian Realm”

With increased interest in pedestrian planning, a number of metropolitan planning organizations and municipalities have produced pedestrian plans and others are in progress. This article addresses the issue of how cities and metropolitan areas evaluate the walkability of the pedestrian realm and identify improvement projects. Three approaches to evaluating the pedestrian realm are examined: instrumental rationality, communicative rationality, and phenomenology. Case studies demonstrating the application of these approaches to the development of pedestrian plans are examined in the Phoenix metropolitan area, Portland, Oregon, and Cambridge, Massachusetts.

This article is relevant to Athol because it is important to make Athol feel like a comfortable place to walk, bike, and enjoy the environment. The ability for pedestrians to feel safe in an environment is an asset to the community. Place provides the context for human experience and is central focus of phenomenological inquiry. It is important to recreate this throughout Athol. Recommendations from this article include exploring the world of the everyday human experience, and making it as comfortable as possible in an urban environment.

In conclusion, the three approaches introduced in this article can be used in evaluating the pedestrian realm in downtown Athol. The approach of instrumental rationality offers information about macro-scale factors of walkability and can serve as a measurement tool used to assist decision-making when evaluating projects. Communicative rationality is an approach that allows for addressing walkability on a macro and micro-scale by providing place-based typologies that can be used to meet the specific needs of a community. The phenomenological approach considers the widest range of walkability issues by including further context through the collaboration with other city departments and stakeholder groups. These approaches can help Athol establish a measurement process for walkability, and account for local and regional needs in redesign solutions.

Summary of Team’s Assessment

Through the collection and analysis of data on Athol’s traffic flow and pedestrian access within our scope of work, MRC believes that infrastructure improvements of roads and sidewalks could be beneficial in efforts towards community revitalization. Improving the pedestrian realm can help attract more people to the downtown by creating connections to recreational and scenic destinations. Providing more transportation options is also essential for creating connections with other areas in the region. Establishing access to surrounding communities can help foster ecotourism and bring vitality to the downtown. The inclusion of bicycle lanes and racks has the potential to improve Athol’s public health and sense of community.

Deliverables

Our proposed redesign of Main Street involves the narrowing of the two driving lanes and the removal of a parking lane in order to provide more transportation options and improve the overall pedestrian realm. The redesign proposes the widening of the sidewalks with an addition of a parklet in order to make the street safer and more aesthetically pleasing to pedestrians. This redesign also proposes the addition of a bike lane in order to provide a new transportation option to the town. These design solutions will help improve the safety of the road by reducing traffic flow of automobiles through making other modes of transportation more prominent on Main Street. Our proposed redesign of Main Street involves the narrowing of the two driving lanes in order to accommodate an additional sidewalk and a bike lane. The redesign proposes the addition of a parklet, street trees, and streetlights in order to increase pedestrian safety and improve the overall quality of the pedestrian realm. These redesign solutions can serve as prototypes for Athol as the town works to improve its additional streets that are in need of safety improvements.

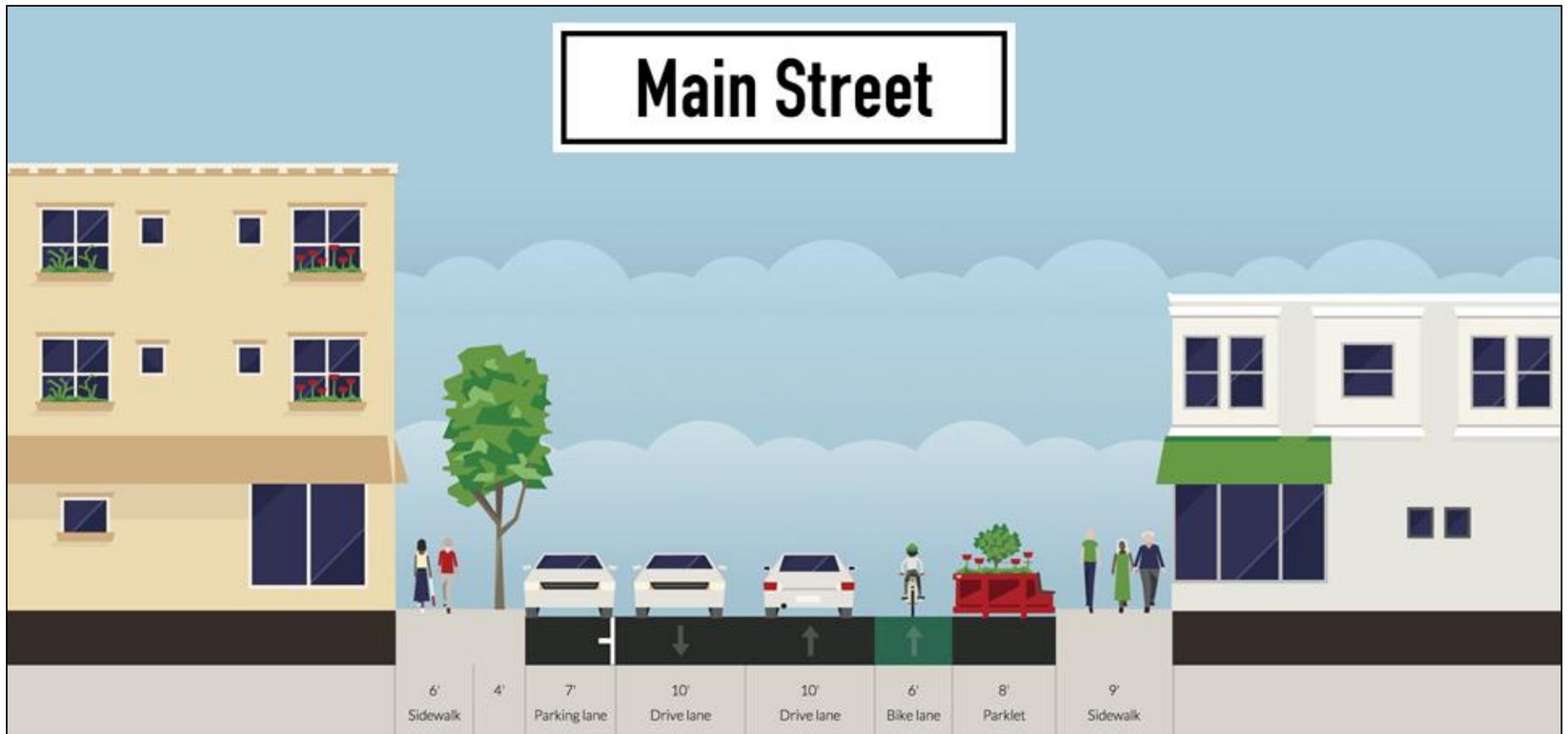


FIGURE 58: PROPOSED REDESIGN OF MAIN STREET

On Main Street MRC proposes a narrowing of the existing driving lanes, to act as a traffic calming measure. We are also proposing adding a bike lane, which is made possible by removing a parking lane. Adding a parklet, with vegetation and seating on the commercial side, will provide a pleasant area to sit near the shops.



FIGURE 59: PROPOSED REDESIGN OF EXCHANGE STREET

On Exchange Street, MRC proposes that the driving lanes be narrowed, which will allow more space for wider sidewalks, street tree plantings, and bike lanes. Narrowing the street lanes also acts as a traffic calming measure to slow traffic. Adding street trees and other flower and shrub plantings acts as an aesthetic enhancement, as well as a buffer between pedestrians and traffic. The vegetative improvements, along with wider sidewalks and bike lanes draw pedestrians down Exchange Street.

