
METACOM AVENUE CORRIDOR MANAGEMENT PLAN

Bristol, Rhode Island



June 2007

METACOM AVENUE CORRIDOR MANAGEMENT PLAN

Bristol, Rhode Island

June 2007

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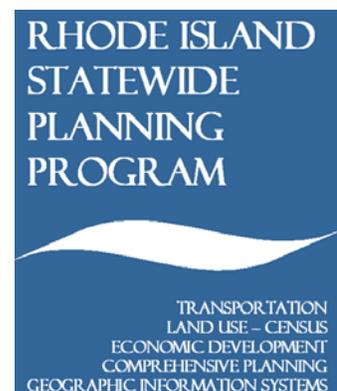


TABLE OF CONTENTS

<u>SECTIONS</u>	<u>PAGE</u>
Executive Summary	ES-1
Introduction	i
▪ <i>Bristol Comprehensive Plan Update</i>	<i>i</i>
▪ <i>Travel Corridor Plan</i>	<i>i</i>
▪ <i>Metacom Corridor Public Participation Program</i>	<i>ii</i>
▪ <i>Metacom Avenue Corridor Management Plan</i>	<i>iii</i>
Section 1: Existing Conditions	1-1
▪ <i>Visual Analysis</i>	<i>1-1</i>
▪ <i>Zoning and Land Use</i>	<i>1-8</i>
▪ <i>Traffic Assessment</i>	<i>1-8</i>
▪ <i>Traffic and Zoning</i>	<i>1-24</i>
Section 2: Site and Building Design Concepts	2-1
▪ <i>Corridor Design Strategies</i>	<i>2-1</i>
▪ <i>Preliminary Design Strategies</i>	<i>2-3</i>
▪ <i>Proposed Zoning Revisions and Vehicular Connections</i>	<i>2-6</i>
▪ <i>Concept Design Study Areas</i>	<i>2-8</i>
Section 3: Service Road	3-1
▪ <i>Proposed Service Road Connections</i>	<i>3-3</i>
▪ <i>Travel Time Study</i>	<i>3-4</i>
Section 4: Land Use and Zoning Recommendations	4-1
▪ <i>Proposed Zone Changes</i>	<i>4-1</i>
▪ <i>Metacom Mixed Use Zone</i>	<i>4-1</i>
▪ <i>Proposed Metacom Overlay Amendments</i>	<i>4-3</i>
▪ <i>Metacom Avenue Overlay District Design Guidelines</i>	<i>4-6</i>



Section 5:	Recommended Traffic Improvements	5-1
	▪ <i>Short Term Recommendations</i>	5-1
	▪ <i>Long-Term Recommendations</i>	5-10

APPENDICES

Appendix A:	Stakeholder Meetings and Public Workshops
Appendix B:	Existing Zoning Trip Generation
Appendix C:	Service Connection Deeds and Easements
Appendix D:	Potential Service Connections Owners of Record
Appendix E:	Proposed Metacom Mixed Use Zone Use Table
Appendix F:	Glossary of Terms: Metacom Avenue Guidelines

LIST OF FIGURES

ES.1	Proposed Zoning	ES-4
ES.2.1	Proposed Traffic Improvements – Tupelo	ES-6
ES.2.2	Proposed Traffic Improvements – Juniper Hill	ES-7
ES.2.3	Proposed Traffic Improvements – Mount Hope	ES-8
1.1.1	Visual Analysis – North Sector	1-5
1.1.2	Visual Analysis – Central Sector	1-6
1.1.3	Visual Analysis – South Sector	1-7
1.2.1	Land Use – Tupelo	1-9
1.2.2	Land Use – Juniper Hill	1-10
1.2.3	Land Use – Mount Hope	1-11
1.3.1	Existing Zoning – Tupelo	1-12
1.3.2	Existing Zoning – Juniper Hill	1-13
1.3.3	Existing Zoning – Mount Hope	1-14
1.4.1	Existing Traffic Conditions – Tupelo	1-16
1.4.2	Existing Traffic Conditions – Juniper Hill	1-18
1.4.3	Existing Traffic Conditions – Mount Hope	1-20
2.1	Proposed Zoning and Connections	2-7
3.1	Tupelo Street/Gooding Avenue Access Management Plan	3-2
5.1.1	Proposed Traffic Improvements – Tupelo	5-2
5.1.2	Proposed Traffic Improvements – Juniper Hill	5-3
5.1.3	Proposed Traffic Improvements – Mount Hope	5-4
5.2	Existing and Proposed Typical Section	5-6



IMAGES

1: Tupelo Design Area	2-10
2: Juniper Hill Design Area	2-11

TABLES

1.1	Speed Study Data for Metacom Avenue	1-21
1.2	Top Ten Accident Locations, Metacom Avenue Intersections, 2003 – 2004	1-23
4.1	Metacom Mixed Use Zone Dimensional Table	4-4



EXECUTIVE SUMMARY



Executive Summary

The Metacom Avenue Corridor Study represents an opportunity for the Town of Bristol to integrate land use and transportation planning along one of its two major arterials, Route 136. Through implementation of study recommendations, the Town will help define the corridor as a livable, walkable neighborhood where future development and redevelopment reflects high design standards and traffic volumes are eased through development planning and roadway safety improvements.

Metacom Avenue, a 4.2-mile north-south principal arterial located on the east side of Bristol,



1891 bird's eye view of Mount Hope Bay, Metacom Avenue, Bay View Road and Juniper Lane, O.H. Bailey & Co., lith. & pub.

has historically been referred to as the "Back Road." Although the name Metacom reflects its origins as a Wampanoag foot trail along what has become known as Mount Hope Bay, the roadway lacks Bristol Harbor's sense of place, or sense of distinction and pride in its heritage. As indicated in the 1891 bird's eye view of Metacom Avenue, transportation over one hundred years ago was dominated by boat traffic on Mount Hope Bay.

Within the past fifty years residential, commercial, and manufacturing uses have been constructed along Metacom Avenue, replacing the agricultural heritage of the corridor. Vehicular traffic has replaced the steamship and railroad as the dominant means of travel. Developers have not been held to the high standards of building design and materials that have traditionally been required in Bristol's historic downtown. Post World War II single-family homes have been built both along Metacom Avenue and along residential streets to the east. Toyota Village, Benny's, Jack's Salvage Yard, Stop & Shop, Belltower Plaza, Arnold Lumber, and King Philip Tower have become commercial landmarks along the road.

Metacom Avenue in Bristol bears the burden of approximately 34,000 vehicles per day in the roadway segment between Gooding Avenue and the Warren town line and approximately 14,000 vehicles per day in the southern end of Route 136 near the Route 114 intersection. Traffic volumes increase dramatically during the summer months and on certain peak weekends throughout the year. Metacom Avenue serves many functions:

- Local street for single family homes with direct driveway access to Metacom Avenue
- Access road to neighborhoods east of Metacom Avenue



View of expansive parking lot at Benny's from the farm stand.

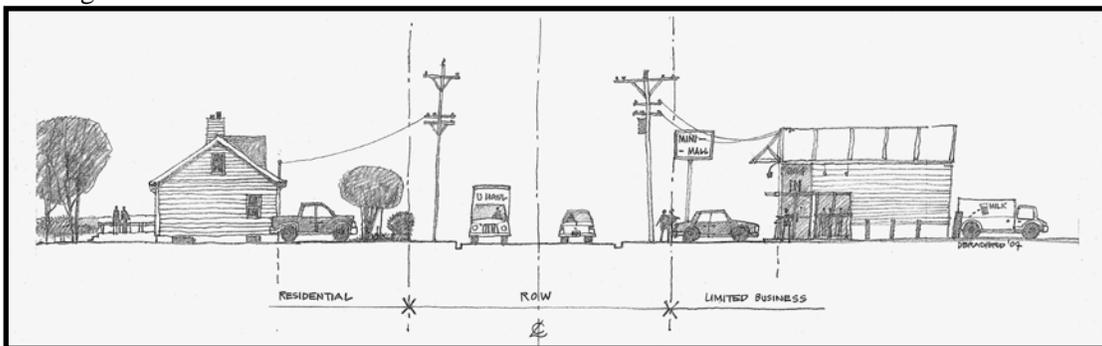


- Commercial destination for local and regional residents
- Employment destination (industrial uses and Roger William University) for local and regional workers
- Through road for Newport-bound tourists
- Bypass for downtown Bristol / Hope Street
- Hurricane or natural disaster evacuation route

Although improvements have been made to the roadway at the Metacom Avenue / Gooding Avenue / Narrows Road intersection where Metacom Avenue has been widened to two or more lanes in each approach, the majority of the roadway generally is limited to one travel lane in each direction. This is in contrast to the section of Route 136 in Warren to the north where the typical section consists of two travel lanes in each direction. Sidewalks along Metacom Avenue are limited to graded paved shoulders. Eight signals provide access to/from local businesses such as Stop & Shop, major cross roads such as Tupelo Street, Gooding Avenue, Chestnut Street, and Bay View Avenue, or from residential streets such as Fatima Drive, Annawamscutt Drive, and Roosevelt Drive. Two interconnected signal systems are closely spaced and difficult to synchronize. Although posted speed limits are between 35 and 45 MPH, actual traffic speeds are generally considerably slower as a result of left-turning vehicles, residents backing out of driveways, school bus stops, and traffic stopped at signals.



Pedestrian walking on the road at the Veterans Home creates safety hazard.



Metacom Avenue currently serves as a neighborhood street and location of local and regional business.

The *Bristol Comprehensive Plan* strongly supports continued residential use along Metacom Avenue. This is especially important in thwarting a change in land use to more commercial development. The Metacom Avenue Corridor Management Plan specifically implements two action items of the *2003 Comprehensive Plan Update*: to propose an alignment for a Tupelo-Gooding service road and other traffic management concepts along the Metacom corridor (ED17); and to amend the Metacom Avenue Overlay Zoning District to go further in guiding land use and transportation planning for the corridor (C1).

In 2003, the RI Statewide Planning Program conducted a series of corridor studies throughout the state. Goals for the East Bay Corridor which specifically relate to Metacom Avenue



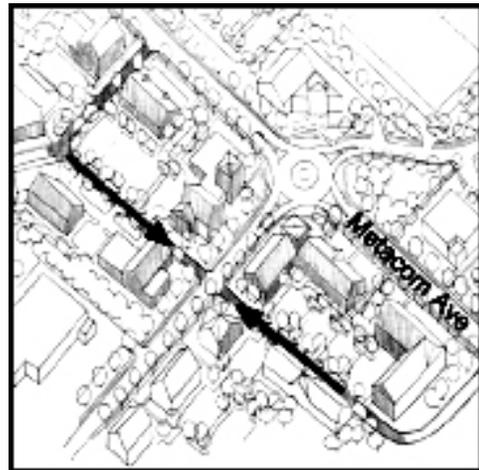
include the following: reduce isolation of neighborhoods east of Route 136 through enhanced pedestrian controls and crosswalks; improve curb appeal of existing development and signage through revised zoning ordinances; and reduce curb cuts by interior connections of shopping areas.

The Metacom Corridor Management Plan Challenge Grant was awarded to the Town of Bristol by Rhode Island Statewide Planning Program to implement this vision and to achieve these goals. This project is supported by the Rhode Island Statewide Planning Program with funding provided by the US Department of Transportation, Federal Highway or Federal Transit Administration.

Pare Corporation and Bradford Associates prepared the Metacom Avenue Corridor Management Plan under the direction of the Town of Bristol Planning Department. A steering committee comprised of Metacom Avenue residents, business people, residents at large, and representatives of Rhode Island Statewide Planning Program and Rhode Island Department of Transportation provided input during three steering committee meetings. Public workshops were held January 18 and February 15, 2007.

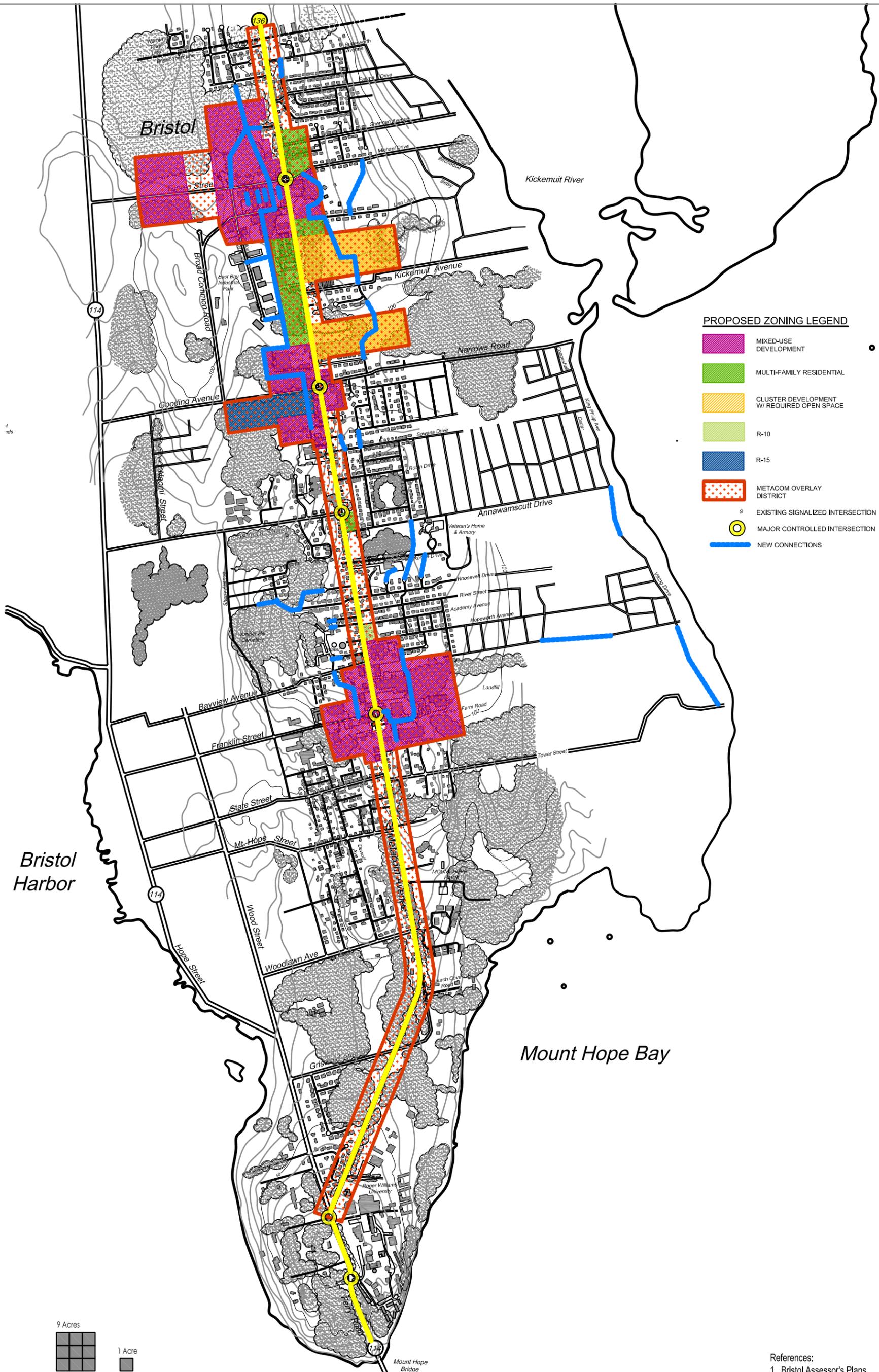
Implementation of Metacom Avenue Corridor Management Plan recommendations will achieve the following:

- Create a sense of place by defining three Metacom Avenue areas with a separate identity: Tupelo and Gooding-Narrows in the north, and Juniper Hill in the Franklin Street/Bay View Avenue of the central area. These designations respect the character of current development and integration with natural resources. (*Section 1*)
- Present design concepts to enhance future development and redevelopment by setting high standards. (*Section 2*)
- Identify a series of links for a service road alignment between Tupelo Street and Gooding Avenue and links through residential neighborhoods. This will provide alternative vehicular, pedestrian and bicycle access for residents and business customers to avoid the congested northern section of Metacom Avenue. (*Section 3*)
- Recommend a series of zoning amendments to implement Metacom Avenue recommendations. (*Section 4*)
 - A new zone, Metacom Mixed Use zone is recommended in the vicinity of Tupelo Street, Gooding Avenue, and Bay View Avenue, Franklin Street, Minturn Farm Road as indicated in Figure ES.1. This zone enables a density of



A roundabout and access to side streets improve safety on Metacom Avenue



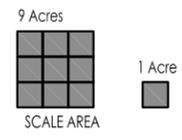


PROPOSED ZONING LEGEND

-  MIXED-USE DEVELOPMENT
-  MULTI-FAMILY RESIDENTIAL
-  CLUSTER DEVELOPMENT W/ REQUIRED OPEN SPACE
-  R-10
-  R-15
-  METACOM OVERLAY DISTRICT
-  EXISTING SIGNALIZED INTERSECTION
-  MAJOR CONTROLLED INTERSECTION
-  NEW CONNECTIONS

Bristol Harbor

Mount Hope Bay



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PROPOSED ZONING AND CONNECTIONS

Metacom Avenue Corridor Management Plan

Bristol, Rhode Island

- References:
1. Bristol Assessor's Plans.
 2. USGS Topographic Map.



Figure ES.1

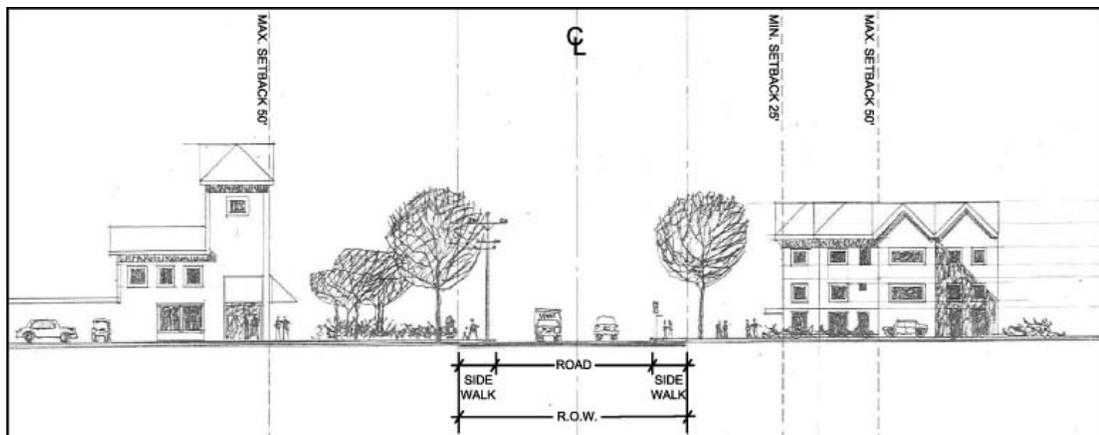
0 750' 1500'
March 2007 SCALE: 1"=1500'

development and a vibrant mixture of residential and commercial use that minimizes dependence on private automobile for many local trips. Recommended dimensional table and permitted use table are presented.

- Multifamily or R-6 zoning is proposed as a transition between Metacom Mixed Use zones and adjacent single-family zones and uses.
- Several options are presented to preserve views of the Fales and Usher farms, two distinctive landmarks that help define Bristol for southbound travelers. Options include cluster zoning with 200-foot buffers to Metacom Avenue, preservation through RIDEM’s Open Space Bond Fund or conservation easements, or other open space preservation mechanism.
- Amendments are proposed to strengthen the Metacom Overlay Zone with traffic recommendations including access management and design guidelines.
- Short and long term traffic recommendations are proposed to improve traffic safety and capacity on Metacom Avenue while retaining the two-lane roadway. As Metacom Avenue, Route 136, is a state road, these recommendations are presented to the Town of Bristol for proposed traffic improvements by the Rhode Island Department of Transportation. Emphasis is on providing residents with an opportunity to walk or bicycle to local destinations as options to the use of private vehicles for local trips. Recommendations are presented in Figures ES.2.1, ES.2.2 and ES.2.3.



Recommendation: Request RIDOT conduct a speed study to determine if 45 mph is appropriate for heavily developed residential area



Proposed Metacom Avenue typical section with sidewalks and new development constructed in accordance with proposed design guidelines

Short term recommendations include left turn lanes, a speed study to reduce speed limits to reflect adjacent land use and actual travel speeds, reevaluation of signal timing,



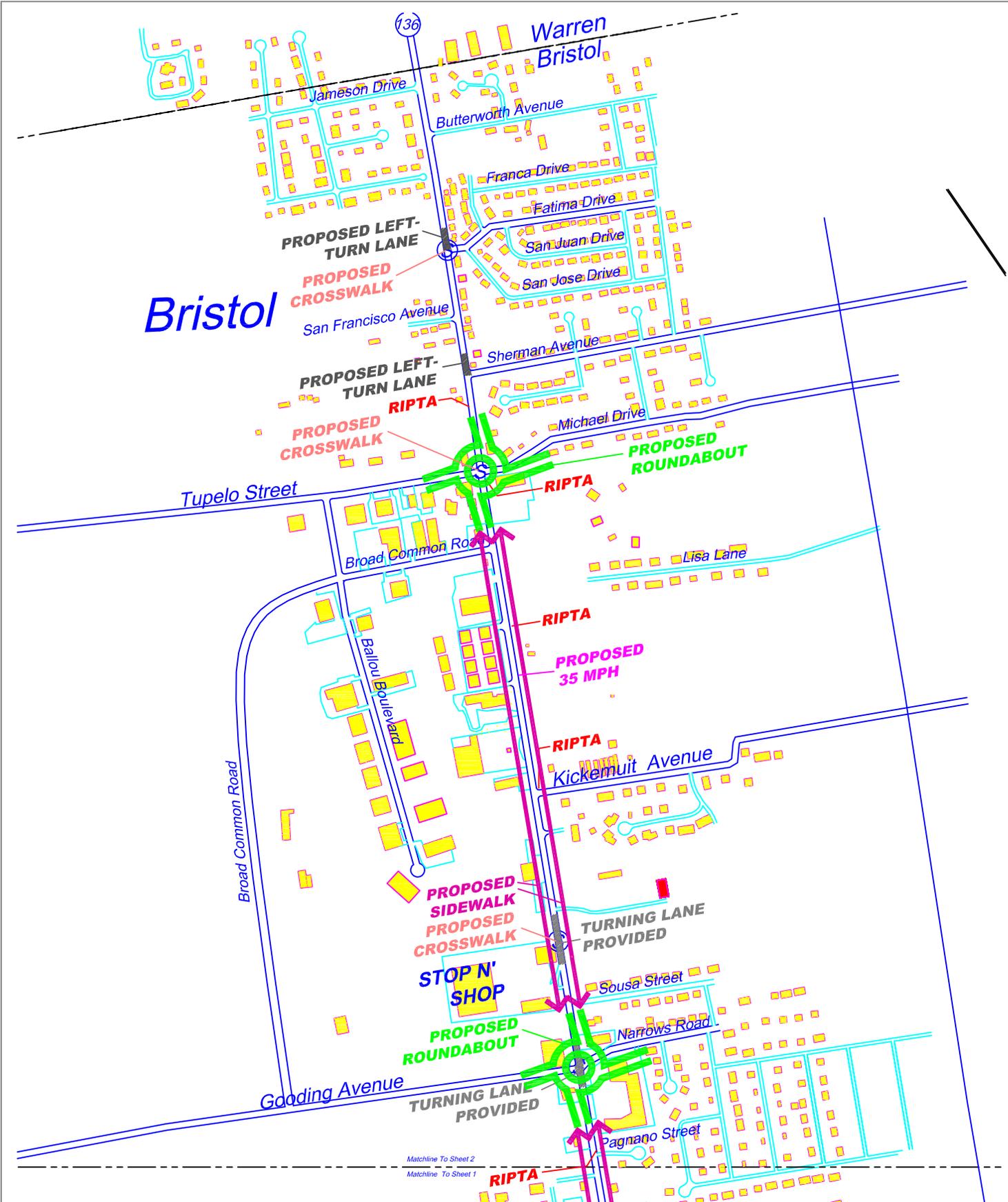


Figure ES.2.1

- References:
1. Bristol Assessor's Plans.
 2. USGS Topographic Map.

PROPOSED TRAFFIC IMPROVEMENTS

TUPELO

Metacom Avenue Corridor Management Plan
 Bristol, Rhode Island

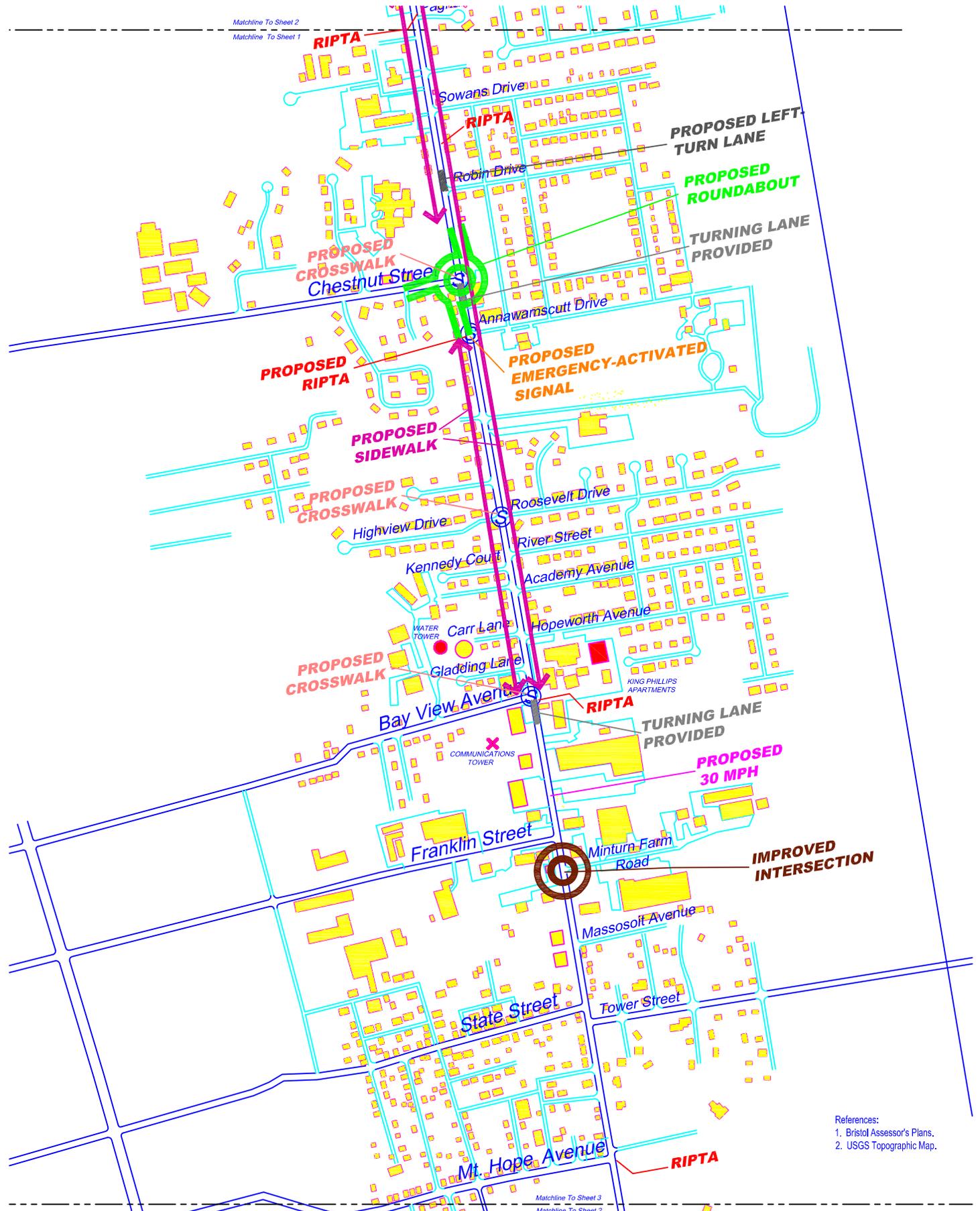


MARCH 2007 SCALE: 1"=750'

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Matchline To Sheet 2
Matchline To Sheet 1



- References:
 1. Bristol Assessor's Plans.
 2. USGS Topographic Map.

PROPOSED TRAFFIC IMPROVEMENTS

JUNIPER HILL

Metacom Avenue Corridor Management Plan
 Bristol, Rhode Island



Figure ES.2.2

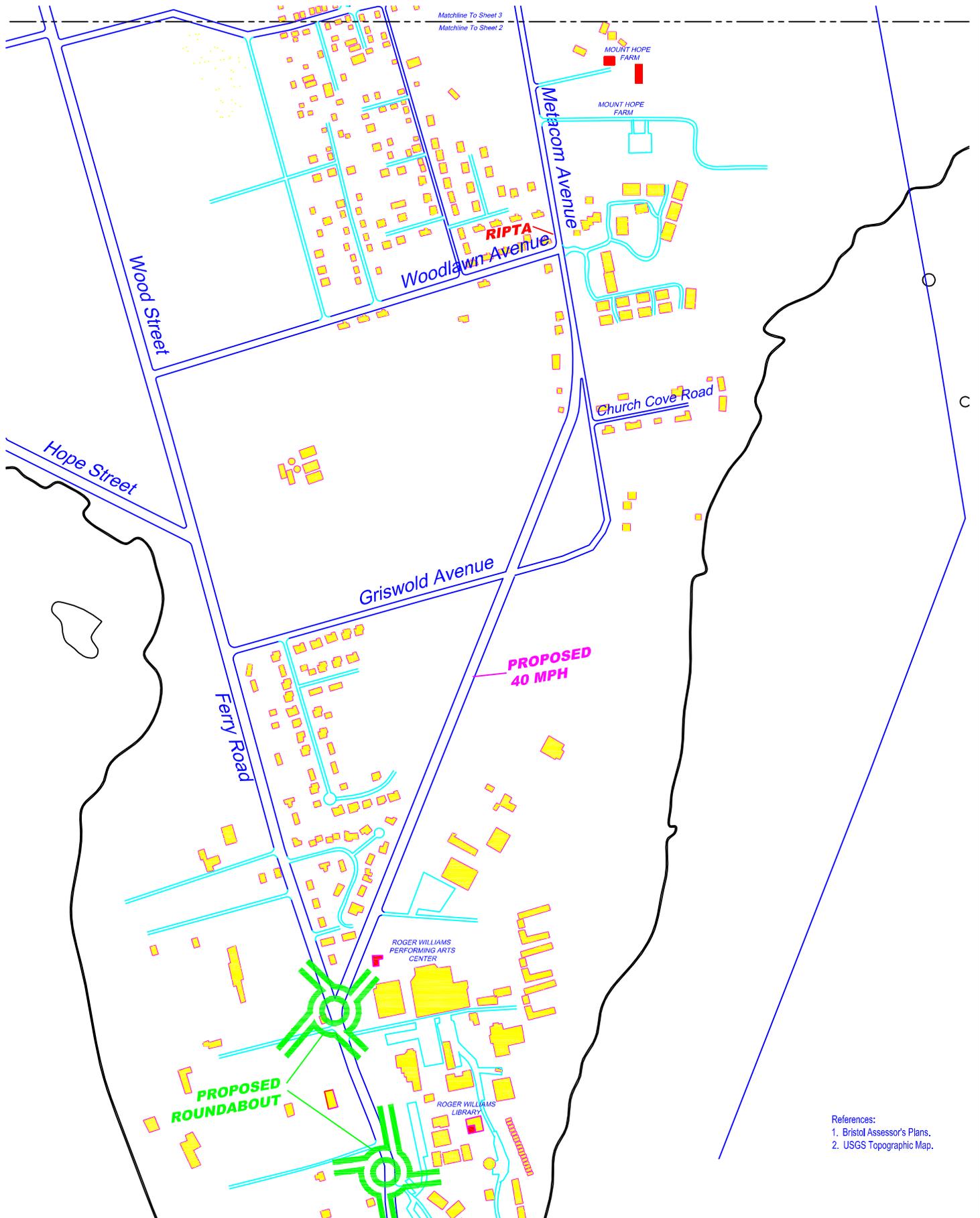


MARCH 2007 SCALE: 1"=750'



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Matchline To Sheet 3
 Matchline To Sheet 2



- References:
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 2. USGS Topographic Map.

PROPOSED TRAFFIC IMPROVEMENTS

MOUNT HOPE

Metacom Avenue Corridor Management Plan
 Bristol, Rhode Island



Figure ES.2.3

0 750' 1500'

MARCH 2007 SCALE: 1"=750'

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sidewalk and crosswalk installation between Tupelo Street and Bay View Avenue, an additional RIPTA bus stop at the Veterans Home, and designation of a “share the road” bicycle facility. These improvements may generally be conducted within the existing (approximate) 60-foot right of way. Neighborhood interconnections are proposed between plats east of Metacom Avenue as indicated in Figure ES.1 to reduce traffic volumes on Metacom Avenue and to facilitate access to signalized intersections. Longer term improvements, including those which require right of way acquisition, include construction of roundabouts at Tupelo Street, Gooding Avenue, and Chestnut Streets to improve traffic flow and to provide a gateway to Bristol (at Tupelo). Other improved intersections are proposed at Franklin Street and Minturn Farm Street. (*Section 5*)

Implementation of these recommendations will help the Town of Bristol achieve its goals of retaining Metacom Avenue as a residential neighborhood, assuring that future development is attractive, that pedestrian and bicycle use is facilitated, and that traffic safety and capacity are improved.



INTRODUCTION



Introduction

The Metacom Avenue Corridor Study represents an opportunity for the Town of Bristol to integrate land use and transportation planning along one of its two major arterials, Route 136. Through implementation of study recommendations, the Town will help define the corridor as a livable, walkable neighborhood where future development and redevelopment reflects high design standards and traffic volumes are eased through development planning and roadway safety improvements. This study integrates recommendations of the Bristol Comprehensive Plan Update, the Rhode Island Statewide Planning Program Travel Corridor Plan, and a robust community participation program.

Bristol Comprehensive Plan Update

The Comprehensive Plan strongly supports continued residential use along Metacom Avenue. This is especially important in thwarting a change in land use to more commercial development. The comprehensive plan also indicates that there is strong opposition to any additional retail, restaurant, office or services on Metacom Avenue. Many feel that commercial expansion on Metacom Avenue could jeopardize the vitality of downtown businesses. In addition to this sentiment, available land is limited for expansion and construction of new commercial uses along the west side of Bristol.



A view of stonewalls and open fields reinforces the historic context at the south end of Metacom Avenue.

The Metacom Avenue Corridor Management Plan specifically implements two action items of the 2003 Comprehensive Plan update:

- ED17 specifically addresses the need for a Tupelo-Gooding service road and other traffic management concepts along the Metacom corridor.
- C1 requires amendments of the Metacom Avenue Overlay Zoning District to go further in guiding land use and transportation planning for the corridor.

Travel Corridor Plan

In 2003, the RI Statewide Planning Program conducted a series of corridor studies throughout the state. Vision and goals for Route 136 and the East Bay corridor in 2020 are presented in the text box.

Travel Corridor 2020 Vision for Metacom Avenue
Route 136 is retrofitted with traffic calming, pedestrian controlled signalization, interconnecting shopping centers, extensive landscaping, attractive signage, consolidated uses, and revised zoning and land use plans. Retrofitting of Route 136 reinforces smaller scale commercial development and increases pedestrian and bike access decreasing the feeling of isolation while improving east to west passage. Safety is increased and congestion is decreased through the use of designated left-turning storage lanes and reduced curb cuts.



Goals for the East Bay Corridor which specifically relate to Metacom Avenue include the following:

- Reduce isolation of neighborhoods east of Route 136 through enhanced pedestrian controls and crosswalks.
- Improve curb appeal of existing development and signage through revised zoning ordinances. Reduce curb cuts by interior connections of shopping areas.

The Metacom Corridor Management Plan Challenge Grant was awarded to the Town of Bristol by RI Statewide Planning Program to implement this vision and to achieve these goals.

Metacom Corridor Public Participation Program

The Town of Bristol convened a steering committee comprised of Metacom Avenue residents and business people, residents at large, and representatives of Rhode Island Statewide Planning Program and Rhode Island Department of Transportation. Town planning staff, town administrator, and representatives of the Planning Board were also members of the stakeholder group.

Three stakeholder meetings, two public workshops, and joint Town Council/Planning Board workshop were held during the course of the study. Meeting notes are presented in Appendix A. The following are highlights of these meetings:

- Steering Committee Meeting 1 – November 30, 2006
 - Visual Analysis: Establishing the View Corridor and Establishing Landscape Character
- Steering Committee Meeting 2 – January 4, 2007
 - Zoning and Land Use
 - Existing Traffic Conditions
 - Range of Traffic Solutions
 - Sense of Place: long and short term solutions
- Public Workshop 1 – January 18, 2007
 - Priority Ranking of Traffic Circulation and Sense of Place
- Steering Committee Meeting 3 – January 25, 2007
 - Review of public workshop feedback
- Public Workshop 2 – February 15, 2007
 - Design Guidelines
 - Zoning Recommendations
 - Traffic Recommendations



- Joint Town Council/Planning Board Workshop – March 28, 2007
 - Plan Recommendations

Metacom Avenue Corridor Management Plan

Pare Corporation and Bradford Associates prepared the Metacom Avenue Corridor Management Plan under the direction of the Town of Bristol Planning Department. This plan serves as a guide plan to proactively plan for this long-neglected corridor. The plan includes the following sections:

- Section 1: Existing Conditions. Discussion addresses visual analysis, land use and zoning, traffic assessment, and an analysis of traffic generated by permitted uses under current zoning.
- Section 2: Site and Building Design Concepts. This section outlines a vision of how Metacom Avenue can be in the future by presenting corridor design strategies.
- Section 3: Service Road. Several links or service road alignments are presented to provide alternatives to Metacom Avenue in the northern high traffic section of the corridor.
- Section 4: Land Use and Zoning Recommendations. Recommended zoning amendments are presented to strengthen the existing Metacom Overlay District. Design guidelines are presented in more detail.

Section 5: Recommended Transportation Improvements. Both short-term and long-term traffic recommendations are presented to improve safety and capacity on Metacom and provide alternatives to the private vehicle.



EXISTING CONDITIONS



Existing Conditions

The Metacom Avenue corridor clearly has a unique identity. This has been acknowledged in Bristol's *Comprehensive Plan* and in related zoning and development regulations. In an informal basis, anecdotal opinion, there is also recognition of the inherent character of Bristol's Metacom Avenue even when the description includes traffic problems, context conflicts, and comparisons to the same roadway as it passes through the commercial strip of Warren's Metacom Avenue. But essential to a real understanding of this identity and the impact that development proposals might have, is an accurate analysis of the fundamental conditions that constitute this identity.

The project team and stakeholders have worked together to identify strengths and vulnerabilities in the Metacom Avenue corridor. By conducting a visual analysis, researching current land use and zoning, identifying development constraints (wetlands, conserved open space, historic districts), and documenting traffic conditions, an understanding of existing conditions has been developed which has helped define tools to create a sense of place for the corridor in subsequent sections of this study.

Visual Analysis

Viewshed

The first step in this process was to define the nature and extent of the viewshed along the corridor. This was achieved by mapping the extent of the actual continuous view from the highway as defined by topography, buildings and vegetation. See the PowerPoint presented at the first stakeholder meeting on November 30, 2006 (Appendix A) for more information on the Visual Analysis Process. The resulting viewshed is, in part, a narrow, sometimes jagged edged, corridor where buildings and dense vegetation tend to be close to the roadway. In other locations the viewshed becomes wider, with distinct fingers extending some distance out from the roadway, where there are larger buildings and more open areas around them. This condition also occurs in the few areas where there are open lawns, meadows or residual agricultural fields adjacent to the road.

Visual Incidents

Specific visual landmarks can be important, defining events contributing to the character of a roadway. The few such incidents that exist along the Metacom Avenue corridor are mostly tall, or otherwise distinct structures, such as the water tower at Juniper Hill or the King Philip apartment block.

Landscape Character

Land use plays a significant role in establishing landscape character. Where single family residential land use dominates, the scale of the visual landscape is small and intimate. Where small business and commercial uses have developed, the scale exhibits a medium character



and in areas where significant open spaces or larger buildings occur, the scale tends to be larger. These three principal categories, small, medium and large were used for describing the landscape character dominated by buildings. In addition, spaces that were dominated by vegetation were significant enough to be given a separate category of its own, also related to comparative scale.

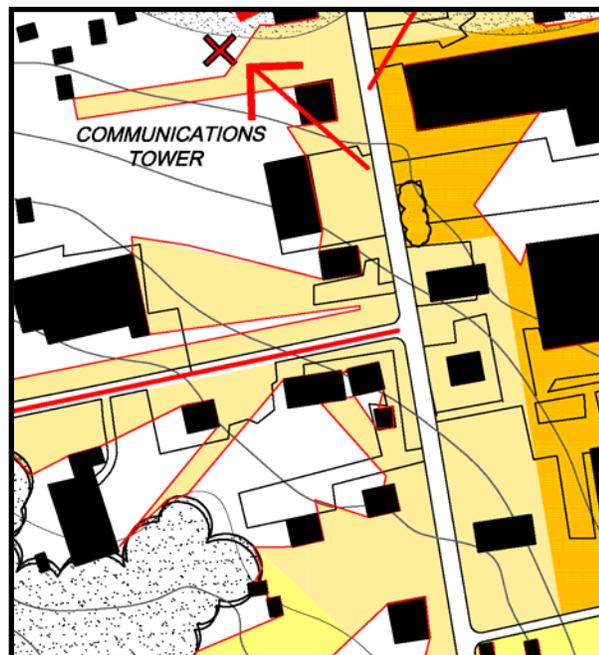
Small Scale

Comprised of areas dominated by small structures with similarly related open areas. Land use tends to be predominantly single family residential, resulting in a more fine-grained character with an intimate appearance.



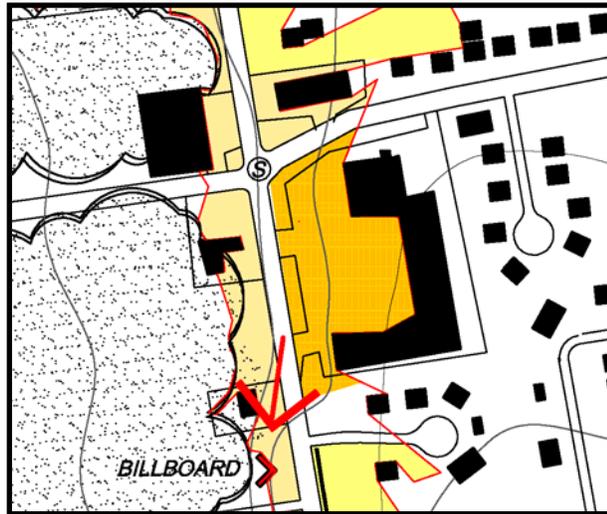
Medium Scale

Dominated by commercial uses and consisting of somewhat larger buildings and related larger open areas, resulting in a more expansive and coarser scale.



Large Scale

Comprised of areas consisting of large structures dominated by chain retail or industrial uses. The buildings are typically defined by large, unarticulated facades, coarse architectural detailing and extensive surface parking lots.



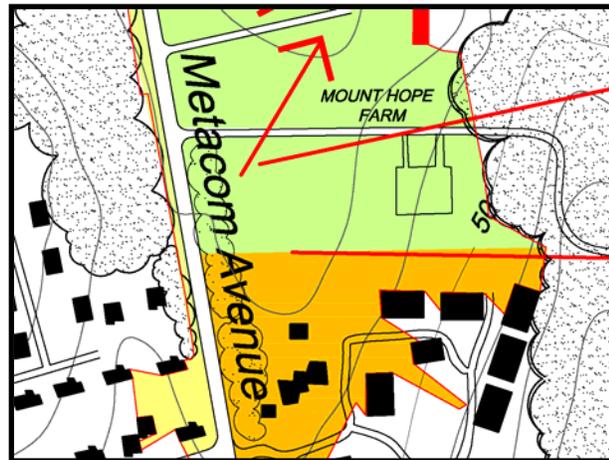
Small to Medium Scale Open Space /Agriculture

Somewhat fragmented areas that are comprised of open lawns and residual agricultural fields, well-treed edges.



Large Scale Open Space/ Agriculture

These areas are comprised of significant open fields, meadows, or long stretches of dense woodland located principally in the southern sector of the corridor.



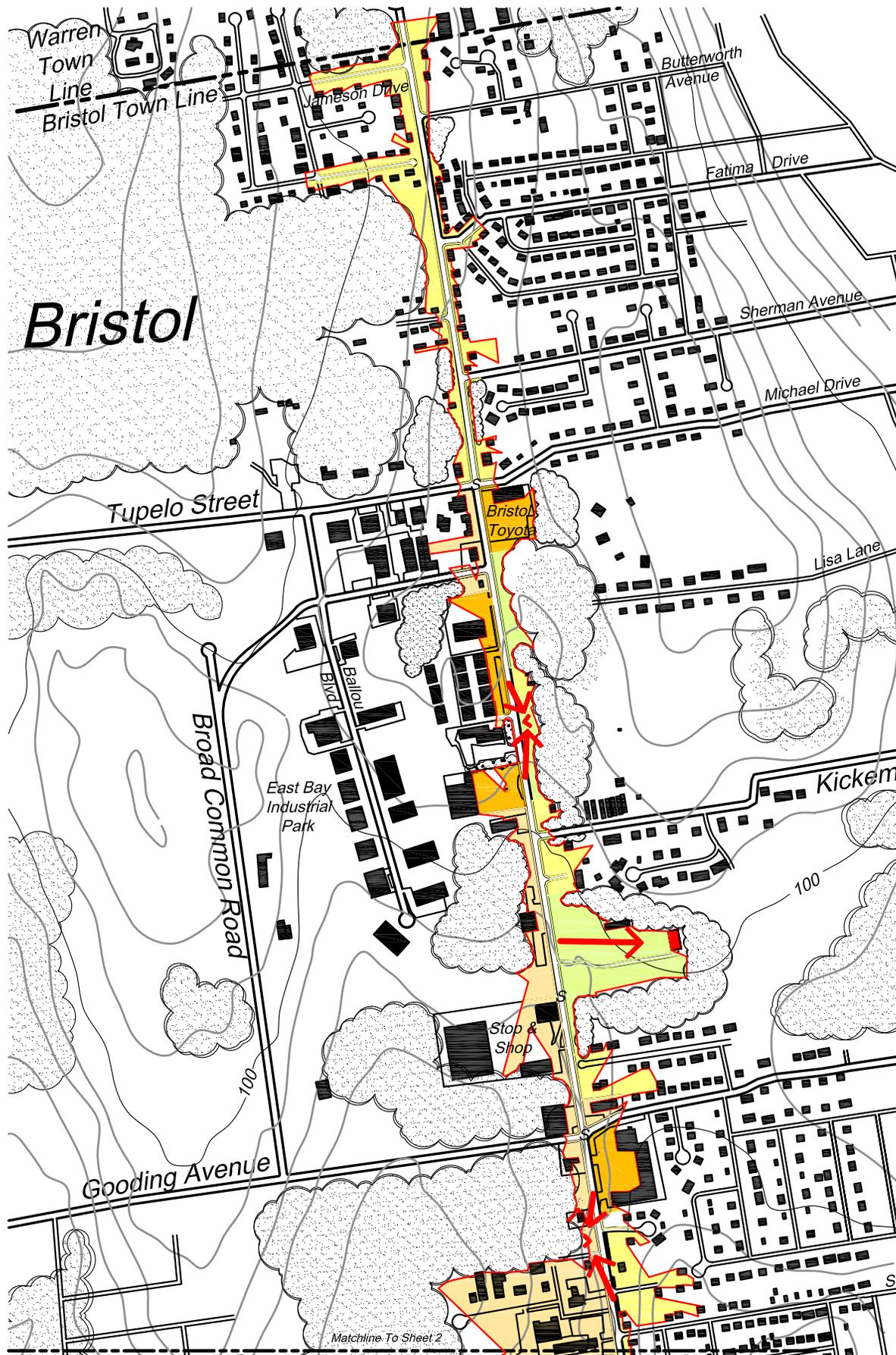
Analysis

The complexity of the varied distribution of the types of landscape character that exists along the Metacom Avenue corridor, accentuated by the fact that it is experienced while driving a busy road, makes for a complex visual environment. The recent history of accelerating development pressure implies that certain areas along the corridor are in rapid transition. Without decisive intervention it is probable that the whole corridor could become vulnerable to drastic change, making it a very different experience from what it is today.

