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## Memorial Drive Revitalization (Chicopee, MA)

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# Memorial Drive Revitalization

City of Chicopee



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# Executive Summary

## Purpose

The City of Chicopee has tasked the Hills House Planners with “developing a conceptual Vision Plan for ‘Re-Visioning’ Memorial Drive.” The Chicopee Planning Department lacks critical planning data for the corridor, and also has no adopted citywide master plan guiding development. The new vision seeks to include not only the existing car oriented infrastructure, but also to better integrate other uses for the Memorial Drive Corridor, as well as a residential and commercial rebranding. Our scope of work is divided into the following sections with the specific requests from the City of Chicopee encapsulated in each section:

- Land Use and Zoning
  - Review and analysis of existing land use and current zoning along the corridor and the constraints these regulations may place on development/redevelopment.
  - Propose land use and zoning to best enhance new development and redevelopment potential along the corridor.
  - Analysis of opportunities and constraints near the two major rotaries along the corridor.
  
- Commercial Development and Market Trends
  - Analysis of existing commercial developments (i.e., vacancies, square footage, age, etc.) including metrics to best understand redevelopment potential.
  - Proposed land-use and zoning to improve transitions between adjacent neighborhoods and commercial developments.
  - Analysis of opportunities and constraints near the two major rotaries along the corridor.
  
- Vacant Parcels/Infill
  - Analysis of vacant parcels that can be targeted and marketed for new development.
  
- Transit Conditions
  - Recommendations to improve pedestrian access and crossings along the entire route, signage, lighting and way-finding.
  
- Environmental Sustainability
  - Analysis of the potential for Green Infrastructure and development of an urban forest canopy to be incorporated into the commercial corridor.

Within these sections, we identify the information, data, and sources necessary to understand the corridor, and the issues facing the Planning Department and City as a whole.

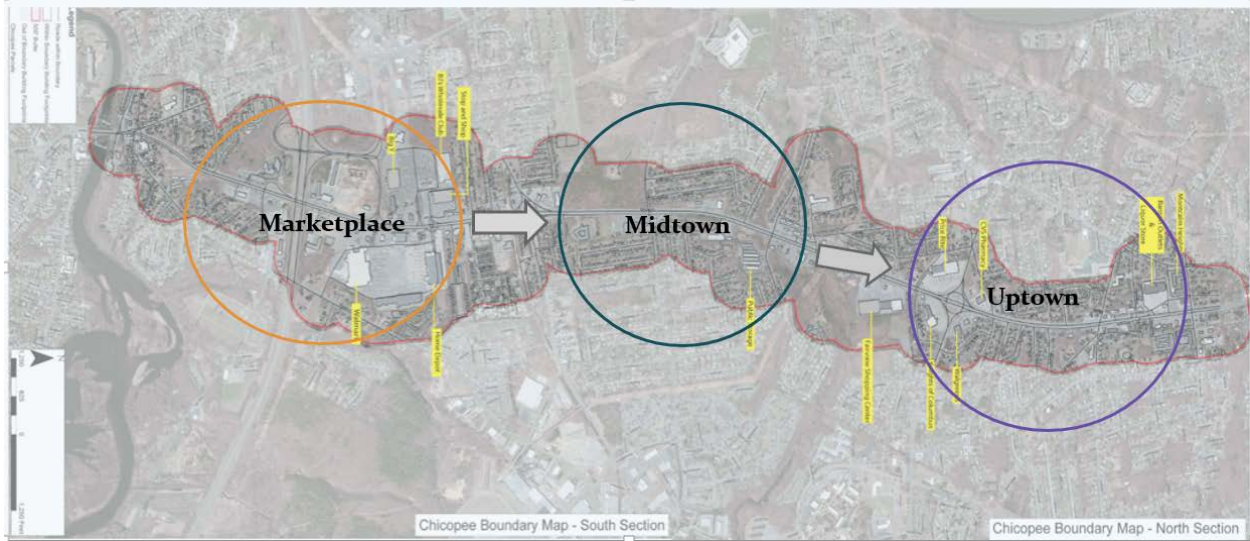
## Vision

The City of Chicopee has tasked the Hills House Planners with “developing a conceptual Vision Plan for ‘Re-Visioning’ Memorial Drive.” Memorial Drive is a 3.7 mile long commercial and residential strip that can be characterized as “Anywhere U.S.A.” The Memorial Drive corridor is impacted by the adjacent Westover Air Reserve Base, the Massachusetts Turnpike, which bisects the southern portion of the corridor, and it’s location in the heart of the Knowledge Corridor. Much of Memorial Drive was developed with fast food restaurants and formula businesses to cater to the 3,000 plus workers at Westover. The mid-scale restaurants, entertainment, and retail have been lacking in the past several decades.

Historically, the Memorial Drive corridor was a place for people coming to the Five Colleges located within 15 minutes to the north, or to the various colleges and business activities in the Springfield area less than 10 minutes to the south to stay. Prior to the past several decades, Memorial Drive was home to mid-scale restaurants and entertainment venues that brought people in from all around the Pioneer Valley into the evening.

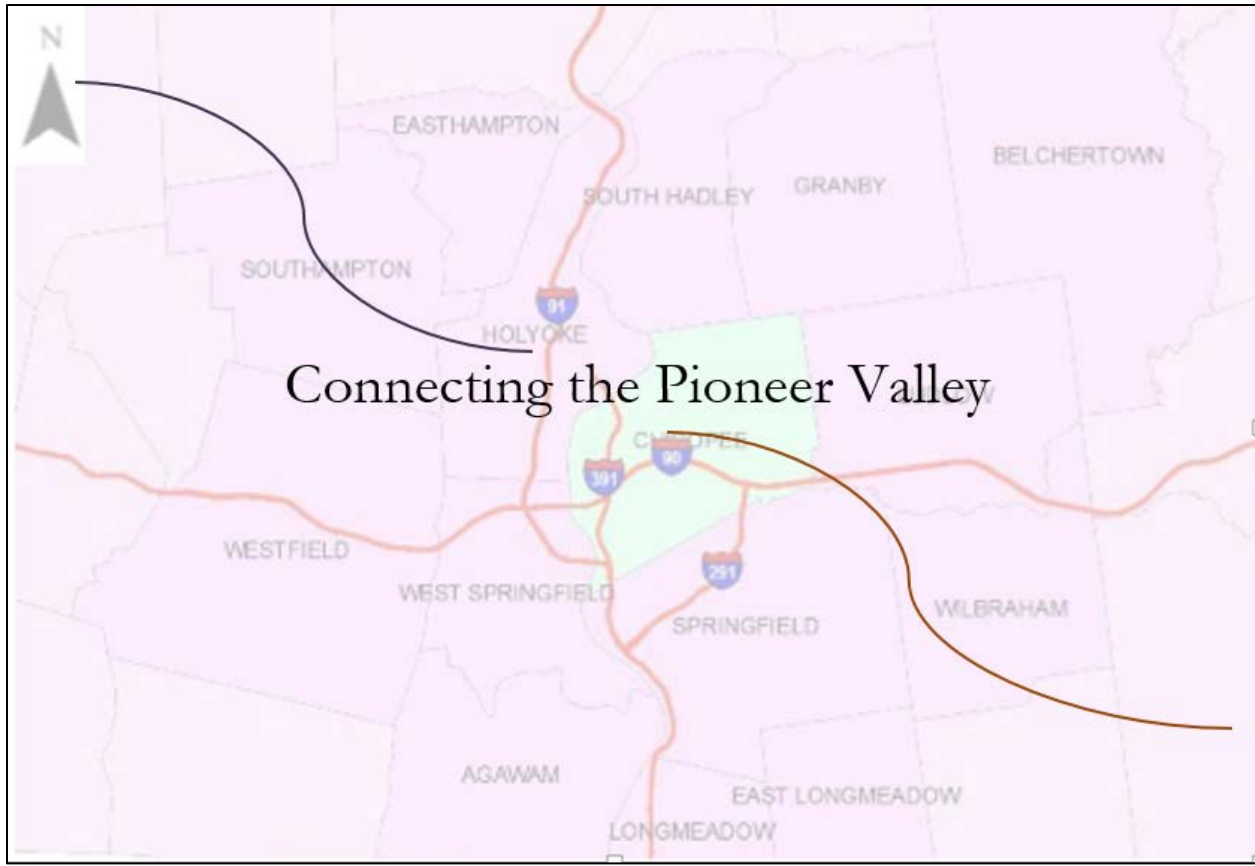
Though Chicopee and the Memorial Drive area may not seem like it is a major connection at the present time, the Hills House Planners believe the City of Chicopee can reclaim its place as a place people stop, shop, and stay. The coming MGM Casino in Springfield will bring an increase in economic development, as well as increase the amount of people travelling through the Chicopee area to the casino. The City of Chicopee should capitalize on this and market the Memorial Drive corridor as a stopping place and area for less expensive hotels than the casino will offer.

Hills House Planners’ vision for the Memorial Drive corridor is concentrating high intensity commercial and entertainment uses in the southern “Marketplace” area off of the Massachusetts Turnpike, utilizing the central “Midtown” area as a transitional area with residential and neighborhood business establishments, and returning back to the historic Fairview Village feel of the northern “Uptown” area to re-establish a more human scaled and walkable neighborhood. The use of performance zoning, implementation of a road diet, and increasing green infrastructure will assist the City of Chicopee in implementing this vision.



*Figure 1 Memorial Drive Corridor Vision Map*

The City of Chicopee tasked the Hills House Planners with creating a vision for the corridor, which led the team to discover a valuable theme for Memorial Drive. We envision the theme of ‘Connecting the Pioneer Valley’, to rebrand the corridor as a central hub. With the coming casino and past history as ‘The Crossroads of New England’, Memorial Drive needs its own identity to draw in a wider regional market. HHP sees this concept of Connecting the Pioneer Valley as a theme to promote the corridor, and attract economic and cultural development along the corridor. With the corridor’s central location and robust commercial climate, creating a marketable theme is beneficial for Memorial Drive.



## Format of this report

This visioning report begins with the background and history of the City of Chicopee and describes the basic elements of Memorial Drive. In the first chapter of this report we bring a historic contextualization of the City of Chicopee in order to understand what brought it to the current state of development in the Memorial Drive corridor and its surroundings. We also use demographics as well as other statistical data to build a bigger picture of the area of study. It also describes the details of the right of way and the current zoning and land uses along the corridor.

In the second chapter, we discuss the public participation process where we gathered with stakeholders and representatives from the City of Chicopee in order to determine the public's perspectives and demands for the corridor.

In the second chapter, we discuss the public participation process where we gathered with stakeholders and representatives from the City of Chicopee in order to determine the public's perspectives and demands for the corridor. In the third chapter we assess the existing conditions and findings of the Commercial, Vacancy/Infill, Transportation and Green Infrastructure aspects of our project. All being supported by our site visits, city documents, existing literature, and precedent studies, and followed by our team's assessments, recommendations, implementation timelines, funding opportunities, and notes for future consultants.

After conducting the existing conditions of the corridor, six priority sites were identified. Chapter Four describes each priority site, why it was chosen, and lays out proposals for

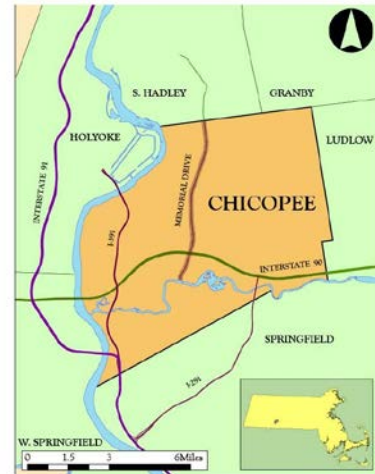


redevelopment. HHP then outlined the financial benefits of these redevelopment proposals, as well as funding and implementation for them.

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# Chapter 1: Background & History of City of Chicopee

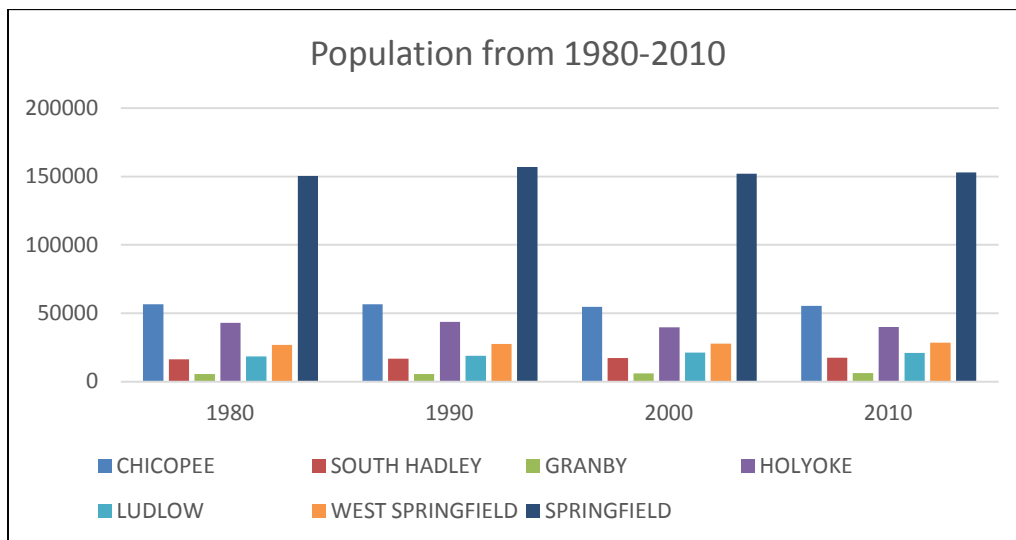
The City of Chicopee is a mid-sized suburban city of approximately 55,000 persons in the heart of the Pioneer Valley along the Connecticut River. Located in northern Hampden County, Chicopee borders Holyoke, Springfield, West Springfield, South Hadley, Ludlow, and Granby. Chicopee is aptly nicknamed the “Crossroads of New England” with four major highways traversing through its boundaries. The City developed as a collection of villages after seceding from Springfield in 1848. The heritage of each of these villages has carried on into the neighborhoods they have become, despite the character of these neighborhoods having changed significantly over the years.



*Figure 2 Vicinity Map of Chicopee*

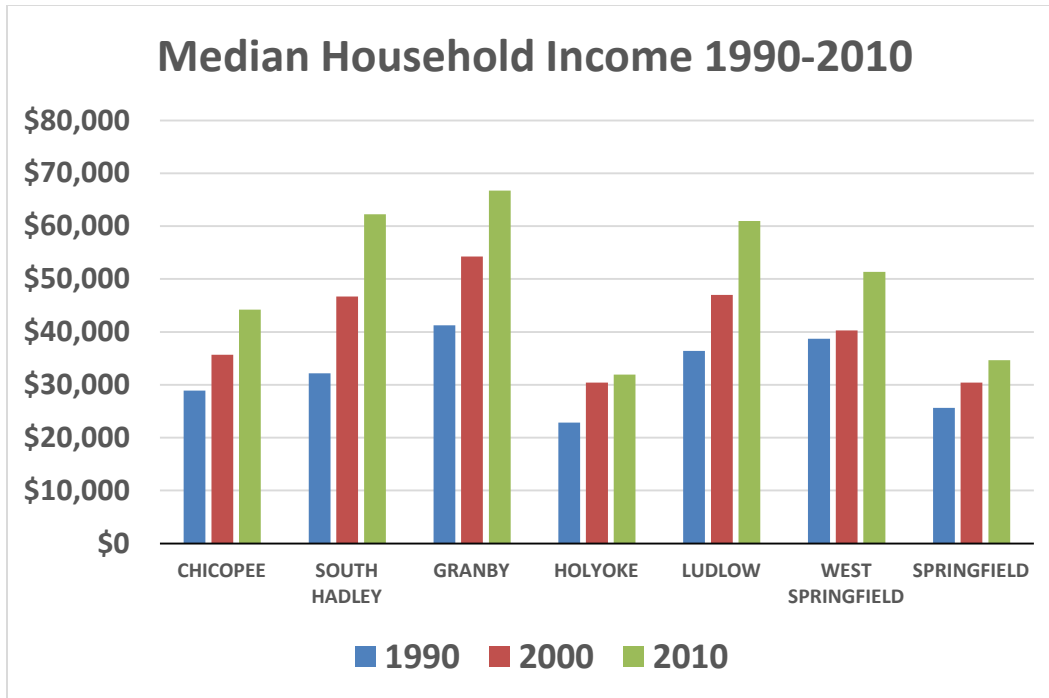
According to the US Census, the population of Chicopee has remained stable over the past three decades. Chicopee’s population was 56,464 in 1980 and 55,298 in 2010.

The populations of the surrounding communities have also remained fairly stable. Chicopee borders several smaller municipalities, each ranging from 6,200 to 28,300 persons. The City of Springfield is three times larger than Chicopee with 153,000. The City of Holyoke is the most similar in terms of population with nearly 40,000 persons.

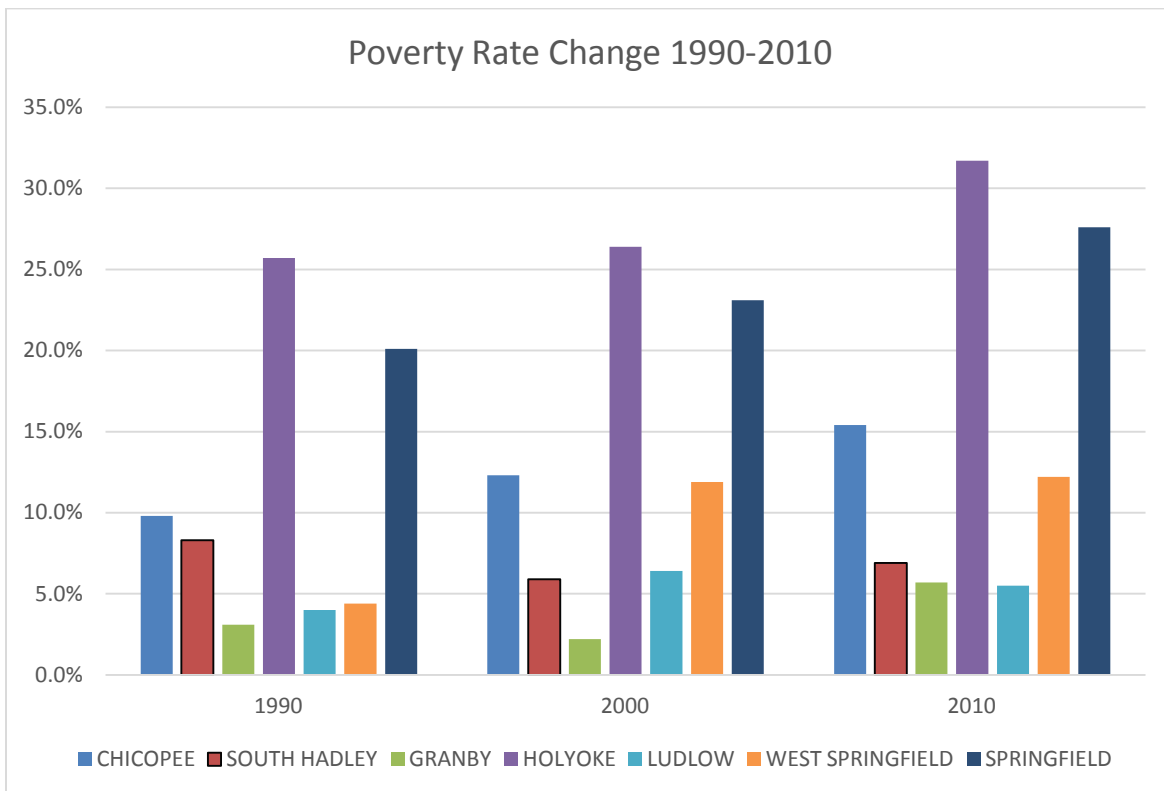


*Figure 3 Population from 1980-2010*

The median household income of Chicopee has risen over the past two decades from \$28,905 in 1990 to \$35,672 in 2000 and \$44,226 in 2010. This is lower than the surrounding communities with the exception of Holyoke (\$31,948) and Springfield (\$34,628). Chicopee’s median household income has increased 53% in the past two decades, which is faster than Holyoke, Springfield, and West Springfield, yet much slower than South Hadley (93.3%).



*Figure 4 Median Household Income Change 1990-2010*



*Figure 5 Poverty Rate Change 1990-2010*

Chicopee's educational attainment is lower than its neighboring communities. The percent of Chicopee residents who have a bachelor's degree or higher decreased from 10.5% in 1990 to 8.0% in 2000 before rising again to 12% in 2010, which is the lowest of its neighbors besides Springfield at 10.6%. With the exception of Springfield, and Ludlow, each of the surrounding communities' educational attainment has decreased during this time period, unlike Chicopee. The percent of Chicopee residents below poverty has risen from 9.8% in 1990 to 12.3% in 2000 and again to 15.4% in 2010. This is much higher than the surrounding communities with the exception of Springfield (27.6%) and Holyoke (31.7%). All of Chicopee's neighbors have seen increases in poverty with the exception of Ludlow and South Hadley.

Chicopee is an aging community with median age of 40.3 years, compared to 38.7 years in 2000 (U.S. Census Bureau 2011-2013 Three Year Survey). Historically, Chicopee has been majority White. Despite the stable population, the composition of its population is changing. Currently, 85.3% of Chicopee residents are White, while 16.1% are Hispanic or Latino, 3.2% are Black or African American, and 1.3% are Asian. The White population has declined approximately 4.5% from 2000 to 2012, while the Hispanic or Latino population has nearly doubled from 8.8% in 2000.

The median house value in Chicopee has increased significantly to \$181,900 in 2010 despite a dip from 1990 (\$113,900) to 2000 (\$104,900). This generally follows the ebb and flow of the surrounding communities. Despite the increase, Chicopee's median house value is the second lowest of its neighbors. This may be due in part to the aging housing stock.

Memorial Drive, the focus area of this project, was constructed in the 1940s over farm land, away from the villages in Chicopee yet adjacent to Westover Air Reserve Base. Prior to being constructed, the northern rotary was present at James Street. The southern rotary appears on maps prior to any roads being constructed. The road was originally called the North-South Highway until the first Chicopee resident was killed in action during WWII, at which point, the road was renamed "Memorial Drive" and a statue of the soldier was erected along the corridor.

With the changing demographics, geographical construction of the City, and decline in its previous manufacturing base, the Memorial Drive corridor has become for Chicopee both a blessing and a curse, as its economic driver with large scale retail, as well as the challenge of traffic congestion and sprawl. This 3.7 mile stretch of state highway has developed outside the boundaries of the previously mentioned villages and therefore, has lacked an identity and vision. The strip has expanded within the limited commercially zoned areas adjacent to existing residences throughout the past several decades with many conflicts between incompatible commercial and residential activities.

## The Basics of Memorial Drive

Memorial Drive has multiple lanes in both directions along its 3.7 mile long stretch. In that extension it is possible to find seven different sizes of right of way, ranging from 75' to 118'. Throughout these different dimensions, the number of lanes varies from four to eight separating the two sides of the road. It is important to note that Memorial Drive reduces to one lane in either direction immediately upon crossing into South Hadley to the north.

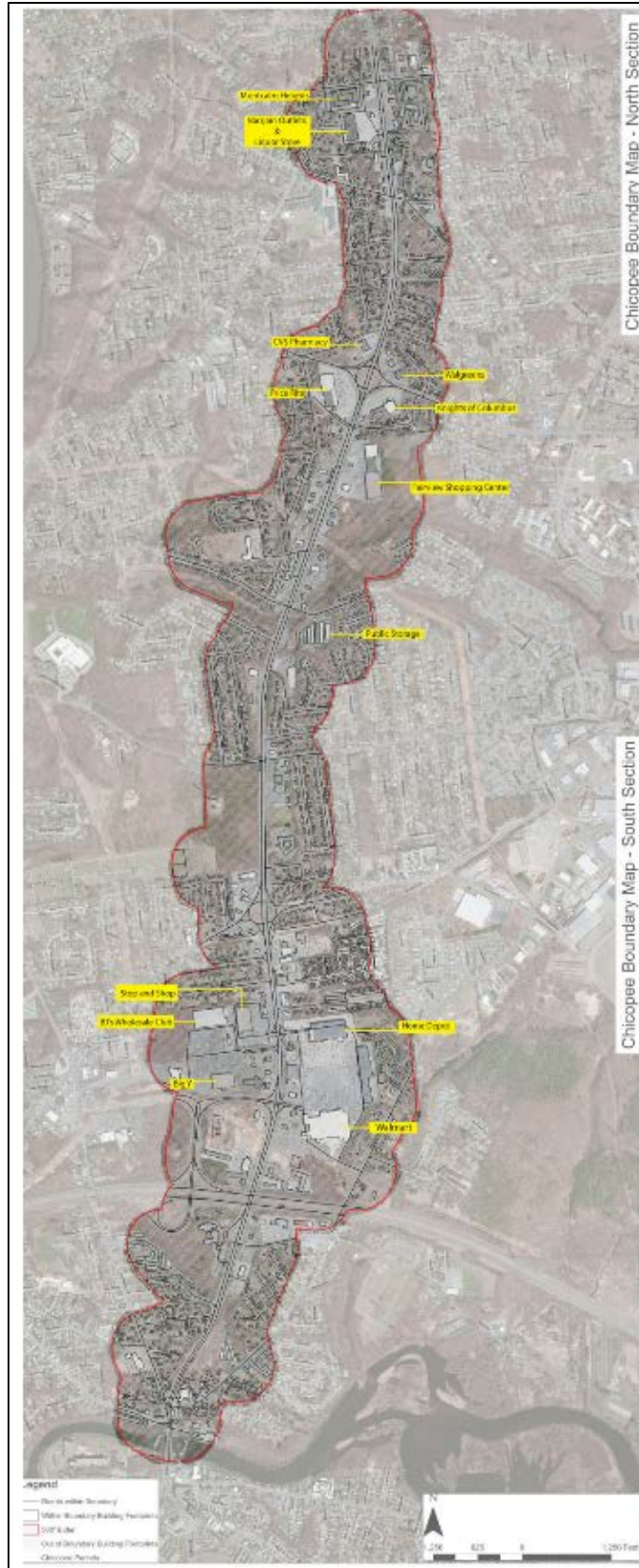
The speed limits in Memorial Drive are 35 miles per hour (MPH) and 40 MPH, with the first predominating in most of the corridor's extension, and the second being present in the first stretch of the road from Chicopee Falls to the Massachusetts Turnpike, and immediately after the northern rotary in Uptown. Approximately half of the corridor has sidewalks on both sides of the street, approximately one third has sidewalks on just one side of the road, and some parts have no sidewalk at all. There are only fourteen crosswalks in all 3.7 miles of Memorial Drive and also no bike lanes at all, despite a 7 to 12 foot wide breakdown lane along the corridor. Sidewalks and crosswalks are inconsistent throughout the corridor, especially in the highly trafficked Marketplace area.

Zoning along the Memorial Drive corridor consists of Residential A and C, Business A and B, Commercial A, and Industrial. Zoning along the corridor does not always follow parcel boundaries, leaving many parcels split between multiple zones. These zones and land uses abut each other in poor transitions throughout the corridor. Current buffers between incompatible uses are simply a six foot high fence or shrubs. Zoning information is difficult to find along the corridor as the current zoning is not digitized.

Commercial developments are located throughout the corridor with the highest concentration of commercial developments located in the Marketplace area immediately off of the Massachusetts Turnpike and closest to the entrances to the Westover Air Reserve Base. Formula businesses, Big Box stores, and fast food chains are concentrated in this area, as well as in specific areas of the Uptown area around the northern rotary. Also in the Uptown area are smaller retail and restaurant establishments. Hotels, car dealerships, and storage warehouses are located in the southernmost areas of the corridor.

Residential developments are located all throughout the Memorial Drive corridor. The residences are located on Memorial Drive itself and immediately abutting the commercial uses along the corridor. The majority of the residences are single family constructed in the 1950's. A higher concentration of multi-family residential developments is located in the northern portion of Memorial Drive in the Midtown and Uptown areas.

Among the main hazards found in Memorial Drive, it is possible to enumerate the difficulties for pedestrians and cyclists to cross and/or simply navigate through the road, as well as the elevated number of car crashes that occur in seven intersections from this corridor that are among the top 100 most dangerous in Western Massachusetts according to a PVPC study of 2013.



*Figure 6 Memorial Drive Corridor Map*

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## Chapter 2: Public Participation Workshop

The Hills House Planners studied the Memorial Drive corridor, including a 500 foot buffer surrounding the area, to look at existing conditions, as well as engaging the public through a community based workshop. This included an in depth meeting where residents, public officials and stakeholders participated in the workshop process. This activity allowed participants to identify areas of concern and priority, and offer their feelings of positive, negative and transitional areas along the corridor. Hills House Planners as well as the City of Chicopee created a flyer that was distributed through the city departments, as well as along Memorial Drive to make business owners and residents aware of the event.

The workshop occurred on October 1st, 2014 at 6pm in the Chicopee Free Library. The Hills House Planners created a dot-voting workshop, in the Chicopee Free Library, that was open to residents as well as City of Chicopee employees. With the participants, consisting of a large portion of city council members, the workshop triggered a quorum, which led to a city council meeting. This included an introduction to the revitalization project from the Hills House Planners to the council members, with a brief question and answer period.

A total of 18 people attended the public workshop, with 10 of those participants being Chicopee residents. The workshop was designed with four map stations, with one to two members of the Hills House Planners as table captains, along with a note taker to record the responses. With four to five participants at each map station, HHP table captains briefly spoke with the participants about general feelings relating the Memorial Drive corridor. Next, participants were given a variety of colored dots to adhere to the map to represent their feeling toward a specific location. Green dots represented positive feelings, yellow were transitional, red were negative and blue dots were priority areas.

The workshop concluded with each group presenting and explaining their maps to all the participants. This allowed each participant at the workshop to listen and understand the different positive, transitional, negative and priority areas along the corridor. The Hills House Planners processed the input that was gathered, and tested many of the concepts for viability as well as conducted field checks regarding many of the top areas listed in the workshop, such as the vitality of including more development near the northern rotary. Additionally, HHP has developed many of the concepts presented by participants and incorporated them within the priority areas for short-term improvements, as well as long-range, physical design redevelopment and economic development strategies for Memorial Drive.

The recommendations received during the workshop were instrumental, and appear within many of the recommendations that the Hills House Planners propose. With issues such as safety and growth potential being high priority subjects, HHP addressed these problems in a number of ways. Within the transportation section, and well as the commercial and vacancy sections, these issues are discussed at length and the recommendations that are proposed.

Please note the below data was gathered by the amount of references a location was given, and is combined data for the entire workshop.

Top green dots included:

- The Arbors assisted living location
- The shops in the Wal-Mart, Home Depot center
- Dunkin Donuts

Top yellow dots included:

- Diocese lot
- Price Rite
- Northern rotary

Top red dots included:

- Pendleton Avenue and Memorial Drive intersection
- Voucher recipient hotels
- Bargain outlets shopping center

Top blue dots included:

- More development along the Northern section of Memorial Drive, near the South Hadley border
- Northern rotary
- Fairview shopping center
- Pedestrian safety along the corridor

## Workshop Photos



*Photograph 1: Chicopee Workshop: Mayor Kos addressing the attendees, with Council President George R. Moreau (Greg Lewis).*



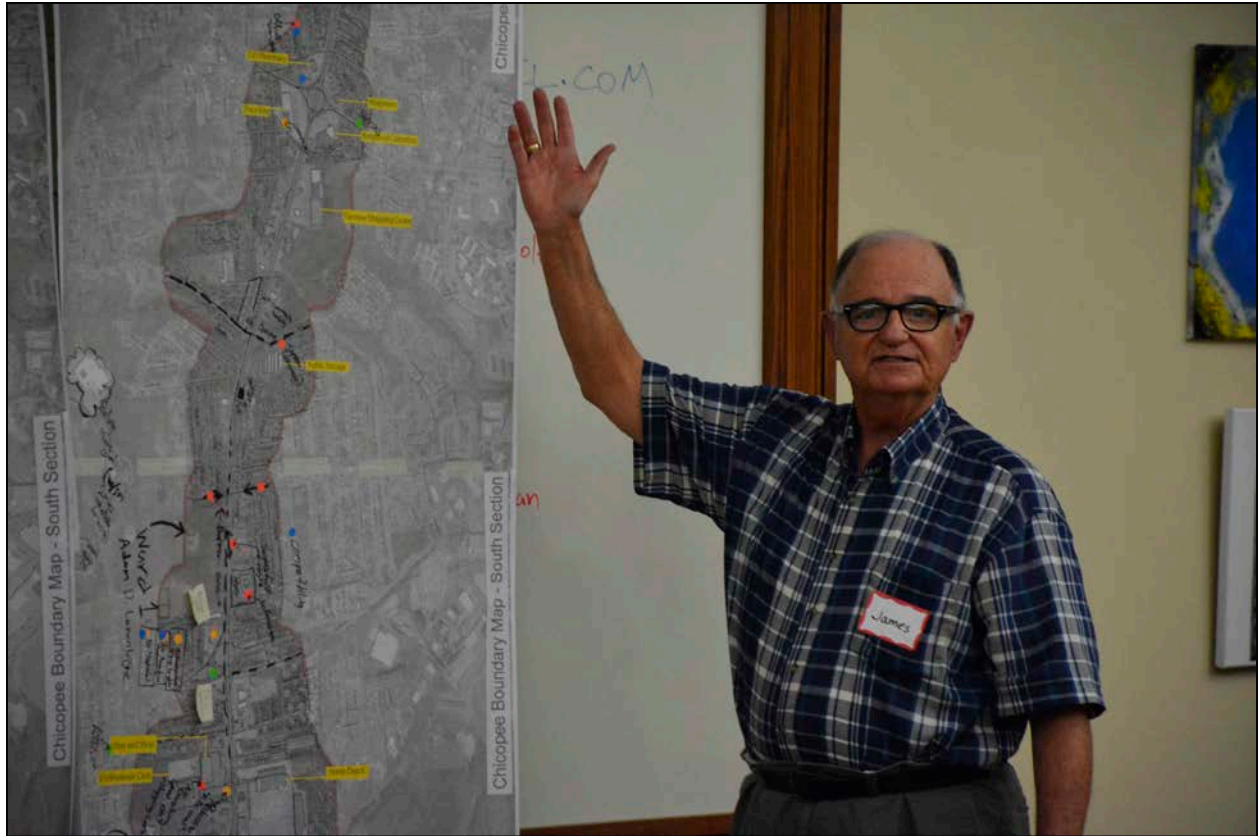
*Photograph 2: Chicopee Workshop: attendees (Greg Lewis).*



*Photograph 3: Chicopee Workshop: Councilor Shane Brooks (w/ Jesse Regnier) presents his table's findings to the attendees (Greg Lewis).*



*Photograph 4: Chicopee Workshop: Participants in the dot voting/mapping exercise (Greg Lewis).*



*Photograph 5: Chicopee Workshop: City Councilor James K. Tillotson presenting his group's findings (Greg Lewis).*

The workshop concluded with each group presenting and explaining their maps to all the participants. This allowed each participant at the workshop to listen and understand the different positive, transitional, negative and priority areas along the corridor. The Hills House Planners processed the input, and tested concepts for viability as well as conducted field checks regarding many of the top areas listed in the workshop. Additionally, HHP has refined many of the concepts presented by participants and incorporated them within the recommendations for near-term improvements, as well as long-range, physical design and economic development strategies for Memorial Drive.

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# Chapter 3: Existing Conditions and Findings

## Commercial

### Background of Commercial

Memorial Drive was developed in concert with Westover Air Force Base as the influx of military and civilian personnel in the 1940's created a consumer base which led to commercial development (Elvin and Schliemann, 2008). The Massachusetts Turnpike, inaugurated in 1958, was also a major factor in the development of the corridor in that expanded access with regional routes connecting Albany with Boston; and points north such as Brattleboro and Northampton with points south such as Hartford and New Haven. Known originally as the North-South Highway and colloquially referred to as "the road to nowhere", it was designated as Memorial Drive in 1957. (Jendrysik, Personal Communication; MA Secretary of State, Acts 1957, Ch. 234).