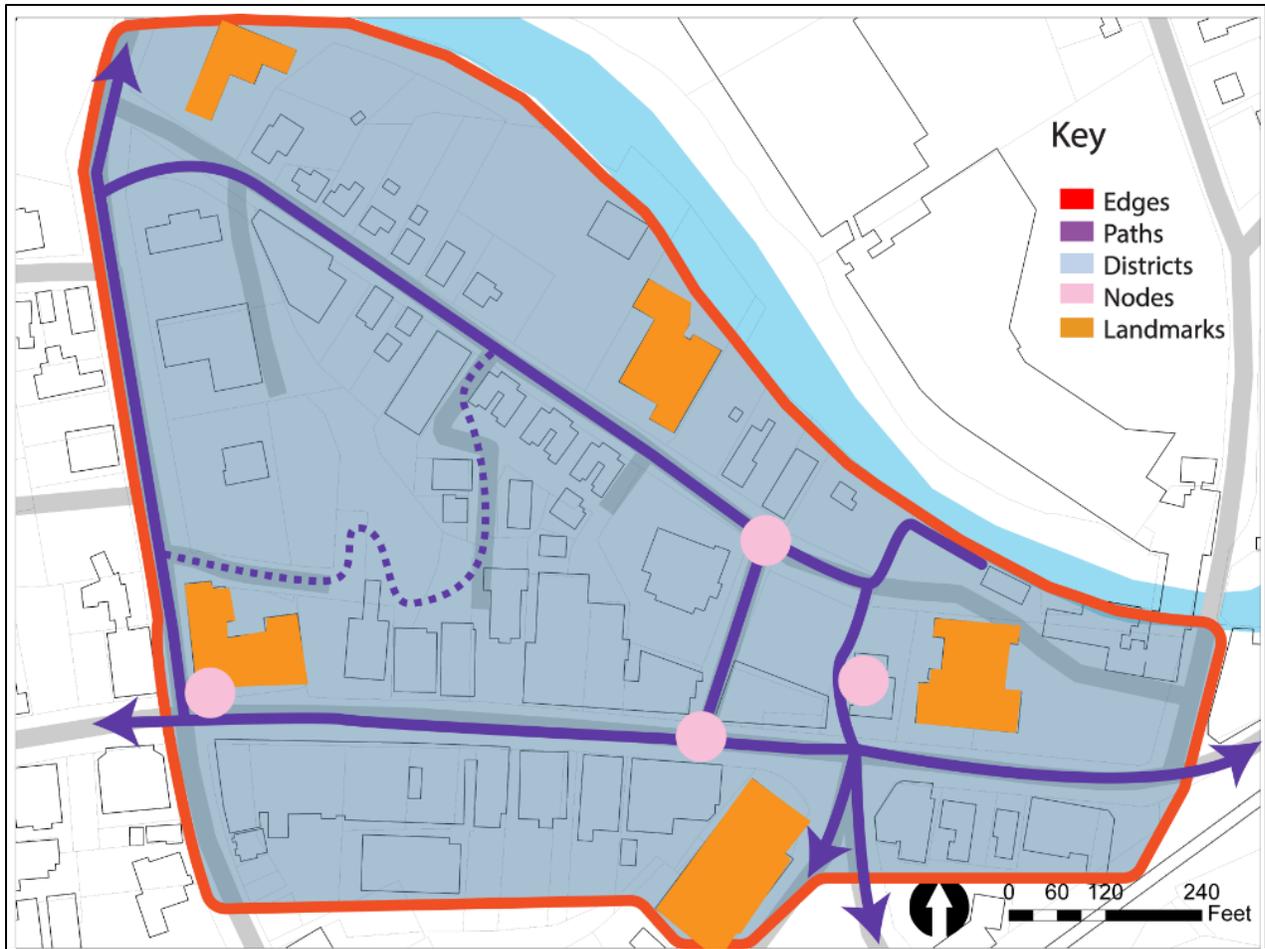


FIGURE 60: MAIN STREET AND MARBLE STREET LYNCH ANALYSIS

Lynch Analysis of Main and Marble Street

The above Lynch Analysis produced by MRC demonstrates the core area of Main Street and Marble Street, which is an integral component to traffic flow and pedestrian access in the DSA. This area in particular comprises the core of pedestrian and vehicular traffic based upon our findings from both workshops. Main Street in particular is one of the gateway points through which the DSA is accessed and is thus particularly important. The area is hemmed in by the Millers River to the north, Exchange Street to the west and Traverse Street to the south and east as outlined in red. Some of the key landmarks identified in orange and which were consistently mentioned as assets by workshop attendees include the Town Hall, the YMCA, the Pequoig building on Main Street and the Laundromat near the Exchange Street Bridge. Key nodes that act as focal points and intersections for pedestrians are identified in pink and are located predominantly along Main Street at the Library, the Intersections of Main and Marble Street with Island Street, and at the intersection of Exchange Street and Main Street where the Pequoig building is located. Interspersed throughout the district are the pathways outlined in purple, which follow the sidewalk routes as well as the alleyways in between Marble and Main Street where there are multi-family residences.

This Lynch Analysis demonstrates that this area is well suited towards traffic and pedestrian infrastructure improvements as it is a key area in the DSA. The streets within the district could benefit from dedicated bike lanes and sidewalk improvements as well as narrowing of the right of way of the road. The proposal for an urban trail network connecting the recent developments adjacent to the library is a welcome improvement to this area.

Recommendations

Grants

The town could begin their implementation of the suggested recommendations by researching and applying for different funding grants to support improvements to road infrastructure. Sources that could be used to secure this funding include; Small Town Road Assistance Program (STRAP), Mass Works Infrastructure Program, The Public Works Economic Development Program, Community Development Block Grant program (CDBG), Ready Resource Fund (RRF), Intercity Bus Program (IBS), and other enhancement funds or public/private partnership projects in eligible areas.

Traffic Calming

In addition to the suggestions made for the road infrastructure and design improvements, other safety improvements such as traffic calming strategies could be established. Strategies such as medians, signage, and paving would help slow traffic and increase pedestrian safety. Bicycle lanes can be installed with painted sharrows on the lane to indicate shared use. The establishment of cycle tracks could also be used as an approach to increase biking access. Cycle tracks are placed separate from traffic and can be painted and raised from the road for safety purposes. Bicycle parking and the establishment of bike share stations can encourage bicycle use as an alternate form of transportation.

Public Transportation

In order to increase public transportation options and expand ongoing public service, Athol should work cooperatively with other communities in the North Quabbin Region, particularly in development of the CTS/G-Link Services. The town should ensure inclusion on the agendas of the Montachusett Joint Transportation Committee and explore the potential of the Rail Stations on the Freight Main Line (Vermont and Massachusetts) to serve as a regional transportation loading facility to support economic growth goals and revitalize the downtown district. There is also potential to encourage the North Quabbin Ecotourism Task Force to contact Vermont Transit and Peter Pan Bus Company and discuss the ridership potential of eco-tourist industry in the North Quabbin Region.

Greenway Network

Athol can establish an intra-community of walking, jogging, or biking trails in conjunction with the initiatives of the Millers Greenway Project. A greenway system could be developed along the Millers River and provide a number of recreational opportunities. Trails could be used to connect residential

and open space areas, and work to increase public access to these resources. The town could then work to create connections to further areas extending into the Town of Orange. This will provide the opportunity to establish public and private partnerships and further enhance Athol's quality of life.

Time Line for Implementation

Six months to one year

1. Apply for funding grants.
 - a. Small Town Road Assistance Program (STRAP)
 - i. Up to \$500,000 to provide funding for road construction projects that have been designated to improve public safety and promote economic development in smaller communities
 - b. Community Development Block Grants (CDBG)
 - i. Federally funded, competitive grant program designed to help small cities and towns meet a broad range of community development needs. Assistance is provided to qualifying cities and towns for housing, community, and economic development projects that assist low and moderate-income residents, or by revitalizing areas of slum or blight.
 - ii. Municipalities with a population of under 50,000 that do not receive CDBG funds directly from the federal Department of Housing and Urban Development (HUD) are eligible for CDBG funding. Communities may apply on behalf of a specific developer or property owner.
 - iii. Eligible CDBG projects include but are not limited to housing rehabilitation or development, micro-enterprise or other business assistance, infrastructure, community/public facilities, public social services, planning, removal of architectural barriers to allow access by persons with disabilities, and downtown or area revitalization.
 - c. MassWorks Infrastructure Program
 - i. Provides grant funding for the construction, reconstruction, and expansion of publicly owned infrastructure including streets, roads, curb-cuts, parking, pedestrian and bicycling.
 - ii. This program recommends supporting communities with a particular emphasis on projects that support the production of multi-family housing in appropriately located walkable mixed use districts or that support economic development in weak or distressed area.
 - iii. Communities that stress improvement for transportation which enhance roadway safety in small, rural communities.
 - d. The Public Works Economic Development Program (PWED)
 - i. Designed to fund transportation infrastructure projects that stimulate

- economic development and public infrastructure improvements
 - e. Ready Resource Fund (RRF)
 - i. A component of the Community Development Block Grant Program (CDBG) which provides funding for projects that enhance the quality of life in a community like pedestrian safety and infrastructural improvements
 - ii. Who is eligible? Municipalities with a population under 50,000 and municipalities which do not receive CDBG funds directly from the federal Department of Housing and Urban Development
 - f. Intercity Bus Program (IBS)
 - i. Grants awarded to bus systems to expand their services and to create a more effective and safe operation
- 2. The town's Master Plan suggests that Athol should evaluate the potential future transportation infrastructure requirements illustrated by the recent EOEI Build Out Analysis.
 - a. Maps depicting areas of potential allowable development under current zoning bylaws
 - b. Tabular data shows the resulting population, school age children, and water consumption required to accommodate this development
 - c. Full color maps and data should be developed with a variety of spatial data layers incorporated into the analysis
 - i. Zoning, overlay districts, subdivisions, open space, existing developed land, transmission line buffers, wetlands, flood zones, slopes, hydrology, river protection act buffers, etc.
 - d. Determine the impacts on future town budgets, and the capacity of future tax revenue to accommodate this level of development.
- 3. Adjust Town Zoning Bylaws and subdivision regulations accordingly
 - a. Reduce frontage requirements and increase Open Space set aside to encourage infrastructure friendly development patterns

Two to Three Years

1. Establish recommendations in town ordinances and plans and initiate road infrastructure developments and improvements.
 - a. Complete streets
 - i. Narrow driving lanes to act as traffic calming strategies
 - ii. Create bike lanes for accessibility throughout town
 - iii. Add street trees, vegetation to improve aesthetics and act as buffers between pedestrians and automobiles

- iv. Add more crosswalks and ass lighting and bump outs to increase visibility of crosswalks to automobiles
2. Work to continue support for Route 2 improvements
 - a. Participation on the Route 2 Task Force, including planning for the South Athol Road interchange
 - b. Participate in the Mass Highway feasibility study requested by the Athol Select Board to evaluate the need for and feasibility of widening Route 2
 - c. Consider developing a pavement management system to assess existing pavement conditions and plan for needed maintenance and repairs while obtaining the maximum life with cost effective investment
 - d. Encourage the State to further investigate the structure, function, and scour ratings of key bridges in Athol, and to make these bridges a funding priority.

