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Route 132 Corridor Report

PREPARED FOR THE TOWN OF BARNSTABLE
SEPTEMBER 2010

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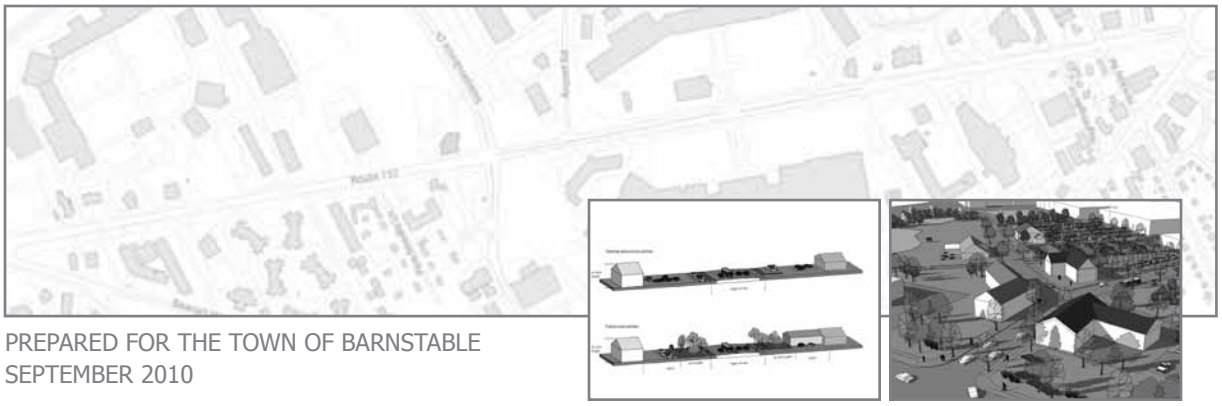
Route 132 Corridor Report



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1. INTRODUCTION

The Town of Barnstable contracted with the Cape Cod Commission to provide technical assistance to the town and to study options to guide development along Route 132 in Barnstable. While the Route 132 traffic corridor is the main focus of the Commission's study, the other major roadways in the vicinity (Bearse's Way and Route 28) are integral to the planning and understanding of the area. Therefore, the Commission looked at and studied all properties fronting and bound by Route 132 (between Phinney's Lane and the Airport Rotary), Bearse's Way (from Route 132 to Route 28) and Route 28 (between Bearse's Way and the Airport Rotary). The area bound by these streets was also incorporated into the Commission's study area, and includes Corporation Way, Enterprise Road, Warehouse Road, Nightingale Lane, Hinckley Road and Pine Needle Lane. The study area is shown in Figure A and includes existing roadways, building footprints and pavement edges, as well as several proposed roads and building footprints for projects that have secured permits but have yet to be constructed.

The study area is generally bordered to the north by retail/industrial uses and the Barnstable Municipal Airport. To the west is the Barnstable Water Pollution Control Facility (WPCF) with single-family residential uses beyond. To the south of the study area is an older residential neighborhood, the community center and downtown Hyannis further south still. To the east, Route 28 continues with commercial uses with a mix of hotel, retail and services. The Hyannis Growth Incentive Zone is located to the east and south, and borders the study area at the airport rotary.