The landscape identity of the entire corridor seems to readily divide into three distinct sectors of roughly of the same length. These have been designated as the Northern sector, the Central sector and the Southern sector.

- The northern sector, extending from the Warren town line to Sowams Drive is principally defined by the medium to large scale landscape character along the Tupelo Street to Gooding Avenue segment but also and in distinct contrast, the small scale landscape of single family residential neighborhoods. Details of the northern sector visual analysis are presented in Figure 1.1.1.
- The central sector, extending from Sowams Drive to approximately Mount Hope Street also has scattered small-scale residential components but the Bay View Avenue and Franklin Street area is dominated by the medium to large-scale landscape of commercial and industrial uses. Juniper Hill, the highest point along the corridor is toward the middle of the sector in the Hopeworth and Bay View Avenues area. Details of the central sector visual analysis are presented in Figure 1.1.2.
- The southern sector from Mount Hope Farm at the northern end to the campus of Roger Williams University at the southern end has an entirely different character with. historic agricultural landscape, the tight visual corridor of the stretch of road constrained by dense vegetation on both sides of the road and the large scale landscape of the University. Details of the southern sector visual analysis are presented in Figure 1.1.3.





LEGEND

- S SIGNALIZED INTERSECTION
- X VISUAL INCIDENT
- VISUAL INCIDENT
- ← LONG DISTANCE VIEW
- LIMIT OF VIEW CORRIDOR
- TOPOGRAPHIC HIGH POINT

LANDSCAPE CHARACTER

- LARGE SCALE OPEN SPACE/ AGRICULTURAL OR DENSE WOODS
- SMALL/ MED SCALE OPEN SPACE/ AGRICULTURAL
- SMALL SCALE CHARACTER
- MEDIUM SCALE CHARACTER
- LARGE SCALE CHARACTER

- References:
1. Bristol Assessor's Plans.
 2. USGS Topographic Map.



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VISUAL ANALYSIS NORTH SECTOR

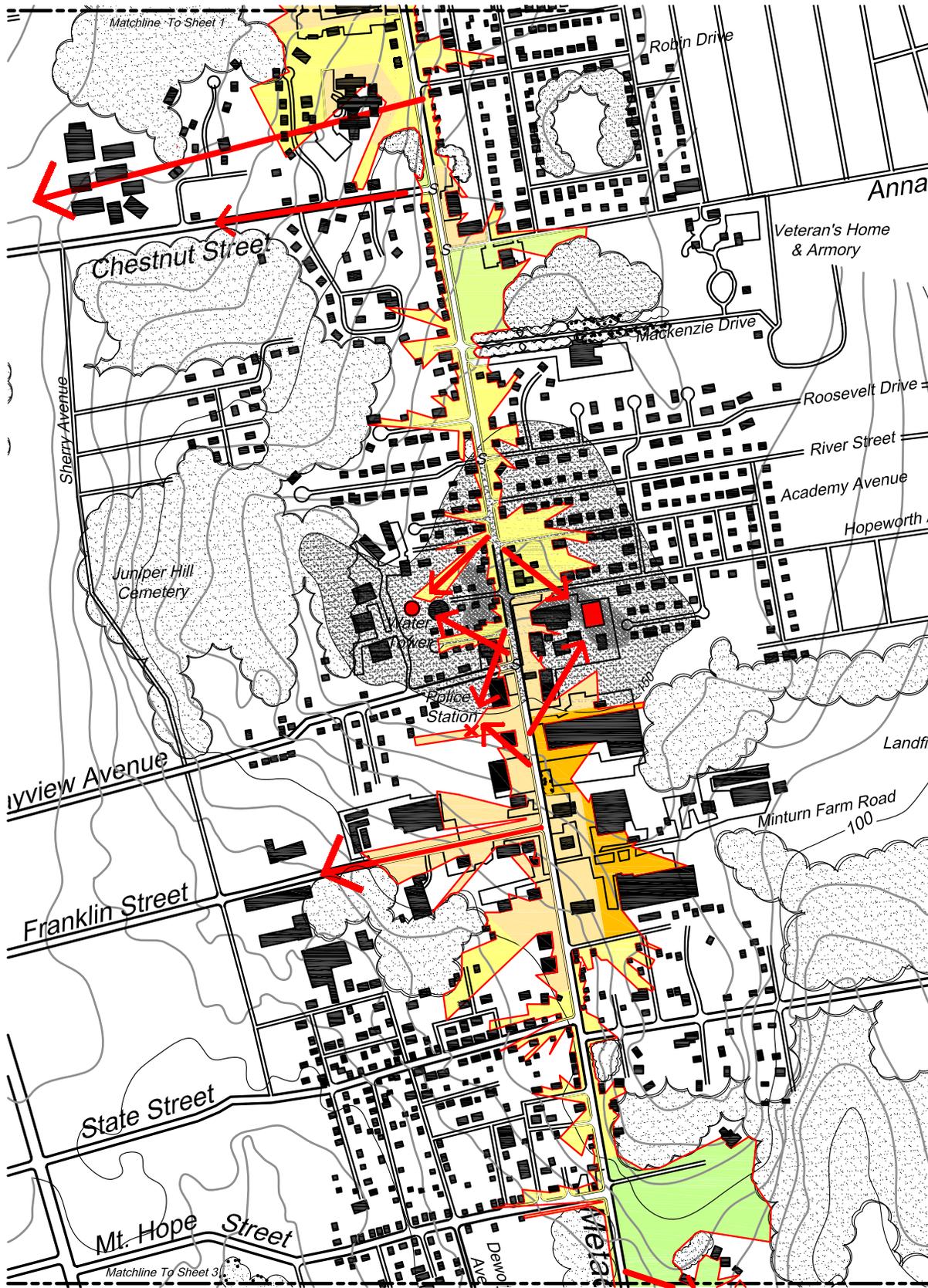
Metacom Avenue Corridor Management Plan
 Bristol, Rhode Island



Figure 1.1.1

0 750' 1500'

MARCH 2007 SCALE: 1"=750'



- LEGEND**
- S SIGNALIZED INTERSECTION
 - X VISUAL INCIDENT
 - VISUAL INCIDENT
 - ← LONG DISTANCE VIEW
 - LIMIT OF VIEW CORRIDOR
 - TOPOGRAPHIC HIGH POINT

- LANDSCAPE CHARACTER**
- LARGE SCALE OPEN SPACE/ AGRICULTURAL OR DENSE WOODS
 - SMALL/ MED SCALE OPEN SPACE/ AGRICULTURAL
 - SMALL SCALE CHARACTER
 - MEDIUM SCALE CHARACTER
 - LARGE SCALE CHARACTER

- References:
1. Bristol Assessor's Plans.
 2. USGS Topographic Map.



Figure 1.1.2



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VISUAL ANALYSIS CENTRAL SECTOR

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FEBRUARY 2007 SCALE: 1"=750'



- LEGEND**
- S SIGNALIZED INTERSECTION
 - X VISUAL INCIDENT
 - VISUAL INCIDENT
 - ← LONG DISTANCE VIEW
 - - - LIMIT OF VIEW CORRIDOR
 - TOPOGRAPHIC HIGH POINT

- LANDSCAPE CHARACTER**
- LARGE SCALE OPEN SPACE/ AGRICULTURAL OR DENSE WOODS
 - SMALL /MED SCALE OPEN SPACE/ AGRICULTURAL
 - SMALL SCALE CHARACTER
 - MEDIUM SCALE CHARACTER
 - LARGE SCALE CHARACTER

- References:
1. Bristol Assessor's Plans.
 2. USGS Topographic Map.



Figure 1.1.3



FEBRUARY 2007 SCALE: 1"=750'



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VISUAL ANALYSIS SOUTH SECTOR

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Matchline To Sheet 2

Zoning and Land Use

Land use along Metacom Avenue reflects current zoning and site constraints in the three roadway segments: Tupelo from the Warren line to south of the Gooding Avenue intersection; Juniper Hill sector, extending south to Mount Hope Avenue with a defined center at the Bay View Avenue intersection; and Mount Hope, extending south from Mount Hope Avenue to Ferry Road at the intersection of Route 114 and 136 at Roger Williams University, defined by Mount Hope Farm and its rural context. Site constraints include wetlands west of Metacom Avenue and north of Tupelo Street, along Gooding, and at the Mount Hope section to the south, near Griswold Avenue. Figure 1.2.1, 1.2.2, and 1.2.3 identify the importance of medium density residential use in defining land use in the corridor.



Residential neighborhoods flank Metacom Avenue

Approximately half of the frontage along Metacom Avenue is zoned R-8, R-10, and R-15 residential lots sizes ranging from 8,000 to 15,000 square feet. As indicated in the Figure 1.3.1 in the Tupelo section, most of the east side of Metacom Avenue is zoned for residential use while the west side is zoned for a mixture of residential use in the north, and Limited and General Business, and Manufacturing north of Gooding Avenue on the west side of Metacom.

In the Tupelo section 52 percent is zoned residential and 35 percent is zoned either Limited or General Business. As indicated in Figure 1.3.2, in the Juniper Hill section over half (58 percent) of Metacom Avenue frontage is zoned residential, despite large parcels zoned for Historic Preservation and Conservation at the Veterans Home, General and Limited Business at the Bay View Avenue intersection, Manufacturing at the Franklin Street and Minturn Farm Road cross streets, and Limited Business at and north of State Street.

In the Mount Hope section (Figure 1.3.3), Educational/Institutional zoning dominates at Roger Williams University at the south and Historic Preservation and Conservation dominates at Mount Hope Farm. With Open Space and Planned Unit Development zones, only 42 percent of Metacom Avenue frontage is zoned residential in the southern corridor.

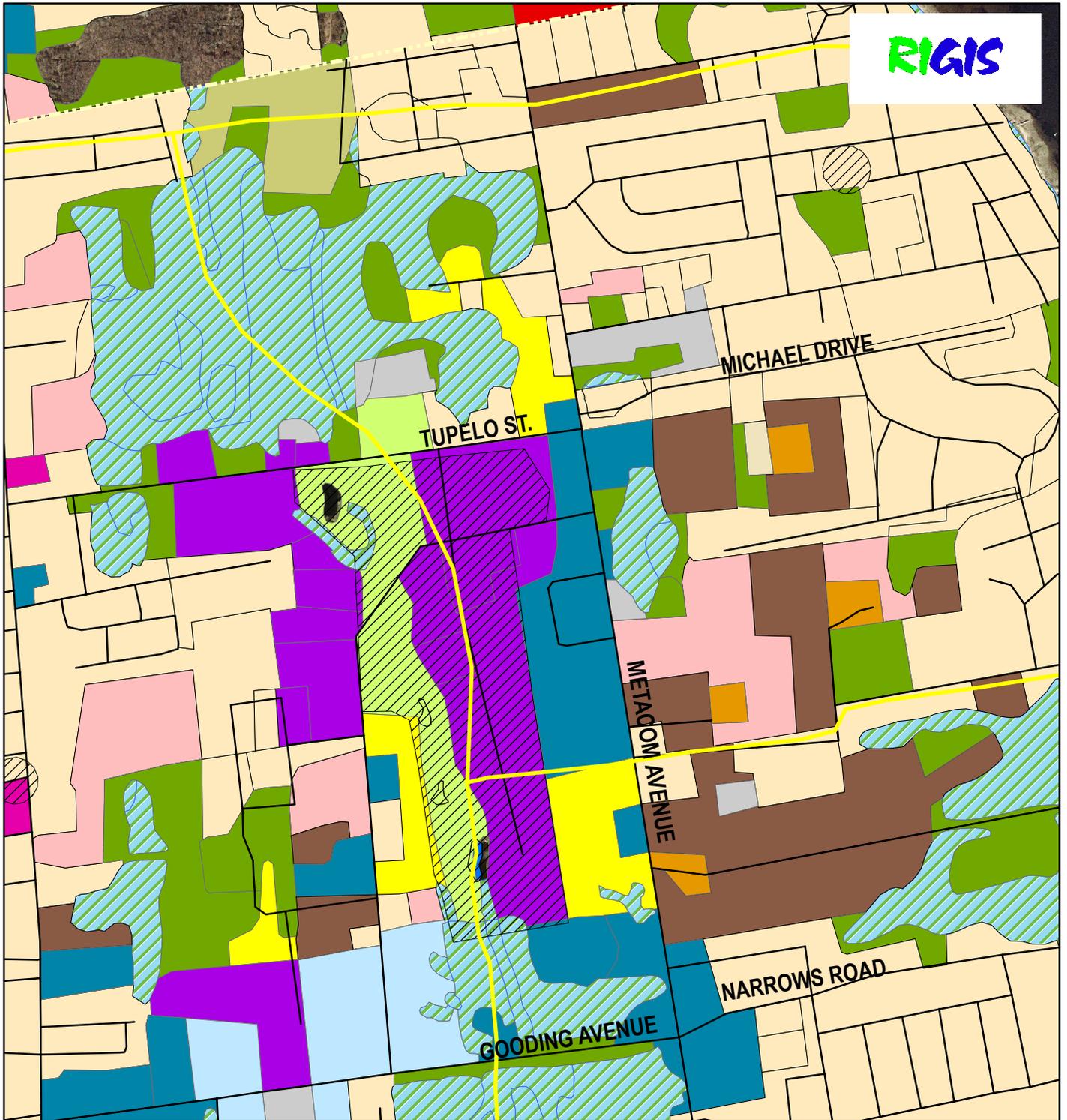
The Metacom Overlay District provides an additional set of review criteria and design standards for development projects with frontage on the corridor. These standards promote development that minimizes curb cuts, encouraged access management connections in the Tupelo Street to Gooding Avenue section, requires that parking be to the rear or side of buildings, and requires a maximum 50-foot landscaped setback.

Traffic Assessment

Signalized Intersections and Typical Sections

The study area includes the Metacom Avenue corridor between the Warren town line and Ferry Road near the entrance to Roger Williams University. Roadways are classified based





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LAND USE TUPELO

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References:
 1. RIGIS Color Orthophoto #3822, #3824, 2003.
 2. RIGIS Land Use Data, 1998.
 Note: Data based on information predating 1998. Changes in Land Use have subsequently occurred in corridor.

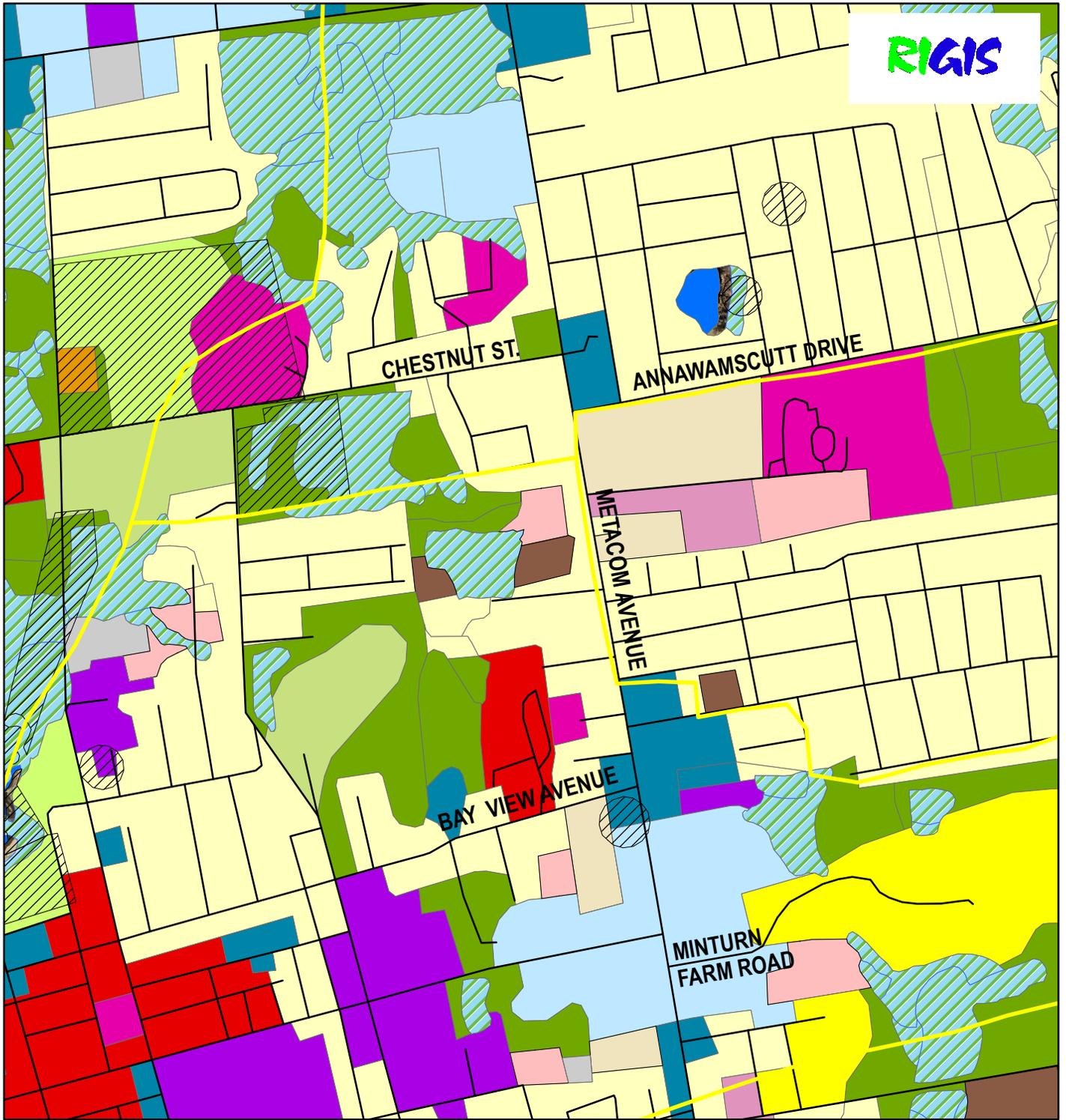
Figure 1.2.1

Date: March, 2007

Scale: NTS

 COMMERCIAL/INDUSTRIAL	 FORESTED	 WASTE DISPOSAL
 LOW DENSITY RESIDENTIAL	 INDUSTRIAL	 TRANSITIONAL AREAS
 MEDIUM DENSITY RESIDENTIAL	 INSTITUTIONAL	 WETLANDS
 HIGH DENSITY RESIDENTIAL	 AGRICULTURAL	 PROTECTED OPEN SPACE
 COMMERCIAL	 PASTURE LANDS	 GREENWAY CORRIDOR
	 BIKE PATH ROUTE	

RIGIS



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LAND USE JUNIPER HILL

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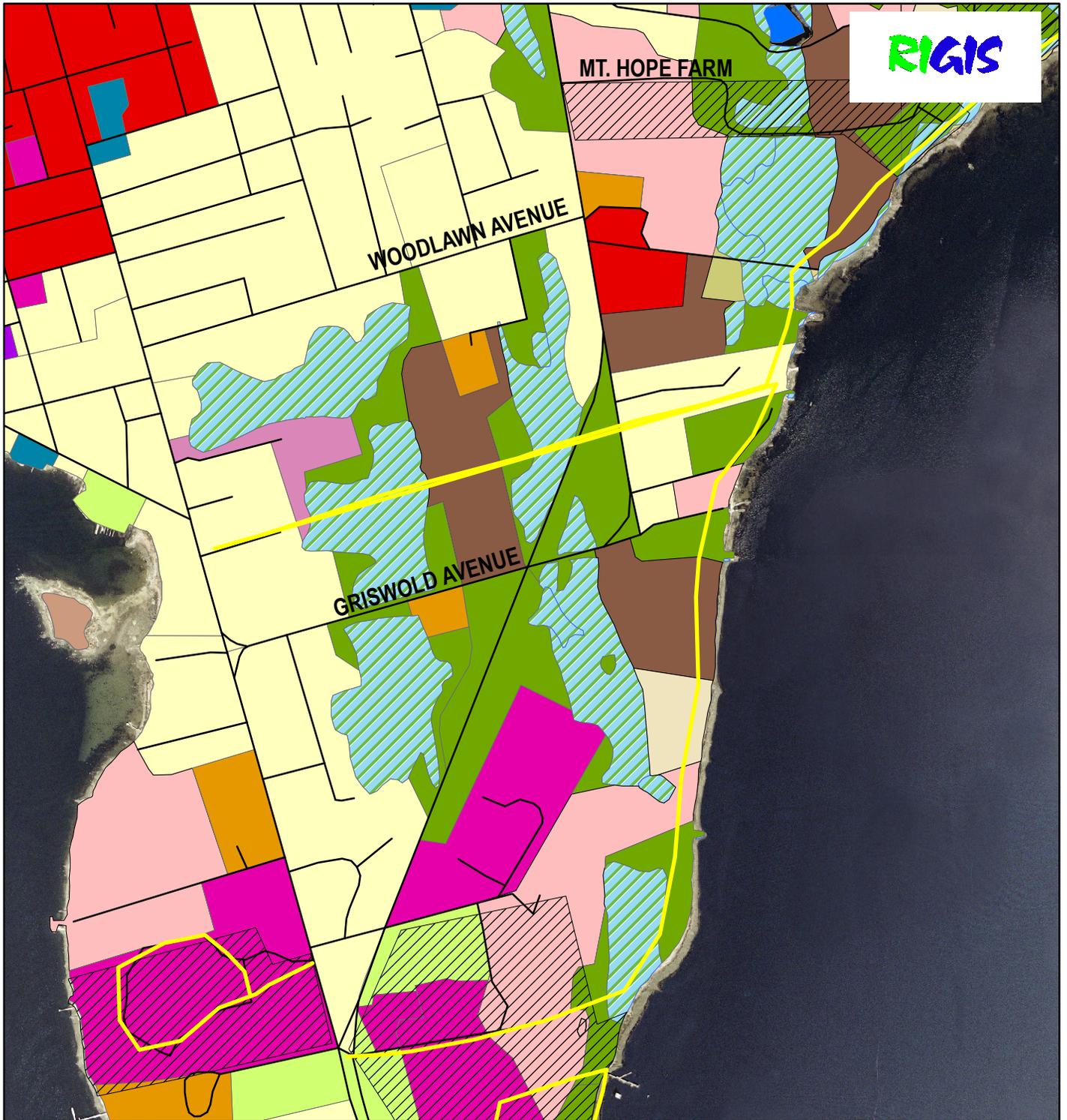
References:

1. RIGIS Color Orthophoto #3822, #3824, 2003.
2. RIGIS Land Use Data, 1998.

Note: Data based on information predating 1998. Changes in Land Use have subsequently occurred in the corridor.

Figure 1.2.2
Date: March, 2007
Scale: NTS





RIGIS

MT. HOPE FARM

WOODLAWN AVENUE

GRISWOLD AVENUE



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LAND USE MOUNT HOPE

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References:
1. RIGIS Color Orthophoto #3822, #3824, 2003.
2. RIGIS Land Use Data, 1998.
Note: Data based on information predating 1998. Changes in Land Use have subsequently occurred in the corridor.

Figure 1.2.3

Date: March, 2007
Scale: NTS

- COMMERCIAL/INDUSTRIAL
- LOW DENSITY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- HIGH DENSITY RESIDENTIAL
- COMMERCIAL

- FORESTED
- INDUSTRIAL
- INSTITUTIONAL
- AGRICULTURAL
- PASTURE LANDS
- BIKE PATH ROUTE

- WASTE DISPOSAL
- TRANSITIONAL AREAS
- WETLANDS
- PROTECTED OPEN SPACE
- GREENWAY CORRIDOR



LEGEND
ZONING DISTRICTS

- EDUCATIONAL / INSTITUTIONAL
- GENERAL BUSINESS
- HISTORIC PRESERVATION & CONSERVATION
- LIMITED BUSINESS
- MANUFACTURING
- OPEN SPACE
- PLANNED UNIT DEVELOPMENT
- RESIDENTIAL
- ROUTE 136 OVERLAY

- References:
1. Bristol Assessor's Plans.
 2. USGS Topographic Map.
 3. Bristol Official Zoning Map, October 1, 2001.

EXISTING ZONING

TUPELO

Metacom Avenue Corridor Management Plan
Bristol, Rhode Island

Figure 1.3.1

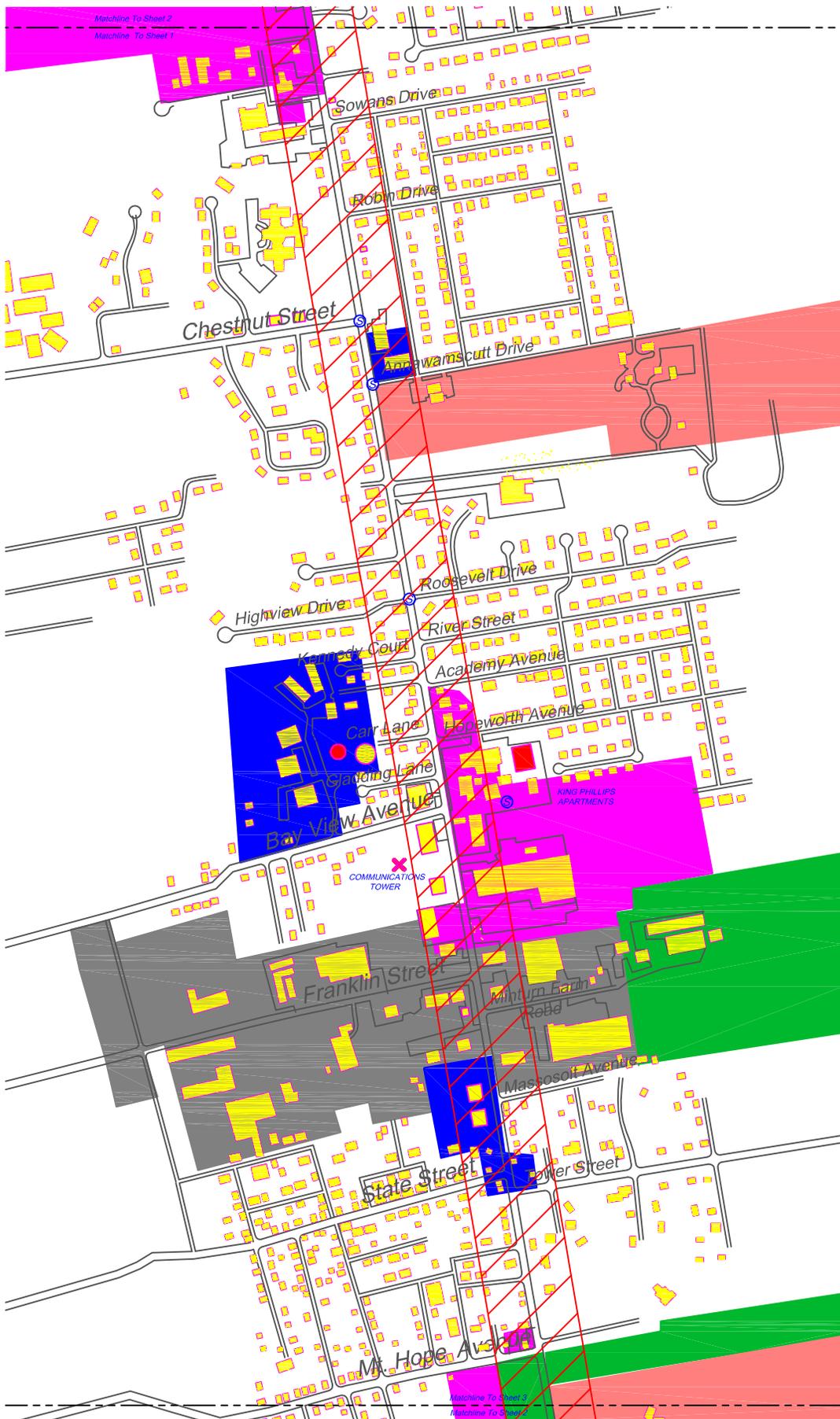


MARCH 2007 SCALE: 1"=750'



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LEGEND
ZONING DISTRICTS

- EDUCATIONAL / INSTITUTIONAL
- GENERAL BUSINESS
- HISTORIC PRESERVATION & CONSERVATION
- LIMITED BUSINESS
- MANUFACTURING
- OPEN SPACE
- PLANNED UNIT DEVELOPMENT
- RESIDENTIAL
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- References:
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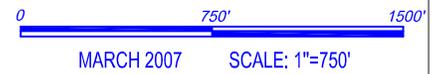
EXISTING ZONING

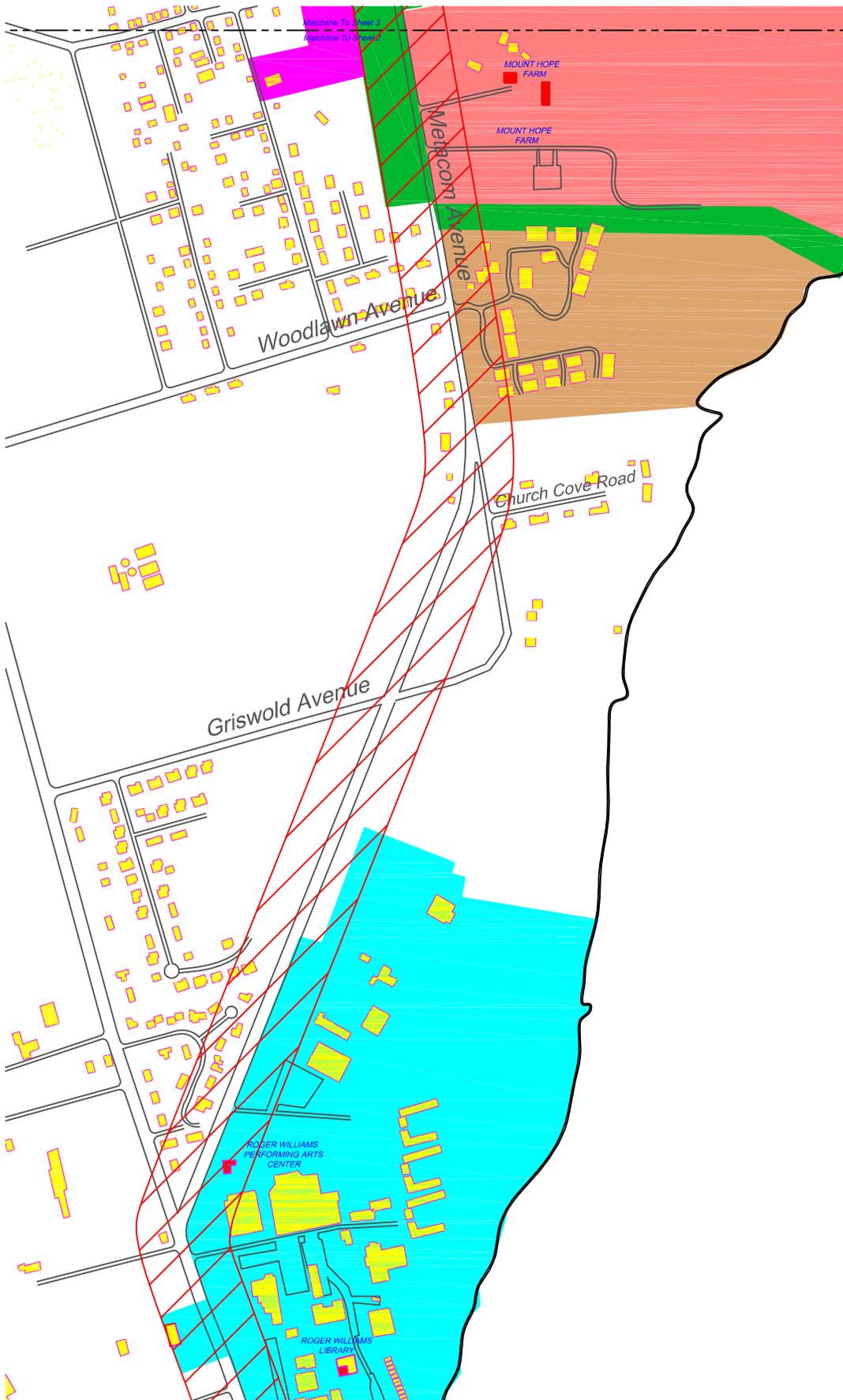
JUNIPER HILL

Metacom Avenue Corridor Management Plan
Bristol, Rhode Island



Figure 1.3.2





LEGEND
ZONING DISTRICTS

- EDUCATIONAL / INSTITUTIONAL
- GENERAL BUSINESS
- HISTORIC PRESERVATION & CONSERVATION
- LIMITED BUSINESS
- MANUFACTURING
- OPEN SPACE
- PLANNED UNIT DEVELOPMENT
- RESIDENTIAL
- ROUTE 136 OVERLAY

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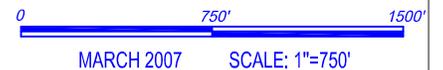
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EXISTING ZONING MOUNT HOPE

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Bristol, Rhode Island



Figure 1.3.3



on their function by the State of Rhode Island. This information is useful when determining access management for the roadways. Metacom Avenue, which is state owned, is classified as an urban principal arterial. The urban principal arterial system serves the major centers of activity of urbanized areas, the highest traffic volume corridors, and the longest trip desires and carries a high proportion of the total urban area travel even though it constitutes a relatively small percentage of the total roadway network. Although the primary function of principal arterials is through travel, Metacom Avenue is constrained by adjacent land use and operation for medium to short travel with numerous access points.

North of the Warren town line on Route 136 Metacom Avenue is a four-lane roadway with five signalized intersections in less than one mile. Posted speed in the Warren section is 35 mph.

The 1.4-mile Tupelo sector of Metacom Avenue extending from the Warren town line to a point south of Gooding Avenue is very heavily traveled. Posted speed limit in this section is 45 mph as indicated in Figure 1.4.1. It has been reported and observed that traffic back-ups within the corridor occur during peak weekday and certain peak weekend hours. The typical roadway section in the north portion of the corridor includes two approximate 12-foot wide travel lanes separated by a double yellow centerline. Approximate 6-foot wide shoulders on the northbound and southbound sides of Metacom Avenue are separated from travel lanes by a solid white edge line. There are no sidewalks along Metacom Avenue.

Traffic signal plans obtained from the Rhode Island Department of Transportation (RIDOT) show the Tupelo Street and Fatima Drive signalized intersections are interconnected. Fatima Drive is the westbound approach to a three-legged signalized intersection at Metacom Avenue. The northbound and southbound approach to the intersection has one travel lane in each direction. The right-of-way at this intersection is approximately 60-feet wide along Metacom Avenue.

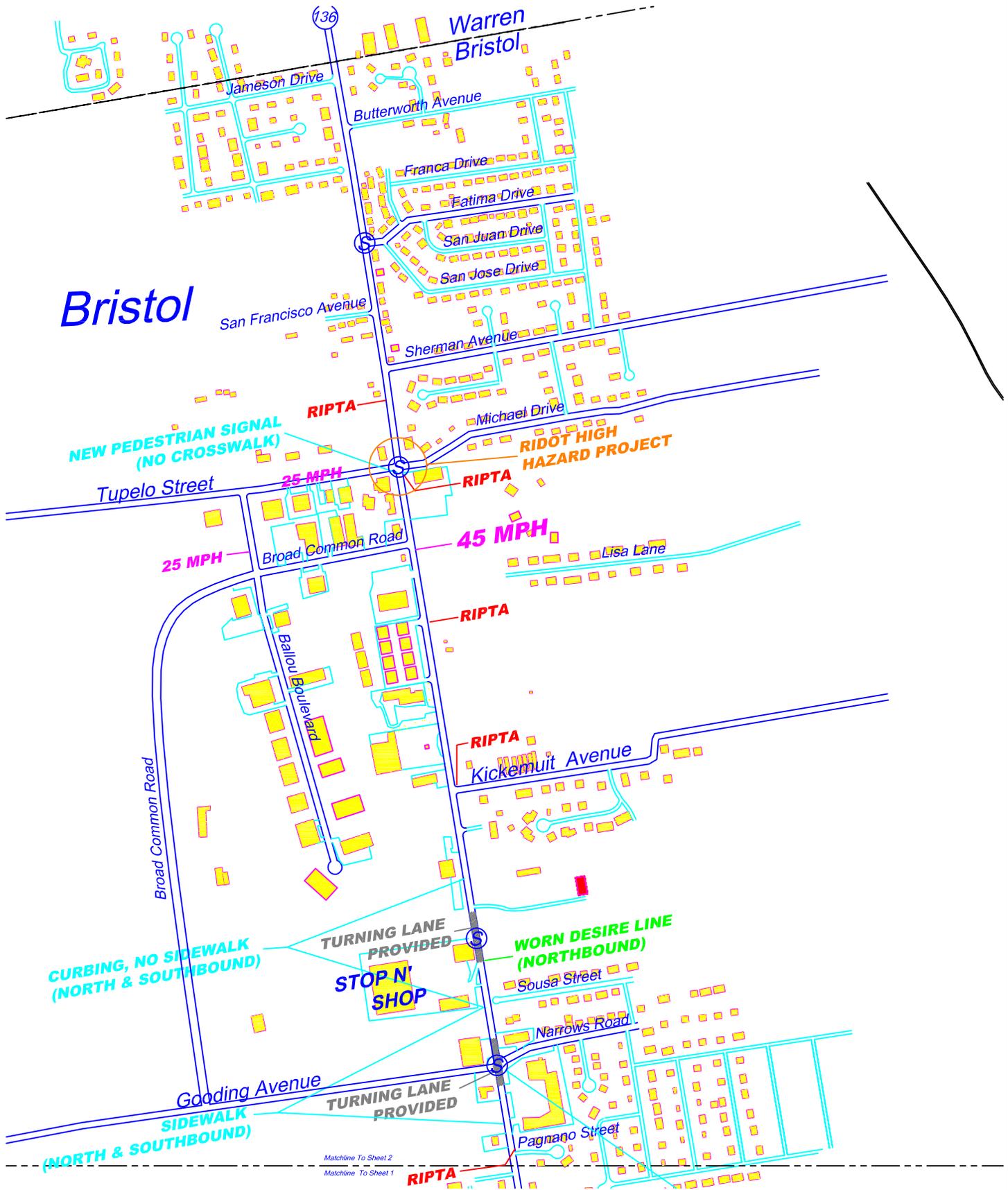
The intersection of Tupelo Street, Michael Drive and Metacom Avenue is a four-legged signalized intersection. Tupelo Street is the eastbound approach to the intersection and Michael Drive is the westbound approach. The northbound approach to the intersection along Metacom Avenue has one thru lane. The southbound approach has an approximate 17-foot wide thru lane. The right-of-way at this intersection is approximately 60-feet wide along Metacom Avenue.

The intersection of Metacom Avenue and the Stop & Shop entrance forms a three-legged signalized intersection. The Stop & Shop entrance is the eastbound approach to the intersection. The northbound approach to the intersection has one thru lane and one left turn only lane into Stop & Shop. The southbound approach to the intersection has two approximate 11-foot wide travel lanes. One is a thru movement and one is a shared thru and right turn movement. The southbound approach also has two receiving lanes. The right-of-way at this intersection is approximately 60-feet wide along Metacom Avenue and starts to increase approximately 100-feet north of the intersection to 65-feet wide.



View southbound at Gooding / Narrows intersection





- References:
1. Bristol Assessor's Plans.
 2. USGS Topographic Map.

Figure 1.4.1

EXISTING TRAFFIC CONDITIONS

TUPELO

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The intersection of Gooding Avenue, Narrows Road and Metacom Avenue forms a four-legged signalized intersection. Gooding Avenue is the eastbound approach to the intersection and Narrows Road is the westbound approach. The northbound approach to the intersection along Metacom Avenue has two northbound travel lanes approximately 12-feet wide each. One is a northbound thru movement and one is a left turn only movement. The southbound approach has two southbound thru lanes with two receiving lanes and a left turn only lane. The right-of-way at this intersection is approximately 70-feet wide along Metacom Avenue. A limited section of sidewalks are located adjacent to Bell Tower Plaza.

The central sector or Juniper Hill section of the corridor extends from a point south of Gooding Avenue to a point south of Mount Hope Avenue, as illustrated in Figure 1.4.2. The speed limit in this predominantly residential area is 45 mph southbound from Gooding Avenue to the Veteran's Home where the speed limit decreases to 40 mph for the approach to Bay View Avenue. Northbound posted speed limits decrease to 40 mph north of Mount Hope Avenue for the approach to Bay View Avenue and increase to 45 mph at Academy Avenue.

The typical section in the Juniper Hill section includes two approximate 15-foot wide travel lanes separated by a double yellow centerline and two approximate 3-foot shoulders separated by a solid white edge line. Storm drains are located throughout this section. There are no sidewalks along the Juniper Hill section of Metacom Avenue.

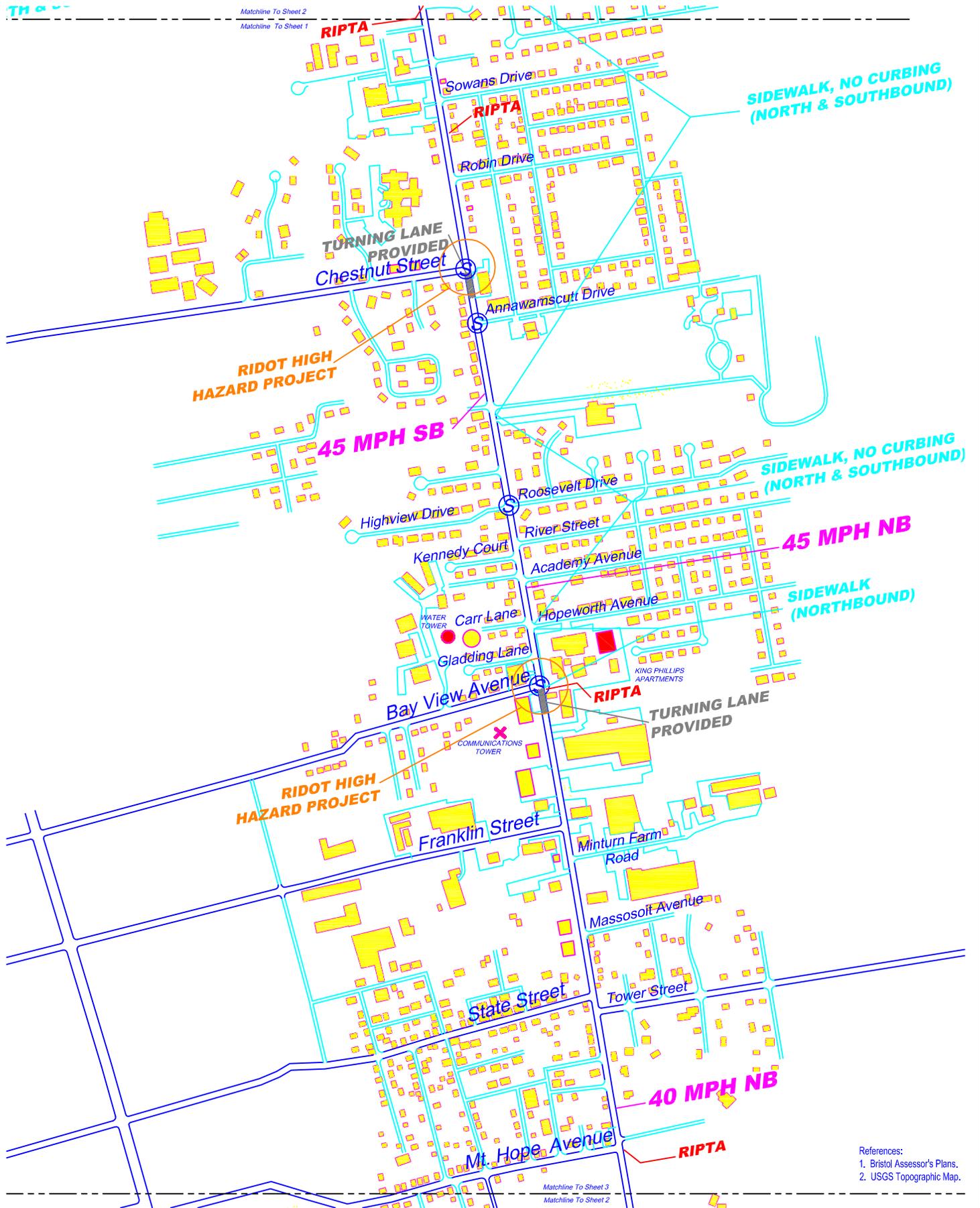
Traffic signal plans obtained from RIDOT indicates signals at the Stop & Shop entrance, Gooding Avenue, Chestnut Street, Roosevelt Drive and Bay View Avenue, that are all interconnected. Signal plans also indicate that the Annawamscutt Drive signal is controlled by the Chestnut Street signal equipment. These two signalized intersections have a fire pre-emption phase controlled by the fire station, which is located on Annawamscutt Drive.

The intersections of Chestnut Street with Metacom Avenue and Annawamscutt Drive with Metacom Avenue are both three-legged signalized intersections. The intersection of Chestnut Street with Metacom Avenue has two approximate 10-foot wide travel lanes at the northbound approach of Metacom. One of the northbound travel lanes is a thru movement and one is a left turning movement. The southbound approach to the intersection has one approximate 15-foot wide thru travel lane. Annawamscutt Drive is the westbound approach to the intersection with Metacom Avenue. Both the northbound and southbound approaches along Metacom Avenue have one approximate 15-foot wide travel lane in each direction. The right-of-way at both intersections is approximate 60-feet wide along Metacom Avenue.

