Old Colony Planning Council

Northeast Stoughton Priority Development Area Land Use Study

South Coast Rail Technical Assistance Study

Prepared in cooperation with the Massachusetts Department of Transportation under Contract # OCPC SOCO COR PLN2/62038

June 2014

70 School Street, Brockton, Massachusetts, 02301

Notices

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Acknowledgements

This South Coast Rail Technical Assistance Study was prepared by the following members of the Old Colony Planning Council staff under the direction of Pasquale Ciaramella, Executive Director, and the supervision of Charles Kilmer, Assistant Director/Transportation Program Manager.

Project Manager Eric Arbeene, Community Planner

earbeene@ocpcrpa.org

Contributing Staff James R. Watson, AICP, Comprehensive Planning Supervisor

jwatson@ocpcrpa.org

Contributing Staff Jed Cornock, Senior Transportation Planner

jcornock@ocpcrpa.org

Contributing Staff Shawn Bailey, Temporary Transportation Technician

Mapping & Graphics Andrew Vidal, GIS Manager/Communications & IT Specialist

avidal@ocpcrpa.org



Old Colony Planning Council (OCPC)

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Hazel GauleyAssistant Ombudsman DirectorAnne NicholasOmbudsman Program AssistantJim Watson, AICPComprehensive Planning SupervisorEric ArbeeneCommunity PlannerBruce HughesEconomic Development/Community PlannerSusan McGrathGIS CoordinatorAndrew VidalGIS Manager/Communications & IT SpecialistCharles Kilmer, AICPAssistant Director/ Transportation Program ManagerBill McNultySenior Transportation PlannerRay GuarinoSenior Transportation PlannerPaul ChenardTransportation PlannerJed CornockSenior Transportation PlannerKyle MowattTransportation PlannerShawn BaileyTemporary Transportation TechnicianJoshua CallahanTemporary Transportation Technician	Patrick Hamilton	AAA Administrator
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Eric Arbeene Bruce Hughes Economic Development/Community Planner Susan McGrath GIS Coordinator Andrew Vidal GIS Manager/Communications & IT Specialist Charles Kilmer, AICP Assistant Director/ Transportation Program Manager Bill McNulty Senior Transportation Planner Ray Guarino Senior Transportation Planner Paul Chenard Transportation Planner Jed Cornock Senior Transportation Planner Kyle Mowatt Transportation Planner Shawn Bailey Temporary Transportation Technician Temporary Transportation Technician	Anne Nicholas	Ombudsman Program Assistant
Bruce Hughes Economic Development/Community Planner Susan McGrath GIS Coordinator Andrew Vidal GIS Manager/Communications & IT Specialist Charles Kilmer, AICP Assistant Director/ Transportation Program Manager Bill McNulty Senior Transportation Planner Ray Guarino Senior Transportation Planner Paul Chenard Transportation Planner Jed Cornock Senior Transportation Planner Kyle Mowatt Transportation Planner Shawn Bailey Temporary Transportation Technician Temporary Transportation Technician	Jim Watson, AICP	Comprehensive Planning Supervisor
Susan McGrath Andrew Vidal GIS Manager/Communications & IT Specialist Charles Kilmer, AICP Assistant Director/ Transportation Program Manager Bill McNulty Senior Transportation Planner Ray Guarino Senior Transportation Planner Paul Chenard Transportation Planner Jed Cornock Senior Transportation Planner Kyle Mowatt Transportation Planner Shawn Bailey Temporary Transportation Technician Temporary Transportation Technician	Eric Arbeene	Community Planner
Andrew Vidal GIS Manager/Communications & IT Specialist Charles Kilmer, AICP Assistant Director/ Transportation Program Manager Bill McNulty Senior Transportation Planner Ray Guarino Senior Transportation Planner Paul Chenard Transportation Planner Jed Cornock Senior Transportation Planner Kyle Mowatt Transportation Planner Shawn Bailey Temporary Transportation Technician Joshua Callahan Temporary Transportation Technician	Bruce Hughes	Economic Development/Community Planner
Charles Kilmer, AICP Bill McNulty Senior Transportation Planner Ray Guarino Paul Chenard Jed Cornock Kyle Mowatt Shawn Bailey Joshua Callahan Assistant Director/ Transportation Program Manager Senior Transportation Planner Transportation Planner Senior Transportation Planner Transportation Planner Transportation Planner Temporary Transportation Technician Temporary Transportation Technician	Susan McGrath	GIS Coordinator
Bill McNulty Senior Transportation Planner Senior Transportation Planner Paul Chenard Transportation Planner Jed Cornock Senior Transportation Planner Kyle Mowatt Transportation Planner Transportation Planner Transportation Planner Temporary Transportation Technician Temporary Transportation Technician	Andrew Vidal	GIS Manager/Communications & IT Specialist
Ray Guarino Senior Transportation Planner Paul Chenard Transportation Planner Jed Cornock Senior Transportation Planner Kyle Mowatt Transportation Planner Shawn Bailey Temporary Transportation Technician Joshua Callahan Temporary Transportation Technician	Charles Kilmer, AICP	Assistant Director/ Transportation Program Manager
Paul ChenardTransportation PlannerJed CornockSenior Transportation PlannerKyle MowattTransportation PlannerShawn BaileyTemporary Transportation TechnicianJoshua CallahanTemporary Transportation Technician	Bill McNulty	Senior Transportation Planner
Jed CornockSenior Transportation PlannerKyle MowattTransportation PlannerShawn BaileyTemporary Transportation TechnicianJoshua CallahanTemporary Transportation Technician	Ray Guarino	Senior Transportation Planner
Kyle Mowatt Transportation Planner Shawn Bailey Temporary Transportation Technician Joshua Callahan Temporary Transportation Technician	Paul Chenard	Transportation Planner
Shawn BaileyTemporary Transportation TechnicianJoshua CallahanTemporary Transportation Technician	Jed Cornock	Senior Transportation Planner
Joshua Callahan Temporary Transportation Technician	Kyle Mowatt	Transportation Planner
	Shawn Bailey	Temporary Transportation Technician
Shauna Diersch Planning Intern	Joshua Callahan	Temporary Transportation Technician
	Shauna Diersch	Planning Intern

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Agency Representation

MassDOT	David Mohler, AICP
MassDOT	Clinton Bench
MassDOT	Sreelatha Allam
MassDOT District 5	Mary-Joe Perry
MassDOT District 5	Pamela Haznar, P.E.
MassDOT District 5	Timothy Kochan
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BAT	Kathy Riddell
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EPA	Donald Cook
FHWA	Pamela Stephenson
FHWA	Michael Chong
FTA	Mary Beth Mello
FTA	Noah Berger
FTA	Nicolas Garcia
Brockton Traffic Commission	Captain Steven Williamson

OCPC Transportation Staff

Charles Kilmer, AICP	Assistant Director/
	Transportation Program Manager
Eric Arbeene	Community Planner
	Temporary Transportation
Shawn Bailey	Technician
	Temporary Transportation
Joshua Callahan	Technician
Paul Chenard	Transportation Planner
Jed Cornock	Senior Transportation Planner
Ray Guarino	Senior Transportation Planner
William McNulty	Senior Transportation Planner
Susan McGrath	GIS Coordinator
Kyle Mowatt	Transportation Planner
Andrew Vidal	GIS Manager/Communications & IT
Andrew vidal	Specialist

Table of Contents

1.0	Intro	oduction	3
2.0	Find	ings and Recommendations from Previous Studies	6
3.0	Exist	ing Conditions	10
3.1	. La	nd Use	10
:	3.1.1	Environmental Constraints	16
3.2	. Zo	oning	18
3.3	B In	frastructure	24
;	3.3.1	Water	24
:	3.3.2	Sewer	26
:	3.3.3	Drainage	28
:	3.3.4	Natural Gas	28
;	3.3.5	Electricity	28
:	3.3.6	Communications	28
:	3.3.7	Transportation	28
4.0	Parc	el Analysis	38
4.1	. Pa	arcel Inventory	38
4.2	. Pa	arcel Ownership Analysis	48
4.3	B Ide	entification and Analysis of Undeveloped and Underutilized Parcels	50
4.4	l In	ventory of Available Real Estate	56
5.0	Findi	ings and Recommendations	57
5.1	Revie	w of Strengths and Weaknesses in the Study Area	57
5.2	Recon	nmendations	57
6.0	Attra	acting & Retaining Business	61
6.1	. De	evelopment of a Business Retention & Attraction Program	61

6.2	Cooperation with the local Chambers of Commerce	. 61
6.3	Economic Target Area (ETA) Opportunities	. 61
6.4	Grant Program Opportunities	. 62
6.5	Alternative Financing Opportunities	. 63
6.6	Statutory Programs	. 64

1.0 Introduction

The Northeast Stoughton Priority Development Area Land Use Study was funded via a South Coast Rail Technical Assistance Grant awarded by the Massachusetts Department of Transportation (MassDOT) and the Executive Office of Housing and Economic Development (EOHED) as part of the implementation of the *South Coast Rail Economic Development and Land Use Corridor Plan*. The Corridor Plan encourages appropriate residential, commercial, and industrial development in the Corridor in response to the proposed restoration of passenger rail service to the South Coast of Massachusetts by focusing on areas with the greatest capacity or potential to accommodate new development. These areas include such places as downtowns, major job centers, and future South Coast Rail station areas.

The Old Colony Planning Council (OCPC) conducted this study at the request of the Town of Stoughton to examine the prospect of increasing economic activity within a portion of the North Stoughton Priority Development Area (PDA). The original intent of the study as stated in the project application was to implement a Highway Access Business Zoning Overlay District as a means of increasing economic activity within the study area. However, after a series of conversations with Stoughton officials prior to the project kick-off, it was decided that the study should instead focus on the existing conditions in the study area, specifically land use within the study area, as well as analyze potential future uses and zoning changes that could occur within the study area. Moreover, it was noted that the town was just embarking upon updating its Master Plan, and that it would be prudent for the Master Plan process to take place first, where extensive community participation would assist in determining the best future use(s) for the study area.

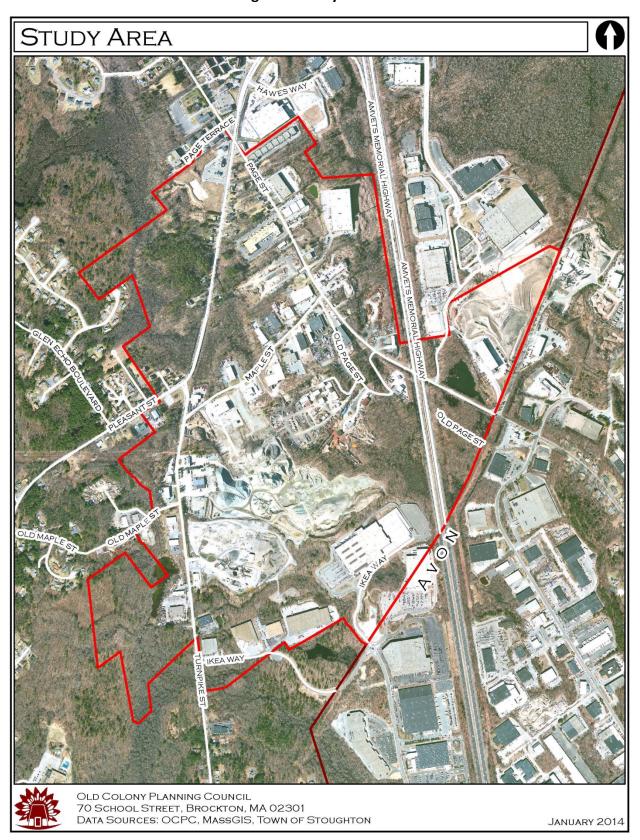
The North Stoughton PDA is located in the northeast corner of Stoughton and is centered around the interchange of Route 24 and Route 139. The PDA encompasses a variety of uses including industrial, commercial, residential, office, and open space. Over the past decade the area has taken advantage of its proximity to Route 24, where it has experienced its most significant growth in the form of "big-box" retail establishments, specifically the MetroSouth Corporate Center on Technology Center Drive, the Shoppes at Page Pointe on Turnpike Street, and IKEA at the northern end of Merchants Park on Stockwell Drive.

The study area for this study does not include the entire PDA, but rather focuses on the area south of Page Street and Turnpike Street adjacent to Route 24. The approximately 531 acre study area (shown in Figure 1) is located just south of Exit 20B off of Route 24 and is bound to the west by Turnpike Street, to the north by the intersection of Page and Turnpike Street (Route 139), to the east by Route 24, and to the south by the Avon town line. The study area, much like the larger PDA as a whole, encompasses a variety of land uses, including industrial, residential, commercial, office, and open space uses; however, it is largely industrial in nature and its landscape is dominated by the presence of two firms dedicated to the extraction and processing of aggregate materials, which are locally known as the gravel pits. This combination of land uses within the study area has created conflicting land uses patterns particularly in instances when residential homes are surrounded by industrial uses.

This study will look at a number of options to increase economic activity within the study through the integration of land uses by reviewing findings and recommendations from previous studies related to the area, analyzing existing conditions within the study area, and examining any potential constraints or deficiencies that may hinder development in the area. In addition, the study will include a parcel inventory as well as the identification and analysis of undeveloped and underutilized sites in the study

area and identify future planned development in the area. Lastly, the study will include a discussion of potential future land uses within the area and include recommendations as well as a list of programs and opportunities the town can pursue in an effort to improve the economic competitiveness of the area.

Figure 1: Study Area



2.0 Findings and Recommendations from Previous Studies

As part of this study, Old Colony Planning Council (OCPC) reviewed the findings and recommendations from previous studies involving the study area, and has included a synopsis of each.

South Coast Rail Economic Development and Land Use Corridor Plan-June 2009

This plan by the Massachusetts Executive Office of Transportation (EOT), now known as MassDOT, identified Priority Development Areas (PDAs) and Priority Preservation Areas (PPAs) in the South Coast Rail Region. As part of this plan, each community in the South Coast Rail study area identified a number of PDAs and PPAs through a local and regional mapping process. The state then assessed each priority area against the state's Sustainable Development Principles and focused only on those sites that have the most significant prospects for advancing state goals. Some locally recommended priority development sites were not included in the Corridor Map in order to focus on the sites with the most significance.

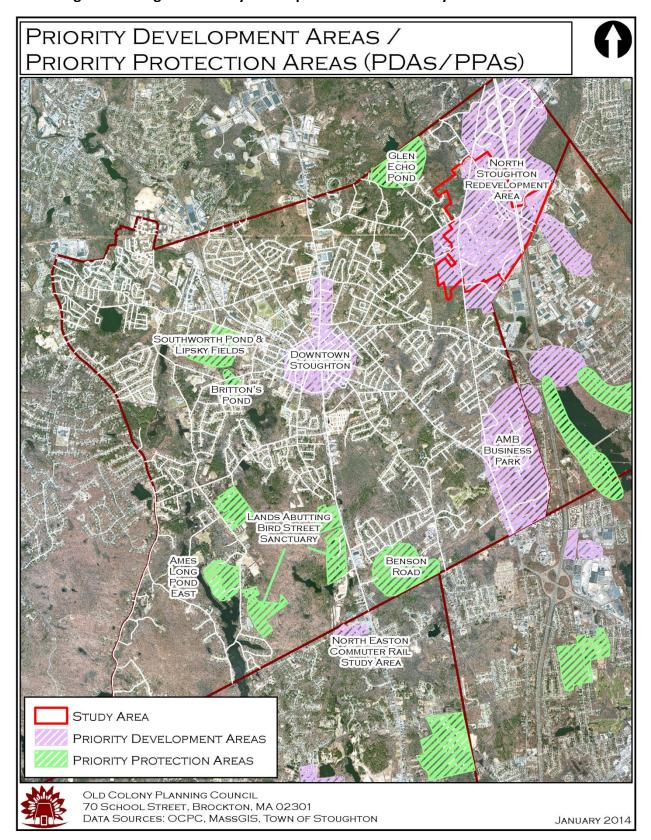
Stoughton Priority Development Areas (PDAs) include:

- AMB Business Park
- Downtown Stoughton
- North Stoughton Redevelopment Area

Stoughton Priority Preservation Areas (PPAs) include:

- Ames Long Pond East
- Benson Road
- Lands Abutting Bird Street Sanctuary
- Britton's Pond
- Glen Echo Pond
- Southworth Pond and Lipsky Fields

Figure 2: Stoughton Priority Development Areas & Priority Protection Areas



Stoughton Strategic Planning Study-1987

This study completed by OCPC was essentially a master plan emphasizing housing and open space. It was initiated in response to the rapid consumption of open land, increased infrastructure demands, and a concern that the town was not meeting a full range of housing needs.