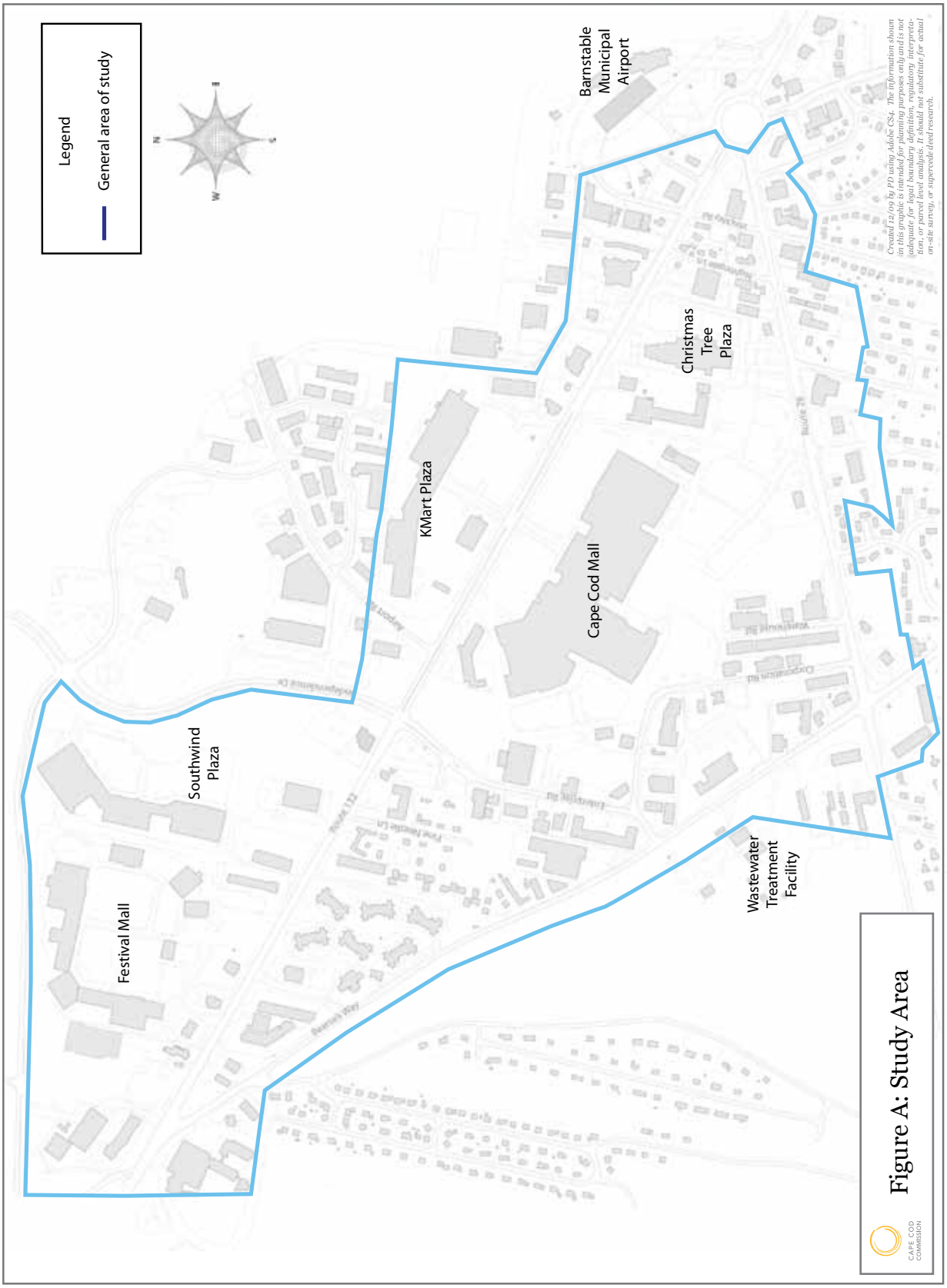

Figure A: Study Area

2. ZONING

The majority of the study area is zoned either Highway Business (HB) or Business (B), with the HB zone stretching along Route 132 and Route 28 and covering approximately the front 300 feet of these properties (see Figure B). The B and HB zone allow a wide variety of commercially oriented uses, including retail, restaurants, personal, professional and auto services. Hotels and residential uses are also permitted. The HB zoning has a minimum lot size of 40,000 square feet, a 30-foot height limit (measured to the plate height of the building) and requires a 100-foot front setback on both Route 132 and Route 28. Under Section 240-21E of the zoning code, no parking is allowed in this front setback. A single property in the study area (on south side of Route 28 at the airport rotary) is located within the Hyannis Gateway (HG) zone district.

The area is also extensively covered by the Wellhead Protection Overlay District, in which the Town's regulations place a limit on the amount of hazardous materials allowed in the businesses and the amount of the lot that can be covered by impervious materials. A small portion of the study area, located at the southerly end of Bearse's Way, is not within this District and is shown in white in Figure B. A number of non-conforming uses are located in the wellhead protection district.

The Town's regulations allow the continuation of uses that are non-conforming with the current zoning regulations and permitted uses. There are also provisions that allow for the limited expansion and reconstruction of nonconformities. See Barnstable Municipal Code for further details.