The intersection of Roosevelt Drive, Highview Drive and Metacom Avenue forms a four-legged signalized intersection. Highview Drive is the eastbound approach, and Roosevelt Drive is the westbound approach to the intersection. The northbound and southbound approaches to the intersection along Metacom Avenue have one approximate 14-foot wide travel lane in each direction. The right-of-way at this intersection is approximately 60-feet wide along Metacom Avenue.

Bay View Avenue and Metacom Avenue form a four-legged signalized intersection. Bay View Avenue is the eastbound approach to the intersection of Metacom Avenue and Bay View Avenue, and the King Philip/CVS access road is the westbound approach to the intersection. The northbound approach on Metacom Avenue to the intersection has two





References:
 1. Bristol Assessor's Plans.
 2. USGS Topographic Map.

Figure 1.4.2

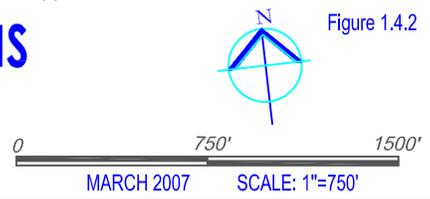
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EXISTING TRAFFIC CONDITIONS

JUNIPER HILL

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approximate 10-foot wide travel lanes, one northbound through lane and one left turn lane. The southbound approach to the intersection has one approximate 15-foot wide thru travel lane. The right-of-way at this intersection is approximately 60-foot wide along Metacom Avenue. The Mount Hope section of Metacom Avenue extends 1.2-miles south from Mount Hope Street to the Roger Williams University main entrance, as indicated in Figure 1.4.3. The speed limit in this rural section is 45 mph. Metacom Avenue has two approximate 14-foot wide travel lanes separated by a double yellow centerline and two approximate two-foot shoulders separated by a solid white edge line. There are no sidewalks in the Mount Hope section of Metacom Avenue. Ferry Road, located south of the Metacom Avenue corridor study, is a four-lane divided road with a grass median. The posted speed limit along Ferry Road is 35 mph. A signalized intersection on Ferry Road, located approximately 1,000-feet south of the Roger Williams main entrance, provides southbound turning movements to the university.

Data Collection

Traffic studies were recently performed for new developments in each of three areas within the corridor. Existing traffic volumes from studies conducted from 2003 to 2005 were used to perform capacity analysis for the roadway. The peak volumes from the traffic studies were projected to represent 2006 traffic volumes using an annual rate increase of 1% for the central and southern section of the corridor and 1.5% for the northern section of Metacom Avenue. These annual rate increases were previously used in the three traffic studies recently performed and were approved by the town.

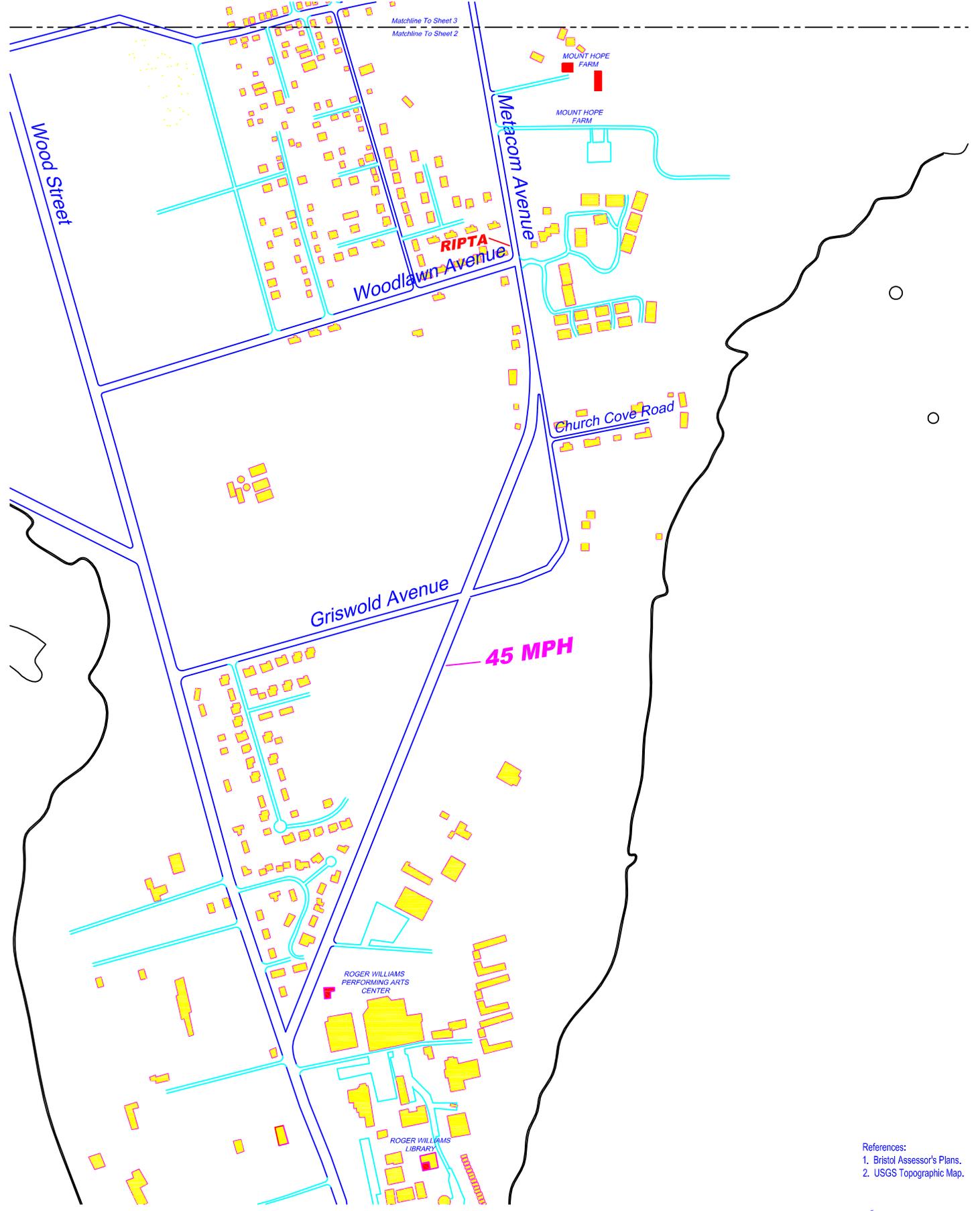
Hourly traffic count data was received from the Rhode Island Department of Transportation (RIDOT) for Metacom Avenue (Route 136) in the vicinity of the project area. Traffic counts were performed on Metacom Avenue between the Warren town line and Tupelo Street on August 29 thru 31, 2006 and on Metacom Avenue between Griswold Avenue and Woodlawn Avenue and between State Avenue and Franklin Street on August 30 and 31, 2006. This data was compared to the three traffic impact studies. It was found that traffic traffic counts were significantly lower in volume than indicated in previous traffic studies.

Three traffic impact studies prepared for Planning Board project approval were reviewed in the Metacom Avenue corridor:

- A traffic impact study conducted at the Walgreen's Pharmacy at Gooding Avenue is representative of the Tupelo section. A 2006 weekday afternoon peak hour and Saturday peak hour volume from the 2003 traffic volumes was calculated.
- A traffic impact study conducted at the People's Credit Union at Franklin Street and Metacom Avenue provides data representative of the Juniper Hill section of the Metacom corridor. A 2006 weekday morning and afternoon peak hour and Saturday midday peak hour volume was calculated from the 2005 traffic volumes.
- A traffic impact study was conducted at the south end of the corridor, at the main entrance of Roger Williams University. A 2006 weekday morning and afternoon peak hour volume was calculated from the 2005 volumes.



Matchline To Sheet 3
Matchline To Sheet 2



- References:
 1. Bristol Assessor's Plans.
 2. USGS Topographic Map.

Figure 1.4.3



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EXISTING TRAFFIC CONDITIONS

MOUNT HOPE

Metacom Avenue Corridor Management Plan

Bristol, Rhode Island



0 750' 1500'

MARCH 2007

SCALE: 1"=750'

Speed Studies

Spot speed studies were performed on Metacom Avenue (Route 136) to determine average travel speeds and design speeds on the roadway network. The findings are presented in Table 1.1.

Table 1.1: Speed Study Data for Metacom Avenue

	Posted Speed	Average Speed	True Median - 50 th Percentile	85 th Percentile	10 MPH Pace Speed	Percent of vehicles over 45 MPH
Tupelo Segment						
Northbound	45	32	32	38	26-35	0
Southbound	45	33	34	39	31-40	0
Juniper Hill Segment						
Northbound	40	32	32	37	28-37	2
Southbound	40	33	32	37	28-37	5
Mount Hope Segment						
Northbound	45	40	40	42	33-42	15
Southbound	45	42	42	47	38-47	35

The speed study data for the Tupelo section of Metacom was collected from the Benny's Parking lot on the southbound side of Metacom Avenue between Kickemuit Avenue and Broad Common Road between 4:00-5:00 pm on December 21, 2006. To provide a conservative safety analysis, PARE has assumed a design speed of 50 miles per hour for Metacom Avenue. This speed is in excess of the 85th percentile speeds determined for the roadway and 5 mph greater than the 45 mile per hour posted speed limit.

The speed study data for the Juniper Hill section was collected from the Jacky's Galaxie parking lot on the southbound side of Metacom Avenue between Bay View Avenue and Franklin Street between 4:00-5:00 pm on December 21, 2006. To provide a conservative safety analysis, PARE has assumed a design speed of 45 miles per hour for Metacom Avenue. This speed is in excess of the 85th percentile speeds determined for the roadway and 5 mph greater than the 40 mile per hour posted speed limit.

The speed study data for the Mount Hope section of the corridor was collected at the three-legged intersection of Griswold Avenue and Metacom Avenue between 4:00-5:00 pm on December 21, 2006. To provide a conservative safety analysis, PARE has assumed a design speed of 50 miles per hour for Metacom Avenue in this section. This speed is in excess of the 85th percentile speeds determined for the roadway and 5 mph greater than the 45 mile per hour posted speed limit.

Traffic Capacity Analysis

Capacity analysis was conducted using existing volumes for the Metacom Avenue corridor. Traffic volumes from each of the three traffic impact studies were used to perform the



capacity analysis. The peak hour traffic volumes were analyzed using capacity analysis software and a level of service was determined for each area.

The peak volumes from the Walgreen's Pharmacy/Bank Impact Analysis were used to analyze traffic capacity in the northern portion of the Metacom Avenue corridor from the Warren town line to Gooding Avenue. Peak hours, directional volumes, and Level of Service for existing conditions are presented below:

- Weekday 4:00-5:00pm – Level of Service E (0.76 volume to capacity ratio)
 - Northbound – 1,075 vehicles
 - Southbound – 1,217 vehicles
- Saturday Midday 12:45-1:45pm – Level of Service E (0.71 volume to capacity ratio)
 - Northbound – 1,017 vehicles
 - Southbound – 1,069 vehicles

The peak hour volumes from the People's Credit Union Impact Analysis were used to analyze Metacom Avenue traffic capacity between Gooding Avenue and Mount Hope Street. Peak hours, directional volumes, and Level of Service for existing conditions are presented below:

- Weekday 8:00-9:00am – Level of Service E (0.64 volume to capacity ratio)
 - Northbound – 510 vehicles
 - Southbound – 813 vehicles
- Weekday 4:45-5:45 pm – Level of Service E (0.87 volume to capacity ratio)
 - Northbound – 796 vehicles
 - Southbound – 727 vehicles
- Saturday Midday 12:00-1:00pm – Level of Service E (0.66 volume to capacity ratio)
 - Northbound – 592 vehicles
 - Southbound – 612 vehicles

The peak hour traffic volumes from the Roger Williams Main Entrance Impact Analysis were used to analyze the Mount Hope section of the corridor from Mount Hope Street to the Roger Williams University main entrance. Peak hours, directional volumes, and Level of Service for existing conditions are presented below:

- Weekday 7:30-8:30 am – Level of Service E (0.54 volume to capacity ratio)
 - Southbound – 1,121 vehicles
 - Northbound – 388 vehicles
- Weekday 4:30-5:30 pm – Level of Service E (0.75 volume to capacity ratio)
 - Southbound – 774 vehicles
 - Northbound – 632 vehicles



Crash Data

Accident data was received from the Bristol Police Department (December 21, 2006) and from RIDOT (January 3, 2007) for the three-year period including 2003, 2004, and 2005. PARE utilized the crash data to identify intersections that could benefit from modifications.

The accident data reveals the intersections identified in Table 1.2 had significant numbers of crashes reported during each year of the study period.

Table 1.2: Top Ten Accident Locations, Metacom Avenue Intersections, 2003-2005

Intersection	Accidents				Notes
	2003	2004	2005	Total	
Fatima Drive	11	14	13	38	Signalized intersection
Sherman Avenue	6	19	11	36	
Tupelo Street	30	20	17	67	Signalized, RIDOT High Hazard Study Location
Gooding Avenue	44	47	52	143	Signalized, reconstruction by RIDOT as High Hazard Location completed in 2006
Robin Drive	2	4	13	19	
Chestnut Street	13	12	19	44	Signalized, RIDOT High Hazard Study Location
Annawamscutt Drive	16	18	17	51	Signalized, RIDOT High Hazard Study Location, combined with Chestnut Street
Bay View Ave	27	34	23	84	Signalized, RIDOT High Hazard Study Location
Mount Hope Ave	6	7	11	24	
Ferry Road	14	12	13	39	

It may be anticipated that the high accident rate reported at Gooding Avenue may be reduced through completion of intersection improvements.

The crash data appears to reveal three distinct patterns. Rear end crashes in the northern section of the study area, rear end and sideswipe crashes in the central section of the study area, and broadside and angle crashes at the intersections along the southern portion of the corridor. These locations appear to correspond to highly developed land uses to the north to less developed land uses to the south. They also appear to correspond to higher speeds along Metacom Avenue along the southern portion than the central and northern portion.

As indicated in Table 1.2, RIDOT has or is currently studying over half of the intersections along this corridor that have high crash rates as part of the most recent High Hazard program. It is important to note that although the number of crashes at these intersections was quite high, there were no fatalities and a limited number of injuries reported. This will limit the benefit cost ratio of any potential mitigation.



Traffic and Zoning

Pare Corporation has conducted a trip generation analysis for uses permitted according to the underlying zoning districts in the Metacom Overlay district, utilizing the industry standard trip generation manual, Trip Generation (7th Edition) published by the Institute of Transportation Engineers (ITE). Table B-1, presented in Appendix B identifies traffic generated by weekday or weekday peak hour, based on measurable units such as per 1,000 square feet of gross floor area for commercial or manufacturing uses, per dwelling unit for residential uses, or per occupied unit for congregate care facilities or hotels. This tool may be used by the planning board in assessing applications and the relative affect that projects may have on Metacom Avenue traffic volumes.

It is important to recognize that vibrant communities and successful economic development generally is dependent on people, whether as customers or employees. If adequate mass transit is not available or is not attractive or convenient, private vehicles will continue to be the mode of choice for most employees and customers. Trucks will add to traffic volumes for delivery and transport of manufactured goods.

As indicated in Table B-1, multi-household dwellings (condominiums or apartments), generate fewer trips per unit (6.72 trips per day) than single or two household dwellings (9.57 trips per day) but as the density is higher, the resultant traffic generated may be higher on a per acre basis. Per 1,000 square feet per weekday, a restaurant, café or deli generates 89.95 trips per day, a day care facility generates 79.26 trips per day, a 15-hour convenience store generates 36.22 trips per day, a corporate headquarters generates 7.98 trips per day, and manufacturing generates 3.82 trips per day. Per 1,000 square feet, per weekday PM peak hour (between 4 and 6 PM), a pet supply store generates 4.96 trips per hour, a health fitness club generates 4.05 trips per hour and a video rental store generates 13.60 trips per hour. It is important to keep in mind the average size of these businesses: a convenience or video store may be 2,000 or 3,000 square feet, a day care center or pet store may be 2,000 to 5,000 square feet, or more, a health fitness club may be 10,000 square feet or more, and the corporate headquarters or manufacturing may be 25,000 to 75,000 square feet or more. It is also important to consider when traffic is generated: a coffee shop's major business is generated during the AM peak hour, a restaurant may be midday or during the PM peak, while day care centers, corporate headquarters/office buildings, and manufacturing will be during the AM and PM peak hours.

The Town of Bristol's challenge for Metacom Avenue is to encourage alternative modes of transportation including RIPTA bus and car- and vanpooling, to improve pedestrian and bicycling access, to require vehicular and pedestrian interconnections between adjacent properties, and to reduce curb cuts onto Metacom Avenue. See Sections 4 and 5 for more details.



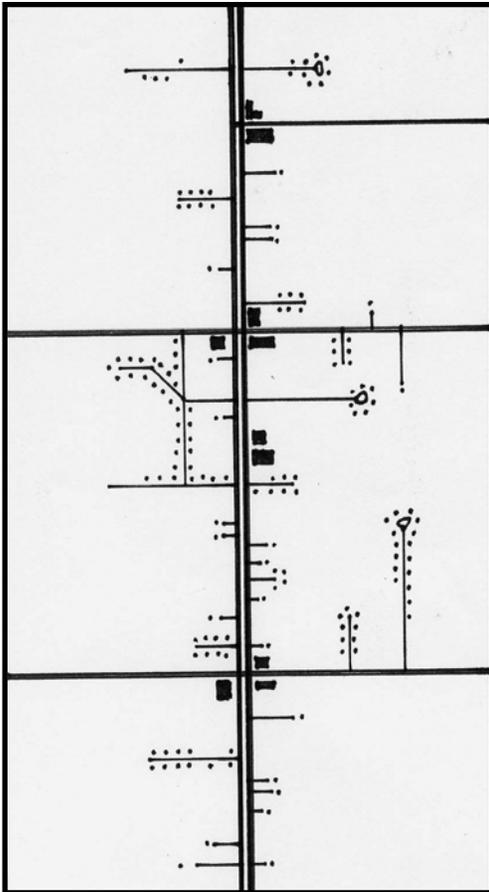
SITE AND BUILDING DESIGN CONCEPTS



Site and Building Design Concepts

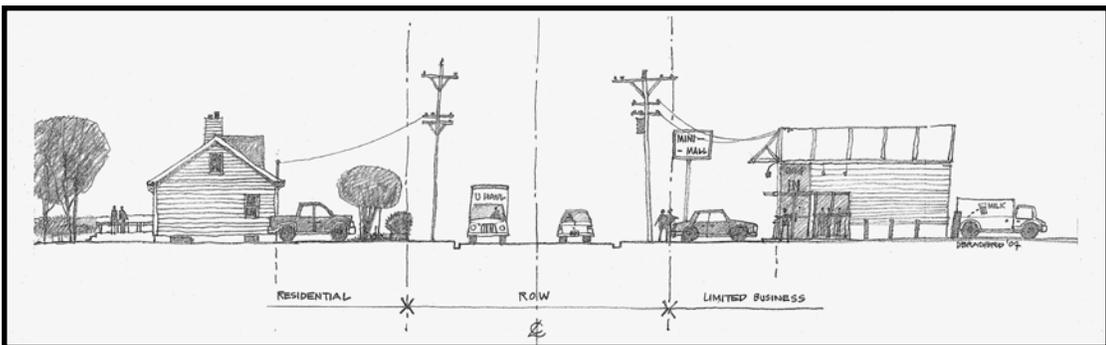
Corridor Design Strategies

Existing Road and Development Pattern



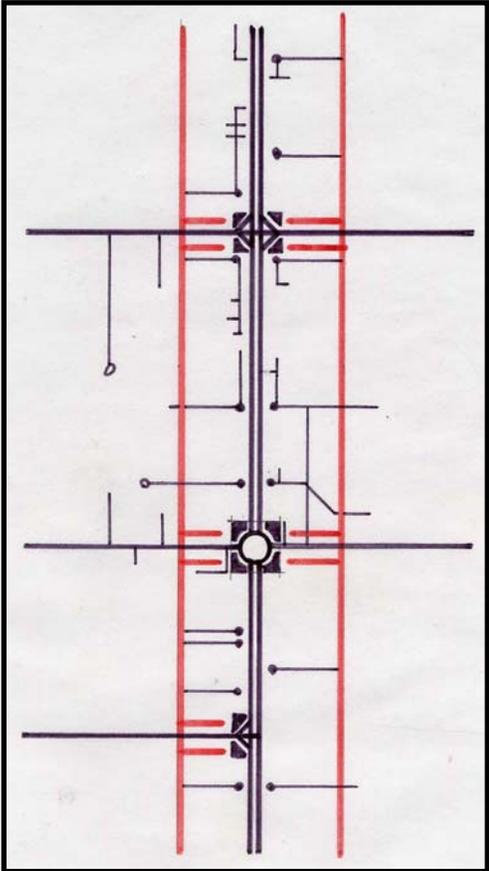
Metacom Avenue is a busy two-lane roadway serving a mix of local business, industry and residential areas adjacent to the road as well as acting as a conduit for regional north/south traffic. There are numerous driveways and local streets opening onto Metacom Avenue, interrupting the flow of traffic. There are few alternatives available to avoid this principal north south route as it is the only route available to local neighborhoods on the east side of the corridor and to most of those neighborhoods fronting directly onto Metacom Avenue itself.

Commercial, retail and industrial uses are scattered throughout the northern and central sectors. This inconsistent mix of land uses and landscape character creates an incoherent development pattern, which lacks a clear relationship to the historical growth pattern of the town. In short it lacks any coherent “sense of place”. The more recent developments, principally businesses that depend on high traffic volume, only add to the traffic congestion and generate a perception that Metacom Avenue is in transition.

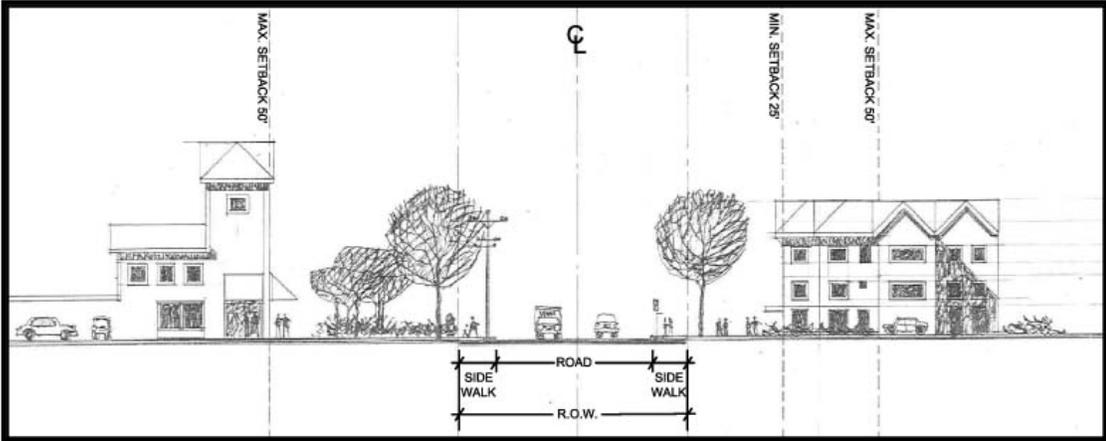


Concept for Future Road and Development Pattern

Metacom Avenue does, and should continue to, serve the industrial, commercial and higher density residential development along its length. Strategic solutions to the traffic problems could include reductions in the number of private driveways and minor side streets that enter directly onto the roadway and better traffic management solutions at major intersections.



To achieve both of these objectives it is proposed that local traffic be directed to a few key controlled intersections via new roughly parallel north-south connections and by reducing the number of side streets and driveways onto Metacom. To some it would mean a more efficient circulation system. To others it would provide a rational alternative for avoiding the frustration of Metacom Avenue congestion. To reinforce this strategy all new development would be concentrated at the key locations served by the improved intersections, thus ensuring that major traffic generators be linked directly to the improved circulation system.

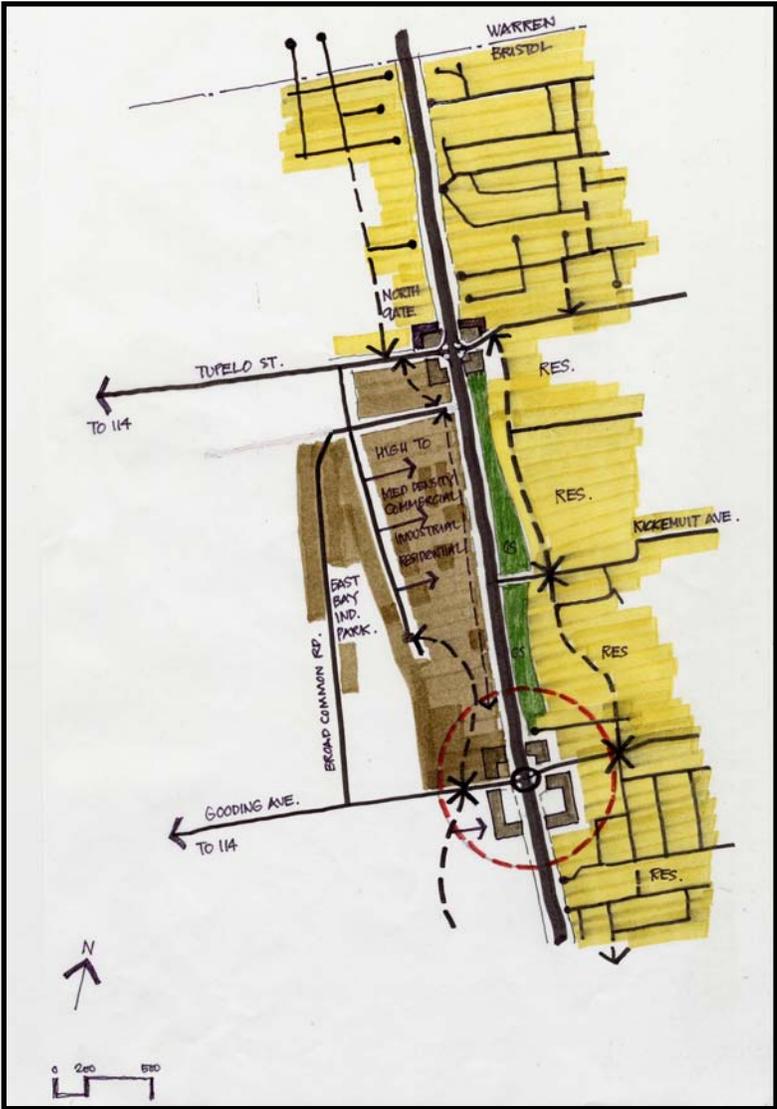


Preliminary Design Strategies

Northern Sector- Tupelo

The Tupelo Street/ Michael Drive and Gooding Avenue/ Narrows Road junctions are major intersections along the northern sector. Both Tupelo Street and Gooding Avenue are major east west links to the western part of the town. They also serve the industrial and commercial development areas. Recent developments at the Gooding Avenue intersection have transformed it into a prominent location. The junction of Tupelo Street and Metacom Avenue could also be a prominent “northern gateway” with the area of long frontage parcels between the two streets a district that has significant redevelopment potential.

The Town has already initiated efforts to establish an optional north-south route through some of the large properties that front onto Metacom Avenue. Additional parallel routes need to be identified through the Fatima and Kickemuit residential neighborhoods on the east side of the corridor in order to redirect traffic to the major intersections that will have the necessary capacity to safely handle the traffic volume.



Land use and landscape character conflicts are problematic concerns in this sector. Special open space protection measures are needed in order to preserve the “green edges” along Metacom Avenue as well as the remnants of the area’s agricultural past apparent in the Fales and Usher farms. Open space vegetation buffers also contribute to the special character of the small-scale residential areas and may provide screening from other land uses.

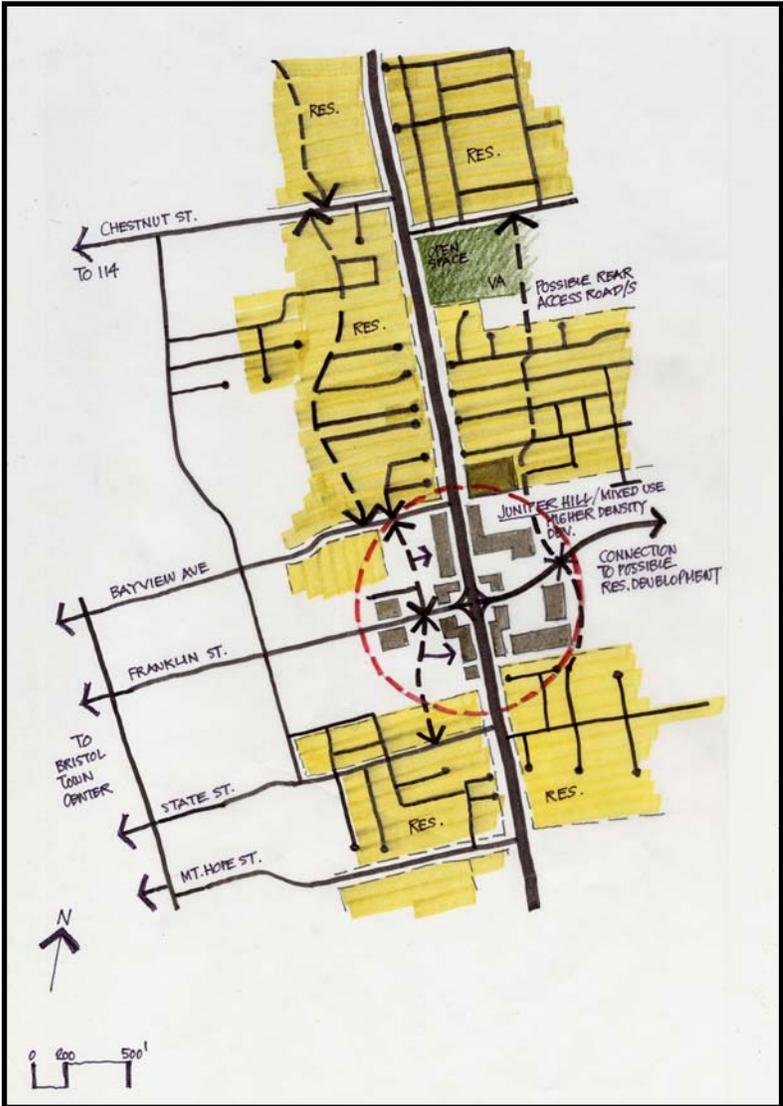
This is the sector which, in subsequent design development proposals, has a special area identified as “Tupelo”. This is a major location for concentration of mixed-use development.



The intersection at Gooding Avenue is a major commercial node and the area between these two major intersection developments is designated as a multi family residential zone for higher density but small-scale character residential image. This establishes the design strategy of locating major development centers along the Metacom spine separated by stretches of uninterrupted small-scale landscape character.

Central Sector- Juniper Hill

The Central Sector has several east-west links to Route 114 and downtown. However, Metacom Avenue, being the major north-south route, forces many small neighborhoods to rely on it with few other options available. As in the northern sector the general circulation and development strategy is to direct traffic to the improved intersections and to concentrate development in these locations where there will be the necessary capacity for increased traffic flow without exacerbating congestion.



The major Metacom Avenue intersection in this sector is at the junction of Franklin Street and the realigned Minturn Farm Road. Additional north south linkages would be developed through the adjacent neighborhood and the larger development parcels in order to re-route local traffic into the improved intersection.

A Metacom mixed-use zone would concentrate development in the general Franklin Street, Minturn Farm Road, Bay View Avenue area. This “village like” development should reclaim and celebrate the historic “Juniper Hill” name. Located on the crest of the highest point in the corridor, retail and other businesses would have a prominent location and easy access from Metacom Avenue. Multi



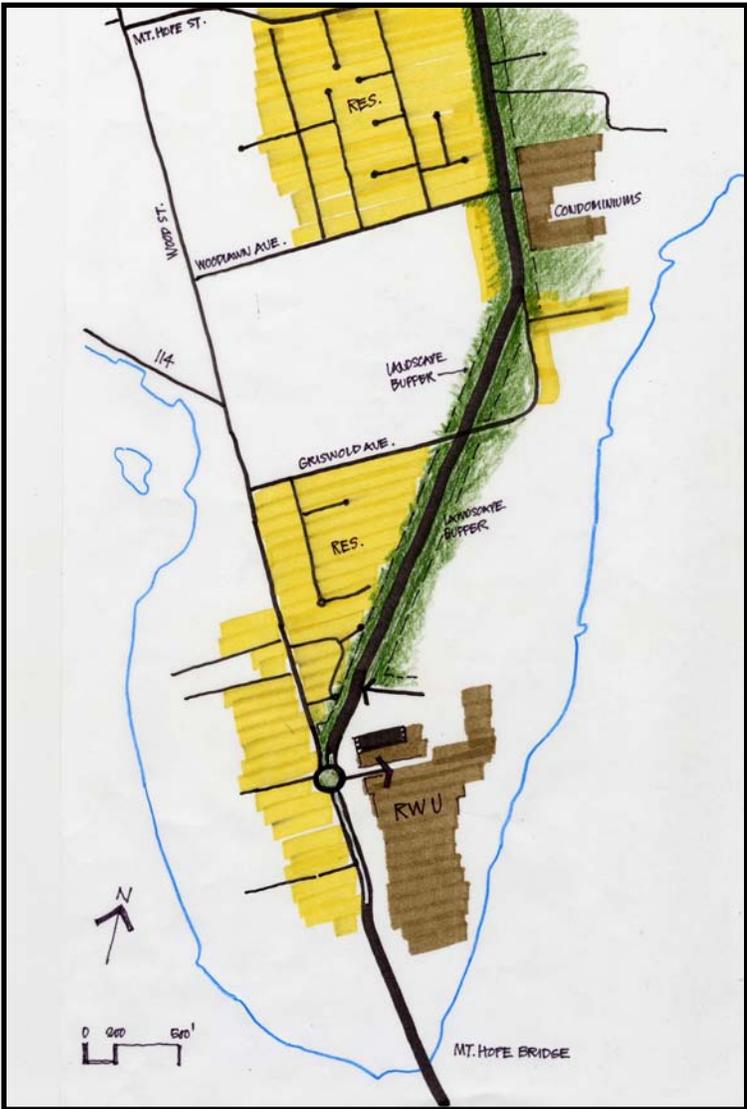
unit residential use might be mixed with retail and commercial or might be located on the outer edges of the more intense development zone as extensions of the existing residential neighborhoods.

This general pattern of development, concentrated as it is at Juniper Hill, permits, indeed encourages the rest of the Metacom Avenue corridor in this sector to retain its small-scale residential character.

Southern Sector- Mount Hope

The southern sector is very different from the sectors to the north. There are few driveways and side streets entering onto Metacom Avenue and few land use or landscape character conflicts.

However, stringent preservation of this unique landscape character is vital. No additional access points should be permitted onto Metacom Avenue and the character of the vegetation edge and buffer should not be compromised. The wide setback should be maintained and the naturalistic vegetation retained. Proposals for paved sidewalks and street trees along Metacom Avenue might be relaxed. Solutions to specific traffic problems will be provided by the two proposed roundabouts, one located immediately north of the main entrance to the Roger Williams University campus at the junction with Route 114 and the other at the service road entrance to the university's lower housing area just before the Mount Hope Bridge.



Proposed Zoning Revisions and Vehicular Connections

The Metacom Avenue corridor development as described in the sector strategies consists in diagrammatic form of concentration of mixed use, higher density development at three major locations separated by residential use predominantly of smaller landscape scale. The three major development locations occur at intersections with key east west streets connecting to the overall town road pattern. The traffic circulation system and the development strategies proposed coincide to create practical solutions that improve the sense of place, address the need for coordinated development and help solve the long term Metacom Avenue traffic capacity and congestion problems.

Critical initial actions necessary to further these intentions are initiating a comprehensive assessment of vehicular circulation links and promoting the appropriate revisions to the zoning ordinance.

Circulation linkages can be accomplished in various ways. In residential areas new public streets can be created to connect existing ones. In larger development parcels, a combination of public streets and new roadways within easements, such as the service road in the Gooding Avenue, Tupelo Street area, can be devised. The overall intention is that these routes provide alternative travel options that avoid using Metacom Avenue or can reroute local traffic to well designed major intersections to solve the traffic problem.

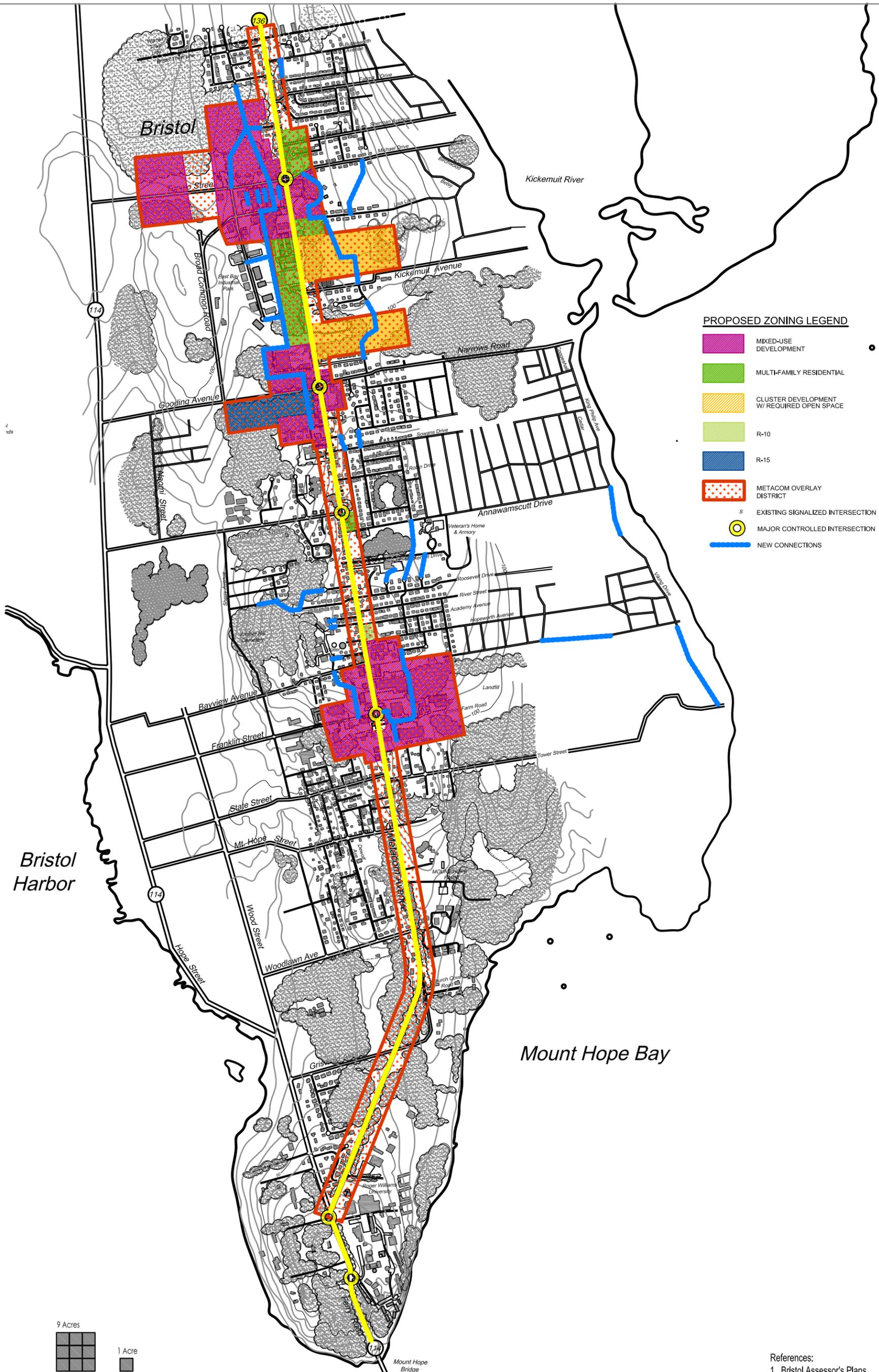
Metacom Mixed Use Zone

Three Metacom Avenue mixed use zones are proposed that provide opportunities for coordinated development that could sustain taller buildings and allow higher lot coverage than currently permitted. Proposed zoning is presented in Figure 2.1. Additional vibrancy of development would be derived from the introduction of mixed use in these zones, in which commercial, retail and residential, development could co-exist. Further information on recommended zoning amendments is presented in Section 4.

These amendments to the zoning ordinance would be limited to the Metacom Avenue mixed use zones and new Metacom Avenue corridor commercial development is limited to this zone. Intervening zones fronting onto Metacom Avenue remain or become residential or open space use requiring that existing general or limited business zones be amended to R-6 high density residential or R-10 zoning.

In the event of a change of use special consideration should be given to the Fales and Usher farm parcels permitting the building of carefully designed residential cluster developments that preserve as open space the fields that presently front onto Metacom Avenue.





PROPOSED ZONING LEGEND

- MIXED-USE DEVELOPMENT
- MULTI-FAMILY RESIDENTIAL
- CLUSTER DEVELOPMENT W/ REQUIRED OPEN SPACE
- R-10
- R-15
- METACOM OVERLAY DISTRICT
- S EXISTING SIGNALIZED INTERSECTION
- MAJOR CONTROLLED INTERSECTION
- NEW CONNECTIONS

Bristol Harbor

Mount Hope Bay



SCALE AREA

- References:
1. Bristol Assessor's Plans.
 2. USGS Topographic Map.

Figure 2.1



0 750' 1500'
March 2007 SCALE: 1"=1500'

PROPOSED ZONING AND CONNECTIONS

Metacom Avenue Corridor Management Plan

Bristol, Rhode Island



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BRADFORD ASSOCIATES
ARCHITECTS/LANDSCAPE ARCHITECTS
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PROVIDENCE, RI 02906-1518
TEL (401) 521.6867 FAX (401) 454.8491

Concept Design Study Areas

Conceptual designs were prepared for two of the major development areas, Tupelo and Juniper Hill, in order to illustrate the proposed development concepts. They incorporate both existing Development Regulations and the proposed Metacom Design Guidelines.

Both study areas are focused on the proposed Metacom Avenue mixed use zones for more concentrated mixed-use development where the buildings and site design will develop a distinct character and “sense of place.”

- These are the locations for the most conspicuous or showy buildings and the places for public activity. Where possible the commercial businesses would be visible from Metacom Avenue although ideally accessed from the intersecting major street.
- The major intersections at the focus of the special areas would be well designed to manage the traffic volume, have safe turning movements and provide key connections. In both of these conceptual designs they are shown as roundabouts.
- Optional additional routes connect development to the major intersections thus reducing Metacom congestion.
- Pedestrian circulation is critical to these areas as it is to the entire corridor. There are sidewalks along both sides of Metacom Avenue and commercial development is organized for convenient and safe pedestrian circulation. Residential neighborhoods are linked to the commercial areas with convenient walkway systems. Bikeways could connect to recreational and natural areas outside the corridor.
- Buildings are moved closer to the main streets so that parking has to be located behind or to the side of the buildings. In order to encourage more efficient use of parking and access, shared parking for use at different times of the day or shared parking that can accommodate the customer visiting various adjacent businesses is proposed.
- The landscape is critical to the appearance of development and to improving environmental quality. Large street trees line both sides of Metacom Avenue in the north and central sectors. Parking lots, and other off-street paved areas, are also shaded at least to Town minimum standards. Planting beds and lawns provide critical pervious surfaces and aesthetic enhancement. Vegetated buffers screen incompatible uses and structures.
- Buildings are designed for mixed use, with the intent of providing large enough structures for moderate sized businesses that could not be accommodated downtown but are not large enough to encourage “big-box” or large format development. Residential uses might be mixed with commercial and other business uses but at the edges of the mixed use zone that abuts a residential neighborhood building sizes will step down in height to conform to the residential scale and context.
- Architectural detail, lighting, and signage cannot be illustrated at this level of concept design but they would be critical to the visual quality of the development, creating identity and that important “sense of place.”



Tupelo Design Area (Image 1)

Tupelo, located at the northern end of the Metacom Corridor in Bristol, could become the “Northern Gateway” into Bristol. Its prominent visibility and easy access would create very desirable retail and commercial development opportunities, adding to the value of the Ballou Boulevard industrial area which will continue to be an important economic component of the district. The southwest quadrant of the Tupelo intersection becomes the terminus of the Gooding to Broad Common service road, which continues on to join Metacom Avenue via Ballou Boulevard and Tupelo. Through traffic on Broad Common will also access Metacom Avenue at Tupelo taking advantage of the improved traffic intersection. A new northwest linkage road, and an improved pedestrian environment, will begin to create viable connections to the adjacent residential neighborhoods. This will help to add a significant residential component to the village atmosphere. The east side of the intersection also includes a new linkage road that will create neighborhood connections and access for projected development.

Juniper Hill Design Area (Image 2)

The proposed mixed use development at Juniper Hill will transform the current haphazard collection of medium and large scale buildings into a truly viable combination of mixed uses that, with imaginative site planning, will enhance the existing industrial and commercial businesses with pedestrian friendly residential and retail development.

The west side of the Juniper Hill center is visually prominent from Metacom Avenue. In addition there is excellent access from Franklin to mixed use buildings and parking. The east side is dominated by existing industry which will be retained but looks to the Minturn Farm Road area for a variety of development opportunities. The end of Minturn Farm Road itself is relocated for a more efficient intersection and is also another landmark with a green place reminder of the farm heritage. Additional streets are service roads and provide linkages to the neighborhood.