The Memorial Drive corridor's commercial development continued to be impacted by patronage from the base until its main functions were transferred further inland, and its military and civilian personnel were transferred. The transition in the 70's coincided with development of the Fairfield Mall, which enjoyed moderate commercial success and served the community as a social hub. Vitality declined in the mid 90's, and the mall was closed in 2001. The site's recent re-emergence as a power center<sup>1</sup> with lax development standards<sup>2</sup> has led to a form and function that has both outpaced and overshadowed Chicopee's community character of walkable village centers. Regional economics and the built environment continue to be impacted by the presence of Westover Air Reserve Base; however, given the provided scope of work to focus on the corridor, the impacts considered are limited to the built environment that characterizes commercial corridors. While Westover's impact has been irrefutably significant to the development of the corridor, this report focuses on parcels that are within 500 feet of the Memorial Drive corridor<sup>3</sup>, as most recent commercial development is "shifting to serve a wider regional market" (Elvin and Schliemann, 64).

### Existing Conditions of Commercial

The earliest large commercial development in recent decades aside from the former Fairfield Mall was the regional grocery chain, Big Y<sup>4</sup>. The presence of Big Y and customer base from the city and Westover further attracted other large corporate wholesale and retail establishments, including

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<sup>1</sup> Power Centers, which started gaining prominence over enclosed malls in the 1990's (and sometimes replaced them) are comprised of several regionally or nationally recognized branded sellers of goods (both wholesale and retail); offer competitive pricing; and have comparatively larger footprints than the establishments they tend to serve as an anchor for (Adler, 1996; Cavanaugh, 1996; Solomon, 1993).

<sup>2</sup> HHP's analysis of land use and zoning has revealed uses are often inconsistent with zoning, and that zoning data does not follow parcel lines. At the time of this report, The City of Chicopee is in the process of filling a position to digitize mapping data for GIS (Masslive, 2014).

<sup>3</sup> For further reading on planning implications for Westover ARB, please see Chicopee Economic Development and Land Use report, Center for Economic Development, UMass, 2008; and PVPC Westover Joint Land Use Study, 1996.

<sup>4</sup> Although the first Big Y ever established was in Chicopee c. 1936, the current Big Y was sited in its present location on Route 33 in 1965 (Big Y, 2014).

BJ's, Stop & Shop, and following the closing of Fairfield mall, a Wal-Mart supercenter and a Home Depot. These larger establishments are too cost-competitive for most locally-owned firms offering wholesale and retail goods to thrive. The Memorial Drive corridor also enjoys the presence of hospitality (Days Inn, Hampton Inn, Marriott, Quality Inn, and Residence Inn) in the vicinity of the Massachusetts Turnpike that is particularly concentrated for the region. North of the Southern rotary, vehicular traffic declines, and the area's commercial character is comprised of higher proportions of auto-specific businesses<sup>5</sup>, as well as bargain shopping businesses<sup>6</sup>. Finally, health and professional services and dining establishments, most of which are casual, also dot the corridor. Coupled with access to two interstates and close proximity to one of the largest commercial air strips on the Eastern Seaboard, there are ample opportunities to increase the quantity and quality of commercial development along the corridor. However, relatively low land value will continue to make the area less attractive for developers, and the absence of design and performance standards will continue to discourage site improvements.

### Commercial Threats

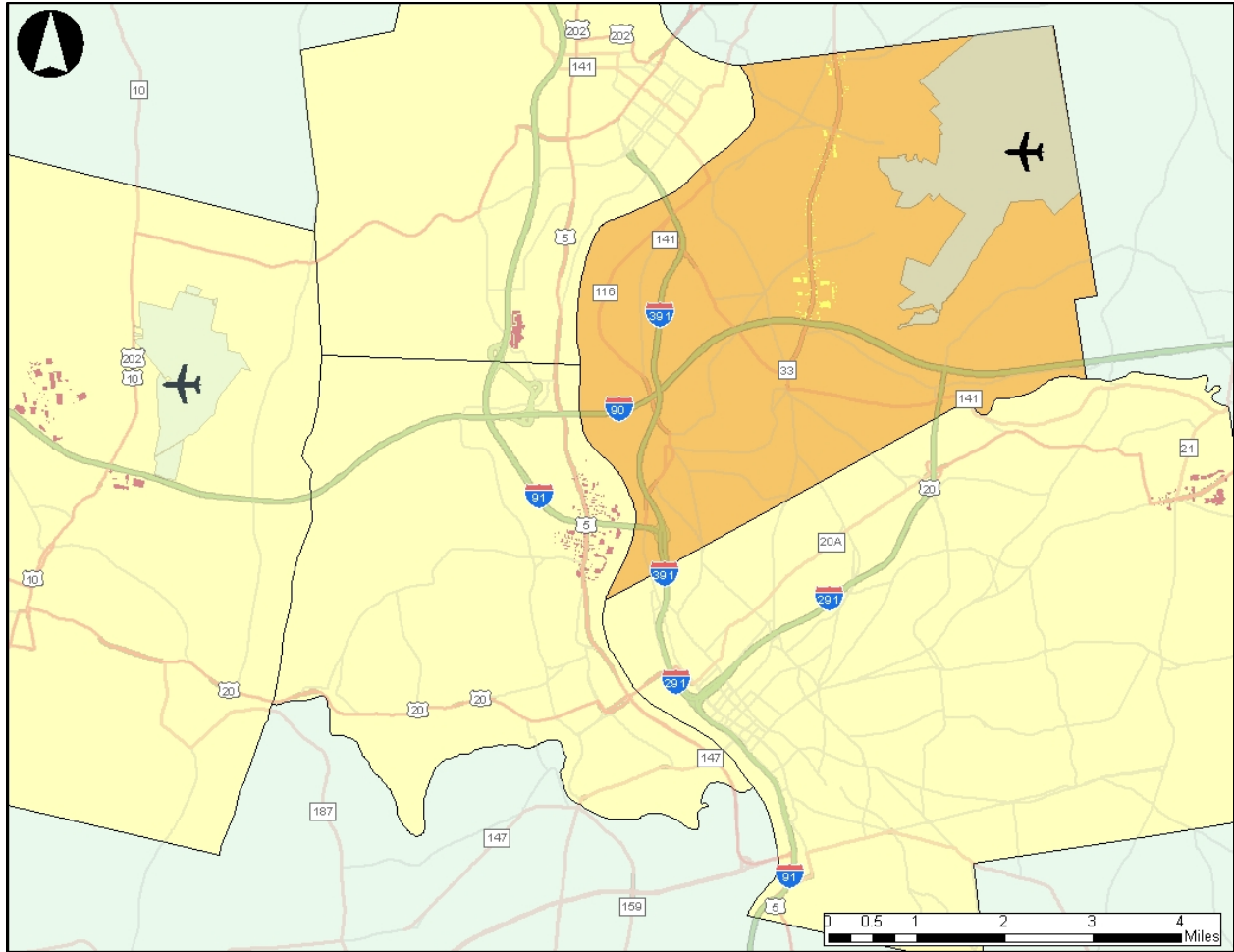
The many commercial assets of the Memorial Drive corridor are offset by three areas in the immediate vicinity (see Figure 7). Similar development and traffic patterns are present along Route 5 in neighboring West Springfield, Route 20 in Westfield, and Route 9 in Hadley. Enclosed shopping malls in Holyoke and Springfield also present a commercial threat. Chicopee's consideration of walkability and less abrupt transitions between its commercial and residential elements along its main commercial corridor differentiate it from neighboring cities and towns that rely heavily upon commercial development for its tax base. Moreover, none of these commercial threats and other commercial centers are as central to both the north-south and east-west interstates. While Westfield also has a commercial airport, it is less than half its size of Westover, but has doubled the amount of total activity and several times more civilian activity annually<sup>7</sup>. Finally, the vacant land between the Interstate and Deady Bridge is a potential commercial asset, but can also be a liability to the corridor's commercial vibrancy if not capitalized upon in a manner that is compatible to growth that is contextually compatible and economically supportive of Chicopee's work force. A discussion about market analysis of commercial centers in this region, and their impact on Memorial Drive, is discussed further in the recommendations section of this subchapter.

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<sup>5</sup> Auto glass, auto body, transmission, muffler, brakes, etc.

<sup>6</sup> Price Rite, Ocean State Job Lot, Grossman's Bargain Outlet, Dollar General.

<sup>7</sup>US DOT, 2014.



*Figure 7 Commercial Threats Map.*

## Team Findings of Commercial

### *Workshop Findings*

The HHP team found that Chicopee’s business friendly attitude has led to sprawling development along the corridor. This development, in turn, while leading to an increase in municipal revenues has also resulted in greater reliance on motorized transit, and increased difficulty in navigating transitions connecting commercial uses, as was stated by participants. As the peak age in the population base of Chicopee, the Pioneer Valley, and the nation as a whole continues to increase, increased walkability will be essential to health-related initiatives (Renski et. al., 2013). A more mobile and transient workforce, including people that work at the MGM Casino in Springfield, may be attracted to Chicopee’s access and proximity to interstate highways, and a commercial airport. The knowledge corridor, and specifically the Five Colleges population (which Chicopee’s

civic leaders stated a desire to attract to the corridor as they once had, prior to commercial development in Hadley, MA along Route 9) will also be attracted by more mobility-oriented transit<sup>8</sup>.

There is a strong and stated desire among the city's civic leaders for updated and enhanced amenities along the corridor. Recommendations based on the targeted demographics and mobility-oriented transit could assist in meeting these desires.

### Site Visits

Rising costs of owning and operating a vehicle will contribute to the increased attraction of mobility-oriented transit for both aging and emerging workforce populations. Demographics show that although two and three car households in Chicopee have increased over the past decade, so too have the households with no cars (US Census Bureau, 2000, 2010). Site visits revealed that the transitions between commercial and residential uses are difficult to navigate owing to a lack of optimization. These factors have implications for the corridor's commercial development, as research has shown that more pleasant and humane conditions can increase consumer activity.

The southern-most section of the corridor, which is characterized by large lots that are undeveloped or underdeveloped, is a wholly appropriate area for municipal leadership to play an active role in its development, thus shaping the corridor's future. Between the interstate and the northern rotary, commercial development is the most robust in terms of form and traffic, although an analysis tool developed by UMass Amherst Planning Department graduate Jen Stromsten, has revealed that the tax yield is not optimized (2014). North of the southern rotary a transitional pattern of professional services and higher-density residential units emerges, and concludes with partially dated but less intense commercial development, some of which approaches residential scale, and also is oriented to the pedestrian. North of the rotary and concluding with the border with South Hadley, the site of the historic Fairview village, commercial form and residential form are somewhat interchangeable, and the highest proportion of higher-density residential development is located here.

An interesting reoccurrence of observations of many members of our team is that there are a number of pedestrian traces throughout the corridor. Pedestrian traces can be both planned and unplanned evidence of path, and there are many locations along the corridor where these traces are unplanned. This signals that while the corridor may not be thought of by most people as a place for modes of transit that do not involve a private or public vehicle, these modes of transit are none the less woven into the fabric of society.

### Literature for Commercial

The influx of big box stores over the last decade should raise concerns for Chicopee's civic leaders. Aside from the matter that their tax yield is often lower than when mixed with residential (which increases density and promotes walkability), big box stores rarely pay a living wage and often offer no benefits and thus have negative economic implications for a community's work force

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<sup>8</sup> Mobility-oriented transit is measured by amount of movement to access a destination; Accessibility-oriented transit is based on the number or distance of destinations that can be reached conveniently, and is not dependent on mobility (Handy, 2002).

(Evans-Cowley, pg. 47). Although four big box stores located at the interstate nexus are amongst Chicopee's largest twenty-five employers<sup>9</sup>, and their presence generates traffic, the number of all jobs in all big box stores combined is only a fraction of the jobs generated by the municipality, and fewer still if taking into account the number of jobs generated by Westover Air Reserve Base. Despite having a slightly higher unemployment rate compared with the region, Chicopee can afford to be more selective about its commercial tenants, and a formula business ordinance would allow the city to have greater control over the direction of the corridor (ibid, pg. 27).

While concerns may arise that any challenges to commercial development would stunt economic development, the corridor's superior location, the likely increasing land values in neighboring municipalities resulting from the future casino in Springfield as well as the Vermonter commuter rail, and the civic leaders concern for the economic wellbeing of its work force should be guiding forces in proposing and adopting a formula business ordinance (ibid, pg. 58). Big box stores should also be regulated due to their historic tendency to abandon stores (ibid, pg. 23), which leave municipalities hard pressed for solutions and often contribute to blight. In light of Chicopee's struggles finding and retaining industrial tenants in the city's Industrial Parks<sup>10</sup>, allowing big box stores, and other formula businesses<sup>11</sup> unfettered access to develop without constraints may not be in Chicopee's long-term interest.

In addition, big box stores are usually associated with large impervious surfaces<sup>12</sup> that contribute to stormwater mitigation issues and the heat island effect<sup>13</sup>, and a formula business ordinance can help formalize site standards to address some of these issues. Furthermore, formula business ordinances have been employed both nationally and locally, in Greenfield, MA (ibid, pg. 47). Used in tandem with performance zoning<sup>14</sup>, a formula business ordinance can help address Chicopee's green infrastructure goals, making the commercial environment more welcoming to patrons and attractive to businesses with sustainability goals.

At a minimum, Chicopee's City Council should strongly consider authorizing the Planning or Community Development Department to commission a study on the effects of one or more larger formula businesses vacating the area. However, far from suggesting that Chicopee attempt to curb or reduce future corporate commercial development, HHP recommends giving guidance to developers in a way that maximizes the corridor's potential by employing a formula business ordinance.

McCann & Rynne also support that streetscape improvements serving all modes of transit and users in turn revitalize an area by increasing foot traffic, a key element to commercial activity, crime reduction, and community health. Increased foot and bicycle traffic can also help address congestion (Schlossberg, et. al., pg. 26) and mitigate contamination associated with stormwater runoff, two of goals HHP has been tasked with addressing (McCann & Rynne, 2010).

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<sup>9</sup> Massachusetts Executive Office of Labor and Workforce Development

<sup>10</sup> Jim Dawson, personal communication.

<sup>11</sup> Franchises, and other corporate firms that are have regionally or nationally recognizable brands, façades or color schemes.

<sup>12</sup> Roofs and parking lots.

<sup>13</sup> Discussed in this chapter under Green Infrastructure.

<sup>14</sup> Discussed in this chapter under Zoning and Land Use.

As with taking a proactive stance toward the corridor’s direction by adopting a formula business ordinance, and given HHP’s<sup>15</sup> scope of work and the literature we’ve reviewed, land banking is also an approach the city may wish to consider, particularly for the development of the Memorial Drive priority area south of the interstate<sup>16</sup>. Land banks<sup>17</sup> have been used in Massachusetts to preserve open space and to revitalize cities with high vacancy rates and aging industrial infrastructure, and in urban contexts in general to structure and spur along desirable development and densification; parcel assembly can also be employed to optimize tax yield per acre as well as facilitating right of way modifications (Gasser, 1979; Daley, 1999; Cumiskey, 2001; Shilling and Logan, 2008).

### Precedents Studies of Commercial

The White Flint Sector Plan’s (White Flint Maryland) purpose is to transform decades of sprawl and auto-oriented development along and around the arterial corridor into centers that allow residents to walk to their destinations. The plan envisions a vibrant streetscape populated with office workers by day and people seeking entertainment, cultural, and dining opportunities at night – desires of the City Council that are complemented by goals of Chicopee’s Planning Department. Meant to address not only sprawl, but also the exclusivity of land use types, preponderance of single-family homes, reducing the conflict between vehicles and open space, and increasing civic functions as well as open space, the plan also identifies the “reality of future energy constraints and climate change” as a need to reduce or eliminate reliance on automobiles (MCPD, pg. 7).

The tools and mechanism the plan calls for to achieve this vibrancy are centered on a Commercial-Residential (CR) zone with both standard and optional methods for developers; the optional method triggers public benefit provisions, such as open space, transit enhancements (including improvements to the ROW), building quality, and protection or enhancement of the natural environment. The optional method is incentivized with FAR bonuses as well as an expedited process for permitting, and achieves a similar effect to Graduated Density Zoning<sup>18</sup> (MCPD, 27). Similar contextualization has been recommended in the past by UMass Amherst’s Center for Economic Development<sup>19</sup>, based on overlay zoning district for a commercial corridor in Natick, MA (Elvin and Schliemann, 63) and draws attention to the need to establish FAR standards along the Memorial Drive corridor to help incentivize compatible development (ibid, 72).

Finally, although right of way modification may seem like a tool to address transportation issues, the City of Shoreline, WA, an exurb of Seattle, modified its right of way along the main commercial arterial, which like Memorial Drive is also a state highway, resulting in not only

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<sup>15</sup> 1) Analysis of land use and zoning, 2) analysis of existing commercial development, 3) analysis of vacancy 4) proposing land use and zoning to enhance new development and 5) proposing transitions between residential and commercial uses.

<sup>16</sup> See chapter 5.

<sup>17</sup> “Land banks are governmental or quasi-public entities...[,] convert vacant, abandoned, and tax-delinquent properties to productive reuse [and] can assemble and hold multiple properties, eventually transferring legal title[s] to... developers (Alexander in Schilling and Logan, 2008).

<sup>18</sup> Discussed in this chapter under Vacancy and Infill.

<sup>19</sup> Economic Development and Land Use Report for the City of Chicopee, Elvin and Schliemann, 2013.

increased sales for business during and following the construction, but concomitant reduced congestion and a reduction in vehicle accidents by more than half<sup>20</sup> (Schlossberg et. al., 2013). Shoreline worked hard to maintain state standards while also providing a safe urban experience, resulting in a more hospitable and consistently pleasant environment. The rehabilitation efforts were connected to other projects in the city (trails, parks, civic centers, and administrative services) (ibid).

### Team Assessment of Commercial

The recent success in terms of commercial development along the Memorial Drive corridor has been offset by rampant and immoderate growth patterns which have disrupted Chicopee's community character, an element that is essential for social health, where health is defined not simply as an absence of ailment but a presence of vitality. Chicopee should continue to promote growth in a manner that makes future development conforming to standards which will continue to embrace that development, while enhancing traditional community formation patterns, and providing greater opportunity for both mobility and accessibility oriented transportation. The potential of future development spurred by the casino in Springfield, and a desire for higher-scale commercial amenities will be realized by promoting densely-populated and more walkable areas along the corridor.

### Recommendations for Commercial

HHP is proposing a set of tools that may be used individually or combined to address several issues regarding commercial development along the Memorial Drive corridor. These recommendations are organized into two categories, the first five (a-e) categories are related to Land Use and Zoning and can be considered by Chicopee's Planning Department, and the final three (f-h) are related to external agencies and can be considered by the Community Development Department.

- a. **CR Zoning District Overlay:** As a first step, a diverse committee should be formed, chaired by the Planning Director, and including potential participants including: a staffer from the Community Development Department, one or more tax assessors, a delegate from City Council, the city solicitor, if possible a staffer from the regional planning agency, a trusted and respected developer, and possibly one or more civic association representatives. This committee shall meet monthly for two years to investigate the potential of adopting an optional Commercial-Residential (CR) Zone to transform development along the corridor. The implications of the zoning designation should be widely understood by a well-represented section of municipal, private and civic stakeholders before being implemented. The primary goal of this committee should be to increase density and walkability along the corridor.

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<sup>20</sup> This is significant for the Memorial Drive corridor, as recent PVPC data indicates that 7 of the 100 intersections with the highest occurrence of accidents in Western Massachusetts are along the Memorial Drive Corridor. Discussed in this chapter under Transportation.

- b. **Performance Zoning:** A number of model ordinances that address performance standards are available through the EPA and have been adopted to address noise, sound, odors, drainage, light, and other potential nuisances that have an impact on quality of life<sup>21</sup>. The Planning Department's director should include, develop, or delegate the development of a performance standards report. If delegated, the task should fall to a single consultant who will work under the direct supervision of the director. The product of this effort should be a working draft that emphasizes the improvement of quality of life issues for city councilors to consider.
  
- c. **Formula Business Ordinance:** The Planning Department and the Community Development Department should collaborate on drafting a formula business ordinance. In addition, the Community Development department should investigate the expansion patterns of formula businesses that may co-locate on or vacate from the corridor, as is practiced by many Planning Departments around the country (Evans-Cowley, 57). The economic impacts on a community's work force may be adversely affected if too many employers paying less than a living wage and no benefits concentrate in an area, and a void created by one or more vacancies may have even greater detrimental effects.
  
- d. **FAR/Development Standards:** Using the Table of Uses for parcels within a 500 buffer of the corridor HHP has provided as an appendix to this document, establish FAR standards that allow for greater density along the corridor, and development standards that help developers better articulate buildings to multiple modes of transportation.
  
- e. **Mixed Use:** Several zoning designations in Chicopee's zoning code allow for mixed-use structures or some number of residential units in a commercial building<sup>22</sup>. For the sake of consistency and ease in transitions, FAR and other development standards should be considered prior re-establishing the definitions of districts that do not allow for a mix of uses, as accessory dwelling units may allow for greater density with less legislative complication.
  
- f. **Community Input and Feedback through Public Events:** The Community Development Department should establish a presence at locations specified as priority areas within this report, embedded within events that allow for greater community input on the direction of commercial development along the corridor. This includes a stall at a farmers

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<sup>21</sup> <http://www.epa.gov/smartgrowth/codeexamples.htm>

<sup>22</sup> Business A allows for up to 4 residences in an office building, but not other businesses. The Mill Conversion Overlay District and Smart Growth Overlay District also both allow for a mix of uses to occur within the same building, but these zones do not apply to the Memorial Drive corridor. The Mixed Use District has a minimum area of 50 acres.



market by the Northern Rotary, to solicit preferences for the vacant dual-zoned parcel on James Street; co-sponsoring a winter holiday fair with retailers in the Chicopee Marketplace District, to address parking conditions and solicit preferences and impressions from the users of that lot; and the Kielbasa Fest in the summer of 2015, to determine what improvements are likely to be received well or used along the Memorial Drive corridor.

- g. **Design Review Manual:** Through PVPC, commission a design review manual for “formula business” districts, to supplement the zoning ordinance. This manual can be used in Westfield, West Springfield, Holyoke, Pittsfield, and many other small western Massachusetts cities where larger commercial development is interrupting the traditionally rural landscape and the formation of main streets and town centers. The manual may be jointly funded by several or all of these towns, as it has implications for their commercial development, but also affects transportation issues. If these cities were to jointly adopt these standards, it is less likely that a developer could use those standards as leverage when negotiating with a given municipality.
- h. **Land Bank:** Lot assembly on the eastern section of Memorial Drive between the interstate and Dedy Bridge could allow the municipality greater discretion of the future of this section of the corridor, allowing for a smoother transition between Chicopee Falls and the area leading up to and north of the already often congested Montgomery Street intersections.

### Implementation Timeline for Commercial

#### a. 6 months – 1 year

- i. Establish a CR Zone committee.
- ii. Identify health related grants that may or may not be connected to streetscape connectivity.
- iii. Draft and propose “formula business” ordinances for review by the Planning Board, Zoning Review subcommittee, and ultimately city council.
- iv. Allocate general funds for an intern to staff a low-stakes charrette, embedded within a farmers market, for input and feedback on commercial development around the northern rotary. Other opportunities include a holiday fair at the Chicopee Marketplace parking lot, and Kielbasa Festival in the summer of 2015.
- v. Approach PVPC, with other planning departments where appropriate, to draft a design review manual.
- vi. Establish a committee to investigate and offer recommendations to council regarding a land bank, specifically to connect Chicopee Falls to Memorial Drive

**b. 2-3 years from now**

- i. Amend the zoning ordinance to allow CR development, triggering certain streetscape improvements.
- ii. Adopt a “formula business” ordinance.
- iii. Adopt, publish and distribute the design review manual.
- iv. Use grant funding to begin streetscape improvements as they are related to health.
- v. Begin investing in land south of the interstate, and identifying developers that want to incorporate and enhance Chicopee’s commercial as well as cultural, civic, and institutional in that district.

**c. 5 years from now**

- i. Issue an update on progress for the CR zones. Frame the update in terms of specific measurable (reduced congestion, increased tax revenue, increased canopy, and enhanced commercial development).
- ii. Issue a map with areas where streetscapes have improved, and where they need improvement. Use this document to help public works rank and prioritize projects.
- iii. Approach owners who have income-generating but unconverted buildings in CR zones to convert. Use increased tax revenue from CR density and economic activity for incentives in the CR zone.

## Vacancy/ Infill

### Background of Vacancy/Infill

Previous Mayor Bissonnette hailed Memorial Drive for its economic activity, and saw potential for more development in underutilized and vacant lots, specifically between North Fairview and the South Hadley line (Elvin, D. and Schliemann, B., 2008). With the corridor's easy access to the I-90, Memorial Drive is ripe for redevelopment opportunities, as it is able to capitalize on a regional market. Since the corridors large scale redevelopment in 1996, they have captured a larger share of the traffic along Route 33, but by capitalizing and revitalizing many of the vacant storefronts Memorial Drive has the potential to accelerate and spur growth along the corridor through additional infill and redevelopment opportunities (Elvin, D. and Schliemann, B., 2008).

Vacancies are scattered along Memorial Drive, with a high concentration of commercial vacancies north of the Northern rotary, located in the Uptown area. This is due to a number of variables, namely that many of these developments are located farther from the hub of Memorial Drive, which is centered near the I-90, and caters to the high volume of traffic. Although many of the commercial storefronts near the Northern rotary offer products that fulfill a demand along the corridor, they are competing with such locations as the Holyoke Mall, Westfield and West Springfield that offer easy highway access such as the Wal-Mart in the Marketplace district, that draw large numbers of consumers every day. Therefore the specific areas of Bargain Outlet Shopping center, Fairview Shopping Center, and the Price Rite Shopping Center will be considered for infill and redevelopment due to their high vacancy rates and distance from the I-90. Additionally, there is a very limited amount of parcels left for new commercial developments along Memorial Drive. Therefore to sustain growth and economic activity, the City of Chicopee must consider underutilized areas for infill and redevelopment, which can be established through a formal vacancy survey as well as greater public input.

### Existing Conditions of Vacancy/Infill

Currently along Memorial Drive, according to our windshield observation, there is a 10% vacant storefront rate. However, the existing conditions for vacancies on Memorial Drive vary along the corridor. With the Southern end of the corridor, namely the Marketplace area, consisting of newer Big Box stores such as Wal-Mart and Home Depot, the vacancy rate is very low. The windshield observation of the vacancies only counts a total of two vacancies before the Southern rotary. The first vacancy along the corridor is located right before the I-90 overpass, and was previously a car repair shop, this parcel is included within one of the priority areas, as the character of this area is very low-scale development, and with the incoming casino, this area has a high potential for redevelopment. Moving through the North Marketplace area of the corridor, it is clear that this section of Memorial Drive is commercially robust, with no vacant storefronts. This indicates the successful nature of this area, and the formula businesses that dominate it. Additionally, there are three pad sites near Buffalo Wild Wings and four vacant parcels for sale in this area that could allow for infill and redevelopment opportunities.

Around the Northern rotary, the vacancy rate begins to climb for the corridor, specifically within the aging strip malls near the rotary, such as the Fairview Shopping Center and the Price Rite

Shopping Center. These strip malls have five vacancies, including a parcel adjacent to the Knights of Columbus. Many of these vacancies have a high square footage, and are located within aging structures and could allow for large-scale redevelopment and infill. Lastly, moving near the South Hadley line, within the Uptown area, there are two vacant storefronts located in the Bargain Outlets Shopping Center. These vacancies have roughly 14,000 square feet available, with the option to subdivide. This shopping center is conflicted with the adjacent uses as well, with Montcalm Heights and surrounding residential uses characterizing this section of the corridor as more residential.

The existing conditions of vacancies in terms of commercial storefronts show a rough estimate of a 10% vacancy rate, which is slightly lower than the national average of 10.8% according to the National Association of Realtors (2013). The percentage fluctuates depending on what area or section of the corridor one is observing. While this estimate shows a fairly stable vacancy rate comparable with other similar corridors, it is important to note the differences in the commercial structures that carry high vacancies, such as the Bargain Outlets, and the low vacancy rates that occur within the Marketplace district and the Home Depot/ Wal-Mart shopping center.

Below, Figure 6 is a map taken from a report done in 2008 by the Center for Economic Development, demonstrating potential areas of infill along the corridor in red. These areas are still relevant today, and correspond with many of the locations that the Hills House Planners have found to be ripe for infill and redevelopment. These areas are the Price Rite Shopping Center, Bargain Outlets Shopping Center, as well as the Chicopee Crossing area where there are available pad sites.

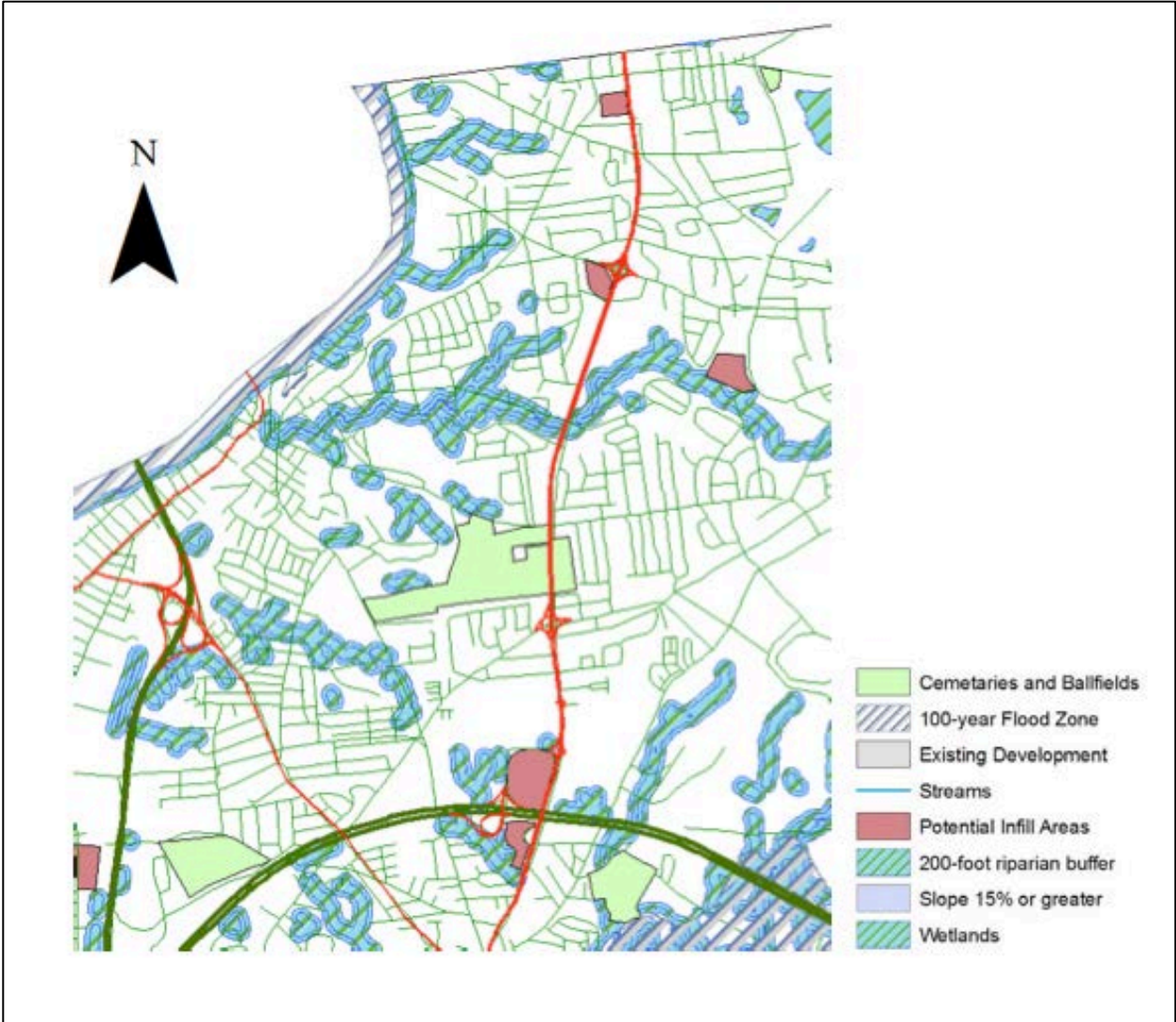


Figure 8 Potential Infill Location Map (Elvin & Schliemann, 2008)

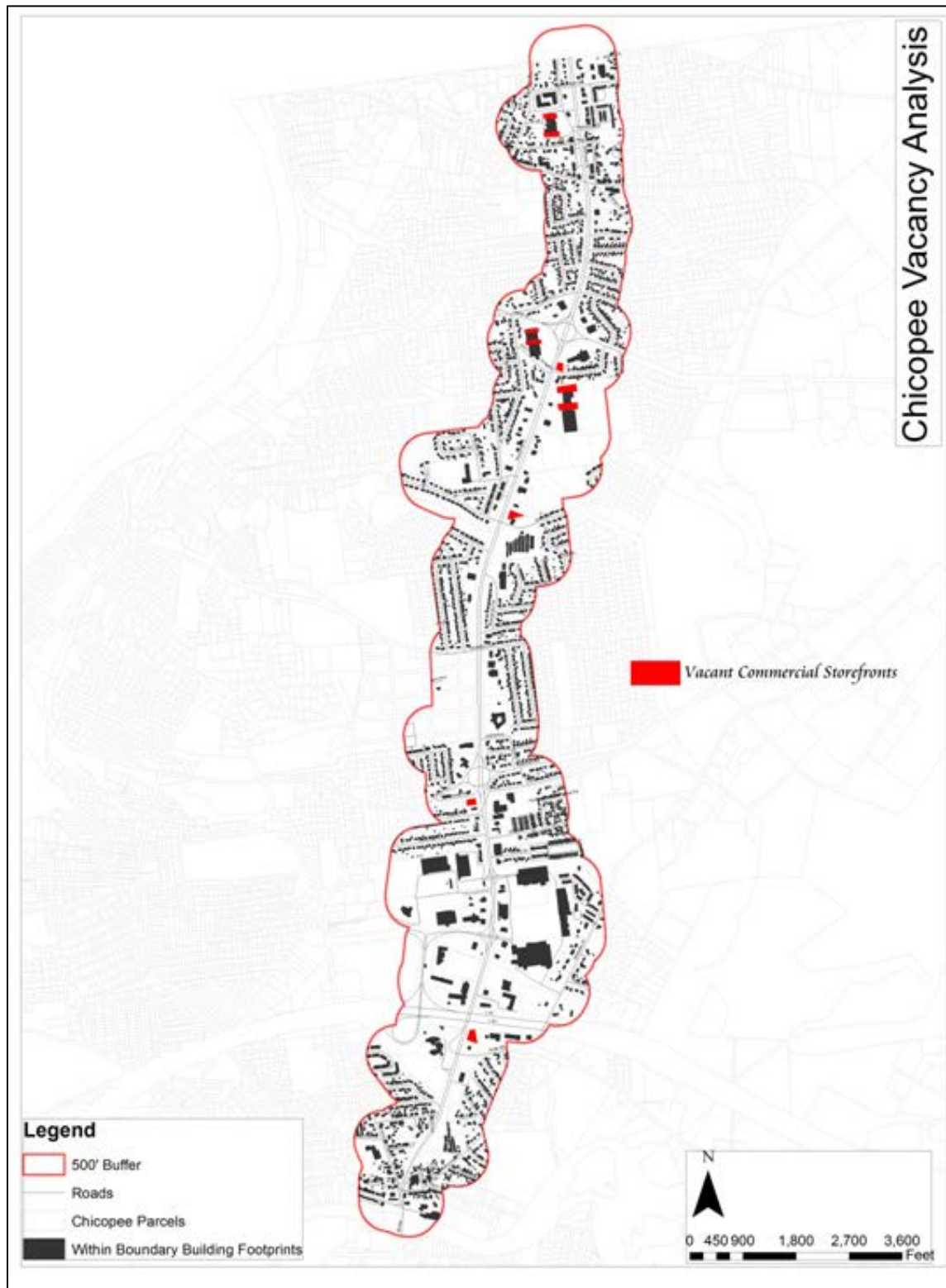


Figure 9 Vacancy analysis map.

## Team Findings on Vacancy/Infill

### *Site Visits*

The site visits along the corridor evidenced the many greyfields that HHP should focus on as potential infill opportunities. Greyfields are sites often found along arterial roads that contain a sea of asphalt separating pedestrians and patrons from a shopping center. This type of strip mall with large parking lots and other sites where asphalt takes up much of a locations frontage, without the contamination found on brownfield sites (Congress for New Urbanism, 2005).