3. EXISTING LAND USE AND ROADWAY CHARACTER

A. ROUTE 132 CORRIDOR

<u>Land Use/Development Pattern</u>

The predominant land use along Route 132 is commercial, especially retail uses. There are several hotels located along the roadway, and eating and drinking establishments are also scattered throughout the district. There are four regional malls accessed from Route 132. Two malls are located opposite each other in the center section of the corridor, Kmart Plaza to the north (approximately 27 acres) and the Cape Cod Mall to the south (approximately 57 acres). The Cape Cod Mall contains several two-story

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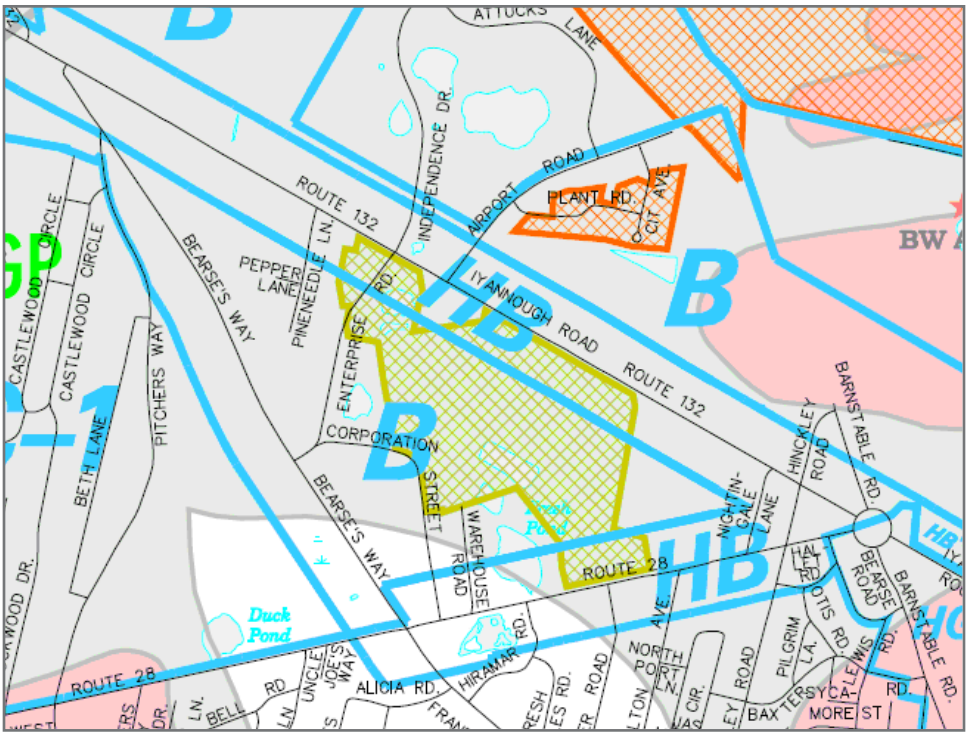

Figure B: Zoning Map of Study Area

anchor stores, but is predominantly one story in height. The Kmart Plaza buildings are one story in height. Both of these malls present large parking lots to the street with the buildings located further away from the roadway edge. The remaining two malls, Festival Mall (approximately 29 acres) and Southwind Plaza (approximately 30 acres), are located in the western portion of the corridor, on the north side of Route 132. Both have one-story buildings. Festival Mall is set back from the roadway and accessed by a long entrance drive at a signalized intersection. Southwind Plaza has a building fronting on Route 132, but the majority of the mall is located to the rear of the site, behind other development.

The small to moderate scale office and retail uses along the corridor range in footprint size from 3,000 square feet to 20,000 square feet, with a trend toward increased building size. The majority of these buildings are one story in height, though a few office buildings have two stories. A number of much smaller office buildings, with footprints of 2,000 square feet or less, are clustered near the rotary. Two auto-dealers also operate on the roadway. The only residential use currently fronting on Route 132 in this area is a condominium development opposite the entrance to Festival Mall in the western portion of the corridor. An inventory of land uses and the current businesses was completed for the area, and these are illustrated in Figures C and D respectively (see pages 10 and 11).