Five years

1. An inventory of all transportation facilities should function as an integrated transportation system
 - a. Forecasting/planning for a twenty (20) year time period
 - b. A financial plan that demonstrates how the long-range plan will be implemented
 - c. Assessing capital investment and other measures necessary to both preserve the existing transportation system and ensure its maximum efficiency and indicating, as appropriate, proposed transportation enhancement activities.

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Theme: Aesthetics

Background

One of the essential roles of Athol's downtown revitalization is the preservation and renovation of its historic buildings. The Town, which recently celebrated its 250th birthday, wishes to cherish its past by incorporating its New England mill town history into an economically vibrant future. Athol has a perfect recipe for economic success: unique historical appeal, ample properties perfect for business development, and a passionately positive outlook on the future. In order to ensure that our improvements align with Athol's community vision and local character, the team consulted:

- Zoning Bylaws
- Visual Survey of existing buildings
- Athol's Master Plan
- Athol's Community Vision and Action Plan
- Public Artists
- Residents that can define the local character

By consulting these sources, MRC hopes to drastically improve the aesthetic appeal of the town in order to foster a community personality, encourage economic development, and cultivate a love for downtown Athol. Architectural interest of downtown buildings is the most important physical component of a downtown business district in the economic, functional and aesthetic sense. Some of the most influential qualities that visitors notice about a town are the condition, style, and historical quality of its buildings. One of the main goals of Athol's revitalization project is historic preservation, because the most effective strategy to ensure the success of a New England mill town is to nurture and preserve their historic buildings.

Existing Conditions

Currently, the town is filled with various unsuccessful storefronts. The main issue in Athol is vacancy and dilapidation. If a storefront is occupied, it often is run-down or has an inconsistent or unwelcoming storefront. In addition, we aim to highlight the personality and vibrancy of downtown Athol. Currently, there are no works of public art that harness or display that personality. The most successful buildings in Athol are the ones that foster nostalgia for the historic New England mill town, such as the Starrett Building and the Athol Senior Center.

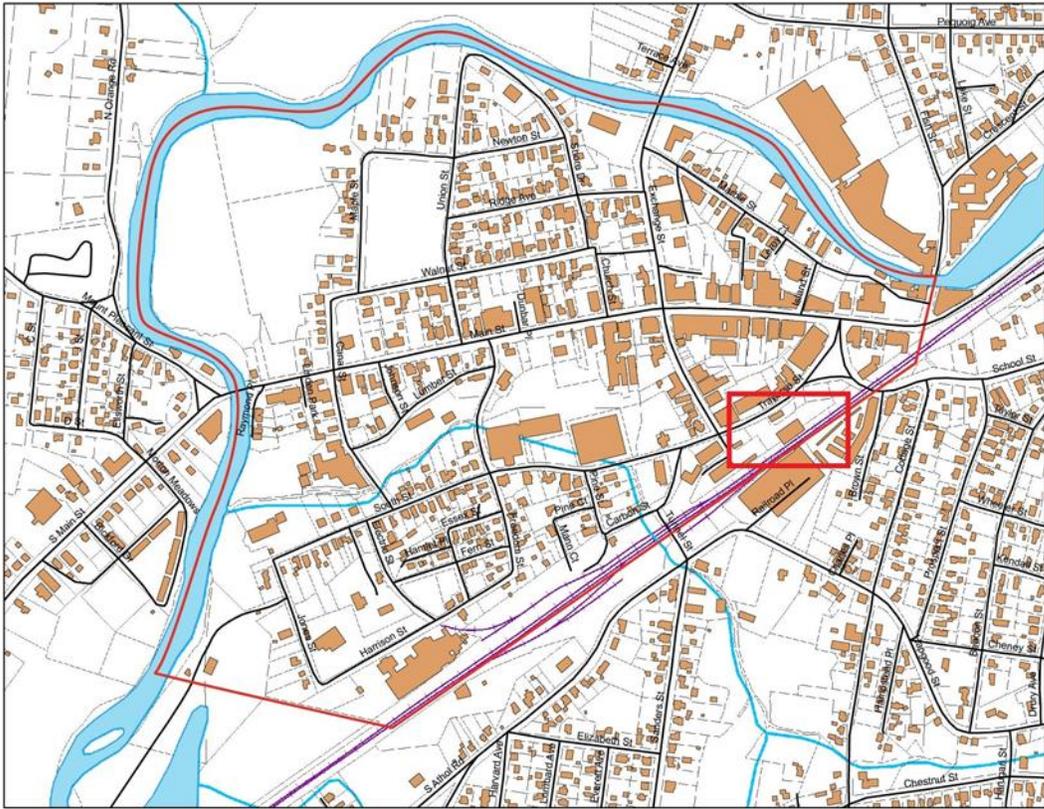


FIGURE 61: TRAIN STATION LOCATION WITHIN DOWNTOWN



FIGURE 62: TRAIN STATION (EXISTING CONDITIONS)



FIGURE 51: TRAIN STATION WITH SIGNAGE & AESTHETIC IMPROVEMENTS



FIGURE 64: STARRETT BUILDING

Team Findings

First, the team must determine which buildings in particular have historic value based upon their history and architectural design. Secondly, the team must determine what buildings are in need of aesthetic improvements and rate them in order of their importance (how much improvement is needed in combination with the buildings location and function). Based on MRC's site analysis existing buildings have been split up into the following categories:

- 4 (In desperate need of revitalization)
- 3 (In need aesthetic improvements)
- 2 (Satisfactory Conditions)
- 1 (Successful designs to be emulated)

Name	Address	Year Built	Rating
ABNC	100 Main Street	1889	2
Athol Savings Bank	444 Main Street	1867	1
Webb Building	Main Street	1891	3
Masonic Lodge	336 Main Street	1939	4
Pequoig Building	416 Main Street	1894	1
Historical Society	1307 Main Street	1828	1
Solon Lee Mansion	1333 Main Street	1873	1

Workshop

During the first and second charrette, a few things were discussed in terms of aesthetics. The residents liked the idea of exploiting the town palette that was laid out in the design guidelines, and feel it is important to implement some small improvements over a period of time so people can warm up to the idea of large scale improvements. The main takeaways that were concluded from this workshop were:

Workshop 1

- Public art would be a successful strategy to bring vibrancy to the downtown and also display Athol's attractions
- Implementing the town palette is necessary in order to attract business investment
- There is a great need for quality restaurants and outdoor dining areas to attract locals to the DSA

Workshop 2

- An indoor market would be a great asset to the community in the DSA as a way to foster community connections and display what Athol has to offer.
- The residents cherish the historical buildings and they would like to see them reach their full potential.
- The community is calling for businesses that cater to the older residents of Athol but there is a great need for businesses that cater to the youth as well.

Site Visits

On one of our many site visits, we conducted a walk-through window-shopping experience downtown. By experiencing the street view first hand, we got an accurate feel for the aesthetic and structural improvements that need to be made downtown and made a note of those. For example,

the many vacancies in the DSA gives a desolate impression of the town to window shoppers and the haphazard and out of date signage makes the downtown appear dilapidated. Additionally, we found many areas that show potential for public art such as the Athol Savings Bank and DiAmbrosio's eye care.



FIGURE 65: ATHOL SAVINGS BANK



FIGURE 66: ATHOL SAVINGS BANK WITH PROPOSED PUBLIC ART

Town Documents

The Design Guidelines of 1997

The Design Guidelines offer a comprehensive and impressive game plan for aesthetic revitalization of the DSA. These historically accurate guidelines discuss signage, entrances/doorways, awnings/canopies, color, maintenance/structure, wood restoration, and ADA handicapped access. There is also a thoroughly researched color palette for the town, which was developed with the help of the Historical Society.

Literature

“Managing Change with Urban Design”

This APA planning magazine article discussed how cities have managed change with urban design. One of the goals is to attract new business and residents with walk-able, mixed-use communities and that stakeholders should be involved in the process. This article discusses urban design and how the demand on walkability has shaped downtown areas and their formation. As people and reinvestment flows back into cities, urban communities have had to grapple with a host of issues. The article

discusses five case studies that describe how urban design can address the problems facing each community.