The commercial strength is very high within the Marketplace district, and acts as a vital asset to the economic development of Memorial Drive. With the Northern rotary area having high vacancies and offering more discounted services; this is an area where HHP has decided to focus on for infill. This area is underutilized, and offers great economic potential for Memorial Drive. By improving the setbacks and shortening them, and creating a mixed use zone that is allowed within business, commercial and residential zones along the corridor, these types of greyfields could improve the overall potential of this vital commercial asset to the City of Chicopee.

Underperforming asphalt, or surface parking lots, is another large vacant area along the corridor that HHP continues to examine. Because these areas reduce the potential tax yields and create large greyfields along the corridor, Memorial Drive's parking lots are areas of interest, in terms of potential infill opportunities. With the parking lots creating a detached and uncoordinated land use pattern, these areas of the corridor have a poor 'overall sense of place'. By implementing the below tools and techniques, Memorial Drive can increase its economic potential and bring down its vacancy rate:

- Reduce the parking requirement
- Apply mixed-use development to all uses along the corridor
- Consider parking lots as areas for infill
- Implement a formula business ordinance within the Uptown area
- Implement Performance zoning



*Photograph 6: Vacant Storefront (HHP)*



*Photograph 7: Vacant Storefront (HHP)*





*Photograph 8: Vacant Storefront-HHP*



*Photograph 9: Land for sale in the Marketplace area (HHP)*

### *City Documents on Vacancy/Infill*

The Planning Department does not have any formal information on vacancy rates along the corridor, however this is a recommendation that HHP will make for the City of Chicopee. This type of information can very instrumental in terms of attracting potential developers within the area for infill.

### Literature on Vacancy/ Infill

- a. **Shoup, D. (2008, January 01, 2008). Graduated Density Zoning. *Journal of Planning Education and Research*, 28, 2, 161-179.**

This article by Donald Shoup looks at the strategy of graduated density, and how this form of land assembly can offer locations such as Chicopee promising potential in terms of infill and redevelopment. Shoup points out that the limited access to eminent domain, and the issue of land assembly hindering infill development creates sprawl and declining neighborhoods. While he notes that persuading landowners to agree to voluntary land assembly can seem impossible, Shoup identifies the use of zoning incentives to help persuade landowners that graduated density zoning is an option. He also notes that the main issue that is presented within the current frameworks is that “[t]he land is over fragmented in the sense that multiple owners create such large transaction costs for assembly that underused land is not assembled.” (2008, 8).

This is an issue currently affecting Memorial Drive. The corridor has been subdivided and thus developed at low density, which has created the conflict of uses, as each parcel is looked at separately, and not part of the comprehensive whole that should represent the corridor. Graduated density zoning offers place like Memorial Drive a new way to approach the issue of vacancies and infill “[b]y allowing higher density on larger sites, it creates an incentive for owners to cooperate in a land assembly that can greatly increase the value of their individual properties.” (2008, 12). This type of assembly can also address such issues as zoning transitions, as it protects out of scale building on single lots, which has occurred at an overwhelming scale along the corridor. The conflict of residential and commercial uses along the corridor is one of the most substantial concerns stated by the City of Chicopee, thus looking at scale and density is paramount.

Shoup notes that for this type of land assembly to be possible and successful, an incentive must be available for the business owners, as well as developers. He continues by adding, “Higher prices for larger sites create an economic incentive to assemble contiguous parcels.” (2008, 17). Because a larger site will eliminate the setbacks required between smaller parcels, the buildable area is increased, and therefore improves the design and maximizes the value of such a project. This could be especially applicable for HHP’s Deady District priority area, where 16 parcels and approximately 19 acres are ripe for redevelopment. Shoup identifies the case study of Kadota Fig (currently using graduated density zoning) in Simi Valley, a suburb of Los Angeles. As this community was zoned for low-density, up to two dwelling units per acre, with its central location it became an area of interest for redevelopment at a higher density (2008, 29). With the city objecting to spot-zoning, and residents preferring the low-density, semi-rural lifestyle of the area, planners of Kadota Fig identified an area (that residents approved of) for higher density. However, with this

requiring land assembly the town implemented a plan, in 1996, allowing 7 units per acre if a developer acquires 13 or more acres. Within a year the developer had acquired 18 parcels, totaling 31 acres, which allows for the highest density bonus. By the year 2000, two hundred single-family homes had been built on this site that previously had only eight single family homes (2008, 32). Because each parcel progressively becomes worth more as owners agree to sell, it creates an incentive for both parties.

HHP recommends that the City of Chicopee implement graduated density zoning for many of the small fragmented parcels that do not lend well to large-scale redevelopment. The corridor should accommodate larger scale proposed developments, such as increasing the amount of dwellings units allowed in a business building within the Business A district. Additionally there should be no minimum setback requirement, allowing developments to build within prime frontage of the corridor. This proposal would benefit areas where the City, or a developer, could gather a swath of parcels and encourage dense development, with the incentive of owners receiving a high yield for their property. Shoup believes that “If graduated density zoning deters strategic holdouts and thus reduces the transaction cost of assembling land, it can increase the probability of a successful redevelopment that yields higher rewards not only for the original owners but also for developers and cities” (2008, 36). For many of our priority areas, this is a tool that could allow these projects to come to life, and create a vision for Memorial Drive.

**b. Nelson, A. (2009, January 01, 2009). The New Urbanity: The Rise of a New America. The Annals of the American Academy of Political and Social Science, 626, 1, 192-208.**

Arthur Nelson’s article on The New Urbanity: and the Rise of a New America describes how metro areas are transforming. He explains that, as baby boomers age, and popular beliefs change, so will the landscape of the US. Nelson infers changes in the type of housing and neighborhoods that people prefer, in the form of transit access, and other mixed uses that offer these types of ‘urbanity’ features. This is a movement away from expansion and sprawl, and one that is centered on an urban core with amenities to offer.

Currently Memorial Drive is a mix of uses, predominantly in the form of Big Box stores, housing, and fast food establishments. While this suits many of the current needs of Chicopee and surrounding areas, to draw in new residents and adapt to the needs of the aging population, applying concepts such as higher residential densities and non-residential intensities is important (2009, 6). Nelson believes that the most effective way to gauge the importance of new urbanity features is to see how the housing market responds to these features. He uses a study by Eppli and Tu, who examined the market responsiveness to new urbanity communities to conventional communities, in terms of the resale prices of homes (2007). The study identifies that “Comparing two new urbanity communities in Montgomery County, Maryland (Kentlands and Lakelands, in suburban Washington, D.C.), to comparable homes in surrounding conventional subdivisions in Montgomery County, over the period 1997 through 2005, Eppli and Tu (2007) found a price premium for Kentlands and Lakelands of 16.1 and 6.5 percent, respectively. They found further that the price premium in Kentlands and Lakelands was sustained or increasing over time, indicating a strong and sustained market acceptance of homes in new urbanity communities” (2009, 18).

This type of study and evidence show that residents have a willingness to pay a premium for such features as; accessibility to transit stations, proximity to schools, nearby stores and restaurants, walkable neighborhoods, and neighborhoods with a mix of housing types (2009, 4). HHP recommends encouraging these types of developments that offer the features that draw in new populations, as well as sustain the population that is currently there. With the market responding in a very direct manner, implementing these new urbanity features along the corridor would fill a demand within the regional market, as well as create jobs and satisfy the overall economic potential of the corridor. With many of the economic structures already in place along Memorial Drive, such as a vibrant Marketplace district, creating walkable neighborhoods with all of the recommended urbanity features, could allow the corridor to attract a large new population that demand these features.

#### Precedent Studies on Vacancy/Infill

**a. Braunstein, L. (2013, November 25, 2013). Supporting culture-based placemaking with NEA grants *Urban Land Magazine*.**

The National Endowment for the Arts sees art as one of the main avenues for economic recovery, and creating places that citizens take pride in. The NEA has funded the Mayors' Institute on City Design (MICD) since 1986, to show that mayors are the chief designers within a city and their contribution through the arts can be meaningful and beneficial. NEA awards grants to cities that are committed to creating creative places through public art, and has given out over \$3 million in grants to help foster such activities.

One example in Bethlehem, Pennsylvania, a local artist created a "natural gas flame that burns along 34 feet (10.3 m) of the spine of Elena Colombo's 68-foot (21 m) steel sculpture *The Bridge*, designed as the signature visual element of Bethlehem's SteelStacks Arts and Culture Campus." (Braunstein, 2013). This was constructed in a vacant building, and has led to private investments that have spurred growth within the city.

As the City of Chicopee has addressed the issue of creating an identity, NEA grants offer the possibility for the City to get creative along the corridor and create places that keep consumers on the corridor longer, and spending more money. This introduces the idea of how investment in the arts, specifically within vacant storefronts, can lend within the revitalization process. HHP recommends that the City of Chicopee apply for NEA grants, and propose installations within vacant storefronts, as well as public locations along the corridor, such as the proposed walking and biking path adjacent to the Dioceses lot. These installations have helped to spur growth within other car centric locations, and could serve Memorial Drive economically well.

**b. Riggs, T. (February 7, 2013). How to make suburbs work like cities *Urban Land Magazine*.**

This article from the Urban Land Magazine addresses the issues associated with retrofitting suburbs to act more like cities. With the shifting desires of the American population towards communities that are more compact and urban, this article displays successful strategies for adapting the infrastructure within suburbs. The author discusses how development within these spaces

should be more focused on human scale, and less automobile oriented. As generation Y is coming into the housing market, which has 80 million members, they demand walkable and compact development even within the suburbs. If cities wish to cater to this demographic they must begin shifting their infrastructure away from the automobile and towards the pedestrian.

This idea of shifting suburbs is highlighted within ULI's new report that looks at six different case studies to show the hardships, as well as the benefits of converting suburbs into more urban locations. One of the most interesting issues addressed within this article is funding. The author states that these municipalities must "[o]btain multiple funding sources. To build the transformative infrastructure required by suburban development projects, multiple sources of funding and a variety of financing tools are often necessary. For example, a \$2 million federal grant, along with assistance from a number of foundations, has helped State Route 7 stakeholders in Florida create a plan for the road. In Belmar, the developer paid the transportation construction costs upfront and is slowly being repaid by the city." (2013).

These are types of helpful tools that can assist the City of Chicopee with funding sources, and accomplishing many of the projects for Memorial Drive. As the city is facing an aging population, and has not seen growth in years, catering to the new demographic is important and has been addressed within many of the proposals HHP is introducing. HHP recommends that the City of Chicopee follow the lead of Belmar in Lakewood, Colorado. Here the City created a collaborative redevelopment project with the State, and applied for a Revolving Loan Fund (RLF) (2013). The loan totaled 5.1 million dollars, and the city loaned the funding to a private developer who was able to demolish a strip mall and build a walkable mixed-use area along an arterial (2013).

### Team's Assessment of Vacancy/Infill

HHP has assessed, to date, that the many greyfield sites along Memorial Drive should be presented as opportunities for infill and redevelopment in a number of different forms. With the high number of vacant storefronts near the Northern rotary as well as vacant parcels near the Southern rotary, Memorial Drive is ripe for new development and infill. To better understand the issues of empty storefronts, a formal vacancy survey is needed to fully confront the issue, and how to address it appropriately. With the many opportunities presented within the vacancies, HHP has identified six priority areas to address, and aid in creating a thriving and vibrant commercial corridor.

### Recommendations for Vacancy/Infill

- a. Build effective partnerships between public and private sector organizations in order to confront redevelopment issues. This type of partnership could allow the proposed idea of graduated density zoning to be implemented. By the City of Chicopee building a relationship with Memorial Drive LLC, who owns the Bargain Outlets Shopping center, and finding a developer, the City of Chicopee could capitalize on this partnership in order to organize land assembly. This type of partnership is paramount in exploring such options along Memorial Drive.
- b. To satisfy the shifting demographics, and draw in a new population, Memorial Drive must accommodate the new urbanity features that these populations are looking for. This includes higher densities, third places (such as restaurants, bars and coffee shops), and multi-modal

transportation all within in a walkable distance. This includes addressing the floor to area ratio (FAR), which is currently near .25, meaning 75% of the land is used for parking lots within the Business A district. For new urbanity features to be realistic, parking lots must be considered for infill opportunities.

- c. HHP recommends the idea of public art for some of the infill opportunities. By following the previous work laid out in the Braunstein article, and using NEA grants, Memorial Drive can become a place that allows patrons and residents to linger and create an attachment to the corridor. This type of installation would be recommended within the Midtown area, as well as within vacant parcels. Although this major arterial road can carry high traffic volumes and high speeds, installing public art along the corridor can offer economic growth by keeping consumers on the corridor for longer periods of time. By promoting the rich history of the Westover air base, Memorial Drive could promote the idea of installing a large-scale memorial along the corridor.
- d. To comprehensively understand many of the issues within Chicopee, and along Memorial Drive, HHP recommends a series of public workshops through the form of a farmers market to capture the public's input. The widely successful master plan 'Plan El Paso', which was implemented in 2012, uses some helpful tools and techniques. Here, the consultant team that was used to create the master plan incorporated a series of public workshops over 8 weeks to help guide the vision of the plan. This included proposing some of their ideas to the participants, taking tours together so residents could spatially explain their desires, as well as tackling the concerns in a constructive manner. By incorporating public input in the form of a booth at a farmers market, participants will already be outside within the environment and can interact with many of features to give their input. In terms of infill opportunities, this type public engagement could be very helpful in applying the most successful strategies to the corridor.

### Implementation Timeline for Vacancy/Infill

#### a. **6 months – 1 year**

Within 6 months to one year The Chicopee Planning Department should conduct a formal vacancy rate study to better understand how their rate is interpreted, in terms of averages and future implications. The average retail vacancy rate in the US for 2012 was 11.2%, and is forecasted to be 10.1% for 2014 ([www.statista.com](http://www.statista.com)), meaning that according to our informal survey, Memorial Drive has an average retail vacancy rate. However, the City of Chicopee should be conducting quarterly vacancy rate studies to understand how their retail market fundamentals are operating. As declining vacancy rates demonstrate the strength of a local market, awareness of this rate is paramount, especially in terms of marketing commercial space along the corridor to developers and investors.

#### b. **2-3 years from now**

The City of Chicopee should have introduced the idea of public/private partnerships, and begin forming these relationships with the local and national business leaders that operate along Memorial Drive. This will allow them to introduce the idea of graduated density zoning,

and the opportunities it can bring to the corridor. With many parcels along the corridor comprising of less than an acre, developers are hindered in terms of what options are available. As many of HHP's priority areas are a collection of parcels, this type of zoning practice would make these developments a reality, by forming the partnership and incentivizing density through graduated density zoning, Memorial Drive could accomplish many improvements to the corridor.

**c. 5 years from now**

The City of Chicopee should begin marketing their vacant storefronts and conducting a full market analysis to gain a full understanding of their commercial market. Additionally, 5 years from now business owners should be considering the opportunities of graduated density zoning and begin the permitting process.

**Future Consultants**

- a. Conduct a formal vacancy rate that is digitized, and able to fluctuate with the changes of Memorial Drive.
- b. Introduce the idea of graduated density zoning to local and national business owners.
- c. Implement more community input on an ongoing basis, through the farmer's market option, to keep the residents informed and aware, as well as gather their input to help future projects be more successful and transparent.

**Funding Resources**

- a. The MassWorks Infrastructure Program, which acts as a one stop shop for cities when looking for grants within economic development, provides funding that supports a mix of commercial and residential development (with an emphasis on multi-family or small lot single-family residential development).
- b. Sustainable Communities Awards
- c. Economic Development Assistance Program (EDA)
- d. Economic Development Incentive Program (EDIP), this is a tax incentive program that designed to stimulate business growth throughout Massachusetts. Companies that participate may receive state and local tax incentives in exchange for private investment.

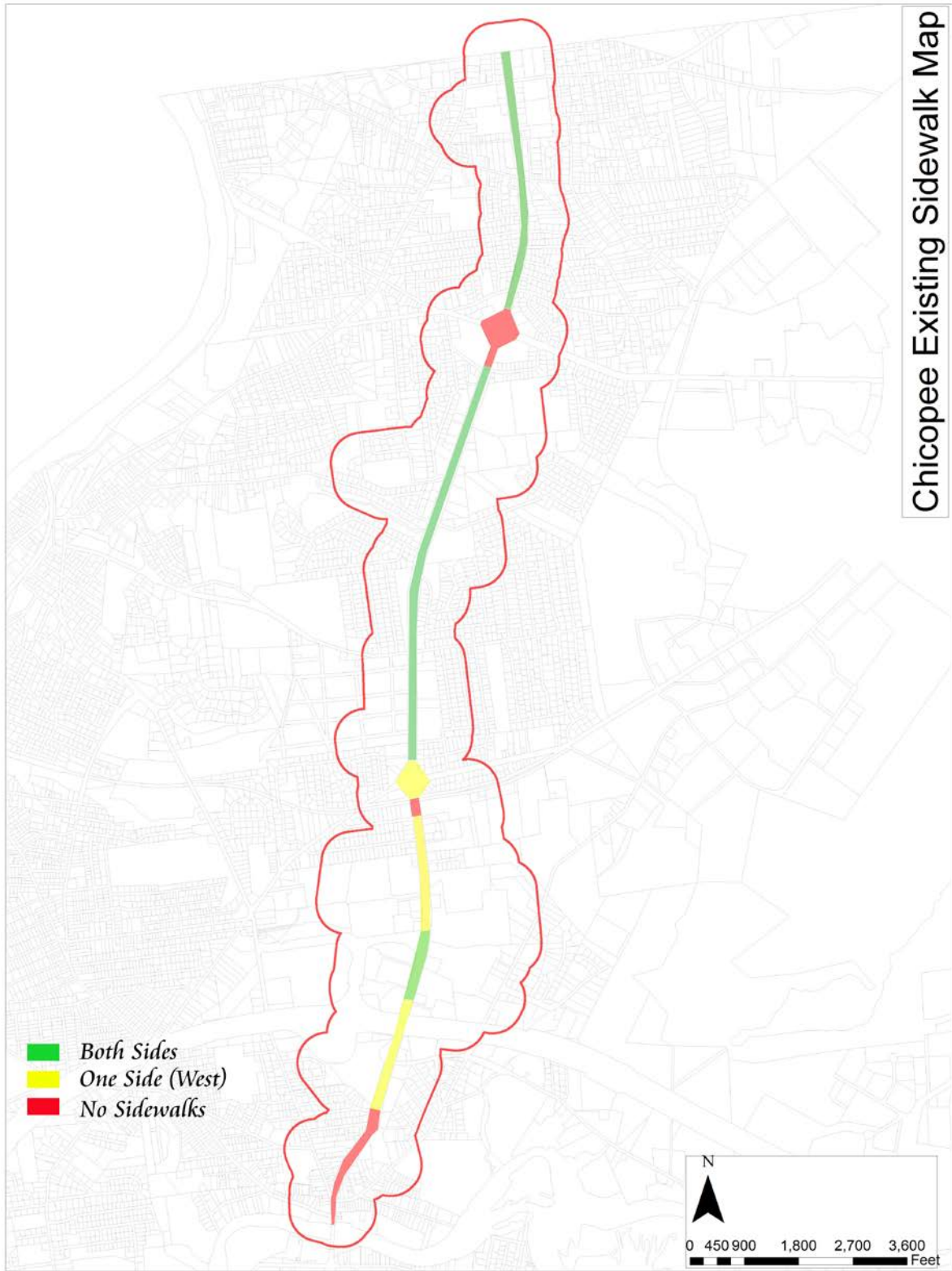
# Transportation

## Background of Transportation

The background of Memorial Drive and its transit conditions begins with the implementation of the Westover air base in 1939, to serve the many workers that it employed. In 1958, the opening of the Massachusetts Turnpike, led to what the current state of the corridor is today, a robust contributor to Chicopee's economic life (Elvin & Schliemann 2008). With the corridor established as one of the most accessible commercial areas in Western Massachusetts, with its connection to I-90, I-91, I-291 and I-391, Memorial Drive's transit is a critical area of interest. Additionally with the corridor's proximity to Hartford, Boston, Albany and New York City, Route 33 has a high level of vehicular activity accessing the many services available.

Although the corridor had a drop in activity during the 1990's, the proximity to the Westover facility and investment since 2002 has brought increased economic activity and heavier flows of traffic, which require analysis and investigation of traffic capacity and operations (Elvin & Schliemann 2008). With the corridor totaling 3.7 miles from the Chicopee River to the South Hadley Line, Memorial Drive is a vital artery for transit and serves the Western Massachusetts area. With the background of Memorial Drive consisting of a mainly car-centric environment, the Hills House Planners propose implementing multi-modal transit options to accommodate the changing demographics and to draw in a new population to the corridor.





*Figure 10 Sidewalk Map*

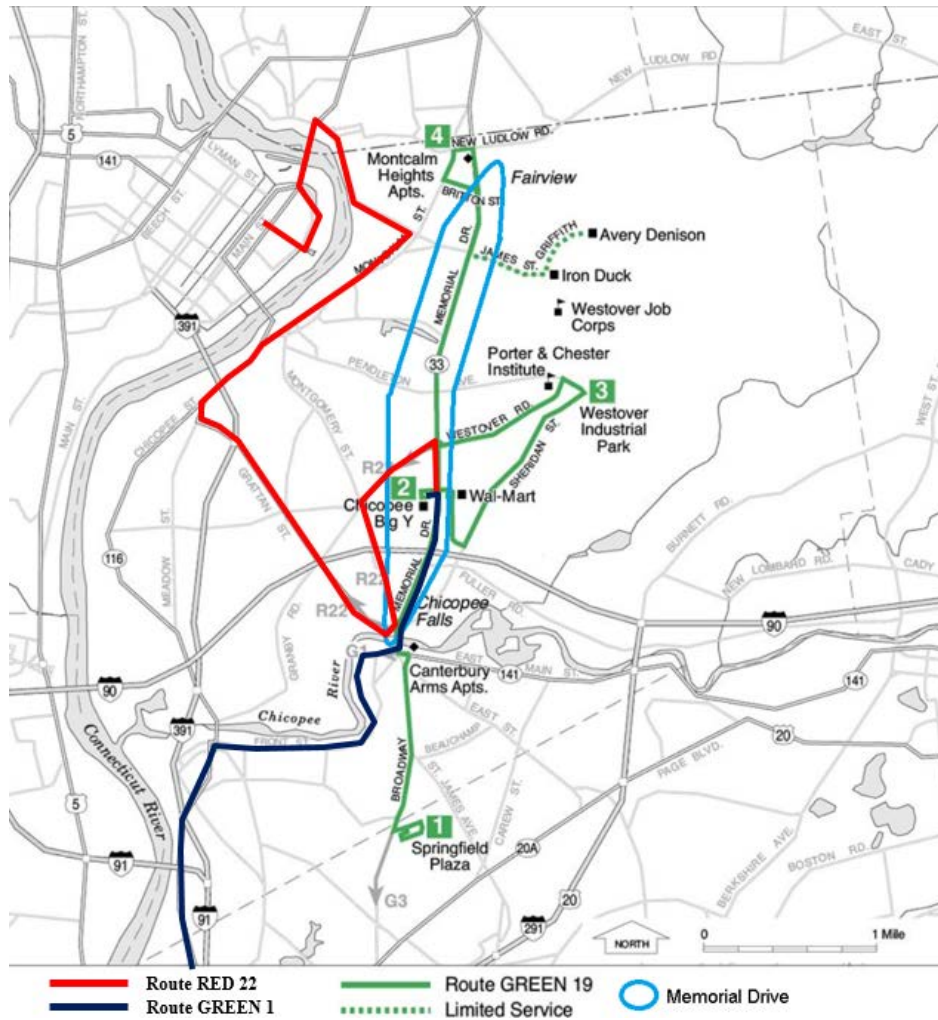


Figure 11 Bus route map.

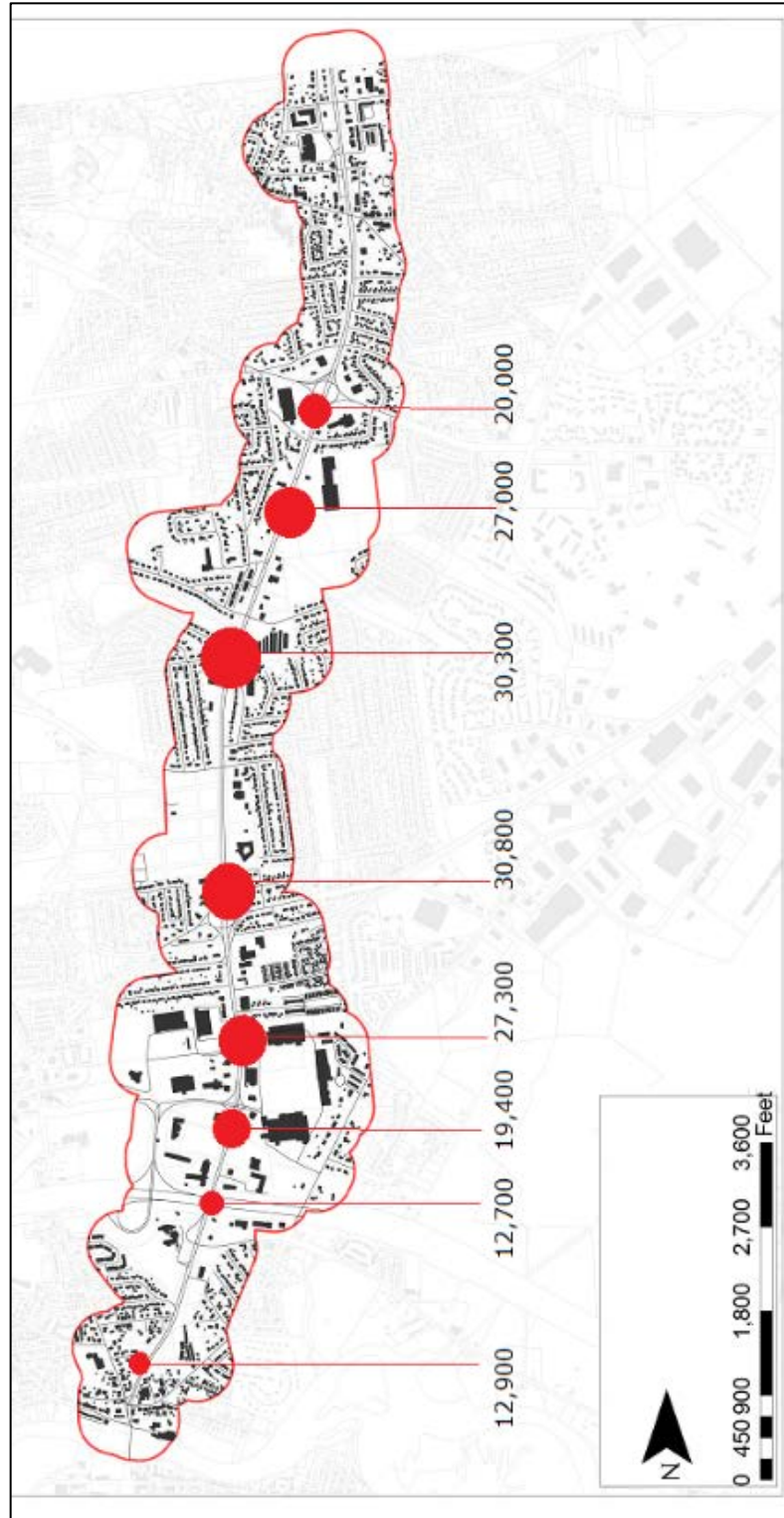


Figure 12 Car traffic volumes along Memorial Drive. (MassDOT, 2000, 2001 and 2002)

## Existing Conditions of Transportation

Memorial Drive is a large arterial road that stretches 3.7 miles long, with robust commercial features on either side. With the corridor serving as an economic asset to Chicopee, and allowing for heavy traffic flows, finding ways to allow these two features to coexist in a successful manner is important to the City of Chicopee. Additionally “traffic capacity, operations and safety are critical to the future success of the Memorial Drive corridor” (Elvin & Schliemann 2008). Through focusing on multi-modal transit options, as well as easing the existing flow of traffic, the City of Chicopee can allow the corridor to be a sought after destination with easy access throughout the Pioneer Valley.

One important aspect of the transit conditions for Memorial Drive consists of the safety conditions for the users. According to the report *Top 100 High Crash Intersections in the Pioneer Valley Region 2007 - 2009*, seven out of the top one hundred dangerous intersections in Western Massachusetts are on Memorial Drive (Pioneer Valley Planning Commission, 2013). With Memorial Drive having a high daily average of car traffic ranging from 12,900 to 30,800 vehicles per day, finding ways that make the corridor a safer and more accessible feature to cars as well as pedestrians is an opportunity to improve the corridor.

The corridor is currently dominated by vehicular traffic, and can be accounted for by the proportion of Memorial Drive’s various right-of-way widths, which are dedicated to vehicles. With exclusive car lanes, some reaching eight lanes wide, and breakdown lanes as wide as travel lanes, as well as wide guardrails along the road, these features serve as an obstacle for allowing other modes of transit such as pedestrians and bicyclists to traverse the corridor. Additionally, sidewalks are absent or only on one side of the street in critical areas of the corridor. There are 14 cross walks along the corridor, as well as pedestrian traces, showing a lack of walkable space, which does not allow Memorial Drive to be a pedestrian friendly environment.

Examining other modes of transportation, such as public transportation, show that the corridor could be more accessible. With the Memorial Drive shopping centers (Wal-Mart, Big Y) and the Westover Industrial Park and Air Reserve Base being the two major trip generators for the PVRTA transit system in Chicopee, examining ways to make public transportation more available along the corridor could give the city an economic boost. The existing conditions of public transportation, as seen in the below table, show that the service along the corridor could be increased. The Green-19 route is 15.8 miles long. This line had an annual ridership in the fiscal year of 2010 of 44,558 users, and 10 trips per day, with one hour between each ride during rush hours. The Red-22 line is 7.1 miles long, and approximately one mile serves Memorial Drive, with an annual ridership of 76,969 users in the fiscal year of 2010. It runs 13 trips every weekday with one hour between each stop from 5:30 AM to 5:30 PM, and ten trips on Saturdays at the same times, but beginning at 8:30 AM.

PVTA bus line performances in Memorial Drive			
	<b>G-19</b>	<b>R-22</b>	<b>G-1</b>
Length in miles	15.8	7.1	7.4
Annual ridership <sup>1</sup>	44,558	76,929	822,221
Daily trips	10	13	63
Weekend trips	0	10 <sup>2</sup>	32/11

Source: PVTA; <sup>1</sup> = FY2010; <sup>2</sup> = Saturdays only

*Figure 13 Bus lines table*

## Team’s Findings on Transportation

### Site Visits

During HHP’s many site visits, it was observed that the vast majority of the transportation that Memorial Drive users rely private motorized vehicles, followed by commercial cars/trucks, buses as well as very little bicycling and walking. Thus the existing infrastructure is best suited for the aforementioned characteristics.

HHP observed difficulties navigating Memorial Drive by car, mainly because of the lack of shared entrances between different businesses next to each other. The map below demonstrates the existing sidewalks, rotaries, and arterial condition before the proposed solutions. Almost half of the corridor has sidewalks on only one side of the road, and bike paths are non-existent. HHP also verified that the majority of Memorial Drive area is generally unsafe for pedestrians and bicyclists, and there are no plans from PVPC or MassBike to expand the bike paths; however, there are two bike paths being built to offer riverfront access to the Connecticut River, and an extension of a bike path proposed herein could serve as a recreation loop. We also found a need for more sidewalks based on pedestrian trace marks left on grassy areas, as well as observing pedestrians and cyclists trying to use the roads and pathways.

Another aspect of Memorial Drive assessed by HHP concerned the existing amount of spatial availability that forms the Rights of Way from the road. Along the 3.7 miles of Memorial Drive, there are fourteen different rights of way sizes, ranging from 75’ to 118’, and with as many as 5 different car lanes, as the figure below shows.

### City Documents on Transportation

Currently, the City of Chicopee does not have a Transportation Department and HHP has only found sidewalk and street design within subdivision regulation. In 2006, MassDOT adopted

“Complete Streets” and developed “Project Development and Design Guideline” to accommodate all modes of transportation and to increase the safety of all roadways’ users (PVPC, 2012, p.55). Moreover, in 2010, MassDOT adopted the GreenDOT policy to reduce greenhouse gas emissions, promote cycling, walking, public transit and support smart growth to create a healthy living environment.

The existing bike path in the City of Chicopee was implemented in 2010 and is a 2 miles long, from Canal Street & Grape Street to Front Street & Davitt Memorial Bridge. (PVPC, 2012, p.58) In August, 2014, MassDOT hosted a public design hearing in the City of Chicopee regarding a new bike path approximately 2.56 miles from Ferry Street to Nash Field, which is part of the Connecticut Riverwalk and Bikeway project, along the Connecticut River (MassDOT, 2014, p.4). Based on Massachusetts law, it “requires that bicyclists and pedestrians be accommodated on all roadways except limited access or express state highways.” (PVPC, 2014, p.19)

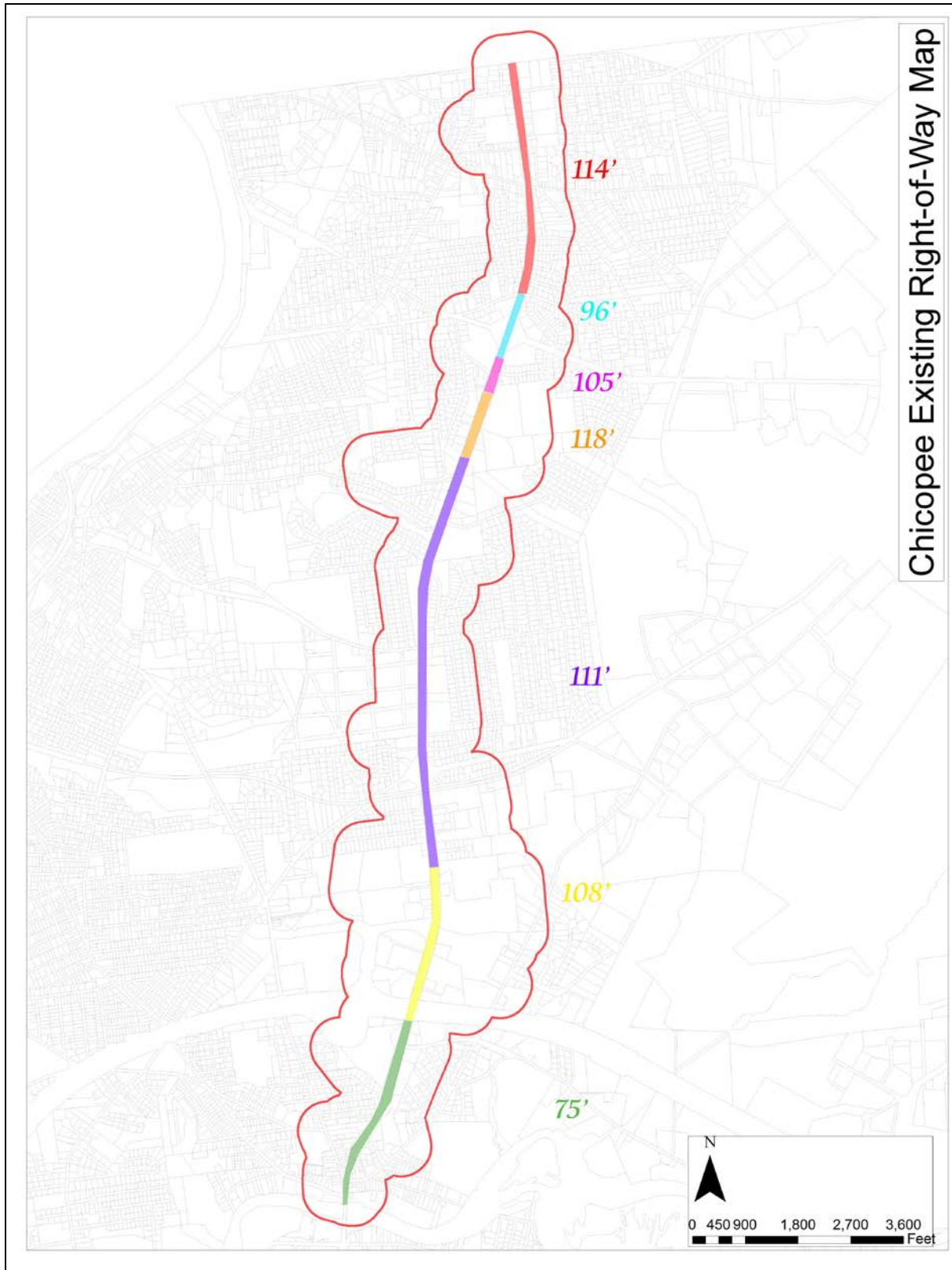


Figure 14 Different rights of ways along Memorial Drive

## Literature on Transportation

- a. **Huang, H. F., & Cynecki, M. J. (2000). Effects of traffic calming measures on pedestrian and motorist behavior. *Transportation Research Record: Journal of the Transportation Research Board*, 1705(1), 26-31.**

Analyzing traffic calming measures<sup>23</sup> in Cambridge, MA, Corvallis, OR, Seattle, WA, and Sacramento, CA, this article measures the impacts of those measures on the behavior of the pedestrians using the metric of percentage of pedestrians for whom motorists yielded. Acknowledging the advantages of these measures, the authors conclude that there is room for improvement, with the Massachusetts example increasing pedestrian use.