Roadway character

Route 132 extends from Route 6 (exit 6) to the airport rotary. The Town and MassDOT (formerly MassHighway) have recently completed an upgrade to the portion of this roadway from Route 6 to the intersection with Phinney's Lane. These improvements include the creation of a central, landscaped median (grass) separating two travel lanes in each direction. A multi-modal bikepath/sidewalk was also included in these upgrades that currently terminates in the vicinity of the Bearse's Way and Route 132 intersection.

Within the study area, the Route 132 right-of-way varies from 80 feet to 100 feet in width and consists of two travel lanes in each direction. A median is present between the Cape Cod Mall and K-Mart Plaza, extending west to the Independence Drive intersection. These medians are raised and not landscaped, and range in width from 4 to 8 feet. The remainder of the route has no separation between the two opposing travel lanes. There are four signalized intersections along this section of roadway, one at Bearse's Way (with additional left turn lanes), a second at the Festival Mall entrance, a third at the intersection with Independence Drive (with additional left turn lanes) and a fourth at the entrance to the Kmart and Cape Cod Malls.

Route 132 at Kmart Plaza, looking southeast, showing median.

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Route 132 near Airport Rotary, looking northwest, with pedestrians using the only north-side stretch of sidewalk on this portion of the road.

B. BEARSE'S WAY

Land Use/Development Pattern

The predominant land use along Bearse's Way is auto service with some warehouse-like uses interspersed. The existing retail and warehouse structures range in footprint size from approximately 2,000 square feet to 25,000 square feet, with the majority in the smaller half of the range. Most of these buildings are only one story in height. On the western side of the road, the town operates the wastewater treatment plant and has the offices of the Department of Public Works. At the time of this report, several of the commercial uses along the eastern side of the road were vacant. The only residential use currently fronting on Bearse's Way is a condominium complex that also fronts on Route 132. See Figures C and D respectively for an inventory of land uses and the current businesses along the corridor (see pages 10 and 11).

Roadway character

Bearse's Way extends from Route 132 to the Hyannis Main Street area, and is considered by the town to be one of the gateway routes into Hyannis. The town recently constructed a roundabout at the terminus of

Bearse's Way, at the site of the new Community Center. The portion of Bearse's Way in the study area is approximately one mile long, and extends from the intersection with Route 132 to the intersection with Route 28. The right-of-way varies from 50 feet to 60 feet in width and consists mostly of a single travel lane in each direction, with no median. With the exception of the town's wastewater treatment plant entrance, all curb cuts are located on the east side of the roadway. The western side of the road is largely wooded, screening the development to the rear. There are three signalized intersections along this section of roadway, one at Route 132 (with additional turn lanes), a second at the intersection with Enterprise Road (with additional turn lanes) and the third at the intersection with Route 28 (where there are two additional turn lanes). Sidewalks exist along the entire eastern side of the road, and the town has plans to continue the multi-modal pathway that was constructed along Route 132 so that it continues along the western side of Bearse's Way.

Bearse's Way, looking south toward Route 28.

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C. ROUTE 28

Land Use/Development Pattern/built environment

The predominant land use along this stretch of Route 28 is auto service and retail, with several banking uses interspersed. The retail, office and warehouse structures in this portion of the study area range in footprint size from approximately 1,500 square feet to 15,000 square feet, with the majority in the smaller half of the range. Most buildings are one story in height, though a few office buildings have two stories. There is a major entrance to the Cape Cod Mall on the north side of this roadway, and a large proportion of the north side of the roadway is devoted to parking for the Mall and the adjacent retail complex (Christmas Tree Plaza). Behind the commercial uses that front on the south side of the road, there is an older residential neighborhood. See Figures C and D respectively for an inventory of land uses and the current businesses along the corridor (see pages 10 and 11).

Route 28 at Cape Cod Mall intersection, looking west.

Roadway character

Route 28 extends through Barnstable from the Mashpee border to Yarmouth. The road is a major connection between adjacent towns and is a state highway. The portion within the study area extends from the intersection with Bearse's Way easterly to the airport rotary.