In Dublin, Ohio, the town has a reputation as a nice single-family town to do business in. The town has grown in the last few years and the demand on single-family housing has created requests for walkable mixed-use areas in the DSA. The town responded by implementing a plan around a riverfront central park that created a new heart in the civic areas of the downtown. This helped to attract a new generation of residents and skilled workers. In Cambridge, the city was faced with pressure produced by booming housing demands in their amenity-rich walkable neighborhoods.

This article is relevant to Athol because it deals with the issues of walkability in a riverfront downtown area, just like Athol. Athol would like to see the same results as Dublin, Ohio saw in their implementation plan such as an increase in residents, mixed use downtown areas, and economic reinvestment into the DSA. Recommendations drawn from this article include increased focus on mixed-use, multilevel buildings in the DSA and redesigning the downtown to cater to the pedestrian instead of the vehicle.

“Can Small-City Downtowns Remain Viable?”

This article discussed the key problems confronting small-city downtowns and the revitalization strategies employed to try to overcome them. The author of the article explains different case studies to explore the issues. The article explains the main issues that any downtown faces when it is being revitalized. Robertson explores the assets that attract people to small cities with a population of 25,000 to 50,000 residents. Robertson compares the information that he gathered to bigger cities as a companion.

The first phase to gather data was to send out surveys to planning departments in 108 cities. The surveys contained questions that concerned the greatest strengths and problems for their specific downtowns. The survey also included the success of the current strategies that were in use and the overall state of the downtown compared to the year of 1985. The author’s second phase consisted of studying five different downtowns of the 57 cities that completed and returned the surveys. He visited the five cities over the course of four days to gather more information. He looked through their comprehensive plans, downtown reports and maps for additional information and data.

He surveyed population change over a four-year period to analyze connections between population change and downtown activity. The author created a survey to address the major downtown problems in each city. Robertson also created a survey to collect and analyze the downtown assets. Robertson analyzed other survey results to address the gaps of the assets and problems, and development strategies in small city downtowns. His findings after analyzing his survey results of small cities compared to big cities were that successful downtown revitalizations are important to any size cities when different guidelines are applied.

Some examples are maintaining high-density levels, emphasizing historic preservation, maintaining public places, and developing and enforce strict design controls. The author addressed that the sense of place is a critical component of any downtown size when addressing downtown revitalization.

This article is relevant to Athol because it addresses some of the key improvements that have been demanded for the DSA. It emphasizes how important a strict set of design guidelines are and how to enforce them. One of the most important issues of this article is that it stresses that design guidelines are not a Band-Aid approach to downtown revitalization by demonstrating how big an impact this can make.

The takeaways from this article include strategies on the enforcement of the design guidelines and the importance of historical preservation and how that relates to economic development. The enforcement of design guidelines is an important issue that was brought up during the charette. Most of the landlords of the buildings in the DSA live out of state and do not have any local pride or motivation to abide by the design guidelines. Getting the landlords and stakeholders involved in design implementation could make a massive impact on the success of the downtown.

“Natural Amenities, Environmental Stigma, and Redevelopment in a Postindustrial Mill Town”

This article specifically discusses the revitalization of mill towns. It interestingly brings up the issues of stigmatization of place, the specific challenges of developing a space experiencing environmental decay, and how these subjects can get in the way of revitalization. It also explores the tourism potential for mill towns and how to capitalize on that.

This article is relevant to Athol due to its connection to industrial towns. Athol has a rich manufacturing history and can learn from this article on how to base its tourism potential on its assets that already exist. The topic of environmental decay also directly related to Athol because of the potential of day lighting the contaminated river that runs through the Ocean State Job Lot area and turning the site of the burnt down factory into a park.

Some recommendations that can be concluded from this article is developing a tourism strategy based upon Athol’s manufacturing past. This can be tied back into using public art to simultaneously make the downtown a vibrant area while also advertising the town’s history and attractions.

“Planning and Sense of Place in a ‘Dying’ Downtown: Articulating Memories and Visions in Middletown, Ohio”

This study uses an archival project, focus groups, semi-structured interviews and participant observation to examine how community members perceive their downtown (past and present); how local organizations, planners and citizens articulate sense of place in relation to urban design; and how planners and officials view the challenges of downtown revitalization.

This article relates to Athol because in order to make the DSA the best ‘place’ it can be for its residents, we must understand how they see their town and how we can solidify that through plans.

This study uses an archival project, focus groups, semi-structured interviews and participant observation to examine how community members perceive their downtown (past and present). The study also explores how local organizations, planners and citizens articulate sense of place in relation to urban design, as well as and how planners and officials view the challenges of downtown revitalization.

“Equity, Empowerment, or Participation: Prioritizing Goals in Community Design”

This article talks about participatory design processes, breaking them down into motivating goal, primary objective, process, and role of designer. The study also shows how priorities can conflict and complicate the problem. Understanding public participation processes has been vital in our role as planners for the people of Athol. In discussing the role of the planner, the paper defines advocacy planning and describes how consultants Arc Ecology worked with community groups.

This article relates to Athol because aesthetics and downtown design were one of the main topics discussed in the two charettes. Residents identified their wants, needs, and the goals that they wanted to see in downtown Athol. Learning from this article’s methods on conflicting priorities will help us ensure that these issues will not hinder our progress in the aesthetic improvements of the DSA.

Recommendations that can be drawn from this article are to ensure that through our downtown revitalization process, the design process be participatory. Determining how our roles as designers and how that correlates to Athol’s goals will make a significant impact on our timeline and success.

“Rethinking Streets: Urban Mix Use. Barracks Row, Washington, D.C.”

MRC has consulted this case study from Rethinking Streets as it relates to the Aesthetics of downtown Athol. This is a revamp of a declined street. This included making wider brick streets, as well as planting American elms, landscape planters, and implementing new street lighting. The one-way street was returned to a two way to promote traffic and circulation, and paving patterns and cobblestones were installed to slow traffic. The benefits were that cafe culture bloomed, and Barracks Row went from two cafes on the street to more than a dozen. The area is now supports highly regarded restaurant and cafe.

The number of pedestrians has increased dramatically and events on the street area are a big hit. Once again, bicycle parking is an important amenity that has now been provided. More than thirty new businesses have opened up since the construction. Barracks Row is one of the most densely populated and largest residential historic districts in Washington DC, and despite suffering from significant disinvestment in the 1960s, as well as civil unrest and economic uncertainty, the construction and change for the better has spurred significant reinvestment in the area.

This article relates to Athol because we want to implement similar revitalization strategies to the DSA. Since the town of Barracks Row is similar to Athol, it can be used as a prime case study

especially since the outcomes are what we want to see in Athol as well. Some recommendations that have come out of this article is to construct brick sidewalks in the main downtown area and radiating side streets. This serves as a traffic calming measure and also creates the sense of place that downtown Athol sorely needs. We hope to see café culture bloom in downtown Athol just as it did in Barracks Row.

Precedents

“Building Main Street: Village Improvement and the Small Town Ideal”

This thesis offers an interesting insight into the role that the village has played as a realm of civic engagement. It should be valuable to have this insight with Athol as we attempt to reclaim this history and bring people back into downtown. This thesis by Kirin Makker documents the role that the village center has played in American civic life before it was enshrined in the ideals of the picturesque ‘main street’ that we come to think of today. Makker notes that before the small town was conceived of this way, it was instead considered a progressive space of dynamic and pioneering reform. By digging through archival research, Makker notes that village improvement was not simply a prequel to the City Beautiful movement but instead a richly complex and developed history which situates the American village at the center of debates about public space and landscapes as a civic realm. The second half of the nineteenth century was the locus of a large movement in village improvement, which had impacts on the physical, economic, and social infrastructure of rural settlements of all sizes all over the country.

Summary of Team’s assessment

As a team, we feel as though their needs to be a major focus on the town palette and aesthetic improvements when concerning the downtown. We strongly believe that without these improvements, the DSA is an unwelcoming environment for shoppers and businesses will not take such fiscal risk to invest there.

We feel as though Athol’s manufacturing past and richly unique architectural history is one of Athol’s greatest assets, both communally and financially. Putting an emphasis on historic preservation of mill buildings and Victorian homes will retain Athol’s unique historic personality while also encouraging economic investment in the area. As a team, we believe there is already so much beauty in Athol, and in order to jumpstart the economy and vitality, we must draw upon those assets and display them with community pride.

Recommendations

Historic Preservation

Historic preservation of Athol's buildings by implementing a historical overlay district. By doing this, we will be able to preserve and celebrate the buildings that are historically significant and sentimental to Athol. Athol's industrial and architectural history is a unique fingerprint of the town that makes Athol a special place with its own personality and fosters a sense of community pride.

Reestablish Town Color

Reestablish town color palette through sign, awning, and entrance rehabilitation. If the town color palette is implemented, it will bring consistency to the DSA and encourage businesses to invest in the storefronts. It also encourages pedestrian traffic and store patronage. This will involve consulting not only the business owner's downtown, but also the landlords of the buildings. Many live out of town, so it is important to stress the design guidelines to them.