The recommendations related to the study area are included in their entirety below:

- Study traffic problems; review the potential redesign of the Page Street/Turnpike Street intersection in order to make improvements required to handle increasing traffic without removing expensive new development.
- Re-zone about 11 acres of the largely developed frontage on Turnpike Street south of the intersection from R-15 to Industrial. This would reduce the number of potential new homes and preclude conflicts following any new residential development along Turnpike Street.
- Acquire strips of open space connecting existing public and semi-public holdings, such as the Doogood Estate east of Turnpike Street and the cemetery north of Pleasant Street, with future residential areas, and with proposed open space acquisitions at Glen Echo Pond.
- Encourage the development of an internal north-south industrial service road connecting the Avon Industrial Park-West and possibly with Maple Street.
- Re-zone the rear portion of the industrial land along Turnpike Street (about 43 acres) to R-20, leaving only a 300'-400' deep strip of industrial land along that road. This provides an advantage for industrial and commercial uses on Turnpike Street while preserving the rear land for residential uses to be served by Pleasant and Central Streets.
- Re-zone about 12 acres of R-20 zoned land on Turnpike Street (just south of that mentioned above) to Industrial, which is consistent with the opposite side of Turnpike Street at that point.
- Work with the Town of Avon to study reconfiguring the northern end of Bodwell Street in the Avon Industrial Park and the driveway from Page Street into the North Stoughton Industrial Park in order to allow and encourage north-south movement through and between the two parks and the two Route 24 interchanges which serve them. This will reduce potential truck traffic on residential streets. It will also justify the formal exclusion of truck traffic by providing a better alternative.

Town of Stoughton Community Development Plan-2004

This plan completed by the Metropolitan Area Planning Council (MAPC) under Executive Order 418. This provided funds to enable communities to address future growth and development by creating visions, goals, and strategies in four topic areas: natural resources and open space, housing, economic development, and transportation.

The recommendations related to study area are included in their entirety below:

- Develop a master plan concept for the North Stoughton area (Page Street and Turnpike Street Industrial District) to set the overall mix of residential/ commercial/industrial uses for the near term, as well as for the long term when gravel operations will relocate.
- Create a street connection between Page Street and the IKEA site at the Avon line to improve traffic flow for future office/industrial/retail development extending up from Avon toward the Route 24 exit.
- Growth in North Stoughton may enhance the potential for a "village" neighborhood retail district at Page Street with multi-family housing nearby.

North Stoughton Planning Study: Findings on Existing Conditions-2006

This study completed by the Cecil Group, Bonz and Company, and Edwards & Kelcey was commissioned by the Town of Stoughton to identify market trends and potential development opportunities in the North Stoughton Area. The study included a land planning review, an economic/real estate evaluation and a traffic evaluation of the study area, and concluded that there is potential for additional residential and commercial development of the area. It noted that while traffic in the study area moves relatively well, there is concern that additional traffic generated from further growth will have a greater impact on key traffic nodes nearest Route 24, as well as concern about the lack of growth management regulations to guide appropriate development. The study also presented a list of potential types of development based on an analysis of available land.

Route 139 Corridor Study-2010

This study also completed by OCPC provides short and long-term recommendations for the Route 139 corridor and includes the following recommended improvements:

Pleasant Street (Route 139) at Turnpike Street:

- Resurface and restripe the intersection, to include clear lane delineation and stop lines.
- Widen the approaches of Turnpike Street (westbound and northbound) to include left turn storage lanes.
- Conduct a tri-annual level of service and crash rate analysis to monitor recent intersection improvements.

Turnpike Street (Route 139) between Page Street and Pleasant Street:

• Reconstruct this section of roadway, as it is experiencing major distortion, reportedly from settling earth underneath the roadway.

Turnpike Street (Route 139) at Page Street:

 Conduct a tri-annual level of service and crash rate analysis to monitor recent intersection improvements.

Old Colony Regional Transportation Plan-2012

The Old Colony Regional Transportation Plan (RTP) offers no recommendations explicitly affecting the study area; however, it does call for minimizing commercial sprawl development, implicitly concentrating new development in nodes such as the study area and in downtown Stoughton, rather than dispersing such growth.

The Plan notes that "the commercial and retail centers that have proliferated along major arterials are auto-dependent, mainly single-use zoned, and extensive in development and many are not conducive or safe for bicycle or pedestrian travel. This "Sprawl" development along corridors has resulted in impacts such as higher vehicle emissions, more traffic congestion, higher per-person infrastructure costs, less space for conservation land and parks, and inefficient street access. Highway corridor planning should include techniques and ways to prevent highways from becoming unattractive, dysfunctional commercial strips. Corridor plans should be coordinated with local master plans and comprehensive plans that support strategies that emphasize density, a diversity of land uses, and design standards. The process should provide progressive redevelopment to gradually transform areas into economically vibrant-mixed use districts that offer a choice of mode including walking, bicycling, and mass transit, as well as personal autos."

3.0 Existing Conditions

3.1 Land Use

Land use within the study area encompasses a variety of uses. While largely industrial in nature, the area includes a variety of other uses including offices, public open space, public utilities, residential, retail/commercial, vacant land, and warehouse/distribution. Illustrated examples of each type of land use in the study area can be found on pages 12 to 15. Table 1 summarizes the estimated acreage of land uses in the study area.

Table 1: Estimated Land Uses within the Study Area

Land Use	Acres
Industrial	241.9
Office	10.3
Public Open Space	14.3
Residential	22.4
Retail/Commercial	37.3
Vacant Land	149.8
Warehouse/Distribution	55.7
Total	531.7

As can be seen from Table 1 and Figure 2, the land use that takes up the most space within the study area is the approximately 241.9 acres of industrial land, with the single largest use of industrial land being for the extraction, processing, and distribution of raw materials, such as gravel and aggregate materials (the gravel pits). The two companies engaged in this activity (Aggregate Industries and T.L. Edwards) together occupy approximately 82 acres of land just off of Turnpike Street in the center of the study area. The second largest land use in the study area is that of vacant land. A majority of the vacant land in the study area is vacant due to the fact that it is located in either a designated wetland and/or a floodplain, both of which severely restrict development.

A combination of land uses in the study area has created land use conflicts, particularly where houses are surrounded by industrial uses. Examples of this include the single-family home on Maple Street surrounded by industrial uses, the four single-family homes at the intersection of Page and Maple Street surrounded by industrial uses, and the one-single-family home at the intersection of Turnpike Street and IKEA Way surrounded by industrial uses. This combination of conflicting land uses creates a negative quality of life for people living in these areas, such as dealing with excessive noise and traffic and lower property values.

While industrial and commercial development has been constant in the study area for decades, the recent type of development in the area is that of "big-box" retail stores, such as Target, IKEA and Boston Interiors. Each of these 100,000+ square foot stores has been built within the past ten years and each has been constructed at the northern and southern ends of the study area where there is easy and immediate access to Exits 19 and 20 off of Route 24. While these new developments have brought a number of benefits in the form of increased tax revenues, land values, and job opportunities, they have also brought some adverse impacts, mainly in the form of increased traffic on local roadways.

Figure 3: Land Use

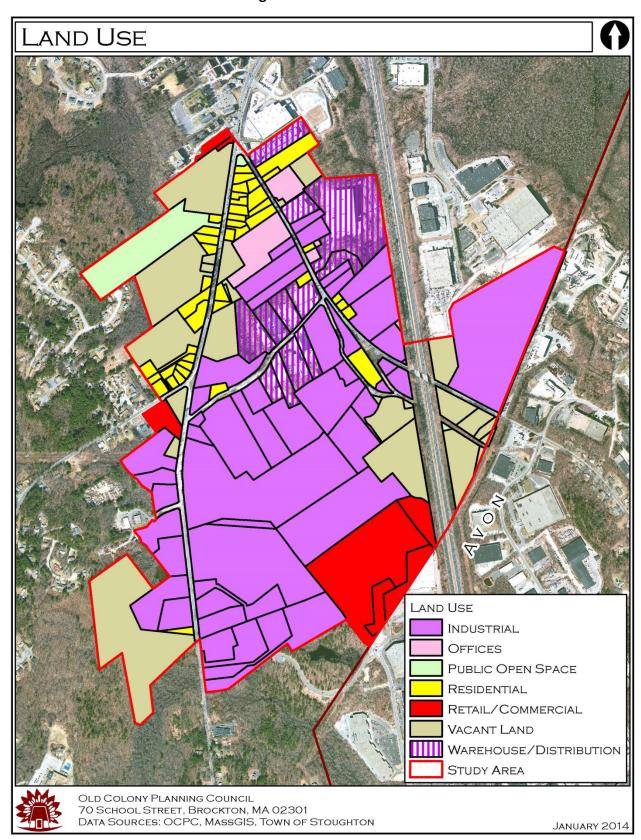


Figure 4: Examples of Land Use in Study Area by Type

<u>Industrial</u>



Aggregate Industries, 1101 Turnpike Street



Page Building Construction & Canton Masonry, 135 Old Page Street

<u>Office</u>



Lappen's Business Center, 421 Page Street



Public Open Space, Intersection of Page & Turnpike Street



Residential Housing, 1463-1487 Turnpike Street



Dunkin Donuts and South Shore Bank, 1516-1538 Turnpike Street

Underutilized Vacant Land



Potential Stoughton Crossing Shopping Center, 1522-1540 Turnpike Street



Berish Properties, 292 Page Street

3.1.1 Environmental Constraints

A majority of the study area's vacant land has some type of environmental constraint, either in the form of wetlands and/or floodplains, as shown in Figure 5. Wetlands within the study area are protected by Stoughton's Wetland Protection Bylaw, which prohibits the construction of homes or buildings and the alteration and/or filling of wetlands in any way, making them practically undevelopable. Floodplains in the study area are protected by Stoughton's Flood Hazard Districts, which limit the type and extent of development in these areas, although they are not as strict as the Wetland Protection Bylaw. It should also be noted that land within 100 feet of a wetland may not be filled or altered without a notice of intent to the local Conservation Commission and in conformity to subsequent Order of Conditions. As a practical matter, it is best to consider wetlands to be undevelopable except when an area of less than 5,000 square feet is altered to allow access to a major project and a comparable area of wetlands is replicated elsewhere.

Wetlands occupy an estimated 32.4 acres of the study area, of which an estimated 9.9 acres are outside of the floodplain. Wetlands are located in the following areas:

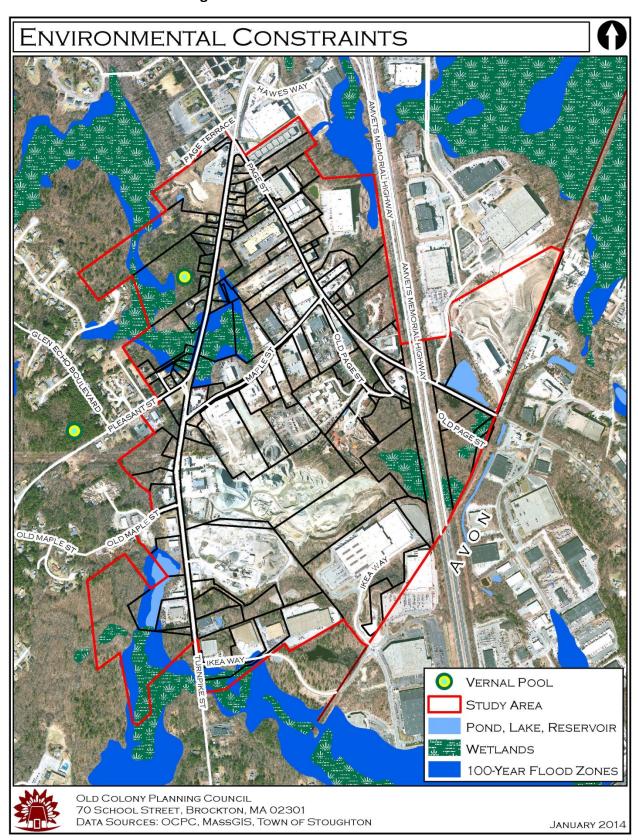
- The southern end of the study area along Beaver Brook; just south of IKEA Way and the western side of Turnpike Street.
- The area just north of where Pleasant Street (Route 139) and Turnpike Street merge. Wetlands in this area affect land on both sides of Turnpike Street (Route 139).
- Small area adjacent to Route 24, just north of IKEA.
- Small area along the southern end of Page Street adjacent to the Avon town line.

FEMA 100-Year floodplains occupy an estimated 51.5 acres of the study area, of which an estimated 29 acres are outside of wetlands. Floodplains are located in the following areas:

- The southern end of the study area on the western side of Turnpike Street from the area south of Old Maple Street to the southern end of the study area.
- The area just north of where Pleasant Street (Route 139) and Turnpike Street merge.
 Floodplains in this area affect land on both sides of Turnpike Street (Route 139).

Additionally there are two unnamed small bodies of open water in the study area, one is on the western side of Turnpike Street, just south of Old Maple Street and the other is on the northern side of Page Street, just east of Reebok Drive.

Figure 5: Environmental Constraints



3.2 Zoning

The Stoughton Zoning By-Law regulates the type, pace, and pattern of land use within the study area. The zoning bylaw includes use regulations, dimensional and density regulations, and off street parking regulations. While the study area consists of a variety of land uses, there are four separate, distinct zoning districts present in the study area: Highway Business, Industrial, Neighborhood Business, and Residential-Suburban C. (It should be noted that there is also a small area of Residential-Suburban B zoned land within the study area as well, but due to its small size on the single parcel it is located, it was not considered relevant to this study.) As shown on Figure 6: Zoning Map, the Industrial zoning district is clearly the most dominant zone within the study area. The three other districts apply to smaller portions of the study area: Highway Business along Page Street, just south of Technology Center Drive, Neighborhood Business on the west side of Turnpike Street and Page Street at the northern end of the study area, and Residential-Suburban C on both sides of Turnpike Street, just north of its intersection with Pleasant Street.

A brief description of allowed and prohibited uses for each zoning district can be found below. Table 2: Use Regulations in the Study Area gives a more detailed list and description of all use regulations that apply to the four aforementioned districts in the study area. Uses not mentioned in Table 2 were not included because they are not applicable to any of the districts within the study area.