This paper is relevant to the project in Chicopee for its applicability to state laws in the Cambridge example, and explaining how and why traffic calming measures make for a more hospitable pedestrian environment, a goal in our scope of work.

HHP recommends a series of traffic calming measures be considered along Memorial Drive to enhance pedestrian safety along the corridor. Among these measures we recommend elevated crosswalks in the busier intersections including crossings at each of the four roads connecting through each rotary.

- b. **Ewing, R., King, M., Raudenbush, S., & Clemente, O. J. (September 30, 2005). Turning Highways into Main Streets: Two Innovations in Planning Methodology. *Journal of the American Planning Association*, 71, 3, 269-282.**

*Turning Highways into Main Street* examines how planners can use visual preference surveys, such as the dot voting, to gather valuable information about transforming highways into main streets. In this widely cited article used by planners to better identify and comprehend their public, the authors seek to identify certain features that will help facilitate arterial roads into more pedestrian friendly main streets. This article addresses the issues that confront the Memorial Drive corridor, specifically in analyzing data such as a regression model and a wide variety of tools for how to implement main street designs along a highway.

HHP recommends that the Memorial Drive corridor undergoes several reconfigurations in its road design, by decreasing the number of car lanes in some parts, increasing the sidewalks along the entire corridor, and creating bike paths in the existing rights of way.

- c. **Dumbaugh, E. & Li, W. (2010). Designing for the safety of pedestrians, cyclists, and motorists in urban environments. *Journal of the American Planning Association*, 77(1), 69-88.**

Examining whether urban crash incidence is the product of random error or influenced by characteristics of the built environment, the authors find large and segregated commercial land uses associated to higher crash incidences and pedestrian-scaled retail uses associated with lower crash

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<sup>23</sup> Bump-outs, curb extensions, raised intersections, and pedestrian refuge islands.



incidences. Their research suggests that lowering vehicle speeds greatly reduces crashes with multiple vehicles, parked cars, fixed objects, and pedestrians.

The article finds that higher speeds lead to accidents without injuries, with injuries, and with fatalities, and pedestrian oriented streets with more parking, crosswalks, and medians that reduces accident frequency and intensity.

As the Memorial Drive corridor has 7 of the top 100 accident-prone locations in Western Massachusetts and contains four major crash risk factors mentioned in the article, this research confirms the existing conditions are hazardous, and allows us to recommend lowering speeds and possible implementation of a road diet. Along with recommendations in this report to replace the rotaries with roundabouts and eliminate the traffic lights at those nodes, lowering the speed limit and adding landscaping along the corridor will result in a similar level of service for cars and more hospitable environment for pedestrians.

**d. Flyvbjerg, B., Skamris Holm, M. K., & Buhl, S. L. (2005). How (in) accurate are demand forecasts in public works projects? The case of transportation. *Journal of the American Planning Association*, 71(2), 131-146.**

This research sheds light on the question of the validity of traditional traffic volume forecasting studies, indicating that outdated methods and political interests interfere with the validity of forecast study findings. Considering the difficulties to determine precise numbers of demand for such services, HHP recommends applying the arguments of this study to advocate for better public transit service. A repressed demand can be easily hidden and equally hard to find in the case of services that are underprovided, and the authors make a case for planners (and planning departments) to have greater inclusion in transportation decision-making processes.

HHP recommends Chicopee advocates for PVRTA to expand the frequency of the bus lines along Memorial Drive, specifically the Green-19, and to optimize connections between this line and lines connecting to Holyoke and Springfield.

**e. Hu, W., McCartt, A., Jermakian, J., & Mandavilli, S. (2013). *Public opinion, traffic performance, the environment, and safety after the construction of double-lane roundabouts*. Arlington, VA: Insurance Institute for Highway Safety (IIHS).**

The authors evaluate a two lane roundabout in Bellingham, WA, accounting for public attitudes, traffic performance, the environment and safety. Their drivers support for the roundabouts increase from 34% before the construction, to 74% one year after construction. Additionally, the evaluation indicates fewer delays, shorter queue lengths, reduced fuel consumption and emissions, as well as reductions in the rate and intensity of accidents. Important for reinforcing the case for redesigning the existing rotaries in Memorial Drive to roundabouts, this article includes benefits related to transportation, environmental factors, and economics, and includes guidelines on the configuration of the roundabouts. HHP presents these ideas for roundabout designs and performance metrics to recommend a reconfiguration of the two existing rotaries on Memorial Drive.

**f. Pivo, G., & Fisher, J. D. (September 06, 2011). The Walkability Premium in Commercial Real Estate Investments. *Real Estate Economics*, 39, 2, 185-219.**

Examining the effects of walkability on land values and economic development investment returns, the conduct a study using walk score data on the effect on market value and investment returns on office, apartment, retail and industrial properties over 7 years. The findings support walkability features increase property values for commercial, office and residential uses with a premium on as commercial, mixed use and residential uses located within ¼ a mile of each other.

With commercial uses and residential uses within ¼ a mile of each other on Memorial Drive, adding sidewalks and other walkability features could result in higher property values along the corridor “more widely recognized as distinctive “places” with greater prestige than other locations” (2011). Walkability, affecting the sense of ‘place’ that pedestrians experience as well as decreased setbacks, glazing along first floors, green infrastructure and many features can also increase property values, thus increasing the property tax yields.

As walkability is becoming an increasingly attractive feature for places, implementing the tools needed to draw a walkable population is considered best practice. HHP recommends that Memorial Drive capitalize on the robust commercial activity, and implement walkable features to encourage consumers to spend more time on the corridor, visit more retail, and in return increase property values along Memorial Drive.

**g. Schiefelbusch, M. (2010). Rational Planning for Emotional Mobility? The Case of Public Transport Development. *Planning Theory*. Web. 9 Dec. 2014.**

Describing many aspects of transportation planning and public transportation in regards to human emotions and habits, the author discusses how people consider alternatives that expedite their trips depending on the amount of time they have to get from one location to another. People also consider cost to determine what the cheapest method of transportation is. Finally, article concludes that planners must plan for growth. Within this planning transportation for growth, however, the author notes planners often neglect the idea that reducing car travel and expanding other options of public transportation, such as busses, is a better option for many people.

While the demographics of Chicopee indicate that the population has been stable for decades, but the construction of the new casino in Springfield begins to open the door to either population growth or traffic growth. With these changes, it is important to begin to reduce vehicles traveling on Memorial Drive and offer more public transportation opportunities.

With the consideration of likely growth within Chicopee’s population or traveling traffic, HHP recommends the expansion of PVT’s existing bus routes to incorporate the entirety of Memorial Drive, and optimize connectivity with other modes of transit.

**h. Ewing, R., & Dumbaugh, E. (January 01, 2009). The Built Environment and Traffic Safety. *Journal of Planning Literature*, 23, 4, 347-367.**

This journal article goes beyond headlines and study take-aways to review the nuances of traffic safety, and whether it is increasing or decreasing in general. A review of exiting studies finds

area of greater density to have fewer traffic-related injuries and fatalities than those associated with sprawl, where sprawl is identified as absence of centers, segregation of land uses, and large block sizes.

The greatest danger for road users in densely populated areas is wider lanes, even when controlling for traffic volume. The article also finds that roundabouts are superior other types of intersection control devices, with respect to safety, and pedestrian-activated signals having the highest rate of driver compliance. However, the greatest safety measure is more overall pedestrian and bicycle traffic. These findings are important to counter impressions or assumptions that pedestrians and bicyclists are in danger on Memorial Drive, and to advocate for greater density and land use integration (mixed-use) as well as modifications, including a road diet in the Northern section of the corridor with a ADT of less than 18,000 cars.

Relying on this source, HHP recommends further investigation of traffic calming measures such as a road diet, where appropriate; commissioning a study to determine the effects of a rotary; and implementing more streetscape improvements that encourage pedestrian and cyclist activity.



*Figure 15 New roundabout design in Northern Rotary*

## Precedent Studies for Transportation

- a. **Schlossberg, M., Rowell, J., Amos, D., & Sanford, K. (2013). Rethinking streets: An evidence based guide to 25 complete street transformations. Sustainable cities initiative (SCI), University of Oregon. National Institute for Transportation and Communities (NITC)**

The Transit Street section within *Rethinking Street* includes three precedents, including Portland, OR a case study of revitalizing of an existing transit system to include bike lanes, new transit shelters, street trees as a pedestrian buffer, and large sidewalks. Without reducing the speed limit, the improvements dramatically reduced accidents. In Cleveland, OH, changes included art, street trees, sidewalks, and street lighting.

The undertaking resulted in increased economic activity, attracting more than \$5.5 billion in private investment and increased ridership by 46%. In Minneapolis, MN, design modifications were implanted for less than one mile, removing two lanes to allow space for a bus lane and a “flexible lane” catering to bicycles, parking, and driving during peak hours. In Philadelphia, PA, reducing the speed limit from 25 mph to 20 mph to improve safety, traffic calming adaptations augmented by the lowered speeds resulted in the same level of service but shared roads.

HHP proposes investments in the existing public transportation system and a possible circular shuttle service, to increase economic activity and improve the access and safety along Memorial Drive.

In the Arterial Rehab section of the report E. Washington Avenue in Madison, WI maintains the same average daily traffic (ADT) while enhancing the pedestrian experience with better sidewalks, wider medians, countdown timers and bump outs at the intersections. Implementing of these major changes brought new development including a \$39 million mixed-use building with 32,500 square feet of commercial space and 220 apartments. Though length of the arterial at 5.5 miles and a speed limit of 35 mph the goal was to create consistency in streetscape along the corridor (3013, 41). “The cost was \$100 million and was paid for by local, state and federal funds” (2013, 41).

Although it has quite a large population than Chicopee, the Madison, WI case study offers relevant findings for Memorial Drive including new lighting and enhanced landscaping and sidewalks, bump outs and countdown timers at intersections. With matching conditions, such as major arterial roads with large right of ways and a long stretches of road, Chicopee should look to such case studies as Madison, WI and Shoreline, WA to build on multi-modal transportation options and increase walkability along the corridor, which HHP argues will result in economic development.

In the Bike Street section, examples in four cities are presented, with various road types and traffic intensity, along with a discussion of the benefits of bike lanes. They have not only attracted many developers to build new housing, mixed use and commercial buildings on blighted lots, but also increase the property values. In another example, protected bike lanes with bollards and refuge islands to separate the car travel lanes and bike lanes are created to increase the safety for pedestrian and cyclists.

Currently, although there are no existing bicycle facilities on Memorial Drive, we witnessed many cyclists biking right next to cars travelling at high speeds. During our site visits, we identified

the potential of adding bike lanes due to the right-of-way is wide on the corridor; however, the high speed and high volume of vehicular is not considered a safe and pleasant environment for walking and biking. Therefore, the safety design for cyclists on Memorial Drive is relevant.

In order to create a pleasant and safe environment for cyclists and pedestrian, we recommend protected bike lanes on Memorial Drive with green infrastructure and refuge islands as buffers separating cyclists and pedestrian from car travel lanes. Moreover, adding bike lanes will not only increase safety for cyclists and pedestrian, but also will encourage commercial development and increase property values.

**b. Stromberg, Meghan. (2014, July 2014). By the Numbers: Fear on Foot. *Planning Magazine*.**

As Americans begin to recognize the benefits of walking, for personal health and the environmental reasons and more people gravitate toward walkable cities and neighborhoods, Planners excited about this are concerned about pedestrian safety. A 2014 report “Dangerous by Design” found vehicle-related pedestrian fatalities rose by 5% over the last decade, with fatalities disproportionately higher for minorities and the elderly.

These finding are pertinent to Memorial Drive because of the increasing minority and elderly population in the area. Memorial Drive is already notably a high accident corridor with poor pedestrian conditions.

The article, recommending cities adopt a Complete Streets policy, aligns with MassDOT policies to bring roads into compliance; HHP recommends incremental changes through Transportation Improvement Projects at identified priority areas within this report.

**c. Soneji, Sonali, Olkkonen, Aida. (2014, July 2014) Healthier Commuting: Arlington, Virginia, has a new appreciation for the impact of transportation demand management on public health. *Planning Magazine*.**

Transportation demand management (TDM) programs are evaluated by two performance criteria: increased transportation efficiency and reduced air pollution. Mobility Lab in Arlington, VA in evaluating these programs to determine if they have improved public health and safety, indicate significant economic advantages in terms of reduced medical costs and increased productivity, calculating that for every dollar spent two were saved in public health costs

Pedestrian and bicycle access to Memorial Drive is not encouraged and even discouraged in many areas; however, there is evidence of these uses regardless. HHP suggests in aiding in these modes of transit as healthier employees will miss less work and be more productive. Employers, especially in the retail field, may encourage these modes of transportation by health plan incentives and reducing their own parking needs.

**d. Noland R., et. al., " Costs and Benefits of a Road Diet for Livingston Avenue in New Brunswick, New Jersey" (2014).**

This cost-benefit analysis conducted by the University of Massachusetts Amherst Department of Civil Engineering for the city of New Brunswick, NJ, investigates the application of

a Complete Streets treatment, which the state has adopted a policy for. The city has a population size and median household income very similar to Chicopee, and the study is conducted on a 3.5 mile stretch of a major road with a speed limit at 25 MPH, but average daily traffic (ADT) count at 18,000, a little more than half the ADT at Memorial Drive's at the interstate nexus. The study uses a traffic projection tool, VISSM, to study the effects of the road diet of this arterial, which is, like Memorial Drive, both a state highway and a county route.

The results indicate that while there is sole loss of service, meaning an increased amount of time needed to travel the corridor, the added travel time is still within tolerable levels for the drivers and within a tolerable budget range as well. More specifically, a \$60,000 investment in restriping to narrow lane widths is estimated to result in a 20% decrease in accidents. Another important finding of the analysis for Chicopee is that it reduces speeds of vehicles travelling above the speed limit, something HHP noticed and also made note of in our conversations with Chicopee's civic leaders.

The recommendation we can make based on this precedent is that, as with many other findings in scholarly articles, a road diet is an appropriate treatment for arterials, but must take into account Memorial Drive's higher traffic volumes south of the Northern Rotary, as road diets are typically not recommended for ADT higher than 18,000.

### Team Assessment for Transportation

Memorial Drive in Chicopee ranges from very densely built neighborhoods at its extremities that followed patterns of development of a previous era which articulate to the street, and very densely built areas at the nexus with the interstate, which is characterized by sprawl; there is a presence of residential uses that are also characterized by sprawl and which are incongruent with the corridor. Its rights of way are predominantly used by private and commercial motorized vehicles, although there is photographically recorded and geographically imprinted evidence that some users do not use cars. Cars travel faster than the posted speed limits, and this phenomenon is anecdotally exacerbated at night when there are fewer uses along the corridor. Few buses traverse the corridor, and there are few streetscape amenities to encourage bus use. The two rotaries are expansive and represent great opportunities for investigation. One of the most promising opportunities includes the gradual development of a bike path to connect to the two proposed bike paths in Chicopee, in order to establish a recreation loop.

### Recommendations for Transportation

- a) Implement Complete Street to accommodate all modes of transportation users and the safety of users
- b) Implement protected bike lanes on Memorial Drive
- c) Integrate green infrastructure such as permeable pavement with bike path and sidewalk on Memorial Drive

- d) Hills House Planners recommends reconfiguring the seven existing Right of Way conditions throughout the corridor to create defined sidewalks and bike lanes that are to code with MassDOT. This is a very large endeavor that HHP recommends to do in sections, beginning with the 111' ROW stretch within Midtown.

In February 2014, MassDOT passed Engineering Directive (E-14-001) that requires criteria for sidewalk presence, sidewalk width and bicycle accommodation. These criteria are applicable for any new roads constructed, or any improvements made upon existing roads. The Directive states the following:

- 1) “Sidewalk presence. On and under all bridges and on both sides of the road in urbanized areas, there must be sidewalks on both sides of the road. For roads outside of urbanized areas with five or more units of residential or commercial development per acre, a sidewalk must be provided on at least one side of the road.
- 2) Sidewalk width. There must be a 5 ½' minimum width for sidewalks.
- 3) Bicycle accommodation. For all freeways, arterials, and collector roads where bicycles are legally permitted, bicycle accommodation must be provided on both sides of the road. The Engineering Directive increases the minimum width for bicycle accommodation by bicycle lane or outside shoulder to 5 feet.”<sup>24</sup>

To conclude, if the City of Chicopee makes any adjustments to street conditions on Memorial Drive, they must be in compliance with this new Directive. As a result, all of the Right of Way configurations proposed complies with the new Directive. This includes the use of street trees and planted buffers, as MassDOT's definition of Complete Streets define street trees and planted buffers as safer options to separate vehicles and pedestrians. MassDOT's requirements that comprise Complete Streets are based on the vision “There's room; it needs to be recaptured.”<sup>25</sup> With the reconfigurations of each of the seven Right of Way conditions throughout Memorial Drive, no Right of Way footage has been altered, just the conditions within the Right of Way, because there is room that needs to be recaptured.

- e) Hills House Planners recommends the partnership with the City of Chicopee and PVRTA to extend the G-19 bus line through the Southern half of the corridor, which would reconstruct

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<sup>24</sup>

[http://www.massdot.state.ma.us/Portals/0/docs/GreenDOT/AdvisoryGroup/GreenDOT\\_Adv\\_Grp\\_NOTES\\_091814.pdf](http://www.massdot.state.ma.us/Portals/0/docs/GreenDOT/AdvisoryGroup/GreenDOT_Adv_Grp_NOTES_091814.pdf)

<sup>25</sup> [http://www.massdot.state.ma.us/Portals/0/docs/GreenDOT/CSPRimerHTAAdvisory5-2-14\\_508.pdf](http://www.massdot.state.ma.us/Portals/0/docs/GreenDOT/CSPRimerHTAAdvisory5-2-14_508.pdf)

the G-19 bus line to run the entirety of the corridor, including the Westover Airport. This recommendation would allow residents and visitors choosing to avoid vehicular travel to be able to access the entire corridor easily. PVTA quotes, “Currently parking is inexpensive, traffic congestion is limited, and there is not a concentration of a large number of major employers in the down town areas. As these factors change, more choice riders will ride PVTA. There are several reasons why ridership growth will continue, probably at even greater levels.” (<http://www.pvta.com/visionStatement.php>) Additionally, PVTA notes the necessity for an increase in bus line opportunity due to the casino that is soon to be constructed in Springfield. HHP views this as an opportunity to create a more efficient bus line that links the casino directly to Memorial Drive. As these changes begin to occur throughout the state, HHP views this as an optimal time for the City of Chicopee to propose changes for bus riders.

- f) Hills House Planners recommends the City of Chicopee to partner with MassDOT in determining if any changes can occur to the two rotaries on Memorial Drive. Both existing rotaries are confusing to drivers as the roundabouts are fragmented by four lanes of travel designed directly through the roundabout, so it is uncertain whether to enter the roundabout or continue straight in the lanes through the middle. HHP recommends further research corresponding with MassDOT requirements to determine if the removal of the central lanes to create a closed rotary would be a safer design of travel, or if removing the rotary and creating a traffic stop would be the most beneficial.

### Implementation Timeline for Transportation

#### a. 6 months to 1 year from now

- i. Begin discussions with MassDOT regarding changes to Memorial Drive’s layout.
- ii. Create a transportation task force.
- iii. Evaluate roadways compatibility with bicycle before adding bike path, using the FHWA Bicycle Compatibility Index (BCI) and map compatibility bicycle map after roadways evaluation. (PVPC, 2104, p.18)
- iv. Identify the crash location of pedestrian and cyclists and to develop strategies to improve the fatalities on Memorial Drive (PVPC, 2014, p.66)

#### b. 2-3 years from now

- v. Expand bus line services feeding Memorial Drive, increasing the daily frequency of lines Green-19, Red-22 and G-1. Reduce the speed limit in 5 mph all along the corridor.

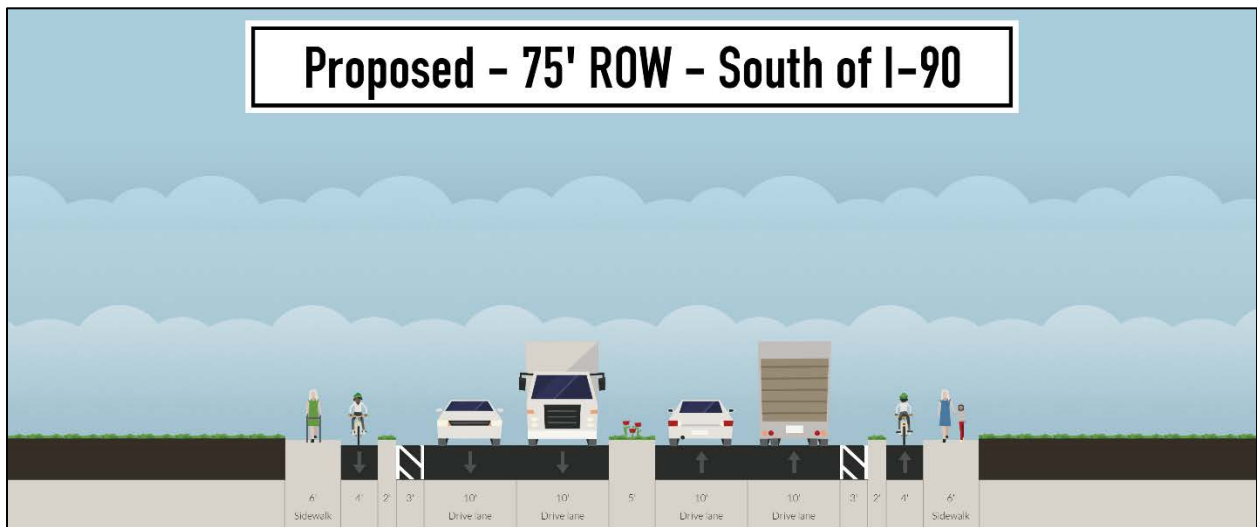
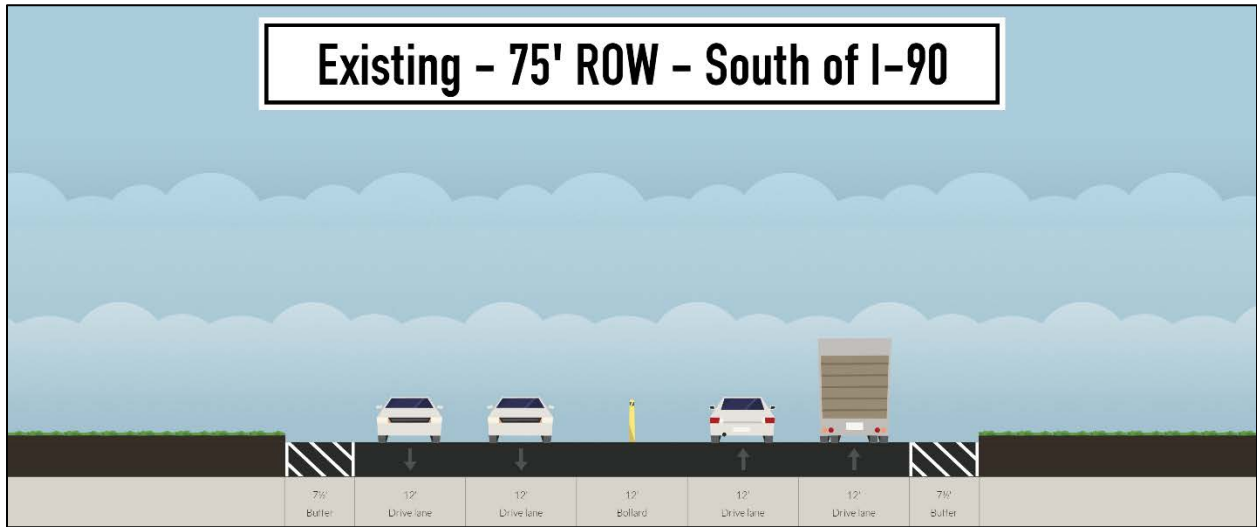
#### c. 5 years from now

- i. Build sidewalks and designate bike lanes all along Memorial Drive.
- ii. Create interconnections between businesses’ driveways and parking lots.
- iii. Replace the guardrails from the central median for landscaping.
- iv. Synchronize the remaining traffic lights from Memorial Drive.



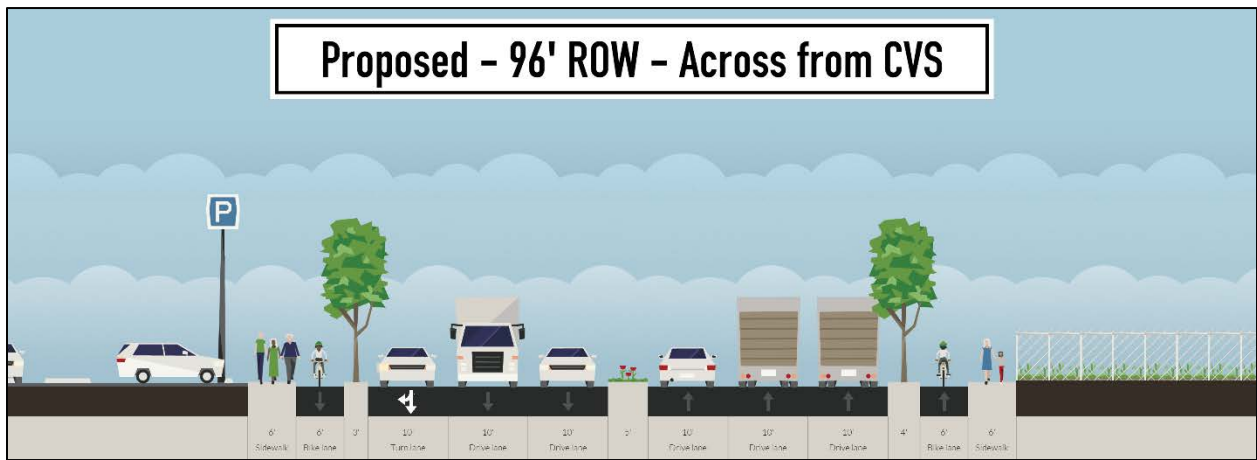
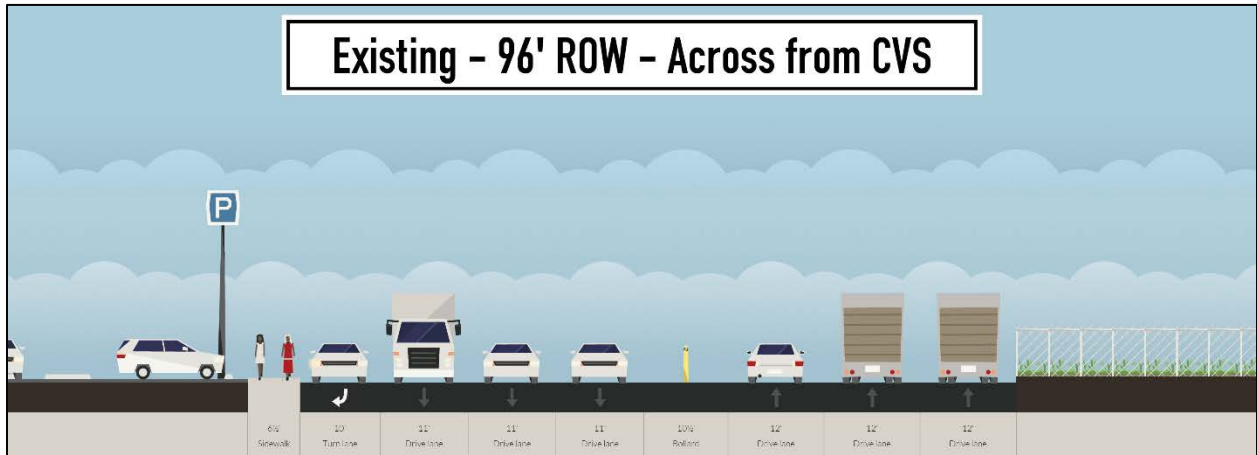
- v. Redesign the current rotaries into roundabouts eliminating the need for traffic lights on those intersections.

Right of Way: Existing and Proposed Changes – 75' Width



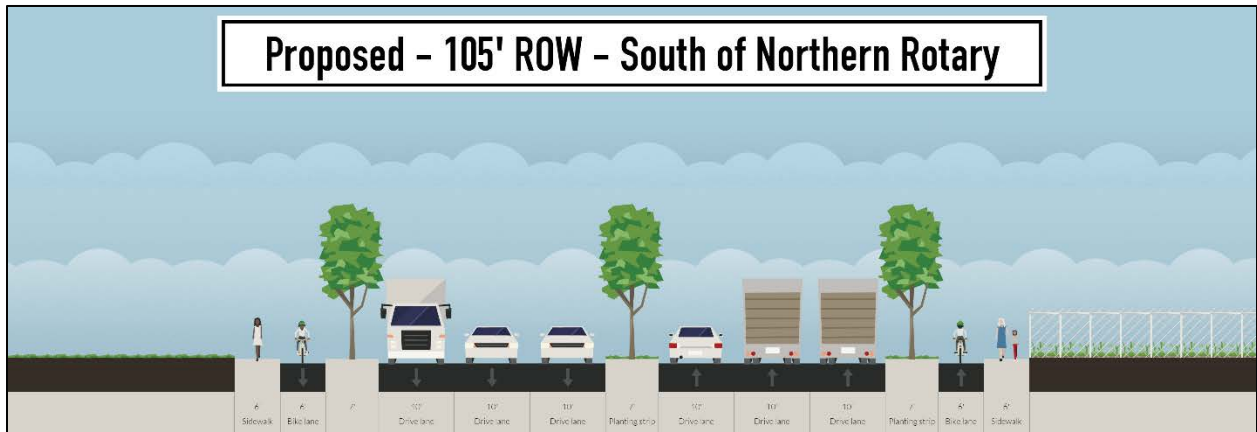
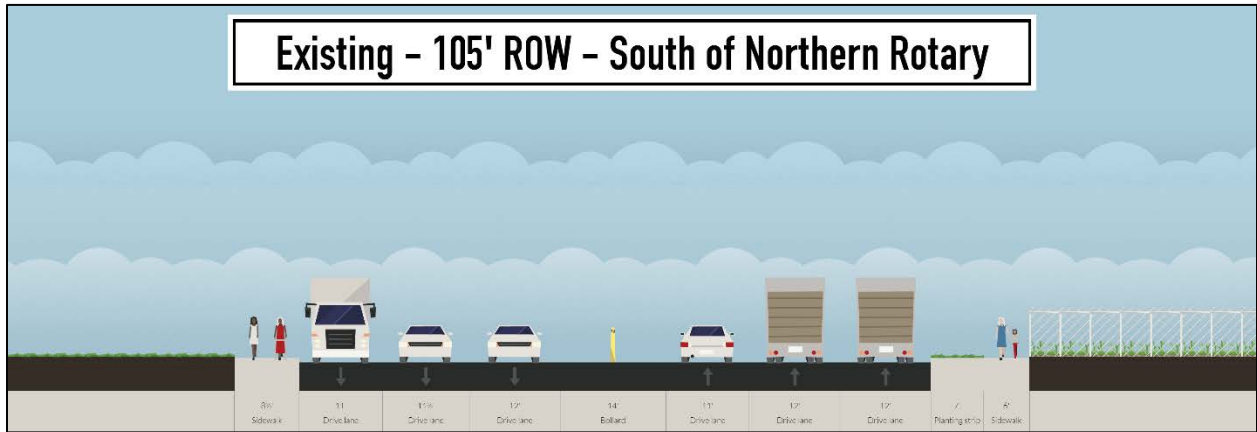
Added sidewalks and bike paths, reduced central and side buffers, reduced car lanes' width, removed guardrail and included vegetation in the new buffers.

Right of Way: Existing and Proposed Changes – 96' Width



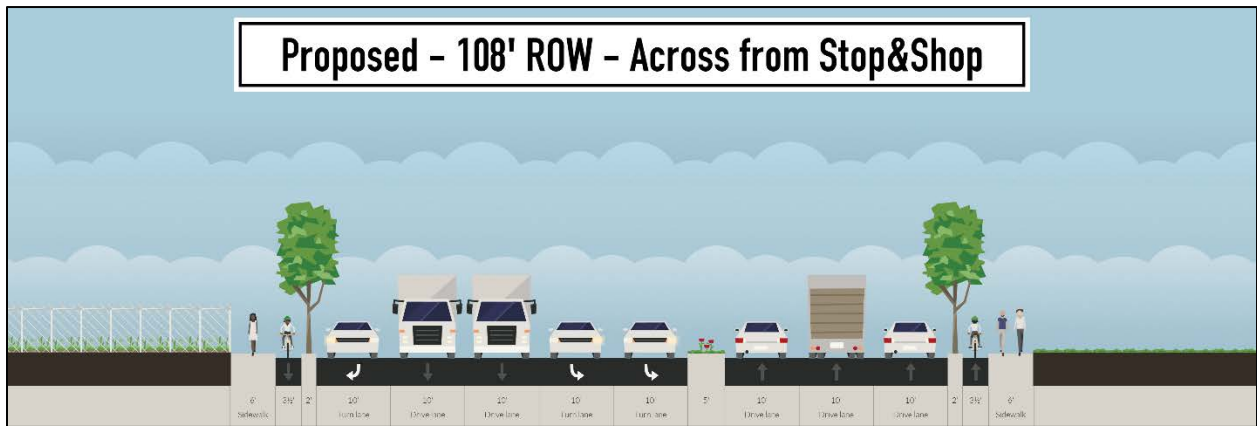
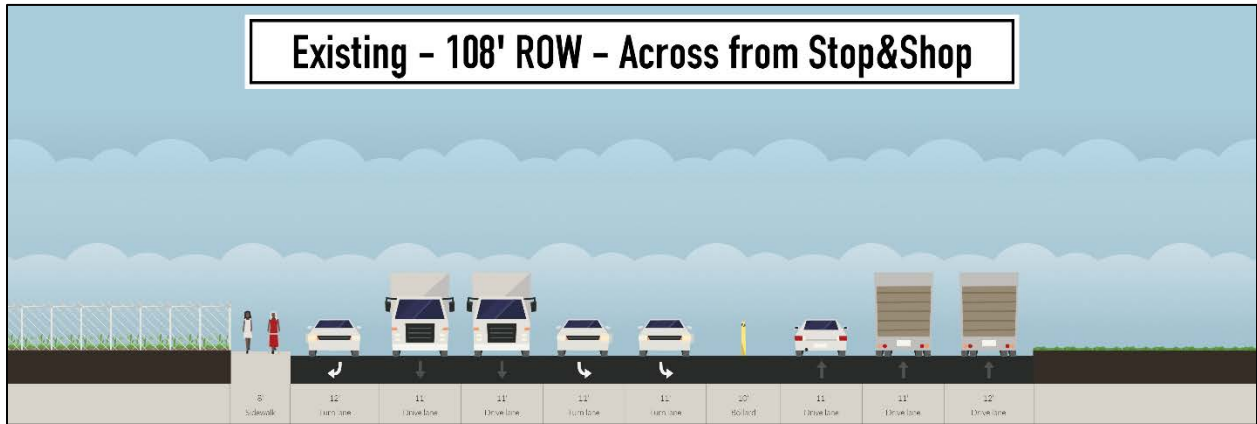
Added sidewalks and bike paths, reduced central buffer, reduced car lanes' width, removed guardrail, planted trees in the side buffers and vegetation in the central median, and eliminated one car lane.