Image 1: Tupelo Design Concept



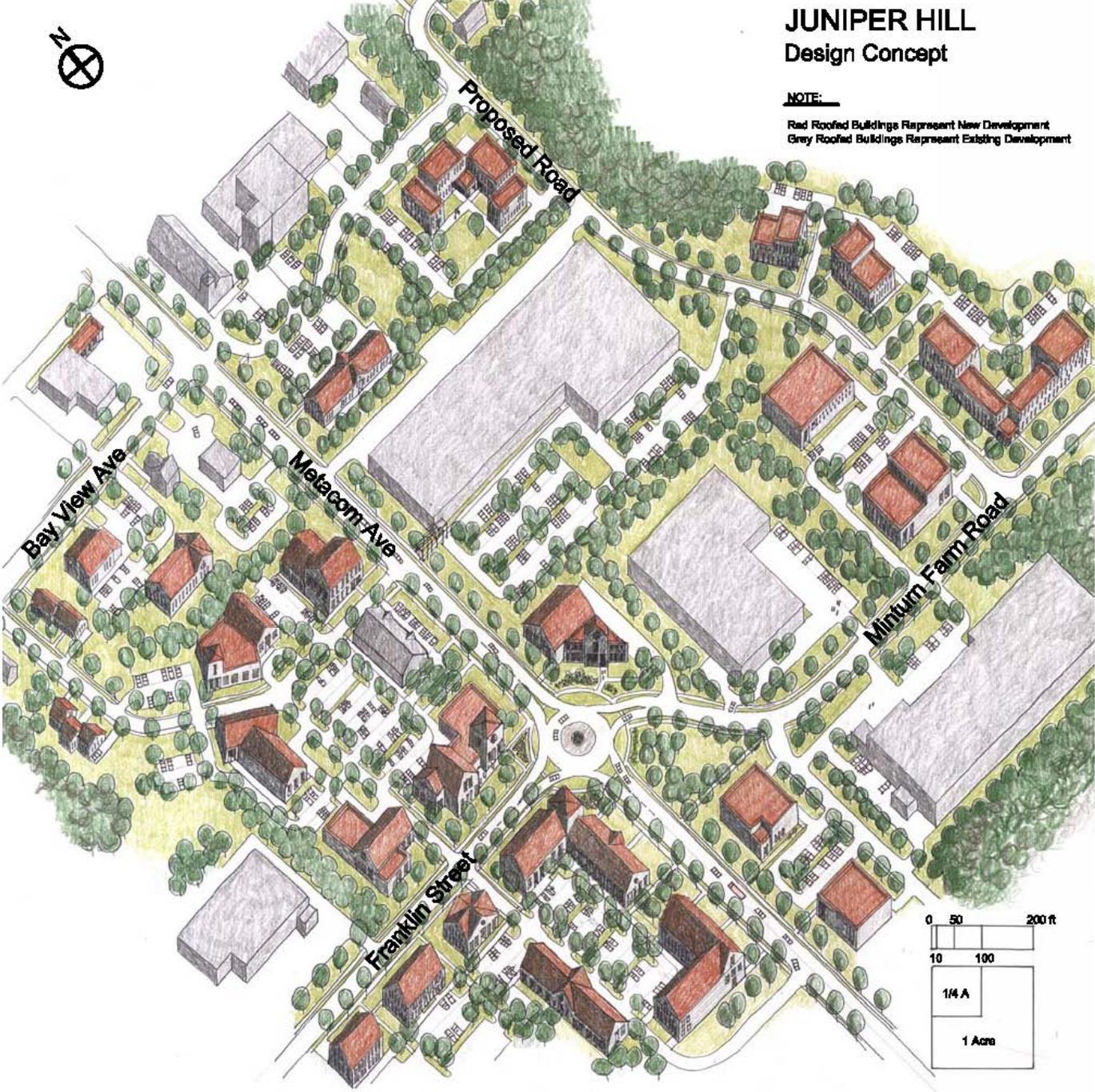


Image 2: Juniper Hill Design Concept



SECTION 3

SERVICE ROAD



Service Road

One of the primary means of reducing traffic volumes on Metacom Avenue is to provide alternative routes for motorists to avoid or reduce travel on this arterial. Section 28-285 of the Bristol Zoning Ordinance addresses the Route 136 (Metacom Avenue) Overlay district. In accordance with (4)a., Service Road:

“Developments located on the west side of Route 136 between Gooding and Tupelo, shall provide either a 30-foot right-of-way or a 30 foot easement for imminent or future construction of a service road. This service road shall be coordinated within project and located so that traffic may move to and from developments without having to re-enter Route 136. The area of such service road shall be counted to meet any minimum lot area requirements.”

To date, the Town of Bristol and others have been successful in implementing service road connections on a limited scale. See Appendix C for copies of deeds and easement for existing service road connections. The following identify existing public and private service road links as identified in Figure 3.1:

- A vehicular connection was recently constructed between the rear of Walgreen’s and the rear of the adjacent 1776 Liquors at the Stop & Shop plaza. This vehicular link provides an opportunity for Walgreen’s patrons to avoid two signalized intersections on Metacom Avenue when accessing 1776 Liquors or Stop & Shop.
- The Town of Bristol currently has a 40-foot deeded street layout adjacent to the eastern property line of C&C Fiberglass Components. This easement extends from the south end of Ballou Boulevard to Stop & Shop, immediately west of Jack’s Salvage Yard. A roadway has not been constructed on this easement.
- Metacom Condominiums has a rear entrance to Ballou Boulevard. This enables residents to avoid Metacom Avenue when bound for Bristol Highland destinations by taking Ballou Boulevard to Tupelo Street or Broad Common Road to Gooding Avenue. This connection to Ballou Boulevard is more pedestrian and bicycle-friendly than one along Metacom Avenue.



Vehicular connection between Walgreen’s and Stop & Shop.



Town of Bristol 40-foot deeded street layout adjacent to AP 94/Lot 45.



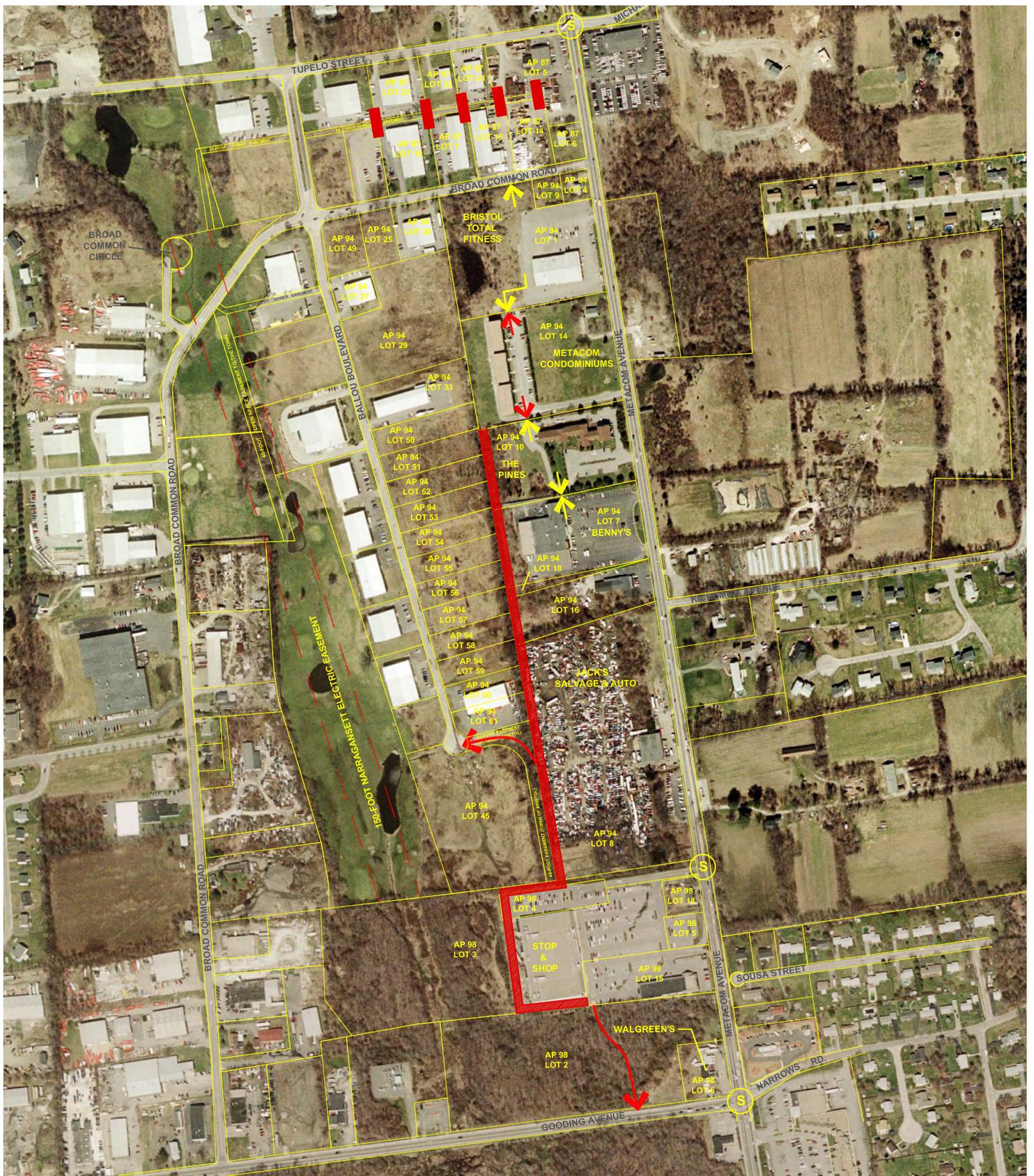


Figure 3.1

- References:
1. RIGIS Color Orthophoto 2003.
 2. Bristol Assessor's Plat Maps #87, #94, #98.

LEGEND

- SIGNALIZED INTERSECTION
- EXISTING ACCESS EASEMENT AGREEMENT
- PROPOSED ACCESS/LINK
- PROPOSED ACCESS MANAGEMENT

**TUPELO STREET/ GOODING AVENUE
ACCESS MANAGEMENT PLAN**
Metacom Avenue Corridor Management Plan
Bristol, Rhode Island



BRADFORD ASSOCIATES
ARCHITECTS/LANDSCAPE ARCHITECTS
25 CREIGHTON STREET
PROVIDENCE, RI 02907
(401) 521.6867



MARCH, 2007 SCALE: 1"=500'



A 30-foot wide paved roadway provides a stub road for future connection to the abutting properties on the north and south sides of the westerly parking lot. A through connection will be made if and when an applicant comes before the Planning Department for a change in use or redevelopment of adjacent properties. Applicants for adjacent properties will then be required to complete the construction of the service road “link” as a term of project approval. This future roadway connection is provided in accordance with the Metacom Overlay service road connection requirement. Future connections from Metacom Courtyard Condominiums to the north and south properties are protected by a recorded easement to the Town to allow the public to cross.

Proposed Service Road Connections

Proposed service road connections are envisioned as a series of links and not as a continuous two-lane roadway or frontage road on Metacom Avenue. A frontage road along Metacom Avenue would reduce parking areas for adjacent businesses and adversely affect the character and visual aesthetics of Metacom Avenue by doubling the width of asphalt. As indicated in Figure 3.1, several potential service road links are recommended to reduce traffic on the main road and to provide multiple access opportunities. In accordance with Sec. 28-285(4)a. of the *Bristol Zoning Ordinance* (Route 136 Metacom Avenue Overlay), provision of a 30-foot right of way or easement for construction of a service road shall be counted to meet any minimum lot area requirements.

- Future redevelopment of parcels with frontage on both Broad Common Road or Tupelo Street (AP 87/Lots 5, 6, 7, 14, 15, 19, 21, 22, 23) shall provide a 30-foot right-of-way/easement to enhance access between these two roads. A 20-foot Town of Bristol sewer easement located to the rear of the parcels that front Tupelo Street and Broad Common Road, would have to be crossed with a 30-foot service road right of way (ROW)/easement.
- Redevelopment of AP 87/Lot 5 and AP 87/Lot 6, located on Metacom Avenue between Tupelo Street and Broad Common Road, shall not have direct access onto Metacom Avenue. Access to these properties shall be via the side roads. Access to these parcels will be directed to/from the signalized intersection at Tupelo/Metacom or Broad Common Road, improving the capacity and visual aesthetics of Metacom Avenue in this area.
- Access to Bristol Total Fitness (AP 94/Lot 1), located on Metacom Avenue south of Broad Common Road, would be enhanced with direct access from Broad Common Road. Future redevelopment or change in use of this property should be subject to the provision of a Broad Common Road curb cut and eliminating one of two Metacom Avenue curb cuts. The alignment should follow to the east of the existing stormwater detention pond to the rear of the property.



View from AP 87/Lot 14 to AP 87/Lot 6, indicating existing connections between Tupelo Street and Broad Common Road



- Construction of a vehicular roadway and sidewalks from Bristol Fitness to Metacom Condominiums, the Pines, and Benny's would encourage pedestrian access to and from these local destinations and provide an alternative egress routes for residents. A sidewalk connecting these buildings, separate from a proposed Metacom Avenue sidewalk, would be especially attractive for residents of these apartment complexes. Many existing parking lots and driveways are located in close proximity on these four lots and are separated by fences along the property line. As a condition of permit approval for redevelopment of any of these properties, the Town should require an easement to enable both vehicular and pedestrian passage for imminent or future construction, by the property owners. The Town Planning Board should have the discretion to waive the landscaped buffer requirement to enable construction of a 5-foot cement concrete sidewalk with adjacent landscaping.
- Future redevelopment of Benny's (AP 94/Lot 7), the small office building immediately to the south (AP 94/Lot 16), or Jack's Salvage (AP 94/Lot 8) should include a 30-foot ROW/easement for vehicular and pedestrian passage along the rear property lines. These ROWs/easements should connect to the existing Town easement on the C&C Fabrication property (AP 95/Lot 45), with a connection to Ballou Boulevard and Stop & Shop. This connection would enable future residents and / or employees at developments / redevelopments at AP 94/Lots 7,8, or 16 (Benny's Jack's Salvage, or the small office building between) to avoid accessing Metacom between Tupelo and Gooding. Multiple accesses to these large parcels would enhance redevelopment opportunities and facilitate emergency response.

Several constraints may hamper implementation of vehicular and pedestrian connections in the Tupelo segment of Metacom Avenue. Table D-1 in Appendix D identifies parcels, property owner, use, and parcel size. Many of the recently subdivided properties on the east side of Ballou Boulevard are fully developed, leaving little, if any area for an easement. Several of the properties on Ballou Boulevard and Metacom Avenue are in residential or commercial condominium ownership. As such, negotiation of an easement would be required with all owners and may be more difficult for the Town to achieve. Although the RI Geographic Information System (RIGIS) does not identify wetlands on the links identified above, further site investigation is warranted to determine regulatory constraints. An extensive wetland complex to the rear of Stop & Shop would constrain construction of a service road link to areas previously disturbed for construction of the shopping center.



Existing drainage channel to the rear of Jack's Salvage, AP 94/Lot 8.

Travel Time Study

Although Pare Corporation conducted a travel time study for a service road between Tupelo Street and Gooding Avenue, the results are not meaningful. A service road is NOT a continuous through road on a separate alignment but is instead, a series of links. These links provide motorists and pedestrians with choices to avoid Metacom traffic, thereby increasing capacity and safety on the main arterial.



LAND USE AND ZONING RECOMMENDATIONS



Land Use and Zoning Recommendations

Several *Bristol Zoning Ordinance* amendments are recommended to strengthen the sense of place on Metacom Avenue, to improve the quality and character of future development and redevelopment, and to mitigate traffic generated. These recommendations are proposed to protect single-family residential use that currently is located both on Metacom Avenue and along adjacent streets primarily east of Metacom. This is consistent with the *Bristol Comprehensive Plan* that identifies preservation of residential use along Metacom Avenue as one of its goals. Proposed zone changes such as the Metacom Mixed Use Zone are consistent with *Land Use: 2025, The State Guide Plan Element*, as it encourages dense development in areas served by municipal sewer and water while preserving open space and residential neighborhoods. Recommendations built upon findings in Section 2.

Proposed Zone Changes

Zoning changes have been proposed to help create a sense of order to the sprawling development that has occurred along Metacom Avenue. By designating key areas for focused redevelopment or development in dense mixed-use zones, with multifamily use as a transition to neighborhoods and open space, a form-based zoning hierarchy (similar to *Smartcode*) will emerge. Proposed zone changes, indicated in Figure 2.1, create a sense of place at Tupelo and Juniper Hill while preserving the character of Mount Hope to the south.

Metacom Mixed Use Zone

This zone has been proposed to expand business use areas to create vibrant, walkable neighborhoods, well served with appropriately scaled retail, services, and other commercial development. Dimensional regulations are presented in Table 4-1.

Table 4-1: Metacom Mixed Use Zone Dimensional Table

	Metacom Mixed Use Zone
Minimum Lot Area ⁽¹⁾	10,000 sf
Minimum Lot Area / Dwelling Unit	See nearest residential zone
Minimum Lot Area / Rooming Unit	4,000 sf
Minimum Lot Width	100 ft

⁽¹⁾Residential uses within the Metacom Mixed Use Zone shall conform to the dimensional regulations of the nearest residential zone. Where residential zones of different dimensional regulations are equidistant, the more restrictive dimensional regulations shall apply.



Table 4-1: Metacom Mixed Use Zone Dimensional Table

	Metacom Mixed Use Zone
<i>TABLE (CONT.)</i>	
Minimum Frontage (feet)	100 ft
Maximum Lot Coverage by Structures	40%
Maximum Lot Coverage by Structures and Pavement	75%
Maximum Floor Area Ratio	1.0
Minimum distance of structure from Residential zone boundary	25 ft
Minimum Front Yard Setback ⁽²⁾ ⁽³⁾	25 feet
Minimum Side Yard Setback	10 ft
Minimum Rear Yard Setback	65 ft
Maximum height of principal structure ⁽⁴⁾	50 ft
Maximum height of accessory structure	35 ft

Permitted Uses: Permitted uses are presented in Appendix D. Uses generally reflect existing Limited Business and General Business permitted uses.

Metacom Mixed Use Zones. Mixed-use zones are proposed in the following areas:

- **Tupelo:** The zone includes Limited Business, General Business, Manufacturing, and R-15 residential zones proposed for affordable housing off San Francisco Drive. Although Toyota Village and Bristol Total Fitness currently provide anchors in the proposed district, strip development at Tupelo Street and Broad Common Road are susceptible to change in coming years.
- **Gooding:** The southern end of the Tupelo area includes a separate Metacom Mixed Use zone, which includes Stop & Shop, Belletown Plaza, and the Arnold Lumber near the Gooding Avenue signalized intersection.
- **Juniper Hill:** The Bay View Avenue, King Philip Tower, Franklin Street, Miniturn Farm Road area is one of the most densely developed areas on Metacom Avenue. This area is also subject to change as older buildings are redeveloped and the former landfill is remediated and developed. Current zoning in this area includes Limited and General Business.

⁽²⁾ Minimum front yard setback shall be 25 feet or the average setback from two adjacent structures.

⁽³⁾ The front yard setback shall include a pedestrian-oriented 25-foot planted buffer. Parking shall be prohibited in the Front Yard Setback and shall be prohibited between the building and the street.

⁽⁴⁾ Maximum building height shall be on the front half of the parcel in areas where the Metacom Mixed Use Zone abuts a residential zone. Building height to rear of building shall not exceed 35 feet where adjacent to a residential zone.



Multifamily Residential. Multifamily residential use is proposed to serve as a buffer between the more intensively used Metacom Mixed Use Zone and surrounding single-family residential zones. Multifamily zoning is proposed in the following four areas:

- Northeast quadrant of the Metacom / Tupelo intersection and south of Toyota Village, adjacent to Fales Farm.
- On the west side of Metacom between Metacom Mixed Use Zones at Tupelo and Gooding to codify current multifamily use at Metacom Condominiums and the Pines and to encourage redevelopment of Benny's and Jack's Salvage. This will encourage residential use within walking distance of retail goods and services in the Tupelo and Gooding areas.
- North of the Annawamscutt Drive intersection currently zoned Limited Business and developed as a small two-story commercial strip. This area is adjacent to the Hydraulion and the Veteran's Home.
- Between Academy and Hopeworth Avenues, immediately north of the Juniper Hill Metacom Mixed Use Zone.

Cluster Development. Cluster development with required open space is proposed at the Fales and Usher farms. Preservation of these operating farms is encouraged through acquisition of development rights through RIDEM's Open Space Bond Fund, or preservation with conservation easements or other open space preservation mechanism. Preservation of a 200-foot minimum buffer along Metacom Avenue is critical to providing welcome relief and a sense of place for those traveling southbound on Route 136 from densely developed commercial areas in Warren.

Proposed Metacom Overlay Amendments

Several changes are proposed to strengthen the Metacom Overlay zone in the Bristol Zoning Ordinance. Amendments are proposed as indicated in **REDLINE** / ~~strikeout~~, below:

Section 28-285. Route 136 (Metacom Avenue) Overlay

It is the goal of the town, as stated in the *Comprehensive Plan*, to promote high quality development along the corridor of Route 136 (Metacom Avenue) that will minimize the impact of increasing traffic flows, protect residential privacy and property values, and preserve scenic resources. The overlay district is established to provide an additional set of review criteria and design standards on development projects to achieve this goal.

- (1) Overlay zone boundaries. The overlay zone is mapped on the official zoning map. ~~If more than 50 percent of the parcel of property is included in this overlay, then the overlay shall apply to the entire parcel.~~ **The overlay zone applies to the parcel lot with frontage on Metacom Avenue, as well as any new lots created by the**



subdivision of larger parcels. Any proposed major land development project east of Metacom Avenue (regardless of frontage) shall be subject to the Metacom overlay.

- (2) Permitted uses. Any permitted use in the underlying zone is permitted in the overlay zone, subject to the design standards below. Uses permitted by special use permit are allowed if granted by the zoning board subject to the requirements of section 28-409; and, if applicable, section 28-150.
- (3) Review process. The review process for any development plan proposed in the overlay zone shall be as follows:
 - a. Any development plan proposed in the overlay zone shall be reviewed by either the Technical Review Committee or the Planning Board as set forth in Article VI of this chapter. Any land development project proposed in the overlay zone shall be reviewed by the Planning Board. The review process shall be in accordance with the procedures set forth in the subdivision and development review regulations.
 - b. The technical review committee or the Planning Board, as the case may be, may require a traffic impact study, prepared by a state registered professional engineer, for projects which generate new or additional parking for more than 20 cars. The purpose of the traffic study is to determine the proposed development's impact on traffic and level of service as well as specific mitigation measures for same. The scope of the traffic study shall be as required by the planning board engineer.
 - c. Notwithstanding any provision of this subsection, all entrance and exit driveways onto Route 136 (Metacom avenue), a state road, shall be in accordance with the requirements of the state department of transportation and shall require a physical alternation permit from the state department of transportation and may require that the study area for traffic impact analysis include the following:
 - i. In general, any links (streets) that would experience a directional increase of 250 ADT or 25 vehicles in a peak hour.
 - ii. Extend beyond the immediate area up to a half-mile outside the development boundaries and may include any link or street that experiences a 10 percent directional increase in traffic resulting from the development project and the effects of other development (cumulative impact) which may coincide with the immediate development.
 - iii. Require that the traffic study completed for the RIDOT Physical Alteration Permit for access to Metacom Avenue include, at a minimum, the study area identified by the Town's planning department during the pre-application process.
 - iv. Require that developers consider roundabouts as an alternative means to traffic signalization.
 - v. Require that developers provide sidewalks.
 - vi. Require applicants to conduct transportation management strategies to reduce commuting by single occupant vehicles by improved multimodal transportation links (sidewalks to bus stops), incentives for bus use (RIPTA bus passes), Ride Sharing /Transportation Demand Management strategies (car and vanpooling, staggered shift hours, telecommuting). There may be a reduction in parking spaces as provided in article VIII of this chapter.



- (4) *Development design standards.* All development projects located within the Route 136 (Metacom Avenue) overlay zone shall be reviewed in accordance with the following standards:
- a. *Service road.* Developments located on the west side of Route 136 between Gooding and Tupelo, shall provide either a 30-foot right-of-way or a 30 foot easement for imminent or future construction of a service road **on an alignment as indicated on the attached map (Figure 3.1).** This **alignment service road** shall be coordinated within project and located so that **vehicular and pedestrian** traffic may move to and from developments without having to re-enter Route 136. The area of such service road shall be counted to meet any minimum lot area requirements.
 - b. *Commercial, mixed-use and multifamily residential developments.* Development standards for commercial development shall be as follows:
 - 1. *Driveway and roadway spacing.* ~~Driveway spacings~~ **Spacing between driveways and proposed roadway intersections** shall be determined based on a function of the posted street speed limit according to the following schedule:

TABLE INSET

Posted Speed Limit	Minimum Spacing Between Driveways
35 MPH	150 feet
40 MPH	185 feet
45 MPH	230 feet
35 MPH or less	150 feet
40 to 45 MPH	230 feet

~~These spacings are based on average vehicle acceleration and deceleration rates and are considered necessary to maintain safe traffic operation.~~ Spacing will be measured from the centerline of each driveway and/or roadway.

- 2. *Combined access.* The sharing of driveway access points by two or more properties is recommended particularly where the driveway volumes will be low. Driveways should be located along common property lines or be established by easements over the property being served by the driveway. The technical review committee or planning board, as the case may be, may require a shared driveway where site, traffic, or development conditions warrant. In addition, an access easement to adjacent commercial sites for coordinated joint parking areas may also be required. Where combined access is provided, there may be a reduction in parking spaces as provided in Article VIII of this chapter. **Should one or both of the parcels with a shared driveway access point be redeveloped or change use (with an anticipated increase in volume), the technical review committee or planning board, as the case may be, may require an alternative site plan design or request the parcel owners seek a variance to maintain the existing driveway configuration.**



1. **Parcels with frontage along Metacom Avenue and a secondary/side street (i.e. corner lots) shall be prohibited from establishing curb cuts along Metacom Avenue. Access to these properties shall be via the side roads, improving the safety, capacity and visual aesthetics of Metacom Avenue within the immediate area.**
3. *Dimensional requirements for access.* All driveways shall be a minimum of 15-feet in width for every one lane of traffic using such driveway. Combined entrance and exit driveways shall have a planted island with a minimum width of six feet between the lanes.
4. *Parking location.* All parking areas shall be located to the rear or side of buildings. Where parking is located to the rear, buildings should be oriented so that there is at least one rear entrance.
5. *Buffering.* Buffering shall be as follows:
 1. There shall be a minimum 25-foot planted buffer between any commercial use, including parking and loading areas, and any adjacent residential use.
 2. Mechanical equipment or other utility hardware on the roof, grounds or buildings, shall be screened from public view with materials or plantings in harmony with the building, or they shall be so located as not to be visible from any public way. Refuse and waste removal areas and any exterior work areas shall also be so screened.
6. *Setback.* There shall be a maximum 25-foot setback from Route 136 (Metacom Avenue), or the average setback of the two adjacent structures and shall consist of a landscaped area and sidewalk.
7. *Frontage.* Lots created after the effective date of these provisions shall have a minimum of 200-foot frontage on Route 136 (Metacom Avenue).

Metacom Avenue Overlay District Design Guidelines

Recommended design guidelines are presented below in seven parts. A glossary of terms is presented in Appendix E.

- Part 1: Context
- Part 2: Site Design and Layout
- Part 3: Architecture
- Part 4: Sustainability/Energy Efficiency
- Part 5: Lighting
- Part 6: Landscaping
- Part 7: Signs
- Part 8: Design Review



Example of mixed-use development with first floor retail and office development and upper level residential use.



Part 1: Context

Overview

The visual character of Metacom Avenue is a mix of small, medium and large scale landscape character. The small-scale character, predominantly single family residences, small open spaces and remnants of agricultural uses, actually occupies the greatest land area. The distribution and contrasting larger scale commercial and industrial areas gives the sense of a mix of more intensive uses and a built environment in transition. Traffic- volume and regular congestion from both local and through traffic is a major aspect of any description of the Metacom Avenue corridor.

The residential character is very important to the community but so are the commercial and industrial uses. The Comprehensive Plan, zoning and guidelines have been developed in effort to reconcile the conflicts, enhance and strengthen the character of the Metacom Avenue neighborhoods and set the stage for the future.

Intent

1. Regulate development of the corridor so that Metacom Avenue is a spine or roadway through landscape character areas and does not define edges of landscape character.
2. *Smaller scale character*: Clearly define areas of smaller scale character in longer stretches and on both sides of Metacom Avenue. This may be predominantly single family but can also include denser residential use and other compatible uses with development of the appropriate scale.
3. *Larger scale character*: Concentrate mid to larger scale character where the buildings and site design has a character and sense of place of its own. These Metacom mixed use zones should be in the Tupelo, Gooding and Juniper Hill areas.
4. *Open Space /Historic*
Ref: Bristol Subdivision & Development Review Regulations Appendix F.1.B
5. *Vehicular Traffic*:
 - a. Develop a limited number of well-designed major intersections that manage volume, turning movements and key connections.
 - b. Reduce the number of side street to Metacom intersections with the expansion of north-south connections to major intersections.
 - c. Reduce the number of driveways and curb cuts.
 - d. Develop alternate north south routes to avoid local use of Metacom Avenue.
6. *Pedestrians*: Make the Metacom Avenue corridor a safe and friendly pedestrian environment with convenient sidewalks and site design for walkable communities and business development.
7. *Bicycles*: Make the Metacom Avenue corridor a safe and convenient for bicycle travel.

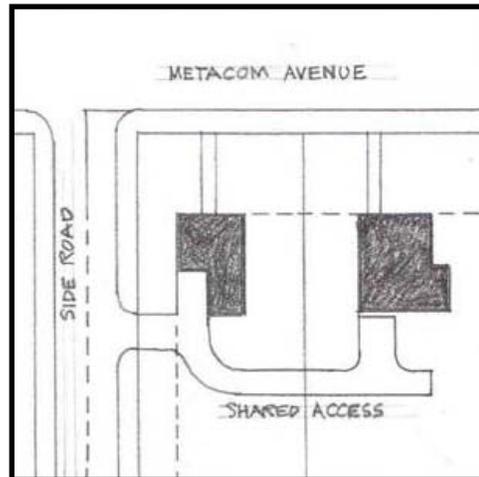


8. *Architectural character*: Make development and buildings contribute to the immediate and overall character of their environments.

Part 2: Site Design and Layout

Intent

Sites shall be designed to function efficiently and with safe, clear vehicular and pedestrian circulation. Major objectives shall be to minimize traffic congestion on Metacom Avenue and coordinate the uses of compatible adjacent properties.



Guidelines

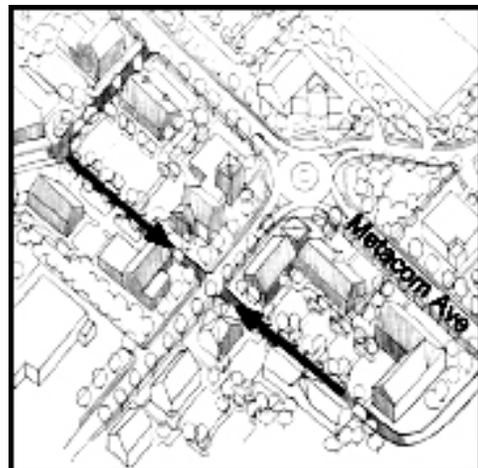
Reference: Bristol Zoning Article IX sec 28-282 and Article IX sec 28-285 Bristol Subdivision & Development Review Regulations Appendix F.1.C, F.1.D

2.1 Driveways:

- a. To the extent possible driveways shall be shared for combined access and a reduction in driveways.
- b. In residential zones, new single or double unit houses with frontage on Metacom Avenue shall access Metacom via a side road or easement to a side road wherever possible.
- c. The maximum width for a new driveway including entrance and exit lanes and island shall be 42 feet. A travel lane shall be a minimum of 10 feet and a maximum of 15 feet wide.

2.2 Alternate Access/Egress

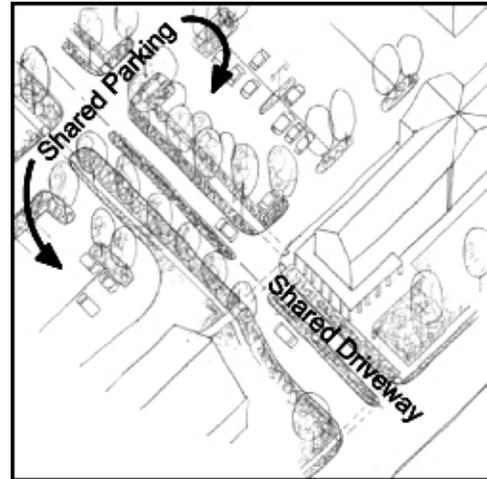
- a. Any development in a residential zone, or property that is over 100,000 square feet shall include an access to Metacom Avenue via a side street. This access route shall be direct or by easement through an abutting property.
- b. Any development within the proposed Metacom mixed use zone shall have access to Metacom Ave. via a side street that has an existing signalized



intersection or roundabout. This access route shall be direct or by easement through an abutting property.

- c. Access for proposed Metacom mixed use zone or residential zone properties over 100,000 SF shall be a two-way asphalt paved roadway.

Reference: Bristol Subdivision & Development Review Regulations Appendix F.4



2.3 Shared Parking

- a. Parking lots within Metacom mixed use zones shall have an access route for shared parking between abutting properties with compatible uses. Access to new development shall be designed for convenient access to an abutters existing lot.

Buffer exception: *Reference:* Bristol Zoning Article IX sec 28-285

2.4 Setback Exceptions

- a. New residential development fronting on Metacom Avenue in single or double unit residential zones shall have as a minimum the predominant set back of the residential properties in the area.
- b. A building at a major signalized intersection shall have minimum setback of 40 feet for a length of 100 feet from the intersecting side street to accommodate future roundabouts.
- c. The Metacom Avenue set-back dimension for cluster developments shall be a minimum of 200 feet to protect open space character.

2.5 Building Orientation

- a. Buildings fronting on Metacom Avenue shall be aligned in the same orientation to the street as adjacent buildings.

2.6 Retaining Walls

- a. Development shall be sensitive to and incorporate the natural grade of the site. Buildings should be designed to make grade transitions or stepped retaining walls with landscaping should be used. Retaining walls shall be distributed throughout the site as necessary. Perimeter walls greater than 3 feet high are prohibited without the specific approval of the Planning Board.



2.7 Space between Buildings

- a. The importance of spaces between buildings should be recognized. These spaces should have a planned and useful shape and not simply be left-over spaces.

2.8 Sidewalks

Reference: Bristol Subdivision & Development Review Regulations Appendix F. 4 .I, F. 2. F, F. 2. B (6)

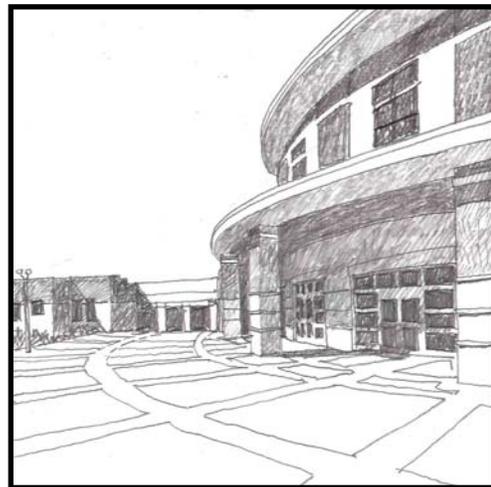
- a. Development fronting Metacom Ave. or any public street shall have a sidewalk even if adjacent properties do not have sidewalks. These sidewalks shall be 5' wide, cement concrete.
- b. Within Metacom mixed use zones, there shall be sidewalks connecting the Metacom Ave sidewalk to the main entrance of the building(s) and convenient sidewalks connecting adjacent parking lots and commercial uses.

2.9 Accessory Buildings

- a. These buildings shall adhere to the same front, side, rear yard set backs and buffer dimensions as the primary building(s).

2.10 Entrance Plazas

- a. New or renovated non-residential buildings shall have plazas, courtyards or other pedestrian spaces at or near their main entrances.
- b. These entrance spaces shall have special amenities such as:
 1. Special interest landscaping
 2. Special lighting
 3. Special paving materials, scoring, or texture
 4. Site furnishings such as benches, seating walls
 5. Bollards, bike racks or sculpture



Part 3: Architecture

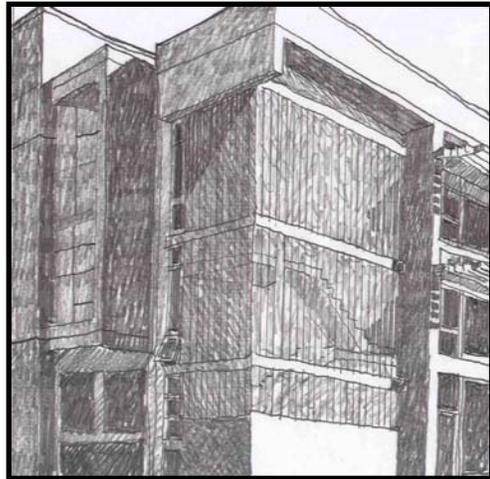
Intent

New developments shall enhance and strengthen the community and the character of the specific Metacom Avenue neighborhoods whether they be small scale residential or larger scale developments. The developments should be integrated with the surroundings in mass, scale and detailing allowing attractive neighboring architecture to inform the size, shape, style, materials and detailing of new buildings. Contemporary design for new structures, alterations or additions to existing properties however, shall not be discouraged when such design is compatible with the surrounding built environment.

Guidelines

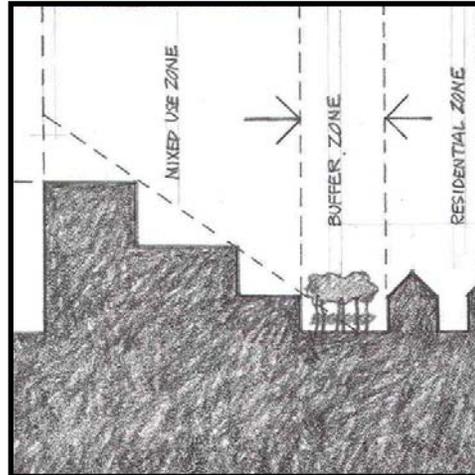
3.1. Building Mass and Scale

- a. Building mass can be defined as the building's volume or bulk and is usually used in reference to larger structures. It is important to breakup the apparent mass and scale of larger structures so that this type of development is integrated with its surroundings and does not detract from scale and sense of place.
- b. Large Format Commercial (LFC) "big box" architecture shall be prohibited. 'Logo' buildings that are incompatible with the character of the neighborhood shall be prohibited.
- c. Any building façade greater than 50 feet long shall be broken down to reduce the visual scale of the building. One or more of the following strategies shall be used.
 1. Volumes and planes can be broken or divided into smaller units.
 2. Rooflines can be varied to break up massing and provide visual interest. This can include variation in roof heights, gables, dormers, a well-defined parapet and/or upper stories off sets or changes in materials.
 3. Façades can include vertical or horizontal articulation.
 4. Pedestrian scale elements such as arcades, patios, plazas, sidewalks and other pedestrian friendly elements should make comfortable pedestrian environments.



3.2 Heights

- a. Buildings should be designed to step up in height from lower height adjacent to less intensive land uses, especially small-scale residential areas, to the new development.
- b. Dimension variation: The Metacom mixed use zone shall allow heights up to 50 feet.



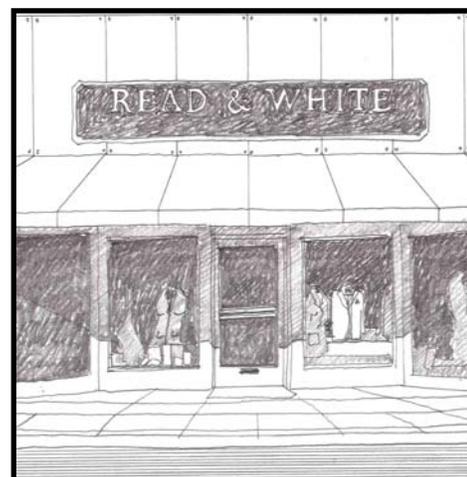
3.3 Roofs

- a. Roofs shall contribute to attractive proportions and scale of the building.
- b. Sloping roofs shall not exceed the average height of the supporting walls.
- c. The average slope shall be no less than one foot vertical rise for every three feet horizontal run and no greater than one foot of vertical rise for every one foot of horizontal run.
- d. Roof overhangs shall be a minimum of two feet beyond the supporting walls.
- e. Flat roofs shall be embellished with parapets concealing the view of the roof.
- f. The color and materials of the roof shall be consistent with the architectural character of the building and convey a sense of permanence and quality.



3.4. Façades

- a. Ground floor transparency shall provide visual connection between activities inside and outside at the ground floor level of a building. Ground floor transparency shall be calculated



in façade areas between 2 and 12 feet above average grade. Vision glass shall be used.

1. Any building less than 60' from a street shall have ground floor transparency of a minimum of 15 % for any building facade visible from a public street.
 2. In Metacom mixed use zones, any non-residential building less than 60' from a street shall have ground floor transparency of a minimum of 30 % for any building facade visible from a major street.
- b. To ensure that buildings do not display blank opaque walls, portions of ground floor façades that are not transparent shall have treatments with architectural interest and the character of the development.
 - c. *Color:* Façade colors shall be low reflectance, subtle colors typically consistent with Bristol architecture. The use of high intensity, black or fluorescent colors are prohibited. Accent and trim colors should complement and enhance the effect of the primary color. Bright corporate colors should be limited in use to signage.
 - d. Facades of adjacent buildings shall visually respect and respond to each other.

3.5 Entrances

- a. Public entrances shall be easily identified and distinct from the remainder of the building, distinguished through architectural form, such features as canopies, porticos, use of color, material, texture and/or other significant detailing.

3.6 360 Degree Design

- a. Buildings shall have well designed façades on all sides. This is considered "360° design". All sides shall be treated with the same design care, displaying continuity, harmony and aesthetic quality.

3.7 Ancillary Structures

- a. Accessory building areas such as loading docks, service, outside storage and employee areas should be consistent with the overall design of the primary building. All structures on the site and attachments or appendages to approved buildings shall be reviewed and approved in a manner similar to that of the primary structure.
- b. Dimensional variance: The height of accessory structures shall be no greater than 20 feet.



3.8. Service, Loading Areas and Equipment

- a. Trash storage areas, loading areas, mechanical equipment, transformers and similar areas with equipment shall be screened from view and shall not be accessed directly from a public street.
- b. Roof mounted mechanical equipment shall be concealed from view by screening or enclosure in a manner consistent with the architectural character.

Part 4: Sustainability / Energy Efficiency

Intent

To the maximum extent reasonably practicable, developments should utilize energy-efficient technology and renewable energy resources and shall adhere to the principles of energy-conscious design with regard to orientation, building materials, shading, landscaping, and other elements.

Guidelines

- 4.1 **LEED** ®(Leadership in Energy and Environment Design) certified buildings shall be encouraged. LEED ® establishes a system for measuring building and site performance by promoting designs that integrate energy and resource conservation. Construction shall use “green” strategies and materials to the extent possible.

- 4.2 **Solar Radiation**

New development shall maximize the benefits of solar radiation. Orientation recognized in the façade treatment, trees and shade structures shall be incorporated into designs.

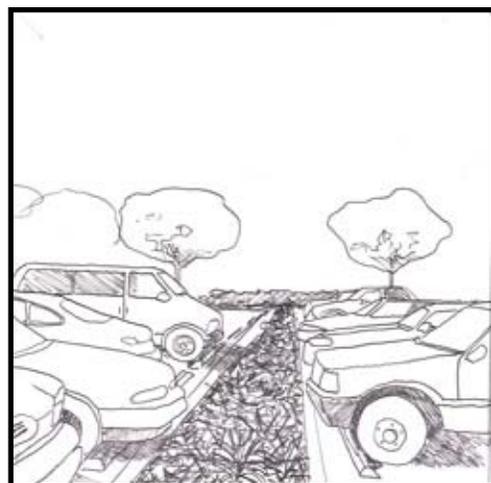
- 4.3 **Green Roof**

“Green” roofs shall be encouraged in any development design and the green roof area shall be considered non-roof for any landscape area calculation.

- 4.4 **LID (Low Impact Design)**

Strategies including vegetated swales shall be used in storm water management.

1. Vegetative uptake of stormwater pollutants
2. Pretreatment for suspended solids



3. Groundwater recharge
4. Aesthetically pleasing
5. Reduction of peak discharge rate

Part 5: Lighting

Intent

Lighting systems shall be designed, constructed and installed to control glare and light trespass, minimize obtrusive light, conserve energy and resources while maintaining safety, visibility, and security of individuals and property.

Guidelines

Reference: Bristol Subdivision & Development Review Regulations Appendix F. 2. B (12)

- 5.1 Out door lighting shall have cut-off or full cut off fixtures. Parking, security and aesthetic lighting shall shine downward.
- 5.2 Spotlights used to illuminate buildings, signs or specific amenities/features shall be located, aimed and shielded so as to minimize light trespass and uplighting.
- 5.3 The style and placement of exterior accent lighting shall enhance the building's architectural elements, such as the entrances, façade articulation, detail and landscaping.
- 5.4 Lighting shall be directed where it is needed and only at the intensity necessary to serve its purposes.
- 5.5 Curfew: All non-essential lighting shall be turned off after business hours leaving only lighting for site security.
- 5.6 Pole heights: Reference: Subdivision and Development Review Regulations. Appendix F. Pedestrian lighting poles shall be a maximum of 12'.
- 5.7 Lamp type: Metal Halide lamps are preferred. Low-pressure sodium lamps are prohibited. Incandescent lighting fixtures are acceptable only for single and two family residential uses.



5.8 Output standards:

a. Site lighting:

Zone	Maximum Foot-candle	Average Site Foot-candle	Foot-candle at Property Line*
Residential	.5	.12	0
LB	5 at entrances	1	0
GB/MMU	5 at entrances	2	0

*The Planning Board may issue approval to exceed these thresholds for projects that include joint development on abutting properties where uses/buildings/site features create a seamless transition between properties.

b. Commercial buildings and wall signs:

1. Light-medium light color surfaces: 5-10 foot-candles
2. Medium-dark color surfaces: 10-15 foot-candles

5.9 Upward search or spot lighting of the sky for entertainment or advertising purposed is prohibited.

5.10 Light used for holiday decorations for no more that 45 days and decorative lights on deciduous trees in dormant condition are exempt from the requirements of this section.

Part 6: Landscaping

Intent

Planting shall be a part of every development for energy conservation, clean air, clean water, attractive surroundings (Bristol tree image) and enhanced real estate values.



Guidelines

Reference: Bristol Subdivision and Development Review Regulations Appendix F. 2. K, F. 4. C

6.1 Top Soil/ Loam

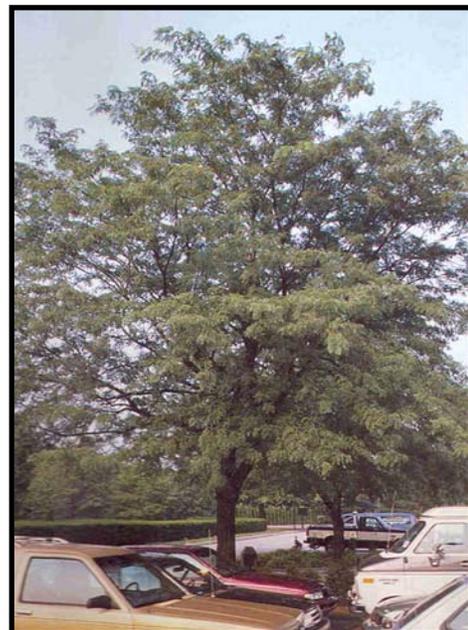
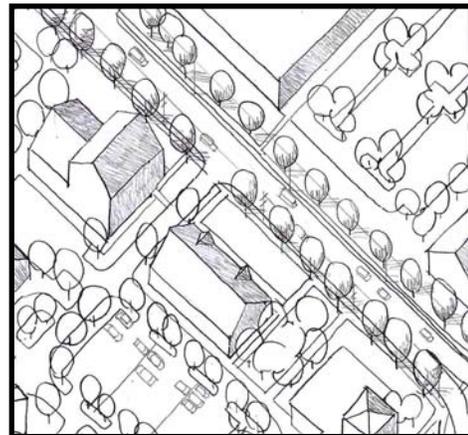
Reference: Bristol Subdivision and Development Review Regulations Appendix F. 2. B (13). f

All lawn, ground cover, shrub and tree planting shall have a minimum depth of 6" loam. Loam from the site or off site location, shall be free of debris and have been sustaining healthy plant growth.