- Highway Business (HB) District:
 - Allows retail establishments, traditional restaurants, auto dealerships, hotels, movie theaters, professional offices, personal and consumer services, funeral establishments, greenhouses, community facilities, bakeries, manufacturing, distribution, printing, and bus and train depots as-of-right. A special permit is required for fast food restaurants, gas stations and auto repair garages, tattoo parlors and a majority of wholesale, transportation and industrial uses. Prohibited uses include most residential uses, non-profits, nursing homes and nursery schools.
- Neighborhood Business (NB) District:
 - Allows retail establishments, professional offices, personal and consumer services, funeral establishments, and community facilities as-of-right. A special permit is required for restaurants (except fast-food, which is prohibited) and membership clubs. Prohibited uses include residential uses in general, agricultural uses, non-profits, hotels and lodging houses as well as all wholesale, transportation and industrial uses (except that of bus and train depots and bakeries, which are permitted as-of-right and need a special permit, respectively.)
- Residential-Suburban C (RC) Districts:
 - Require a minimum of 40,000 square foot lots and allows for single-family detached homes and various public and community facilities as-of-right. A special permit is required for nursing homes, congregate housing, home offices and educational activities. Prohibited uses include cluster residential development, multi-family housing as well as retail, commercial and industrial uses.
- Industrial (I) District:
 - Allows community facilities, agricultural activities (except those related to animals), professional offices, trade schools, and most industrial uses including construction, manufacturing, distribution, raw material storage, research and development, printing and transportation services. A special permit is required for raw material extraction and processing, junkyards, gas stations, hotels, restaurants, and movie theaters. Prohibited uses include retail stores, fast-food restaurants, personal and consumer services, auto dealerships, hospitals, nursing homes, and funeral establishments.

Figure 6: Zoning

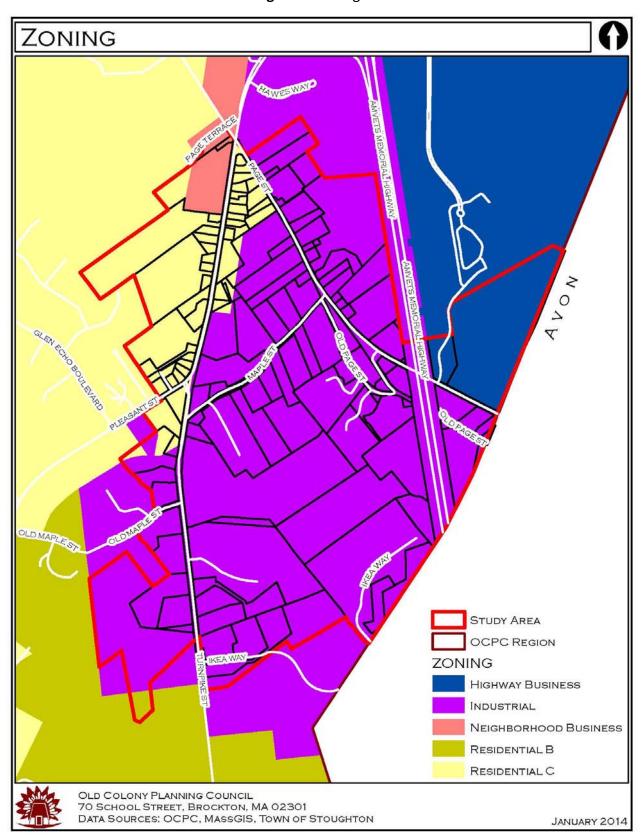


Table 2: Use Regulations in the Study Area

Residential Single Family Detached Home Elderly & Congregate Housing Conversion of Existing Nonresident Structure to Multifamily (5+) Structure Community Facilities Church or Other Religious Purpose	P S	NB -	НВ	
Single Family Detached Home Elderly & Congregate Housing Conversion of Existing Nonresident Structure to Multifamily (5+) Structure Community Facilities		_		
Elderly & Congregate Housing Conversion of Existing Nonresident Structure to Multifamily (5+) Structure Community Facilities			_	_
Conversion of Existing Nonresident Structure to Multifamily (5+) Structure Community Facilities		-	-	_
Community Facilities	-	_	S	_
,	1	l		
CHUICH OF OTHER IVERSIONS FULDOSE	Р	Р	Р	Р
Educational Purpose (Religious, Sectarian, Denominational, or Public)	P	P	P	P
Public Park or Conservation Area	P	P	P	P
Nonprofit Recreational Facility	P	-	-	-
Nonprofit Club	S	_	_	-
Nonprofit Camp	S	_	_	_
Town Building (Excluding Equipment Garage)	P	Р	Р	Р
Town Cemetery	P	P	P	P
Historical Association/Society	P	P	P	P
Hospital	S	-		<u> </u>
Nursing/Rest Home	S	_	_	_
Street, Bridge, Railroad Lines	P	Р	Р	Р
Town Equipment Garage	-	-	P	P
Public Utility (Excluding Power & Sewage Treatment Plants & Refuse Facility)	Р	Р	P	P
Power Sewage Treatment Plants (Not located in an Aquifer)	<u> </u>	_	_	P
Essential Services	Р	Р	Р	P
Underground Storage of Heating Oil for Residences & Buildings	P	P	P	P
Municipal Refuse Transfer Station	<u> </u>	-	-	P
Agricultural				<u> </u>
Agriculture, Horticulture & Floriculture (Excluding Greenhouse & Retail)	Р	_	Р	Р
Greenhouse and Retail	-	_	P	P
Temporary Greenhouse and Retail Stand (Less Than 3 Months/Year)	S	S	S	S
Raising and Keeping Livestock, Horses & Poultry	S	-	-	-
Commercial Kennels/Stables & Veterinary Hospitals	-	_	S	-
Noncommercial Forestry & Growing of All Vegetation	Р	Р	P	Р
Commercial Forestry	<u> </u>	-	-	S
Retail & Trade				
Retail Establishment (Convenience Goods)	I _	Р	Р	_
Retail Establishment (General Merchandise)	_	P	P	_
Restaurants (Excluding Drive-In & Fast Food Restaurants)	_	S	P	S
Drive-In Eating Establishments	_	-	P	
Fast Food Restaurants	_	_	S	_
Sales by Vending Machines as Principal Use	-	_	P	-
Auto Dealerships	_	_	P	 _
Hotels & Motels	_	_	P	S
Lodging House	_	_	S	-
Personal & Consumer Service Establishment	_	Р	P	_
Funeral Establishments	_	P	P	_
Membership Club	_	S	P	S

Use	RC	NB	НВ	ı
Professional and Business Offices & Services	-	S	Р	S
Automobile Service Station & Automobile Repair	-	-	S	S
Temporary Business Use of Trailer During Time of Construction	Р	Р	Р	Р
Miscellaneous Business or Repair Services	-	Р	Р	-
Motor Vehicle, Machinery or Other Junkyard	-	-	S	S
Outdoor Movie Theater	-	-	S	S
Indoor Movie Theater	-	Р	Р	-
Other Outdoor Amusement or Recreation	-	-	Р	S
Other Indoor Amusement or Recreation	-	S	Р	-
Communications & Television Tower	S	S	S	S
Commercial Parking Lot or Structure	-	S	S	S
Filling of Water, Wet Area or Depression	S	S	S	S
Planned Business Development	-	S	S	S
Construction of Drainage Facilities	S	S	S	S
Trade/Professional School	-	Р	Р	Р
Nursery School/Kindergarten	-	S	-	-
Body Piercing Studios & Massage Parlors	-	-	S	-
Tattoo Parlors	-	-	S	-
Wholesale, Transportation and Industrial				
Removal of Sand, Gravel, Quarry or Other Raw Material	-	-	S	S
Processing & Treating of Raw Materials (grading, crushing, grinding, etc.)	-	-	S	S
Construction Industry (Including Suppliers)	-	-	S	Р
Manufacturing	-	-	Р	Р
Laundry of Dry Cleaning Plant	-	-	S	Р
Bakery	-	S	Р	Р
Railway Express Service	-	-	S	Р
Truck Terminal	-	-	S	Р
Bus or Railroad Passenger Terminal	-	Р	Р	Р
Heliport	S	-	S	Р
Other Transportation Service	-	S	S	S
Wholesale Trade, Distribution & Storage of Lumber, Fuel, Feed, Ice-	-	-	Р	Р
Open Storage of Raw Materials, Finished Goods & Construction Equipment	-	-	S	Р
Research and Development Offices & Facilities	-	-	S	Р
Planned Industrial Development	-	-	S	S
Printing & Publishing with Gross Floor Area Under 6,000 S.F.	-	-	Р	Р
Printing & Publishing with Gross Floor Area Over 6,000 S.F.	-	-	-	Р

Note:

P= Permitted as of Right

S= Special Permit Required

For a more comprehensive review of the zoning districts within the study area, included below is a Table of Dimensional and Density Regulations, which govern lot sizes, frontage, setbacks, building areas, and heights and open space requirements in each district, and a Table of Off-Street Parking Regulations, which govern minimum parking requirements.

Table 3: Dimensional & Density Regulations

	RC	NB	НВ	ı
Minimum Lot Area (square feet)	40,000	10,000	20,000	80,000
Minimum Lot Width (feet)	100	50	80	125
Minimum Lot Frontage (feet)	100	50	80	150
Minimum Lot Depth (feet)	120	75	100	125
Minimum Front Yard (feet)	35	15	20	25
Minimum Side Yard (feet)	15	5	15	20
Minimum Rear Yard (feet)	40	30	40	40
Maximum Height (feet)	35	30	85	40
Maximum Stories (number)	3	2.5	6	4
Maximum Building Area (%)	25	50	40	50
Minimum Open Space (%)	50	20	30	25

Table 4: Off-Street Parking Regulations

Use	Number of Parking Spaces Per Unit
Single and Two Family Dwellings	3 per each dwelling unit
Multifamily Dwelling	2 for each 1 bedroom unit; 3 for each 2 bedroom
Multifamily Dwelling	unit; 4 for each three or more bedroom unit
Lodging House	1 per each lodging unit
Theater, Restaurant, Auditorium, Church, etc.	1 for each three seats of total seating capacity
New & Used Car Sales and Automotive Service	1 per each 1,000 sf. of gross floor space; 1 for each
Establishment	1,000 sf. of outdoor lot display area
Other Retail or Service Establishment	1 per each 300 sf. of gross floor space
Hotel & Motel	1 for each sleeping room, plus 1 for each 4 seats of
	seating capacity of meeting room and restaurant
Wholesale, Warehouse or Storage Establishment	1 per each 1,000 sf. of gross floor space
	1 per each 600 sf. of gross floor space or .75 per
Manufacturing or Industrial Establishment	each employee of combined employment of the
	two largest successive shifts, whichever is larger
Hospital	2 per bed at design capacity
Nursing Home	1 per bed at design capacity
Trade/Professional School	1 per each 200 sf. of gross floor area in classrooms
	2 per classroom is elementary and junior high
Other School	school; 4 per classroom in high school, plus space
	for auditorium or gymnasium, whichever is larger
Community Facility	1 per each 400 sf. of gross floor space
Dormitory	1 per each sleeping room
Dublic Hility	1 for each 400 sf. of gross floor area for office use;
Public Utility	1 for each 800 sf. of gross floor area for other uses
Transportation Terminal Establishment	1 per each 600 sf. of gross floor area
Mixed Use	Sum of various uses computed separately

Use	Number of Parking Spaces Per Unit
Any other permitted use not interpreted to be	Closest similar use as determined by Zoning
covered by this schedule	Inspector
Retail Trade, Manufacturing & Hospitals with over 5,000 sf. of gross floor area	1 per 20,000 sf. or fraction thereof of gross floor area up to two spaces; 1 additional space for each 60,000 sf. or fraction thereof of gross floor area over 40,000 sf. Space used for ambulance
	receiving at hospitals is not counted
Business & Other Services, Community Facilities or Public Utility establishment with over 5,000 sf. of gross floor area	1 per 75,000 sf. or fraction thereof of gross floor area up to two spaces; 1 additional space for each 20,000 sf. or fraction thereof of gross floor area over 150,000 sf.

3.3 Infrastructure

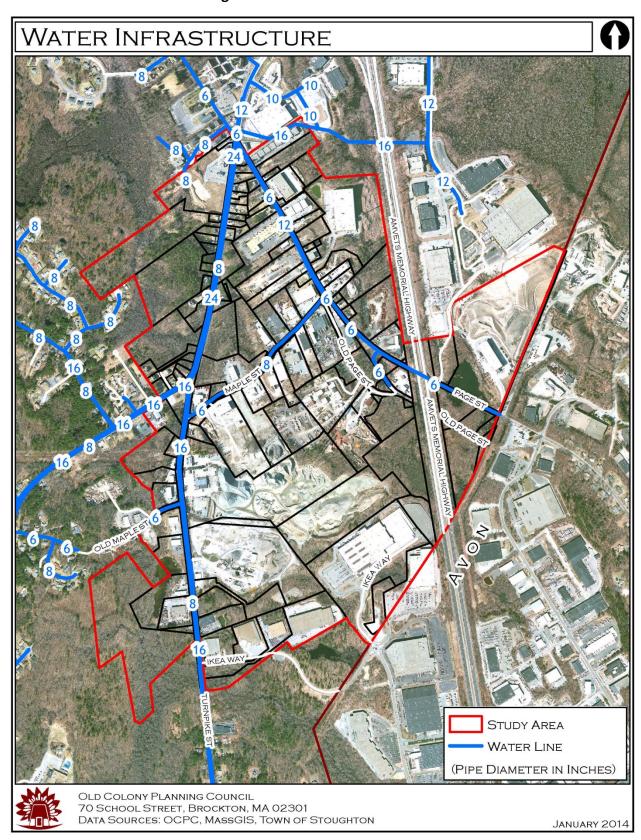
The study area is served by most forms of major infrastructure with the exception of a few isolated areas that lack municipal sewer service.

3.3.1 Water

The Stoughton Water Department is responsible for supplying water to the residents and businesses of Stoughton. Water is supplied from seven groundwater wells located throughout Stoughton with supplemental water supplies purchased from the Massachusetts Water Resources Authority (MWRA). In addition to the seven groundwater wells and the MWRA supplementary connection, the supply and distribution system consists of one green sand filtration plant and four storage tanks with a capacity of 14.24 million gallons and 148.22 miles of distribution mains. It should also be noted that the town maintains emergency inter-municipal connections with the communities of Canton, Easton, and Sharon and also receives water from Brockton for the RK Plaza on the Stoughton/Brockton line. Given the current capacity of the groundwater wells and MWRAs back-up supplies, the water supply in Stoughton is adequate for any type of probable development within the study area.

Water is delivered along Maple Street, Old Maple Street, Page Street, Pleasant Street, Turnpike Street, and part of Old Page Street via a variety of water line sizes, ranging from 6" along Old Maple Street, Old Page Street and Page Street to 24" along the northern end of Turnpike Street. Figure 7 shows the availability of water lines and their respective sizes within the study area.

Figure 7: Water Infrastructure



3.3.2 Sewer

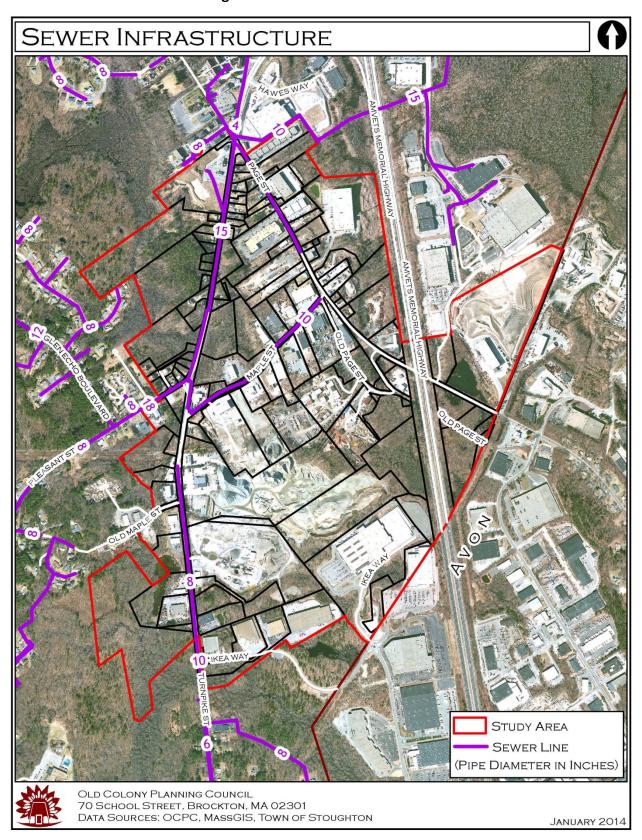
The Stoughton Department of Public Works is responsible for the operation and maintenance of the town's sewage collection system. Sewage generated in town is treated by the MWRA at its wastewater treatment facility at Deer Island in Boston Harbor. In total, the town owns and maintains 109 miles of sewer mains, 2,693 manholes, 15 pump stations, and approximately 5,800 service connections.