Capitalize on Athol

Capitalize on Athol's personality through displace of local, public art. There are many aspects of Athol that are impossible to be aware of by driving through town, such as the River Rat Race, the Starrett Museum and Allan E. Rich Park. By incorporating these events into public art works such as murals or sculptures, Athol will be able to display its unique personality while also advertising some of its greatest assets to passersby.

Perform Infrastructure Improvements

Perform infrastructure improvements to create a pedestrian friendly and consumer welcoming downtown area. With increased signage, crosswalks, streetscaping, and traffic calming strategies such as medians and road diets, shoppers and pedestrians will feel safer and welcomed traversing the area, even with children and pets.

Time Line for Implementation

Six months to one year

Reestablish the town palette through essential aesthetic improvements. It is essential to work with both the businesses owners (most of which live in Athol) and also the building's owners (who mostly live out of town) when implementing the town palette.

1. Building owners must be aware of the town palette and agree to implement it in their own building.
2. Establish a sense of town pride within the business owner community and issue a copy of the Design Guidelines of 1997 to all business owners in the DSA.



Two to Three Years

Complete infrastructure improvement to downtown. It is essential to acquire funding and bring historical buildings up to code.

1. Funding

- a. The Massachusetts Historic Rehabilitation Tax Credit Program
http://www.sec.state.ma.us/mhc/mhcpdf/brief_description.pdf
 - i. “The program is a pilot program with \$50 million dollars currently available annually for certified rehabilitation projects”
 - ii. “This project will expire December 31, 2017.”
 - iii. “The building must be listed in, or eligible for listing in the National Register of Historic Places.”
 - iv. “Under the program, a certified rehabilitation project on an income-producing property is eligible to receive up to 20% of the cost of certified rehabilitation expenditures in state income tax credits.”
 - v. “The rehabilitation must be “substantial,” which means that the rehabilitation expenditures within a 24-month period (selected by the taxpayer) must exceed 25% of the taxpayer’s Adjusted Basis in the building.”
- b. Storefront Improvement and Adaptive Reuse Grant Program of Oregon City
<http://www.orcity.org/economicdevelopment/storefront-improvement-and-adaptive-reuse-grant-programs>
 - i. “Urban Renewal partners with local businesses to provide matching grants for their investment in storefront improvements and adaptive reuse or rehabilitation of buildings.”
 - ii. “By partnering with local businesses, Urban Renewal accelerates the growth of retail shopping downtown and enables the creation of new spaces to incubate the growth of small businesses within existing buildings.”
 - iii. “Oregon City established the Adaptive Reuse/Rehabilitation program in 2011. In two years, the city has enabled four local businesses to rehabilitate aging buildings and/or adapt the building to a higher and better use.”
- c. Massachusetts Preservation Projects Fund
<http://www.sec.state.ma.us/mhc/mhcmppf/mppfidx.htm>

- i. “The Massachusetts Preservation Projects Fund (MPPF) is a state-funded 50% reimbursable matching grant program established in 1984 to support the preservation of properties, landscapes, and sites (cultural resources) listed in the State Register of Historic Places.”
 - ii. “Applicants must be a municipality or nonprofit organization.”
 - iii. “By providing assistance to historic cultural resources owned by nonprofit or municipal entities, the Massachusetts Historical Commission hopes to ensure their continued use and integrity.”
- d. Main Street Program
- http://www.preservationnation.org/main-street/field-services/#.VIERDmTF_9U
- i. “The Main Street Approach is a unique preservation-based organizing framework that enables communities to revitalize downtown and neighborhood business districts by leveraging local assets - from historic, cultural, and architectural resources to local enterprises and community pride.”
 - ii. “Main Street is a national movement that has spanned three decades and taken root in more than 2,000 communities - a movement that has spurred \$56 billion in reinvestment in traditional commercial districts, galvanized thousands of volunteers, and changed the way governments, planners, and developers view preservation.”
 - iii. “The National Main Street Center, Inc. educates communities on how to implement and maintain long-lasting preservation-based revitalization initiatives.”

Five years

Fill the majority of vacant storefronts and have a completed and marketable town identity/brand. It is essential to work with the people of the town to find that town identity. We would like to work with the town’s assets.

1. Market the town by creating a town slogan and trademark
2. Use public art to create a sense of place and also advertise the assets within Athol. Some possible suggestions to local artists are:
 - a. Athol’s manufacturing history
 - b. Ecotourism
 - c. Alan E. Rich Park
 - d. River Rat Race Athol Farmer’s Market
 - e. Starett Museum

- f. North Quabbin Woods
- g. Bearsden Forest Conservation Area

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Theme: Market Trends

Background

Athol, like many other mill towns in Western Massachusetts, has been afflicted by the declines in the manufacturing industries and the shifting economic landscape. This shift has been characterized by a restructuring of industrial production offshore and the growth of a knowledge-intensive and tertiary, service based economy in the United States. This shift has resulted in disinvestment and blight in former mill towns as service based industries in the region have grown predominantly in urban areas and adjacent corridors along the Eastern Seaboard.

Service based industries are characterized by horizontal integration involving multiple actors which benefit from clustering in closer proximity to one another and major financial institutions. The old manufacturing model which characterizes the types of industry that formed Athol is organized vertically and therefore highly susceptible to the economic shocks of restructuring. The decline in manufacturing has had further repercussions for the people of Athol with the loss of commuter rail service, low median wages, and higher levels of unemployment. Due to Athol's close proximity to New Hampshire, local businesses are forced to compete with tax-free shopping across the border as well.

The town of Athol and the region in general began to feel these shocks most acutely in the 1980's when industries began to relocate out of state and offshore. The closing of the Union Twist Drill Company in Athol in the late 1980's removed hundreds of jobs overnight, and exacerbated the economic strain and outmigration already afflicting the town. Athol has maintained a degree of stability however through the latter part of the 20th century and into the present day thanks to strategic investments, political fortitude, and the tenacity of local entrepreneurs. However if the town of Athol is to regain the economic vibrancy it once had it needs to foster more diverse commercial and industrial sectors and create opportunities for residents.

Existing Conditions

Existing market trends in Athol are characterized by economic leakage from the downtown Athol area. Development of the North Quabbin Business Park which is located near the juncture with Route 2 is currently underway and includes an 80,000-square-foot Market Basket and an additional 100,000-square-feet in restaurant and retail space (See figure). The plan also includes the development of 35 acres by Athol LLC and is expected to feature a new hotel and 100,000 square feet of commercial space. The development of this park has been assisted by a \$1 million dollar grant from MassDevelopment in addition to the \$35.9 million dollars leveraged from private investment and \$2.065 million dollars committed from town funds (EOHED, 2014). The development is projected to bring in a significant amount of tax revenue and create approximately 600 jobs, however the impact this will have upon existing businesses downtown and the prospects for new business ventures remains unclear.

The development of the North Quabbin Business Park has been facilitated in part by the work of the Athol Economic Development and Industrial Corporation (EDIC) which is a public and corporate body formed by MGL Acts of 2004, Chapter 422. EDIC works to coordinate and promote industrial and commercial projects. Additionally, EDIC serves as a point of contact between entrepreneurs and landowners interested in maintaining or developing a business in Athol. In 2005, Athol identified two locations within the community that have been designated as Priority Development Sites which consist of the North Quabbin Business Park and the downtown district. These sites have been supported with expedited permitting in an attempt to simplify the development process and encourage investment in these locations (Berube, M; et. al., 2014).

Regionally, Athol is considered a part of the North Quabbin Region and shares many of the characteristics of neighboring towns in adjacent Franklin County. Major employers in the region include the L.S. Starrett Company and the Athol Memorial Hospital. Roughly 44% of North Quabbin residents work in the manufacturing, education, and healthcare industries, which is higher and thus less diverse than Franklin County or Worcester County as a whole (Ibid.). This regional reliance on manufacturing presents both strengths and weaknesses for Athol and the region. On the one hand, there is already a talented workforce in place that future industries can employ. On the other hand, this dependence upon the manufacturing sector leaves Athol and the region less flexible to economic shifts and opportunities.

According to the 2008-2012 ACS Estimate, the per capita income for 26 of the 29 towns in the greater Franklin County Region was lower than the State's per capita income estimate of \$35,485 (U.S. Census). Per capita income is an important statistic to consider as it is a metric that is used to determine eligibility for the Federal Economic Development Administration (EDA) grant programs (CEDDS, 2014). Municipalities or Census Tracts which have a per capita income of 80% or less than the national per capita income meet one component of the criteria for EDA grant program eligibility. At the census tract level, the per capita income for the DSA of Athol meets this criteria as it is under the national average of \$28,051. The low per capita income in downtown Athol and the region is an important consideration when discussing the aforementioned employment characteristics because the quality of jobs in terms of the wages provided by industry are in need of improvement if consumer spending is to increase and support new business ventures.

Market Analysis

Based upon a review of available data, MRC has determined that there is great potential for niche style businesses within the DSA that can cater towards both residents and those visiting downtown Athol. Based upon a review of ESRI data within a 1 mile radius of downtown there is significant business potential in terms of the retail gap of supply and demand for businesses such as food and beverage stores, outdoor sporting goods stores, and food services and drinking establishments. Additionally, a market analysis of the surrounding towns and region demonstrates that the following business gaps could be filled within downtown Athol.