6.2 Street Trees

Reference: Bristol Subdivision and Development Review Regulations Appendix F. 2. B (13)

- a. Metacom Avenue: Large deciduous trees shall be replanted along Metacom Ave. approx. 40' on center. They shall be 3-4' inside the sidewalk installed at the property line. Species/cultivars shall be selected from the approved tree list and consider adjacent street trees, mature street shape and size and road salt tolerance. The intent is a continuous canopy of relatively evenly spaced shade trees of similar mature size and shape. Species/cultivar diversity is acceptable.
- b. Avoid planting directly under utility lines.
- c. Minimum size at planting shall be 3-3 1/2" caliper.



6.3 Parking Lots

Reference: Bristol Zoning Article VIII sec 28-251(11)

- a. Shade trees shall be located a minimum of 4' from the face of the closest curb.



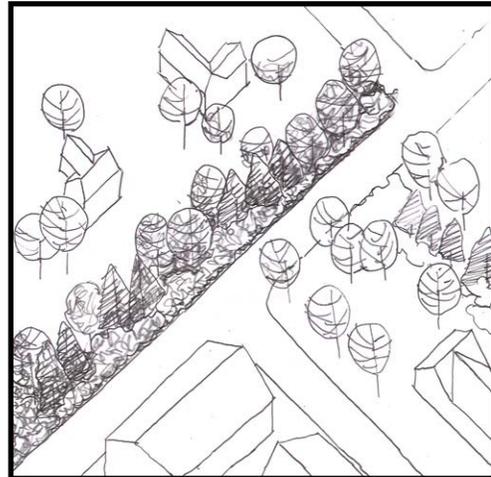
6.4 Plant diversity: Plant material should include large shade trees, smaller ornamental trees, shrubs and herbaceous plants and both evergreen and deciduous materials.

Diversity of trees over 1-1/2” cal.

- a. Where there are 50 or more trees planted no more than 30% shall be of the same species.
- b. Where there are 25- 49 trees planted, no more than 40% shall be of the same species.
- c. Where there are 10 -24 trees planted, no more than 50% shall be of the same species.

6.5 Tree canopy cover: A minimum of 20% of the non- roofed site shall have tree canopy as calculated for parking lots.

Reference: Bristol Zoning Article VIII sec 28-251 (11)



6.6 Planted Buffer: Vegetative screening between commercial, industrial and R-6 properties and properties of other residential zones shall be accomplished with dense plantings of species and size such that in a minimum of 5 years after planting the screen shall be continuous and a minimum of 10’ high and 10’ wide. It is preferred that the buffer planting include trees and shrubs, and both evergreens and dense deciduous materials.

Reference: Bristol Zoning Article VIII sec 28- 251(10)
Bristol Subdivision and Development Review Regulations Appendix F. 2. C (1)
C, F. 1. H

6.7 Maintenance: Plantings shall be watered and maintained as necessary for establishment and growth.

Reference: Bristol Subdivision and Development Review Regulations Appendix F. 2. C.(c)



Part 7: Signs

Intent

Signs should primarily be features of the mixed use higher density development areas and thus will accentuate the differences between these areas and others. They should present a clear message about the business they serve but can also add vitality and interest that contributes to the sense of place in these areas.

Guidelines

7.1 Ref. Zoning Ordinance Article X Signs.

7.2 Illumination Exception sec 28-374

- a. Signs shall not be flashing, pulsating, scrolling or animated. The image on any sign shall not change more than once in a 4 hour period.
- b. LED (Light Emitting Diode) signs are prohibited.
- c. Metallic, cloth or plastic pennants, ribbons, or fringes on strings shall be left in a place for no more than 5 days in a 60 day period.

Part 8: Design and Regulation Review Procedures

Intent

Both the developer and the Town expect a fair, logical and efficient submission and evaluation process that will facilitate development in a manner that is responsive to the guidelines and respect the site context and the Town's planning goals.

The following amendments to the development application process are intended to assure that the developer provides well thought out designs that are supported with appropriate information and that the Town receives this information in a manner necessary to meet its evaluation and decision making responsibilities.

Guidelines

8.1 Additional Appointments to the Technical Review Committee

The Technical Review Committee is currently assisted by engineering consultants. The professional consultant team should be expanded to include an architect and landscape architect, each registered in the State of Rhode Island, to assist in evaluating specific complex or contextually sensitive submissions. The consultant fees would be paid by the applicant.



8.2 Amendments to Submission Requirements

The revised site and building design criteria will require expanded submission requirements.

- a. Plans of Existing Conditions shall extend a minimum of 100 feet into the abutting sites, showing dimensions, easements, rights-of-way and all natural and manmade features.
- b. The site and building plans of the new development shall include elevations of all sides of the proposed building(s) at minimum scale of 1"=16'.
- c. Drawings shall show the relationship of the new development to site and buildings on abutting properties. Drawings shall include plan views at a minimum scale of 1"=40' and building elevations (façades) at a minimum scale of 1"=16'. Elevations shall be represented by photographs or drawings to illustrate the relationship of any new building(s) to buildings on abutting properties. Proposed landscape features shall also be shown in the context of the proposed building.
- d. Landscape plans shall be at a minimum scale of 1"=20'. Features, such as paving, fences, screens, lighting and site furnishings, shall be provided at an appropriate detail scale.

8.3 Amendments to Metacom Overlay District

If any portion of a property falls within the Metacom Overlay District then the entire property shall be subject to the rules and regulations of the Metacom Overlay District.

Reference: Appendix C of Bristol's Subdivision and Development Review Regulations of September 1995, Section B, Subdivision Plans
See Sec. 28-285 Route 136 Overlay



RECOMMENDED TRAFFIC IMPROVEMENTS



Recommended Traffic Improvements

A range of traffic improvements are proposed for Metacom Avenue to create a safer corridor that supports both existing and future land use. One primary objective is to make the corridor a more attractive residential neighborhood by providing crosswalks, share the road and off road bicycle facilities, and left turn lanes. A secondary objective is to increase opportunities for multimodal transportation as an alternative to private vehicles. Roundabouts are proposed not only to improve traffic operations but to create gateways to Metacom Avenue. It is NOT recommended that Metacom Avenue be widened to four lanes, recognizing the potential social, economic and environmental impacts of building our way out of congestion.

Metacom Avenue, Route 136, is a state road and as such, most upgrades will be conducted by the Rhode Island Department of Transportation (RIDOT). Recommendations outlined in Section 5 are based on the assessment of existing conditions, as presented in Section I: Existing Conditions. Short- and long-term improvements are presented for implementation.

Future RIDOT traffic improvements on Metacom Avenue should integrate Context Sensitive Design to ensure that important features and resources along the corridor are considered during project development. Identified by the U.S. Department of Transportation, Federal Highway Administration, Context Sensitive Design is:

“A collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. It is an approach that considers the total context within which a transportation improvement project will exist. Principles include the employment of early, continuous and meaningful involvement of the public and all stakeholders throughout the project development process”.

In addition to Context Sensitive Design, RIDOT access management principles and techniques as promoted in the National Academies Transportation Research Board’s (TRB) Access Management Manual 2003, should be applied to the Metacom Avenue corridor. TRB provides the following definition of access management in its 2003 manual:

“Access management is the systematic control of the location, design and organization of driveways, median openings, interchanges and street connection to a roadway. It also involves roadway design applications, such as median treatments, auxiliary lanes, and the appropriate spacing of traffic signals.”

Short-Term Recommendations

Short-term recommendations are those that may require only minor right of way or property acquisition for implementation. A number of short-term recommendations have been



developed during stakeholder committee meetings and discussions with town officials to improve traffic flow and safety and improve pedestrian and bicycle connections. Recommended improvements are illustrated in Figures 5.1.1, 5.1.2, and 5.1.3. These recommendations include a TIP application to RIDOT for Study and Design to incorporate left-turn lanes and sidewalks throughout the Metacom Avenue corridor. In addition, requests of RIDOT to conduct a speed study to consider reducing speed limits, adjust signal timings to reflect speed study findings, and to install crosswalks at signalized intersections are also included in the short-term recommendations.

The state-owned right of way at Metacom Avenue signalized intersections is generally 60 feet in width. The typical roadway section in the north portion of the corridor includes two approximate 12-foot wide travel lanes separated by a double yellow centerline. Approximate 6-foot wide shoulders on the northbound and southbound sides of Metacom Avenue between Tupelo Street and Bay View Avenue are separated from travel lanes by a solid white edge line. The existing typical section is presented in Figure 5-2. Recommended improvements are indicated in the lower portion of the figure. As indicated, there is generally sufficient roadway width for two 12-foot travel lanes, a 16-foot center left turn lane, a five-foot offset for “share the road” bicycling, and a 5-foot sidewalk on either side. Utility pole relocation would likely be required to accommodate these improvements.

Left-Turn Lanes

Construction of dedicated left turn lanes at intersections with the highest number of accidents would improve safety and capacity on Metacom Avenue. Intersections with a high volume of left turning movements could also benefit from a dedicated left turn lane by increasing capacity. RIDOT is currently undertaking a High Hazard Project at four of the top ten accident locations on Metacom: Tupelo Street/Michael Drive (67 accidents over the three-year period), Chestnut Street (44 accidents) /Annawamscutt Drive (51 accidents), and Bay View Avenue (84 accidents). As indicated in Section 1 for the three-year period 2003 to 2005, with the exception of the High Hazard intersections, the highest numbers of rear end collisions were reported at Fatima Drive (38), Sherman Avenue (36), and Robin Drive (19).

These crashes were caused by stacking of traffic waiting to make a left hand turn, driver inattention or insufficient passing room for through vehicles passing left turn vehicles. Fatima Drive, Sherman Avenue, and Robin Drive intersections with Metacom Avenue could benefit from the construction of dedicated southbound left turn lanes to mitigate the high number of rear-end collisions and facilitate access to adjacent neighborhoods. Based on available information, a 60-foot right of way at intersections is sufficient for construction of left turn lanes as indicated in Figure 5.2. Further analysis is required to determine potential wetlands permitting requirements at the Fatima Drive intersection. Although the addition of a designated left turn lane at Robin Drive could hinder motorists from entering and exiting driveways, it would not eliminate vehicular access to these locations. Proposed left turn lanes are indicated in Figures 5.1.1 and 5.1.2.

As RIDOT is conducting High Hazard investigations of the four intersections with the highest number of accidents, recommendations for these intersections have not been conducted as part of the Metacom Avenue Corridor Management Plan. Based on the high number of rear-end accidents at these intersections, it is likely that dedicated left turn lanes at these locations could improve safety and capacity on Metacom Avenue.



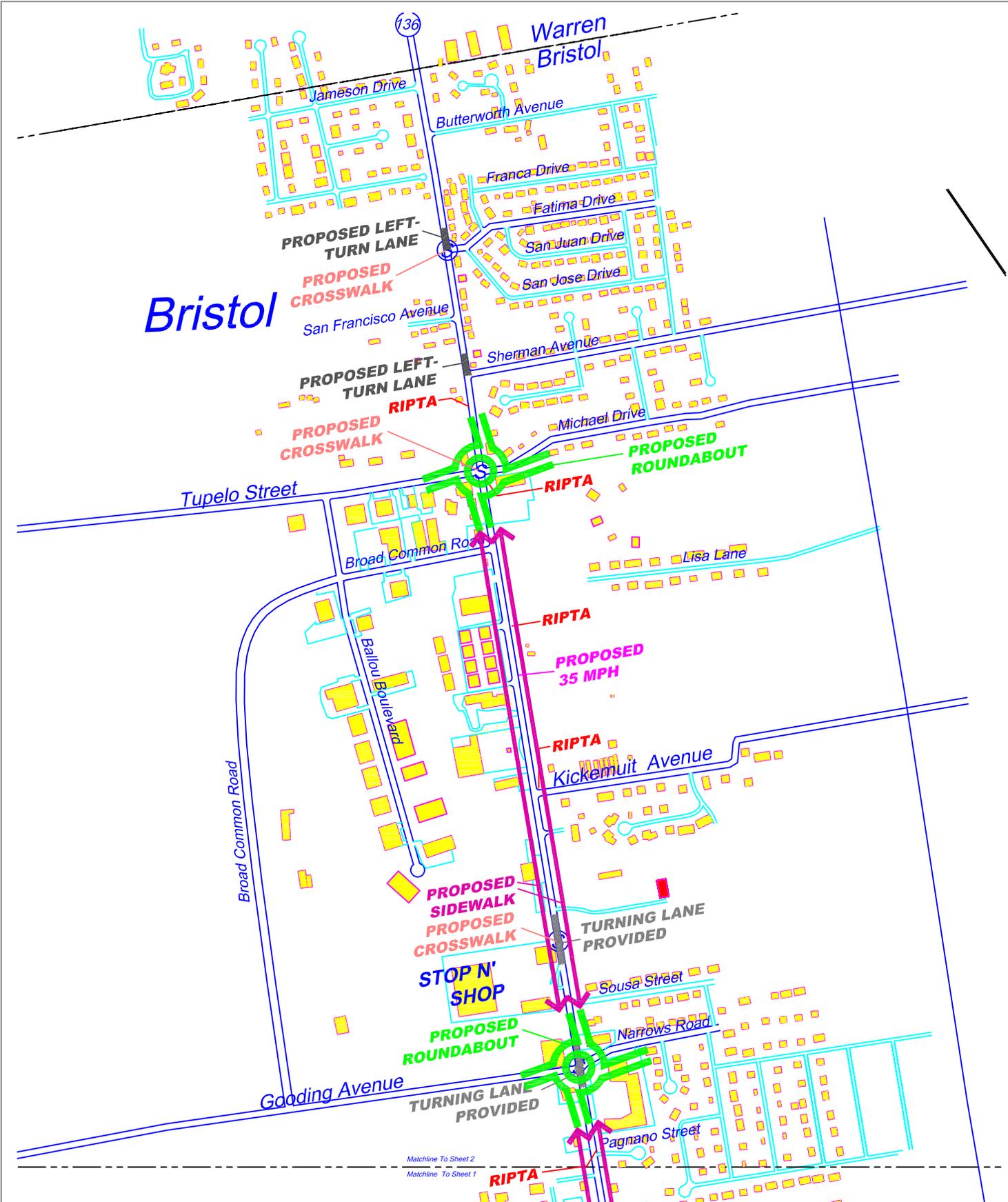


Figure 5.1.1

- References:
 1. Bristol Assessor's Plans.
 2. USGS Topographic Map.

PROPOSED TRAFFIC IMPROVEMENTS TUPELO

Metacom Avenue Corridor Management Plan
 Bristol, Rhode Island



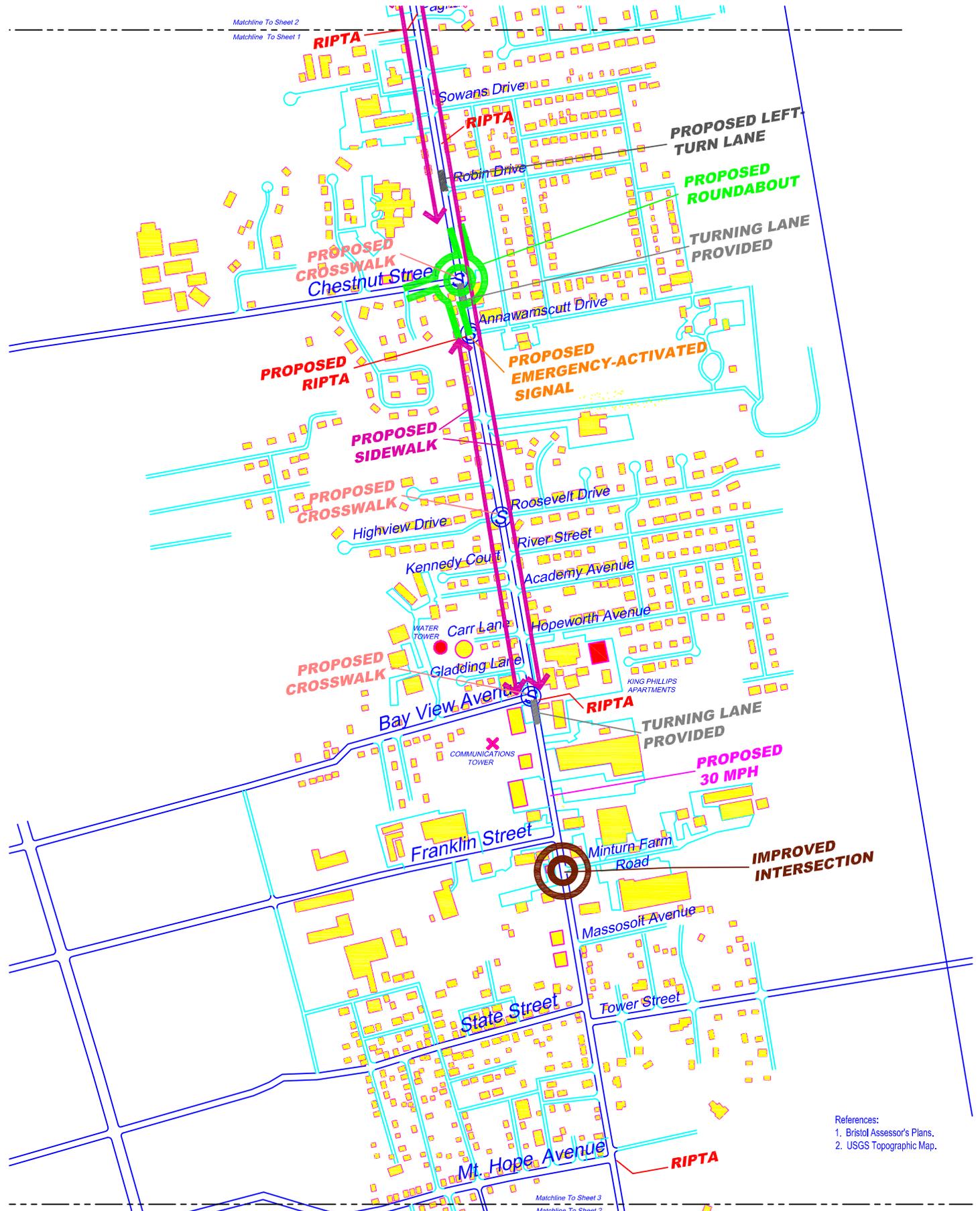
MARCH 2007 SCALE: 1"=750'



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Matchline To Sheet 2
Matchline To Sheet 1



- References:
 1. Bristol Assessor's Plans.
 2. USGS Topographic Map.

PROPOSED TRAFFIC IMPROVEMENTS JUNIPER HILL

Metacom Avenue Corridor Management Plan
 Bristol, Rhode Island

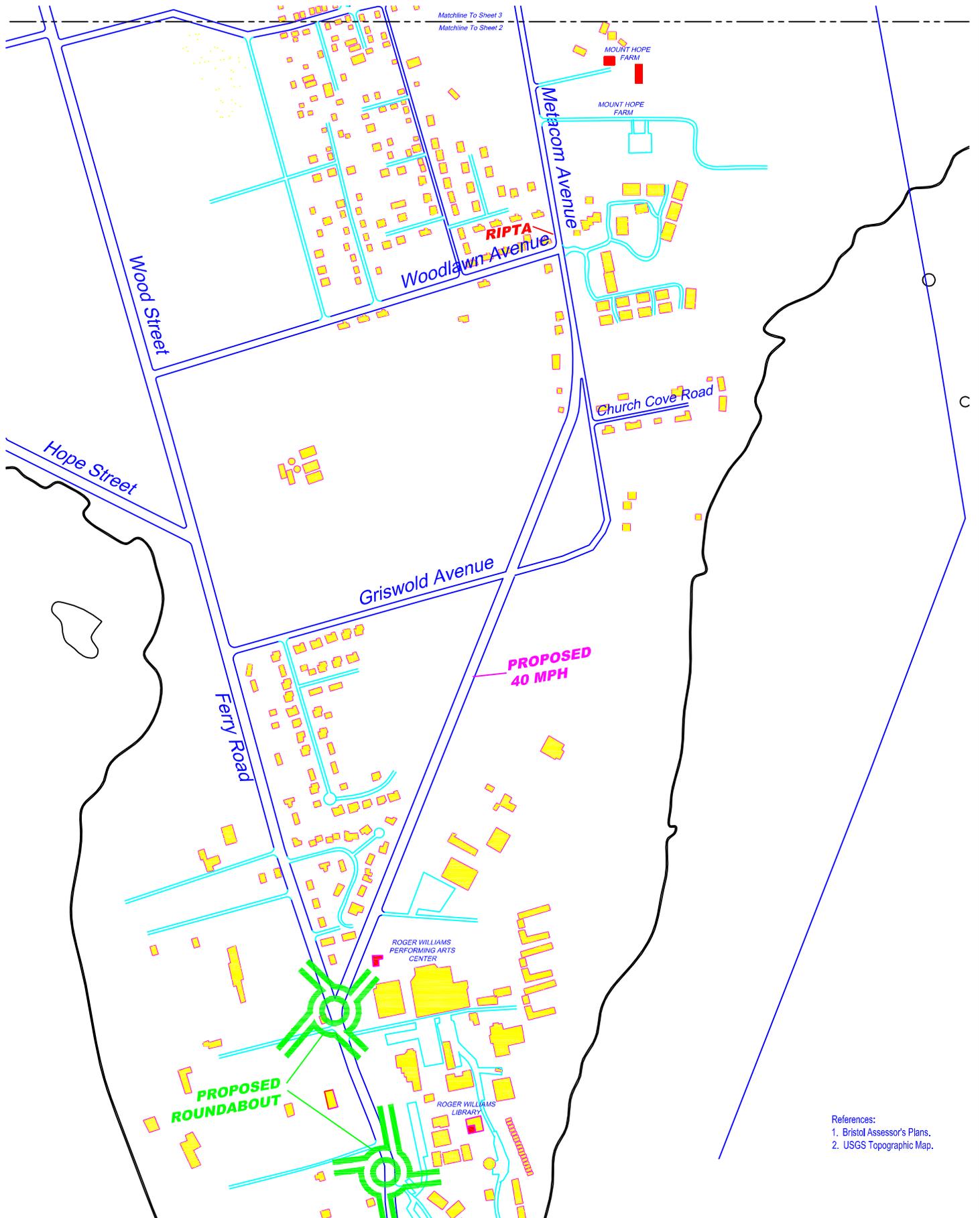


Figure 5.1.2



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Matchline To Sheet 3
 Matchline To Sheet 2



- References:
 1. Bristol Assessor's Plans.
 2. USGS Topographic Map.

PROPOSED TRAFFIC IMPROVEMENTS

MOUNT HOPE

Metacom Avenue Corridor Management Plan
 Bristol, Rhode Island



Figure 5.1.3



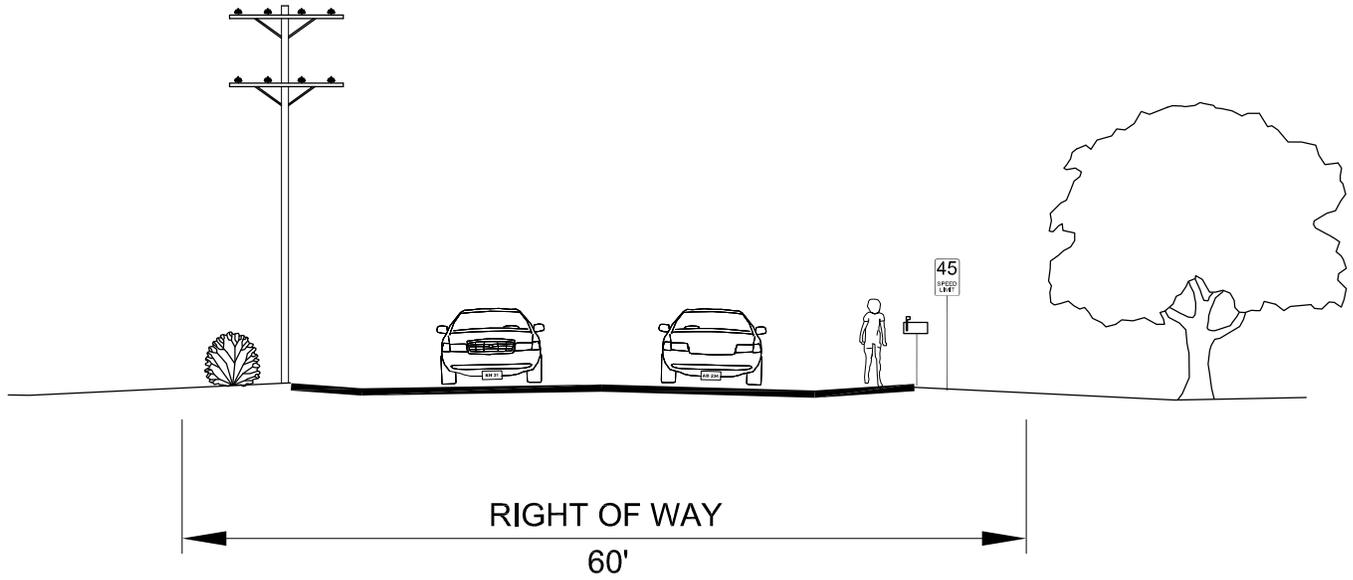
MARCH 2007 SCALE: 1"=750'



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EXISTING ROADWAY SECTION



POTENTIAL ROADWAY SECTION

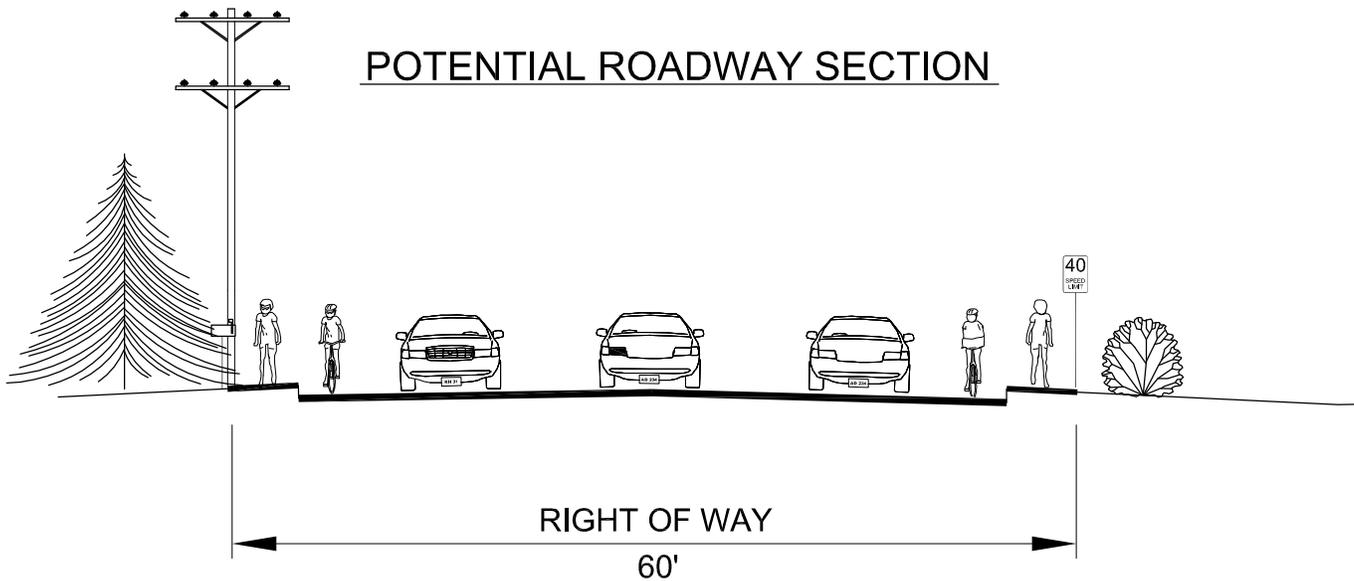


Figure 5.2



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EXISTING and PROPOSED TYPICAL SECTION

Metacom Avenue Corridor Management Plan
Bristol, Rhode Island

MARCH 2007

The State Traffic Commission will consider a request for dedicated left and right turn lanes at ten locations on Metacom Avenue at its March 14, 2007 hearing. With the exception of a dedicated southbound left turn lane and a dedicated northbound right turn lane onto Fatima Drive, and a dedicated southbound right turn lane at Gooding Avenue, seven of the requests for traffic safety improvements are located at High Hazard intersections and are therefore subject to evaluation by RIDOT. As indicated above, the Metacom Avenue Corridor Management Plan recommends that a dedicated southbound left turn lane be implemented at Fatima Drive. Further turning data analysis is required to determine the need for dedicated right turn lanes at any intersection. Generally very high right turning movements are required to warrant construction of right turn lanes since it is more difficult to document project benefit with these improvements. It is unlikely that the existing 60-foot right of way is sufficient to accommodate two sidewalks, two paved shoulders, dedicated right lane, two through travel lanes, and a dedicated left turn without right of way acquisition. Through public outreach for the Metacom Avenue Corridor Management Plan, the need for continuous sidewalks has received a higher priority than construction of dedicated right turn lanes.

Speed Limits

By posting appropriate speed limits, motorists' sense of expectation or entitlement to travel at high speed would be reduced. The potential for accompanying "road rage" would be minimized and safety increased. Based on data collected during spot speed studies performed on December 21, 2006, given the dense development pattern of the corridor and the numerous signalized intersections, posted speed limits are inconsistent with one's ability to comfortably maneuver through the Metacom Avenue corridor.

The Town of Bristol should request that RIDOT conduct a speed study to consider reducing posted speed limits in all three sections of the study. Based on preliminary data collected, consideration should be given to reducing the Tupelo section speed limit to 35 mph (from 45 mph), the Juniper Hill section to 30 mph (from 35/40 mph), and the Mount Hope section to 40 mph (from 45 mph), as indicated in Figures 5.1.1, 5.1.2, and 5.1.3. Local enforcement will be necessary to assure that posted speed limits are maintained.

Signals/Signalization

As indicated in Section 1, RIDOT currently maintains several integrated traffic signal systems on Metacom Avenue. The Tupelo Street and Fatima Drive signalized intersections are interconnected as one system and signalized intersections at the Stop & Shop entrance, Gooding Avenue, Chestnut Street, Roosevelt Drive, and Bay View Avenue are interconnected as a second system. The Annawamscutt Drive signal is controlled by the Chestnut Street signal equipment. These two signalized intersections have a fire pre-emption phase controlled by the Hydraulion fire station on Annawamscutt Drive.



*Annawamscutt/Metacom
signalized intersection.*

It is recommended RIDOT reevaluate signalized intersection interconnections for the two systems, and adjust signal timing to reflect speed study findings. Due to the close proximity of the Chestnut Street and



Annawamscutt Drive signals, and vehicle stacking that occurs both north and southbound, it is recommended that the Annawamscutt Drive traffic signal become an emergency-activated only signal, through a fire pre-emption device controlled at the fire station. Consideration should also be given to adjusting the signal at Bay View Avenue, such that CVS does not have priority.

Sidewalks

Pedestrian safety would be enhanced with construction of sidewalks along Metacom Avenue. Sidewalks would also connect neighborhoods, encourage walking as a means of exercise, and reduce local vehicle trips on Metacom Avenue. Sidewalks are especially important near Stop & Shop, Belltower Plaza, and in the vicinity of the Veteran's Home.

An elevated bituminous pavement area or raised paved shoulder along the north and southbound sides of Metacom Avenue between Gooding Avenue and Bay View Avenue is used by pedestrians and as a mountable area for vehicles to pass left turning vehicles. Catch basins throughout this section collect roadway drainage in the paved gutter or swale between the white stripe and the raised pavement area. As indicated in the accompanying photo, the existing raised sidewalks/shoulders are not clearly delineated by curbs or other markings for pedestrian use.

Worn paths or "desire lines" observed along Metacom Avenue north of Gooding Avenue, indicate that pedestrians currently walk along unpaved areas including the unpaved area to the rear of the guardrail across from Stop & Shop. Pedestrian travel is impeded by snow, mud and vegetation. The need for guardrails across from Stop & Shop should also be evaluated.

It is recommended that five-foot cement concrete sidewalks with curbing be installed from Tupelo Street to Bay View Avenue, along both the northbound and southbound sides of Metacom Avenue, as indicated in Figure 5.1.1 and 5.1.2. Future extension south to Franklin Street and Minturn Farm Road should be considered as development warrants. Proposed sidewalks are also included in the proposed typical section presented in Figure 5.2. It is expected that drainage in the Juniper Hill section of Metacom Avenue (within existing raised paved shoulder areas) will not be impacted negatively by the addition of sidewalks since the area is already elevated, channeling stormwater runoff to the gutter/swale. The surface area proposed for sidewalks would not increase stormwater flow to the catch basins, especially south of Gooding Avenue.



Elevated sidewalks along Metacom Avenue northbound.



Worn desire line northbound along Metacom Avenue, at Stop & Shop driveway entrance.



Preliminary investigation into the installation of sidewalks assumes that additional drainage structures may not be necessary. It is recognized that RIDOT may require additional drainage studies for the installation of sidewalks in accordance with its policy. Transportation Improvement Program (TIP) sidewalk projects are required to begin at the study and development phase and are typically not eligible for funding in the 1R resurfacing program.

ADA-accessible Crosswalks/ /Pedestrian Phase Signals



New pedestrian signal head at Tupelo/Metacom intersection.

The addition of sidewalks, ADA-accessible ramps, pedestrian signals and crosswalks at signalized intersections would connect neighborhoods across Metacom Avenue, make residential neighborhoods fronting on Metacom Avenue more attractive and safer, and provide access to area businesses.

Several signalized intersections are proposed for crosswalk construction as indicated in Figure 5.1.1 and 5.1.2. Metacom Avenue signalized intersections with Fatima Drive, the Stop & Shop entrance, Chestnut Street, Roosevelt Drive, and Bay View Avenue do not currently have crosswalks, pedestrian

phase signals or ADA-accessible ramps. The installation of such devices could improve safety and walkability at these locations and reinforce neighborhood connections.

Although RIDOT recently installed pedestrian signal heads at the intersection of Tupelo Street and Metacom Avenue, signal timing adjustment is required to assure sufficient time is available to safely cross. The installation of crosswalks and ADA-accessible ramps at this location would improve safety and walkability as well. It is not clear if these will be installed as part of the recent RIDOT construction contract. The intersection of Metacom Avenue and Gooding Avenue has recently been upgraded and appropriate pedestrian safety measures have been installed at this location.

RIPTA Bus Stops

An additional RIPTA bus stop is recommended at Annawamscutt Drive to facilitate access to the Veteran's Home, as indicated in Figure 5.1.2. With construction of sidewalks, crosswalks, and pedestrian signals on Metacom Avenue, this corridor would be more attractive for ridership. As ridership increases, capacity, safety, and air quality on Metacom Avenue would also improve.

Bicycle Facilities

Both on- and off-road bicycle facilities are proposed by others along the Mount Hope Bay shore to encourage cycling as a means of transportation. RIGIS land use data for 1998 includes a bicycle route paralleling Metacom Avenue north of Chestnut with connections to Mount Hope Bay at Annawamscutt Drive and east of Bay View Avenue. Connections are also shown extending from Ferry Road northward along Mount Hope Bay. These off-road routes are indicated in Figures 1.3.1, 1.3.2 and 1.3.3, Land Use.



Further analysis is required to determine the feasibility of designating the Metacom corridor for a “share the road” bicycle facility. As indicated in Figure 5.2, sufficient right of way appears to be available for a 5-foot paved shoulder / “share the road” bicycle facility.

Neighborhood Interconnections

Many plats east of Metacom Avenue were developed prior to the time when the importance of interconnecting neighborhoods was recognized. Access to many of these neighborhoods is limited to one Metacom Avenue intersection. As part of the Metacom Corridor Management Plan, a series of neighborhood interconnections are proposed to facilitate vehicular and emergency access and to reduce volumes on Metacom Avenue, especially for many short trips. Vehicular connections would also enable motorists (predominantly neighborhood residents) to avoid Metacom Avenue or to maneuver to signaled intersections where safety is increased for turning movements. Implementation of these connections should be considered as opportunities arise. Sidewalk and bicycle connections are priorities for implementation in areas where vehicular connections are not feasible. Proposed neighborhood interconnections are presented in Figure 2.1.

Long-Term Recommendations

A number of long-term recommendations have been identified. These recommendations include options that require right of way acquisition or more extensive utility relocation and are therefore more costly to implement. Recommendations include consideration of roundabouts at several high-hazard, signalized intersections (Tupelo Street/Gooding Avenue/Chestnut Street) and an improved intersection at Minturn Farm Road.

Roundabouts

Roundabouts often decrease severity of crashes, reduce delays, and improve capacity when compared to a signalized intersection. The addition of roundabouts within this heavily signalized area could improve traffic flow through the entire corridor. Roundabouts also are important urban design elements, providing opportunities for landscaping and welcome signage.

Installation of roundabouts at Tupelo Street, Gooding Avenue, and Chestnut Streets intersections with Metacom Avenue are long-term recommendations of the corridor management plan. Proposed roundabout locations are indicated in Figures 5.1.1, 5.1.2, and 5.1.3. A roundabout at Tupelo Street /Michael Drive would serve as a northern Metacom gateway to Bristol and create a positive visual image not just for Tupelo but for the commercial area extending south to Gooding Avenue. Two roundabouts currently under design in the vicinity of Roger Williams University will provide northbound gateway entrances at the south end of Bristol. We recommend that RIDOT include an investigation of the potential for roundabouts at Tupelo and Chestnut Street intersections as part of the current High Hazard Program.



Gooding/Metacom intersection recently completed improvements.



Urban single-lane roundabouts are proposed at Tupelo Street, Gooding Avenue and Chestnut Street. An urban single-lane roundabout has a recommended maximum entry design speed of 20 mph and typical inscribed circle diameter of 100 to 130 feet. Each intersection reviewed has right of way constraints for the installation of a roundabout of this dimension. The existing right-of-way at Metacom Avenue intersections is approximately 60 feet wide. Relocation of utility poles and driveway locations, and grading issues are design issues that must be investigated further. As residential or commercial acquisition would likely be required for construction of most of these roundabouts, it is important for the Town to require an adequate building setback as adjacent properties come up for redevelopment.

Improved Intersection

The intersection of Metacom Avenue and Minturn Farm Road, south of Franklin Street, is recommended for modifications/improvements to accommodate potential future redevelopment of the municipal landfill or other properties in the Juniper Hill area. Project applicants would be responsible for traffic mitigation in accordance with requirements outlined in the Metacom Overlay zone. As indicated in proposed zoning amendments presented in Section 4, applicants must consider roundabouts as an alternative to signalization.



APPENDICES

APPENDICES



**STAKEHOLDER MEETINGS AND PUBLIC
WORKSHOPS**



Metacom Avenue Corridor Plan

Stakeholder Meeting 1

November 30, 2006

Agenda

Diane Williamson – Town of Bristol

John Shevlin, PE, Pare Corporation

Pamela Sherrill, AICP, Pare Corporation - Project Manager

Meeting Objective

Scope of Work

Schedule

Derek Bradford , AIA, RIBA, ASLA, Bradford Associates

Visual Analysis

Establishing the View Corridor

Establishing Landscape Character

Stakeholder Discussion

Next Steps

Thursday, January 4, 2007 - Stakeholder Meeting 2

Thursday, January 11, 2007 – Public Workshop 1

Thursday, January 25, 2007 - Stakeholder Meeting 3

Bristol Rhode Island

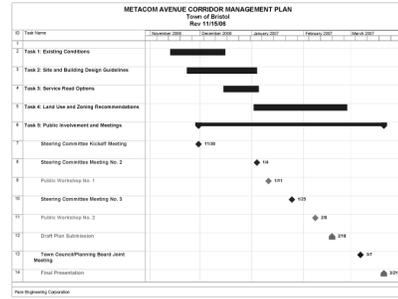
Metacom Avenue Corridor Management Plan



**First Stakeholder Meeting
11.30.06**

**Pare Corporation
Bradford Associates**

Schedule



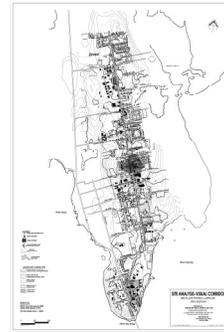
Metacom Avenue Corridor Management Plan

Access Road Area



Metacom Avenue Corridor Management Plan

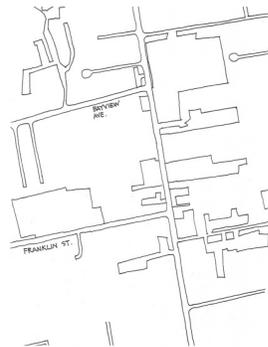
Visual Analysis



Metacom Avenue Corridor Management Plan

Visual Analysis - Process

- roadways



Metacom Avenue Corridor Management Plan

Visual Analysis - Process

- roadways
- topography



Metacom Avenue Corridor Management Plan

Visual Analysis -Process

- roadways
- topography
- building footprints

Metacom Avenue Corridor Management Plan

Visual Analysis - Process

- roadways
- topography
- building footprints
- vegetation

Metacom Avenue Corridor Management Plan

Visual Analysis - Process

- roadways
- topography
- figure ground
- vegetation
- station points

Metacom Avenue Corridor Management Plan

Visual Analysis - Process

- roadways
- topography
- building footprints
- vegetation
- station points
- typical north view

Metacom Avenue Corridor Management Plan

Visual Analysis - Process

- roadways
- topography
- building footprints
- vegetation
- station points
- typical north view
- typical south view

Metacom Avenue Corridor Management Plan

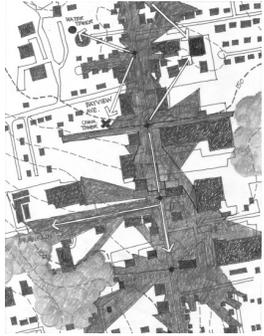
Visual Analysis - Process

- roadways
- topography
- building footprints
- vegetation
- station points
- north view
- south view
- complete view corridor

Metacom Avenue Corridor Management Plan

Visual Analysis - Process

- roadways
- topography
- building footprints
- vegetation
- station points
- typical north view
- typical south view
- complete view corridor
- distant views



Metacom Avenue Corridor Management Plan

Visual Analysis - Process

- roadways
- topography
- building footprints
- vegetation
- station points
- typical north view
- typical south view
- complete view corridor
- distant views
- visual incident



Metacom Avenue Corridor Management Plan

Visual Analysis – Landscape Character

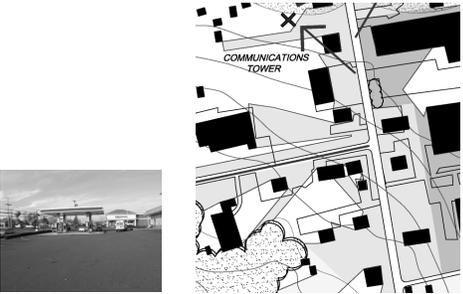
- small scale



Metacom Avenue Corridor Management Plan

Visual Analysis – Landscape Character

- medium scale



Metacom Avenue Corridor Management Plan

Visual Analysis – Landscape Character

- large scale



Metacom Avenue Corridor Management Plan

Visual Analysis – Landscape Character

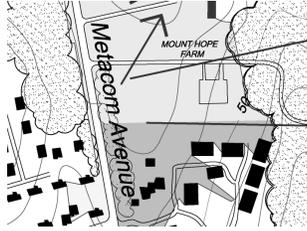
- small to medium scale
- open space/ agricultural



Metacom Avenue Corridor Management Plan

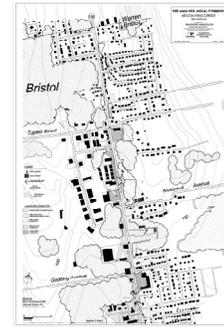
Visual Analysis – Landscape Character

- large scale open space
agricultural or
dense woods



Metacom Avenue Corridor Management Plan

Visual Analysis



Metacom Avenue Corridor Management Plan

Visual Analysis



Metacom Avenue Corridor Management Plan

Visual Analysis



Metacom Avenue Corridor Management Plan

Visual Analysis



Metacom Avenue Corridor Management Plan



MEMORANDUM OF MEETING

DATE: November 30, 2006

TO: Diane Williamson, AICP, Town of Bristol

CC: John Shevlin, Sara Bradford

FROM: Pamela Sherrill, AICP

RE: **Metacom Avenue Corridor Plan
Steering Committee Meeting 1
Pare Project No. 06250.00**

The first steering committee meeting for the Metacom Avenue Corridor Plan was held Thursday, November 30 at Bristol Town Hall. The meeting was attended by sixteen individuals including representatives of the Steering Committee and consultant team, Pare Corporation and Bradford Associates. The steering committee includes residents and business people from the corridor, members of the Planning Board, Planning Department, elected officials and representatives of Rhode Island Statewide Planning Program and Rhode Island Department of Transportation. See attached sign in sheet, agenda and schedule.

Project objectives include the following:

- To provide a conceptual service road layout between Tupelo Street and Gooding Avenue.
- To provide site design guidelines to be adopted in conjunction with building design guidelines, illustrating how the requirements of the Metacom Avenue Overlay can be achieved.
- To examine land uses and provide zoning amendment recommendations for uses that are not heavy traffic generators.

Pam Sherrill, Pare Corporation planner and project manager opened the meeting by providing highlights of the scope of work and the anticipated project schedule. John Shevlin, Pare Corporation, provided information on Task 1, Existing Conditions and Task 3, Service Road. Ms. Sherrill indicated that one of the project objectives for Task 4, Land Use and Zoning, will be to recommend amendments to the zoning ordinance for commercial design guidelines in the Metacom Avenue corridor. Many of the design changes, access improvements, and landscaping may only be effectuated when property is redeveloped. It is likely that many of the post-World War II buildings along the corridor may be redeveloped in coming years and that farms will continue to be developed for other uses.