Sewer is available in a majority of the study area via a variety of sewer line sizes ranging from 8" along the southern end of Turnpike Street to 15" along the northern end of Turnpike Street, as shown in Figure 8. Areas within the study area that do not have access to sewer are all industrially zoned and include the following:

- Old Page Street
- Page Street (Area from 331 Page Street to the Avon town line; approximately 3,200 feet)
- Turnpike Street (Area from 1185 Turnpike Street to Maple Street; approximately 700 feet)

The provision of municipal sewer service is generally positive, as it expands the types of development that can occur in an area. The decision to extend sewer service to the above areas and the method of treatment, either local or regional, will be a decision the town has to make. Businesses and homes that do not have access to the municipal sewer system in these areas rely exclusively on private on-site treatment and disposal systems, most commonly Title V septic systems, which can limit the amount and type of growth that can occur in these industrially zoned areas.

Figure 8: Sewer Infrastructure



3.3.3 Drainage

The Stoughton Department of Public Works is responsible for the operation of the stormwater management system in town. The town's stormwater collection system consists of more than 2,900 catch basins, 1,800 manholes, and 200 outfalls. The Public Works Department maintains a catch basin maintenance program that continuously maintains, cleans, and inspects the catch basins and roadway surfaces in town.

Drainage within the study area combines country drainage using sheet flow from roadways to adjacent land with traditional piped drainage using catch basins and pipes discharging to nearby lowlands or streams. With an extensive amount of impervious surface (extensive roofed areas, parking lots, paved storage yards and roadways) in the study area, there may be opportunities to improve water quality and lessen downstream flooding with the use of any number of stormwater Best Management Practices (BMPs).

3.3.4 Natural Gas

Natural gas is supplied to the study area by the Columbia Gas Company (formerly known as Bay State Gas). Gas lines within the study area can be extended when necessary to serve new customers.

3.3.5 Electricity

Electricity is supplied to the study area by National Grid, which draws on a variety of sources and has a major substation nearby.

3.3.6 Communications

The study area has access to high speed cable, telephone, and internet services via both Comcast Corporation and Verizon Communications.

3.3.7 Transportation

The transportation section includes a review of existing traffic conditions (such as traffic volumes, prevailing speeds, percentages of heavy vehicles, and intersection peak hour operations), physical conditions (such as traffic control, lane use, signage, pavement conditions, and intersection alignment), crash analyses, planned improvements, and community goals and plans. The purpose of this section is to document existing transportation conditions, identify problems, and suggest potential improvement projects to address safety and congestion deficiencies.

3.3.7.1 Study Area

The study area as has been previously described consists of a large section of land located adjacent to the AmVets Memorial Highway (Route 24) and the Route 139 interchange in Stoughton. This area is primarily served by Route 139 (both "Pleasant Street" and "Turnpike Street"), which provides connection from Downtown Stoughton to the Randolph town line and beyond, and by Page Street, which provides connection to Avon.

The study area includes the following intersections:

- Turnpike Street (Route 139) & Page Street
- Pleasant Street (Route 139) & Turnpike Street
- Turnpike Street & IKEA Way

Turnpike Street (Route 139) & Page Street

This four way intersection has two through lanes in each direction on Turnpike Street (Route 139) with northbound and southbound exclusive left turn lanes. The Page Street eastbound approach has a shared through and right turn lane with an exclusive left turn lane, while the Page Street westbound approach has one through lane with an exclusive right turn lane and an exclusive left turn lane. The signal operates as a fully actuated five phase cycle system, which is coordinated with the signal at the Turnpike Street (Route 139) & Hawes Way (Shoppes at Page Pointe) intersection. There are sidewalks on all four sides of the intersection and associated crosswalks for pedestrian crossings. The intersection of Turnpike Street (Route 139) & Page Street was improved as part of the mitigation for the Shoppes at Page Pointe (Target) development in 2008.

Pleasant Street (Route 139) & Turnpike Street

This three leg intersection has one through lane and an exclusive right turn lane on the Pleasant Street (Route 139) approach, a shared right through, and left turn lane on the Turnpike Street (Route 139) approach, and a shared through and right turn lane with an exclusive left turn lane on the Turnpike Street approach. The signal operates as an isolated fully actuated four phase cycle system. All approaches have sidewalks on both sides of the road and crosswalks are provided on all intersection approaches. The intersection of Pleasant Street (Route 139) & Turnpike Street was improved as part of the mitigation for the Shoppes at Page Pointe (Target) development in 2008.

Turnpike Street & IKEA Way

The intersection of Turnpike Street & IKEA Way was signalized as part of the mitigation for the original IKEA development in 2006. The signal operates as an isolated fully actuated three phase cycle system. The three leg intersection has one through lane in each direction on Turnpike Street with a southbound left turn lane. The IKEA Way approach has one exclusive left turn lane and one exclusive right turn lane. There are no sidewalks or crosswalks at the intersection or on the approaches.

3.3.7.2 Methodology

This study involved: the review and incorporation of the available traffic volumes, travel speeds, and vehicle classification data; the existing and future intersection conditions analyses; and, the recommendations from the following reports:

IKEA Notice of Project Change (2013)
 The IKEA Notice of Project Change was a MEPA filing for IKEA that summarized the impacts of converting a paved parking lot into additional warehouse space. The filing included a

comprehensive transportation analysis for Stockwell Drive and the adjacent area.

- Old Colony Planning Council Bicycle and Pedestrian Connectivity and Livability Study (2012)
 The Bicycle and Pedestrian Connectivity and Livability Study was an assessment of bicycle and pedestrian accommodations in the Old Colony Region. The study included a comprehensive current conditions inventory and recommendations for future connections.
- Old Colony Planning Council Route 139 Corridor Study (2010)
 The Route 139 Corridor Study was an evaluation of the traffic conditions, intersection operations and safety, and, bicycle and pedestrian accommodations for Route 139 in Stoughton, Abington, and Pembroke.

3.3.7.3 Existing Conditions

Traffic Volumes

Old Colony Planning Council (OCPC) utilized Automatic Traffic Recorders (ATR) to determine the Average Daily Traffic (ADT) for a 24-hour period at specific locations on Route 139, Page Street, and Turnpike Street. Automatic traffic recorders are typically installed on the road for a minimum 48-hour period and record traffic volumes, vehicle speeds, and vehicle classifications in both directions in one-hour intervals.

Table 5 summarizes the Average Daily Traffic (ADT) for the study area roadways. Traffic counts were taken from the OCPC Route 139 Corridor Study (2009), the last IKEA Traffic Monitoring Report (2008), and from the Old Colony Planning Council's Traffic Count Database. All counts were adjusted using a 1% per year growth rate to demonstrate 2013 conditions.

Table 5: Study Area Average Daily Traffic (ADT)

Location	Average Daily Traffic
Turnpike Street (Route 139), north of Pleasant Street (Route 139)	20,215
Pleasant Street (Route 139), south of Turnpike Street (Route 139)	18,038
Turnpike Street, south of Pleasant Street (Route 139)	7,809
Page Street, at Avon Town Line	10,015

Intersection Operations

Intersection operations have a direct effect on the flow of traffic through a particular area. As such, Level-of-Service (LOS) analyses were conducted for key intersections in the study area to demonstrate peak hour operations. LOS is a qualitative and quantitative measure that summarizes the operation of a turning movement lane, an intersection, or transportation facility based upon the operational conditions of a facility including lane use, traffic control, and lane width, and takes into account such factors as operating speeds, traffic interruptions, and freedom to maneuver. Level-of-service represents a range of operating conditions and is summarized with letter grades from "A" to "F", with "A" being the most desirable. Table 6 shows the delay criteria for each level-of-service for both un-signalized and signalized intersections.

Table 6: Level-of-Service Criteria Average Delay in Seconds

<u> </u>		
Level of Service	Stop Sign	Traffic Signal
Α	0 to 10	0 to 10
В	10 to 15	10 to 20
С	15 to 25	20 to 35
D	25 to 35	35 to 55
E	35 to 50	55 to 80
F	>50	>80

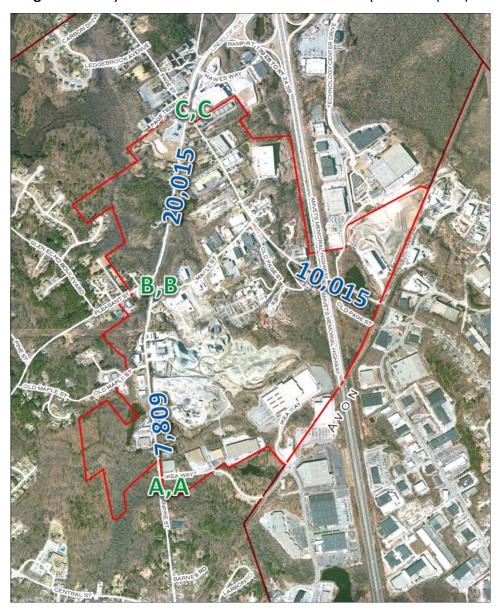
The study area contains a large amount of industrial land with very large retail establishments (Target and IKEA) just outside the study area. Therefore, the levels-of-service analyses were conducted for the typical afternoon peak period (4-6 PM) as well as during the Saturday midday peak period (11 AM - 1 PM). Table 7 shows the levels-of-service and average overall delay for the study area intersections.

Table 7: Study Area Intersections Level-of-Service Summary

Intersection	Weekday	/ Afternoon	Saturday Midday		
intersection	LOS	Delay (Sec)	LOS	Delay (Sec)	
Turnpike Street (Route 139) & Page Street	С	24.5	С	22.1	
Pleasant Street (Route 139) & Turnpike Street	В	14.8	В	14.5	
Turnpike Street & Ikea Way	Α	5.2	Α	5.7	

All of the study area intersections demonstrated acceptable levels-of-service and delay during the Weekday Afternoon and Saturday Midday peak periods. The intersection of Turnpike Street & IKEA Way had the best LOS (A) for both periods while the intersection of Turnpike Street (Route 139) & Page Street had the worst LOS (C) for both periods. Figure 9 displays the study area traffic volumes and intersection peak periods levels-of-service.

Figure 9: Study Area Traffic Volumes & Intersection Operations (LOS)



The largest volume of traffic (20,015) was observed on Turnpike Street (Route 139) between Pleasant Street (Route 139) and Page Street while the smallest volume of traffic (7,809) was observed on Turnpike Street south of Pleasant Street (Route 139).

All study area intersections had Levels of Service (LOS) C or better during both the Afternoon and Saturday Midday peak periods.

Intersection Safety

Crash data for the study area intersections was obtained from the Massachusetts Department of Transportation (MassDOT) for the latest available three-year period (2009, 2010, and 2011). This data, which is made available to MassDOT by the Massachusetts Registry of Motor Vehicles (RMV), was compiled and analyzed in accordance with the standard practices published by the Institute of Transportation Engineers (ITE) *Manual of Traffic Engineering Studies*. Intersection crash rates were calculated based on the procedures in the *Manual of Traffic Engineering Studies* and compared with the average crash rates for the State and for MassDOT District 5.

Crash rates are used, according to the *Manual of Traffic Engineering Studies*, to characterize the crash exposure of a facility. Crash rates for intersections are calculated based on the average number of crashes in a three year period per million entering vehicles (MEV).

Table 8 shows the number of crashes and crash rates for the study area intersections based on the latest 3 years crash data (2009-2011). The Turnpike Street (Route 139) & Page Street had a crash rate exceeding the Statewide Average and District 5 Average for signalized intersections; however, not by a significant amount.

Table 8: Study Area Intersections Crash Summary (2009-2011)

Intersection	Traffic Control	Number of Crashes	Average Per Year	Crash Rate
Turnpike Street (Route 139) & Page Street	Signal	25	8.33	0.83
Pleasant Street (Route 139) & Turnpike Street	Signal	7	2.33	0.30
Turnpike Street & Ikea Way	Signal	3	1	0.31

MassDOT Statewide Average Crash Rate for Signalized Intersections: 0.80 MassDOT District 5 Average Crash Rate for Signalized Intersections: 0.77

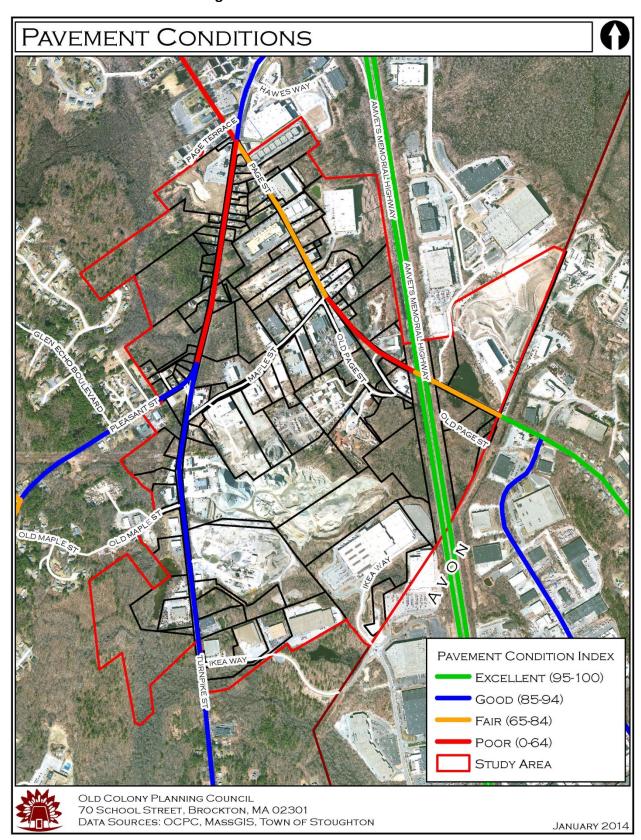
Pavement Conditions

OCPC uses *Road Manager* software to maintain a region-wide Pavement Management System (PMS) for roads eligible for federal aid in the OCPC Region. All study area roadways (Page Street, Pleasant Street, and Turnpike Street) are eligible for both state and federal funding; therefore, their pavement conditions were inventoried and analyzed as part of this report.

Road Manager software calculates Pavement Condition Index (PCI) scores for the surveyed road segments. This is an index derived from an evaluation of pavement distress factors, average daily traffic, and roadway classification. The PCI is based on a scale of 1 to 100, with 100 indicating a flawless road surface. PCI scores of 95 or higher indicate that the road surface is in excellent condition. PCI scores between 85 and 94 normally indicate that the road has some distresses but is in good condition. Roads with scores between 65 and 84 are in fair condition and are in need of maintenance or mill and overlay repairs. Roads with scores below 65 are in poor condition and need base rehabilitation or reconstruction and overlay.

The results of the inventory showed that Pleasant Street (Route 139) and Turnpike Street (section that is not Route 139) are in excellent condition; the section of Turnpike Street (Route 139) from Pleasant Street (Route 139) to Page Street is in poor condition; and, Page Street is a combination of fair and poor conditions. The section of Turnpike Street (Route 139) from Pleasant Street (Route 139) to Page Street has very poor pavement experiencing major distortion, reportedly from settling earth underneath the roadway. Reconstruction, with permanent repair of the base and settling earth, is recommended for this section of roadway. Figure 10 shows the study area pavement conditions.