Right of Way: Existing and Proposed Changes – 105' Width



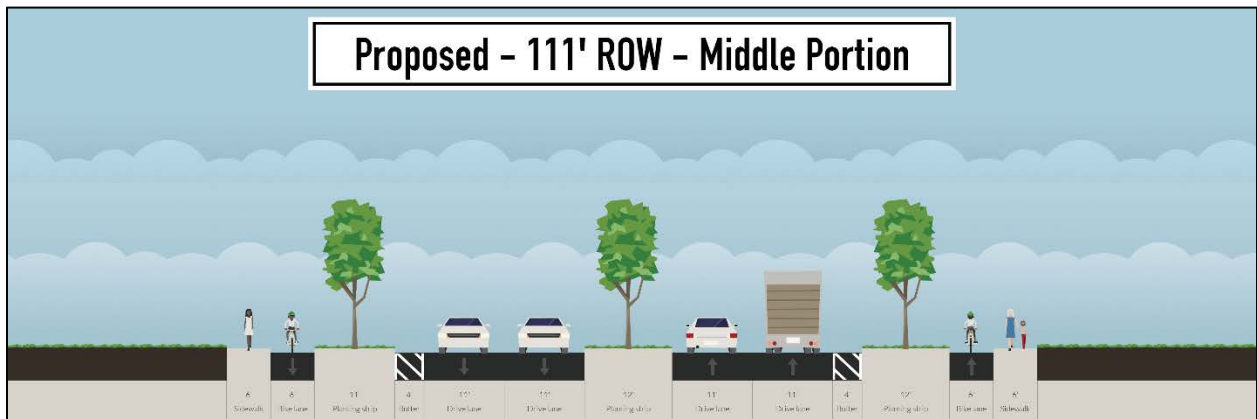
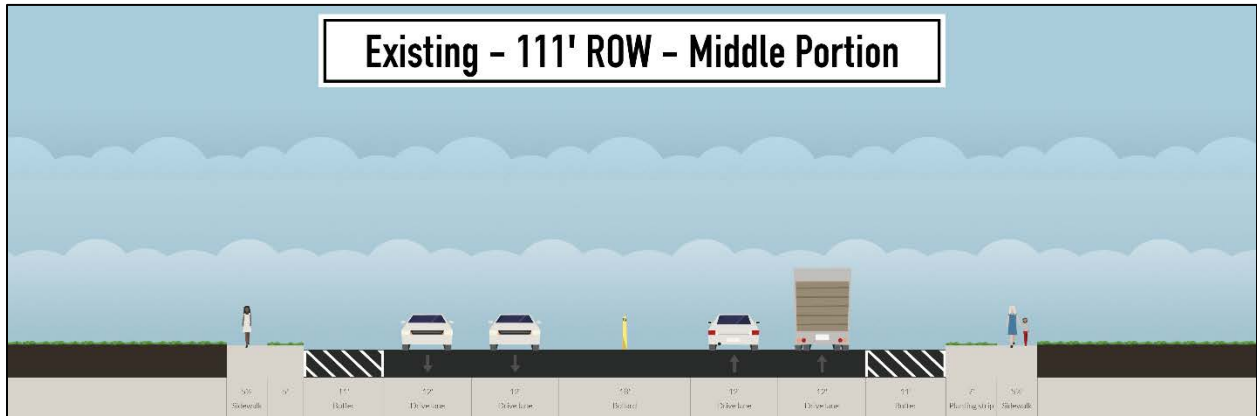
Added sidewalks and bike paths, reduced central buffer, reduced car lanes' width, removed guardrail, and planted trees in the all buffers.

Right of Way: Existing and Proposed Changes – 108' Width



Added sidewalks and bike paths, reduced central buffer, reduced car lanes' width, removed guardrail, and planted trees in the side buffers and vegetation in the central median.

Right of Way: Existing and Proposed Changes – 111' Width



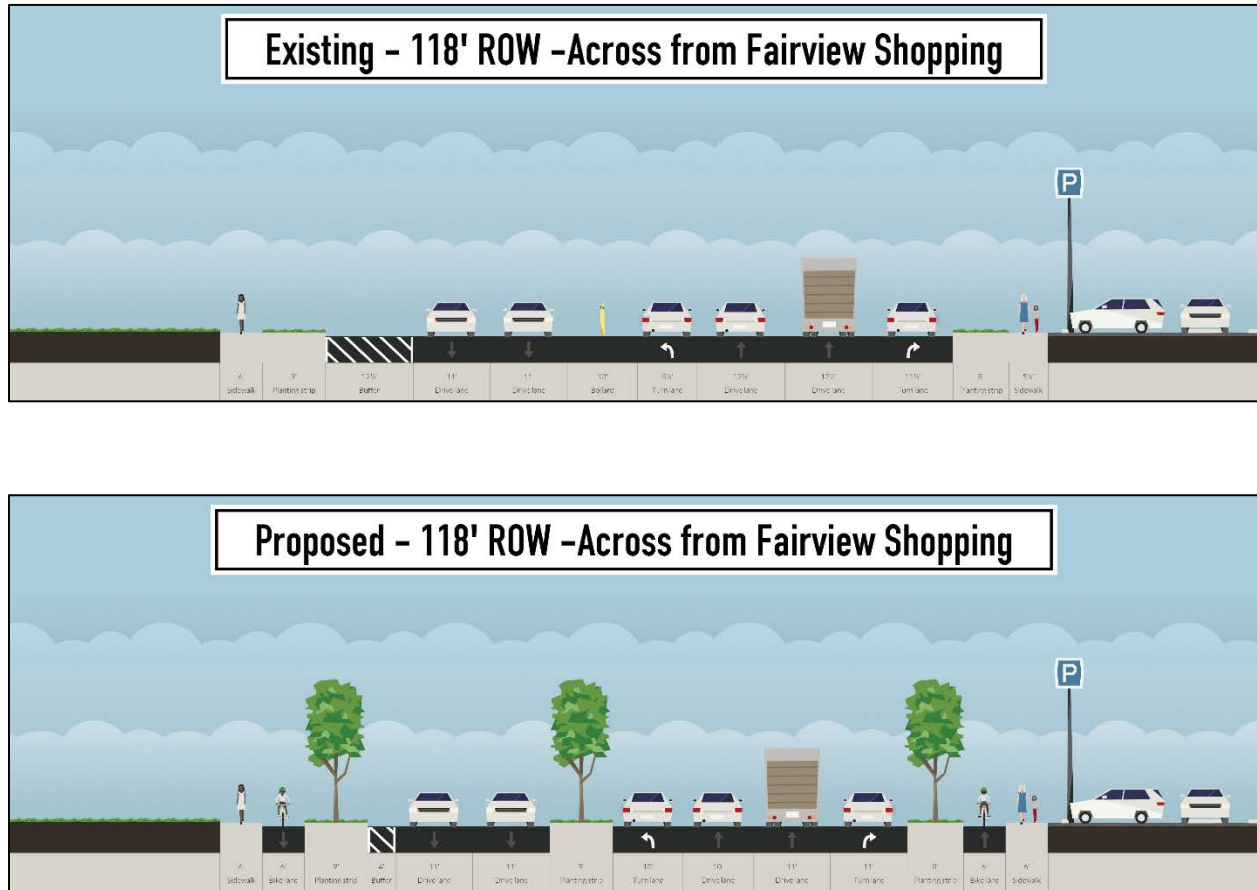
Added bike paths, reduced central and side buffers, reduced car lanes' width, removed guardrail, and planted trees in central median and side buffers.

Right of Way: Existing and Proposed Changes – 114' Width



Added sidewalks and bike paths, reduced central and side buffers, reduced car lanes' width, removed guardrail, and planted trees in central median and side buffers.

## Right of Way: Existing and Proposed Changes – 118' Width



*Figure 16 Right of Way Cross Sections Current and Proposed*

Added bike paths, reduced central and side buffers, reduced car lanes' width, removed guardrail, planted trees in central and side buffers.

### Future Consultants

- HHP recommends the Planning Department of Chicopee to coordinate with MassDOT for the management of Memorial Drive. This includes the reconfiguration of the Right of Way conditions throughout the corridor to meet compliance with the Engineering Directive (E-14-001) requiring all improvements to meet MassDOT Complete Streets standards.
- The Planning Department of Chicopee should partner with PVT A about the expansion of the G-19 bus line to extend into the Southern half of the corridor, thus reaching the corridor in its entirety, as well as the Westover Airport.
- The Planning Department of Chicopee should coordinate with the civil engineers of MassDOT to further research the redesign of the two existing rotaries. If reconfiguration is



necessary, these MassDOT standards will require either the removal of the rotaries, or the closure of the rotaries to exclude the four lanes of travel through the middle.

## Funding<sup>26</sup>

### *Federal Resources*

- a) National Highway Performance Program (NHPP) - provides support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS, and for investments of Federal-aid funds in highway construction that support progress toward the achievement of performance targets established in a State's asset management plan for the NHS.
- b) Highway Safety Improvement Program (HSIP) - funds safety improvement projects to reduce the number and severity of crashes at hazardous locations (90 percent federal / 10 percent non-federal). The HSIP is guided by a data-driven state Strategic Highway Safety Plan that defines state safety goals, ranks dangerous locations, and includes a list of projects. Under MAP-21, the safety plan is required to improve data collection on crashes and updates to more accurately identify dangerous locations.
- c) Surface Transportation Program (STP) - provides flexible funding that may be used by States and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, as well as for projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects.
- d) Congestion Mitigation and Air Quality Improvement Program (CMAQ) - provides federal funding for states to support projects and programs intended to improve air quality and reduce traffic congestion. Precisely what the redesigning of the rotaries can achieve.
- e) Federal Transit Administration - provides financial assistance to develop new transit systems and improve, maintain, and operate existing systems. Which is in terms with the proposals for PVTA and the Green 19 bus line

### *State Resources*

- a) Transportation Alternatives Program (TAP)- provides funding for a variety of transportation projects types, including construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists and other non-motorized forms of transportation (including sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting and other safety-related infrastructure, and transportation related projects to achieve compliance with the Americans with Disabilities Act of 1990.
- b) MassWorks Infrastructure Program –provides funds for municipalities and other eligible public entities seeking public infrastructure funding to support economic development and job creation

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<sup>26</sup> A full list of Federal, State, and non-Federal Aid funding is listed on PVPC's Transportation Improvement Program (TIP) website.

and retention, housing development at density of at least 4 units to the acre (both market and affordable units).

- c) Chapter 90 – entitles municipalities to full reimbursement for capital improvement projects for highway construction, preservation, and improvement that create or extend the life of capital facilities. The funds can be used for maintaining, repairing, improving, or constructing town and county ways and bridges that qualify under the State Aid Highway Guidelines issued by the Public Works Commission. Items eligible for Chapter 90 funding include roadways, sidewalks, right-of-way acquisition, shoulders, landscaping and tree planting, roadside drainage, street lighting, and traffic control devices.

#### *Non-profit Resources*

- a) MassBike - The Massachusetts Bicycle Coalition (MassBike) promotes a bicycle-friendly environment and encourages bicycling for fun, fitness and transportation. -  
See more at: <http://massbike.org/aboutus/mission/#sthash.gIGQBnhT.dpuf>

## Green Infrastructure

### Background of Green Infrastructure

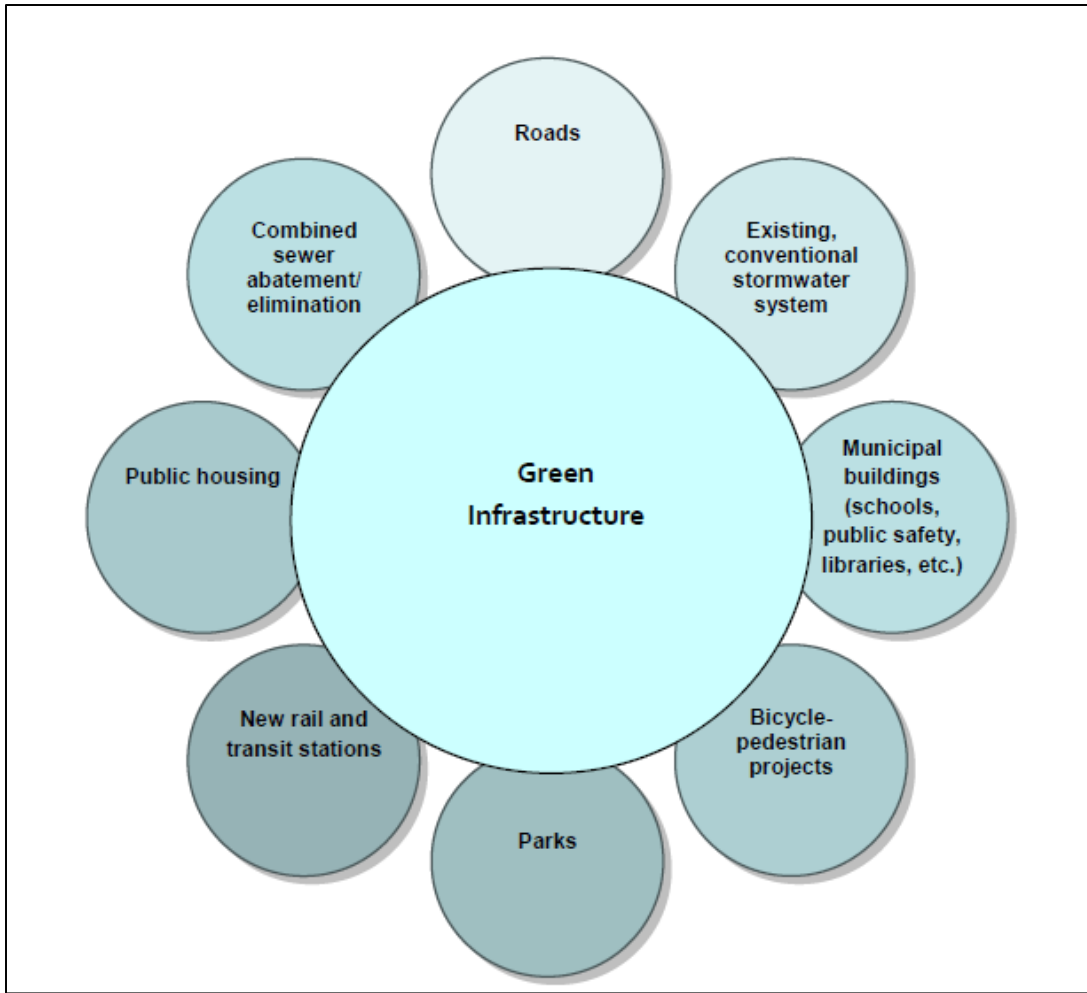
HHP has been tasked with identifying opportunities for Green Infrastructure with 500 feet of Memorial Drive. As part of the task, HHP has collected and analyzed data from the City of Chicopee, PVPC, MassDOT, MassDEP, MassGIS and U.S. EPA. Currently, there has no green infrastructure on Memorial Drive. During our many site visits, we found mostly impervious surface along the corridor and we have identified potential locations for green infrastructure. In this section, HHP will give details of green infrastructure and discuss the existing condition, team findings, literature and precedent studies, recommendations, implementations, future consultants and funding recourses of green infrastructure.

Green infrastructure is a cost-efficient and sustainable technique to provide environmental, economic and social benefits (U.S. EPA, 2010, p. 2). The elements of green infrastructure include rain harvesting, bioswales, rain gardens<sup>27</sup>, permeable pavement, green parking, and urban tree canopy.

From an environmental aspect, green infrastructure promotes air quality and water quality, by reducing stormwater runoff and mitigating sewer overflows. From an economic aspect, green infrastructure reduces costs of hard infrastructure (sewers, roads, etc.), increases property values, and reduces energy consumption. Additionally, green infrastructure provides social benefits such as recreation facilities, education of stormwater management and aesthetics of streetscapes (U.S. EPA, 2010, p. 2). Projects including transportation, parks, housing, buildings, and sewer systems have the potential to incorporate green infrastructure (PVPC, 2014, p. 81).

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<sup>27</sup> (also known as bioretention)



*Figure 17 Opportunities for Green Infrastructure*

### Existing Conditions of Green Infrastructure

The existing green infrastructure in the City of Chicopee is located on Jones Ferry Combined Sewer Treatment Facility and Upper Granby Road; none are located on Memorial Drive (PVPC, 2014, P.71). In our many site visits, we examined the existing conditions of green space, the Mountain Lake and its tributaries, streetscapes, and parking lots along Memorial Drive within the 500 foot buffer. We found mostly impervious surfaces such as asphalt and concrete pavement along the corridor with little vegetation.

The City of Chicopee has 230 miles of sewers, 200 miles of which are combined sewers. During storm events, untreated water flows into Connecticut and Chicopee Rivers (Tighe & Bond). In 1999, the City of Chicopee developed a draft Long-term Combined Sewage Overflows (CSO) Control Plan and eliminated some of the CSOs. In 2006, the City of Chicopee began a comprehensive sewer separation project after receiving a Municipal Separate Storm Sewer System (MS<sub>4</sub>) Permit from U.S. EPA to mitigate events of CSOs. The sewer separation project is currently in phase 3; the city has spent 135 million dollars for the first three phases, and the needs \$100 million more in order to complete phases 4 through 8 (Tighe & Bond).

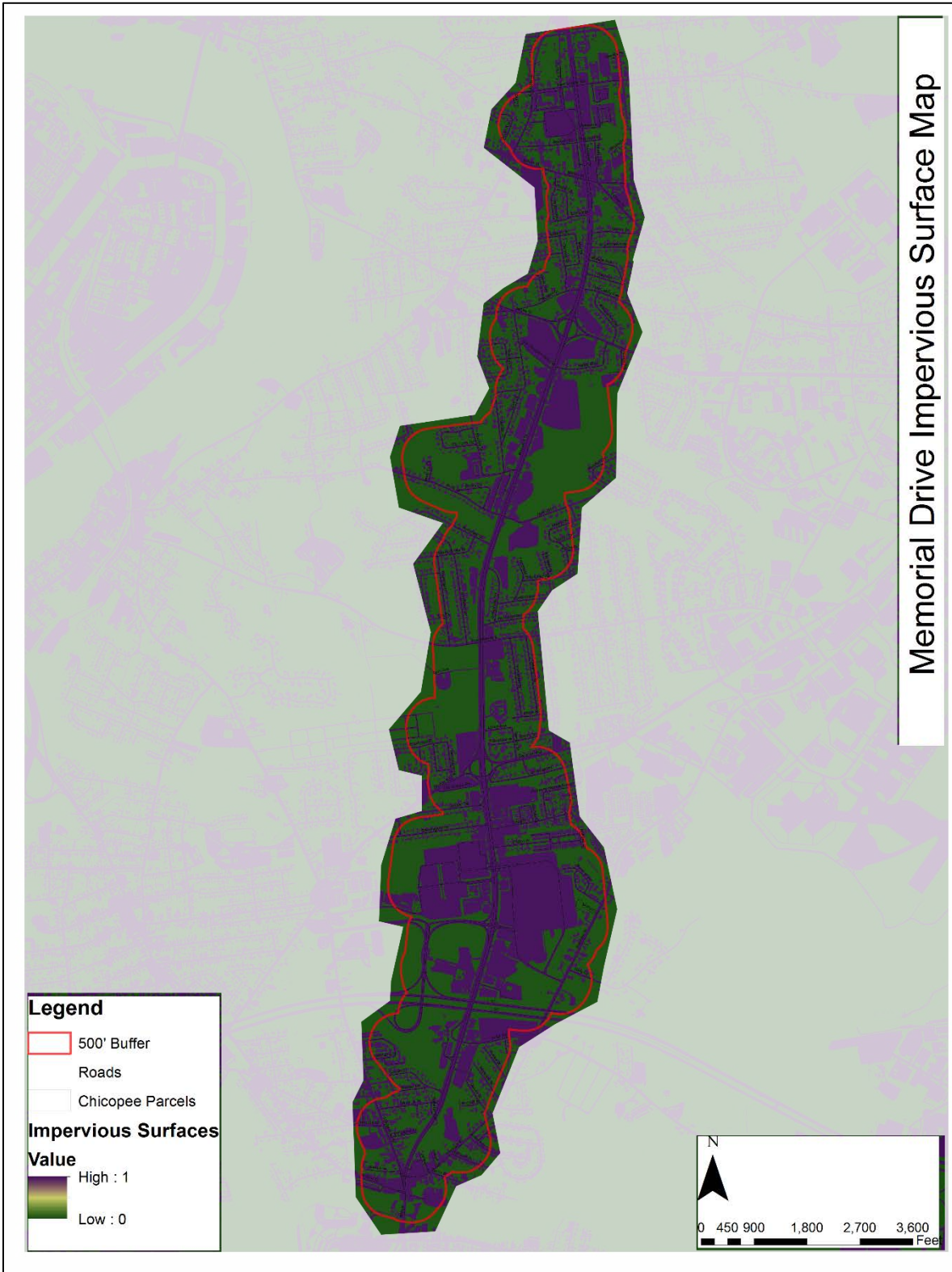
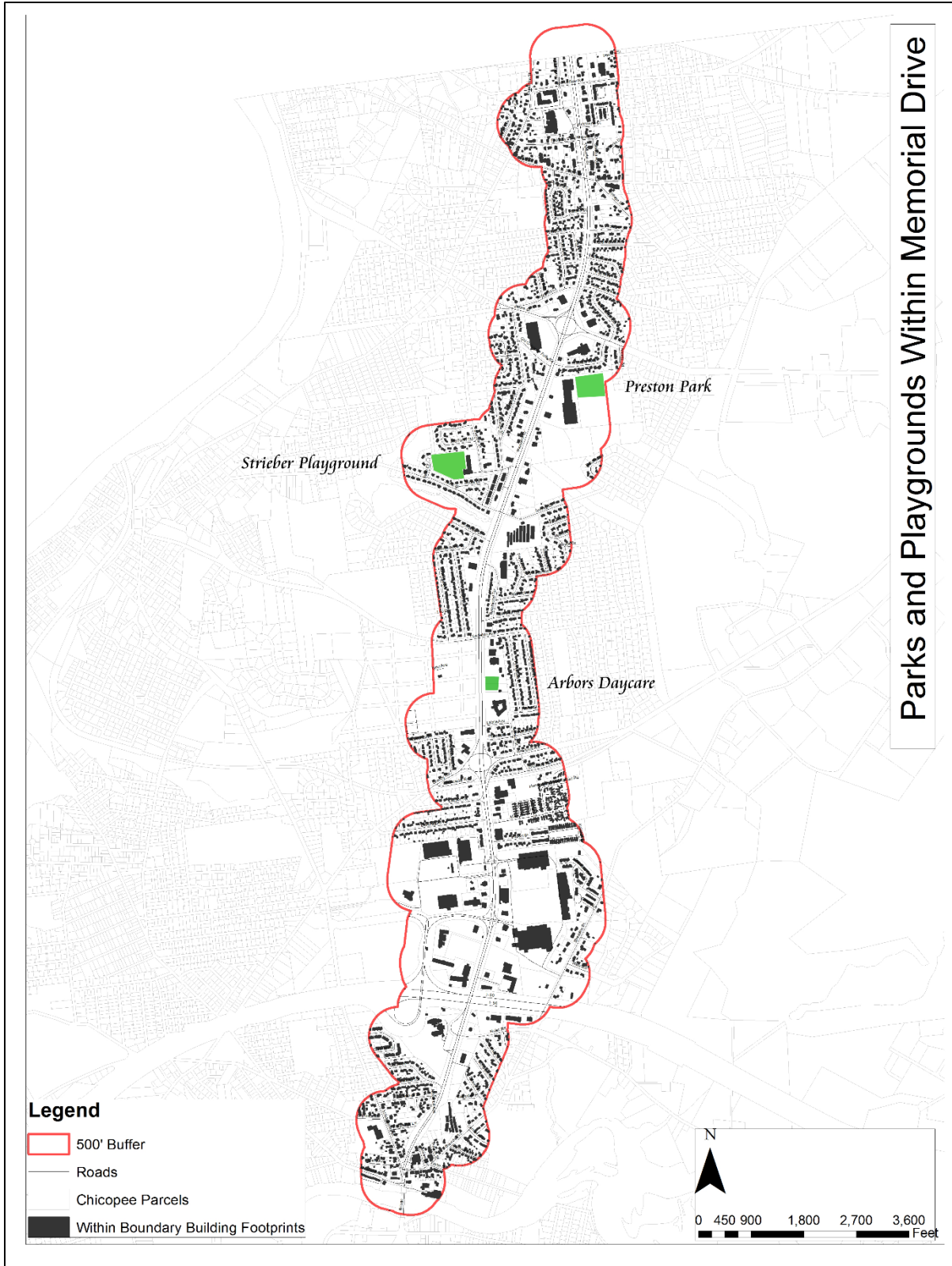


Figure 18 Impervious Surface Map



*Figure 19 Parks and Playground Map*

## Team Findings of Green Infrastructure

### *Site Visits*

During site visits, HHP investigated the existing conditions of green space, park, playgrounds, Mountain Lake and its tributaries, wetlands, flood-prone locations and parking lots of formula businesses.

The park and playgrounds we visited are Preston Park, Strieber Memorial School playground and the Arbors Day Care Center playground. Preston Park is 17.5 acres, enclosed by metal fences with one small gate for entrance and exit, and surrounded by trees. The park contains a youth recreation facility and features a portable restroom. Adjacent to the park, the land is a substantial asphalt pavement and is roughly the size of the park. Located behind a residential area, the wayfinding signage of the park is too small to read. While we walked around Preston Park, it would have been more difficult to locate from Memorial Drive had we been on foot.

The Strieber Memorial Elementary School site is eight acres with a school structure on about a third of the lot, and the remaining land occupied by a playground and football field (MassGIS, 2013). The Arbors Day Care Center playground is approximately the size of a basketball court and the location of the playground is right on Memorial Drive. The playground is well-maintained and provides soccer and children recreation facilities. These facilities are part of a lot owned by the developer and are a separate parcel with a deed restriction<sup>28</sup>.

HHP also investigated the flood-prone area on Jamrog Drive and found the intersection of Jamrog Drive and Irene Street is located right above the tributary of Mountain Lake; also, the intersections topology, which is basin-like, is the lowest point in the area...

Finally, we visited the parking lots of large retail outlets and found most of the parking lots within are asphalt pavement with few notable vegetated features or improvements; however, the parking lot in BJ's wholesale has more green landscape and, though maintained better than other parking lots in the corridor, does not adhere to performance standards<sup>29</sup>.

### *City Documents on Green Infrastructure*

Due to the fact Memorial Drive is under the jurisdiction of MassDOT, the process and timeline for implementing green infrastructure along Memorial Drive involves a multi-step process and multiple stakeholders<sup>30</sup>.

According to Lee Pouliot, the City of Chicopee is on the process of updating their Park and Recreation Plan. Moreover, the City of Chicopee has a stormwater management ordinance, an annual stormwater management report<sup>31</sup>, and the aforementioned. Currently, the city has adopted Best Management Practice in their stormwater management ordinance and followed the design standard form MassDEP. In 1998, the city established stormwater utility to charge monthly fee using Equivalent Residential Unit (ERU) based on impervious surfaces (U.S. EPA).

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<sup>28</sup> The tax assessor's data indicates that the use of the parcel is for commercial purposes, but is undevelopable.

<sup>29</sup> We observed that several trees are in poor condition, which may be due to soil compaction, inadequate bed depth, inadequate irrigation, or any combination of the above.

<sup>30</sup> [http://www.massdot.state.ma.us/Portals/8/docs/designGuide/CH\\_2\\_a.pdf](http://www.massdot.state.ma.us/Portals/8/docs/designGuide/CH_2_a.pdf)

<sup>31</sup> Prepared by the Department of Public Works.

Although the City of Chicopee does not have a formal green infrastructure plan or report, the Pioneer Valley Planning Commission conducted a green infrastructure plan in 2014 for Western Massachusetts. With assistance from LARP professor Dr. Robert Ryan, we also sourced a Landscape Architecture Studio Report from 2007, led by Jack Ahearn, FALSA.

### Literature on Green Infrastructure

**a. Landers, J. (January 01, 2012). New York City Looks To 'Green' Infrastructure To Reduce Combined Sewer Overflows. *Civil Engineering*, 82, 1, 26.**

This article describes how New York City would prevent stormwater runoff, reduce combined sewer overflow volume, and water pollutions if the city adopted a massive green infrastructure plan. Moreover, green infrastructure will not only reduce tons of stormwater runoff in New York City, but also “reduce the ‘urban heat island’ effect, improve air quality, enhance recreational opportunities, restore ecosystems, conserve energy, and increase property values.”

On Memorial Drive, the substantial impervious surface the corridors large parking lots and roofs that are characteristic of the corridor increase stormwater runoff and result in CSOs. The City of Chicopee is currently under the construction of separation sewer system due to CSOs issue and the sewer separation project has cost the city a great amount of funds.

This case study can encourage implementation of green infrastructure in the City of Chicopee in general and on Memorial Drive specifically. Building green infrastructure will not only mitigate CSOs, but also increase the corridors aesthetic value while mitigating flooding issues, to name a few benefits (U.S. EPA, 2010, p.2). HHP also recommends that the City of Chicopee develops a comprehensive green infrastructure plan to manage stormwater long term.

**b. DiBlasi, C. J., Li, H., Davis, A. P., & Ghosh, U. (January 01, 2009). Removal and fate of polycyclic aromatic hydrocarbon pollutants in an urban stormwater bioretention facility. *Environmental Science & Technology*, 43, 2, 494-502.**

The article explains how bioretention removes the polycyclic aromatic hydrocarbons (PAHs) from stormwater runoff. PAH's are a common pollution source in urban environment resulting from “vehicle exhaust, home heating through coal and wood burning stoves, trash burning, power plants and other industrial processes *and the leaching of PAHs in sealants used to coat parking lots and driveways*” (my emphasis).

Memorial Drive is located in heavily built area with high traffic volume<sup>32</sup> that generates pollutants like PAHs; their runoff due to substantial impervious surfaces without green infrastructure along the corridor is inevitable. Water containing PAHs flows directly into Connecticut and Chicopee Rivers when CSOs event occurred.

Based on this research and the existing conditions of Memorial Drive, we recommend implementing green infrastructure along the corridor to reduce stormwater runoff in order to filter pollutants through bioretention.

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<sup>32</sup> Discussed in the Transportation section of this chapter.



c. "The Value of Green Infrastructure: A Guide to Recognizing its Economic, Social and Environmental Benefits." *American Water Works Association Journal* 103.4 (2011): 132. ProQuest. Web. 23 Nov. 2014.

This article provides a thorough study of how green infrastructure<sup>33</sup> can benefit the environment from economic, social and ecological perspectives. The study focuses on eight categories including water, energy, air quality, climate change, urban heat island, community livability, habitat improvement and public education.

As the City of Chicopee does not yet have a green infrastructure plan, this guides an easy to understand tool illustrating how to integrate green infrastructure with stormwater management. The guide provides metrics to quantify the impacts of green roofs, tree planting, bioretention, permeable pavement and rainwater harvesting.

HHP recommends the use the green infrastructure benefits section of this tool to support future proposals and the metrics provided therein to monitor the results of green infrastructure once it is implemented.

Benefit	Reduces Stormwater Runoff				Increases Available Water Supply	Increases Groundwater Recharge	Reduces Salt Use	Reduces Energy Use	Improves Air Quality	Reduces Atmospheric CO <sub>2</sub>	Reduces Urban Heat Island	Improves Community Livability					Improves Habitat	Cultivates Public Education Opportunities
	Reduces Water Treatment Needs	Improves Water Quality	Reduces Grey Infrastructure Needs	Reduces Flooding								Improves Aesthetics	Increases Recreational Opportunity	Reduces Noise Pollution	Improves Community Cohesion	Urban Agriculture		
Practice																		
Green Roofs	●	●	●	●	○	○	○	●	●	●	●	●	◐	●	◐	◐	●	●
Tree Planting	●	●	●	●	○	◐	○	●	●	●	●	●	●	●	●	◐	●	●
Bioretention & Infiltration	●	●	●	●	◐	◐	○	○	●	●	●	●	●	◐	◐	○	●	●
Permeable Pavement	●	●	●	●	○	◐	●	◐	●	●	●	○	○	●	○	○	○	●
Water Harvesting	●	●	●	●	●	◐	○	◐	◐	◐	○	○	○	○	○	○	○	●

Yes     
 Maybe     
 No

Figure 20 Green Infrastructure Table

<sup>33</sup> Categories of green infrastructure included in the article: green roofs, tree planting, bioretention & infiltration, permeable pavement and water harvesting.

## Precedent Studies for Green Infrastructure

### **a. Pioneer Valley Planning Commission: 2014 Green Infrastructure Plan**

In this plan, prepared by PVPC for several cities and towns in Western Massachusetts<sup>34</sup>, a thorough study of the benefits of applied green infrastructure is conducted, and it includes an analysis of the existing conditions/potential locations of green infrastructure.

As the City of Chicopee currently has not yet developed a green infrastructure or study related to green infrastructure and as, the 2014 Green Infrastructure Plan conducted by PVPC has ample site analyses, identifying potential locations for green infrastructure in Chicopee, the implementation strategies and funding resources can inform the city to develop a comprehensive green infrastructure plan for Chicopee.

As a result, we recommend the City of Chicopee should use this report as a lead to develop a comprehensive green infrastructure plan by using their existing Chicopee site analysis, identified potential locations for green infrastructure, implementations and funding resources.

### **b. U.S. Environmental Protection Agency: 2010 Green Infrastructure Case Studies- Municipal Policies for Stormwater Management with Green Infrastructure**

In this report, the guidelines for how municipalities develop “stormwater policies to support green infrastructure” includes 12 cases studies in the United States, demonstrating the most common trends of public sector approaches<sup>35</sup> and private sector approaches<sup>36</sup> to increase green infrastructure.

Currently, the City of Chicopee has adopted Best Management Practices to support stormwater management for future developments under stormwater performance standards. However, the city has not yet developed stormwater regulation to supports installation of green infrastructure in existing property with substantial impervious surfaces. By looking into this report, Chicopee can develop stormwater policies to incorporate green infrastructure through the strategies that are commonly implemented.

We recommend using all the public and private sector approaches to develop a comprehensive stormwater management plan and design guidelines to increase green infrastructure in the City of Chicopee

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<sup>34</sup> Chicopee, Holyoke, Huntington, Northampton, South Hadley, Springfield and Westfield.

<sup>35</sup> Demonstration projects, street retrofits, capital projects, local code reviews, education and outreach.

<sup>36</sup> Stormwater regulation, stormwater fee, fee-based incentives, other incentives.

## Zoning and Land Use

### Background of Zoning and Land Use

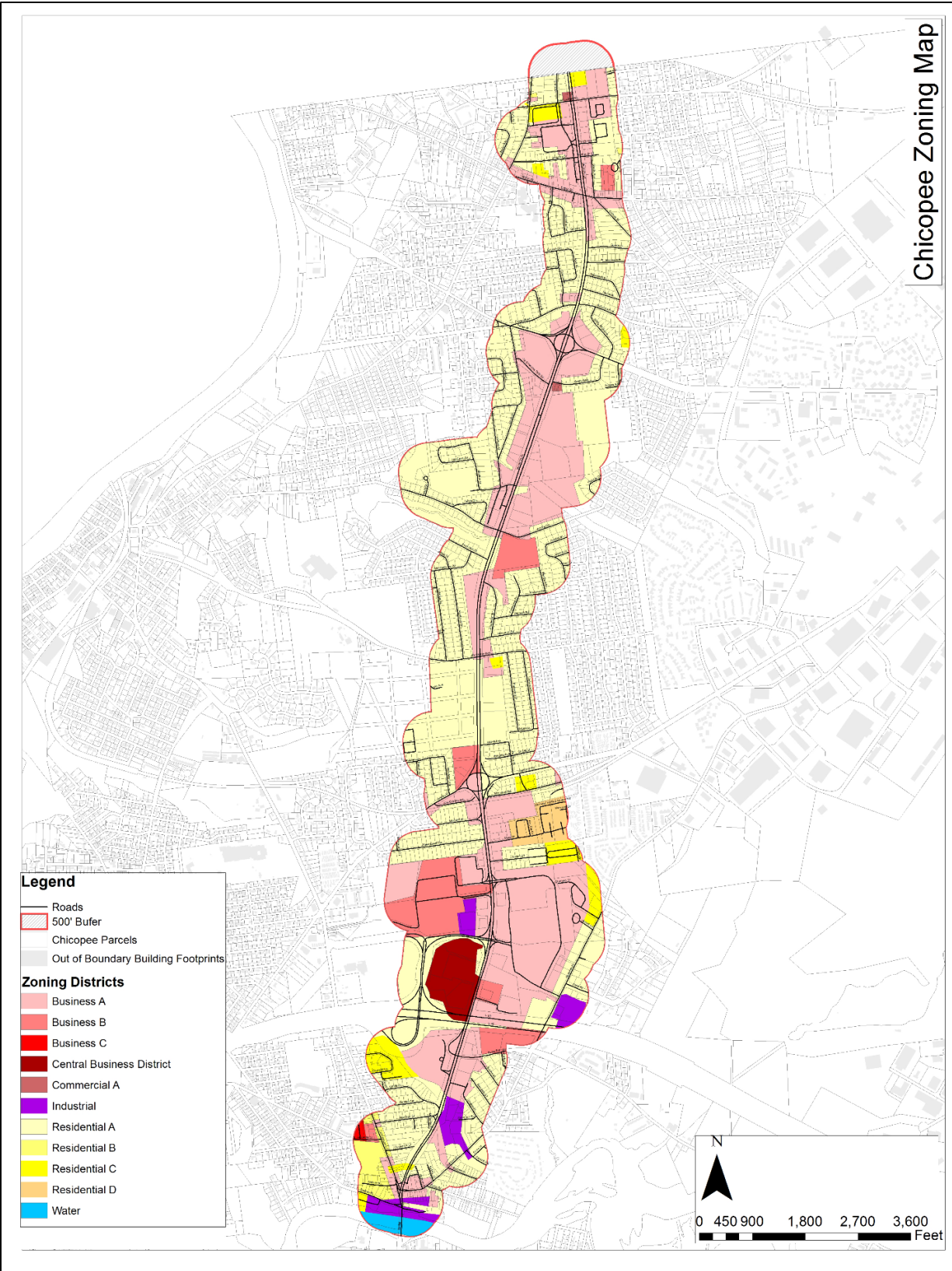
Currently, the City of Chicopee has not digitized its zoning. Kate Brown, who has worked in Chicopee's planning department for twenty-four years, created a hand-drawn zoning map for the city. This large map was divided into over 800 sections, which are updated manually each year. For the purpose of this project, the 800 maps were difficult to work from. This technology gap has been a challenge throughout this project. During the seventh week of the project, HHP discovered that the PVPC had created digitized zoning maps of the city in 2004. They have not been updated since 2004.