Derek Bradford, Bradford Associates provided a visual analysis of the corridor (Tasks 1, Existing Conditions, and Task 2, Site and Building Design Guidelines). The following components create the

character of the viewshed (view from the road): roads and topography, building footprints, and vegetation as they define, limit and frame the view corridor. Distant views also define the view corridor. Mr. Bradford presented a map of the corridor with the viewshed identified every 500 feet along the roadway according to scale:

- Fine grained or low scale: residential
- Medium scale: including areas where building are bigger with more space between
- Large scale or large grained landscape with major commercial buildings such as a Toyota, Stop & Shop, Benny's, and large buildings at Bay View
- Incident views
- Large scale open space and agriculture

Ms. Sherrill opened the floor to discussion. The following highlight key points:

- Fifteen years ago Metacom Avenue was an industrial corridor and Hope Street was the beautiful downtown street. Traffic today is much worse on Metacom. As the number of signals increases, traffic backs up. Left turning vehicles also back traffic up since there are few left turn lanes.
- Additional outreach should be considered to the general public. How about a survey or questionnaire, possibly using Roger William University students? *Response:* the public will be invited to the public meeting in mid January. The steering committee is the choir to get the word out to the community.
- Geometric improvements at the intersection at Gooding and Narrows (Walgreen's) were recently completed but it continues to be backed up. Signal timing may require adjustment.
- Bob Rocchio, RIDOT, indicated that several Metacom Avenue intersections may be candidates for roundabouts to eliminate traffic signals, increase safety, provide continuous flow on Metacom, and enable access from side streets. Splitter islands provide refuge so pedestrians can cross one lane of traffic at a time. Roundabouts enable u-turns for access to areas where the splitter lane blocks left turns. FHWA provides 100% funding for roundabouts (a state contribution is not required). Roundabouts may be considered for Tupelo Road as a gateway to Bristol from the north, at Annawamscutt/Chestnut, and at Roger Williams University (currently under design). Roundabouts and splitter medians may be landscaped. RIDOT will present information on roundabouts at the second steering committee meeting on January 4, 2007.
- Road diets or reduced width of travel lanes can be considered as a traffic calming measure.
- Median turning lane may be considered to reduce congestion from left-turning vehicles.
- Pedestrian access is limited in the corridor. Sidewalks are only in limited areas. Well worn paths (pedestrian desire lines) are located along the roadway. Few areas have sidewalks or crosswalks. It is not safe to walk along Metacom Avenue, especially in areas with steel guardrails. It is not safe to cross the road (therefore more vehicle trips are made). It is not safe to walk from the apartments near Broad Commons to Stop & Shop or to cross from Gil's Appliance to the Dunkin Donuts near Bay View. A pedestrian signal has been installed at Tupelo.

- RIPTA provides bus service to Metacom Avenue on only a few of the Route 60 runs (most are on Hope Street). To increase use of bus transportation as an option to the private vehicle, pedestrian access must be improved with sidewalks, crosswalks, and bus stops.
- Aesthetics should be improved along Metacom. Landscaping and street trees would help make this area more attractive. Areas that currently have good aesthetics (including adjacent woods, stone walls, and street trees) need to be preserved. The character of the road should be changed, to create a sense of place. This road should have a positive image or identify (or several identities) so that it isn't the backside of Bristol. Zoning amendments need to reflect the importance of aesthetics.
- Access to and from streets east of Metacom is very important. These neighborhoods can be isolated from the rest of Bristol by traffic on Metacom. The study must emphasize connections to these neighborhoods. Transportation Resource Board (TRB) *Access Management* is a good resource.
- Need to consider safety for bicyclists. Narrow lane width and curb cuts make bicycling dangerous.
- Conditions are especially dangerous at the left turn at CVS, for pedestrians at Bay View (RWU students), and at the Dunkin Donuts where backups for the drive-in block the Metacom travel lane.
- One source of frustration for motorists is that travel speeds may actually be below posted speeds due to limited distance between signalized intersections, left turning traffic, and traffic from side streets. Posted speeds are determined by RIDOT based on the travel speed of 85% of the traffic. The last speed study may have been conducted years ago, prior to installation of many traffic signals. The Town may request that RIDOT conduct a new speed study to determine if posted speeds should be decreased to reflect current conditions. Increased enforcement is important in assuring that speed limits are maintained.
- Peak traffic volumes are Friday afternoons, especially in summer.
- Access management and connections between businesses are very important. Alternatives to Metacom Avenue are needed. These can include a service road between Tupelo and Gooding, interconnections between parcels, sidewalks, crosswalks, and bicycle facilities. It is important to provide options to get from place to place to reduce dependence on private vehicles and to encourage healthy life styles.
- Curb cuts and access points must be limited to Metacom Avenue. The Town has done a good job in limiting curb cuts for new development / redevelopment through the Metacom Avenue Overlay District regulations. Interconnections between parcels create opportunities for shared parking and reduce the need for large parking lots.
- Although RIDOT completed 10% plans for widening Metacom Avenue to 4 lanes in the 1980s, it is very unlikely that additional lanes would be constructed throughout the Bristol section. We cannot build our way out of congestion. Steering committee members indicated that they don't like the 4-lane section in Warren. The Planning Department considers the proposed 4-lane layout line to assure that sufficient setback to new buildings is provided in the event the road is ever widened.
- The Metacom Overlay district specifies a maximum building setback with parking to the rear or side. Reduced setbacks help calm traffic (lower speeds) and create a sense of place

that is more recognizable for motorists. The setback should be varied, however, to define different areas or contexts within the corridor.

- There was a discussion regarding what areas should be considered as focal points with unique character in the corridor. Three areas were discussed: the Tupelo intersection as the northern gateway to Bristol, State Street/Juniper Hill area as a mid-focal point, and the area by the Mount Hope Bridge as a southern gateway.
- Two areas subject to change in coming years will be used as examples of design guidelines: Tupelo to Gooding at the northern gateway and State to Franklin.
- Context Sensitive Design (CSD) may be considered for roadway improvements. In prior years rigid design standards were required for any state or federally-funded roadway projects. With CSD, community character may help define roadway design elements.
- Traffic congestion is adversely affecting businesses along the corridor.

The next steering committee meeting will be held Thursday, January 4, 2007 at 5:30 PM. Location to be determined.

Metacom Avenue Corridor Plan

Stakeholder Meeting 1

November 30, 2006

Please Sign In!

Name	Address	E-mail
Michael C. Moran	1 Capitol Hill, Prov. RI	mmoran@planning.state.ri.
Jacky Ko	383 Metacom Ave. BOST	jacky.galaxie@aol.net
Lisa Sierkewicz	397 Metacom Ave	gils.lisa@cox.net
Jack Francis	636 Metacom Ave	JACKSSALVAGE@MSN.COM
Maurice Alexandre	23 Cottage St	GALAXIA@VERIZON
Diana Campbell	40 Seal Island Rd	dbcamp5540@verizon.net
RICHARD LINK	386 METACOM AVE, BRISTOL	RICHARD.W.LINK@SAINT-GOBAIN
JIM FARLEY	Planning Board	Jim.FARLEY@MaineHwyPlan
JOHN SHEVILIN	PARE	JSHEVILIN@parecorp.com
DEREK + SARAH BRADFORD	PA	
Don Sherrill	PARE	psherrill@parecorp.com

Metacom Avenue Corridor Plan

Stakeholder Meeting 2

January 4, 2007

Agenda

Pamela Sherrill, AICP, Pare Corporation - Project Manager

- Project Objectives
- Summary of Meeting 1
- Zoning and Land Use
- Existing Traffic Conditions
- Range of Solutions

Derek Bradford , AIA, RIBA, ASLA, Bradford Associates

- Sense of Place
- Long Term Solutions

Stakeholder Discussion

Next Steps

- Thursday, January 18, 2007 – Public Workshop 1
- Thursday, January 25, 2007 - Stakeholder Meeting 3

Metacom Avenue Corridor Management Plan



Stakeholder Meeting - 2
01.04.07


Pare Corporation
Bradford Associates

Project Objectives

- Conceptual service road layout - Tupelo Street and Gooding Avenue
- Site design guidelines
- Provide zoning amendment recommendations for uses that are not heavy traffic generators



Metacom Avenue Corridor Management Plan 

November 30, 2006 – Meeting 1

- Summary of Project Objectives and Methodology
- Visual Analysis – Bradford Associates
- Open Discussion
 - Traffic congestion is increasing on Metacom. Friday afternoons in summer are the most congested.
 - Solutions could include signal timing, roundabouts, reduced pavement width (road diets), median turn lanes.
 - Pedestrian access is poor. RIPTA needs sidewalks, crosswalks to increase service.
 - Aesthetics should be improved – street trees.

Metacom Avenue Corridor Management Plan 

November 30, 2006 – Meeting 1 (Cont'd)

- Side street access is very important
- Need to improve safety for cyclists
- Bay View critical area for pedestrians, traffic congestion
- Service road needed from Gooding to Tupelo
- Not likely that Metacom will be widened to four lanes
- Focus on unique character of corridor: three areas
- Areas subject to change in future: Tupelo to Gooding and Franklin to State
- Context Sensitive Design provides opportunity for traffic improvements that reflect community character

Metacom Avenue Corridor Management Plan 

Existing Conditions - Traffic

- Traffic volume
- Signals
- Sidewalks
- Bus stops
- Speed limit
- Right of way
- Accident data

Metacom Avenue Corridor Management Plan



Traffic Volume

- Average Annual Daily Traffic - AADT
 - North: 34,000 AADT
 - South: 14,000 AADT
- Peak Hour Weekday Traffic, vehicles per hour (VPH)
 - North: 2,292 VPH, AM Peak
 - Mid: 1,323 VPH, AM Peak
 - South: 1,509 VPH, PM Peak

Metacom Avenue Corridor Management Plan



Signalized Intersections

Interconnected Systems

- Fatima, Tupelo (ped)
- Stop and Shop, Gooding Avenue, Chestnut Street, Roosevelt Drive, and Bay View Avenue
 - Annawamscutt Drive
 - Controlled by Chestnut Street signal equipment.
 - Fire pre-emption phase

Single signal

- RWU

Metacom Avenue Corridor Management Plan



Speed Limits

- Posted Speeds
 - Warren: 35 MPH
 - North of Bay View: 45 MPH
 - Bay View: 40 MPH
 - South of Bay View: 45 MPH



Metacom Avenue Corridor Management Plan



Speed		
	Posted Speed	Average Speed *
North	45 MPH	32 MPH
Bay View	40 MPH	32 MPH
South	45 MPH	41 MPH

* Speed study, 12/21/06 4:00-5:00 PM

Metacom Avenue Corridor Management Plan 

Right of Way Width and Travel Lanes
<ul style="list-style-type: none"> • Travel Lanes <ul style="list-style-type: none"> – 1 each direction – Turning lanes <ul style="list-style-type: none"> • Bay View • Chestnut (Northbound only) • Gooding/Narrows • Stop and Shop • Right of Way <ul style="list-style-type: none"> – Generally 60 feet at intersections – 65 feet north of Stop and Shop, at south end • Utility pole location in ROW

Metacom Avenue Corridor Management Plan 

Typical Section
<p>60-Foot Right of Way</p> <p>Existing Conditions</p> <ul style="list-style-type: none"> • 2 15-foot travel lanes • 2 2 to 10-foot shoulders / sidewalk • Utility poles <p>Possible Median Turn Lane Configuration</p> <ul style="list-style-type: none"> • 16-foot median turn lane • 2 12-foot travel lanes • 2 5-foot curb offset / shoulder • 2 5-foot sidewalks

Metacom Avenue Corridor Management Plan 

Traffic Capacity Analysis			
	AM Peak	PM Peak	Saturday
North		E (0.76)	E (0.71)
Mid	E (0.64)	E (0.87)	E (0.66)
South	E (0.54)	E (0.75)	

Source: Walgreen's, People's Credit Union, Roger Williams University traffic studies

Metacom Avenue Corridor Management Plan 

Preliminary Traffic Solutions

- Short term solutions
 - No ROW / utility issues
 - Signage: *Bristol Welcomes Courteous Drivers*
 - Crosswalks / ped cycle signals
 - Curbing along sidewalks
 - Left turn lanes
 - Signal timing
 - RIDOT Speed study
 - Signage: *Yield to side turning traffic*
 - Service road connections

Metacom Avenue Corridor Management Plan



Preliminary Traffic Solutions

- Mid term solutions
 - ROW / utility relocation
 - Left turn lanes / median turn lanes
 - Sidewalks / curbing with drainage improvements
 - Roundabouts
 - Mount Hope Bay bike facility
- Long term solutions
 - Separate local and through traffic
 - Increase connections between Metacom and Bristol Highlands (Comp Plan)

Metacom Avenue Corridor Management Plan



Tupelo to Gooding Service Road

- Definition: service road
 - All about options
 - Links, NOT Roads
 - Driveway interconnections
- Frontage Road
 - 30-foot pavement / impervious
 - Wetlands, grade issues
 - Not a Bristol solution
- Implementation
 - Redevelopment
 - Change in use

Metacom Avenue Corridor Management Plan

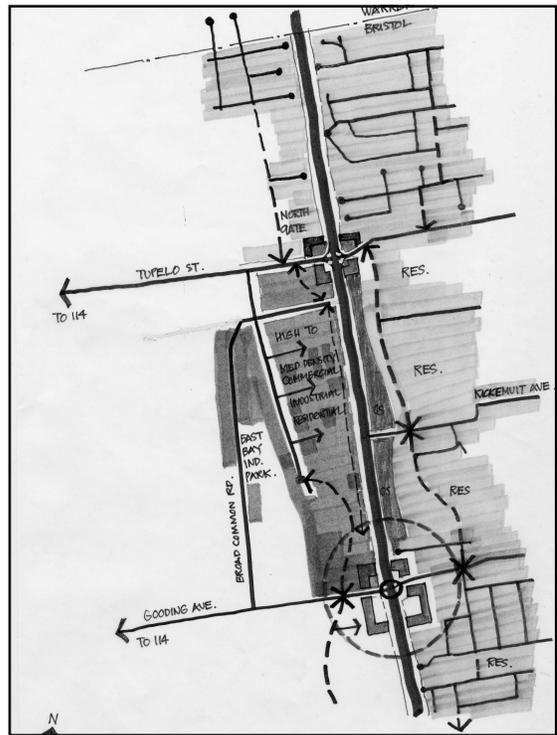
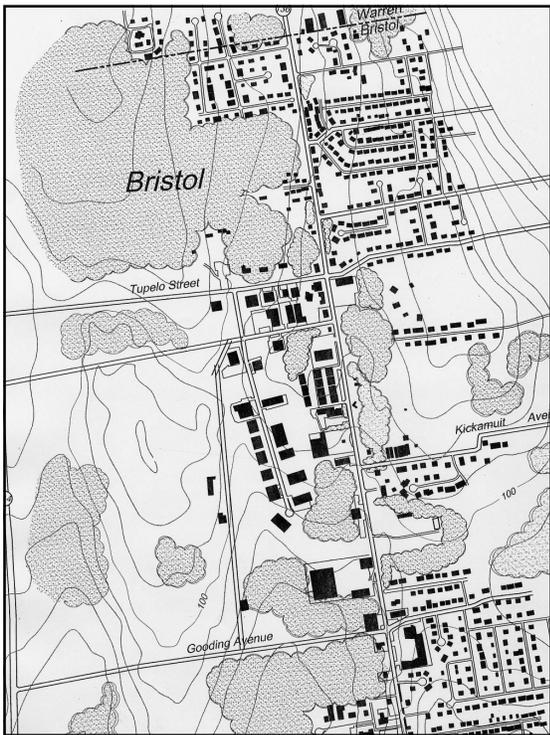
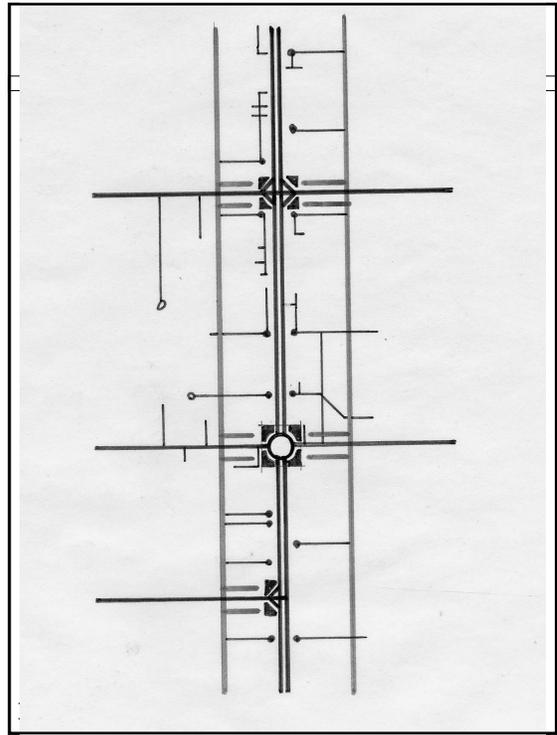
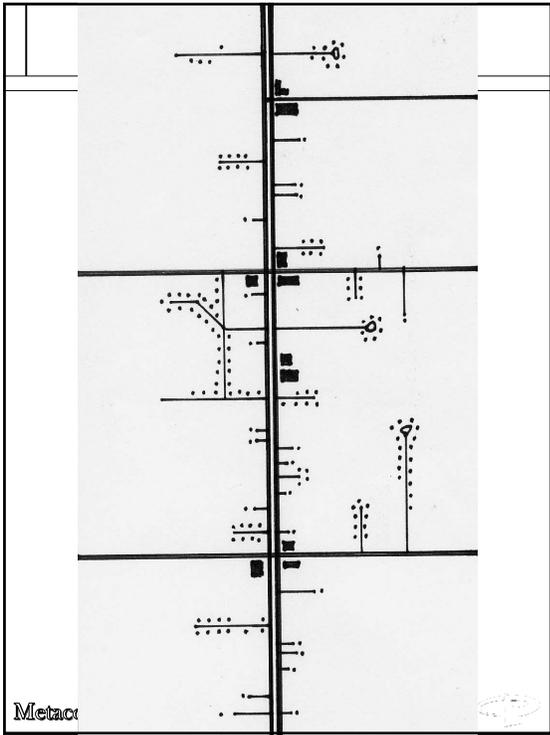


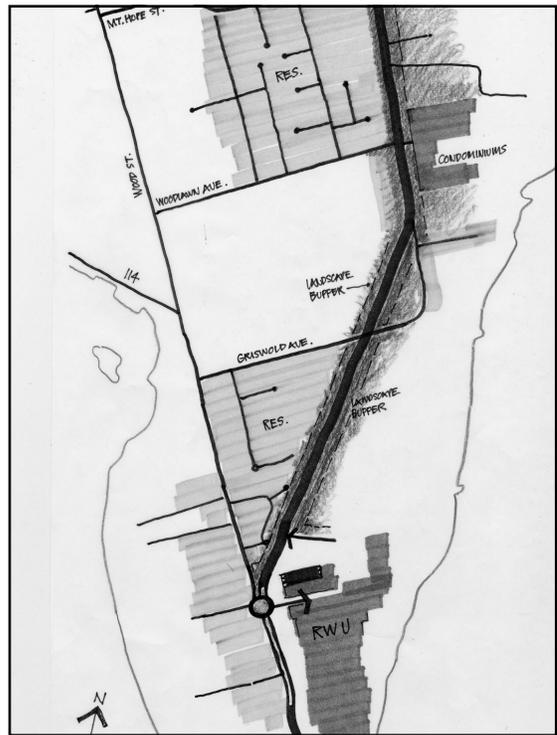
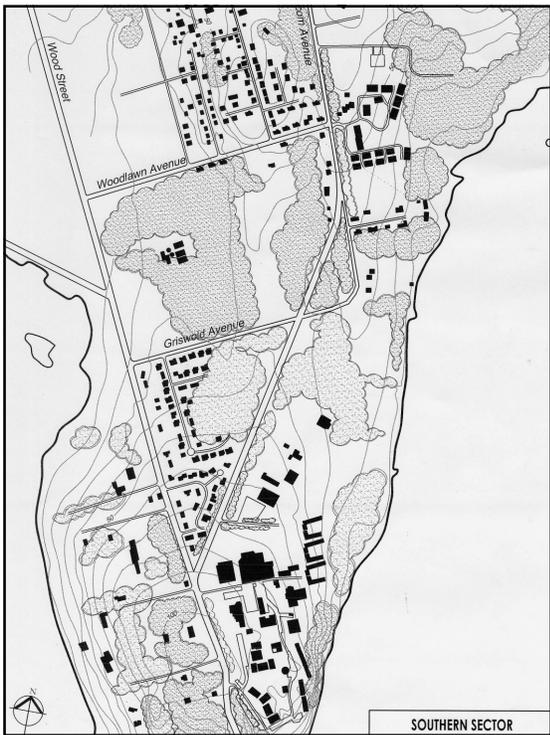
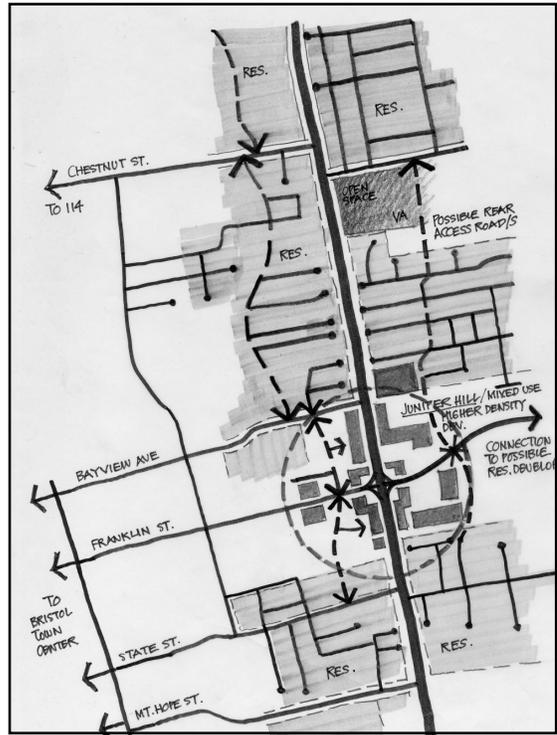
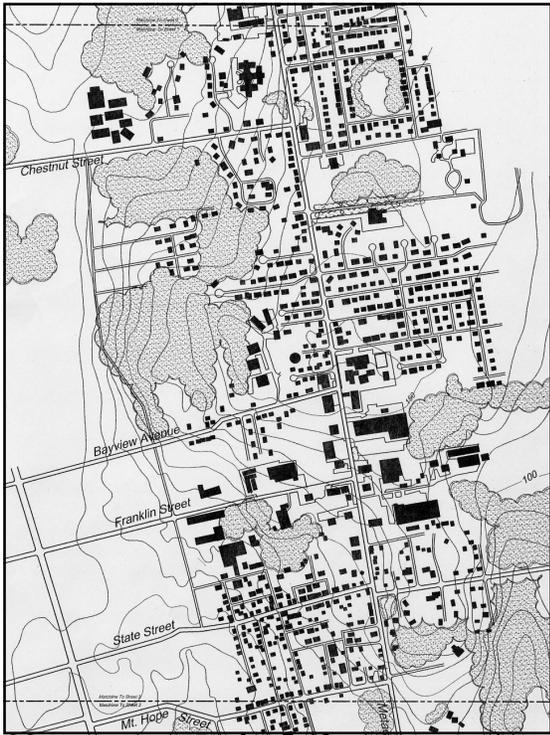
Sense of Place – Three Locations

- Define the character
- Identify common issues
- Create a separate identity – Name Options
 - North Gateway
 - Tupelo Village
 - Central Sector
 - Bay View
 - Juniper or Fox Hill
 - Mount Hope

Metacom Avenue Corridor Management Plan







Next Steps
<ul style="list-style-type: none">• Public Workshop 1 – January 18• Stakeholder Meeting 3 – January 25• Public Workshop 2 – February 8
Metacom Avenue Corridor Management Plan 

- Public Workshop 1 –
January 18
- Stakeholder Meeting 3 –
January 25
- Public Workshop 2 –
February 8



MEMORANDUM OF MEETING

DATE: January 9, 2007

TO: File

CC: Pam Sherrill, Diane Williamson, John Shevlin, P.E., Sara Bradford

FROM: Craig Pereira

RE: **Metacom Avenue Corridor Study, Bristol
PARE Project No. 06250.00**

A meeting was held at Bristol Town Hall on January 4, 2007 with the Metacom Avenue Steering Committee to present findings to date regarding existing conditions (signage, traffic, speed study, intersections, etc.), as well as to review preliminary recommendations for improvements to the Metacom Avenue Corridor. The meeting was attended by representatives of the Steering Committee and consultant team, Pare Corporation and Bradford Associates. The steering committee includes residents and business people from the corridor, members of the Planning Board, Planning Department, elected officials and representatives of Rhode Island Statewide Planning Program and Rhode Island Department of Transportation. See attached sign in sheet, agenda, and Powerpoint handout.

Bob Rocchio and Francisco Lovera of RIDOT Traffic Design Section opened the meeting with a Powerpoint presentation on roundabouts, followed by several short videos, illustrating the effectiveness of roundabouts. Roundabout presentation graphics and video clips are presented at <http://www.dot.state.ri.us/engineering/traffic/roundabouts/index.htm>.

Pam Sherrill AICP, Pare Corporation, reported on project objectives, summary of Steering Committee Meeting No. 1, and findings from fieldwork/review of existing traffic conditions including traffic volumes, signal interconnection, sidewalk locations, bus stop locations, speed limits and preliminary speed study findings, right of way information and accident data (detailed information requested from RIDOT). See PowerPoint handout for information presented.

Ms. Sherrill also reported on preliminary traffic solutions (short to long-term) to be considered by the consultant team, Tupelo to Gooding service road, and the need to create a sense of place for nodes (clusters) of development. The Tupelo to Gooding service road was described as being a series of links to provide access options from parcels along this section, and is NOT considered as a 30-foot wide continuous roadway adjacent to the Metacom Avenue layout line.

Derek Bradford AIA, Bradford Associates, summarized existing conditions, elaborated on the need for a sense of place, and presented recommendations for alternative traffic patterns, which could be used as a model, throughout the Metacom Avenue Corridor.

The following are points/questions raised during the January 4, 2007 meeting:

- Have certain (particular) locations been earmarked for roundabouts? Was this initiated by a priority list based on traffic flow/accidents/existing conditions? Speaker was concerned that during preliminary design of roadway widening in the early '90s that many property owners sold in anticipation of imminent construction. It is important to provide accurate information on construction.

Response: Bob Rocchio

The State has identified (based on accident data) the main entrance to Roger Williams University as a potential roundabout location.

Response: Pam Sherrill

No RIDOT funding is currently available. This is a project to help identify which projects should be submitted to RIDOT for future funding through the Transportation Improvement Program. Any construction would be years from now. Although we preliminarily identified the Tupelo Street intersection, Chestnut-Annawamscutt intersections, and Roger Williams University main entrance as areas to be considered for roundabouts, as indicated in information presented tonight by RIDOT on the right of way required for single-lane roundabouts (100 to 120 feet), several of these areas may not be suitable for consideration. Further analysis is required.

- The approach to Roger Williams University and Route 114 from Route 136 is very dangerous. At the speed with which vehicles are entering from Route 136, they cannot hold their lane, and are forced to crossover into the westerly, southbound lane.
- Is village style development going to be proposed in the areas surrounding proposed roundabouts?

Response: Derek Bradford

Yes indeed, village-style development is envisioned adjacent to the roundabouts, concentrating commercial development (and redevelopment) at these attractive intersections.

Next Steps:

- Public Workshop #1: January 18, 2007
- Steering Committee Meeting No. 3: January 25, 2007
- Public Workshop No. 2: February 8, 2007



Metacom Avenue Corridor Management Plan

Public Workshop #1, January 18, 2007

Agenda

Pamela Sherrill, AICP, Pare Corporation - Project Manager

Project Objectives and Schedule

Existing Traffic Conditions and Range of Solutions

Zoning and Land Use

Derek Bradford , AIA, RIBA, ASLA, Bradford Associates

Visual Analysis

Sense of Place

Group Discussions

Priority Ranking of Traffic Circulation and Sense of Place

Next Steps

Thursday, February 8, 2007 – Public Workshop #2

Bristol Rhode Island

Metacom Avenue Corridor Management Plan



**Public Workshop
January 18, 2007**

**Pare Corporation
Bradford Associates**

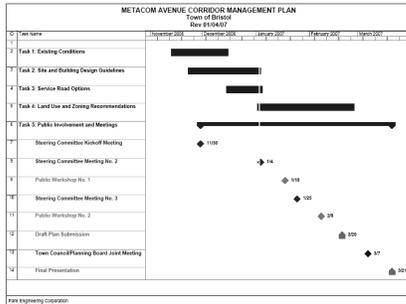
Project Objectives

- Conceptual service road layout - Tupelo Street and Gooding Avenue
- Site design guidelines
- Provide zoning amendment recommendations for uses that are not heavy traffic generators



Metacom Avenue Corridor Management Plan

Schedule



Metacom Avenue Corridor Management Plan

Tonight's Meeting

- Presentation
 - Visual Analysis
 - Traffic Conditions
 - Tupelo to Gooding Service Road
- Group Discussion
- Group Discussion Report Back

Metacom Avenue Corridor Management Plan

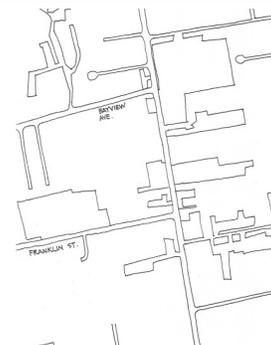
Visual Analysis



Metacom Avenue Corridor Management Plan

Visual Analysis - Process

- roadways



Metacom Avenue Corridor Management Plan

Visual Analysis - Process

- roadways
- topography

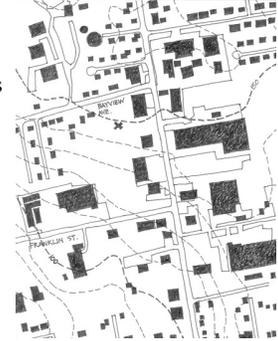


Metacom Avenue Corridor Management Plan



Visual Analysis -Process

- roadways
- topography
- building footprints

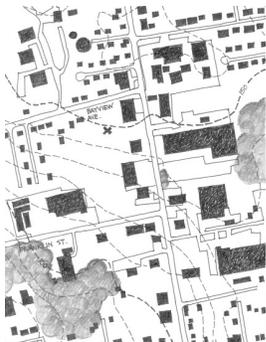


Metacom Avenue Corridor Management Plan



Visual Analysis - Process

- roadways
- topography
- building footprints
- vegetation



Metacom Avenue Corridor Management Plan



Visual Analysis - Process

- roadways
- topography
- figure ground
- vegetation
- station points

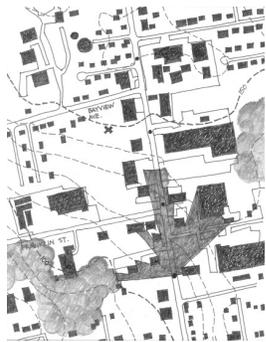


Metacom Avenue Corridor Management Plan



Visual Analysis - Process

- roadways
- topography
- building footprints
- vegetation
- station points
- typical north view

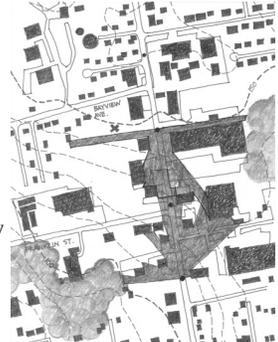


Metacom Avenue Corridor Management Plan



Visual Analysis - Process

- roadways
- topography
- building footprints
- vegetation
- station points
- typical north view
- typical south view

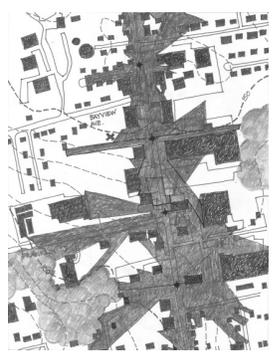


Metacom Avenue Corridor Management Plan



Visual Analysis - Process

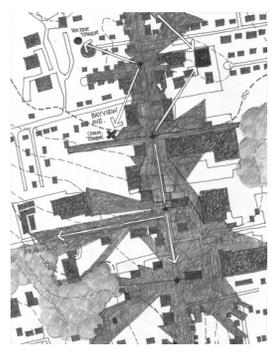
- roadways
- topography
- building footprints
- vegetation
- station points
- north view
- south view
- complete view corridor



Metacom Avenue Corridor Management Plan

Visual Analysis - Process

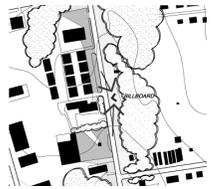
- roadways
- topography
- building footprints
- vegetation
- station points
- typical north view
- typical south view
- complete view corridor
- distant views



Metacom Avenue Corridor Management Plan

Visual Analysis - Process

- roadways
- topography
- building footprints
- vegetation
- station points
- typical north view
- typical south view
- complete view corridor
- distant views
- visual incident




Metacom Avenue Corridor Management Plan

Visual Analysis – Landscape Character

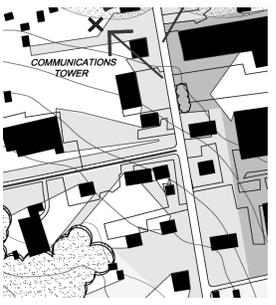
- small scale




Metacom Avenue Corridor Management Plan

Visual Analysis – Landscape Character

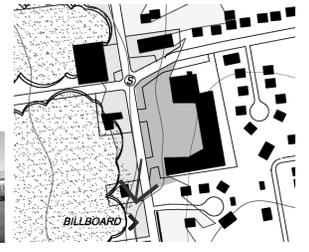
- medium scale




Metacom Avenue Corridor Management Plan

Visual Analysis – Landscape Character

- large scale




Metacom Avenue Corridor Management Plan

Visual Analysis – Landscape Character

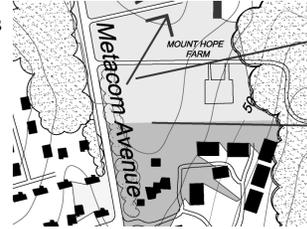
- small to medium scale
open space/
agricultural



Metacom Avenue Corridor Management Plan

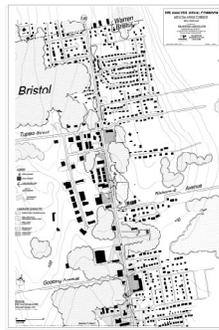
Visual Analysis – Landscape Character

- large scale open space
agricultural or
dense woods



Metacom Avenue Corridor Management Plan

Visual Analysis



Metacom Avenue Corridor Management Plan

Visual Analysis



Metacom Avenue Corridor Management Plan

Visual Analysis



Metacom Avenue Corridor Management Plan

Visual Analysis



Metacom Avenue Corridor Management Plan

Existing Conditions - Traffic

- Traffic volume
- Signals
- Sidewalks
- Bus stops
- Speed limit
- Right of way
- Accident data



Metacom Avenue Corridor Management Plan



Traffic Volume

- Average Annual Daily Traffic - AADT
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Metacom Avenue Corridor Management Plan



Signalized Intersections

Interconnected Systems

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- Stop and Shop, Gooding Avenue, Chestnut Street, Roosevelt Drive, and Bay View Avenue
 - Annawamscutt Drive
 - Controlled by Chestnut Street signal equipment.
 - Fire pre-emption phase

Single signal

- RWU



Metacom Avenue Corridor Management Plan



Speed Limits

- Posted Speeds
 - Warren: 35 MPH
 - North of Bay View: 45 MPH
 - Bay View: 40 MPH
 - South of Bay View: 45 MPH



Metacom Avenue Corridor Management Plan



Speed		
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Metacom Avenue Corridor Management Plan 

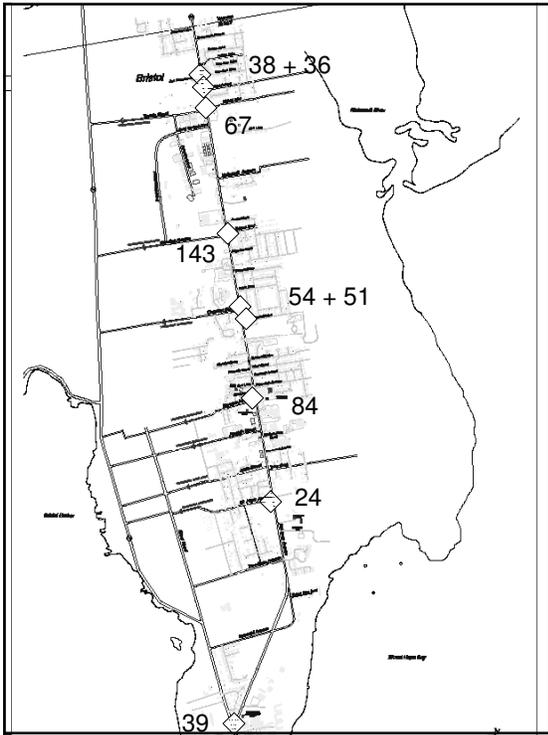
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|---|
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- Metacom Avenue Corridor Management Plan 

Traffic Capacity Analysis			
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South	E (0.54)	E (0.75)	

Source: Walgreen's, People's Credit Union, Roger Williams University traffic studies

Metacom Avenue Corridor Management Plan 

- | Crash Data |
|--|
| <ul style="list-style-type: none"> • 2003, 2004, 2005 Data <ul style="list-style-type: none"> – 705 accidents • RIDOT High Hazard Contract <ul style="list-style-type: none"> – Tupelo Street – Chestnut Street – Annawamscutt Drive – Bay View Avenue • Pattern <ul style="list-style-type: none"> – North <ul style="list-style-type: none"> • rear end • Lower speed / fewer injuries – Central <ul style="list-style-type: none"> • rear end / side swipe – South <ul style="list-style-type: none"> • broadside / angle • higher speeds |
- Metacom Avenue Corridor Management Plan 



Preliminary Traffic Solutions

- Short term solutions
 - No ROW / utility issues
 - Signage: *Bristol Welcomes Courteous Drivers*
 - Crosswalks / ped cycle signals
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Metacom Avenue Corridor Management Plan

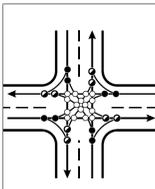
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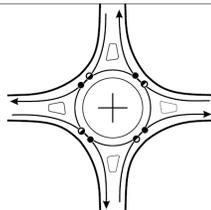
Metacom Avenue Corridor Management Plan

Roundabouts





● Diverging	8
● Merging	8
○ Crossing	16
32	



● Diverging	4
● Merging	4
○ Crossing	0
8	

Metacom Avenue Corridor Management Plan

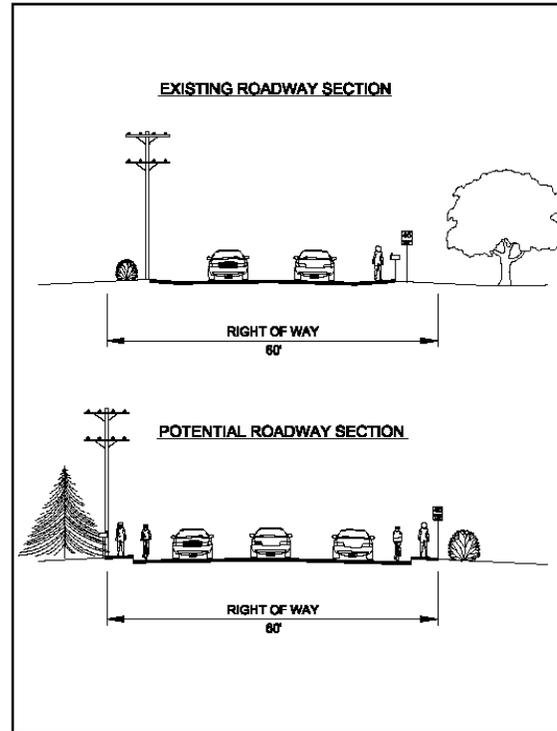
Typical Section

60-Foot Right of Way

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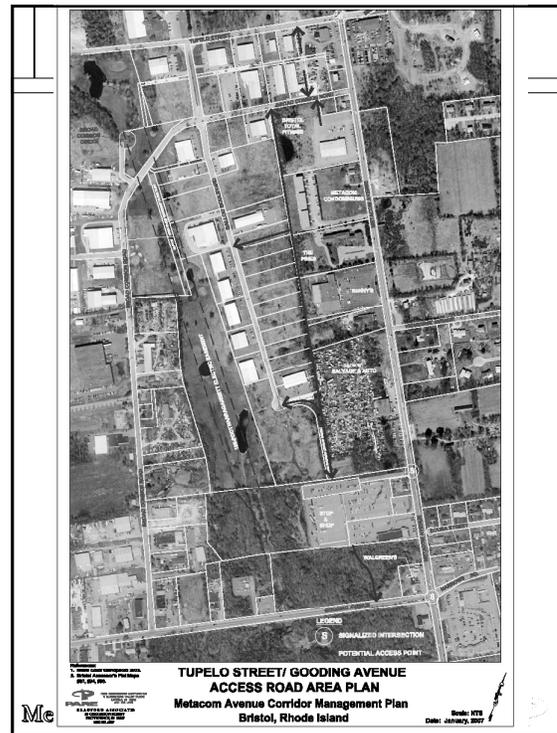
Metacom Avenue Corridor Management Plan



Tupelo to Gooding Service Road

- Definition: service road
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 - Not a Bristol solution
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 - Redevelopment
 - Change in use

Metacom Avenue Corridor Management Plan



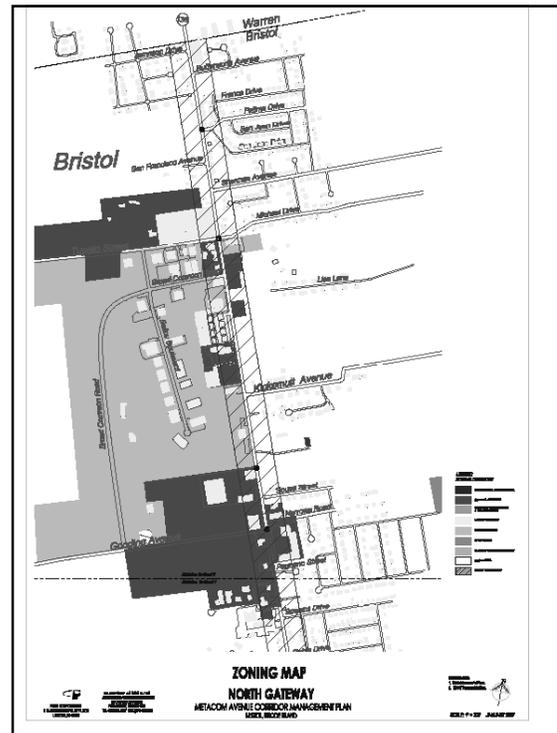
Zoning

Metacom Overlay District - 1996

- Traffic impact study
- Gooding to Tupelo service road: 30-foot ROW
- Driveway spacing
- Combined access / access easements
- Access dimensions
- Parking to rear and side
- Buffering, setbacks, frontage



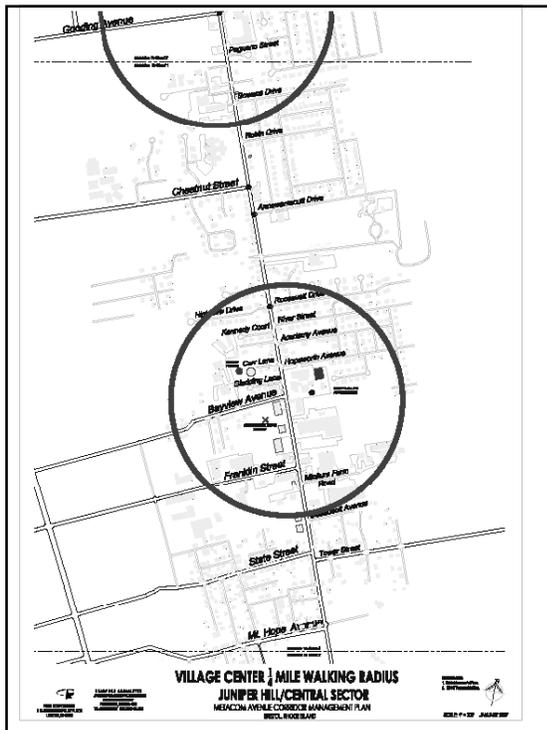
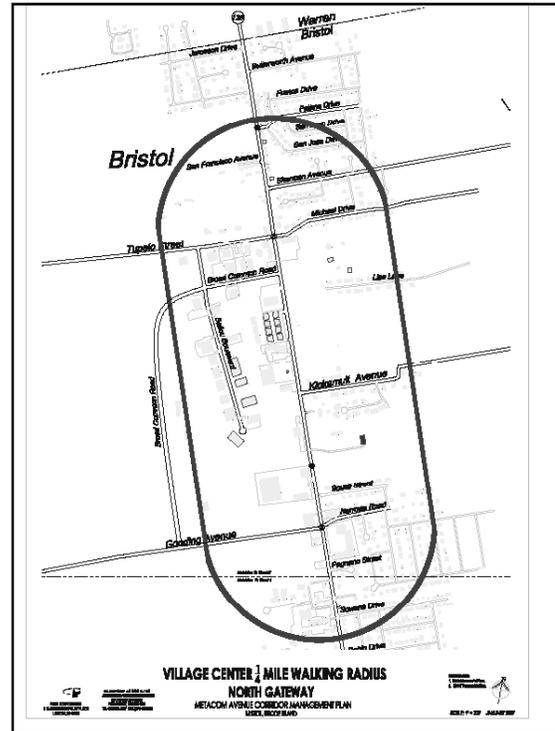
Metacom Avenue Corridor Management Plan



Sense of Place – Three Locations

- Define the character
- Identify common issues
- Create a separate identity – Name Options
 - North Gateway
 - Tupelo Village
 - Central Sector
 - Bay View
 - Juniper or Fox Hill
 - Mount Hope
- ¼ mile walking radius

Metacom Avenue Corridor Management Plan



Comprehensive Plan

Critical Planning Challenges

- Improve N/S circulation, E/W connector streets

Economic Development Element

- Tupelo to Gooding: develop comprehensive plan for land use and traffic mgmt
- Industrial area service road
- Consider low traffic generating land use
- Kickemuit area Open Space preservation
- Neighborhood commercial development

Circulation Element: Amend Metacom Overlay

- Define maximum land use intensity and maximum traffic impact thresholds
- Continue to reduce curb cuts
- Shared parking
- Internal sidewalk connections

Metacom Avenue Corridor Management Plan



Typical Corridor Section

RESIDENTIAL ROW LIMITED BUSINESS

Metacom Avenue Corridor Management Plan

Metacom - Now

- Two lanes with multiple access points.
- Congested mix of local and regional traffic.
- Commercial / retail development inconsistently scattered along Metacom Avenue.
- Tendency towards strip development.
- Lack of “sense of place.”