Figure 10: Pavement Conditions



Bicycle and Pedestrian Conditions

Communities, neighborhoods, and downtowns with high levels of bicycle and pedestrian activity are often seen as places that are livable, prosperous, and inviting. Old Colony Planning Council (OCPC) completed the *Bicycle and Pedestrian Connectivity and Livability Study* in 2012, which consisted of a multi-phase approach of inventorying existing and proposed on and off road bicycle and pedestrian facilities within the region and then recommending ways to implement and connect those facilities. As part of the *Bicycle and Pedestrian Connectivity and Livability Study*, the Old Colony Planning Council developed a complete inventory of Bicycle Levels of Service (BLOS), Pedestrian Levels of Service (PLOS), and Pedestrian Infrastructure Index (PII) on the state numbered route network and other roadways identified as priority routes by community representatives and/or the Regional Bicycle and Pedestrian Task Force members.

The *Highway Capacity Manual (HCM)* defines LOS as a quantitative stratification of a performance measure or measures that represent quality of service. The measures used to determine LOS for transportation system elements are called service measures. Ideally, service measures should exhibit the following characteristics:

- Service measures should reflect travelers' perception (i.e., measures should reflect things travelers can perceive during their journey);
- Service measures should be useful to operating agencies (e.g., agency actions should be able to influence future LOS);
- Service measures should be directly measurable in the field (e.g., an analyst wishing to determine LOS for a two-lane highway used for recreational access can go into the field and directly measure average travel speed of cars); and
- Service measures should be estimable given a set of known or forecast conditions (e.g., a method to estimate the average travel speed for a two-lane highway, given inputs for roadway and traffic conditions).

There are six levels of service grading, ranging from A to F, for each service measure, or for the output from a mathematical model based on multiple performance measures. LOS A represents the best operating conditions from the traveler's perspective and LOS F the worst. For cost, environmental impact, and other reasons, roadways are not typically designed to provide LOS A conditions during peak periods, but rather some lower LOS that reflects a balance between individual travelers' desires and society's desires and financial resources.

The following sections include the information from the *Bicycle and Pedestrian Connectivity and Livability Study* as well as from field observations conducted for this study.

Bicycle Accommodations

In the study area, the Old Colony Planning Council staff collected the following information: Total number of travel lanes, width of outside through-lane, bicycle lane and/or outside shoulder, proportion of on-street occupied parking, travel speed, percent of heavy vehicle traffic, average daily and peak hour traffic, presence of sidewalk, total walkway width, landscape buffer between roadway and sidewalk, spacing average of objects in buffer (e.g., trees, telephone or electric posts), and pavement conditions.

The study area has no infrastructure dedicated to bicycling, as there are no bike paths, bike lanes or sharrows for shared lane usages. Overall, the Bicycle Level of Service (BLOS) for the study area roadways ranged from LOS D to LOS F. The section of Turnpike Street (Route 139) from Pleasant Street (Route 139)

to Page Street had the highest BLOS (D) and the section of Page Street from Turnpike Street (Route 139) to AmVets Memorial Highway (Route 24) had the lowest BLOS (F). These levels reflect a range of conditions such as shoulder width, pavement condition, travel speeds, percentages of heavy vehicles, and traffic volumes.

Pedestrian Accommodations

Sidewalks are present on Route 139 (Pleasant Street and Turnpike Street) on both sides of the road from Glen Echo Boulevard to the intersection with the Shoppes at Page Pointe (Target) development. Turnpike Street has sidewalks on both sides of the road heading away from the intersection with Pleasant Street (Route 139); however, they terminate approximately 600-700 feet to the south. Lastly, sidewalks are present on the Page Street at the intersection with Turnpike Street (Route 139), but terminate approximately 200 feet from the intersection.

The Pedestrian Level of Service (PLOS) for the study area roadways ranged from LOS D to LOS F. Similar to the Bicycle Level of Service analysis, the section of Turnpike Street (Route 139) from Pleasant Street (Route 139) to Page Street had the highest BLOS (D) and the section of Turnpike Street from Pleasant Street (Route 139) to approximately 1,000 feet south of IKEA Way had the lowest BLOS (F). These levels reflect a range of conditions such as sidewalk width, pavement condition, handicapped accessibility, protected street crossings at intersections, and signalization.

<u>Public Transportation</u>

There is currently no public transportation system providing direct access to and from the study area. However, the MBTA Stoughton Commuter Rail station is located in Stoughton Square, approximately two miles southwest of the study area.

Additionally, the Brockton Area Transit (BAT) Authority operates one bus route through Stoughton, (Route #14), which runs between the Westgate Mall in Brockton and the Cobbs Corner shopping center in Sharon.

Conclusions

The study area is well served by Route 139 and benefits greatly by the proximity to AmVets Memorial Highway (Route 24). The higher volumes of traffic were found on Route 139 (major arterial) rather than the secondary roadways (Turnpike Street and Page Street), and the study area intersections operate at acceptable levels of service with crash rates generally below the Statewide and District 5 averages. The Turnpike Street (Route 139) & Page street had a crash rate exceeding the Statewide Average and District 5 Average for signalized intersections; however, not by a significant amount. The study area pavement conditions were generally found to be in good condition with the exception being on Turnpike Street (Route 139) and Page Street where the pavement was found to be in poor condition and in need of repair. Bicycle and pedestrian levels of service were found to be below average; however, not solely due to the lack of accommodations but rather the influence of the vehicle volumes, speeds, and heavy vehicles in the traffic stream. The study area is not directly served by public transportation and is a moderate distance from the Old Colony Commuter Rail Station in Downtown Stoughton.

Overall, the study area provides for efficient and safe movement of vehicles; however, it lacks consistent "Complete Streets" treatments. Bicycle and pedestrian accommodations were generally found on Route 139, on portions of Turnpike Street, and in limited fashion on Page Street. There exists large gaps in the sidewalk network and inconsistent shoulder areas for potential bicycle travel. In addition, the pavement

conditions found on Turnpike Street (Route 139) and Page Street make bicycle and pedestrian travel more challenging.

Recommendations

The Town of Stoughton should continue their efforts to adopt a town-wide "Complete Streets" policy to encourage a more bicycle and pedestrian friendly environment while investigating the potential of providing public transportation services to the study area.

Complete Streets is a design initiative that supports safe, attractive, and comfortable access for all users, including motorists, pedestrians, bicyclists, and transit users. In addition to enhancing safety and mobility, "Complete Street" designed roadways often enhance the surrounding community and environment through traffic calming techniques and vegetated streetscapes. Complete Streets are characterized by wide paved shoulders or separate bicycling lanes; sidewalks separated from the roadway by raised curbing and/or vegetation; well-placed and well-designed crosswalks; raised medians providing crossing refuge; and bulb-outs at intersections to prevent high-speed turning vehicles and shorten crossing distance for pedestrians.

4.0 Parcel Analysis

To determine the specific location of land use conflicts and identify potential land use patterns and development opportunities a parcel analysis was performed for the study area. A parcel analysis provides a base from which current and long-range planning decisions can be made. By conducting a parcel analysis, one is able to analyze current conditions and make comparisons with past studies to identify changes and trends in land use over time. Included in this parcel analysis is a parcel inventory, an analysis of parcel ownership, the identification and analysis of undeveloped and underutilized parcels, and an inventory of available real estate within the study area. It should be noted that this data may also be useful during future planning efforts to identify changes that have occurred since the completion of this study.

4.1 Parcel Inventory

To determine the exact types of land uses within the study area, OCPC inventoried all parcels in the study area. The inventory was conducted by accessing the Stoughton Board of Assessors property assessment data found on the Stoughton Patriot Properties WebPro website as well as through multiple site visits to the study area. OCPC divided the study area into the eight roadways within the study area: Beatrice Lane, IKEA Way, Maple Street, Old Page Street, Page Street, Page Terrace, Pleasant Street, and Turnpike Street.

In total there are 136 parcels within the study area covering approximately 531 acres. The parcels range in size from just 0.05 acres to 31.8 acres. The Parcel Inventory is located within Table 9 and is organized alphabetically by street name, then numerically by street address. Parcels without street addresses were located at the end of each street section and were organized by parcel number numerically. The parcel inventory includes the following information for each parcel:

- Common Address
- Assessor's Parcel Number (APN)
- Parcel Size (Acres)
- Status (Occupied, Partially Occupied and Vacant)
- Tenant
- Owner
- Zoning
- Assessed Value (2013)

*Please note that some parcels in the table below are grouped together. This was done if parcels shared a common owner and were located adjacent to one another.

Table 9: Parcel Inventory

Beatrice Lane

Common Address	APN	Parcel Size (Acres)	Status	Tenant	Owner	Zoning	Assessed Value (2013)
31 Beatrice Ln.	082-113	0.85	Occupied	Single Family Residence	Blanc & Keshel Lindor	Residential C	\$337,800
34 Beatrice Ln.	082-110	0.80	Occupied	Single Family Residence	Chisom Nwazojie & Eyiuche Okeke	Residential C	\$310,100
48 Beatrice Ln.	082-111	3.40	Occupied	Single Family Residence	Paul & Elsie Gaydar	Residential C	\$350,600
Beatrice Ln.	082-112	7.70	Vacant	Undeveloped Land	Turnpike Street Realty Trust; Edward J. Medeiros Trustee	Residential C	\$15,400

IKEA Way

Common Address	APN	Parcel Size (Acres)	Status	Tenant	Owner	Zoning	Assessed Value (2013)
1 IKEA Way	092-021;	27.77	Occupied	IKEA	NHSE Stoughton I LLC c/o	Industrial	\$28,021,731
I IKEK Way	093-018	27.77	Occupica	INLA	IKEA No. America Serv. LLC	maastnar	720,021,731

Maple Street

Common Address	APN	Parcel Size (Acres)	Status	Tenant	Owner	Zoning	Assessed Value (2013)
9 Maple St.	093-013	0.57	Occupied	Mulch by the Yard	Edwards Acquisition LLC	Industrial	\$114,000
20 Maple St.	093-001	1.28	Occupied	Cyn Environmental	Edwards Acquisition LLC	Industrial	\$491,500
45 Maple St.	093-012	10.00	Occupied	HD Supply	Edwards Acquisition LLC	Industrial	\$2,173,500
50 Maple St.	093-002	0.58	Occupied	Single Family Residence	George Whitney	Industrial	\$161,700
74 Maple St.	094-020	4.74	Occupied	Diesel Direct	74 Maple Street LLC	Industrial	\$517,200
97 Maple St.	093-009	2.00	Occupied	Airgas East	D&M Realty LLC c/o Airgas East Inc.	Industrial	\$432,300

Common Address	APN	Parcel Size (Acres)	Status	Tenant	Owner	Zoning	Assessed Value (2013)
130 Maple St.	094-022	4.00	Occupied	Autopart International; Buonato Granite	Southpaw Realty Trust; Edward Buonato, Trustee	Industrial	\$1,076,700
133 Maple St.	094-056; 094-057	3.69	Partially Occupied	HMS Van Lines	133 Maple Street LLC c/o International Metal Co.	Industrial	\$1,429,700
150 Maple St.	094-023	2.53	Occupied	Muldoon	150 Maple Street LLC	Industrial	\$807,400
154 Maple St.	094-024	2.42	Occupied	Addex	Bruce Balder & Jeffrey Fruman c/o Cable Realty Trust	Industrial	\$683,500
155 Maple St.	094-055	2.98	Occupied	ABC Supply Co.	Segal Associates of New Jersey	Industrial	\$859,000
175 Maple St.	094-054	2.10	Occupied	Roto-Rooter	Nurotoco of Mass Inc. c/o Barbara Gugel	Industrial	\$687,000
Maple St.	093-011	5.29	Occupied	Unknown	Edwards Acquisition LLC	Industrial	\$345,500

Old Page Street

Common Address	APN	Parcel Size (Acres)	Status	Tenant	Owner	Zoning	Assessed Value (2013)
30 Old Page St.	093-006	1.80	Occupied	Norwood Fire Protection	Norwood Fire Protection, Inc.	Industrial	\$315,000
30R Old Page St.	093-019	5.80	Occupied	Maltby & Co.	Forest Floor Nominee Realty Trust; Bruce Maltby Trustee	Industrial	\$321,300
56 Old Page St.	093-007; 093-008	13.70	Occupied	JF White Contracting	JF White Contracting Co.	Industrial	\$1,386,000
135 Old Page St.	094-051	1.80	Occupied	Page Building & Canton Masonry	High Tension LLC	Industrial	\$834,800
150 Old Page St.	094-053	4.85	Occupied	International Metal Corp.	Polo Realty Trust; Bruce Balder & L. Fruman Trustees	Industrial	\$1,416,100
Old Page St.	093-020	0.15	Vacant	Undeveloped Land	Owner Unknown	Industrial	\$4,000
Old Page St.	094-052	1.25	Occupied	Unknown	Bruce & Diane Maltby	Industrial	\$108,200

Page Street

Common Address	APN	Parcel Size (Acres)	Status	Tenant	Owner	Zoning	Assessed Value (2013)
100 Page St.	104-003	33.20	Occupied	Stoughton Recycling	Stoughton Redevelopment Authority	Highway Business	\$2,461,506
127 Page St.	094-047; 094-048; 094-049	2.62	Occupied	NASDI Demo	126 Old Page Street Realty Trust; Stephen O'Duggan Trustee	Industrial	\$370,700
162 Page St.	094-050	2.30	Occupied	Single Family Residence	Robert Morrill & T.L. Edwards Inc.	Industrial	\$223,000
187 Page St.	094-045	2.50	Occupied	Miscellaneous Businesses	JDK Corporation	Industrial	\$748,000
207 Page St.	094-043	6.48	Occupied	JF White Contracting	JF White Contracting Co.	Industrial	\$374,400
245 Page St.	094-042	0.40	Occupied	Single Family Residence	Donald & Gail Morrill	Industrial	\$199,300
259 Page St.	094-041	0.27	Occupied	Single Family Residence	F&M Realty Trust; Edmund Murphy Trustee	Industrial	\$197,800
269 Page St.	094-039	0.23	Occupied	Single Family Residence	Jack & Ruth Julius	Industrial	\$138,100
275 Page St.	094-038; 094-040	5.71	Occupied	Murphy & Fahy Construction	F&M Realty Trust; Edmund Murphy, Trustee	Industrial	\$284,500
292 Page St.	094-025 (1-9)	2.50	Partially Occupied	Miscellaneous Businesses	292 Page Street Realty Trust; Stephen Berish & Alan Larkin Trustees & Honorcraft Realty Trust; Edwin & Molly Rapoport, Trustees	Industrial	\$1,639,000
293 Page St.	094-037; 094-058	3.13	Occupied	Mofford Concrete Construction	Solid Concrete LLC	Industrial	\$367,560
301 Page St.	094-036	17.11	Occupied	Boston Interiors	M&K Partners LLC C/o Boston Interiors Inc.	Industrial	\$5,607,453
308 Page St.	094-026	0.47	Occupied	Single Family Residence	Antonio & Maria Moura, Tania Dias, Auxencio Medeiros	Industrial	\$200,100