<i>Business Uses</i>	<i>Demand</i>	<i>Supply</i>	<i>Gap</i>
Sporting Goods Hobby / Music	\$1,246,606	\$87,895	\$1,158,711
Grocery Stores	\$7,226,350	\$3,292,005	\$3,934,346
Clothing Stores and Clothing Accessories	\$3,015,248	\$92,701	\$2,922,597
Beer, Wine & Liquor Stores	\$903,376	\$1,702,194	-\$798,818

FIGURE 67: BUSINESS GAPS 1 MILE RADIUS DOWNTOWN (SOURCE: ESRI RETAIL DATA)

There is a significant retail gap between supply and retail potential in yearly sales within a 1 mile radius for automobile and parts dealers at an estimated \$6,952,887. Other major retail gaps in the same radius which have been identified as suitable niche businesses include grocery stores at \$3,934,346, clothing and clothing accessory stores at \$2,922,547, sporting goods, hobby, book & music stores at \$1,158,711, and general merchandise stores at \$4,356,357. Unsurprisingly, there is a negative retail gap in industries such as beer, wine and liquor stores at -\$798,818, and limited service eating places at -\$839,492 which are conspicuous in the downtown landscape and frequently mentioned as undesirable attributes by residents at the workshops conducted.

The greatest leakage versus surplus factor by industry groups correlates with the above data. Leakage of clothing, shoe, book and music, and special food service stores have a factor of 100 within a one mile radius of downtown Athol. Within a ten mile radius a leakage factor of at least 85 is present for clothing, shoe, jewelry, and book & music stores as well as significantly high leakage factors for grocery, general merchandise, home furnishing, and special food services which are at least a factor of 65. The significantly high demand potential for these industries within a ten mile radius of downtown shows the great potential that niche businesses can have in downtown Athol. Such businesses can provide amenities for residents living downtown and bring those who live in the surrounding region into the DSA who would otherwise go elsewhere. Additionally, the businesses mentioned are a mix of services and retail which would be well suited in a mixed-use, walkable environment like downtown.



FIGURE 68: NORTH QUABBIN BUSINESS PARK LOCATION (SOURCE: RMD INC.)

Workshop

During our workshops the theme of economic development with the potential to produce jobs was consistently one of the most important items mentioned and the topic was often woven into other issues as well. Key takeaways from the workshops include the huge demand for amenities like coffee shops, restaurants, and specialty shops which all have the potential for job growth and economic spillover effects. Our proposal of a maker space educational collaborative site was met with widespread enthusiasm and approval which is a promising avenue to further explore. The other key issues that arose during the workshops were the need to retain young people in town and to attract people who are visiting the area for tourism to stop and spend time in downtown Athol.

The key findings that were identified at the workshops to increase economic development were:

- Job and business growth
- Educational and skills training to support job growth
- A desire for amenities like coffee shops and other niche businesses
- The need for quality full service restaurants and hotels
- The economic potential of ecological tourism and the Millers River
- The need to place Athol at the center of branding the North Quabbin Region

Site Visits

During our site visits MRC identified the areas of the Ocean State Job Lot, Exchange Street, Canal Street, and Marble Street as key areas in which to focus our efforts moving forward. These sections of downtown have the greatest potential to grow economically and have the greatest to offer aesthetically with their existing historic infrastructure. The team has also been in the process of compiling vacant parcel data as well as an analysis of tax yield per acre in order to identify key areas to focus revitalization efforts. This analysis has proven useful in demonstrating which types of redevelopment will best suit the town over the long term in addition to showing which parcels are underperforming. In addition to the DSAs listed above, the team has conducted walking tours of the conservation areas and vacant parcels abutting the Millers River in order to assess the potential for ecotourism infrastructure aimed at attracting those visiting scenic resources in the area to spend time in downtown Athol.

Town Documents

[Athol Economic Development Plan \(2005\)](#)

The town's Athol economic guide was last written and updated in 2005 and was formed with the help of EDIC. The Athol Economic Development Plan is a supplemental document to the economic development portion in the town's Master Plan. Athol's overall industrial base has been focused on manufacturing and service sectors. In 2003, at a town meeting they approved zoning for

industrial and commercial use. One of the main areas of business in Athol is the North Quabbin Business Park. The town's goal of the business park is to provide opportunities for light manufacturing and other business that will help to create jobs for the local residents.

Housing and Economic Development Plan (2004)

The focus of this report produced in 2004 is to analyze Athol's demographic trends and housing characteristics, and determine their potential impact on existing and future housing needs, economic development, and land-use patterns. The role of the town and other organizations in managing the quantity, rate and type of residential development desired and determine guidelines, policies, and actions for addressing the need for different types of housing to serve various income levels and lifestyles.

While this report is ten years old it details the same challenges that Athol is facing today and serves as a benchmark against what progress or lack thereof has been made. Key themes that MRC is focusing on and which have been addressed in the Housing and Economic Development plan are the need for greater senior housing options, the limited availability of rental housing stock, the housing cost burden, and the vacancy rates and turnover. A key takeaway from this report is the fact that the vacancy rates have increased over the last ten years and remain a problem for the town.

Urban River Visions, Athol Charrette Summary Report (2002)

In September of 2002 a charrette was held in Athol to discuss the downtown Athol and Millers River environs. The charrette brought together more than 40 local leaders, activists, and community residents to discuss the future of the Millers River, the mill complexes in the area, and the possible linkages with neighborhoods in the town. The charrette contained three different working group sessions that addressed connections between the river and downtown, use of the river, and economic development.

The discussions that were held regarding economic development are extremely relevant to our current discussion of downtown Athol. Much of what was discussed twelve years ago are the same things that we are discussing today. Some of the key takeaways from this document's notes on the topic are the importance of ecotourism and encouraging people to visit downtown, places to eat and sleep, and the need for affordable housing. Additional points include the idea of a community college and incorporating existing industries in town, business incubators to diversify businesses, and increasing riverfront access with things like kayaks and canoes. The idea of the relationship a 'sense of place' and economic development pervades the other issues and culminates with the concept of a public relations program for Athol that situates the town as the "Hub of the North Quabbin".

Literature

"Small Town Revitalization Planning: Case Studies and a Critique"

Cohen describes small town planners as negligent in their failure to recognize small towns as their own entities, where city-scale frameworks do not adequately fit the context and scheme of small

towns. He explains, “The activities of professional planners and community developers have lent little support to the revitalization of the small town, and in fact have done much to contribute to its continued demise”(1977, 6). Planners have failed to recognize the small town for the distinct setting it is. He explains that normally an urban framework is imposed on the small community in part because it is the only conceptual framework familiar and comfortable to the planner, and might suggest the lack of consideration given to small town analysis in most collegiate planning curricula. The lack of literature on small town planning leaves the planner practically no alternatives to urban analysis. Many communities feel deceived when they are promised grants and other funding by a planner, then later find that their government lacks the staff and resources to apply for these grants and to see their projects through, thus ending in disappointment and distrust of the planning process.

This article is relevant to the town of Athol because it identifies the key problem that we as consultants may find ourselves in. Namely, that our solutions may be informed by literature which is devoted to a larger urban setting that is not necessarily applicable to the context or resources of Athol. Athol is somewhat unique in this context since it has a large enough population and infrastructure to qualify it as ‘urban’ in comparison to the surrounding communities, however it is very much hampered by the same sorts of issues that small towns face such as funding, resources and staff. It is therefore tempting to propose sweeping solutions which would, in theory, solve Athol’s problems were it not for the fact that it is highly unlikely that they can be executed in light of the constraints imposed by funding issues.

It is therefore important that our recommendations be considered in light of their possibility of actually being achieved. It is recommended that the town of Athol make strategic investments in efforts that are practical and achievable in the short term in order to set the stage for larger more long term projects. By focusing on the so called ‘low hanging fruit’, Athol has the opportunity to invest fewer resources and risk and build their capacity to effect greater changes. We recommend that Athol pursue development that is in keeping with cities of similar sizes and situations. Greenfield is an example of a town that is ‘up and coming’ which, despite having great lengths to go, has made considerable progress and should serve as a sort of model for Athol’s incremental steps toward revitalization.

“The Process and Practice of Downtown Revitalization”

This article focuses on the revitalization of downtown areas located in secondary cities within metropolitan areas. According to Robertson (1995), seven approaches that are commonly used to address downtown revitalization include pedestrian access, indoor shopping centers, historic preservation, waterfront development, office development, special activity generators, and transportation enhancements. The article suggests that housing development is also a component of downtown revitalization that has become common in recent years. The process of change and redevelopment that has occurred in many downtown areas throughout the United States is explained in a 7 -stage model. These stages include:

1. Commercial, retail, and government center;
2. Decline in residential area surrounding downtown;
3. Decline of retail and commercial space;
4. High level of vacancies and abandonment;
5. Organization to redevelop/revitalize, advocacy, densification of projects, husbandry;
6. Revitalization/redevelopment;
7. Multi-use center.