Metacom Avenue Corridor Management Plan

Metacom – Future

- Reduce number of access points onto Metacom Avenue.
- Identify major intersections.
- Create parallel local access connections.
- Concentrate development and create a “sense of place.”

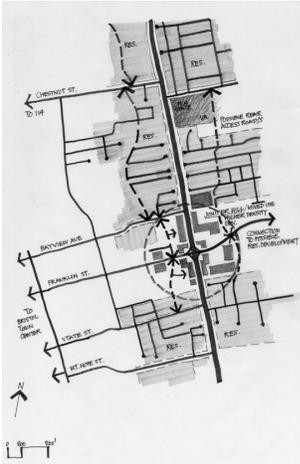
Metacom Avenue Corridor Management Plan

Future: North

- Introduce traffic management devices.
- Recognize critical east / west connectors.
- Concentrate mixed use development at major intersections and connect these developments from rear or parallel roads.
- Connect local residential development via parallel access roads.
- Create buffers.

Metacom Avenue Corridor Management Plan

Future: Central



- Connect local neighborhoods via parallel access roads.
- Recognize critical east/west connectors.
- Franklin Street focus
 - Traffic solutions
 - Concentrated mixed use development.
 - Potential east development.
- Preserve and protect residential character and remaining open space.

Metacom Avenue Corridor Management Plan



Future: South



- Discourage additional access points onto Metacom Avenue.
- Maintain existing historic landscape character.
- Maintain existing vegetation buffer.
- Introduce traffic management.

Metacom Avenue Corridor Management Plan



Next Steps

- Stakeholder Meeting 3 – January 25
- Public Workshop 2 – February 8
- Draft Plan Submission – February 20
- Town Council / Planning Board Meeting – March 7
- Final Plan Submission – March 21

Metacom Avenue Corridor Management Plan



Discussion Groups

- Residents to identify positives and negatives of Traffic Circulation and Sense of Place through the use of discussion groups.
- Identify, on mapping, favorite places, examples of good/bad design, and intersections that work/don't work.

Metacom Avenue Corridor Management Plan





MEMORANDUM OF MEETING

DATE: January 18, 2007

TO: File

CC: Pam Sherrill, Diane Williamson, John Shevlin, Sara Bradford

FROM: Craig Pereira

RE: **Metacom Avenue Corridor Study, Bristol
PARE Project No. 06250.00**

A Public Workshop was held at Bristol Town Hall on January 18, 2007 to present findings to date regarding existing conditions (signage, traffic, speed study, intersections, etc.), to review preliminary recommendations for improvements to the Metacom Avenue Corridor, as well as to solicit input from the general public. The meeting was attended by representatives of the Metacom Avenue Steering Committee, the general public and consultant team, Pare Corporation and Bradford Associates. The steering committee includes residents and business people from the corridor, members of the Planning Board, Planning Department, elected officials and representatives of Rhode Island Statewide Planning Program and Rhode Island Department of Transportation. See attached agenda, Powerpoint handout, and sign-in sheet.

Pam Sherrill AICP, Pare Corporation, reported on project objectives, summary of Steering Committee Meeting No. 1, and findings from fieldwork/review of existing traffic conditions including traffic volumes, signal interconnection, sidewalk locations, bus stop locations, speed limits and preliminary speed study findings, right of way information and accident data (detailed information requested from RIDOT). She also presented current zoning and comprehensive plan references to the Metacom corridor.

Derek Bradford, Bradford Associates provided a visual analysis of the corridor (Tasks 1, Existing Conditions, and Task 2, Site and Building Design Guidelines). The following components create the character of the viewshed (view from the road): roads and topography, building footprints, and vegetation as they define, limit and frame the view corridor. Distant views also define the view corridor. Mr. Bradford presented a map of the corridor with the viewshed identified every 500 feet along the roadway according to scale:

- Fine grained or low scale: residential
- Medium scale: including areas where building are bigger with more space between
- Large scale or large grained landscape with major commercial buildings such as a Toyota, Stop & Shop, Benny's, and large buildings at Bay View
- Incident views

- Large scale open space and agriculture

Ms. Sherrill also reported on preliminary traffic solutions (short to long-term) to be considered by the consultant team, Tupelo to Gooding service road, and the need to create a sense of place for nodes (clusters) of development. The Tupelo to Gooding service road was described as being a series of links to provide access options from parcels along this section, and is NOT considered as a 30-foot wide continuous roadway adjacent to the Metacom Avenue layout line.

Mr. Bradford also summarized existing conditions, elaborated on the need for a sense of place, and presented recommendations for alternative traffic patterns, which could be used as a model, throughout the Metacom Avenue Corridor for long term consideration.

Once the Powerpoint presentations were completed, participants were separated into three groups to solicit input attendees. Participants were asked to consider the aesthetics and functioning of the corridor, and to identify three likes and dislikes, describe the reasoning behind their ranking, and to suggest more appropriate solutions and/or applications to improve the visual aesthetics and functioning of the Metacom Avenue corridor. In addition, the participants were asked to identify, on a base map, favorite/least favorite places, intersections that function/don't function well, and areas with visual appeal or blight. Each group reported their results back to the larger audience, and discussion was encouraged amongst participants. The following is a summary of each group:

Group #1 (Sara Bradford/Kristin Pereira)

Sense of Place

Positive

1. Small scale residential areas
2. Any existing agricultural, open space areas
3. Few existing billboards

Negative

1. Lack of parks/ public open space
2. Lack of landscaping and street trees
3. Metacom is a dumping ground for whatever is unwanted/not acceptable on Hope Street

Traffic

Positive

1. Metacom is a 2 lane, NOT a 4 lane roadway
2. The existing, improved intersections
3. Any existing LEFT TURN lanes

Negative

1. Speed limit not appropriate
2. Unsafe opportunities to pull out onto Metacom
3. Existing (sensor) traffic lights not working properly to clear backed up traffic

Comments/Suggestions (top items are listed according to priority)

1. Connections between commercial buildings and commercial and residential areas are needed. Where can sidewalks be easily added?
2. Lighting which is not 'highway' lighting is wanted. BETTER LIGHTING, NOT MORE LIGHTING. Full cut-off lighting is suggested.
3. More opportunities for left hand turn lanes.
4. More control over proposed signage.
5. Design guidelines for large scale res./ multi-family housing is needed.
6. Need to concentrate and contain commercial areas.
7. Parking is suggested to be kept to the side or behind buildings.
8. Street trees and sidewalks like on Hope Street are needed.
9. Wendy's, Walgreens and Tower Plaza are identified as positive building design.
10. Courtyard Condos and the Toyota Dealership are identified as negative building design.

11. A Metacom Business Association is needed.
12. A Metacom Ave Design Review Board is needed.
13. It is suggested that commercial businesses be recognized and rewarded for good design, maintenance and landscaping.
14. One-stop shopping in commercial areas is seen as a positive. Park once and walk.
15. Stone walls are identified as a positive feature.
16. Fatima intersection is a bottleneck.
17. The worst traffic jams are identified at Tupelo intersection and at the Bay View intersection.
18. Blocking select roadways from entering directly onto Metacom is needed.

Group #2 (Derek Bradford/Craig Pereira)

Sense of Place

Positive

1. Maintain natural features thru incentives (fields, farms, farmstands, historic homes)
2. Streetscape south of Mt. Hope Avenue (street trees, stonewalls, setbacks)
3. Wendys/Walgreens landscaping

Negative

1. Potential for institutional expansion, impacts to visual corridor
2. Lack of architectural design guidelines/strip malls
3. Lack of landscaping, street trees, and vegetative buffers

Traffic

Positive

1. Left turning lanes
2. Access from side streets at Wendys, Walgreens
3. Signal at Stop n' Shop

Negative

1. Congestion/functioning of traffic signals
2. Chestnut/Bay View intersections
3. Lack of pedestrian amenities (not walkable)

Comments/Suggestions

1. Need a coordinated streetscape enhancement program to address street trees, landscaping, lighting, sidewalks, crosswalks, signage, etc.
2. The pseudo-colonial design requirements (Wendys) are sometimes worse than traditional architectural designs.
3. Curb cuts along Metacom to residential developments need to be minimized by utilizing links/access roads to the rear of neighborhoods.
4. Bay View signal should be adjusted so that side street traffic access (sensor controlled) does not have priority. This causes backups on Metacom since through traffic may not have an opportunity to clear the intersection.
5. More opportunities for left hand turn lanes.
6. Do not construct a 4-lane roadway. This would be expensive, cause property disruption, affect adjacent neighborhoods, and encourage use of Route 114 as a regional, and not local road. You cannot build your way out of congestion.
7. Roundabout at Hydraulion/Chestnut St.
8. Maintain significant buffers through the use of density bonuses.
9. Concentrate commercial development around nodes.
10. Recognize commercial development for good design, maintenance and landscaping.
11. A Metacom Avenue Design Review Board is needed.
12. Expand the Metacom Avenue Overlay District.

Group #3 (Pam Sherrill)

Sense of Place

Positive

1. Fields in the north, southern area (fields, farms, farmstands, historic homes)
2. One-stop shopping at Stop/Shop Plaza
3. Farm stands, farm animals
4. Landscaped berms

Negative

1. Visual appearance (billboards/signage)
2. Number of used car lot businesses
3. King Phillip building/others not in contextual scale

Traffic

Positive

1. Left turning lanes
2. Blocked access from local streets

Negative

1. 2-lane roadway
2. People take circuitous routes through neighborhoods to avoid Metacom traffic
3. Corridor is not pedestrian or bike friendly
4. Fatima intersection is a major traffic bottleneck southbound

Comments/Suggestions

1. Landscaped berms at Metacom Condominiums are visually pleasing.
2. Need to block additional side street traffic from residential streets.
3. Need roundabouts at Tupelo and Gooding with a landscaped median down the center of Metacom Avenue.
4. Need to widen the roadway to four (4) lanes.
5. Widening the roadway will increase traffic.
6. Use Narragansett Electric easement to the west for bike path, pedestrian connections to encourage travel other than by vehicle north/south (Wood Street extension discussed)
7. Change I-195 signage in Portsmouth to re-route traffic to Route 24, instead of Route 114.
8. Consider a bike path along the western shore of Mt. Hope Bay.
9. Need a planted median/boulevard with a canopy of street trees.

Closing Comments/Remarks

Participants requested that RIDOT repeat their roundabout presentation at the next Public Workshop. Bob Rocchio of RIDOT agreed to provide the roundabout presentation at the next Public Workshop.

Jim Farley stressed the importance of maintaining/enhancing traffic patterns that encourage people to pass through Bristol to maintain/increase tourism – something vital to the livelihood of Bristol as a community.

Participants were asked if they have given any consideration to naming the north/central/south sectors, based upon proposed village-type development around nodes. The following suggestions were expressed: North – Tupelo Village; Central – Bay View/Juniper Hill; South – Mt. Hope.

Next Steps:

- Stakeholder Meeting #3: January 25, 2007
- Public Workshop #2: February 8, 2007
- Draft Plan Submission: February 20, 2007
- Town Council/Planning Board Meeting: March 7, 2007
- Final Plan Submission: March 21, 2007



Metacom Avenue Corridor Management Plan

Public Workshop #2, February 15, 2007

Agenda

Derek Bradford , AIA, RIBA, ASLA, Bradford Associates

Design Guidelines

Sara Bradford, LA, Bradford Associates

Zoning Recommendations

Pamela Sherrill, AICP, Pare Corporation - Project Manager

Transportation Recommendations

Discussion

Next Steps

- Draft Plan Submission – March 6
- Town Council / Planning Board Presentation – March 28
- Final Plan Submission – April 9



MEMORANDUM OF MEETING

DATE: February 19, 2007

TO: File

CC: Diane Williamson, John Shevlin, Sara Bradford

FROM: Pam Sherrill

RE: **Metacom Avenue Corridor Study, Bristol**
PARE Project No. 06250.00

The second Public Workshop was held at Bristol Town Hall on February 15, 2007 to present recommendations for design guidelines, zoning amendments and short and long-term traffic improvements for the Metacom Avenue Corridor, and to solicit input from the general public. Representatives of the Metacom Avenue Steering Committee, the general public and consultant team, Pare Corporation and Bradford Associates, attended the meeting. See attached agenda, Design Guidelines handout, and Metacom Avenue typical section.

The following points were discussed following the presentation:

- Concern that residential areas will eventually become business. Diane Williamson indicated that the comprehensive plan is very strong on the point that Metacom residential areas remain residential. Consistency with the comp plan is required for any zone change.
- Metacom doesn't have big box pressure since its market catchment area is limited by Mount Hope Bay and Narragansett Bay.
- Mixed use zones were proposed at three locations: Tupelo, Gooding, and Juniper Hill (Bay View). Limited Business zoning could be expanded at these locations so that we could avoid creating a new zone. Discussion focused on the need to create a Metacom Business zone (or Metacom Mixed Use zone) that would combine the Limited and General Business uses. The concern is that LB doesn't enable the size building that could be considered at Benny's and other large parcels.
- There was a question regarding possible phased implementation of recommendations. That is up to the Town. Ed Tanner feels that development pressure is strongest at Juniper Hill and that that might be the place to start as an example for other areas.
- Diane Williamson requested pedestrian activated signals and crosswalks at existing and proposed signals. Sidewalks should be 5-foot cement concrete, not the low budget paved swale constructed by RIDOT within the past ten years.

- There was concern that colors of buildings be limited in the design guidelines. Buildings should not be orange. Derek Bradford responded that the guidelines should prohibit formula businesses with distinct colors such as a red and white KFC.
- Derry Riding requested that the sign code limit moveable image signs and that there be a curfew on hours for LED or other backlight signs. Sara Bradford and Diane Williamson indicated that this currently in the code.
- Diane Williams requested that the Metacom Overlay district zone traffic study section include a requirement that proposed businesses base traffic counts and projections on similar local or regional businesses and not rely on the ITE book.



**METACOM AVENUE CORRIDOR MANAGEMENT PLAN
PUBLIC WORKSHOP #2
BRISTOL, RHODE ISLAND**

**Thursday, February 15, 2007
6:00 PM
Bristol Town Hall
Please Sign In!**

Name	Address	E-mail
Michael C. Moan	RIDOA	mmoaneplanning.
Leeds + Feltine Mitchell	14 Griswold Ave	mitchellr@aol.com
Jim Farley		jimfarley@montpelier.com
Diane Willingham	Town	dianew@bristolri.us
Jack Francis	636 METACOM	JACKSSAVAGE@MSN.COM
Derry Ride	16 Sea Breeze Ln	driding@dsas.state
Lisa Trajnor	17 Hillside Rd.	None
Linda Arruda	159 High Street	larruda@fulchannel.net

Bristol Rhode Island

Metacom Avenue Corridor Management Plan



Town Council – Planning Board Workshop
March 28, 2007

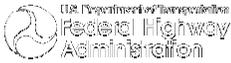
Pare Corporation
Bradford Associates



Project Objectives

- Conceptual service road layout
- Design guidelines
- Recommend zoning amendments
- Implement Comprehensive Plan

Create a “sense of place” by linking Land Use and Transportation



Metacom Avenue Corridor Management Plan



Metacom Avenue Corridor

- Neighborhood street
- Access to east neighborhoods
- Commercial destinations
- Employment destination
- Short-cut for Newport tourists
- Hope Street bypass
- Evacuation route

Metacom Avenue Corridor Management Plan



“Back Road”

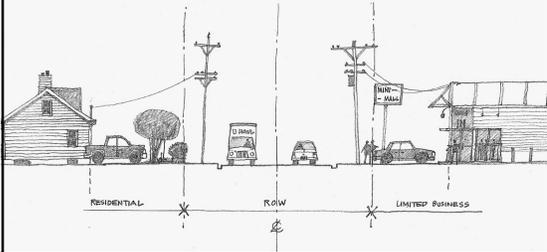


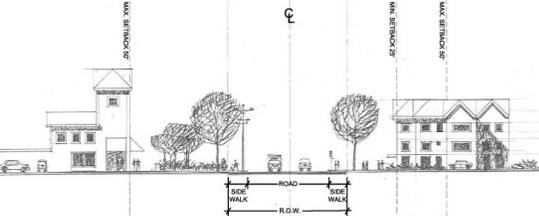
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Metacom Avenue Corridor Management Plan



Public Input
<ul style="list-style-type: none"> • Steering Committee – Nov. 30, 2006 • Steering Committee – Jan. 4, 2007 • Public Workshop 1 – Jan. 18, 2007 • Town Council Roundabout Workshop • Steering Committee – Jan. 25, 2007 • Public Workshop 2 – Feb. 15, 2007 • State Traffic Commission Hearing • Tonight’s Workshop <p style="text-align: center;">Make Bristol a better place to live and work</p>
<p>Metacom Avenue Corridor Management Plan </p>

60-foot Right of Way

<ul style="list-style-type: none"> • 34,000 vehicles per day • 2 lanes • 9 signals • Over 100 single family homes • 35 to 45 MPH • Limited sidewalks and crosswalks
<p>Metacom Avenue Corridor Management Plan </p>

Corridor Plan Big Ideas
<ul style="list-style-type: none"> • Sense of Place <ul style="list-style-type: none"> – Tupelo – Juniper Hill – Mount Hope • Design guidelines • Zoning amendments • Tupelo to Gooding service road • Traffic recommendations

<p>Metacom Avenue Corridor Management Plan </p>

Visual Analysis
<p>Landscape Character Dominated by Buildings</p>
<ul style="list-style-type: none"> • Small Scale  • Medium Scale  • Large Scale 
<p>Metacom Avenue Corridor Management Plan </p>

Visual Analysis

Landscape Character
Dominated by Vegetation

- Small to Medium Scale

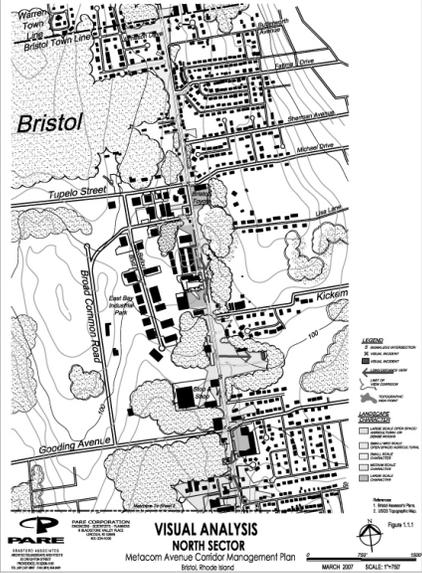


- Large Scale



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Visual Analysis



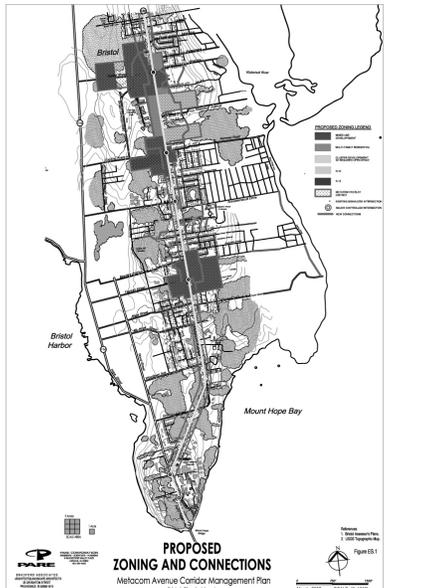
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Visual Analysis



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Zoning and Connections



Metacom Avenue Corridor Management Plan

Zoning and Connections

Metacom Avenue Corridor Management Plan

Tupelo and Juniper Hill Design Concepts

- Locations for conspicuous buildings and public activity
- Concentrated mixed-use development
- Major intersections
- Optional additional routes

Metacom Avenue Corridor Management Plan

Tupelo and Juniper Hill Design Concepts

- Sidewalks
Metacom Ave
Side Streets
Developments
- Parking
Behind or at Side
Shared
- Landscaping
Street Trees
Shade Parking
Buffer Residential
Pervious Surfaces
Attractive Sites

Metacom Avenue Corridor Management Plan

Sense of Place – Tupelo

Metacom Avenue Corridor Management Plan

Sense of Place – Juniper Hill

**JUNIPER HILL
 Design Concept**

NOTE:
 Red Hatched Buildings Represent New Development
 Gray Hatched Buildings Represent Existing Development

Metacom Avenue Corridor Management Plan

Site Design & Layout Guidelines

- Driveways
- Alternate Access/
 Egress
- Shared Parking
- Setback Exceptions
- Orientation
- Retaining Walls
- Space between
 Buildings
- Pedestrian
 Environment

Metacom Avenue Corridor Management Plan

Design Guidelines - Architecture

- Building Mass
 and Scale
- Heights
- Roofs
- Orientation
- Façades
- 360° Design
- Service, Loading
 & Equipment

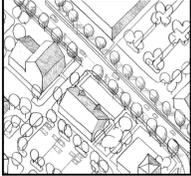
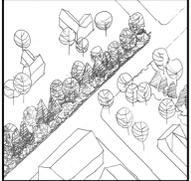
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Design Guidelines – Sustainability/ Energy Efficiency

- Green Strategies
 for Materials &
 Construction
- Solar Orientation
- Low Impact
 Design Storm
 Water Management

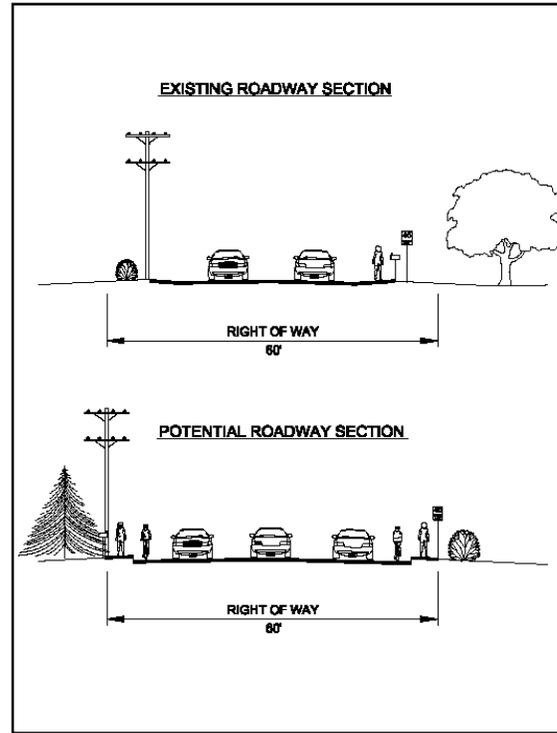
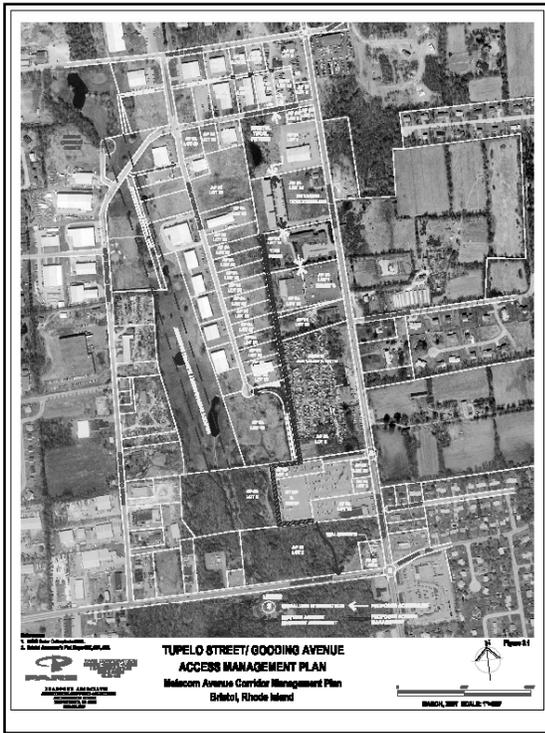
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Design Guidelines - Lighting and Signage	
<p>Lighting</p> <ul style="list-style-type: none"> • General Type of Light Fixture • Mounting Height • Lamp Type • Output Standard 	
<p>Signage</p> <ul style="list-style-type: none"> • Clear Message • Contribute to Sense of Place 	
<p>Metacom Avenue Corridor Management Plan </p>	

Design Guidelines - Landscaping	
<ul style="list-style-type: none"> • Planting Soil Conservation & Minimum Depth • Street Trees • Pavement Shading • Diversity of Tree Species • Tree Canopy • Planted Buffers 	
	
<p>Metacom Avenue Corridor Management Plan </p>	

Design Guidelines
<p>Design & Regulation Review Procedures</p> <ul style="list-style-type: none"> • Additional Consultant to the Technical Review Committee • Expanded Submission Requirements
<p>Metacom Avenue Corridor Management Plan </p>

Metacom Overlay Amendments
<ul style="list-style-type: none"> • Applies to entire parcel, subdivision of parcel, and any major land development project east of Metacom Avenue • Increases traffic review: half mile, cumulative impacts • Specifies traffic improvements: roundabouts, sidewalks • Requires transportation management strategies • Strengthens combined access • Prohibits access to Metacom from corner lots • Specifies service road “links”
<p>Metacom Avenue Corridor Management Plan </p>



Traffic Recommendations
<ul style="list-style-type: none"> • Left turn lanes <ul style="list-style-type: none"> – Tupelo, Chestnut, Annawamscutt, Bay View – Fatima, Sherman and Robin • Speed limit reduction • Signal timing
<p>Metacom Avenue Corridor Management Plan</p>

Short Term Improvements
<ul style="list-style-type: none"> • Sidewalks • Crosswalks and pedestrian signals • Bus stops • Bicycle facilities • Neighborhood interconnections
<p>Metacom Avenue Corridor Management Plan</p>

Traffic Recommendations

Long term solutions
ROW and Utility Issues

- Roundabouts
- Improved Intersections

● Diverging	8	● Diverging	4
● Merging	8	● Merging	4
○ Crossing	16	○ Crossing	0
32		8	

Metacom Avenue Corridor Management Plan

Traffic Recommendations

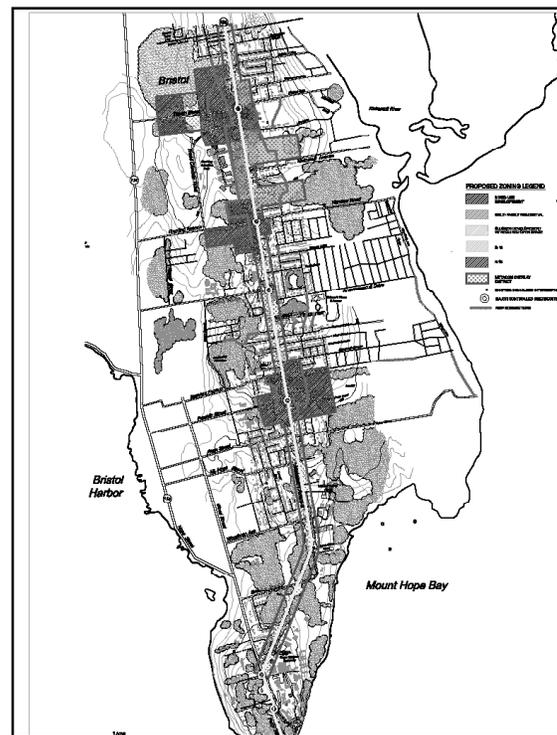
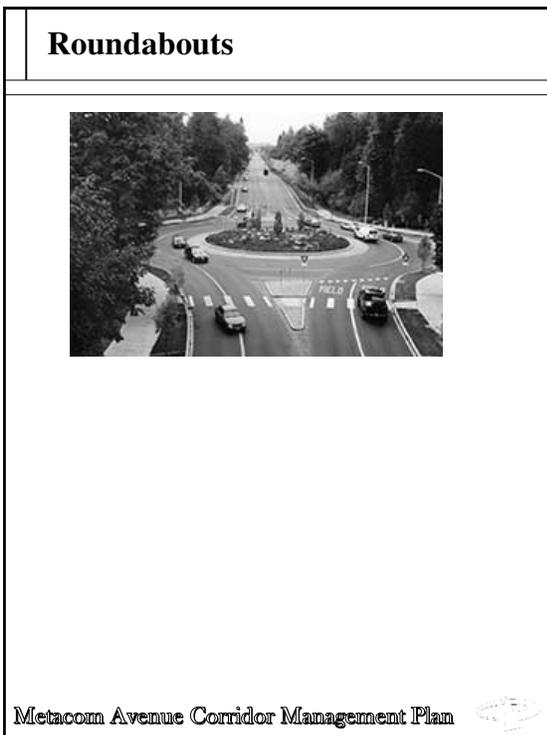
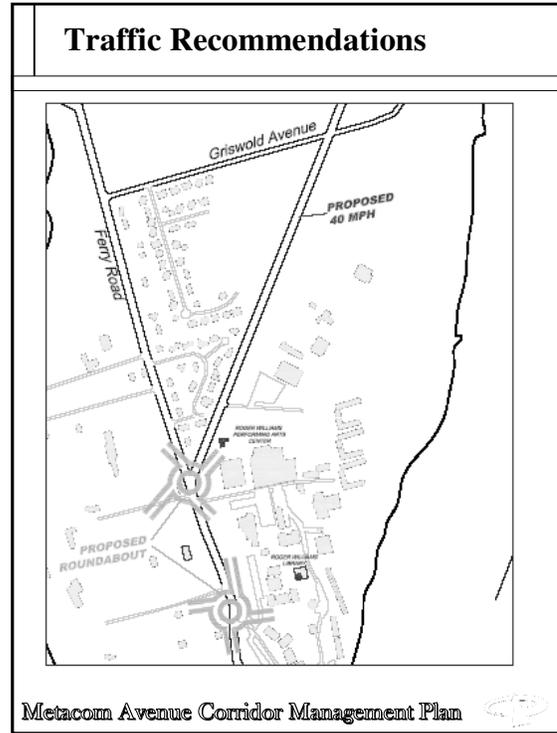
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Traffic Recommendations

Metacom Avenue Corridor Management Plan

Traffic Recommendations

Metacom Avenue Corridor Management Plan



Next Steps

- Town Council Adoption
- Amend Comprehensive Plan
- Amend Zoning
- Funding



Metacom Avenue Corridor Management Plan



EXISTING ZONING TRIP GENERATION



Table B-1
Metacom Corridor
Existing Zoning Permitted Use - Trip Generation

Permitted Uses	Land Use Code	Avg Rate	Week Type	Variable
Gardening and raising of crops	818	39	weekday	1000sq ft
Nursery or Greenhouse/Agricultural without sales on premises	818	39	weekday	1000sq ft
Nursery or greenhouse/Commercial (with sales on premises)	817	36.08	weekday	1000sq ft
Nursery or Greenhouse/Non-profit (without sales on premises)	818	39	weekday	1000sq ft
Raising of Animals for profit of consumption	N/A	N/A	N/A	N/A
Keeping of non-domesticated animals as pets	N/A	N/A	N/A	N/A
Single household dwelling	210	9.57	weekday	dwelling units
Two household dwelling	210	9.57	weekday	dwelling units
Multi-household dwelling	220	6.72	weekday	dwelling units
Caretakers House	210	9.57	weekday	dwelling units
Bed & Breakfast	320	9.11	weekday	occupied rooms
Country Inn with 5-10 rooms in one or more bldgs with meals to guest only	320	9.11	weekday	occupied rooms
Dormitory	N/A	N/A	N/A	N/A
Nursing home	620	6.1	weekday	1000sq ft
Congregate Care Facility	320	9.11	weekday	occupied rooms
Hotel	310	8.92	weekday	occupied rooms
Motel	320	9.11	weekday	occupied rooms
Community Residence	251	3.71	weekday	dwelling units
Lodging/Boarding house:				
5 rooms or less	220	6.72	weekday	dwelling units
over 5 rooms	220	6.72	weekday	dwelling units
Medical Clinic	630	31.45	weekday	1000sq ft
Hospital	610	17.57	weekday	1000sq ft
Drug and Alcohol Rehabilitation Facility	N/A	N/A	N/A	N/A
Halfway house	251	3.71	weekday	dwelling units
Family Day Care home with 6 persons or less	565	79.26	weekday	1000sq ft
Day Care Facility with more than 6 persons	565	79.26	weekday	1000sq ft
Prison or Correctional Facility	571	0.68	weekday PM peak hour of generator	Employees
Cemetery	566	4.73	weekday	Acres
Church, synagogue or religious educational building	560	9.11	weekday	1000sq ft

Table B-1
Metacom Corridor
Existing Zoning Permitted Use - Trip Generation

Permitted Uses	Land Use Code	Avg Rate	Week Type	Variable
Monastery/Convent active or retirement home	N/A	N/A	N/A	N/A
Gov't-run Veterans Home*	N/A	N/A	N/A	N/A
Civic/convention center and assembly hall	460	10	weekday	Employees
Library	590	54	weekday	1000sq ft
Post office	732	108.19	weekday	1000sq ft
Museum, non-profit	N/A	N/A	N/A	N/A
Fire Station	N/A	N/A	N/A	N/A
			Weekday, peak hour of adj. Street traffic, 1hr. B/t 4-6pm	
Gov't Office bldg	730	1.21		1000sq ft
Gov't Garage Facility	N/A	N/A	N/A	N/A
K-12	536	3.54	weekday AM peak hour	1000sq ft
Elementary School	520	14.49	weekday	1000sq ft
Middle School/Junior High School	522	13.78	weekday	1000sq ft
High School	530	12.89	weekday	1000sq ft
College/University	550	0.91	weekday PM peak hour of generator	Employees
Specialty school	536	3.54	weekday AM peak hour	1000sq ft
Office of a professional or business agent or political labor, or service association including the following:	710	11.01	weekday	1000sq ft
Bank	911	42.02	weekday, PM peak hour of generator	1000sq ft
Bank (Drive-in)	912	246.49	weekday	1000sq ft
Corporate Headquarters in a building built prior to 1950	714	7.98	weekday	1000sq ft
Corporate Headquarters in a new building	714	7.98	weekday	1000sq ft
Restaurant, café, or deli w/o liquor sales	931	89.85	weekday	1000sq ft
Restaurant, café, or deli w/ liquor sales	931	89.95	weekday	1000sq ft
Drive-thru restaurant	934	496.12	weekday	1000sq ft
Fast food restaurant	933	52.05	weekday PM peak hour of generator	1000sq ft
			Weekday, peak hour of adj. Street traffic, 1hr. B/t 4-6pm	
Tavern/Bar/Nightclub	936	11.34		1000sq ft
Funeral Home	N/A	N/A	N/A	N/A
Gasoline Service Station	944	168.56	weekday	Veh. Fueling position

Table B-1
Metacom Corridor
Existing Zoning Permitted Use - Trip Generation

Permitted Uses	Land Use Code	Avg Rate	Week Type	Variable
Catering	N/A	N/A	N/A	N/A
Massage Therapist	N/A	N/A	N/A	N/A
Sign Painting	N/A	N/A	N/A	N/A
Auto repair, minor	942	4.01	weekday PM peak hour of generator	1000sq ft
Laundry, self service	N/A	N/A	N/A	N/A
Dry-cleaning w/o onsite plant	N/A	N/A	N/A	N/A
Gunsmith (gun repair)	N/A	N/A	N/A	N/A
Bakery	933	52.05	weekday PM peak hour of generator	1000sq ft
Appliance Repair	N/A	N/A	N/A	N/A
Mechanical Equipment Repair	N/A	N/A	N/A	N/A
Printing, Blueprinting and Photocopying	N/A	N/A	N/A	N/A
Photographic development	N/A	N/A	N/A	N/A
Hairdresser/barber	N/A	N/A	N/A	N/A
Wireless telecomm. Antenna on an existing structure, subject to section 28-147	N/A	N/A	N/A	N/A
Wireless telecomm. Facility including tower subject to section 28-147 and 28-50	N/A	N/A	N/A	N/A
Adult Entertainment	440	38.67	PM peak hour generator	1000sq ft
Conference Center	N/A	N/A	N/A	N/A
Contract Construction Service	N/A	N/A	N/A	N/A
Antique store	N/A	N/A	N/A	N/A
News stand (open 15-16 hours)	852	36.22	weekday	1000sq ft
Auto parts sales, new	843	61.91	weekday	1000sq ft
Auto sales	841	33.34	weekday	1000sq ft
Bait shop	N/A	N/A	N/A	N/A
Bakery	933	52.05	weekday PM peak hour of generator	1000sq ft
Book store	N/A	N/A	N/A	N/A
Book store/café	N/A	N/A	N/A	N/A
Car rental	N/A	N/A	N/A	N/A
Clothing sales	870	4.2	weekday PM peak hour of generator	1000sq ft
Convenience store (open-15-16 Hours)	852	36.22	weekday	1000sq ft

Table B-1
Metacom Corridor
Existing Zoning Permitted Use - Trip Generation

Permitted Uses	Land Use Code	Avg Rate	Week Type	Variable
Convenience store (open 24 Hours)	851	737.99	weekday	1000sq ft
Florist	N/A	N/A	N/A	N/A
Furniture store	890	5.06	weekday	1000sq ft
Gunsmith (sales)	N/A	N/A	N/A	N/A
General merchandise store	N/A	N/A	N/A	N/A
Gift shop	N/A	N/A	N/A	N/A
Grocery store	850	102.24	weekday	1000sq ft
Liquor store	N/A	N/A	N/A	N/A
Mechanical Equipment Sales	N/A	N/A	N/A	N/A
News stand (open 24 hours)	851	737.99	weekday	1000sq ft
Pet store	866	4.96	weekday PM peak hour of adj. street traffic	1000sq ft
Pharmacy	880	90.06	weekday	1000sq ft
Pharmacy/Drugstore with drive-through window	881	88.16	weekday	1000sq ft
Shopping Center (>2 stores)	820	42.94	weekday	1000sq ft
Variety store	N/A	N/A	N/A	N/A
Video rental and sales	896	13.06	Weekday, peak hour of adj. Street traffic, 1hr. B/t 4-6pm	1000sq ft
Wholesale trade within enclosed structure	860	6.73	weekday	1000sq ft
Wholesale trade, outdoor storage	860	6.73	weekday	1000sq ft
Outdoor storage of junk, scrap, or salvage mtl's, including junkyards	N/A	N/A	N/A	N/A
Warehouse/distribution facility	150	3.89	weekday	Employees
Air-supported structure	N/A	N/A	N/A	N/A
Reclamation facility	N/A	N/A	N/A	N/A
Dry-cleaning plant	N/A	N/A	N/A	N/A
Automotive body repair, major	942	4.01	weekday PM peak hour of generator	1000sq ft
Food and kindred products-manufacturing including canning or packaging	140	3.82	weekday	1000sq ft
Processing of bakery products	140	3.82	weekday	1000sq ft

Table B-1
Metacom Corridor
Existing Zoning Permitted Use - Trip Generation

Permitted Uses	Land Use Code	Avg Rate	Week Type	Variable
Textile Mill Products and Apparel Manufacturing	140	3.82	weekday	1000sq ft
Lumber and wood products, Furniture and fixtures manufacturing	140	3.82	weekday	1000sq ft
Paper and allied products, printing, and publishing, including refinishing	140	3.82	weekday	1000sq ft
Chemicals and allied products manufacturing	760	79.61	weekday	Acres
Rubber and miscellaneous plastic products manufacturing	140	3.82	weekday	1000sq ft
Stone, clay, and glass products manufacturing	140	3.82	weekday	1000sq ft
Pottery products manufacturing	140	3.82	weekday	1000sq ft
Fabricated metal products-manufacturing	760	79.61	weekday	Acres
Drop forge industries, manufacturing forgings with power hammers	140	3.82	weekday	1000sq ft
Machinery and machine parts manufacturing	140	3.82	weekday	1000sq ft
Wire and cable manufacturing	140	3.82	weekday	1000sq ft
Transportation equipment manufacturing	140	3.82	weekday	1000sq ft
Boat building & repairs including fiberglass and steel	N/A	N/A	N/A	N/A
Boat building & repairs w/o fiberglass (wooden boats)	N/A	N/A	N/A	N/A
Instruments and scientific equipment manufacturing	760	79.61	weekday	Acres
Jewelry, silverware, plated ware, costume jewelry manufacturing	140	3.82	weekday	1000sq ft
Manual assembly of jewelry parts and crafts	140	3.82	weekday	1000sq ft
Lighting manufacturing	140	3.82	weekday	1000sq ft
Plating of jewelry and other metals	140	3.82	weekday	1000sq ft
Pump station	N/A	N/A	N/A	N/A
Sewage treatment plant	N/A	N/A	N/A	N/A
Sludge compost facility, public	N/A	N/A	N/A	N/A
Recycling facility, indoor	N/A	N/A	N/A	N/A
Landfill, public	N/A	N/A	N/A	N/A
Camp for boys & girls, including music or art camp	N/A	N/A	N/A	N/A
Campground	416	0.41	weekday, PM peak hour of generator	occupied camp sites
Riding Stable	N/A	N/A	N/A	N/A
Golf course	430	5.04	weekday	Acres
Golf driving range	432	13.65	weekday	tees/driving pos.

Table B-1
Metacom Corridor
Existing Zoning Permitted Use - Trip Generation

Permitted Uses	Land Use Code	Avg Rate	Week Type	Variable
Miniature golf course	431	0.33	weekday, pm peak hour of adj. Street traffic	Holes
Bowling alley	437	33.33	weekday	1000sq ft
Skating/rolling rink	465	2.36	Weekday PM peak hour of adj. Street traffic	1000sq ft
Billiards Parlor	N/A	N/A	N/A	N/A
Health Club	492	4.06	weekday PM peak hour of generator	1000sq ft
Theater	441	0.02	Weekday PM peak hour of adj. Street traffic	seats
Playground/Park	411	1.59	weekday	Acres
Open space	411	1.59	weekday	Acres
Non-profit community or education center	495	2.69	weekday	1000sq ft
Yatch club/marina	420	20.93	weekday	Acres
Propane tanks	170	0.76	Weekday, peak hour of adj. Street traffic, 1hr. B/t 4-6pm	1000sq ft
Drive-thrus	N/A	N/A	N/A	N/A
Gift shop	N/A	N/A	N/A	N/A
Administrative services	710	11.01	weekday	1000sq ft
Caretakers Residence	210	9.57	weekday	dwelling units

Source: Institute of Traffic Engineers *Trip Generation Handbook*, 2004

Service Connection Deeds and Easements



DEED OF PROPOSED STREET

KNOW ALL MEN BY THESE PRESENTS, that, THE BRISTOL CONSORTIUM, a Rhode Island Joint Venture having its principal place of business at 535 Metacom Avenue, Bristol, Rhode Island 02809, for consideration paid, for good and valuable consideration, hereby grants to The Town of Bristol, a municipal corporation in the State of Rhode Island, whose address is 10 Court Street, Bristol, Rhode Island 02809, and its successors and assigns, for highway purposes only, a street and way designated as the "Proposed Road Dedication" on that plat entitled "SUBDIVISION PLAT FOR EAST BAY INDUSTRIAL PARK, PROPOSED ROAD DEDICATION, BALLOU BOULEVARD, BRISTOL, RHODE ISLAND BY FUSS & O'NEILL, INC. CONSULTING ENGINEERS DATED 12/12/03 APPROVED BY THE BRISTOL PLANNING BOARD ON JANUARY 13, 2004", further described as follows:

That certain parcel of land situated on the southerly terminus of Ballou Boulevard in the Town and County of Bristol, State of Rhode Island, and further described as the "Proposed 50' wide Access Road" and the "Proposed 40' wide Access Road" on the re-plat of lot 45 entitled "EAST BAY INDUSTRIAL PARK PROPOSED ROAD DEDICATION, BALLOU BOULEVARD, BRISTOL, RHODE ISLAND FOR BRISTOL CONSORTIUM REVISED BY FUSS & O'NEILL, INC. REVISED JANUARY 11, 2005, APPROVED JANUARY 19, 2005," and recorded in the Land Evidence Records of the Town of Bristol, State of Rhode Island on February 1, 2005 in Hanging Folder Number 484.

Containing approximately 34,763 square feet.

The consideration for this conveyance is such that no documentary stamps are required.

Subject to taxes assessed December 31, 2004.

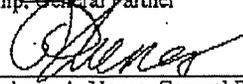
The undersigned hereby certify that this transfer is not a sale, and is therefore exempt from the smoke detector and carbon monoxide detector law RIGL §23-28.35 et seq.

I, Anthony A. Nunes do hereby covenant that, as to the interests of NUNES PARTNERS, I.D. ASSOCIATES and NEW ENGLAND GAS CO. - a Division of Southern Union Company (successor by merger to the former Bristol and Warren Gas Company), partners in THE BRISTOL CONSORTIUM, no RIGL 44-30-71.3 withholding is required as each of NUNES PARTNERS, I.D. ASSOCIATES and NEW ENGLAND GAS CO are residents of Rhode Island as evidenced by affidavit. I, Anthony A. Nunes, do hereby covenant that, as to the interests of URSULA M. BEAUREGARD, MICHAEL R. BEAUREGARD, ARTHUR W. BEAUREGARD, JR. and STEPHEN J. BEAUREGARD TRUST, partners in BEAUREGARD FAMILY LIMITED PARTNERSHIP, no RIGL 44-30-71.3 withholding is required as each of URSULA M. BEAUREGARD, MICHAEL R. BEAUREGARD, ARTHUR W. BEAUREGARD, JR. and STEPHEN J. BEAUREGARD TRUST are residents of Rhode Island as evidenced by affidavit.

The undersigned hereby certify that the real property being conveyed is vacant land and has no occupied dwelling units and is therefore exempt from the smoke detector law as provided in Section 23-28.35.14.

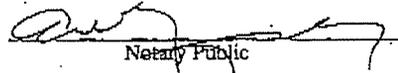
IN WITNESS WHEREOF, THE BRISTOL CONSORTIUM, has caused its name to be written hereunder and its seal affixed hereto by its duly authorized officer this 12 day of February, 2005.

THE BRISTOL CONSORTIUM
By: Nunes Partners, a Rhode Island Limited
Partnership, General Partner

By 
Anthony A. Nunes, General Partner

STATE OF RHODE ISLAND)
COUNTY OF BRISTOL)

In the Town of Bristol on the 12 day of February, 2005, before me personally appeared Anthony A. Nunes, General Partner of Nunes Partners, a Rhode Island Limited Partnership as General Partner of The Bristol Consortium, to me known and known by me to be the party executing the foregoing instrument for an on behalf of Nunes Partners and The Bristol Consortium, and he acknowledged said instrument, by him executed, to be his free act and deed, in his said capacity, and the free act and deed of Nunes Partners and The Bristol Consortium.