Common Address	APN	Parcel Size (Acres)	Status	Tenant	Owner	Zoning	Assessed Value (2013)
331 Page St.	094-034; 094-035	0.59	Partially Occupied	Miscellaneous Businesses	331 Page Street Realty Trust; Antonio & Ann Gagliardi Trustees	Industrial	\$738,600
339 Page St.	094-033	0.25	Occupied	Single Family Residence	Truc Nguyen	Industrial	\$206,800
354 Page St.	094-029	0.85	Occupied	HalMark Systems, Inc.	Edwin & David Crean	Industrial	\$323,100
357 Page St.	094-032	1.70	Occupied	DCH Highway, LLC	357 Page Street Realty Trust; Marie Van Dam, Trustee	Industrial	\$184,000
378 Page St.	094-030 (1-14)	N/A	Partially Occupied	Miscellaneous Businesses	Miscellaneous Owners	Industrial & Residential C	\$4,117,500
387 Page St.	095-041 (1-14)	N/A	Occupied	Miscellaneous Businesses	Union Street Realty Trust; Roberta Porcello Trustee	Industrial	\$2,042,800
404 Page St.	095-045	1.11	Occupied	Single Family Residence	Todd Horton	Industrial	\$252,500
405 Page St.	095-040	2.17	Vacant	Undeveloped Land	Minnie LLC c/o Lappen Auto Supply Co.	Industrial	\$115,800
412 Page St.	095-046	0.53	Occupied	Single Family Residence	Page Street Realty Trust; James Filbin, Trustee	Residential C	\$222,200
422 Page St.	095-047	0.99	Occupied	Single Family Residence	Stuart & Susan Gunn	Residential C	\$245,800
423 Page St.	095-039	2.90	Partially Occupied	Miscellaneous Businesses	Minnie LLC c/o Lappen Auto Supply Co.	Industrial	\$1,860,500
436 Page St.	095-048	0.44	Occupied	Single Family Residence	Steven Adkins	Residential C	\$218,400
437 Page St.	095-038	0.36	Occupied	Single Family Residence	F&M Realty Trust II; Edmund Murphy, Trustee	Industrial	\$181,700
449 Page St.	095-036	3.02	Occupied	Single Family Residence	F&M Realty Trust II; Edmund Murphy, Trustee	Industrial	\$240,600
471-477 Page St.	095-035 (1-8)	???	Partially Occupied	Miscellaneous Businesses	Miscellaneous Owners	Industrial	\$3,561,500
506 Page St.	095-005	0.26	Occupied	Page's Grocery	506 Page Street Realty Trust; Gerald Goulston, Trustee	Neighborhood Business	\$96,500

Common Address	APN	Parcel Size (Acres)	Status	Tenant	Owner	Zoning	Assessed Value (2013)
Page St.	093-003; 093-005	13.00	Vacant	Undeveloped Land	T.L. Edwards Inc.	Industrial	\$303,200
Page St.	093-004	0.17	Vacant	Undeveloped Land	Commonwealth of Massachusetts	Industrial	\$16,700
Page St.	094-027; 094-028	6.40	Occupied	Unknown	Sprague Realty Trust; Ferrante & Francesco Gioioso, Trustees	Industrial	\$503,000
Page St.	094-031	1.10	Occupied	Unknown	Aguiar Landscape Inc.	Industrial	\$157,000
Page St.	094-044	0.11	Vacant	Undeveloped Land	Algonquin Gas Trans Co.	Industrial	\$2,500
Page St.	094-046	0.05	Vacant	Undeveloped Land	Algonquin Gas Trans Co.	Industrial	\$1,600
Page St.	104-004	3.50	Vacant	Undeveloped Land	TW Conroy LLC	Highway Business	\$140,100
Page St.	103-003; 103-004; 103-005; 103-006; 103-007; 103-008	12.67	Vacant	Undeveloped Land	T.L. Edwards Inc.	Industrial	\$150,300
Page St.	103-009	0.12	Vacant	Undeveloped Land	Town of Stoughton	Industrial	\$11,500

Page Terrace

Common Address	APN	Parcel Size (Acres)	Status	Tenant	Owner	Zoning	Assessed Value (2013)
14 Pager Tor	095-006	1.04	Occupied	Miscellaneous	14 Page Terrace LLC	Neighborhood	\$1,419,000
14 Pager Ter. 095-006	1.04	Occupied	Businesses	c/o Keith Properties	Business	\$1,419,000	

Pleasant Street

Common Address	APN	Parcel Size (Acres)	Status	Tenant	Owner	Zoning	Assessed Value (2013)
951 Pleasant St.	081-042	2.52	Vacant	Former Armory	Town of Stoughton	Residential C	\$1,601,200
988 Pleasant St.	082-114	0.34	Occupied	Single Family Residence	Bennett Carter & Victoria Masi	Residential C	\$264,200
1000 Pleasant St.	082-115; 082-116	0.70	Occupied	Single Family Residence	Santiago & Angela Jusino	Residential C	\$219,400

Turnpike Street

Common Address	APN	Parcel Size (Acres)	Status	Tenant	Owner	Zoning	Assessed Value (2013)
1023 Turnpike St.	092-009	3.01	Occupied	Fabreeka Products Co.	Fabreeka Products Co.	Industrial	\$1,284,000
1033 Turnpike St.	092-010	4.30	Occupied	Wilmington Cold Storage	PHL Realty Trust; Peter & Todd Lewis, Trustees	Industrial	\$3,043,400
1043 Turnpike St.	092-011	4.49	Occupied	Harrington Bros. Corp.	1043 Turnpike LLC	Industrial	\$1,375,500
1050 Turnpike St.	092-002	0.49	Occupied	Single Family Residence	1050 Turnpike Street Realty Trust; Michael Walsh, Trustee	Industrial	\$163,600
1053 Turnpike St.	092-012 (1-6)	9.00	Partially Occupied	Miscellaneous Businesses	Frederick & Stuart O'Neill c/o Hunneman Management Co.	Industrial	\$4,644,400
1063 Turnpike St.	092-008	3.00	Occupied	MarverMed	Stoughton Turnpike Realty Trust; Primo Tallarida, Trustee	Industrial	\$766,200
1074 Turnpike St.	092-003	3.06	Occupied	Metropolitan Truck Center	Turnpike Realty Trust; R.E. Arnold & S.W. Cookson, Trustees	Industrial	\$773,700
1098 Turnpike St.	092-004	5.06	Occupied	TG O'Connor Contracting Corp.	1098 Turnpike LLC	Industrial	\$417,000

Common Address	APN	Parcel Size (Acres)	Status	Tenant	Owner	Zoning	Assessed Value (2013)
1099-1101 Turnpike St.	092-005; 092-006; 092-007; 093-015	31.80	Occupied	Aggregate Industries	Aggregate Industries	Industrial	\$3,963,500
1136-1140 Turnpike St.	081-062; 081-072	6.82	Occupied	McGrath's Towing & Recovery	1136 Turnpike Street LLC	Industrial	\$1,379,100
1150 Turnpike St.	081-059	1.99	Occupied	Northeast Tank & Environmental Services	Northeast Realty Trust; John & Joanne O'Brien Trustees	Industrial	\$307,500
1157 Turnpike St.	093-016; 093-017	50.23	Partially Occupied	T.L. Edwards & Miscellaneous Businesses	T.L. Edwards Inc.	Industrial	\$3,412,200
1164 Turnpike St.	081-060; 081-070	6.77	Occupied	K&K Excavation Services	K&K Excavation Co. Inc.	Industrial; Residential C	\$582,300
1352 Turnpike St.	094-001	1.30	Occupied	Single Family Residence	Fernanda Defigueiredo	Residential C	\$358,200
1357 Turnpike St.	094-018	0.57	Occupied	Single Family Residence	Sprague Realty Trust; Ferrante & Francesco Gioioso, Trustees	Residential C	\$199,400
1359 Turnpike St.	094-016	0.65	Occupied	Single Family Residence	Torin Cerasulo & Karen Pike	Residential C	\$188,700
1360 Turnpike St.	094-002	1.35	Occupied	Single Family Residence	Khalaj Realty Trust; Nina Khalaj, Trustee	Residential C	\$554,000
1382 Turnpike St.	094-003	0.37	Occupied	Two Family Residence	Alan & Eleanor Levy	Residential C	\$251,700
1424 Turnpike St.	094-007	0.45	Occupied	Single Family Residence	Clinton & Evelyn Matthews	Residential C	\$241,400
1434 Turnpike St.	094-008	0.65	Occupied	Single Family Residence	Manuel & Delfina Desimis	Residential C	\$218,700
1439 Turnpike St.	094-014	0.37	Occupied	Single Family Residence	Frederick Colsch & Marelyn Crawford	Residential C	\$179,700

Common Address	APN	Parcel Size (Acres)	Status	Tenant	Owner	Zoning	Assessed Value (2013)
1440 Turnpike St.	094-009	0.58	Occupied	Single Family Residence	Rhonda Bovill	Residential C	\$243,900
1447 Turnpike St.	094-013	0.50	Occupied	Single Family Residence	Kevin & Patricia Cromwell	Residential C	\$232,400
1455 Turnpike St.	094-012	0.42	Occupied	Single Family Residence	Mary Hubbard	Residential C	\$180,600
1458 Turnpike St.	094-011	0.34	Occupied	Single Family Residence	Umberto & Adele Ferrara	Residential C	\$239,000
1463 Turnpike St.	095-056	0.35	Occupied	Two Family Residence	Robert & Pauline Naphen	Residential C	\$242,100
1471 Turnpike St.	095-055	0.60	Occupied	Single Family Residence	Joseph & Rouhana Saade	Residential C	\$161,900
1479 Turnpike St.	095-054	0.38	Occupied	Single Family Residence	Joseph & Rouhana Saade	Residential C	\$188,400
1487 Turnpike St.	095-053	0.31	Occupied	Single Family Residence	Elwyn Chester Leathers	Residential C	\$195,300
1495 Turnpike St.	095-052	0.48	Occupied	Single Family Residence	Marco & Kimberli Antonelli	Residential C	\$215,500
1509 Turnpike St.	095-051	0.53	Occupied	Two Family Residence	Todd Hamilton	Residential C	\$164,800
1517 Turnpike St.	095-050	0.43	Occupied	Single Family Residence	Hoda Saade	Residential C	\$216,000
1522-1540 Turnpike St.	095-002	9.08	Partially Occupied	Dunkin Donuts & South Shore Savings Bank	Stoughton Commerce Center LLC	Neighborhood Business	\$3,275,700
Turnpike St.	079-070	24.83	Vacant	Undeveloped Land	Fall River Marine Terminal LLC c/o Fairfield-Exeter	Industrial, Residential B, Residential C	\$638,000
Turnpike St.	081-041	1.50	Vacant	Undeveloped Land	Town of Stoughton	Residential C	\$138,700
Turnpike St.	081-061	0.82	Vacant	Undeveloped Land	NSTAR Electric Co.	Industrial & Residential C	\$66,300
Turnpike St.	092-022	2.90	Occupied	Costco	Costco Wholesale Corp.	Industrial	\$2,512,000

Common Address	APN	Parcel Size (Acres)	Status	Tenant	Owner	Zoning	Assessed Value (2013)
Turnpike St.	092-024	2.53	Vacant	Undeveloped Land	Avon West Trust; F.X. Messina & L.T. Falcone, Trustees	Industrial	\$236,700
Turnpike St.	093-014	0.98	Occupied	Unknown	Edwards Acquisition LLC	Industrial	\$151,000
Turnpike St.	094-004	11.50	Vacant	Undeveloped Land	Brittany Ann Realty Trust; George Millett, Trustee	Residential C	\$174,000
Turnpike St.	094-005	0.35	Vacant	Undeveloped Land	Briana Realty Trust; George Millett, Trustee	Residential C	\$91,300
Turnpike St.	094-006	0.38	Vacant	Undeveloped Land	Kiley Realty Trust; George Millett, Trustee	Residential C	\$92,300
Turnpike St.	094-010	14.53	Vacant	Undeveloped Land	Town of Stoughton	Residential C	\$162,000
Turnpike St.	094-015	2.60	Vacant	Undeveloped Land	Sprague Realty Trust; Ferrante & Francesco Gioioso, Trustees	Industrial & Residential C	\$58,500
Turnpike St.	094-017	0.57	Vacant	Undeveloped Land	Ferrante & Frances Gioioso	Industrial & Residential C	\$8,900
Turnpike St.	094-019	4.70	Vacant	Undeveloped Land	Sprague Realty Trust; Ferrante & Francesco Gioioso, Trustees	Industrial & Residential C	\$239,200
Turnpike St.	095-049	0.35	Vacant	Undeveloped Land	Town of Stoughton	Residential C	\$91,300

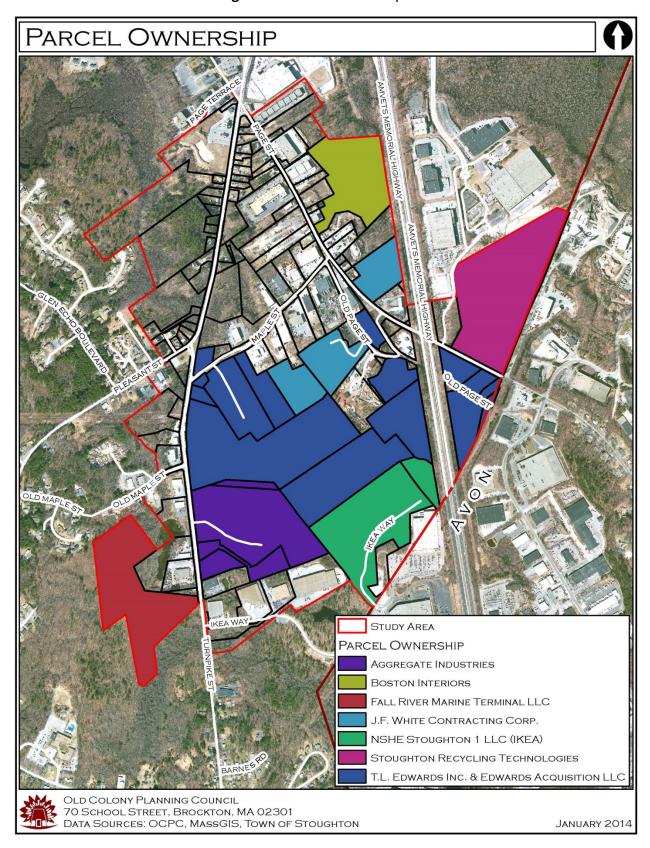
4.2 Parcel Ownership Analysis

As a result of the parcel inventory, it was found that almost half, 251.23 acres or 47.28% of land within the study area is held by seven private landowners, with one land owner, T.L. Edwards, Inc. controlling 96.34 acres or 18.14% alone. The largest parcels and parcel owners are located in the center and southern end of the study area and are owned by two companies, Aggregate Industries and T.L. Edwards, both of whom use the land for the extraction, processing and storing of aggregate materials. Figure 11, the Parcel Ownership Map, shows which parcels are owned by the landowners listed below.

Table 10: Parcel Ownership in the Study Area

Owner	Acres	% of Area
T.L. Edwards, Inc. (Includes parcels owned by Edwards Acquisition)	96.34	18.14%
Stoughton Recycling Technologies (Site of Former Landfill)	33.20	6.25%
Aggregate Industries	31.80	5.98%
NSHE Stoughton I LLC (IKEA)	27.77	5.22%
Fall River Terminal LLC	24.83	4.67%
J.F. White Contracting Corp.	20.18	3.80%
Boston Interiors	17.11	3.22%

Figure 11: Parcel Ownership



4.3 Identification and Analysis of Undeveloped and Underutilized Parcels

As a result of the parcel inventory it was found that 31 parcels within the study area can be categorized as undeveloped or underutilized. These parcels offer opportunities for new development, more intense development, or the expansion of existing businesses.

Of the 31 parcels, 28 can be categorized as being undeveloped. These 28 parcels total 104.67 acres, or approximately 19.71% of the land within the study area, and have an assessed value of \$2,758,300. These parcels of property are undeveloped for a variety of reasons, with the most common reasons being:

- Environmental Limitations: The parcel contains a significant amount of either wetlands or floodplains, which can hinder the development potential of the parcel.
- Geographic Limitations: The parcel's terrain is not favorable to development, such as sloping land.
- Public Open Space: The parcel is owned by the town for the purpose of conserving open space.
- Infrastructure Limitations: The parcel is in possible need of infrastructure (such as public sewer) to make it developmentally viable.
- Landlocked: The parcel is landlocked and cannot be accessed adequately.
- Zoning: The parcel has a zoning issue, such as the parcel not having the ability to be developed due to its size. (An example is a half-acre parcel located in the Residential C zone not being able to be developed into single-family housing because it cannot meet the 40,000 s.f. minimum lot size as required the Residential C zone.) Another zoning issue within the study area is that of parcels having split zoning. This does not necessarily render the parcel undevelopable, but it can hinder development.