In order to revitalize a community, it is necessary to achieve partnerships between the public, private, and nonprofit sectors, foster an intervention of local government, proactive policies at the state and local levels, and continued leadership. It is explained that the restoration of a few prominent buildings can serve as a catalyst for the restoration of others. The case studies of the revitalization of the Cities of Jeffersonville and New Albany, located in Southern Indiana suggest that the “Main Street Approach” is the most effective development strategy in achieving downtown revitalization. This approach consists of four principles that include the organization of downtown interests, design and historic preservation to enhance the built environment, economic restructuring to diversify the downtown economy, and marketing and promotion of the downtown.

This is relevant to the town of Athol because the DSA could benefit from all of the above approaches that are listed. Some of Athol’s key assets are its waterfront access to the Millers River and its historic infrastructure. It is therefore important to not only build upon these resources but to also address the other key factors associated with downtown revitalization in the article such as pedestrian access, special activity generators, and transportation enhancements. Additionally, it is important that Athol build upon and maintain the robust relationship between public and non-profit sectors like the Environmental Center and the North Quabbin Woods.

The key recommendations from this article for Athol are that the town focus on a few key development projects incrementally in collaboration with public, private and non-profit organizations. This should be targeted in the areas that have been identified as the most likely to achieve results and lead to greater spillover effects. By marketing the downtown, Athol can further build upon its key assets of historic infrastructure and waterfront access. At this point Athol is well suited to continue moving forward in this regard. Collaborations between the Environmental Center, EDIC, and the Historic Commission should be built upon.

Precedents

“Main Street Model Revitalizes Roslindale”

This Boston Globe article chronicles the urban transformation that Boston’s Roslindale village has experienced in the past 25 years. The transformation turned Roslindale from “...a pit, that looked lousy, and people wanted it to go away”, to a community where boundaries are clearly defined and residents and shoppers interact in balance with each other and the surroundings (2010). The article

discusses how redemption is always possible by following the Main Street business model that emphasizes incremental improvements over grandiose plans.

This article relates to Athol because in the 70s and 80s, Roslindale suffered blight in many of its commercial districts and neighborhoods, much like Athol today. Roslindale achieved economic vitality by implementing incremental improvements rather than larger, more intimidating plans. The important take away messages are that although a citywide Boston Main Streets program was created through Mayor Menino which spends \$1 million annually to support small community commercial districts, many groups have yet to match the success of Roslindale. Most still need to do a better job prioritizing projects and cultivating constituencies consistent with the local character of their own business districts.

It is recommended that Athol pursue a main street business model focused on niche businesses that have been identified above where money is leaking out of the community. Namely these types of businesses include things like a grocery store, clothing and accessory stores, and outdoor sporting goods. It is important that the types of businesses downtown reflect the character of Athol as the gateway to the North Quabbin if the town is to build upon the existing assets of ecotourism and riverfront access.

“Town Center Developments Sprouting in Suburbs West of Boston”

This Boston Globe article from 2014 discusses how town centers across the region are becoming hot spots for new condominium and apartment projects as interest in downtown living spreads beyond major urban centers. Waltham, MA, is leading the way, with the Merc at Moody & Main development scheduled to be completed in 2015. This development will provide 269 apartments, more than 27,000 feet of retail space, and a 300 car parking garage. The buildings will sport a late 19th century retro look, starting to take shape on the site of the historic Mercantile building, torn down in the 1970s in a late spasm of urban renewal.

This article is relevant to Athol because Athol could implement this form of new urbanism renewal into the center, supporting mixed-use development. Athol could retrofit their industrial buildings into new market-rate and affordable apartments much like the third major residential project downtown Natick has taken on over the past few years. Important takeaways from this article include how town centers are increasingly being seen as an attractive alternative by some as a place to live due to walkability and high density. Convenience of commercial and retail locations, as well as places to live are seen as attractive to residents of these communities.

Athol, like the case study mentioned in Waltham, will soon be a destination in the region as a result of the North Quabbin Business Park. Unlike the Waltham example however, Athol already has the unique historic infrastructure downtown and does not have to design the park in a sport a 19th century retro look. In order to revitalize downtown Athol, it is important that an equal emphasis be paid to fostering unique businesses downtown and highlighting the unique character the town has to

offer.

“Worcester’s Revival Proving Elusive: City’s Vision and Developer’s Goals at Cross Purposes”

The thrust of this 2013 Boston Globe article is about the city of Worcester’s efforts over the past ten years to revitalize a 21 acre strip of blight into offices, stores, entertainment sites, and luxury residences in a development named CitySquare. Today, CitySquare is still yet to be accomplished despite Worcester having seemingly all the pieces in place to prosper. The disconnect appears to be between the city’s vision for downtown Worcester involving a pedestrian-friendly streetscape and vibrant commercial sector, and the developers’ goals to attract corporate tenants to achieve a return on their investment. Right now the only real funding that the city can offer prospective tenants as a means of luring them downtown is tax increment financing, and that they say, is not enough.

This article is pertinent to our client because it is a similar strategy that Athol is pursuing with the North Quabbin Business Park. Obviously there are major differences between CitySquare and the North Quabbin Business Park, however the takeaway from this article is that the Business Park may not be Athol’s saving grace and contingency planning should address this. The other question is how does Athol’s vision for downtown compare with that of the developers of the business park? Downtown Athol has been seemingly shortchanged at the expense of this development.

Additional takeaways from the article come from commentators who suggested ways to improve CitySquare to attract non-chain stores and restaurants. These methods could also be applicable to downtown Athol and include: requiring developers to set aside pedestrian level spaces with moderate rents for non-chain stores and restaurants, and offering low-interest loans, loan guarantees, or working capital assistance to certain small businesses. The Athol EDIC and the town of Athol currently have tax increment financing incentives in place to attract businesses and this is a good step towards attracting businesses downtown.

“New Brewery Aims to Revitalize Bowdoin-Geneva”

This article discusses how a brewery, Percival Beer Co, is hoping to revitalize the blighted area of Dorchester, MA through the relocation of its factory. The article goes on to discuss how breweries are famous for benefiting struggling neighborhoods. The brewery benefits from the low rents and an ample and eager workforce while the town receives jobs and economic development. Some of the key challenges that the entrepreneurs highlighted in this article face are the same types of issues that plague Athol. Namely, that the area in which the brewery is to be located is plagued by disinvestment and blight, yet it shows great potential.

This article is pertinent to Athol because the town needs jobs economic development that stimulates cultural growth. Additionally, this article is quite relevant to Athol as there is a brewery/distillery that is slated to open in the town in the near future. The key hurdles that the brewery in the article face are the lack of funding and zoning regulations. Fortunately for Athol the brewery/distillery in town is already slated to be developed.

The key recommendations that arise from this article for Athol are that they support and foster this new venture in town with all available means. The Pioneer Valley is noted for its abundance of craft brewing and distilling and the town of Athol with its ample brewing spaces could build upon this wave and attract visitors looking for the latest local beers and spirits. Furthermore, Athol's location along major transportation corridors makes it a prime spot for this type of enterprise.

“On the Arty Side of the Tracks in White River Junction, VT”

White River Junction, historically a hub at the junction of the Connecticut and White Rivers, is today revitalizing its downtown through the arts. One of the first revitalization projects was the 1999 adaptive reuse of an electric company building that now houses 33 studios, workshops, and small businesses. The reuse stems in part from ‘culture-minded’ visitors including skiers and their purchasing power. The town is embracing its ‘grittiness’ and to-be-developed atmosphere to attract developers. Although the development is not transit-oriented (the historic rail line and train station quietly receive just one train per day), White River Junction's location as a hub could be harnessed in the future as rail service develops in the Northeast.

This article is relevant to Athol because, like White River Junction, Athol has similar ‘gritty’ characteristics that could attract the types of outdoor enthusiasts like skiers who have purchasing power. By focusing on a ‘sense of place’ approach to Athol as a gateway to the outdoor amenities of the North Quabbin Region, Athol has the potential to become a hub for arts and culture in the surrounding area which is sorely lacking.

Summary of Team's assessment

Based upon our research, MRC has determined that downtown Athol's economic development would be best served by a multi-pronged approach that addresses job growth and skills training, retaining the unique business currently downtown, and encouraging and creating incentives for niche businesses and entrepreneurs to locate downtown. Long term strategies should focus on the branding of Athol in relation to the North Quabbin region and attracting ecotourism. While the North Quabbin Business Park may prove to be a boon for the town as a whole, special attention needs to be paid to the economic development of the DSA as well so as to avoid a further hollowing out of Athol's defining historic and charming downtown. This can be best achieved by placing an emphasis on the types of businesses that attract people from outside the community with purchasing power yet also cater to the residents of Athol.