To proceed, the digital PVPC zoning maps have been used throughout the duration of this project as a baseline, due to the lack of digitized City of Chicopee data. While Hills House Planners acknowledges that this may create a gap in our knowledge, we are confident that our analysis will still provide positive recommendations for Chicopee as we have worked with the Planning Department. Additionally, Chicopee's new GIS hire should be able to resolve these GIS data constraints for future planning.

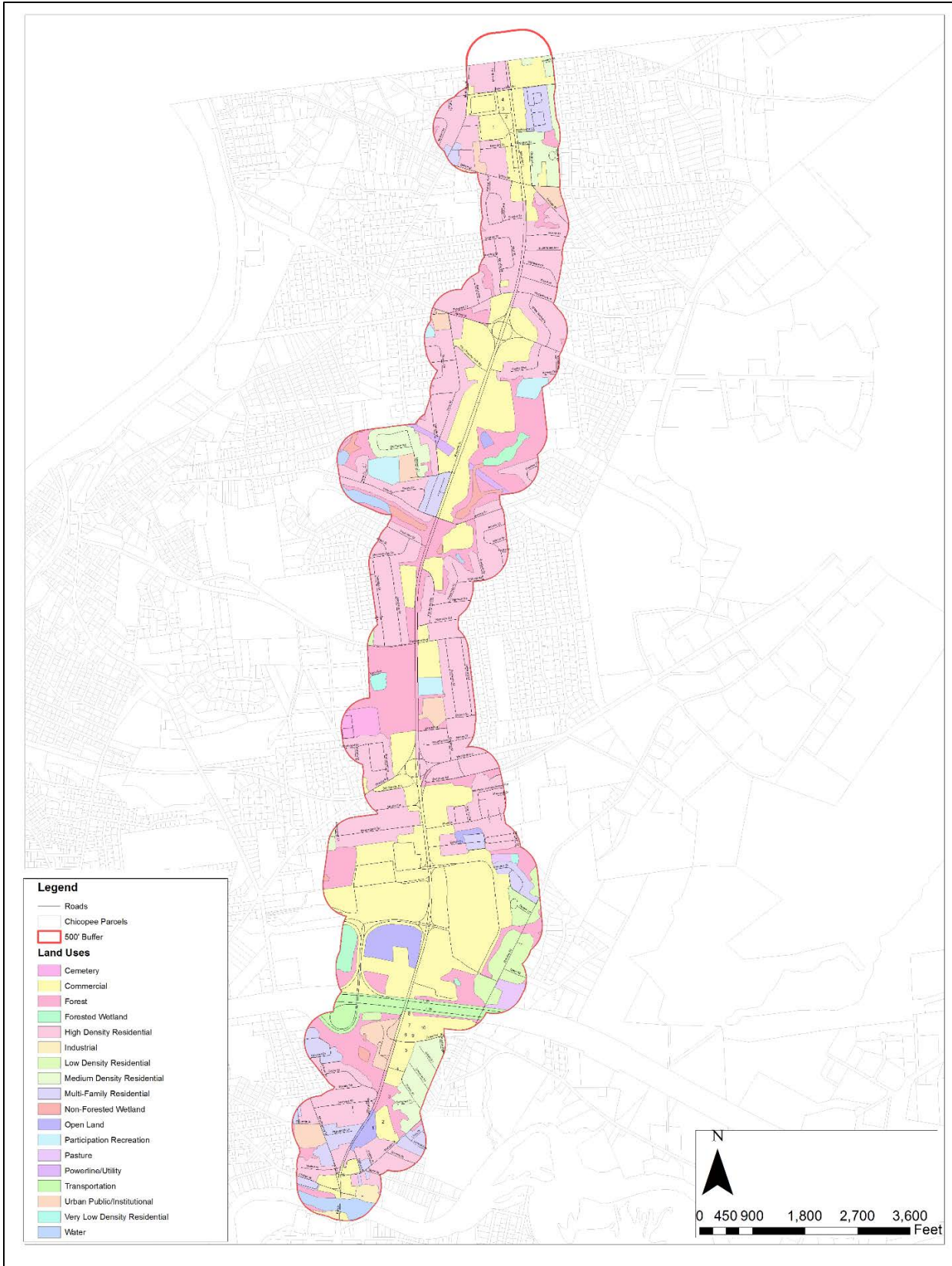
### Existing Conditions of Zoning and Land Use

Upon analyzing the 2004 PVPC digital zoning maps, HHP recognized that the two most significant zones within the Memorial Drive corridor are Residential and Business intermittently, causing a conflict of uses. There are many residences that are positioned directly on Memorial Drive, as well as immediately off the corridor, that are adjacent to various commercial and retail stores. It is difficult to find any well-transitioned areas to separate some of these extreme uses from each other along the corridor.

These transitional areas should include a different harmony of residential and commercial/office uses, where the difference is in the size and nature of the commercial or business use. In a mixed-use development, the commercial uses that are blended well with residences are not Big Box stores, instead they are smaller retail or office buildings. The design directly affects what would be non-conflicting, in comparison with large corporations such as Wal-Mart next to homes. The majority of commercial/office uses are south of the Southern rotary, but there is a repetition of this pattern surrounding the Northern rotary. The allowed uses for each zone are attached in the appendices, as well as dimensional standards.



*Figure 21 Zoning Map.*



*Figure 22 Land Use Map.*

## Team Findings of Zoning and Land Use

### *Site Visits*

Our site visits show that the zoning along Memorial Drive should be updated. Walking the entirety of the Memorial Drive corridor gave us insight toward the discomfort of abutting zoning uses. There are virtually no buffers, or design standards for any type of buffer between commercial uses and adjacent residences. Photograph 6 below depicts three layers of fencing between residences and the U-HAUL located on the northwestern quadrant of the Southern rotary. Despite three fences, these residences still see the Heating Cooling and Air Conditioning (HVAC) units from this commercial property.



*Photograph 10: Fencing between residences and commercial properties.*

Currently the abrupt abutting of commercial and residential uses along the corridor creates a non-cohesive look and feel that must be addressed. With the residents and business owners being taken into account, HHP has been addressing this conflict of uses by researching the current zoning and looking at future land use standards that allows for the uses to gradually merge and combine in a more natural way.

### *City Documents on Zoning and Land Use*

Kate Brown of the Chicopee Planning Department has created all of the city's current zoning maps by hand. While these hand drawn maps are dated and contain a corresponding legend, the maps are incomplete; therefore it was an insufficient source to gather the corridor's comprehensive zoning data. As a result, Hills House Planners has conducted its analysis with the PVPC digital maps.

## Literature on Zoning and Land Use

- a. **Marwedel, James. (1998). Opting for Performance: An Alternative to Conventional Zoning for Land Use Regulation. *Journal of Planning Literature*.**

In this article, the author describes the unique zoning concept of performance zoning. The author defines performance zoning as a land use regulation system that permits or prohibits land uses based on their performance on preset criteria. This way, a wide variety of land uses are permitted throughout a district, as long as they meet the performance standards set for the district and use. This varies from traditional zoning in regards to flexibility, as traditional zoning doesn't permit many uses within a zone.

The topic of performance zoning is relevant to Chicopee, particularly on the Memorial Drive corridor. The strict, conflicting zoning that exists currently on the 3.7 mile strip does not allow for flexibility, which creates the discomfort between uses. There is a need for better buffers between uses that abut each other. Buffering is the first step towards a transitional ease between zoning uses. Additionally, signage and wayfinding are two necessities that the current traditional zoning ordinances are lacking.

Memorial Drive requires a unique type of zoning that allows for a variety of permitted uses, instead of a blanket solution to the entire corridor. Based on this information, Hills House Planners recommends performance zoning to be used as an alternative to traditional zoning methods. Specifically, the recommendation of implementing performance standards within Chicopee's zoning ordinance, mainly pertaining to screening and buffering. These performance standards will assist in buffering incompatible uses along the corridor.

- b. **Ratner, K. A., & Goetz, A. R. (2013, February 01, 2013). The reshaping of land use and urban form in Denver through transit-oriented development. *Cities*, 30, 1, 31-46.**

The authors examine what impact TOD has on land use and urban form, specifically in Denver, Colorado. To do so, they look at impact in six areas Development, Planning, Rezoning, Mobility Performance, Population Density, and Mixed Use. TOD is identified as increasing density and use around a transit stop through increased development, increasing multimodality and improved pedestrian facilities, and most of all improving livability which in turn increases ridership to support the transit system, with subsequent reduction in congestion and concomitant environmental benefits.

In general, development is more robust along TOD corridors; rental activity increases around TOD, and unit values tend to be higher, with apartment and condos being the only feasibly residential unit that can be developed around TOD's. As a result, this research is important to the City of Chicopee as it identifies that simple and limited research can be used to identify trends within data, which in turn can help steer development. Though the City of Chicopee will probably not have TOD in the near future to address, the resurrection of the Vermonter line connecting Springfield, Northampton, Greenfield, and Brattleboro will mean that land value and demand will likely increase in those areas.

Adding to the displacement this may cause, and accounting for the presence of an underutilized airstrip, and the presence of the Five Colleges, it is at least plausible that better

transitions and transportation options may make the Memorial Drive strip as feasible for housing and entertainment as places like Holyoke and Belchertown are. The most compelling technique in this article is establishing density within a half mile of key locations, which is Hills House Planners' recommendation as a means to determine market intensity.

#### Precedent Studies for Zoning and Land Use

**a. Garbarine, R. (1999, December 26, 1999). Commercial Property/New Jersey; Turning a Factory Site into Mixed-Use Development. *The New York Times*.**

This article discusses the revitalization fate of the old Dixie Cup plant in Holmdel, New Jersey. After ten years of the plant remaining completely vacant, a large, mixed-use development was proposed, and passed. This mixed-use development would contain retail, offices, and housing for seniors with senior care. The lot was zoned industrial as it was a plant for decades. In order to progress with the project, the zoning had to be changed from industrial to mixed commercial and residential.

Revitalization is the connection between this article and Chicopee. The concept of turning blight into an asset is very important. This large scale in project can be applied to underutilized parking lots, which Memorial Drive contains among the Big Box stores. The parking lot "shared" by Wal-Mart, Home Depot, and restaurants, is a huge lot in size that is both impervious and much underutilized.

As a result, Hills House Planners recommends a proposal to build green parking on this location to reduce the impervious surface. Moreover, HHP will propose to build sidewalks in order to connect the stores which share the same parking lot and thus increase the walkability. These recommendations are the key in transforming this underutilized and impervious parking lot into a revitalized green parking lot that promotes safety regarding walkability, and a recommendation of green infrastructure.

**b. Best, A. (2010, October 2010). Utah's Secret. *American Planning Association*.**

Salt Lake City in Utah has been making incredible strides toward accommodating significant population growth, which is what this article focuses on. As the city has been growing internally, a restoration of a major corridor in the city (City Creek Corridor) was proposed to avoid sprawl and keep activities in the corridor. The Corridor became a mixed-use community.

One of the key concepts in this Salt Lake City project is that the "quality of life is important to attract new business" in reference to the mixed use corridor. There was an increase in restaurants, bars, and theaters, dramatically lessening the number of empty store fronts. This does apply to Memorial Drive. The desire for entertainment and reasons to stay is important to residents on Memorial Drive, and some of these implementations to the Salt Lake City corridor directly correlate with Memorial Drive.

In order to add to the quality of life as the article mentions, Hills House Planners recommends adding entertainment facilities to contain activity within the corridor. It has been clear that Memorial Drive is lacking destination places, in the opinions of those at the HHP workshop. As a result, HHP has created recommendations for priority sites, some of which directly advise the



implementation of an entertainment location, such as a “Dave and Busters” (see Chapter 4 – Marketplace). This type of space will contain activities in the corridor, like in City Creek corridor.

### Team’s Assessment of Zoning and Land Use

After recognizing the challenge with accurate zoning information, Hills House Planners have assessed the zoning within the corridor based on the 2004 PVPC data. We recognize that with this decision brings gaps in our knowledge and additional challenges. In order to ensure accuracy with post-2004 zoning changes, our recommendations would need examination by a Chicopee GIS staff, which the city is currently in the process of hiring. HHP believes that performance zoning and guidelines for parking would greatly assist the Memorial Drive corridor. Siting parking in the rear of commercial uses, away and out of site from the right of way, as well as from adjacent residences would create a more welcoming and vibrant commercial area. Additionally, using uniform guidelines for signage and implementing wayfinding throughout the corridor will create a

### Recommendation of Zoning and Land Use

HHP recommends implementing performance standards within Chicopee’s zoning ordinance, specifically around screening and buffering. These performance standards will assist in buffering incompatible uses along the corridor. HHP reviewed various performance standards and research from communities around the United States including Cabarrus County, North Carolina, Morgantown, North Carolina, Bedford, New Hampshire, the Puget Sound Regional Council, and Havana, Florida. According to the Puget Sound Regional Council, “Performance zoning is effective at increasing diversity and mixing uses. Benefits of performance zoning include a flexible approach to development that responds to changing market conditions. Performance zoning also eliminates additional administrative processes like variances or conditional uses” (Puget Sound Regional Council, 2014). Below are beginning elements of performance standards regarding screening, lighting, and noise that could help the City of Chicopee address many of its conflicts of uses along the Corridor.

#### **a. Screening:**

Minimum landscape screening requirements for use in screening commercial uses from residential properties shall include the planting of one evergreen tree or shrub per 10 linear feet of required screen length or perimeter. The height of required trees or shrubs shall be equal to 1/2 of the maximum height of the item requiring the screen at the time of planting. Required plantings shall be placed at a regular spacing so as to maximize the overall density of the landscape screen.

Items such as refuse storage areas, loading docks, and other unsightly features should be screened by an enclosure or out of view from abutting properties and rights-of-way.

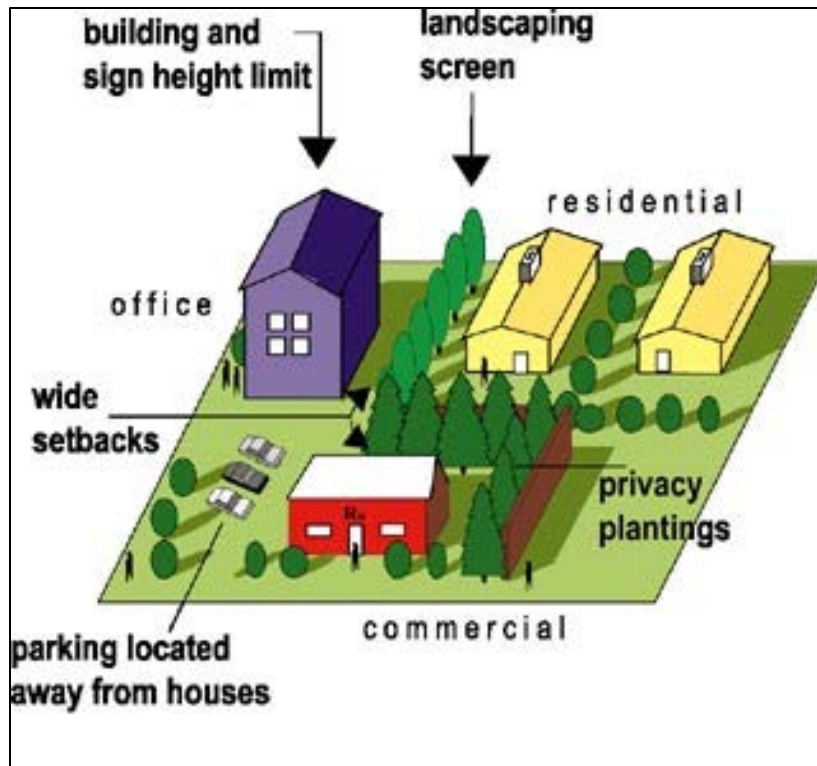


Figure 23 Screening (Knoxville-Knox County, 2014)

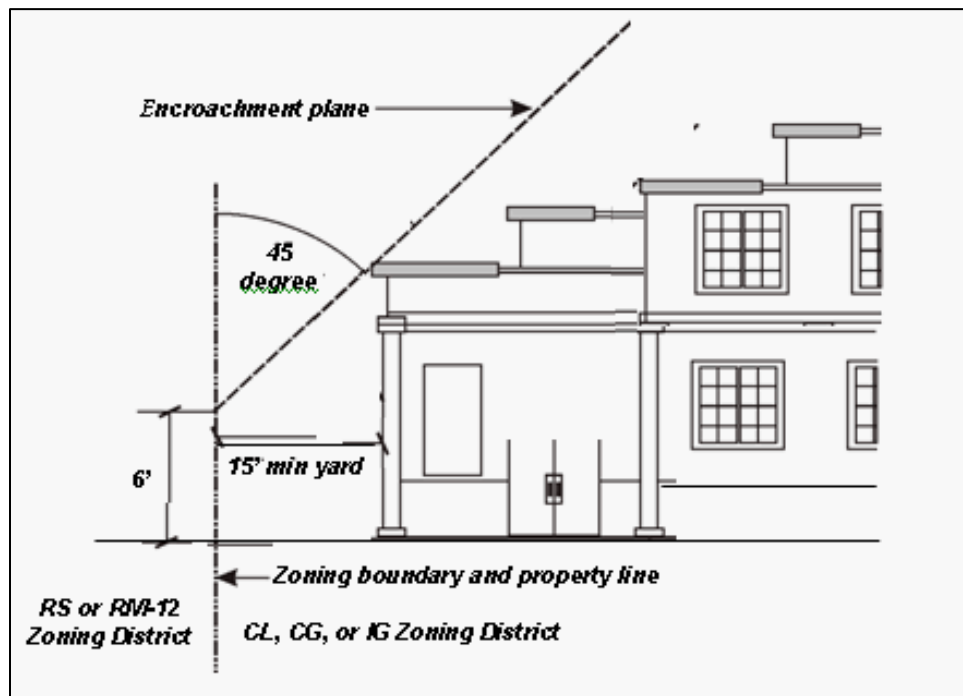


Figure 24 Performance Zoning (City of Pasadena, 2014)

**b. Lighting:**

The building's lighting shall be shielded to prevent light and glare spillover onto adjacent residential properties.

**c. Noise:**

The facility shall be designed such that it absorbs or dissipates noise to the greatest extent possible. Where facilities are adjacent to residentially zoned or used property; noise shall be reduced to the greatest extent possible at the property line.

**d. Update Zoning of Properties:**

Currently, there are many properties along the corridor that are split between multiple zones. Zoning does not follow parcel boundaries and is not appropriate in every circumstance along the corridor. Chicopee should conduct an analysis of these issues with their zoning and consider rezoning the corridor with the long term vision in mind.

**e. Update the zoning on GIS:**

Currently, the city does not have updated GIS maps. HHP recommends that Chicopee start with the PVPC 2004 GIS zoning maps as a baseline for updating the city's GIS metadata.

**f. Implement uniform wayfinding and signage:**

Currently, the Memorial Drive corridor is unbranded and not a "known" destination. By providing unique, but uniform wayfinding, this measure may transform the corridor in to a "place" as opposed to "Anytown, USA."



*Photograph 11: Wayfinding Signage (Corbin Design, 2014)*

## Implementation Timeline for Zoning and Land Use

### a. 6 months - 1 year

- i. Update zoning on GIS.
- ii. Create a wayfinding and signage task force.

### a. 2-3 years

- i. Chicopee should conduct an analysis of these issues with their zoning and consider rezoning the corridor with the long term vision in mind.
- ii. Implement performance standards for screening, light, and noise. A corridor overlay can focus these performance standards on the particular conflicts of uses along Memorial Drive.
- iii. Create zoning standards for parking to site parking in the rear of commercial properties and encourages the buildings to be located closer to the street.

### b. 5 years from now

- i. Implement new zoning along the corridor.

## Future Consultants

- a. An intern or employee proficient in ArcGIS is needed to bring Chicopee's zoning up to date with technology. This individual should initially make updates to the PVPC zoning map, which was last updated in 2004. Since then, there have been many updates and changes to the zoning throughout the city. In addition, some of the GIS tables should then be updated to each parcel.
- b. Future consultants should conduct an analysis of the benefits of switching the zoning to performance zoning based on performance standards throughout target areas in the City.

## Funding and Other Resources

The City of Chicopee could use Community Development Block Grant (CDBG) funds for revamping the zoning. The Massachusetts Executive Office of Housing and Economic Development (EOHED) Community Planning Division has a plethora of zoning resources (<http://www.mass.gov/hed/community/planning/zoning-resources.html>).

The Massachusetts Citizen Planner Training Collaborative (CPTC) also hosts workshops regarding various aspects of planning with some specifically addressing zoning. These resources could be used by City of Chicopee's planners to assist in making zoning changes.

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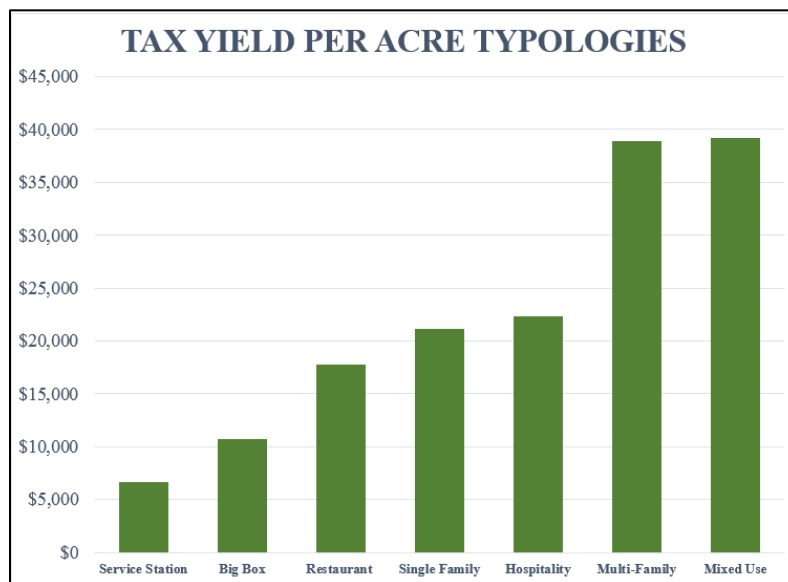
# Chapter 4 Priority Sites & Redevelopment Proposals

## Overview

A main objective of identifying priority sites and proposing redevelopment proposals is to provide fiscal benefits to the City of Chicopee by increasing the tax yield on the corridor.

Most municipalities look at property's total tax yield to analyze their productivity. Tax yields are calculated by the total assessed value of the property (assessed value of the land plus the assessed value of the building), dividing by one thousand and multiplying this number by the tax rate. Chicopee has a split tax rate for residential (\$17.54) and commercial (\$31.67). The higher the total tax yield, the better for the municipality. New research from Jennifer Stromsten, University of Massachusetts Regional Planning 2014 graduate, and others indicates that municipalities should rather look at the Tax Yield Per Acre (TYPA). To calculate a property's TYPA, divide the total tax yield by the acreage of the property. This is a powerful economic development tool that shows that density pays more in property tax than low density Big Box stores and their parking lots.

HHP calculated the average TYPA's for various types of developments along the corridor. As shown in the figure below, mixed use buildings and multi-unit residences contribute much higher TYPAs than Big Box stores due to their density.



*Figure 25 Tax Yield Per Acre Typologies*

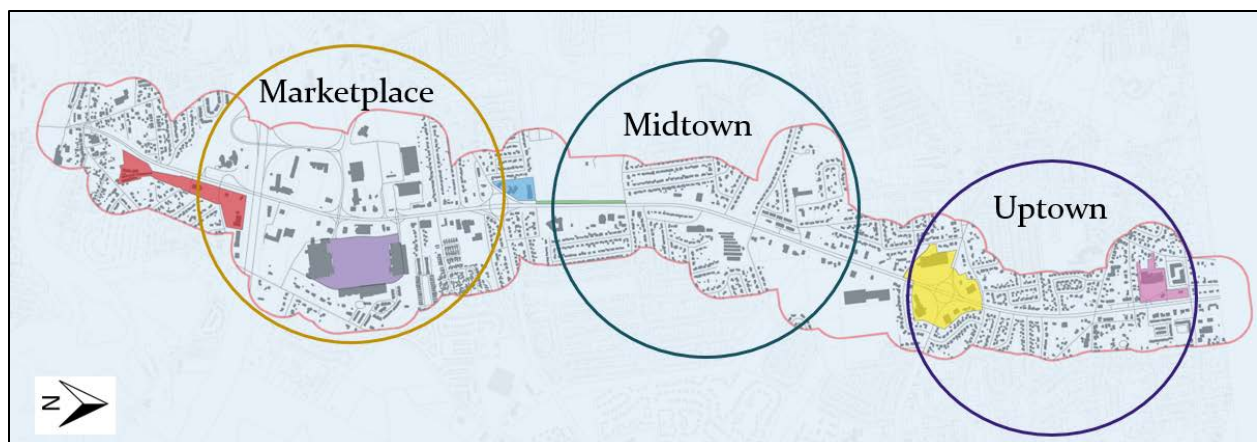
Hills House Planners identified six priority areas along the corridor to study at a finer grain level and make proposals for future uses and designs. HHP identified a three sites in the commercial Marketplace area, one in the transitional Midtown area, and two sites in the Uptown area. HHP chose these sites after collecting the responses from the public workshop and discussions with Lee Pouliot of the Chicopee Community Development Department. Additionally, several of these sites were identified in the UMass Center for Economic Development's 2008 Economic Development

Report for the City of Chicopee. The six priority areas are located throughout each section of the corridor and have a variety of issues facing them. The below table shows the tax yield for the current uses of several of the priority sites and the tax yield under the proposed types of redevelopment. Please note that the three of the sites are not listed below as their proposals do not focus on changing uses and the future tax increases were not calculated.

Priority Site	Existing Tax Yield	<i>Proposed Tax Yield</i>	% Increase
Marketplace #1	\$195,155	\$420,926	115.7%
Marketplace #3	\$80,869	\$109,722	35.7%
Uptown #2	\$102,165	\$198,573	94.4%

*Figure 26 Tax Yield Per Acre Summary Table*

HHP recognizes that many of our redevelopment proposals are on currently developed properties; thus, the proposals stand as arguments for redevelopment of underperforming (e.g., tax revenue) parcels. HHP has made these proposals for several reasons. These areas are in key locations throughout the corridor and several are in areas of high conflict of uses. These proposals give the City of Chicopee a vision of the long term future of these sites of contention and identify key planning principles and best management tools to work with. Several of the other proposals have elements that are much riper for completion. The Marketplace Priority Site #2 focuses solely on the parking lot for the Marketplace Shopping Center, the Midtown Priority Site is currently undeveloped, and the Uptown Priority Site #1 focuses more on the rotary, parking lots, and use of a set of undeveloped parcels and a vacant residence.



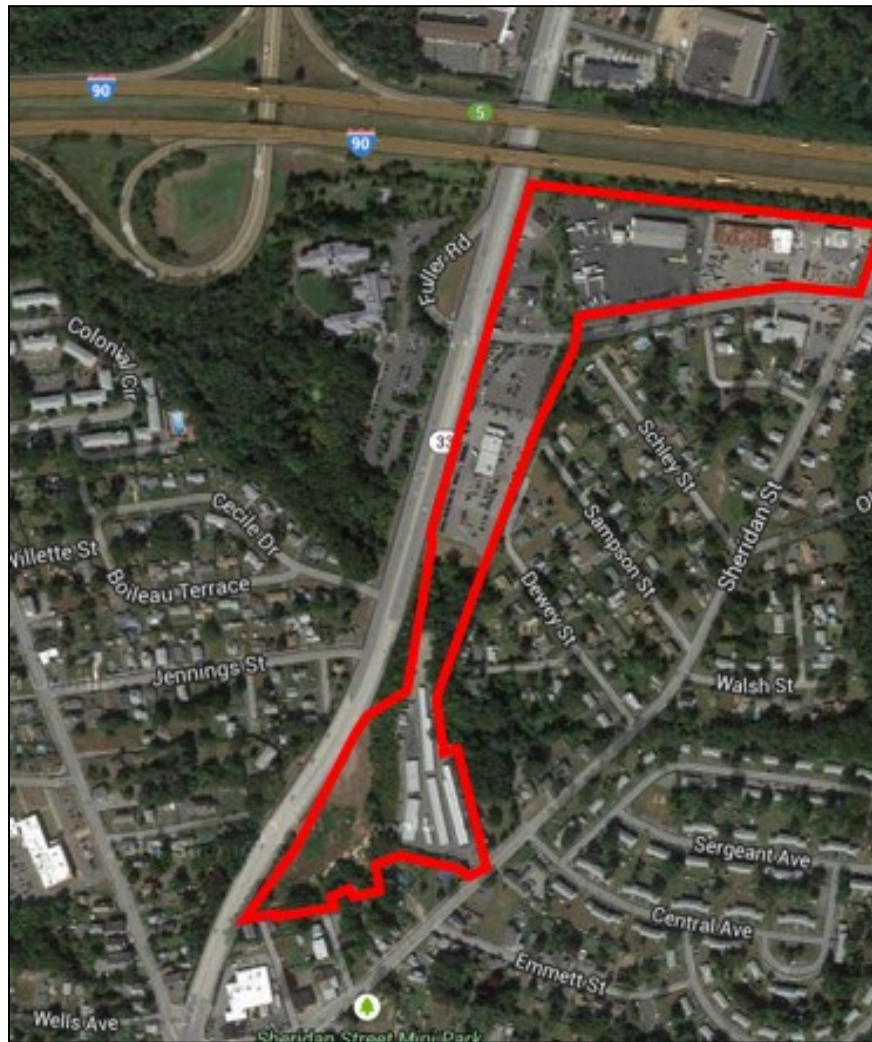
*Figure 27 Priority Site Locations.*



# Marketplace Priority Site #1

## Existing Conditions

Analysis of 16 parcels stretching approximately ½ mile south of the turnpike along the east side of Memorial Drive shows a high concentration of auto-oriented businesses, storage facilities, and vacant land. This area totals 19.12 acres of land with only four parcels greater than one acre in size. Many of the parcels are oddly shaped and sized. These parcels are zoned Industrial, Residential A, and Business A. In three cases, the zoning does not match the property boundaries resulting in three parcels having multiple zones crossing through the parcel. The aerial map of the Marketplace Priority Site #1 is below.



*Figure 12 Marketplace Priority Site #1 Aerial Map*

Of the sixteen parcels, ten are undeveloped and six have various structures. Descriptions of the parcels containing structures are as follows.

1. Parcel B (399 Memorial Drive) contains one building and is owned by Jk Real Estate Llc C/O Sarat Ford and is a vacant automotive repair facility. The building was constructed in 1962 with grade C- materials. The property's total valuation is \$420,400.
2. Parcel C (385 Memorial Drive) contains one building and is owned by Jk Real Estate Llc and occupied by All Star Car & Truck Rental. The building was built in 1967 with grade C materials. The property's total valuation is \$370,600.
3. Parcel E (30 Fuller Road) contains two building and is owned by Penske Truck Leasing for storage and auto service. The buildings were constructed in 1980 with grade C materials. The property's total valuation is \$981,000.
4. Parcel F (60 Fuller Road) contains two buildings and is owned by Jk Real Estate Llc C/O John S Sarat Jr. and used as an auto dealer and office warehouse. The buildings were constructed in 1978 and 1984 with grade B- materials. The total property valuation is \$1,545,100.
5. Parcel H (333 Memorial Drive) contains one building and is owned by 333 Memorial Dr Llc and occupied by Bob Pion Buick car dealership. The building was constructed in 1986 with grade C materials. The property's total valuation is \$1,088,400.
6. Parcel J (105 Sheridan Street) contains six storage buildings and is owned by Ked Storage LLC. These self-storage buildings were constructed in 2003 with grade C materials. The property's total valuation is \$1,060,000.

The total value of all 16 parcels is \$6,162,000. The tax yield per acre (TYPA) is \$10,209, using the commercial tax rate for all of the properties. Please see Figures 20 and 21 below, showing the parcel maps and zoning for this priority site. In addition, Figure 22 provides assessor's data on the 16 parcels.

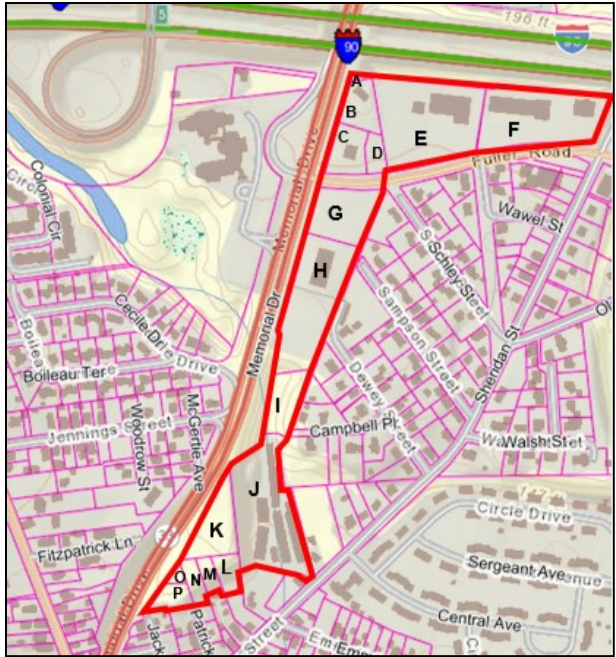


Figure 28 Marketplace Priority Site #1 Parcel Map

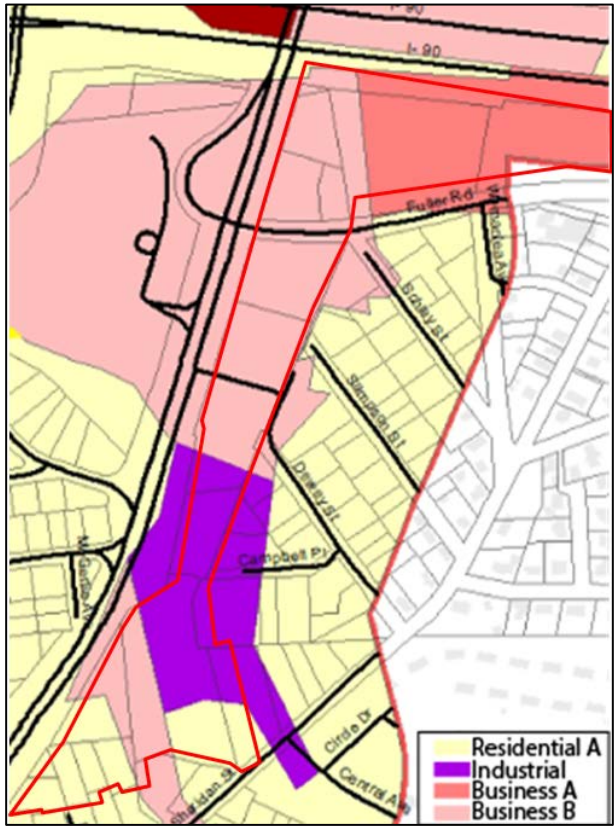


Figure 29 Marketplace Priority Site #1 Zoning Map

The following table details the parcel identification numbers, acreage, current use description, and zoning for each parcel in this area.