Additionally, there are 3 parcels within the study area that can be categorized as underutilized. These 3 parcels encompass 12.18 acres or approximately 2.29% of the land within the study area and have an assessed value of \$5,027,300. These three parcels are either partially or fully developed, but are not being used to their maximum potential.

Table 12, Identification and Analysis of Undeveloped Parcels, identifies each of the undeveloped and underutilized parcels within the study area and includes observations on the development potential of each parcel. Figure 12, Undeveloped and Underutilized Parcels, highlights each of the undeveloped parcels, utilizing the corresponding site number in the table below.

Table 11: Identification and Analysis of Undeveloped & Underutilized Parcels

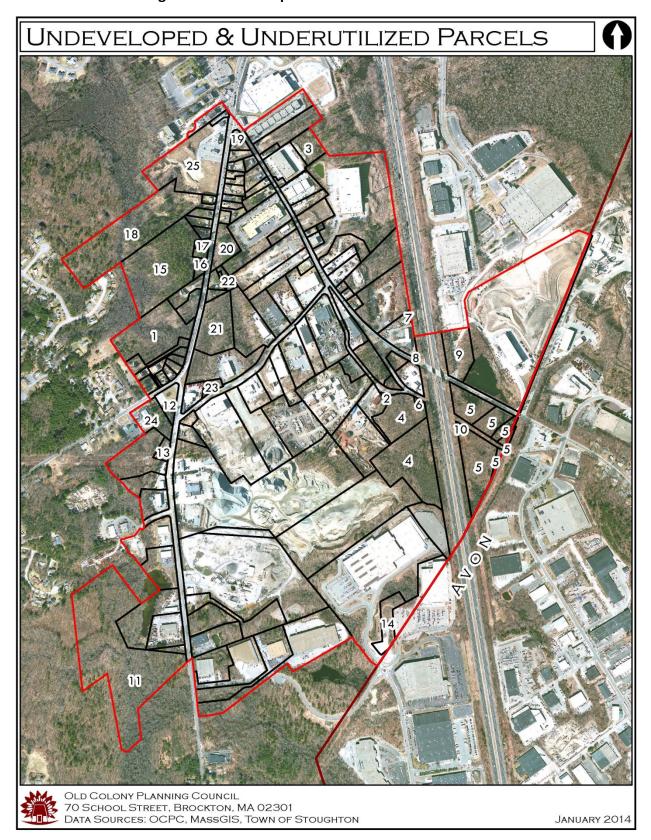
			Uı	ndeveloped P	arcels		
Site #	Common Address	APN	Owner	Parcel Size (Acres)	Zoning	Assessed Value (2013)	Analysis of Development Potential
1	Beatrice Lane	082-112	Turnpike Street Realty Trust; Edward J. Medeiros, Trustee	7.70	Residential C	\$15,400	Parcel has frontage on Turnpike Street, but due to an abundance of wetlands and floodplains on the property, its development potential is limited.
2	Old Page Street	093-020	Owner Unknown	0.15	Industrial	\$4,000	Parcel's owner is currently unknown. Title research is needed to determine the rightful owner. Additionally, the development potential of the site is limited due to its small size.
3	405 Page Street	095-040	Minnie LLC	2.17	Industrial	\$115,800	Parcel shares a common owner as adjacent parcel 095-039 (Lappen's Business Center). This parcel to the rear of the Business Center has the potential to be developed, but may be difficult given the slope of the land.
4	Page Street	093-003; 093-005	T.L. Edwards Inc.	13.00	Industrial	\$303,200	These adjoining parcels share a common owner-T.L. Edwards, Inc. The development potential of these parcels is hindered by the lack of public sewer and the presence of wetlands in the southern part of the property.
5	Page Street	103-003; 103-004; 103-005; 103-006; 103-007; 103-008	T.L. Edwards, Inc.	13.04	Industrial	\$150,300	These six adjoining parcels share a common owners-T.L. Edwards, Inc. These parcels have the potential to be developed as they have frontage on Page Street, but are hindered by the lack of public sewer and the presence of wetlands in the eastern and southern portions of the site.
6	Page Street	093-004	Commonwealth of Massachusetts	0.17	Industrial	\$16,700	This small parcel is owned by the state and has limited development potential due to its size and it being landlocked.

Site #	Common Address	APN	Owner	Parcel Size (Acres)	Zoning	Assessed Value (2013)	Analysis of Development Potential
7	Page Street	094-044	Algonquin Gas Transmission Co.	0.11	Industrial	\$2,500	This small landlocked parcel is owned by the Algonquin Gas Transmission Co. and has limited development potential due to its size and it being landlocked.
8	Page Street	094-046	Algonquin Gas Transmission Co.	0.05	Industrial	\$1,600	This small landlocked parcel is owned by the Algonquin Gas Transmission Co. and has limited development potential due to its size and it being landlocked.
9	Page Street	104-004	TW Conroy LLC	3.50	Highway Business	\$140,100	The development of this parcel is limited due to the presence of Reebok Drive.
10	Page Street	103-009	Town of Stoughton	0.12	Industrial	\$11,500	This small landlocked parcel is owned by the Town of Stoughton and has limited development potential due to its size and it being landlocked.
11	Turnpike Street	079-070	Fall River Marine Terminal LLC	24.83	Industrial, Residential B, Residential C	\$638,000	This parcel is hindered by the presence of wetland and floodplains.
12	Turnpike Street	081-041	Town of Stoughton	1.50	Residential C	\$138,700	The parcel consists of a small unstriped parking lot and a fence detention basin. Like the former Armory parcel (above) it has potential to be utilized for a variety of town purposes or could also be sold to a developer for housing.
13	Turnpike Street	081-061	NStar Electric Company	0.82	Industrial & Residential C	\$66,300	This parcel is currently used as a right-of- way by the NStar Electric Company.
14	Turnpike Street	092-024	Avon West Trust; F.X. Messina & L.T. Falcone, Trustees	2.53	Industrial	\$236,700	This parcel is located at the northern end of the IKEA roundabout. Development opportunities appear to exist, but may be hindered by the property's odd shape.
15	Turnpike Street	094-004	Brittany Ann Realty Trust; George Millett, Trustee	11.50	Residential C	\$174,000	Potential development of the parcel is limited due to presence environmental constraints, including wetlands and floodplains. It is further hampered by its Residential C zoning, which limits its development potential.

Site	Common	APN	Owner	Parcel Size	Zoning	Assessed	Analysis of Development Potential
#	Address			(Acres)		Value (2013)	
16	Turnpike Street	094-005	Briana Realty Trust; George Millett, Trustee	0.35	Residential C	\$91,300	Potential development of the parcel is limited due its size, as Residential C zoning requires 40,000 square foot lots for single family homes.
17	Turnpike Street	094-006	Kiley Realty Trust; George Millett, Trustee	0.38	Residential C	\$92,300	Potential development of the parcel is limited due its size, as Residential C zoning requires 40,000 square foot lots for single family homes.
18	Turnpike Street	094-010	Town of Stoughton	14.53	Residential C	\$162,000	This parcel cannot be developed as it is conservation land owned by the Town of Stoughton's Conservation Commission.
19	Turnpike Street	095-049	Town of Stoughton	0.35	Residential C	\$91,300	The parcel consists of a small area of green space at the intersection of Page and Turnpike Streets.
20	Turnpike Street	094-015	Sprague Realty Trust; Ferrante & Francesco Gioioso, Trustees	2.60	Industrial & Residential C	\$58,500	This parcel has frontage on Turnpike Street and has dual zoning, although it is primarily zoned Residential C. The potential for development appears to be viable for housing.
21	Turnpike Street	094-019	Sprague Realty Trust; Ferrante & Francesco Gioioso, Trustees	4.70	Industrial & Residential C	\$239,200	The development potential of this parcel is extremely limited due to the presence of wetlands and floodplains throughout the parcel.
22	Turnpike Street	094-017	Frances Gioioso	0.57	Industrial & Residential C	\$8,900	The development of this parcel is limited due to it being landlocked, its relatively small size, split zoning, and the presence of floodplains throughout the entire property.
			U	nderutilized F	Parcels	.	
Site #	Common Address	APN	Owner	Parcel Size (Acres)	Zoning	Assessed Value (2013)	Analysis of Development Potential
23	50 Maple Street	093-002	George P. Whitney	0.58	Industrial	\$161,700	The single-family home appears to be vacant, as there is graffiti on the home as well as a large amount of vegetation surrounding the house.

Site #	Common Address	APN	Owner	Parcel Size (Acres)	Zoning	Assessed Value (2013)	Analysis of Development Potential
24	951 Pleasant Street	081-042	Town of Stoughton	2.52	Residential C	\$1,601,200	The parcel is the site of the former Armory building. The site, owned by the Town of Stoughton, has great potential to be utilized for a variety of town purposes. It could also be sold to a developer for housing.
25	1522-1540 Turnpike Street	095-002	Stoughton Commerce Center LLC	9.08	Neigh. Business	\$3,264,400	The parcel is only partially occupied by a Dunkin Donuts and a bank. The remainder of the parcel is vacant and has much more potential for development. Has recently been marketed as "Stoughton Crossing", a 60,000 square foot shopping center.

Figure 12: Undeveloped and Underutilized Parcels



4.4 Inventory of Available Real Estate

To get a sense of the types of vacancies in the study area, an inventory of available real estate was conducted in December 2013. It was found that there are a number of office and warehouse vacancies in the study area, as well as a few industrial and residential areas.

Table 12: Snapshot of Real Estate Available in the Study Area (as of December 2013)

Common Address	Space Available	Use	Zoning	Offered For	Price
133 Maple St.	34,645 S.F.	Warehouse	Industrial	Lease	\$4.50 S.F./Year
292 Page St.	1,750 S.F.	Warehouse	Industrial	Rent	\$1,300/Month
292 Page St.	5,250 S.F.	Warehouse	Industrial	Rent	\$3,000/Month
292 Page St.	7,000 S.F.	Warehouse	Industrial	Rent	\$3,600/Month
331 Page St.	1,500 S.F.	Office	Industrial	Lease	\$11.00 S.F./Year
331 Page St.	1,050 S.F.	Office	Industrial	Rent	\$1,050/Month
331 Page St.	1,400 S.F.	Office	Industrial	Lease	\$11.00 S.F./Year
378 Page St. Unit 2	8,427 S.F.	Office	Industrial	Sale	\$599,000
378 Page St. Unit 8	1,250 S.F.	Office	Industrial	Lease	\$15.00 S.F./Year
378 Page St. Unit 10-Suite 102	850 S.F.	Office	Industrial	Rent	\$900/Month
378 Page St. Unit 10-Suite 201	2,050 S.F.	Office	Industrial	Rent	\$2,300/Month
378 Page St. Unit 12	5,000 S.F.	Warehouse	Industrial	Lease	\$6.25 S.F./Year
421 Page St. Unit 3	4,290 S.F.	Warehouse	Industrial	Lease	\$5.50 S.F./Year
437-449 Page St.*	3.38 Acres	Industrial	Industrial	Sale	\$1.2 Million
1053 Turnpike St.	62,500 S.F.	Warehouse	Industrial	Lease	\$3.95 S.F./Year
1137 Turnpike St.	40,000 S.F.	Storage Yard	Industrial	Rent	\$1,800/Month
1400 Turnpike St.	13.00 Acres	Housing	Residential C	Sale	\$1.2 Million

Source: Donahue Associates, Quinn Associates, R.W. Holmes, NAI Hunneman, Keller Williams Realty and LoopNet *It should be noted that there is currently a proposal for a four-story Hampton Inn Hotel and Conference Center to be constructed at 437-449 Page Street. The proposed hotel consists of 100 rooms and a conference center capable of seating approximately 200 people.

In total, the following amount of space was available in the study area:

Office Space: 16,527 S.F.
Warehouse Space: 120,435 S.F.
Industrial Land: 3.38 Acres
Industrial Yard: 40,000 S.F.

Housing: 13 Acres

5.0 Findings and Recommendations

Based upon the information and data gathered for this study, a series of findings and recommendations were developed and are as follows:

5.1 Review of Strengths and Weaknesses in the Study Area

This review of the strengths and weaknesses of the study area was based upon a review of land use, zoning, and environmental and infrastructure elements found within the study area:

Strengths

- The study area has excellent regional access via Exits 19 and 20 off of Route 24 as well excellent local access via Route 139, which serves as the northeast gateway to Downtown Stoughton.
- The study area is surrounded by a number of successful examples of commercial and industrial development, including the MetroSouth Corporate Center on Technology Center Drive, the Shoppes at Page Pointe on Turnpike Street and Merchants Park on Stockwell Drive, and the Avon Industrial Park on Bodwell Street in Avon.
- Currently vacant and underutilized parcels within the study area offer opportunities for both new development and the expansion of existing business.
- There are possible opportunities for the redevelopment of the gravel pits. While the gravel pits will likely continue operating for many years into the future, strategies and plans for the redevelopment of these 80+ acres are critical to the future of this area.

Weaknesses

- Current zoning regulations within the study area limit the creation of mixed-use developments;
 e.g. commercial and residential uses.
- The study area features conflicting land uses, namely in the form of single family housing adjacent or in very close proximity to industrial uses.
- The lack of industrial design guidelines in town has contributed to inconsistent appearances among the industrial uses within the study area.
- The study area contains several parcels with split zoning. While split zoning does not necessarily render a parcel undevelopable, it may hinder its development.
- The presence of environmental constraints, namely wetlands and floodplains, limit development at certain locations within the study area.
- While regional access is excellent to the study area via Route 24 and Route 139, local access via Maple Street and Page Street is limited due to narrow roadways.
- The study area lacks municipal water and sewer infrastructure in Industrial zoned land near the Avon town line.
- The study area has poor pedestrian and bicycle infrastructure and lacks mass transit options.

5.2 Recommendations

Infrastructure

- Examine the possibility of extending municipal sewer service down Page Street to the Avon town line, so that undeveloped industrial zoned parcels may have the ability to access if needed.
- Examine the possibility of extending municipal water service to Old Page Street, so that future developments may have the ability to access if needed.

- Widen the roadways within the study area, specifically Maple Street and Page Street. These roadways are quite narrow and should be widened to adequately handle the heavy trucks that use them. Enlarging the roadways would improve the turning radius and overall safety of these roads.
- Improve bicycle and pedestrian infrastructure within the study area. Current bicycle and pedestrian level of service (LOS) in the study area is poor due to gaps in sidewalks throughout the study area, as well as the absence of bike lanes anywhere in the study area. The town should examine the possibility of creating sidewalks and bike lanes to accommodate non-motorized forms of transportation.
- Continue to support the Reconstruction of Turnpike Street (MassDOT Project #607124), which
 consists of reconstructing Turnpike Street to provide a permanent solution to the historical
 problem of roadway settlement in the area caused by decomposing subsurface material (peat).
- Examine the possibility of extending Stockwell Drive in Avon to Route 139 through the gravel pits via Maple, Turnpike and Page Streets.
- Improve access from Page Street to Technology Center Drive (currently former Reebok driveway).

Zoning

Eliminate split zoning from the following parcels within the study area:

0	094-019	0	079-070	0	094-017
0	081-061	0	094-015	0	094-018
0	081-060	0	094-030	0	095-002

- Reduce the minimum lot sizes, particularly within the Residential C zoned land along Turnpike Street, north of Pleasant Street, where the 40,000 square foot minimum lot sizes has possibly kept some parcels from being developed due to their small lot sizes.
- Transition Page Street from being residential in nature to commercial in nature as zoning allows.
- Implement Landscape Design Guidelines to provide for appealing landscapes within the study area.