Notary Public
Alfred R. Bago, Jr.
Notary Public
Commission Expires June 24, 2005

04859

THIRTY

BOOK 1149 PAGE 129

EASEMENT DEED

KNOW ALL MEN BY THESE PRESENTS that Brito Enterprises, Inc. a Rhode Island corporation with offices at 99 Tupelo Street, Bristol, Rhode Island, for good and valuable consideration, hereby grants to the Town of Bristol, a municipal corporation in the State of Rhode Island, whose address is 10 Court Street, Bristol, Rhode Island 02809, and its successors and assigns, for highway purposes, a land and way designated as the "30' WIDE RIGHT-OF-WAY (PER METACOM OVERLAY DISTRICT)" further described as follows:

That certain thirty (30) foot travel lane situated in the westerly parking lot in the parcel located on the westerly side of Metacomb Avenue, in the Town and County of Bristol, State of Rhode Island, shown on the plan entitled, "METACOM CONDOMINIUM REDEVELOPMENT PROJECT BY FUS & O'NEILL INC. FOR JOSEPH M. BRITO, SR. C/O BRITO ENTERPRISES, INC." which plan is on file in the Land Evidence Records for the Town of Bristol at plat envelope 470.

The consideration for this conveyance is such that no documentary stamps are required.

Subject to taxes assessed December 31, 2003:

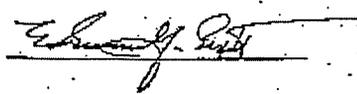
The undersigned hereby certify that this transfer is not a sale, and is therefore exempt from the smoke detector and carbon monoxide detector law, RIGL §23-28.35 et seq.

Brilo Enterprises, Inc. is a Rhode Island corporation organized and existing pursuant to the laws of the State of Rhode Island, and evidenced by the copy of the Certificate of Good Standing of Secretary of State attached hereto. No RIGL 544-30-71.3 withholding is required.

IN WITNESS WHEREOF, said Brito Enterprises, Inc. has set its hand and corporate seal to be hereto affixed and these presents to be signed by its proper officer(s), for the purpose duly authorized this 14th day of August, 2004.

IN PRESENCE OF:

BRITO ENTERPRISES, INC.

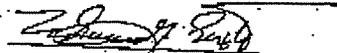


By 
Joseph M. Brito, Sr., President

000134

STATE OF RHODE ISLAND
COUNTY OF BRISTOL

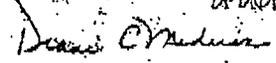
In Bristol, in said County on the 19th day of August, 2004, before me personally appeared the above named Joseph M. Brito, Sr., President of Brito Enterprises, Inc., to me known and known by me to be the person executing the foregoing instrument and acknowledged said instrument to be his free act and deed and the free act and deed of said corporation.



Notary Public

My Commission Expires: 6/14/05

Recorded SP - 1 204 at 7:40 P.M.

 Town Clerk

E:\DOCS\STS\CB Utility\Town of Bristol doc\Easement Deed

VEHICULAR ROADWAY EASEMENT DEED

KNOW ALL MEN BY THESE PRESENTS, THAT SOCI LLC, a Massachusetts limited liability company, P.O. Box 497, Swansea, Massachusetts (the "Grantor"), is the owner of that certain parcel of land (the "Land") designated as:

That certain parcel of land delineated, depicted and described as "PROPOSED RIGHT-OF-WAY EASEMENT (0.32± ACRES)" on that plan entitled "ADMINISTRATIVE SUBDIVISION PLAN, PROPOSED RETAIL PHARMACY STORE, A.P.98/LOT NOS 6 & a portion of 2, Metacom and Gooding Avenue, Bristol, Rhode Island" by Fuss & O'Neill, Inc. Consulting Engineers, John J. Barker, Jr., Professional Land Surveyor, date February 2005, revised to 8-4-05 (sheet 5 of 12). Said parcel is described by metes and bounds on Exhibit "A" attached hereto and incorporated by reference herein. The above-referenced plan was approved by the Bristol Planning Board on Sept. 13, 2006 and recorded in the Land Evidence Records of the Town of Bristol, Rhode Island on March 24, 2006 at 10:13 a.m. o'clock as Plat Card Number 501 (the "Plat").

WHEREAS, it is the intention of the Grantor to grant to the TOWN OF BRISTOL, a municipal corporation formed under the laws of the State of Rhode Island, and its successors and assigns (the "Grantee"), an easement for public vehicular access from Gooding Avenue on the above-referenced plat to lands lying Northerly of the development depicted on the Plat.

NOW THEREFORE, in consideration of the foregoing and for other valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Grantor does hereby grant unto the Grantee, its successors and assigns, the easement in the Land for the sole purpose as described above.

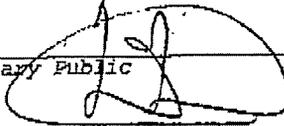
IN WITNESS WHEREOF, SOCI LLC has caused this instrument to be executed on this 18th day of April, 2006.

SOCI LLC

BY: 
PHILIP MARTELLY
Manager

STATE OF RHODE ISLAND
COUNTY OF BRISTOL

In Bristol on this 18th day of April, 2006, before me personally appeared Philip Martelly, of SOCI LLC, a limited liability company, to me known and known by me to be the party executing the foregoing instrument on behalf of said limited liability company and acknowledged said instrument and the execution thereof, to be his free act and deed in said capacity and the free act and deed of said limited liability company.


Notary Public

WILLIAM P. DENNIS
NOTARY PUBLIC
COMMISSION EXPIRES
JULY 30, 2009

EXHIBIT "A"
Legal Description of Property

Proposed Access Easement
"PROPOSED ACCESS EASEMENT THROUGH LOT 6"
Bristol, Rhode Island

That certain access easement situated on the northerly side of Gooding Avenue in the Town of Bristol and State of Rhode Island within Proposed Lot 6 of Assessor's Plat 98, said easement being further bounded and described as follows:

Beginning at the southeasterly corner of the herein described parcel, said corner being located on the northerly street line of Gooding Avenue approximately 47.81 feet southwestery of Rhode Island State Highway Bound No. 306;

Thence turning an interior chord angle of $75^{\circ} 37' 30''$ and running northerly, along a curve with a 20-foot radius, a distance of 10.43 feet along to a point;

Thence turning an interior angle of $194^{\circ} 56' 07''$ and running northwesterly, in a straight line, a distance of 43.01 feet to a point;

Thence turning an interior angle of $175^{\circ} 25' 33''$ and running northwesterly, in a straight line, a distance of 50.16 feet to a point;

Thence turning an interior angle of $184^{\circ} 31' 08''$ and running northwesterly, in a straight line, a distance of 196.29 feet to a point;

Thence turning an interior chord angle of $223^{\circ} 12' 55''$ and running northwesterly, along a curve with a 40-foot radius, a distance of 60.26 feet along to a point;

Thence turning an interior chord angle of $188^{\circ} 58' 37''$ and running northwesterly, along a curve with a 70-foot radius, a distance of 84.41 feet along to a point located on the southern boundary of land now or formerly owned by 597 Metacom Avenue LLC (referred to as Lot 15 of Assessor's Plat 98);

Thence turning an interior chord angle of $37^{\circ} 22' 03''$ and running northeasterly, in a straight line, a distance of 33.06 feet along to a point located on the southern boundary of land now or formerly owned by 597 Metacom Avenue LLC (referred to as Lot 15 of Assessor's Plat 98);

Thence turning an interior chord angle of $150^{\circ} 08' 59''$ and running southeasterly, along a curve with a 40-foot radius, a distance of 37.87 feet along to a point;

Thence turning an interior chord angle of $163^{\circ} 32' 53''$ and running southeasterly, along a curve with a 70-foot radius, a distance of 105.60 feet along to a point;

Thence turning an interior chord angle of $136^{\circ} 44' 55''$ and running southeasterly, in a straight line, a distance of 222.07 feet to a point;

Thence turning an interior chord angle of $195^{\circ} 09' 26''$ and running southeasterly, along a curve with a 15-foot radius, a distance of 7.67 feet along to a point;

Thence turning an interior chord angle of $164^{\circ} 53' 29''$ and running southeasterly, in a straight line, a distance of 44.77 feet to a point;

Thence turning an interior chord angle of $208^{\circ} 01' 54''$ and running southeasterly, along a curve with a 30-foot radius, a distance of 29.35 feet to a point located on the northerly street line of Gooding Avenue;

Thence turning an interior chord angle of $70^{\circ} 10' 07''$ and running southwesterly, in a straight line, a distance of 4.12 feet along the northerly street line of Gooding Avenue to a point (said point being Rhode Island State Highway Bound No. 306);

Thence turning an interior angle of $171^{\circ} 14' 23''$ and running southwesterly, in a straight line, a distance of 47.81 feet along the northerly street line of Gooding Avenue to the point and place of beginning.

The last described course forming an interior angle of $75^{\circ} 37' 30''$ with the previously described first course of land.

The above-described parcel contains 0.32, more or less, acres of land and is shown on a plan prepared by Fuss & O'Neill, Inc. and Barker Land Surveying, Inc., entitled "Administrative Subdivision Plan", and dated September 28, 2005.

Recorded Apr. 21, 2006 at 11:47:45A.
Louis P. Cirillo Town Clerk

DECLARATION OF EASEMENTS

This Declaration of Easements ("DECLARATION") made this 18th day of April, 2006, by and between 597 Metacom Avenue, L.L.C., a Rhode Island limited liability company, with its principal place of business located at 99 Tupelo Street, Bristol, RI 02809 ("METACOM") and SOCI LLC, a Massachusetts limited liability company, with an address of P.O. Box 497, Swansea, Massachusetts ("SOCI") with regard to those two parcels of land located on the westerly side of Metacom Avenue, said parcels more fully described in Exhibit "A" (the "South Parcel") and Exhibit "B" (the "North Parcel").

WHEREAS, SOCI is the owner of the South Parcel, which South Parcel is immediately adjacent to the North Parcel owned by METACOM; and

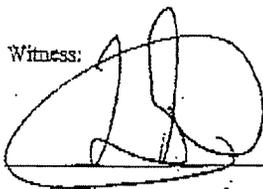
WHEREAS, the North Parcel is subject to and benefited by a certain Declaration of Easements, Covenants and Restrictions, which provides for certain ingress, egress, and parking easements and said Declaration is dated March 14, 1993 and recorded in the Land Evidence Records of the Town of Bristol, Rhode Island, in Book 467 at Page 178; and

WHEREAS, on November 28, 1990 the Honorable Bristol Town Council, in granting METACOM's (its predecessor in title's) request for a zone map change, imposed certain conditions and stipulations including the provision for locating "connecting roads", including a connecting road from the North Parcel to Gooding Avenue; and

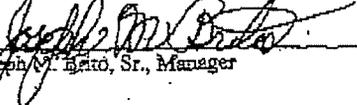
WHEREAS, the Honorable Planning Board of the Town of Bristol, in approving the Development Plan for SOCI has imposed the condition of providing the land for a "connecting road" from the south boundary of the North Parcel, running south to Gooding Avenue from the constructed connection location on the North Parcel.

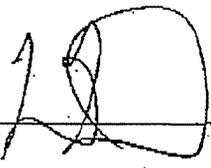
NOW THEREFORE, METACOM and SOCI hereby make, declare and grant to each other and their respective permittees, for their use, a non-exclusive ingress and egress easement (the "Ingress and Egress Easement") over and across those portions of the South Parcel and the North Parcel delineated as entry ways, exits, driving lanes or driveways on those plans recorded as the land development plans for both the South Parcel and the North Parcel. The Ingress and Egress Easement shall be used for the passage of vehicles and pedestrians to gain access to and from Gooding Avenue, and to, from and between such portions of the South Parcel and the North Parcel as are located within the bounds of the South Parcel and the North Parcel as they are described in Exhibits "A" and "B".

18th
Executed this ____ day of April, 2006.

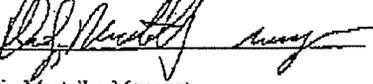
Witness: 

597 Metacom Avenue, L.L.C.

BY 
Joseph V. Gato, Sr., Manager



SOCI LLC

BY 
Philip Martelly, Manager

Potential Service Connections - Owners of Record



Table D-1
Proposed Gooding to Tupelo Service Connections
Property Owners of Record

Map/Lot	Owner	Location	State Code*	Land Area
87/5	ELJ, Inc.	703 Metacom Avenue	6	1.8
87/6	ELJ, Inc.	697 Metacom Avenue	3	22,500.0
87/7	Drowneville Associates LLC	125 Broadcommon Road	6	39,161.0
87/14	Francis Brothers Realty, Inc.	Broadcommon Road	12	39,103.0
87/15	ELJ, Inc.	129 Broadcommon Road	6	39,175.0
87/19	Drowneville Associates LLC	121 Broadcommon Road		
87/21	Antonio J. Cordiero	126 Tupelo Street	6	24,098.0
87/22	Carmelo Scolaro	122Tupelo Street	6	24,000.0
87/23-001	JA Properties, LLC	116 Tupelo Street	24	40,000.0
87/23-002	Wayne Gablinske	116 Tupelo Street	24	40,000.0
87/23-003	JA Properties, LLC	116 Tupelo Street	24	40,000.0
87/23-004	JA Properties, LLC	116 Tupelo Street	24	10,000.0
87/23-005	Carmelo/Antonia Bonvegna	116 Tupelo Street	24	-
87/23-006	Carmelo/Antonia Bonvegna	116 Tupelo Street	24	-
87/23-007	JA Properties, LLC	116 Tupelo Street	24	-
87/23-008	Anthony J. Santoro Jr.	116 Tupelo Street	24	40,000.0
94/1	Heavy M Real Estate, LLC	685 Metacom Avenue	6	5.1
94/4	Heavy M Real Estate, LLC	691 Metacom Avenue	1	10,000.0
94/7	Barmal Realty Corp	655 Metacom Avenue	6	3.8
94/8	Jack's Salvage & Auto Parts, Inc.	625 Metacom Avenue	6	12.2
94/9	Heavy M Real Estate, LLC	Broadcpmmon Road	13	10,000.0
94/10-001	Lisa M. Souza	661 Metacom Avenue	23	-
94/10-002	Jonathan R. Serbst	661 Metacom Avenue	23	-
94/10-003	Kristina K. Link	661 Metacom Avenue	23	-
94/10-004	Matilde M. Simas	661 Metacom Avenue	23	-
94/10-005	Orban & Constantino Realty, LLC	661 Metacom Avenue	23	-
94/10-006	Steven J. Hurwitz	661 Metacom Avenue	23	20,000.0
94/10-007	Walter J./Holly Ciampa	661 Metacom Avenue	23	20,000.0
94/10-008	Richard H./Lydia H. Devault	661 Metacom Avenue	23	20,000.0
94/10-009	Tracey L. Sutton	661 Metacom Avenue	23	-
94/10-010	Adelia S. Ferreira	661 Metacom Avenue	23	20,000.0
94/10-011	Edward C. Hattub	661 Metacom Avenue	23	20,000.0
94/10-012	Sarah B. Kelly	661 Metacom Avenue	23	20,000.0
94/10-013	Murari M. Simlote	661 Metacom Avenue	23	20,000.0
94/10-014	Leslie/Luis/Maria Pacheco	661 Metacom Avenue	23	-
94/10-015	David P./Yvonne L. Ingalls	661 Metacom Avenue	23	20,000.0
94/10-016	Lee Ann Pannone	661 Metacom Avenue	23	20,000.0
94/10-017	Lorine L. Silva	661 Metacom Avenue	23	20,000.0
94/10-018	Denise A. McGregor	661 Metacom Avenue	23	20,000.0
94/10-019	Melanie Anderson	661 Metacom Avenue	23	20,000.0
94/10-020	Glen E. Birk	661 Metacom Avenue	23	-
94/10-021	Karen A. Gagne	661 Metacom Avenue	23	20,000.0
94/10-022	Gail P. Mc Carthy	661 Metacom Avenue	23	20,000.0
94/10-023	Ambrose Carroll	661 Metacom Avenue	23	-
94/14-001	Nicholas D. Fluet	663 Metacom Avenue	23	-
94/14-002	Jose /Maria/Michael Melo	663 Metacom Avenue	23	-
94/14-003	Mary Jo Mello	663 Metacom Avenue	23	-
94/14-004	Kenneth Santos	663 Metacom Avenue	23	-
94/14-005	Brito Enterprises, Inc.	665 Metacom Avenue	23	-

Table D-1
Proposed Gooding to Tupelo Service Connections
Property Owners of Record

Map/Lot	Owner	Location	State Code*	Land Area
94/14-006	Brito Enterprises, Inc.	665 Metacom Avenue	23	-
94/14-007	Brito Enterprises, Inc.	665 Metacom Avenue	23	-
94/14-008	Brito Enterprises, Inc.	665 Metacom Avenue	23	-
94/14-009	Brito Enterprises, Inc.	665 Metacom Avenue	23	-
94/14-010	Brito Enterprises, Inc.	665 Metacom Avenue	23	-
94/14-011	Brito Enterprises, Inc.	667 Metacom Avenue	23	-
94/14-012	Brito Enterprises, Inc.	667 Metacom Avenue	23	-
94/14-013	Brito Enterprises, Inc.	667 Metacom Avenue	23	-
94/14-014	Brito Enterprises, Inc.	667 Metacom Avenue	23	-
94/14-015	Brito Enterprises, Inc.	667 Metacom Avenue	23	-
94/14-016	Brito Enterprises, Inc.	667 Metacom Avenue	23	-
94/14-017	Brito Enterprises, Inc.	669 Metacom Avenue	23	-
94/14-018	Brito Enterprises, Inc.	669 Metacom Avenue	23	-
94/14-019	Maria Beatriz Oliviera	669 Metacom Avenue	23	-
94/14-020	Michele Marie Travis	669 Metacom Avenue	23	-
94/14-021	Brito Enterprises, Inc.	669 Metacom Avenue	23	-
94/14-022	Brito Enterprises, Inc.	669 Metacom Avenue	23	-
94/14-023	Brito Enterprises, Inc.	669 Metacom Avenue	23	-
94/14-024	Brito Enterprises, Inc.	669 Metacom Avenue	23	-
94/14-025	Brito Enterprises, Inc.	669 Metacom Avenue	23	-
94/14-026	Brito Enterprises, Inc.	669 Metacom Avenue	23	-
94/14-027	Brito Enterprises, Inc.	669 Metacom Avenue	23	-
94/14-028	Brito Enterprises, Inc.	669 Metacom Avenue	23	-
94/14-029	Palmra K. Faria	671 Metacom Avenue	23	-
94/14-030	Brito Enterprises, Inc.	671 Metacom Avenue	23	-
94/14-031	Thomas J. Ventura	671 Metacom Avenue	23	-
94/14-032	Steven Schreiner	671 Metacom Avenue	23	-
94/14-033	Brito Enterprises, Inc.	671 Metacom Avenue	23	-
94/14-034	Brito Enterprises, Inc.	671 Metacom Avenue	23	-
94/14-035	Rachel H. Saunders	671 Metacom Avenue	23	-
94/14-036	Brito Enterprises, Inc.	671 Metacom Avenue	23	-
94/14-037	Sara Jane Vollaro	671 Metacom Avenue	23	-
94/14-038	Brito Enterprises, Inc.	671 Metacom Avenue	23	-
94/14-039	Brito Enterprises, Inc.	671 Metacom Avenue	23	-
94/14-040	Brito Enterprises, Inc.	671 Metacom Avenue	23	-
94/14-041	Mathew J. Brito	673 Metacom Avenue	23	-
94/14-042	Brito Enterprises, Inc.	673 Metacom Avenue	23	-
94/14-043	Sarah G. Nerone	673 Metacom Avenue	23	-
94/14-044	Robert M. Medeiros	673 Metacom Avenue	23	-
94/14-045	Adam M. Schreiner	673 Metacom Avenue	23	-
94/14-046	Carol L. Sacchetti	673 Metacom Avenue	23	-
94/14-047	James M. Dipippo	673 Metacom Avenue	23	-
94/14-048	Ralph E. Hanson	673 Metacom Avenue	23	-
94/14-049	Nicole M. Simmons	673 Metacom Avenue	23	-
94/14-050	Melanie M. Curley	673 Metacom Avenue	23	-
94/14-051	Lori A. Barboza	673 Metacom Avenue	23	-
94/14-052	Brito Enterprises, Inc.	673 Metacom Avenue	23	-
94/14-053	Brito Enterprises, Inc.	675 Metacom Avenue	23	-
94/14-054	Brito Enterprises, Inc.	675 Metacom Avenue	23	-

Table D-1
Proposed Gooding to Tupelo Service Connections
Property Owners of Record

Map/Lot	Owner	Location	State Code*	Land Area
94/14-055	Brito Enterprises, Inc.	675 Metacom Avenue	23	-
94/14-056	Brito Enterprises, Inc.	675 Metacom Avenue	23	-
94/14-057	Brito Enterprises, Inc.	675 Metacom Avenue	23	-
94/14-058	Brito Enterprises, Inc.	675 Metacom Avenue	23	-
94/14-059	Robert V./June Tierman	677 Metacom Avenue	23	-
94/14-060	Time Matters, LLC	677 Metacom Avenue	23	-
94/14-061	Nicole C. Carota	677 Metacom Avenue	23	-
94/14-062	Edward J. Cox	677 Metacom Avenue	23	-
94/14-063	Brito Enterprises, Inc.	677 Metacom Avenue	23	-
94/14-064	Melanie R. Quirk	677 Metacom Avenue	23	-
94/14-065	Brito Enterprises, Inc.	679 Metacom Avenue	23	-
94/14-066	Larry A./Leslie M. Nance	679 Metacom Avenue	23	-
94/14-067	Albert/Carmela Vieira	679 Metacom Avenue	23	-
94/14-068	Albert/Carmela Vieira	679 Metacom Avenue	23	-
94/14-069	Edward J. Cox	679 Metacom Avenue	23	-
94/14-070	Thomas J. Principe	679 Metacom Avenue	23	-
94/14-071	Burton Street Properties, LC	679 Metacom Avenue	23	-
94/14-072	David Gorman	681 Metacom Avenue	23	-
94/14-073	Heidi Hoshue	673 Metacom Avenue	23	-
94/14-074	Cheryl A. Ruggiero	673 Metacom Avenue	23	-
94/14-075	William P./Jane Ann Dennis	673 Metacom Avenue	23	-
94/14-076	Dale/Dorothy Janetka	673 Metacom Avenue	23	-
94/14-077	Thomas R./Linda A. Lindvall	673 Metacom Avenue	23	-
94/14-078	Frank/Maria Daluz	673 Metacom Avenue	23	-
94/14-079	David A. Blackman	683 Metacom Avenue	23	-
94/14-080	Patrick A. Sweeney	673 Metacom Avenue	23	-
94/14-081	Windswpet Realty, LLC	673 Metacom Avenue	23	-
94/14-082	Mary Suzanne Schaper	673 Metacom Avenue	23	-
94/16	Albert Oliver	645 Metacom Avenue	6	2.0
94/18	John J. Marshall	Metacom Avenue	14	3,300.0
94/25	Veader Realty Rhode Island, LLC	68 Broadcommon Road	14	23,037.0
94/26	Common Road Realty, LLC	120 Broadcommon Road	6	37,897.0
94/27	Macx Inc.	44 Ballou Boulevard	6	26,397.0
94/29-001	Bristol Tradesmen's LLC	2 Shannon Court Unit A	14	-
94/29-002	Bristol Tradesmen's LLC	2 Shannon Court Unit B	14	-
94/29-003	Francisco Daponte	2 Shannon Court Unit C	14	-
94/29-004	Bristol Tradesmen's LLC	2 Shannon Court Unit D	14	-
94/29-005	Bristol Tradesmen's LLC	2 Shannon Court Unit E	14	-
94/29-006	Francisco Daponte	2 Shannon Court Unit F	14	-
94/29-007	Bristol Tradesmen's LLC	2 Shannon Court Unit G	14	-
94/29-008	Bristol Tradesmen's LLC	2 Shannon Court Unit H	14	-
94/33	Matrix Realty, LLC	48 Ballou Boulevard	6	1.6
94/45	Daponte Brothers Realty, LLC	75 Ballou Boulevard	14	208,462.0
94/49	Veader Realty Rhode Island, LLC	Ballou Boulevard	14	27,070.0
94/50	Brito Associates	Ballou Boulevard	14	39,958.0
94/51	52 Ballou Boulevard, LLC	52 Ballou Boulevard	7	108,232.0
94/54	Younce, LLC	Ballou Boulevard	14	37,310.0
94/55	A&F Realty, LLC	Ballou Boulevard	14	32,390.0
94/56	Carlos A. Medeiros	Ballou Boulevard	14	31,163.0

Table D-1
Proposed Gooding to Tupelo Service Connections
Property Owners of Record

Map/Lot	Owner	Location	State Code*	Land Area
94/57	A&O Realty Associates, LLC	Ballou Boulevard	14	29,935.0
94/58	A&O Realty Associates, LLC	Ballou Boulevard	14	28,707.0
94/59	Ballou Boulevard, LLC	Ballou Boulevard	14	27,749.0
94/60	JTC Co., LLC	70 Ballou Boulevard	7	26,250.0
94/61	JTC Co., LLC	Ballou Boulevard	14	30,138.0
98/2	Town of Bristol	Gooding Avenue	13	6.5
98/3	Inland American Bristol, LLC	605 Metacom Avenue	6	11.5
98/4	Inland American Bristol, LLC	Metacom Avenue	12	1.0
98/5	Inland American Bristol, LLC	Metacom Avenue	12	22,400.0
98/6	Soci, LLC	591 Metacom Avenue	6	2.7
98/15	597 Metacom Avenue LLC	597 Metacom Avenue	6	2.1
98/18	Judith A. Tabor	607 Metacom Avenue	2	12,500.0

Source: Bristol Assessor's database.

* State Codes

- 1: One family residence
- 2: Two to five family residence
- 3: Apartments
- 6: Commercial II
- 7: Industrial
- 12: Other improved land
- 13: Residential vacant land
- 14: Commercial and industrial vacant land
- 23: Residential condominium
- 24: Commercial condominium

PROPOSED METACOM MIXED USE
ZONE USE TABLE



**PROPOSED METACOM MIXED USE (MMU) ZONE
PERMITTED USE TABLE**

ZONING DISTRICTS	R-80	R-40 R-40W	R-20	R-15	R-10 R-10SW R-8	R-6	LB	GB	D	W	M	OS	EI	HPC	MMU
<i>AGRICULTURAL</i>															
Gardening and Raising of Crops	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y
Nursery or Greenhouse/Agricultural (without sales on premises)	Y	Y	Y	Y	N	N	Y	Y	N	N	N	Y	N	Y	Y
Nursery or Greenhouse/Commercial (with sales on premises)	S	S	S	S	N	N	Y	Y	N	N	N	S	N	N	Y
Nursery or Greenhouse/Non -Profit (with sales on premises)	S	S	S	S	N	N	Y	Y	N	N	N	S	N	Y	Y
Raising of Animals for Profit or Consumption	S*	S*	S*	N	N	N	N	N	N	N	N	Y	N	Y	N
Keeping of non-domesticated animals as pets	S*	S*	S*	N	N	N	N	N	N	N	N	Y	N	Y	N
*See Special Use Standards															
<i>RESIDENTIAL</i>															
Single household dwelling	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	N	N	Y
Two household dwelling	N	N	N	N	Y	Y	Y	N	Y	Y	N	N	N	N	Y
Multi-household dwelling	N	N	N	N	N	Y	Y	N	Y	Y	N	N	N	N	Y
Bed & Breakfast	N	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	N	Y	Y
Country Inn with 5-10 rooms in one or more buildings with meals to guests only	N	N	N	N	N	N	N	N	S	S	N	N	N	Y	N
Dormitory	N	N	N	N	N	S	N	N	S	N	N	N	Y	N	N
Nursing Home	N	N	N	S	S	Y	Y	S	S	N	N	N	N	N	Y
Congregate Care Facility	N	N	N	S	S	Y	Y	S	S	N	N	N	N	N	Y
Hotel	N	N	N	N	N	S	S	Y	Y	Y	N	N	N	N	Y
Motel	N	N	N	N	N	S	S	S	N	N	N	N	N	N	S

**PROPOSED METACOM MIXED USE (MMU) ZONE
PERMITTED USE TABLE**

ZONING DISTRICTS	R-80	R-40 R-40W	R-20	R-15	R-10 R-10SW R-8	R-6	LB	GB	D	W	M	OS	EI	HPC	MMU
<i>RESIDENTIAL (Cont.)</i>															
<i>Manufactured Home</i>	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
<i>Manufactured Home Park</i>	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Community Residence	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	Y	N	Y
Lodging/Boarding House - 5 rooms or less	N	N	N	N	N	Y	S	N	Y	Y	N	N	N	Y	S
- over 5 rooms	N	N	N	N	N	S	S	N	S	S	N	N	N	S	S
<i>INSTITUTIONAL AND GOVERNMENTAL SERVICES</i>															
Medical Clinic	N	N	N	N	N	N	Y	Y	Y	N	N	N	Y	N	Y
Hospital	N	N	N	N	N	N	S	S	S	N	N	N	N	N	S
Drug and Alcohol Rehabilitation Facility	S	S	N	N	N	S	S	Y	S	N	N	N	N	N	S
Halfway house	N	N	N	N	N	S	N	N	S	N	N	N	N	N	N
Family Day Care Home With 6 or less persons	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y
Day Care Facility With more than 6 persons	N	N	N	N	N	S	Y	Y	Y	Y	S	N	Y	N	Y
Prison or Correctional Facility	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Cemetery	S	S	S	S	N	N	N	N	N	N	N	S	N	S	N
Church, Synagogue or religious educational building	S*	S*	S*	S*	S*	S*	Y	Y	Y	Y	N	N	N	Y	Y
Monastery/Convent Active or Retirement Home	S	S	S	S	S	Y	Y	Y	Y	N	N	N	Y	Y	Y
Government-run Veterans Home on State Owned Land	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N

**PROPOSED METACOM MIXED USE (MMU) ZONE
PERMITTED USE TABLE**

ZONING DISTRICTS	R-80	R-40 R-40W	R-20	R-15	R-10 R-10SW R-8	R-6	LB	GB	D	W	M	OS	EI	HPC	MMU
<i>INSTITUTIONAL AND GOVERNMENTAL SERVICES (Cont.)</i>															
Civic/convention center and assembly hall	N	N	N	N	N	S	Y	Y	Y	Y	N	N	Y	N	Y
Library	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	N	Y
Post Office	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N
Museum, non-profit	S	S	S	S	S	S	Y	Y	Y	Y	S	N	Y	Y	Y
Fire Station	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	N
Government Office Bldg.	N	N	N	N	Y	Y	Y	Y	Y	Y	N	N	N	N	Y
Government Garage Facility	N	N	N	N	N	S	Y	Y	Y	N	N	N	N	N	Y
Schools:															
K-12	S	S	S	S	Y	Y	Y	Y	Y	N	N	N	S	Y	N
College/University	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N
Specialty School	N	N	N	N	N	S	Y	Y	Y	S	Y	N	S	N	Y

**PROPOSED METACOM MIXED USE (MMU) ZONE
PERMITTED USE TABLE**

ZONING DISTRICTS	R-80	R-40 R-40W	R-20	R-15	R-10 R-10SW R-8	R-6	LB	GB	D	W	M	OS	EI	HPC	MMU
OFFICE USES															
Office of a professional or business agent, or political, labor, or service association including the following: <i>insurance agent, insurance adjuster, investment agent, bonding agent, finance agent, accountant, advertising agent, architect, artist, dentist, chiropractor, engineer, government, landscape architect, lawyer, office business machine agent, physician, optician, optometrist, realtor, employment agent, travel agent and veterinarian.</i>	N ⁽¹⁾	N ⁽¹⁾	N ⁽¹⁾	N ⁽¹⁾	N ⁽¹⁾	N ⁽¹⁾	Y	Y	Y	Y	S	N	N	N	Y
Bank	N	N	N	N	N	N	Y	Y	Y	Y	S	N	N	N	Y
Corporate Headquarters in a building built prior to 1950	N	N	N	N	N	N	Y	Y	Y	Y	Y	N	N	N	Y
Corporate Headquarters in a new building	N	N	N	N	N	N	Y	Y	Y	Y	S	N	N	N	Y
SERVICE BUSINESS															
Restaurant, Cafe, or Deli without liquor sales	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Restaurant, Cafe, or Deli with liquor sales	N	N	N	N	N	N	S	Y	Y	Y	N	N	N	N	S
Drive-thru restaurant	N	N	N	N	N	N	N	S*	N	N	N	N	N	N	S*

⁽¹⁾ Except as provided per Section 412, Home Occupations

**PROPOSED METACOM MIXED USE (MMU) ZONE
PERMITTED USE TABLE**

ZONING DISTRICTS	R-80	R-40 R-40W	R-20	R-15	R-10 R-10SW R-8	R-6	LB	GB	D	W	M	OS	EI	HPC	MMU
<i>SERVICE BUSINESS (Cont.)</i>															
Fast food restaurant	N	N	N	N	N	N	S	Y	Y	Y	N	N	N	N	S
Tavern/Bar/Nightclub	N	N	N	N	N	N	S	Y	Y	Y	N	N	N	N	Y
Funeral Home	N	N	N	N	N	S	Y	Y	Y	N	N	N	N	N	Y
Gasoline Service Station	N	N	N	N	N	N	S*	S*	N	N	N	N	N	N	S*
Catering	N	N	N	N	N	N	Y	Y	Y	Y	S	N	N	N	Y
Massage Therapist	N	N	N	N	N	N	Y	Y	Y	Y	S	N	N	N	Y
Sign Painting	N	N	N	N	N	N	S	Y	S	S	Y	N	N	N	S
Auto Repair, minor	N	N	N	N	N	N	S*	S	N	N	Y	N	N	N	S*
Laundry, self-service	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Drycleaning without on-site plant	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Gunsmith (gun repair)	N	N	N	N	N	N	N	Y	N	N	S	N	N	N	S
Bakery	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Appliance Repair	N	N	N	N	N	N	Y	Y	Y	S	Y	N	N	N	Y
Mechanical Equipment Repair	N	N	N	N	N	N	Y	Y	Y	S	Y	N	N	N	Y
Printing, Blueprinting and Photocopying	N	N	N	N	N	N	Y	Y	Y	Y	Y	N	N	N	Y
Photographic development	N	N	N	N	N	N	Y	Y	Y	Y	Y	N	N	N	Y
Hairdresser/Barber	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Wireless Telecommunications Antenna on an existing structure, subject to Section 406	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Wireless Telecommunications Facility, including Tower, subject to Sections 406 and 409	N	N	N	N	N	N	S	S	S	S	S	S	S	S	S
Adult Entertainment	N	N	N	N	N	N	N	N	N	N	Y ⁽²⁾	N	N	N	N

⁽²⁾ Only if not within two hundred (200) feet from either a residential zone or a residential use.

**PROPOSED METACOM MIXED USE (MMU) ZONE
PERMITTED USE TABLE**

ZONING DISTRICTS	R-80	R-40 R-40W	R-20	R-15	R-10 R-10SW R-8	R-6	LB	GB	D	W	M	OS	EI	HPC	MMU
<i>SERVICE BUSINESS (Cont.)</i>															
Conference Center	N	N	N	N	N	N	N	Y	Y	Y	N	N	N	Y	Y
Contract Construction Service	N	N	N	N	N	N	N	S	N	S	Y	N	N	N	N
<i>RETAIL BUSINESS</i>															
Antique store	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Appliance Store	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Auto parts sales, new	N	N	N	N	N	N	S	Y	S	N	N	N	N	N	Y
Auto sales	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	Y
Bait Shop	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Bakery	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Book store	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Book store/cafe	N	N	N	N	N	N	Y	Y	Y	Y	N	N	Y	N	Y
Car Rental	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	S
Clothing Sales	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Convenience store	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Florist	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Furniture store	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Gunsmith (sales)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
General merchandise store	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Gift shop	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Grocery store	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Liquor store	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Mechanical Equipment sales	N	N	N	N	N	N	N	Y	N	N	S	N	N	N	Y
News stand	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Pet store	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Pharmacy	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y

**PROPOSED METACOM MIXED USE (MMU) ZONE
PERMITTED USE TABLE**

ZONING DISTRICTS	R-80	R-40 R-40W	R-20	R-15	R-10 R-10SW R-8	R-6	LB	GB	D	W	M	OS	EI	HPC	MMU
<i>RETAIL BUSINESS (Cont.)</i>															
Shopping Center (>2 stores)	N	N	N	N	N	N	N	Y	S	S	N	N	N	N	Y
Variety store	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
Video rental and sales	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y
<i>WHOLESALE BUSINESS</i>															
Wholesale trade within enclosed structure	N	N	N	N	N	N	N	Y	N	Y	Y	N	N	N	Y
Wholesale trade, outdoor storage	N	N	N	N	N	N	N	S	N	N	S	N	N	N	S
Outdoor storage of junk, scrap, or salvage material, including junkyards	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Warehouse/distribution facility	N	N	N	N	N	N	N	S	N	N	Y	N	N	N	S
Air-Supported Structure	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Reclamation Facility	N	N	N	N	N	N	N	N	N	N	S	N	N	N	N
<i>SERVICE INDUSTRIES</i>															
Dry-cleaning plant	N	N	N	N	N	N	N	S	N	N	Y	N	N	N	S
Automotive body repair, major	N	N	N	N	N	N	N	S*	N	N	Y	N	N	N	S
<i>INDUSTRIAL</i>															
Food and kindred products-manufacturing including canning or packaging	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N
Processing of bakery products	N	N	N	N	N	N	S	Y	N	N	Y	N	N	N	S
Textile Mill Products and Apparel Manufacturing	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N
Lumber and Wood Products, Furniture and Fixtures Manufacturing	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N

**PROPOSED METACOM MIXED USE (MMU) ZONE
PERMITTED USE TABLE**

<u>ZONING DISTRICTS</u>	<u>R-80</u>	<u>R-40</u> <u>R-40W</u>	<u>R-20</u>	<u>R-15</u>	<u>R-10</u> <u>R-10SW</u> <u>R-8</u>	<u>R-6</u>	<u>LB</u>	<u>GB</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>OS</u>	<u>EI</u>	<u>HPC</u>	<u>MMU</u>
<i>INDUSTRIAL (Cont.)</i>															
Paper and allied products, printing, and publishing, including refinishing	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N
Chemicals and allied products manufacturing	N	N	N	N	N	N	N	N	N	N	S	N	N	N	N
Leather and fur tanning and finish	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Rubber and miscellaneous plastic products-manufacturing	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N
Stone, clay, and glass products manufacturing	N	N	N	N	N	N	S	S	S	N	Y	N	N	N	S
Pottery products manufacturing	N	N	N	N	N	N	Y	Y	S	S	Y	N	N	N	Y
Cement, lime, gypsum, or plaster of Paris manufacturing	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Fabricated metal products-manufacturing	N	N	N	N	N	N	N	N	N	S	Y	N	N	N	N
Drop forge industries, manufacturing forgings with power hammers	N	N	N	N	N	N	N	N	N	N	S	N	N	N	N
Machinery and machine parts manufacturing	N	N	N	N	N	N	N	N	N	S	Y	N	N	N	N
Wire and cable manufacturing	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N
Transportation equipment manufacturing	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N
Boat building & repairs Including fiberglass and steel	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N
Boat building and repairs Without fiberglass (i.e. wooden boats)	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N

**PROPOSED METACOM MIXED USE (MMU) ZONE
PERMITTED USE TABLE**

ZONING DISTRICTS	R-80	R-40 R-40W	R-20	R-15	R-10 R-10SW R-8	R-6	LB	GB	D	W	M	OS	EI	HPC	MMU
<i>INDUSTRIAL (Cont.)</i>															
Instruments and scientific equipment manufacturing	N	N	N	N	N	N	N	S	N	Y	Y	N	N	N	S
Jewelry, silverware, plated ware, costume jewelry manufacturing	N	N	N	N	N	N	N	N	N	S	Y	N	N	N	N
Manual assembly of jewelry parts and crafts	N	N	N	N	N	N	N	Y	Y	S	Y	N	N	N	N
Lighting manufacturing	N	N	N	N	N	N	N	N	N	S	Y	N	N	N	N
Plating of jewelry and other metals	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N
<i>RECREATION</i>															
Pump station	Y	Y	Y	Y	Y	S	Y	Y	S	S	S	N	Y	N	Y
Sewage treatment plant	S	S	S	S	S	S	S	S	S	S	Y	N	S	N	S
Sludge compost facility, public	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N
Recycling facility, indoor	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	S
Landfill, public	N	N	N	N	N	S	S	N	N	N	Y	N	N	N	N
Camp for boys or girls, including music or art camp	Y	Y	S	S	S	S	S	N	N	N	N	Y	S	Y	N
Campground	S	S	N	N	N	N	N	N	N	N	N	S	N	S	N
Riding stable	S	S	S	S	N	N	N	N	N	N	N	Y	S	Y	N
Golf course	Y	Y	Y	Y	N	N	N	N	N	N	S	Y	N	Y	N
Golf driving range	N	N	N	N	N	N	N	S	N	N	S	N	N	N	N
Miniature golf course	N	N	N	N	N	N	S	Y	N	N	N	N	N	N	S
Bowling alley	N	N	N	N	N	N	S	Y	S	N	N	N	S	N	Y
Skating/rolling rink	N	N	N	N	N	N	S	Y	S	N	S	N	S	N	Y
Billards Parlor	N	N	N	N	N	N	S	Y	Y	Y	N	N	S	N	Y

**PROPOSED METACOM MIXED USE (MMU) ZONE
PERMITTED USE TABLE**

ZONING DISTRICTS	R-80	R-40 R-40W	R-20	R-15	R-10 R-10SW R-8	R-6	LB	GB	D	W	M	OS	EI	HPC	MMU
RECREATION (Cont.)															
Health club	N	N	N	N	N	N	S	Y	Y	Y	N	N	N	N	Y
Theater	N	N	N	N	N	N	S	Y	Y	Y	N	N	Y	N	Y
Playground/Park	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Open space	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Non-profit community Center or Non-profit educational/interpretive center	S	S	S	S	S	S	Y	Y	Y	Y	N	Y	Y	Y	Y
Yacht club/marina	S	S	S	S	N	N	N	N	N	Y	Y	N	N	N	N
Air-Supported Structure	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
ACCESSORY USES															
Prefabricated relocatable steel buildings, box trailers, or shipping or cargo containers	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Propane Tanks	N	N	N	N	N	N	N	S*	N	N	S*	N	N	N	S*
Drive-thrus	N	N	N	N	N	N	N	S*	N	N	N	N	N	N	S*
Gift Shop	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N
Administrative Services	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N
Caretaker's Residence	N	N	N	N	N	N	N	N	N	N	N	Y ⁽³⁾	N	⁽⁴⁾	N

See Section 809 for additional language regarding Accessory uses in the HPC zone.

⁽³⁾ One dwelling for a caretaker may be constructed if the property has more than 20 acres.

⁽⁴⁾ See Section 28-356 et seq.

**GLOSSARY OF TERMS:
METACOM AVENUE GUIDELINES**



GLOSSARY OF TERMS : METACOM AVENUE GUIDELINES

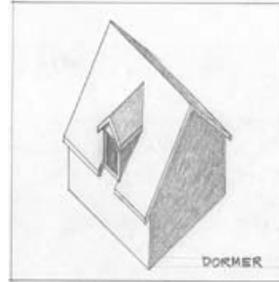
Accessory Structure:

Subordinate structure detached but located on same lot for an incidental use.



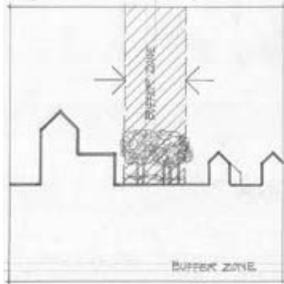
Dormer:

Special window set in the pitch of a sloping roof.



Buffer Zone:

Land in natural or landscaped state to mitigate impacts of development on abutters.

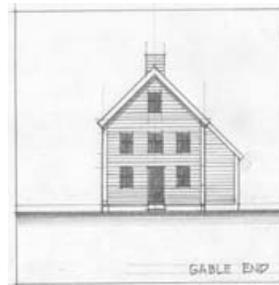


Façade:

The vertical face of a building.

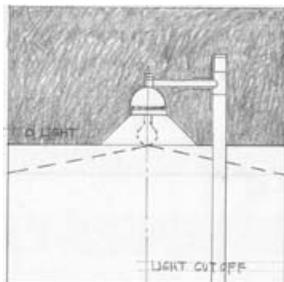
Gable:

The vertical triangular portion of the end of a building with a pitched roof.



Cut-off light fixture:

A light fixture with negligible light distribution at an angle of 90 degrees or higher.



Green roof:

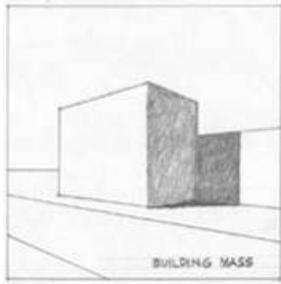
Flat or slightly pitched roof surfaces of a building that are covered with a special waterproofing system, soil and vegetation.

Logo building:

Building typically the architecture of which is identified with a particular brand, product or service.

Mass:

The generalized shape or bulk of the building.

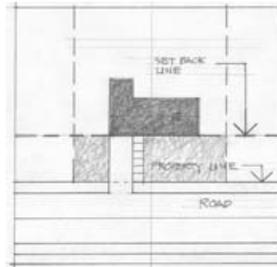


Sense of Place:

A comprehensive character or identity of a specific location.

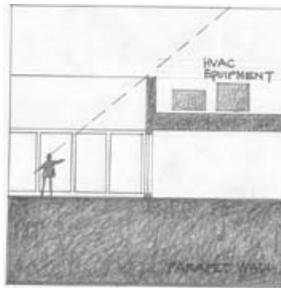
Set-back:

The distance from the property line in which a structure can not be built.



Parapet:

A low wall around the edges of a flat roof.



Transparency:

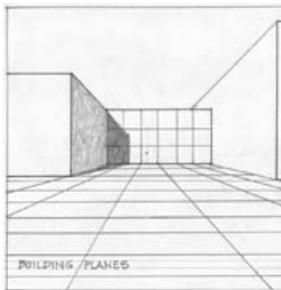
A plane of a building that can be seen through.

Tree caliper:

The diameter of a tree trunk (for a smaller tree) as measured 6 inches above the ground.

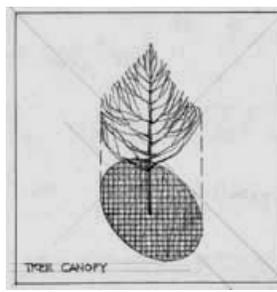
Building Planes:

The vertical and horizontal surfaces that compose the form of the building.



Tree canopy:

Tree cover as defined by the spread of its branches and leaves as projected onto the ground.



Scale:

- a. Dimensions related to human size and proportions.
- b. Relative dimension system by which distance can be measured on a drawing, ie. 1" = 20'