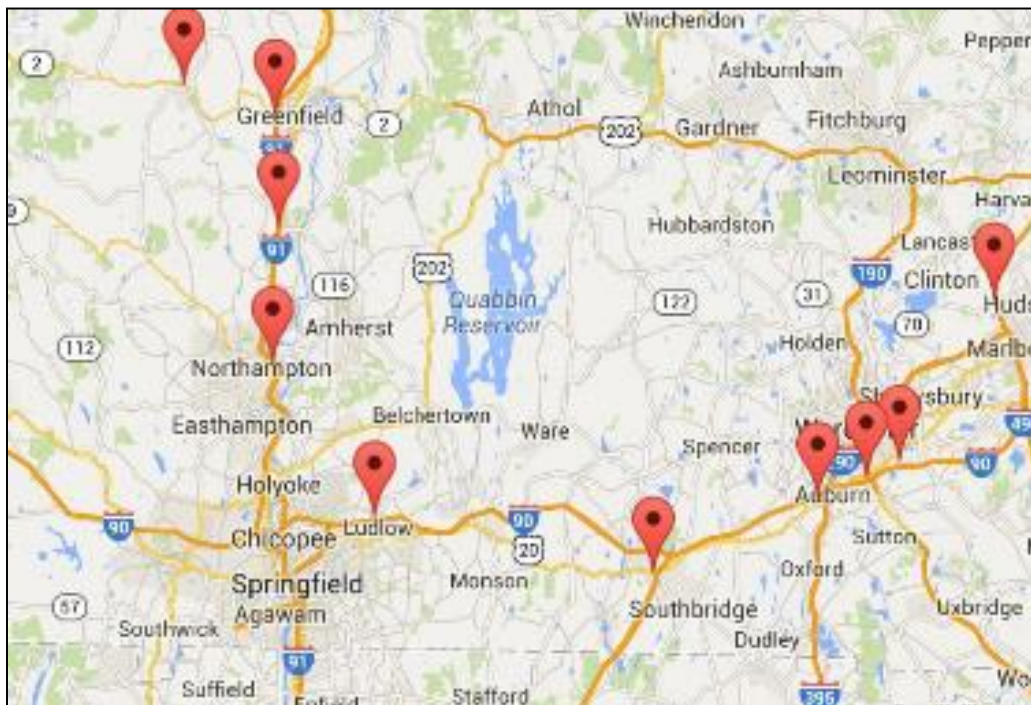
Parcel ID	Lot Size (Acres)	Current Uses	Current Zoning
0313-00003	0.04	Undevelopable Industrial	Business A
0313-00001	0.69	Auto Repair Facilities	Business A
0312-00001	0.68	Automotive Vehicles Sales and Service	Business A
0313-00002	0.31	Undevelopable Industrial	Business A
0286-00040	3.52	Auto Repair Facilities	Business A
0286-00039	2.94	Automotive Vehicles Sales and Service	Business A
0286-00017	1.34	Automotive Vehicles Sales and Service	Business A
0285-00020	2.97	Automotive Vehicles Sales and Service	Business A, Industrial
0258-0015A	0.90	Potentially Developable Commercial Land	Industrial
0258-00015	3.31	Other Storage, Warehouse, and Distribution facilities	Industrial, Residential A, Business A
0258-00016	0.96	Other Storage, Warehouse, and Distribution facilities	Business A, Residential A
0231-0047A	0.281	Undevelopable Commercial	Residential A
0231-0046A	0.395	Developable Commercial Land	Residential A
0231-00051	0.283	Undevelopable Commercial	Residential A
0231-00052	0.124	Potentially Developable Residential Land	Residential A
0231-00053	0.360	Undevelopable Commercial	Residential A

*Figure 30 Marketplace Priority Site #1 Assessor's Data Table*

## Proposals

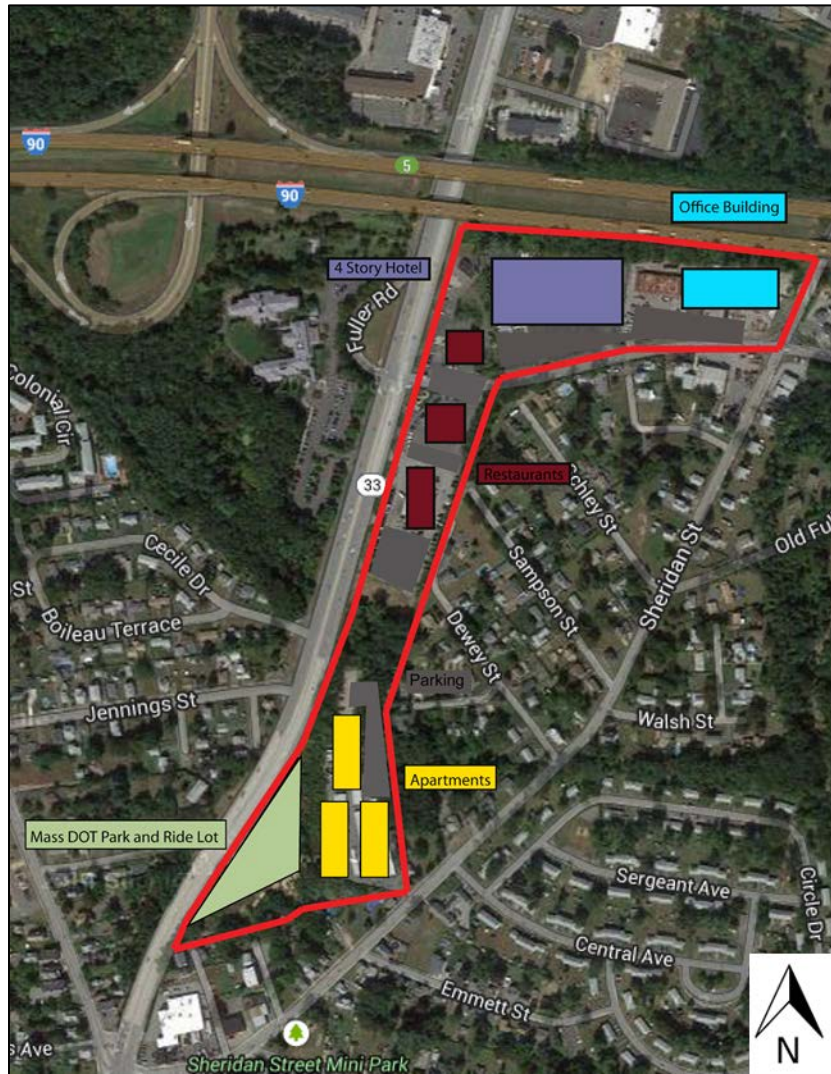
With the coming MGM casino in Springfield, just 10 minutes down the road from this area, Chicopee can capitalize on the central location of exit 5 of the Massachusetts Turnpike, Memorial Drive. This area formerly attracted many Pioneer Valley visitors to stay in the hotels on Memorial Drive due to its central location and ease of access to the five college area in Amherst and Northampton and to business activity and the many colleges in the Springfield area. Hotels in Hadley have reduced the need for people to stay in Chicopee for UMass events; however, there will be an opportunity with economic growth and increase in people coming through Chicopee due to the coming MGM Casino in Springfield to again position this area as an affordable place to stay the night.

HHP encourages constructing a hotel on 3.9 acres of the northern portion of the target area with the Massachusetts Turnpike bordering to the north. Three one acre restaurants should line the northern portion of Memorial Drive to give hotel patrons options for dining. In the southeastern portion of the target area, three multi-unit apartment buildings are proposed as this area is buffered from Memorial Drive and abut single and multi-family residences along Sheridan Street. HHP recommends senior or affordable housing for at least a portion of this development. A mixed-income development would fit the neighborhood and provide funding opportunities such as Low Income Housing Tax Credits (LIHTC) and the Housing Development Incentive Program, which provides developers in Gateway Cities with tax credits of up to 10% for market rate and mixed income housing units.



*Figure 31 Massachusetts DOT Park and Ride Lot Map (MassDOT, 2014)*

HHP recommends a MassDOT Park and Ride Lot on the vacant lot on the southwestern portion of the target area as it is directly off of a major exit Massachusetts Turnpike. On the Massachusetts Turnpike, there is only one park and ride lot in Western Massachusetts and that is in Ludlow at exit 7. Exit 5, Memorial Drive, is also in close proximity to the north-south Interstate 91, as well as Route 291 and Route 391.



*Figure 32 Marketplace Priority Site #1 Proposal*

## Tax Yield Per Acre (TYPA)

Based on HHP's redevelopment proposal for this priority area, the new tax yield would be \$420,926, over twice that of the current tax yield. The new TYPA would be \$22,038, also more than double that of the current TYPA. As shown in the figure below, the mixed use building and multi-unit residences contribute higher TYPAs due to their density.

The current tax yield for this area is \$195,155. The current TYPA of this priority area is \$10,209. The TYPA is quite low due to the many undeveloped or underdeveloped parcels in the area.

The redevelopment proposal's TYPA was calculated by finding the TYPA for a variety of properties within various typologies or uses, Big Box store, mixed-use, multi-family residential etc., and applying the average for each typology to the approximate acreage of the proposal. Please note that parcel boundaries and zoning were not followed in these examples to show the City of Chicopee what redevelopment could do for them in terms of tax yield and TYPA.

<b>Marketplace Priority Site #1</b>							
<b>TPOLOGY</b>	<b>Total Assessed Value</b>	<b>Size (Acre)</b>	<b>Tax Yield</b>	<b>Average TYPA</b>	<b>Size (Acre)</b>	<b>Tax Yield (Redevelopment)</b>	<b>New TYPA</b>
<b>Big Box</b>	\$7,240,833	11.832	\$127,004	<b>\$10,322.71</b>	0	\$0.00	\$0.00
<b>Service Station</b>	\$157,645	0.414	\$2,765	<b>\$14,337.56</b>	0	\$0.00	\$0.00
<b>Hospitality</b>	\$2,870,525	2.254	\$50,349	<b>\$20,618.59</b>	3.9	\$80,412.51	\$20,618.59
<b>Restaurant (Com.)</b>	\$970,300	0.958	\$17,019	<b>\$23,861.40</b>	3	\$71,584.19	\$23,861.40
<b>Single Family</b>	\$647,750	0.537	\$11,362	<b>\$22,636.23</b>	0	\$0.00	\$0.00
<b>Multi-Unit Res.</b>	\$5,098,875	2.301	\$89,434	<b>\$36,232.80</b>	4	\$144,931.21	\$36,232.80
<b>Mixed Use-Rest/Office</b>	\$380,100	0.307	\$12,038	<b>\$41,332.71</b>	3	\$123,998.14	\$41,332.71
<b>Green Space/Park &amp; Ride</b>	\$0	NA	\$0		5.2	\$0.00	\$0.00
					19.1	\$420,926	\$22,038
	<b>Total Tax Yield</b>	<b>Total TYPA</b>					
<b>Redevelopment</b>	\$420,926	\$22,038					
<b>Current</b>	\$195,155	\$10,209					
<b>Difference</b>	\$225,771	\$11,829					

Figure 33 Marketplace Priority Site #1 TYPA

## Marketplace Priority Site #2

### Existing Conditions

The second priority study area is Home Depot Parking lots located on the north-east side of the Interstate-90 approximately a mile away from the turnpike.

The site consists of five parcels which are zoned as Business A and the total acreage of the five parcels is 52.97 acre. The land-use of the five parcels is commercial use and existing stores are Home Depot, Wal-Mart and restaurants without vacant stores. Based on our field observation, the existing parking lot has a substantial impervious surface with poor vegetation. Moreover, there has limited sidewalks and crosswalk for pedestrians to travel from stores to stores. There are 9 existing structures on 5 parcels and the descriptions are below:

1. Parcel A (665 Memorial Drive) contains one building, is owned by Hd Development Of Maryland Inc Property Tax Dept #2610. The building was constructed in 2003 used as a discount store.
2. Parcel B (611 Memorial Drive) contains four building, is owned by Chicopee Marketplace Llc C/O Ryan Llc. The card 1 building was constructed in 1974 used as supermarket. The card 2 building is constructed in 2005 occupied by retail – Multi Occupancy. The card 3 building is constructed in 2006 occupied as strip mall. The card 4 building is constructed in 2007 used as a fast food restaurant.
3. Parcel C (639 Memorial Drive) contains one building, is owned by Fishman Realty Trust (the C/O Mcdonald Corp. The building was constructed in 2014 used as a fast food restaurant.
4. Parcel D (545 Memorial Drive) contains two building, is owned by Chicopee Holding Corporation C/O Vornado Realty Trust. The buildings are constructed in 2005 occupied by a discount Store and a fast food restaurant.
5. Parcel E (529 Memorial Drive) contains one building, is owned by O Ice Llc. The building was constructed in 2002 occupied by Restaurants/Taverns/Diners.

Parcel ID	Lot Size (Acre)	Current Uses	Current Zoning
0397-00008	12.73	Home Depot	Business A
0369-00005	22.77	Parking Lot	Business A
0397-00009	0.71	Developable Commercial Land	Business A
0369-00006	15.55	Wal-Mart	Business A



Parcel ID	Lot Size (Acre)	Current Uses	Current Zoning
0341-00008	1.21	Restaurants	Business A

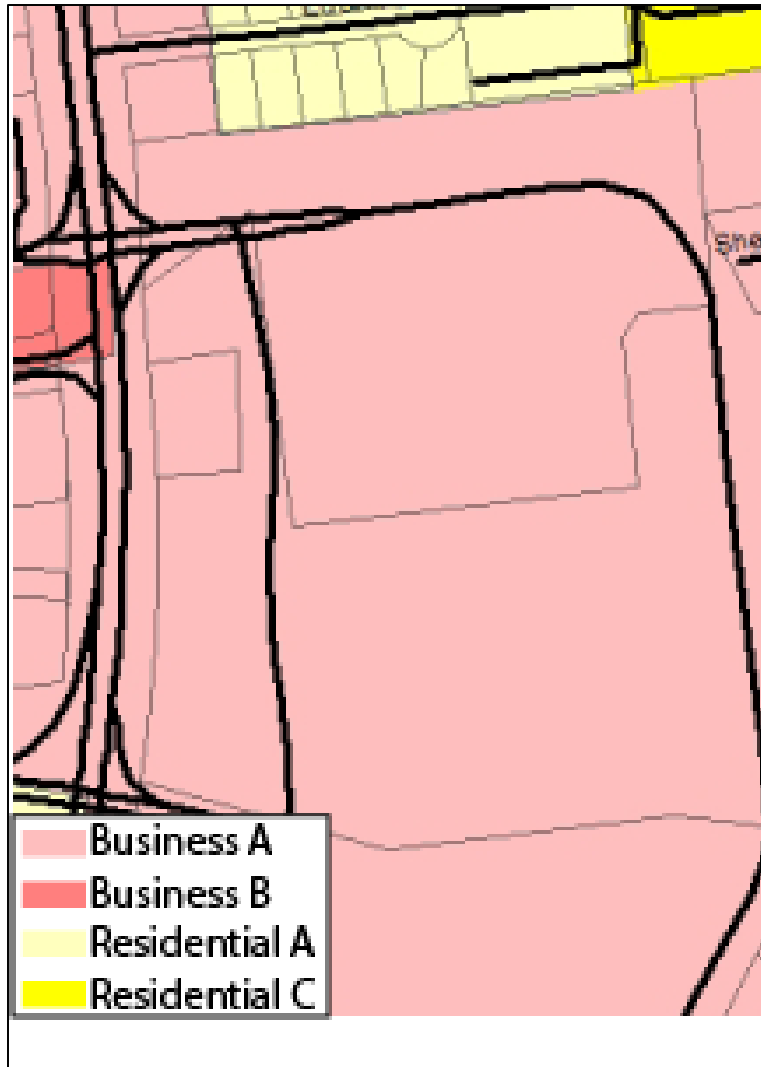
*Figure 34 Marketplace Priority Site #2 Assessor's Data Table*



*Figure 35: Marketplace Priority Site #2 Parcels Map*



Figure 21: Marketplace Priority Site #2 Aerial Map



*Figure 36: Marketplace Priority Site #2 Zoning Map*

## Proposals

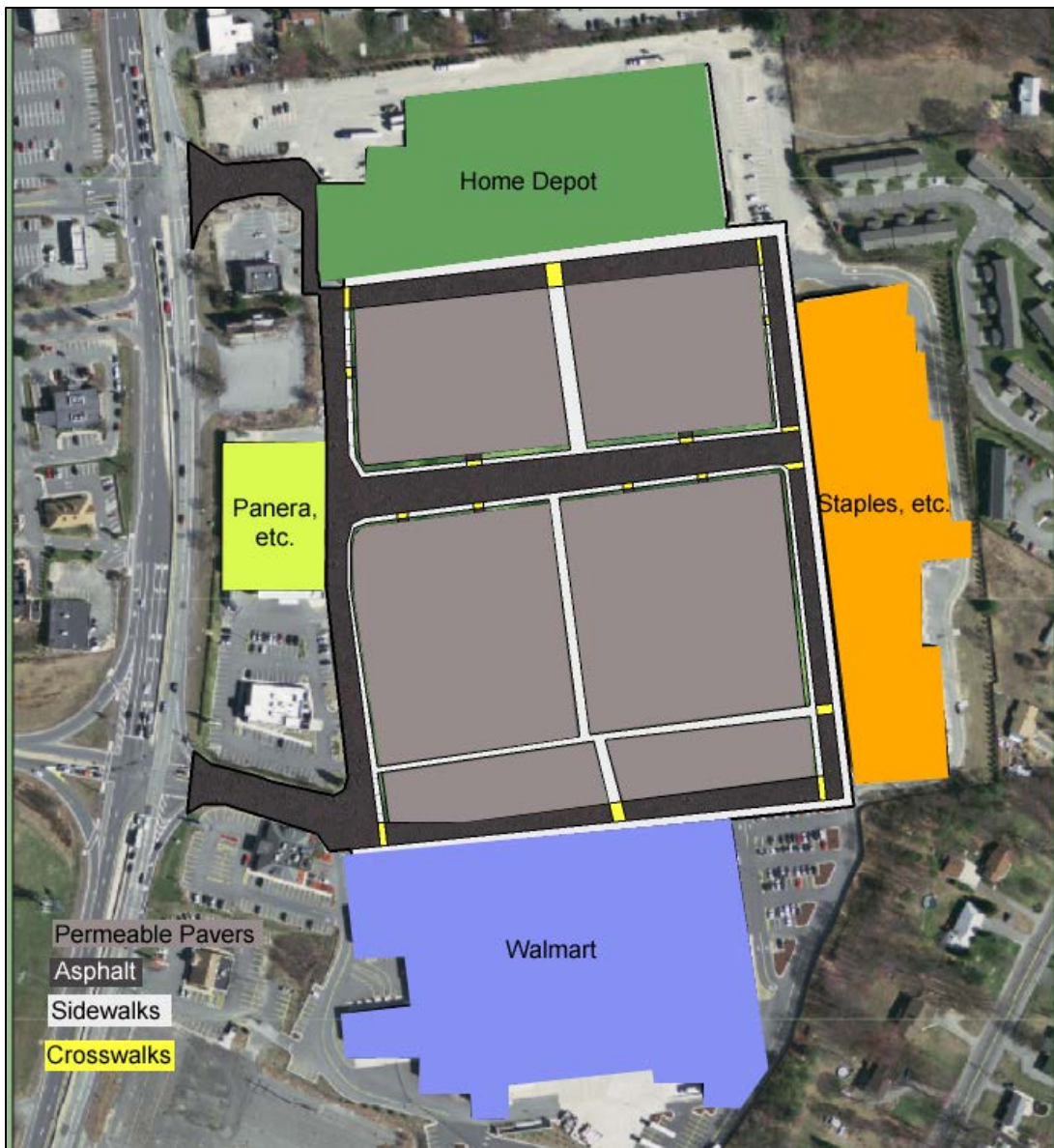
Due to substantial impervious surfaces on this parking lots, HHP encourage implementing green parking on this location to not only filter pollutant water and reduce stormwater runoff, but also increase the aesthetics of the parking lots. Moreover, HHP recommend adding permeable sidewalks with the intention of connecting stores that share the same parking lots and thus increase the walkability of the site.

## Benefits of Green Parking

Green parking is parking lot integrated with one or more green infrastructure such as bioretention, bioswales, and permeable pavements to infiltrate pollutant water, reduce stormwater runoff and increase the aesthetics (US EPA). Research shows that bioretention can effectively remove polycyclic aromatic hydrocarbons (PAHs) from stormwater runoff (DiBlasi et al, 2009,

p.494). Currently, the material of the parking lot is paved by asphalt and the leach of PAHs from the asphalt will be a source of water pollution during CSOs event due to substantial of impervious surface (ibid). Therefore, implementing green parking will not only reduce the stormwater runoff but also increase water quality in a long term.

Additionally, Kathleen L. Wolf's research indicates that consumers prefer better landscaped shopping plazas. The survey results indicated that "respondents preferred landscaped roadsides and report positive retail behavior such as willingness-to-pay 8.8% more for goods and services in well-landscaped malls" (2009, pg. 33). This information can give developers and owners of strip malls incentive to create better landscaped parking lots for commercial properties.



*Figure 37 Marketplace Priority Site #2 Proposed (Illustrator)*



*Figure 38 Marketplace Priority Site #2 Proposed (SketchUp)*



*Figure 39 Marketplace Priority Site #2 Proposed (SketchUp)*

## Funding Sources

### State Resources

- a. Department of Conservation & Recreation
- b. Community Preservation Act

- c. Massachusetts Highway Department: Chapter 90 Program
- d. Smart Growth Initiatives
- e. TIGER Discretionary Grants

#### Federal Resources

- a. Government Accounting Standards Board Statement 34
- b. U.S. Fish and Wildlife Agency
- c. Federal Pedestrian-Friendly
- d. Northeast Center for Urban & Community Forestry
- e. National Tree Trust
- f. Recreational Trails Program

#### Private/Non-profit Resources

- a. Trust for Public Land
- b. TreeLink
- c. Alliance for Community Development-Alliance for Community Tree
- d. National Gardening Association (Youth Gardening Grants)

# Marketplace Priority Site #3

## Existing Conditions

The Marketplace Priority Site #3 is located in the northwestern quadrant of the southern rotary. The area includes five parcels totaling 4.385 acres and currently is developed with a Town Fair Tire, a U-Haul business, Lighthouse Liquors, and the Bridge Cafe. The land is currently zoned Business B. These businesses are immediately adjacent to a single family residential neighborhood. Despite multiple levels of various fencing, the rear of these unpleasant buildings is still visible to the abutting residences.



*Photograph 12: Fencing Between Conflicts of Uses-HHP*

- The Bridge Cafe parcel's total value is \$428,200 with a tax yield of \$13,561 and a TYPA of \$17,319.
- The total value of the Lighthouse Liquors parcel is \$575,500 with a tax yield of \$18,226 and TYPA of \$42,092 due to its small lot.
- The total value of the U-Haul parcel is \$422,300 with a tax yield of \$14,723 and a TYPA of \$12,253.
- The undeveloped sliver property has a total value of \$60,700 with a tax yield of \$1,922 and a TYPA of \$4,576.
- The Town Fair Tire parcel has a total value of \$1,055,800 with a tax yield of \$33,437 and a TYPA of \$20,526.



Figure 40 Marketplace Priority Site #3 Aerial Map

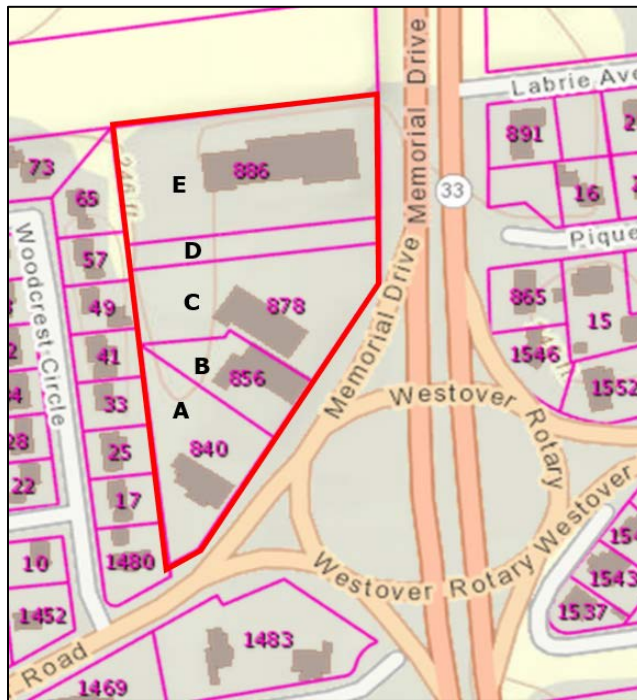
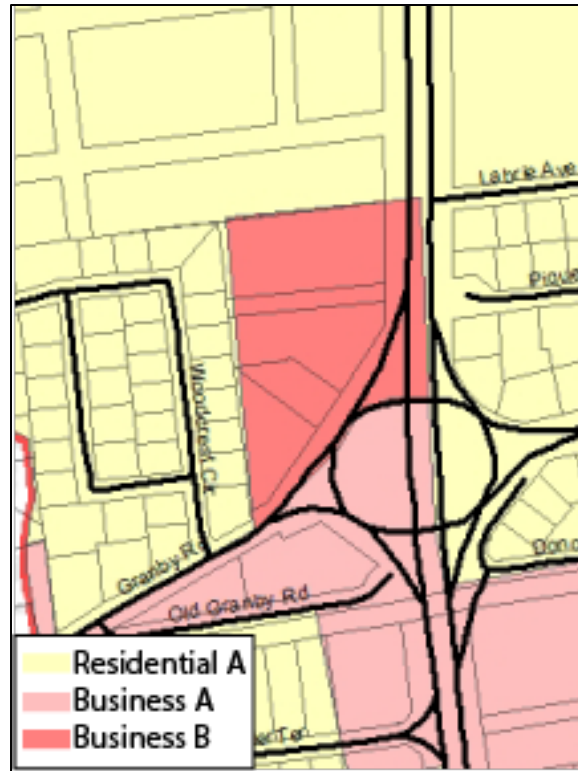


Figure 41 Marketplace Priority Site #3 Parcels Map





*Figure 42 Marketplace Priority Site #3*

## Proposals

Due to the conflict of uses in this area, HHP's proposals are sensitive to the neighbors while continuing with the commercial and entertainment theme of this area of the corridor. HHP's redevelopment proposal includes a mixed-use building containing entertainment and other commercial businesses in the northeast portion of the site along Memorial Drive. The building will wrap along the road and flow into a larger restaurant such as a Dave and Busters, which has hundreds of arcade games and televisions for sports viewing, along with the restaurant. This would add an interesting entertainment option for the corridor. A unique business like a Dave and Busters is lacking in the Pioneer Valley.

To buffer these uses from the adjacent residences, these two buildings are located closer to the street with parking in the rear. The parking will include landscaping, especially along the western border with the residences. Performance standards in regards to screening, noise, and light will be recommended for zoning in this area to ensure the neighbors are impacted as limited as possible.

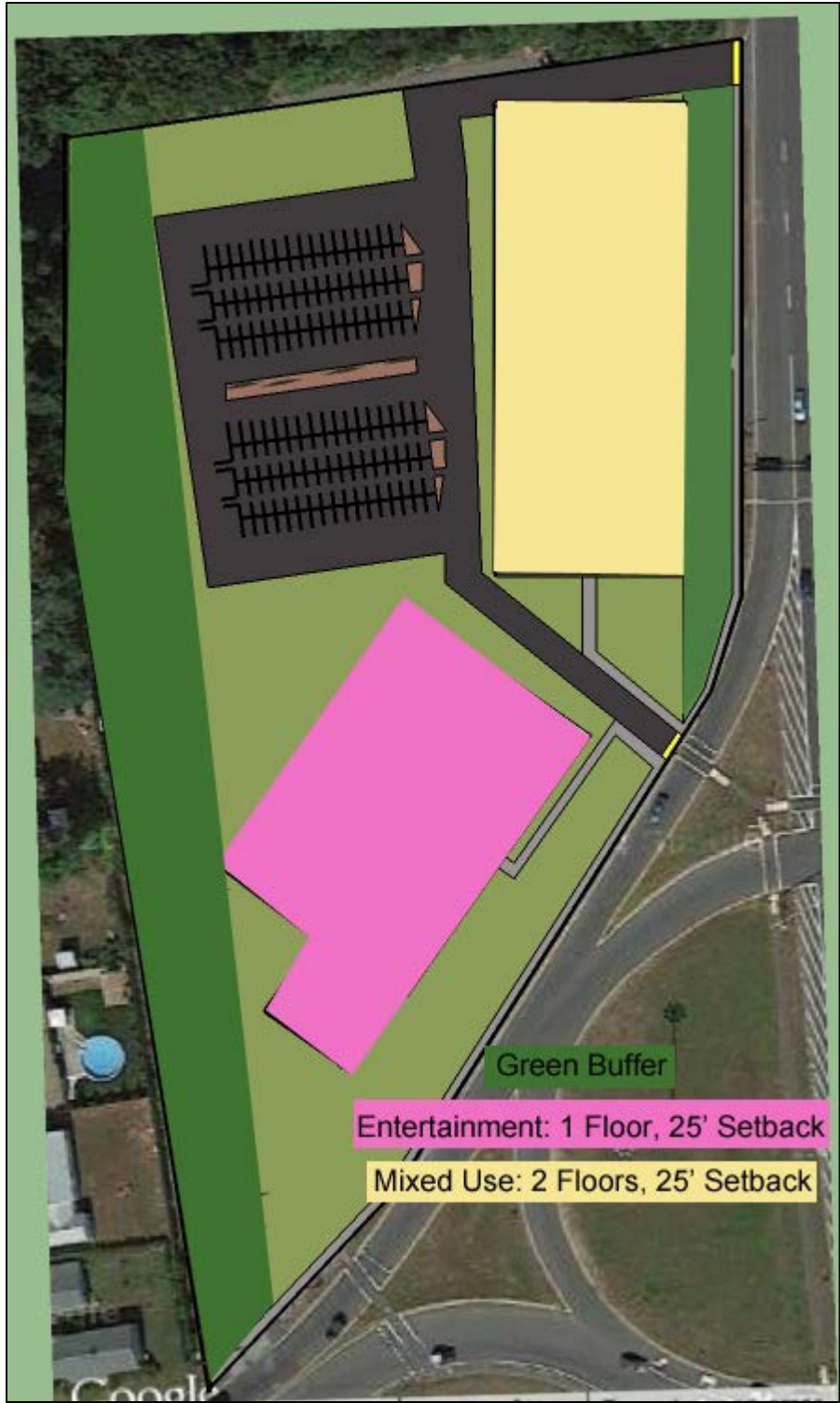
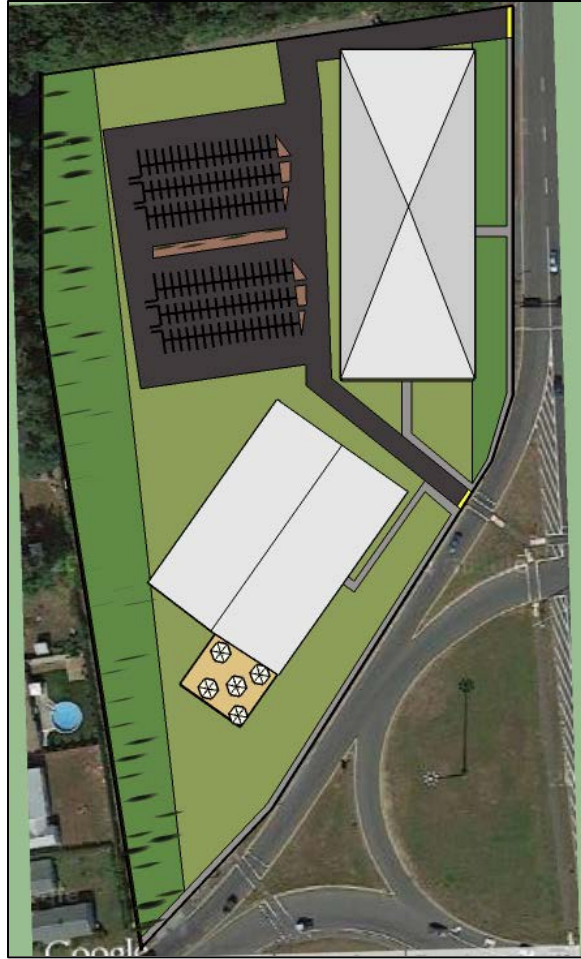


Figure 43: Marketplace Priority Site #3 Proposed (Illustrator)



*Figure 44 Marketplace Priority Site #3 Proposed (SketchUp)*



*Figure 45 Marketplace Priority Site #3 Proposed (SketchUp)*

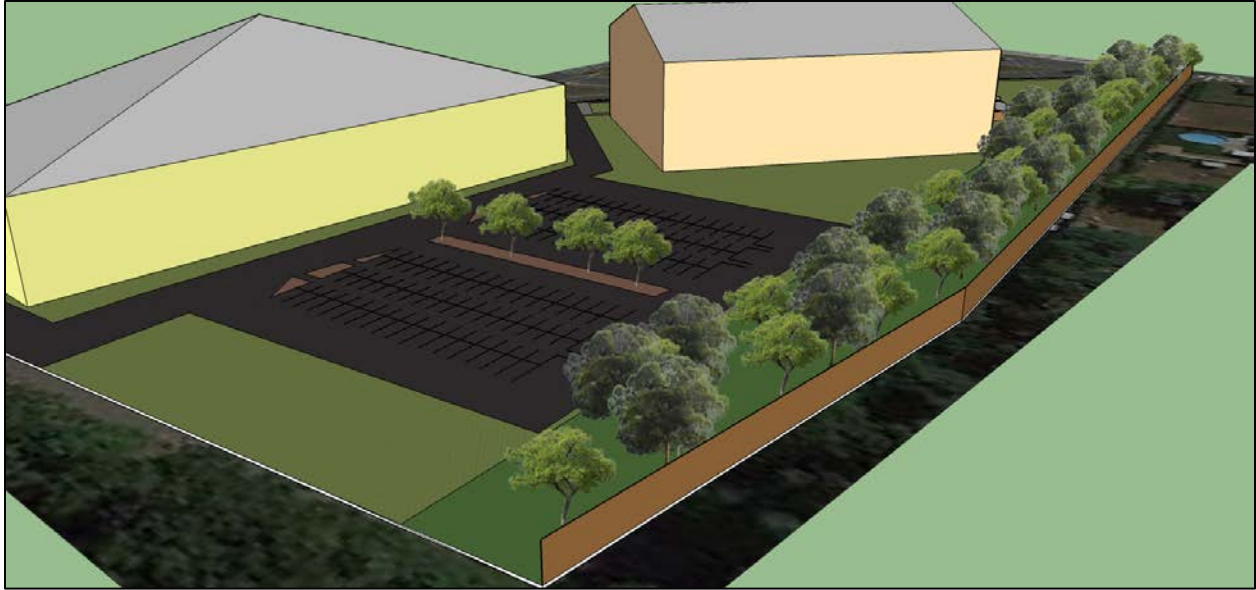


Figure 46 Marketplace Priority Site #3 Proposed (SketchUp)

## Tax Yield Per Acre (TYPA)

The current tax yield of this area is \$80,869, compared with \$109,722 for the redevelopment. This is an increase of nearly \$29,000 annually for the City. The TYPA will increase from \$18,442 to \$25,022. It is worthy to note that in this situation, HHP is proposing to reduce the number of buildings, mostly to allow for a better buffer with the adjacent residences. Despite reducing the number of buildings in half, the tax yield increases because the TYPA for the proposed new uses is much higher.