Land Use Alternatives

As was previously noted, the study area consists of a mixture of land uses and zoning districts. While it is largely industrial in terms of both land use and zoning, there are also conflicting or incompatible uses and zoning districts in the study area such as residential and commercial. Located within the heart of study area are two gravel pits that combine for approximately 82 acres and due to their sheer size, define the character of the study area. Until these gravel pits cease operations and vacate the area, the uses and character within the study area will be difficult to change. Although the possibility of the gravel pits ceasing operations may not occur for many years, it is in the town's best interest to begin planning for the future for these sites and for the study area as a whole. Examining future development possibilities for the gravel pits years in advance of their ceasing operations is not new. Examples include Apple Valley, Minnesota, where city officials have begun planning for the redevelopment of a massive 454-acre open pit gravel mine. The mine, which will continue to operate for at least another decade or more, has not stopped city officials in that community from laying the groundwork to redevelop the site into a business campus with office and medical uses. City officials in Apple Valley plan on using a Tax Increment Financing (TIF) agreement to generate extra property tax resulting from the development to retroactively pay for certain development costs within the district. There are other examples from across the country where abandoned gravel pits have been transformed in retail marketplaces, residential complexes, and open space.

A series of potential development types are noted below. Please note that these development types may require a zoning change or the creation of an overlay zoning district to accommodate a particular type of development. Moreover, these alternatives are for informational purposes only and are intended to start a discussion as to the future types of development the town would like to see in the study area. It is recommended that a strategic planning committee be formed consisting of town officials, land owners, and others when deciding the future of the study area.

Alternative 1: Intensive Industrial: As has been stated through the study, the study area is largely industrial in nature, and continuing to utilize this area for industrial use is natural. Instead of utilizing the land for a variety of industrial uses (gravel extraction and processing, vehicle and equipment storage, manufacturing) as is done currently, the study area could be developed into a traditional industrial park, with proper signage and the creation of an association, with the possibility of attracting companies to the area that focus on emerging industries, such as biotechnology or advanced manufacturing.

<u>Alternative 2: "Big Box" Retail:</u> Areas of North Stoughton in and around the study area have already been developed in the form of "big-box" retail, utilizing the excellent highway access off of Route 24 and as well as from Routes 27 and 139. The study area could build off of the momentum of adjacent "big-box" retail outlets, such as the MetroSouth Corporate Center on Technology Center Drive, the Shoppes at Page Pointe on Turnpike Street in Stoughton and Merchants Park on Stockwell Drive in Avon.

Alternative 3: Office: Despite the 16,000 square feet of office space currently available for sale/lease in the study area, it should not preclude the idea of creating additional office space within the study area. The study area has high visibility and access off of Route 24 as well as access to critical utilities, such as water and sewer. It should be noted that the type of office space currently available within the study area is geared towards small businesses, not larger corporate facilities. There are a number of local examples of corporate office buildings situated in similar areas near highway interchanges that the study area could possibly emulate, such as the HarborOne Bank Headquarters on Oak Street and the Rockland Trust and Signature Healthcare buildings on Liberty Street in Brockton.

Alternative 4: Multi-Family Residential Housing: In light of Governor Deval Patrick's call in 2013 for the creation of 10,000 multi-family residential units per year until in Massachusetts until 2020, the town could consider utilizing land within the study for this type of sorely needed housing. This type of housing incorporates many "smart growth" strategies and would most likely attract rail commuters. Similar types of complexes that are situated in similar areas near highway interchanges include the Lodge at Stoughton on Technology Center Drive, the North Stoughton Village Apartments on Page Terrace, and Madrid Square and the Hamilton Oaks Apartments on Oak Street in Brockton.

Alternative 5: Senior Residential Housing: As "Baby Boomers" begin to retire en masse over the next decade coupled with the fact that people today are living longer than ever before, there is a growing need for housing that caters to the region's senior population. Senior residential housing is a broad term, but is meant to include a variety of housing options for senior such as independent living facilities, assisted living facilities, and nursing homes. There also may be opportunities for use of space in such a development for community gatherings and events, as most senior developments include community rooms or centers that can be made available for such uses. Similar types of complexes that are situated in similar types of commercial areas near highway interchanges include the Kindred Nursing and Rehabilitation Blue Hills on Park Street in Stoughton, the West Acres Nursing Home on Pleasant Street

and the Heights Crossing Assisted Living Community, and Baypointe Rehabilitation and Skilled Care Center on Christy Place in Brockton.

Alternative 6: Renewable Energy: As noted before in the study, many parts of the study area are utilized for a variety of industrial purposes, from the gravel pits to heavy vehicle and equipment storage yards, to manufacturing, all of which use a variety of chemicals that may have negatively impacted the environment. That being said, most types of redevelopment occurring in these areas will most likely need some type of environmental remediation performed before they can be utilized. The level of remediation will vary depending upon the contaminants found on the site as well as what future use will be occurring on the site. One way to avoid costly remediation on the site would be to create a solar facility or solar farm. Most solar facilities consist of a series of panels that are affixed to the ground and avoid any type of large type of excavation and the need for full-depth remediation. Utilizing older, contaminated industrial or "brownfield" sites is a common practice for solar farms. Local examples include the Brockton Brightfields, a 3.7 acre, 425kW solar farm located on the site of the former Brockton Gas Works and the 20 acre, 1.86 mW solar field located on the closed landfill in Easton.

<u>Alternative 7: Neighborhood Mixed Use:</u> Develop the study area into a mix of residential and commercial uses, similar to the currently under construction Queset Commons development in Easton, which features a mix of commercial and residential uses. Mixed use projects create a greater housing variety and density, more compact development, and a strong neighborhood character, which is lacking in the area.

<u>Alternative 8: Open Space:</u> When property within the study area is available to purchase, the Town could investigate the possibility of purchasing the land or work with a land trust organization to purchase the land, which could be returned to its natural state or developed into walking tails or greenways.

6.0 Attracting & Retaining Business

The Town of Stoughton has a variety of means at its disposal to attract new businesses and retain current businesses.

6.1 Development of a Business Retention & Attraction Program

A business retention program is designed to keep existing businesses within a community by building a relationship between the community and business owners. This is usually done by community leaders and local officials reaching out to the business community to let them know that they are valued and to learn what businesses need to stay and prosper. This is because the primary goal is to increase the number of jobs and boost the local tax base by working with existing firms, while also recruiting new firms. Business retention strategies include:

- Surveying local businesses to determine plans for possible changes or expansion as well as to gauge the business community's attitude toward local government.
- Holding business roundtables or breakfasts and encouraging well-spaced visits to businesses by community leaders.
- Creating a team of local officials to resolve town-related business problems or issues.
- Publishing business oriented newsletters and participating in Chambers of Commerce and other business related groups.

A business attraction program should focus on attracting businesses with growth potential and that are somehow interdependent with existing firms. The town must do this by marketing itself as a desirable location, with needed utilities, resources, and accessibility as well as utilizing targeted media such as:

- Brochures and pamphlets advertising how the area is attractive for businesses
- Participation in area trade shows
- Direct mail campaign targeting specific businesses
- Advertising in various trade publications

6.2 Cooperation with the local Chambers of Commerce

Stoughton is fortunate enough to be a member of three local Chambers of Commerce: Stoughton Chamber of Commerce, Metro South Chamber of Commerce, and Neponset Valley Chamber of Commerce. It is encouraged that the town work with staff from these chambers to develop strategies to retain and attract businesses. These chambers support the business community through a combination of advocacy, education, networking, and community development.

6.3 Economic Target Area (ETA) Opportunities

Stoughton is a member of the 12 community Quincy Economic Target Area. The benefits to Stoughton and businesses within the community include:

Municipal Tax Incentives

Tax Increment Financing (TIF) Programs: A TIF is available to certified projects in an Economic Target Area. A TIF is negotiated agreement between a business and the community relating to the property tax on the increased value due to new construction or through the improvement of the existing facility. A TIF agreement has to be a minimum of 5 years and can extended to as long as 20 years.

State Tax Incentives

Abandoned Building Renovation Deductions: This is a corporate excise tax deduction equal to 10% of the cost of renovating an abandoned building, i.e., one at least 75% vacant for at least 24 months in an

Economic Opportunity Area (EOA) within the ETA as designated by the Massachusetts Economic Assistance Coordinating Council (EACC).

State Investment Tax Credit (EOA Tax Credit): This is an investment tax credit between 1-10% on state income taxes toward all tangible depreciable investments associated with the project. This increases the state investment tax credit for manufacturers from 3-10% at the discretion of the state. Certified projects that are not manufacturers may take advantage of this tax credit as well.

Economic Development Incentive Program (EDIP) Tax Incentives: This incentive program is designed to foster full-time job retention and stimulate business growth. Participating companies may receive state and local tax incentives in exchange for job creation, job retention, and private investment commitments. The following types of projects are eligible under EDIP:

- Certified Expansion Project (EP): A full time job creation and investment project within an ETA.
 Projects can award up to a 10% EDIP Investment Tax Credit to support the project. EPs must also have substantial sales outside of Massachusetts.
- Enhanced Expansion Project (EEP): A project that will create at least 100 new full-time jobs anywhere Massachusetts within two years of receiving an EDIP Investment Tax Credit.

6.4 Grant Program Opportunities

The following grant opportunities support infrastructure improvements for housing, economic development and/or neighborhood development. OCPC has the ability to assist communities in applying for any of the grant opportunities listed below.

Community Development Block Grant (CDBG)

Purpose: To help communities implement housing, community, and economic development projects that assist low and moderate-income residents or revitalize areas of slums or blight.

Key Eligibility Criteria: Communities with a population under 50,000 that do not receive CDBG funds from the federal Department of Housing and Urban Development (HUD) are eligible to receive CDBG funds from the Massachusetts Department of Housing and Community Development. Eligible Uses:

- Housing rehabilitation or development
- Micro-enterprise or other business assistance
- Infrastructure and community/public facilities
- Public social services
- Planning
- Removal of architectural barriers, and
- Downtown or area revitalization

MassWorks Infrastructure Grant Program

Purpose: A one-stop source for public entities seeking public infrastructure funding to support economic development and job creation. The program represents an administrative consolidation of the following six former grant programs:

- Public Works Economic Development (PWED)
- Community Development Action Grant (CDAG)
- Growth Districts Initiative (GDI) Grant Program
- Massachusetts Opportunity Relocation and Expansion (MORE) Program
- Small Town Rural Assistance Program (STRAP)
- Transit Oriented Development (TOD)

Of these, all but the Small Town Rural Assistance Program (STRAP) are applicable to Stoughton. *Key Eligibility Criteria:* All communities with projects facilitating growth consistent with applicable state policies.

Funding and/or Eligible Uses:

- Program is administered by the Executive Office of Housing and Economic Development, in cooperation with the Department of Transportation and Executive Office for Administration & Finance.
- Projects that support economic development and job creation, housing development at a
 density of at least four units per acre (both market and affordable), and transportation
 improvements to enhance safety in small, rural communities.

6.5 Alternative Financing Opportunities

There are many alternative financing opportunities to assist communities in diverse industrial, commercial, real estate, mixed-use, public works and infrastructure projects. Some of the more common alternative financing opportunities are highlighted below.

<u>District Improvement Financing (DIF)</u>

Purpose: To fund municipal public works and infrastructure projects by allocating future incremental tax revenues collected from a predefined district. This stimulates private investment, which ultimately increases the taxable value of property and generates the incremental taxes.

Key Eligibility Criteria: All communities with a DIF Plan, given approval by the Economic Assistance Coordinating Council are eligible to apply.

Funding and/or Eligible Uses:

- Administered by the Massachusetts Office of Business Development
- Incremental revenues can either pay for the improvements (from year-to-year) or can be pledged in advance toward repayment of bonds to be issued to pay for the municipal improvements.

Economic Development Fund

Purpose: To finance non-residential and mixed-use projects and programs that create or retain jobs, improve the local and/or regional tax base, or enhance the local quality of life.

Key Eligibility Criteria: All HUD-designated "non-entitlement communities" are eligible to apply. *Funding and/or Eligible Uses:*

- Pre-development planning studies
- Acquisition
- Micro and small business technical assistance programs
- Regional revolving loan funds
- Business technical assistance
- Public social services related to economic development
- Infrastructure and public facilities projects in support of economic development
- Direct business assistance for: new equipment, real estate, new construction and rehabilitation, working capital, and (in some cases) refinancing

Infrastructure Investment Incentive (I-Cubed) Program

Purpose: To support, through public infrastructure investment, certified economic development projects resulting in new jobs, increased property values and local and state tax revenues.

Key Eligibility Criteria: The proposed public infrastructure improvement projects would not happen or achieve the contemplated level of development or other economic activity without this program.

Additionally the project must be approved and certified by the municipality, the Secretary of Administration and Finance and MassDevelopment. The infrastructure improvements financed must be between \$10 million and \$50 million and the projected new annual state tax revenues from each project component must be at least 1.5 times greater than the projected related annual debt service. The program may finance no more than two local economic development projects and must be financially feasible with sufficient developer resources, consistent with sustainable development principles and not receive public assistance under certain other state programs.

Funding and/or Eligible Uses:

- Bonds issued by MassDevelopment
- Investment in public infrastructure improvements to support of certified economic development projects

Tax Exempt Bonds

Purpose: To provide very low interest rates for the purpose of financing capital projects. *Eligibility Criteria:* Municipalities, non-profits and developers are eligible to apply.

Funding and/or Eligible Uses:

- Administered by MassDevelopment
- Municipal and governmental projects
- Waste recovery and recycling facilities
- 501(c)(3) nonprofit real estate and equipment
- Manufacturing facilities and equipment
- Affordable residential rental housing

Brownfields Redevelopment Fund (BRF)

Purpose: To provide low-interest loans and grants for site assessment and cleanup

Eligibility Criteria: Communities, redevelopment authorities and agencies, economic development and industrial corporations, community development corporations are all eligible to apply for funding. Sites must be within economically distressed areas and result in significant economic results (new jobs) or economic and physical revitalization

Funding and/or Eligible Uses:

- Grants and Loans are administered by MassDevelopment
- Applicant must provide matching funds

6.6 Statutory Programs

These statutory programs can help local public and private development efforts increase economic development opportunities.

Chapter 43D (Expedited Local Permitting)

Purpose: To streamline state and local permitting processes in order that a permit for commercial or industrial development (on a site identified as a Priority Development Site) can be issued within 180 days.

Key Eligibility Criteria: The local governing authority approves the use of Chapter 43D with subsequent approval by the State Interagency Permitting Board. Priority Development sites must be zoned for commercial or industrial development, have signed approval by all property owners and have the capacity for development or redevelopment of a building of at least 50,000 square feet of gross floor area.

Funding and/or Eligible Uses:

Administered by the Interagency Permitting Board

 Priority consideration for state infrastructure grants and other financing through quasi-public organizations

<u>Urban Renewal (UR) Program</u>

Purpose: To revitalize substandard, decadent or blighted open areas for residential, commercial, industrial, business, governmental, recreational, educational, hospital or other purposes. Urban renewal projects help municipalities redevelop deteriorated areas by providing the economic environment needed to attract and support private investment.

Key Eligibility Criteria: Any community via their urban renewal agency (redevelopment authority or consolidated community development departments)

Eligible Uses: In accordance with an urban renewal plan approved by DHCD, an urban renewal agency may undertake urban renewal activities, including:

- Planning and the establishment of design and rehabilitation standards
- Land Acquisition (including eminent domain) for assembly of developable parcels and disposition for private redevelopment
- Relocation of businesses and residential occupants and building demolition/rehabilitation
- Improvements to infrastructure
- Project financing through bonding and loans