Recommendations

Market Analysis

MRC recommends that Athol conduct a more thorough market analysis based upon the data we have uncovered and the market analysis we provided in the report. Armed with the market analysis that MRC produced, the town of Athol will be able to target incentives and resources to potential entrepreneurs in the DSA. It will be important in the years to come to pay close attention to the

effects of the North Quabbin Business Park on businesses downtown. Additionally, the region as a whole should be analyzed in order to identify potential niche gaps that Athol can fill. Niche business activity that is encouraged in the DSA should attempt to complement rather than compete with the North Quabbin Business Park. This is no easy task, however branding the DSA as a destination in and of itself and providing the types of services identified as gaps above is a solid start.

Maker Space

MRC recommends that the Town of Athol work towards the creation of a ‘Maker Space’ in collaboration with local colleges and industries that can serve as a regional job training and business incubation center. A maker space is a location where individuals can come and gain skills and use equipment that they otherwise could not afford in order to get a job or start a company. A maker space in Athol has the potential to build upon the regional identity and build upon the skills and strengths of residents in the surrounding region in areas like forestry products, woodworking, and light industry. By partnering with local educational institutions there is the potential to draw younger people to the town and retain them with incentives such as cheaper rents and available space. This may lead to economic spillover effects as other services move in to meet the needs of new businesses and residents. MRC suggests that the Maker Space be located in the Plotkins and Maroni building on Exchange Street. While this area is zoned general commercial, the town could amend the zoning language as suggested in the land-use section or provide a variance for this usage.

Promotion of EcoTourism

A long term recommendation for the town of Athol is to build upon the natural and scenic resources of the Millers River and the surrounding region in order to attract tourism. Downtown Athol benefits from the Millers River flowing directly through downtown. Millers River recommends that the Town of Athol enhance riverfront access and continue to promote watersport activities like canoeing and fishing. The potential for collaboration with the Town of Orange in developing a connecting boat launch and shuttle service is also recommended.

Time Line for Implementation

Six Months to One Year

Within six months to one year, MRC recommends that the town of Athol create a detailed market analysis that identifies business gaps that could be filled by niche businesses in downtown Athol. Within a year a comprehensive market analysis of the region should be in place in order to help inform the development of the region as a whole in both tourism and regional strengths for the maker space to focus on.

1. Create Detailed Market Analysis
 - a. Identify gaps that can be filled by niche businesses downtown
 - i. Focus on cultural attractions
 - ii. Ecotourism attractions

- iii. Community needs like coffee shops and eating establishments
- b. Focus on regional strengths for proposed maker space
 - i. Forestry
 - ii. Woodworking
 - iii. Manufacturing

Two to Three Years

MRC suggests that the groundwork for the creation of a maker space including a site location and funding streams be completed two to three years. Within two to three years the town of Athol should have a clear idea of the types of industry and job skills which the maker space will promote as well as the connections with local educational institutions. Additionally, within this time frame, Athol should have completed the work and infrastructure necessary for increasing access to the waterfront and outdoor recreation infrastructure like a boat launch.

1. Identification of a maker space site
 - a. Preferably within downtown area
 - i. Preferably a former mill
2. Connections with local educational institutions established
 - a. Two Year Colleges:
 - ii. Mount Wachusett Community College
 - iii. Greenfield Community College
 - b. Four year institutions
 - iv. UMass Amherst
 - v. Fitchburg State
 - vi. Keene State

Five years

MRC suggests that within five years the maker space be fully operational with clearly identified sources of funding for long term growth. By five years' time, Athol should have enrolled the first cohort of 'makers' and identified locations and incentives to retain those utilizing the maker space to open businesses within Athol. Within five years' time, Athol should have made key steps towards fostering niche businesses to support the residents and tourists alike based upon their market analysis. Within five years the town of Athol should have developed the necessary infrastructure to make the Millers River waterfront accessible to all ages and abilities.

1. Fully operational maker space
 - a. Identified sources of funding
 - b. First cohort enrolled

- c. Identified locations and incentives to retain graduates in the community starting businesses
 - i. Within downtown area
 - ii. TIF/DIF funding
 - iii. Revolving loan fund with North Quabbin Chamber of Commerce
 - iv. Gap financing
- 2. Waterfront access
 - a. Walking paths
 - b. Fully accessible
 - c. Connected bike paths

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Final Conclusion

MRC has explored the themes of land-use and zoning, commercial parcels, vacant parcels, traffic flow and pedestrian access, aesthetics, and market trends in order to develop recommendations to revitalize downtown Athol. Our key recommendations focus on the so called 'low hanging fruit' that we feel can best be achieved in the short and long term to help spur economic development and job growth, cultural and eco-tourism, aesthetic improvements, and transportation. Based upon our precedent studies, we are confident that the types of recommendations which have been laid out in the preceding sections are replicable in Athol. Moving forward, it is important that the town of Athol continue to build upon its already strong relationship with public and nonprofit entities. In order for the town to become the hub of the North Quabbin it is also important that Athol build relationships with surrounding communities like Orange to take advantage of the natural amenities which will continue to draw visitors with purchasing power.

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Appendices

TYPA Appendix-Job Lot Parcel

Typology	Parcel	Address	Acreage	Assessed Value	Tax Bill	TYPA	Proposed Acreage	Tax Yield
Mixed Use 2 Story	030-240	435 Main Street	0.49	\$491,000.00	\$9,049.13	\$18,467.61	7.91	\$146,078.80
Mixed Use 3 Story	030-236	477 Main Street	0.24	\$287,500.00	\$5,298.00	\$22,077.60	7.91	\$174,633.82
Mixed Use 4 Story	030-126	416 Main Street	0.74	\$2,328,000.00	\$42,905.00	\$57,979.78	7.91	\$458,620.06
Grocery Store	-	-	2.28	\$893,000.00	\$16,457.99	\$7,218.42	7.91	\$57,097.70
Commercial 1 Story	030-171	486 Main Street	0.3	\$323,100.00	\$5,954.73	\$19,849.11	7.91	\$157,006.46
Commercial 2 Story	030-238	465 Main Street	0.15	\$260,600	\$4,802.86	\$32,019.05	7.91	\$253,270.69
Commercial 3 Story	030-235	491 Main Street	0.4	\$359,700	\$6,629.27	\$16,573.00	7.91	\$131,092.43
Commercial 4 Story	030-125	388 Main Street	0.11	\$1,037,200	\$19,115.60	\$173,778.15	7.91	\$1,374,585.17
Job Lot			7.91					

TYPA Appendix- Marble Street

Typology	Parcel	Address	Acreage	Assessed Value	Tax Bill	TYPA	Proposed Acreage	Tax Yield
Mixed-use 2 Story	030-240	435 Main Street	0.49	\$491,000.00	\$9,049.13	\$18,467.61	1.15	\$21,237.75
Mixed-use 3 Story	030-236	477 Main Street	0.24	\$287,500.00	\$5,298.00	\$22,077.60	1.15	\$25,389.24
Mixed-use 4 Story	030-126	416 Main Street	0.74	\$2,328,000.00	\$42,905.00	\$57,979.78	1.15	\$66,676.75
Grocery Store	-	-	2.28	\$893,000.00	\$16,457.99	\$7,218.42	1.15	\$8,301.18
Commercial 1 Story	030-171	486 Main Street	0.3	\$323,100.00	\$5,954.73	\$19,849.11	1.15	\$22,826.48
Commercial 2 Story	030-238	465 Main Street	0.15	\$260,600	\$4,802.86	\$32,019.05	1.15	\$36,821.91
Commercial 3 Story	030-235	491 Main Street	0.4	\$359,700	\$6,629.27	\$16,573.00	1.15	\$19,058.95
Commercial 4 Story	030-125	388 Main Street	0.11	\$1,037,200	\$19,115.60	\$173,778.15	1.15	\$199,844.87
Marble			1.15					

TYPA Appendix-Exchange Street

Typology	Parcel	Address	Acreage	Assessed Value	Tax Bill	TYPA	Proposed Acreage	Tax Yield
Mixed Use 2 Story	030-240	435 Main Street	0.49	\$491,000.00	\$9,049.13	\$18,467.61	1.35	\$18,468.96
Mixed Use 3 Story	030-236	477 Main Street	0.24	\$287,500.00	\$5,298.00	\$22,077.60	1.35	\$22,078.95
Mixed Use 4 Story	030-126	416 Main Street	0.74	\$2,328,000.00	\$42,905.00	\$57,979.78	1.35	\$57,981.13
Grocery Store	-	-	2.28	\$893,000.00	\$16,457.99	\$7,218.42	1.35	\$7,219.77
Commercial 1 Story	030-171	486 Main Street	0.3	\$323,100.00	\$5,954.73	\$19,849.11	1.35	\$19,850.46
Commercial 2 Story	030-238	465 Main Street	0.15	\$260,600	\$4,802.86	\$32,019.05	1.35	\$32,020.40
Commercial 3 Story	030-235	491 Main Street	0.4	\$359,700	\$6,629.27	\$16,573.00	1.35	\$16,574.35
Commercial 4 Story	030-125	388 Main Street	0.11	\$1,037,200	\$19,115.60	\$173,778.15	1.35	\$173,779.50
Exchange			1.35					