<b>Marketplace Priority Site #3</b>							
TYPOLOGY	Assessed Value (Land and Building)	Size (Acre)	Tax Yield	Average TYPA	Size (Acre)	Tax Yield (Redelvelopment)	New TYPA
Big Box	\$7,240,833	11.832	\$127,004	\$10,322.71	0	\$0	
Service Station	\$157,645	0.414	\$2,765	\$14,337.56	0	\$0	
Hospitality	\$2,870,525	2.254	\$50,349	\$20,618.59	0	\$0	
Single Family	\$647,750	0.537	\$11,362	\$22,636.23	0	\$0	
Restaurant (Com.)	\$970,300	0.958	\$17,019	\$23,861.40	2	\$47,723	\$23,861
Multi-Unit Res.	\$5,098,875	2.301	\$89,434	\$36,232.80	0	\$0	
Mixed Use	\$380,100	0.307	\$12,038	\$41,332.71	1.5	\$61,999	\$41,333
Green Space	-	-	-	-	0.885	\$0	
					4.385	\$109,722	\$25,022
	<b>Total Tax Yield</b>	<b>Total TYPA</b>					
Redevelopment	\$109,722	\$25,022					
Current	\$80,869	\$18,442					
Difference	\$28,853	\$6,580					

Figure 26: Marketplace Priority TYPA

# Diocese Lot (Marketplace District)

## Existing Conditions

Analysis of 7 parcels north of the Marketplace District (I-90 to Southern Rotary) consists the northbound (eastern) side with 12.22 acres occupied primarily by the Arbors child care and congregate housing facilities (3 lots totaling 10 acres) with the remaining 2.22 acres consisting of a vehicle dealership, parking lot, and apartments with more than eight units; and one large parcel on the southbound (western) side with 103.96 acres occupied by the Diocese of Springfield for the St. Stanislaus cemetery. The entire frontage of this latter parcel is wooded, and is the last intact stand of trees along the Memorial Drive corridor. There are three zones that this area is comprised of: Residential A, Residential C, and Business A. With the exception of the vehicle dealership, parking lot, and apartment complex, the entire area is zoned Residential A.

Parcel ID	Lot Size (Acres)	Current Uses	Current Zoning
n/a	103.96	Cemetery	Residential A
0536-00002	0.402	Parking Lot	Business A
0536-00003	0.813	Apartments (8+ Units)	Residential A
0536-00001	1.008	Automotive Vehicle Sales	Business A
0509-00002	3.816	Day Care Center	Residential A
0509-00002	1.249	Undevelopable Commercial	Residential A
0481-00022	4.935	Congregate Housing	Residential A

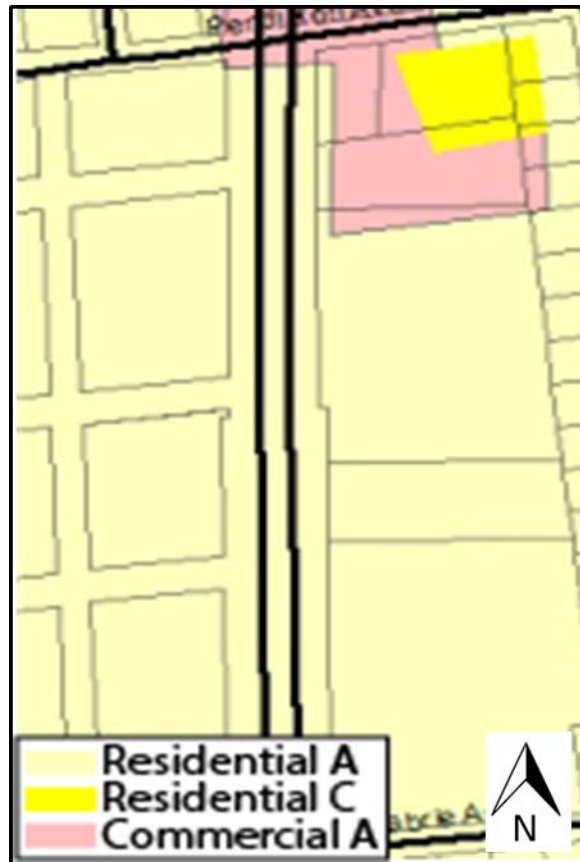
*Figure 26 Diocese Priority Table*



*Figure 47 Midtown Priority Site Aerial Map*



*Figure 48 Midtown Priority Site Parcel Map*



*Figure 49 Midtown Priority Site Zoning Map*

## Proposals

HHP has identified this area as a gateway threshold and representing great opportunity for the City of Chicopee to shape the future of the corridor from that point leading north. While commercial-only development comprised of formula businesses<sup>37</sup> can be beneficial to Chicopee’s economy, HHP urges this development be concentrated between the interstate and the Southern Rotary. In addition to signaling an entry to a more residential section of Chicopee through better signage and buffering of the pedestrian ROW, HHP recommends the modification of the sidewalk on the southbound (western) that abuts the wooded lot owned by the Diocese, into a dedicated lane for bicycles and pedestrians. Given the width of the roadway, the breakdown lane, and the existing sidewalk and buffer, the ROW can be modified with minimal to no acquisition necessary.

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<sup>37</sup> Insert definition of “formula businesses” from Meeting the Big Box Challenge.



*Figure 50 Midtown Priority Site Proposed (SketchUp)*

## Benefits

Although pedestrian and bicycle travel is not the dominant mode of transportation, this may be due to the absence of a pedestrian and bicycle path. Bicycle fast-tracks (bicycle paths raised to the level of the sidewalk, but with texturing to differentiate it from the sidewalk) are emerging as a safer option, but “bicycle boulevards”, routes situated parallel to main arterials, are between 2 and 8 times safer for bicyclists, according to one study (Minikel, 2012). As Memorial Drive is not laid out in a grid, a parallel that corresponds to the corridor does not exist. HHP considers this portion of the corridor to be a wholly suitable target area for a pedestrian and bicycle path, connecting points north of the Southern Rotary to the Marketplace district, and the third places that are contained therein.

Should ROW acquisition be required, the city would have a single rather than multiple entities to interact with. While bike usage may be moderate without extending the pedestrian and bike path, enveloping the street in this fashion sets a precedent for the corridor in general, and more specifically for any potential development that occurs should the frontage be sold for commercial or residential uses, regardless of whether the frontage or the lot is zoned to accommodate greater density. Additional benefits include connecting the corridor to two bike paths that will connect at the Chicopee Senior Center, in Chicopee Falls (Lee Pouliot, personal communication), and reduced vehicular use.

## Implementation/Timeline

Complete Streets accommodate all users of the public right-of-way including pedestrians, bicyclists, drivers and passengers of public, private, and commercial motorized vehicles. All new and redeveloped state-owned roads, projects initiated at the state level, or projects qualifying for state or federal funds are routinely brought into compliance with these roadway standards. There is an eight step process that begins with initiation, and this can happen at the executive level of any city or town government. Projects are reviewed by a committee at the state level, and if they receive



approval, are then ranked and prioritized at the regional level with other transportation improvement projects (TIPs). The following step entails assessment of the technical aspects of a project, for design, environmental permitting, and right-of-way planning. Projects that successfully complete these steps are eligible for implementation. A typical timeline might span two years.

## Funding Sources

Implementation is contingent on funding. Funding may be in part or in full be provided by the state and the federal government; although for a project of this size it is likely that funding from the city will also need to be provided. There are seven types of funding available for the implementation of complete streets, and of these four may be applicable: Non-Federal Aid, Federal Aid, Surface Transportation Program and Congestion Mitigation and Air Quality. The last of these four categories carries with it the most stringent requirements (Wayne Feiden, personal communication). Used in tandem with financing allowable through the I-Cubed Act<sup>38</sup> and in conjunction with TIGER grants from USDOT, this first phase can enhance the entire corridor by providing for greater multimodal access, which in many cases has reduced vehicular traffic by around 10% (Rethinking Streets).

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<sup>38</sup> The Act raises the current statutory limits on the successful Infrastructure Investment Incentive program (I-Cubed), which provides innovative financing for infrastructure projects expected to leverage significant economic investment. The bill raises the number of allowed projects within any community to eight, and increases the total financing allowed under the program to \$600 million.

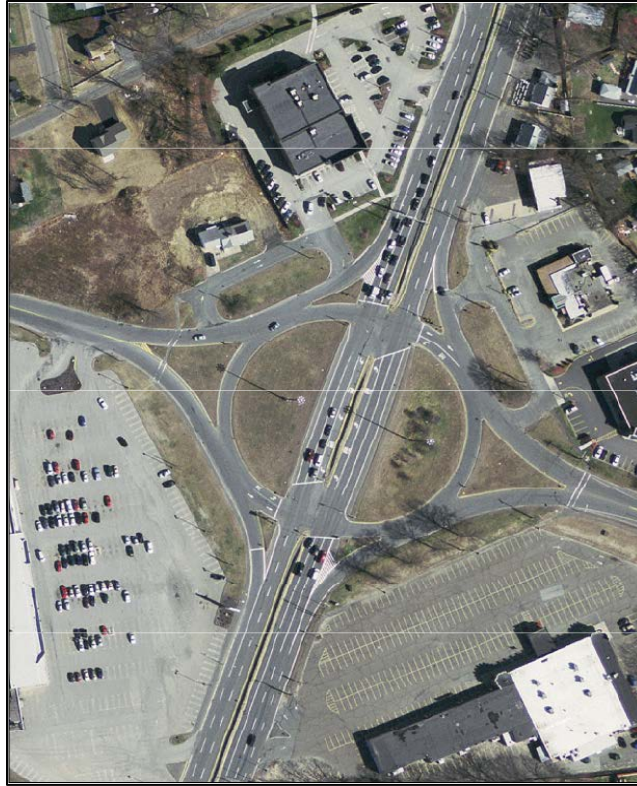
# Uptown Priority Site #1

## Existing Conditions

Uptown Priority Site #1 is located at the Northern Rotary. This priority site has eight parcels that are zoned primarily Business A, as well as Residential A for two parcels (that are zoned both Business A and Residential A). The total acreage from the eight parcels is 17.184, with the two parcels also zoned for Residential A totaling 8.56 acres. The current land use of these parcels are made by one Single-Family unit, two Discount Stores, one Shopping Center, two Restaurant/Taverns/Diners, one Automotive Service and one uncategorized parcel (where the Knights of Columbus is situated).

Parcel ID	Lot Size (Acres)	Current Uses	Current Zoning
0653-00021	0.247	DQ Grill & Chill	Business A
0672-00010	3.99	Knights of Columbus	Business A
0672-00011	7.747	Subway, Price Rite, Goodwill	Business A
0690-00047	1.757	CVS	Business A / Residential A
0672-00006	0.875	Panera Grill	Business A
0690-00050	0.372	Meineke car care center	Business A
0690-00048	0.813	Single Family	Business A / Residential A
0672-00005	1.383	Walgreens	Business A

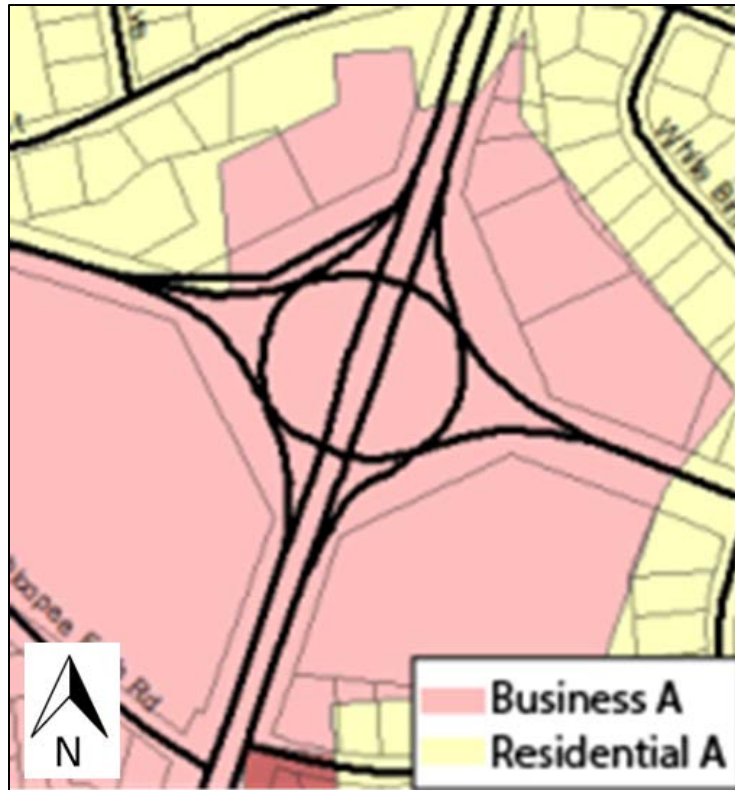
*Figure 51 Uptown Priority Site #1 Table*



*Figure 52 Uptown Priority Site #1 Aerial Map.*



*Figure 53 Uptown Priority Site #1 Parcel Map*



*Figure 54 Uptown Priority Site #1 Zoning Map*

## Proposals

This area’s economic development carries high potential. Being located on a rotary, which caters to high traffic flows, could be more profitable to the City of Chicopee by enhancing the density of the dwellings. HHP proposes that the parcel located on 523 James Street should be developed from a Single-Family unit to a Multi-Unit residential use building, taking advantage of the Residential A zoning for this parcel as well as the proximity to other businesses. Another alteration proposed is to adapt the extensive parking lot from the parcel located on 1600 Memorial Drive to a greener space that can still accommodate the parking needs of this area, but also adding pervious surfaces and an aesthetically pleasing, and more walkable space for the nearby residences. A similar measure is encouraged in the parking lot of the parcel located at 1597 Memorial Drive, the Knights of Columbus location, with perhaps a farmer`s market being periodically held there in order to build sense of community. As the Knights of Columbus is considered an area of communal value, as noted at the workshop HHP held, holding a farmers market within this space could be successful for small local business owners as well as a tool for the City of Chicopee to gather valuable public input.

HHP believes that this area around the Northern rotary is ripe for redevelopment, as the area is underutilized with vacancies within the Price Rite Shopping Center and a vacant single-family unit around the rotary. Below introduces the redevelopment graphics and potential increase in tax yields by implementing such proposals.



Figure 55 Uptown Priority Site #1 Proposal (SketchUp)

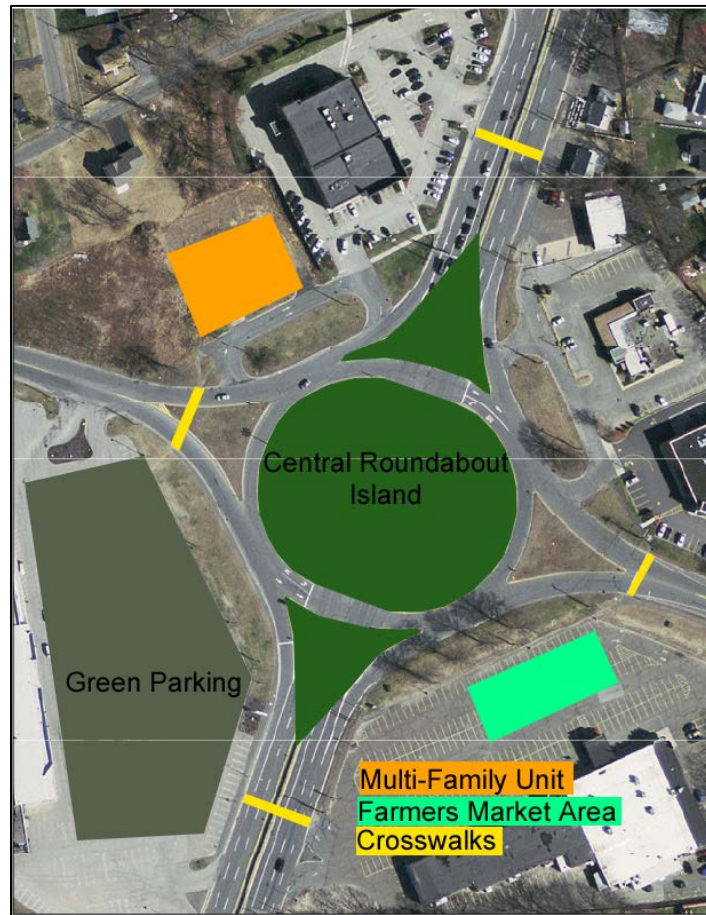


Figure 56 Uptown Priority Site #1 Proposed (Illustrator)

## Tax Yield Per Acre (TYPA)

The calculations of the area's tax yield per acre (TYPA) shows that the City of Chicopee could earn increased tax revenues, from an average of \$14,250 to \$17,021 per acre if the aforementioned parcel was to be altered from a Single Family Residence to a Multi-Family Residence. Considering that the value and higher TYPA of a multi-family residential building can be much higher than the current value of the single family unit that sits on that parcel, such a development could earn the City of Chicopee an extra amount of \$47,614 in tax revenues yearly. This revenue could be used to help funding additional improvements in the Northern Rotary's walkability.

<b>Uptown Priority Site #1</b>							
<b>TPOLOGY</b>	<b>Assessed Value (Land and Building)</b>	<b>Size (Acre)</b>	<b>Tax Yield</b>	<b>Average TYPA</b>	<b>Size (Acre)</b>	<b>Tax Yield (Redevelopment)</b>	<b>New TYPA</b>
DQ Grill & Chill	\$ 296,800	0.247	\$5,205.87	\$21,076.40	0.247	\$5,205.87	\$21,076.40
Knights of Columbus	\$ 3,288,000	3.99	\$57,671.52	\$14,454.02	3.99	\$57,671.52	\$14,454.02
PriceRite/Goodwill/Subway <sup>1</sup>	\$ 4,893,600	7.747	\$85,833.74	\$11,079.61	7.747	\$85,833.74	\$11,079.61
CVS	\$ 2,075,900	1.757	\$36,411.29	\$20,723.55	1.757	\$36,411.29	\$20,723.55
Panera Grill	\$ 583,300	0.875	\$10,231.08	\$11,692.67	0.875	\$10,231.08	\$11,692.67
Meineke Car Care Center	\$ 321,100	0.372	\$5,632.09	\$15,140.04	0.372	\$5,632.09	\$15,140.04
Single Family Unit	\$ 183,900	0.813	\$3,225.61	\$3,967.54	0	\$0.00	\$0.00
<b>NEW MULTI-UNIT RES. BLDG.</b>	\$ 380,100	0	\$0.00	\$41,332.71	0.813	\$50,839.75	\$41,332.71
Walgreens	\$ 2,318,100	1.383	\$40,659.47	\$29,399.48	1.383	\$40,659.47	\$29,399.48
	\$14,340,800.00	17.184	\$244,870.68	\$14,249.92	17.184	\$292,484.82	\$17,020.76
	<b>Tax Yield</b>			<b>Average TYPA</b>			
Redevelopment	\$292,485			\$17,021			
Current	\$244,871			\$14,250			
Difference	\$47,614			\$2,771			

Figure 57 Uptown Priority Site #1 TYPA Table

## Implementation/Timeline

The proposed alterations can be made in the short term for the greening of the parking lot areas as well as the implementation of activities like a farmer's market in the Knights of Columbus's parking lot. The change of residential building characteristic for the 523 James Street parcel can be planned for the medium term.

## Funding Sources

The proposed alterations can make the City of Chicopee eligible to apply for the grants of Expanded Housing Development Incentive Program (HDIP), that allocates up to twenty million dollars in tax credits to incentivize Gateway Cities to develop market-rate and mixed-income housing units. Another grant that the City of Chicopee will be able to apply for is the Green Community grant, taking advantage of the proposed new green spaces in 1600 Memorial Drive and foment energy saving and green construction practices.

# Uptown Priority Site #2

## Existing Conditions

The Uptown Priority Site #2 consists of the Bargain Outlet shopping center, which is located at 1956 Memorial Drive, with a total of 6.07 acres. The structure was built in 1967, and bought in 1998 by its current owner Memorial Drive Associates LLC. It is characterized as being in ‘fair’ condition, and graded at a level C. There are a total of 6 units within the shopping center, and 2 of the storefronts are currently vacant. There is a total square footage count of 54,408, with approximately 14,000 square feet available within the vacant establishments. Currently, the parcel is valued at \$2,274,600, with the land accounting for \$1,285,500, and the structure valued at \$989,100. (Please see Appendix A for Residential A zoning definition.)

Parcel ID	Size (Acres)	Current Uses	Current zoning
0741-00026	6.07	Shopping center	Residential A

*Figure 58 Uptown Priority Site #2 Table*



*Figure 59 Uptown Priority Site #2 Aerial*

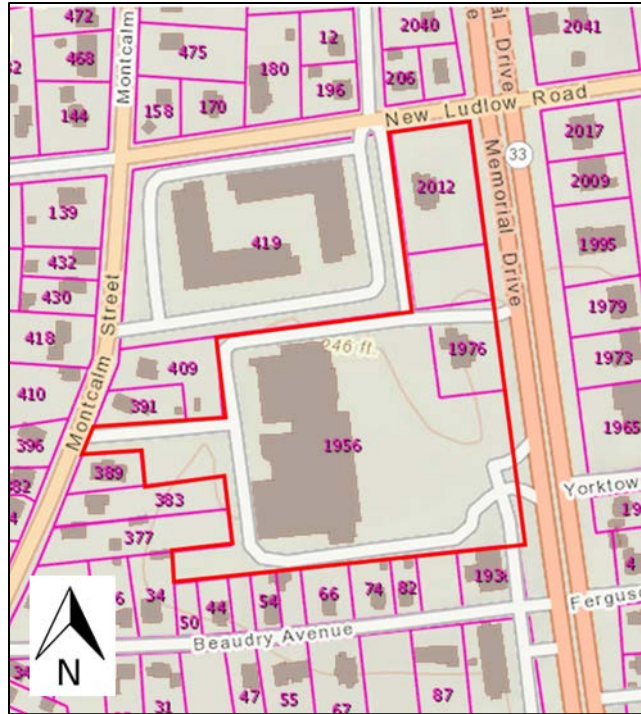


Figure 60 Uptown Priority Site #2 Parcel Map

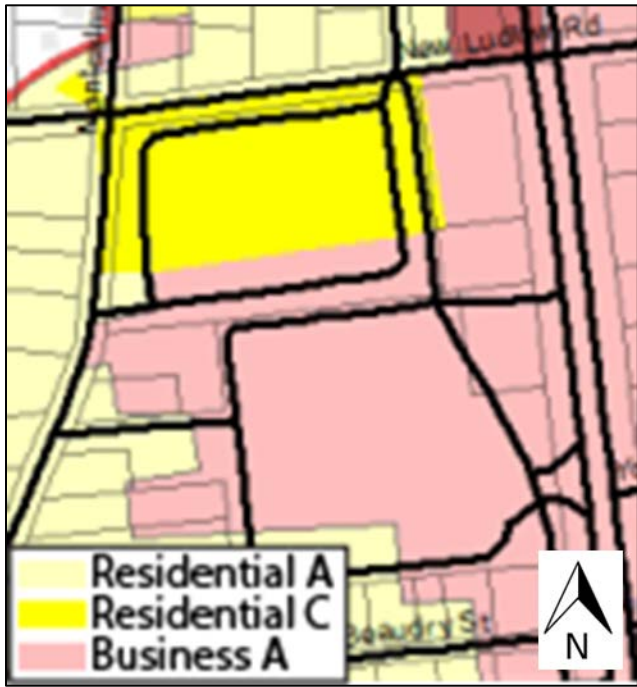


Figure 61 Uptown Priority Site #2 Zoning Map



## Proposals

The Bargain outlet shopping center located along the Northern area of the corridor carries a lot of potential for redevelopment as well as a higher tax yield per acre. The current use is a shopping center, which is underutilized with 2 of the 6 storefronts vacant, and much of the land being used for parking, approximately 50%. HHP is proposing a mix of uses for this site, to incorporate residential as well as commercial uses. By keeping the current service station in place, and adding one restaurant, a multi-family residential development as well as a mixed-use development and a green parking structure to the site, we will increase the yield as well as calm the contrast of uses currently on site. By adding such developments, HHP will create a small and walkable community on the corridor. This scenario takes into account the surrounding residential areas, by putting restaurants and mixed use developments on the corridor and gradually adding multi-family developments in the rear of the site. Additionally, with this site abutting residential South Hadley, it creates a cohesive look and feel to Memorial Drive.

The proposed mixed use development would be 2 stories, with commercial uses on the first floor, and residential units on the second floor. The development would include the Freedom Credit Union, a structure currently on the site, as well as a scaled down Bargain Outlets to account for the commercial space of the mixed use developments first story. Atop would be 2 two-bedroom apartments, as well as 2 three-bedroom apartments, which would aid in providing housing for families as well as individuals. The proposed multi-family dwellings would sit in back of the site, in order to allow the potential residents a buffer from Memorial Drive, as well as abutting the already implemented multifamily development adjacent to the parcel. This allows for an easy transition of uses, as well as keeping with the character of the area.

Additionally, HHP is proposing a more upscale restaurant within this redevelopment, to enhance the nature of a live, work, play village along the corridor. This locale will attract the young and vibrant population, as well as the empty nesters within the neighboring communities. Lastly, HHP proposes a green parking lot within this development, to serve as a buffer as well as a walkable connection to the neighboring community. Moreover, to enhance the walkability of this development, the entry into this development from Montcalm Street will be remodeled into a pedestrian path, and a new entry will be added near New Ludlow Road to divert traffic and incorporate a pedestrian friendly atmosphere.

A new report from LOCUS, a group of real estate investors that are a part of Smart Growth America, have found that rents within walkable areas inside otherwise car dependent suburbs, command a 74% premium over non-walkable areas (Goodyear, 2014). Chris Leinberger, an author of this report, states that “The last time we saw a structural change like this was back in the ’40s and ’50s, and it’s going to take 20 to 30 years to catch up with pent-up demand.” (Goodyear, 2014). Meaning that the redevelopment of the Bargain Outlet shopping center could be very profitable for current business owners, as well as developers.

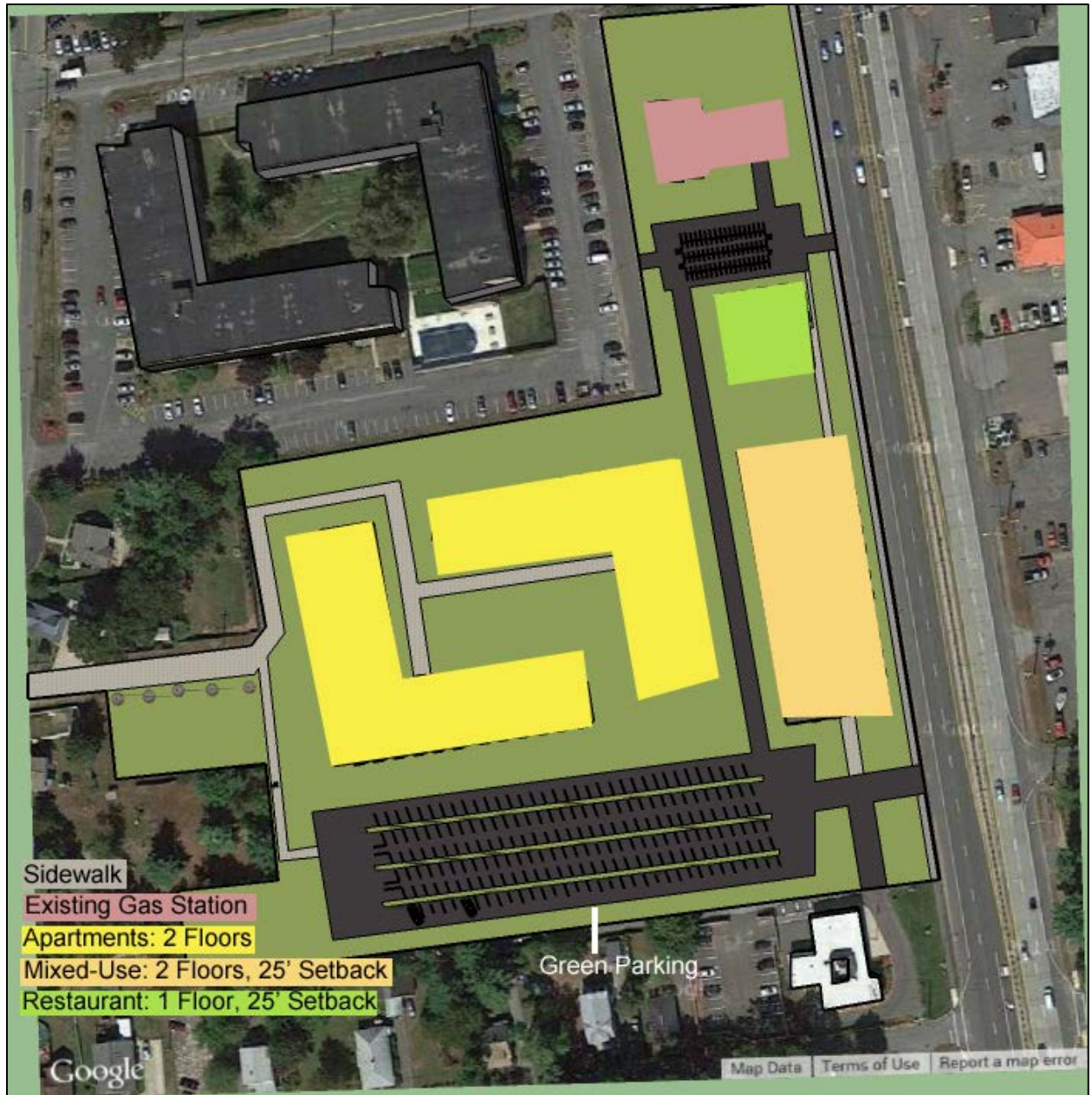


Figure 62 Uptown Priority Site #2 Proposed (Illustrator)



*Figure 63 Uptown Priority Site #2 Proposed (SketchUp)*



*Figure 64 Uptown Priority Site #2 Proposed (SketchUp)*



Figure 65 Uptown Priority Site #2 Proposed (SketchUp)

### Tax Yield Per Acre (TYPA)

Below is a calculation of the current tax yield per acre (TYPA), as well as proposed increase of the tax yield by acre, as well as for the entire redevelopment area. HHP conducted this analysis by averaging the value of different typologies within our study area of Memorial Drive and the 500-foot buffer. As noted in the table below, multi-family residential and mixed-use developments yield the highest tax yields, and would increase the TYPA by almost double, from \$102,165 to \$198,573. This increase of \$96,408 would lend well to the City of Chicopee, and allow for additional revitalization projects in the future.

Uptown Priority Site #2							
TYPOLOGY	Assessed Value (Land and Building)	Size (Acre)	Tax Yield	Aveage TYPA	Size (Acre)	Tax Yield (Redelvelopment)	New TYPA
Mobile Home	\$ 807,925	4.120	\$14,171	<b>\$3,166.90</b>	0	\$0.00	
Big Box	\$ 7,240,833	11.832	\$127,004	<b>\$10,322.71</b>	0	\$0.00	
Service Station	\$ 157,645	0.414	\$2,765	<b>\$14,337.56</b>	0.7	\$10,036.29	\$14,337.56
Hospitality	\$ 2,870,525	2.254	\$50,349	<b>\$20,618.59</b>	0	\$0.00	
Single Family	\$ 647,750	0.537	\$11,362	<b>\$22,636.23</b>	0	\$0.00	
Restaurant (Com.)	\$ 970,300	0.958	\$17,019	<b>\$23,861.40</b>	1.4	\$33,405.95	\$23,861.40
Multi-Unit Res.	\$ 5,098,875	2.301	\$89,434	<b>\$36,232.80</b>	2	\$72,465.61	\$36,232.80
Mixed Use	\$ 380,100	0.307	\$12,038	<b>\$41,332.71</b>	2	\$82,665.43	\$41,332.71
Green Space	\$ -		\$0	<b>\$0.00</b>	1.641	\$0.00	
					<b>7.741</b>	<b>\$198,573.28</b>	<b>\$25,652.15</b>
		<b>Total</b>					
	<b>Total Tax Yield</b>	<b>Total TYPA</b>					
Redevelopment	\$198,573	\$25,652					
Current	\$102,165	\$13,198					
Difference	<b>\$96,408</b>	<b>\$12,454</b>					

Figure 66 Uptown Priority Site #2 TYPA

## Funding Sources

This type of large scale redevelopment, that strengthens economic development and supports job creation, is eligible for a number of grants.

- a) The MassWorks Infrastructure Program, which acts as a one stop shop for cities when looking for grants within economic development, provides funding that supports a mix of commercial and residential development (with an emphasis on multi-family or small lot single-family residential development).
- b) Sustainable Communities Awards
- c) Economic Development Assistance Program (EDA)
- d) Economic Development Incentive Program (EDIP), this is a tax incentive program that designed to stimulate business growth throughout Massachusetts. Companies that participate may receive state and local tax incentives in exchange for private investment.

## Conclusion

In the past 13 weeks, HHP has studied issues affecting Memorial Drive as tasked from the City of Chicopee, in order to develop a vision plan for Re-Visioning Memorial Drive. This report is the culmination of that study, and the organization of our report covers the background of the project; our public outreach process; the existing conditions organized by zoning and land-use, commercial, vacancy and infill, transportation and green infrastructure, with recommendations, implementation timelines, and funding sources for each of those topics; and concluding with tailored recommendations for 6 priority sites distributed along the corridor.

The vision that the Hills House Planners respectfully offer to the City of Chicopee's Planning Department, is Memorial Drive: *Connecting the Pioneer Valley*. Recognizing Chicopee's Planning Department as proactive in addressing the issues affecting the corridor, we have structured our approach by acknowledging the challenges and building upon the existing assets, goals that can be obtained within reasonable timeframes and moderate efforts, and a glimpse into how the efforts recommended, in the aggregate and over time, can transform the corridor into a destination at the Crossroads of New England - an inviting and vibrant arterial that maximizes the corridors commercial potential, articulates to all modes of transit, and conforms to historic patterns of Chicopee's community character. The vision includes addressing these issues in three areas: a *Marketplace*, beginning at the southern end of the corridor and up to and including the southern rotary; a *Midtown*, beginning where the Southern Rotary ends, and up to and including the Northern Rotary; and an *Uptown*, comprised of the corridor and its environs north of the Northern Rotary and concluding where Memorial Drive leads into South Hadley.

Extending from Cabotville and Chicopee Falls as a *Downtown*, Chicopee's *Marketplace* north of the interstate features commercial establishment that is the most robustly established along the corridor; south of the interstate, this area features the corridor's highest redevelopment potential. Within this area are also the largest concentrations of impervious surfaces, and we recommend working with owners of parking lots to increase their permeability, achieving the dual goal of beautification to attract and retain consumers while helping the city reach its stormwater management benchmarks, incentivized through impact fee reductions and augmented by grants. We also recommend investigating use of land banking for the land south of the interstate and working with developers to craft a vision that will capitalize on the casinos presence. In summary, we recommend encouraging and containing large-scale and formula commercial development within the boundary of the *Marketplace*, greater density to increase walkability and justify green infrastructure, and proposing a study for the reconfiguration of the rotary into a roundabout, as it once had been.

In *Midtown* we begin to see potential for certain traffic calming measures and road diet treatments, especially at the north end, and have observed a transitional feel, with many high-density residential units. As such, we recommend some of the first transportation treatments be applied here, and give travelers along the corridor the impression that they have entered into a community with constituents who are invested in it, as well as drawing more pedestrians to the Northern Rotary with amenities such as raised cross-walks with pedestrian activated signals, visual interest such as public art, and a seasonal farmer's market, soliciting community input through the Planning Department's presence at the farmers market that can be used to cultivate visions through community input for

developed and undeveloped lots around the rotary. We also recommend investigating the redevelopment of the rotary into a roundabout, as it had once been.

In Memorial Drive's *Uptown*, we envision a pocket neighborhood for existing and new households and families to enjoy a safe and walkable experience in their commercial and recreational activities, and preserving the form and massing along this section of the corridor in order to highlight pedestrian interests such as Saint Ann's Catholic Church. As most of the commercial form here is oriented to the street and abuts the sidewalk rather than being set back by a parking lot, our recommendations include a street reconfiguration to assist in the corridor's presence being more hospitable to pedestrians and bicyclists, and emphasizing the redevelopment potential on the site of this area's only large strip mall, encouraging it into the direction of a mixed-use project.

In all of these areas we recommend zoning that is both specific to the corridor and flexible to the context of its location and surroundings on the corridor, through any number of tools including performance zoning, redefinition of mixed-use zoning or establishment of new mixed-use zoning designation to increase density along the corridor, and graduated density zoning, all which would be in addition to establishing a formula business ordinance that enhances standards for the siting of new commercial development along the corridor. To conclude, Hills House Planners recommend encouraging development that maximized its commercial potential, articulates to all modes of transit, and enhances Chicopee's traditional community character.

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