The portion of Route 28 in the study area is approximately 0.6 of a mile in length. The right of way ranges from 60 feet to 70 feet in width and consists mostly of a single travel lane in each direction, with no median. There are two signalized intersections along this section of roadway, one at Bearse's Way (with additional travel lane in each direction and a left turn lane) and the other at the south entrance to the Cape Cod Mall (where there are two travel lanes in each direction). Small sections of sidewalk exist on the south side of the street along this portion, but the majority of the roadway does not have pedestrian paths.

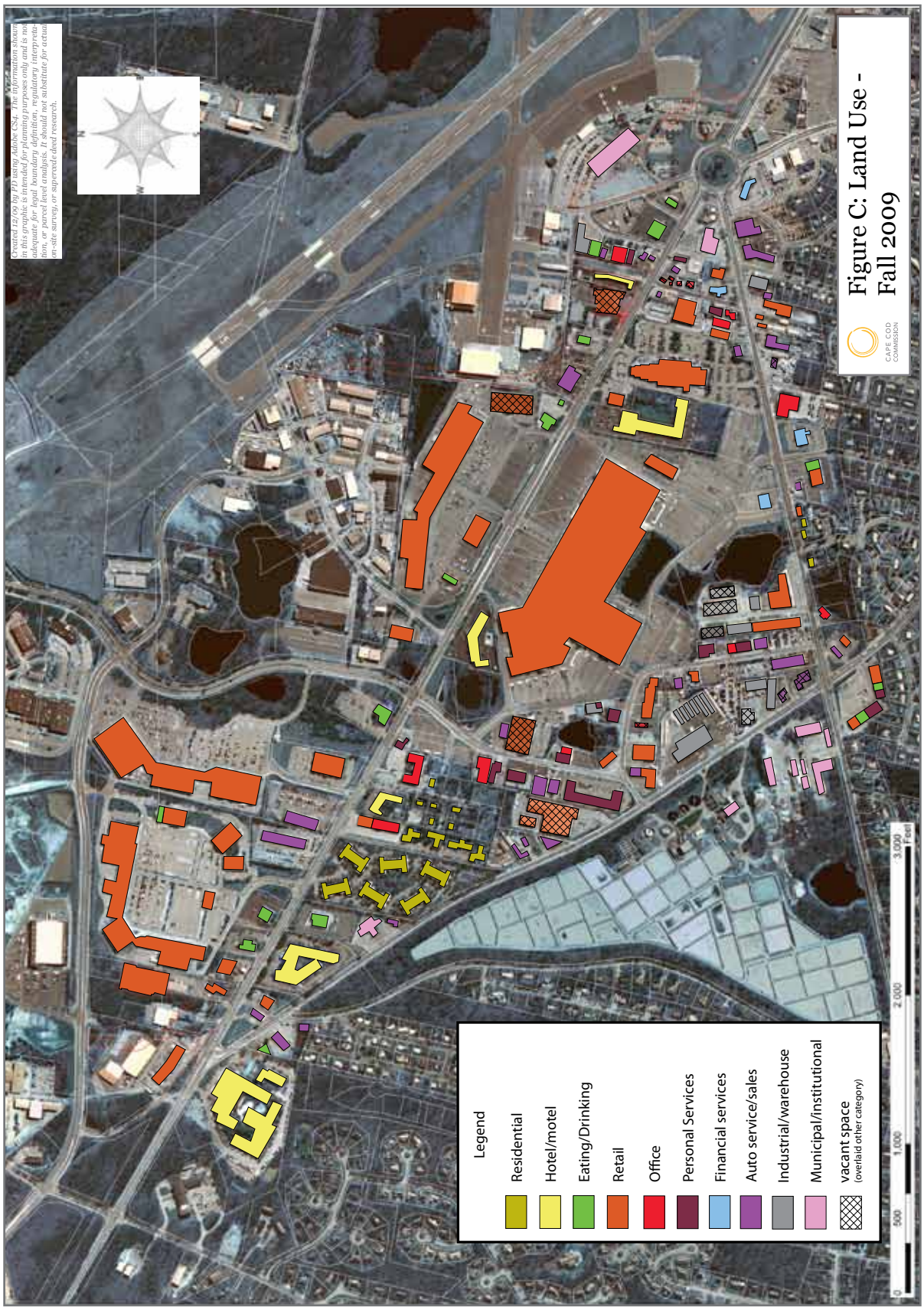
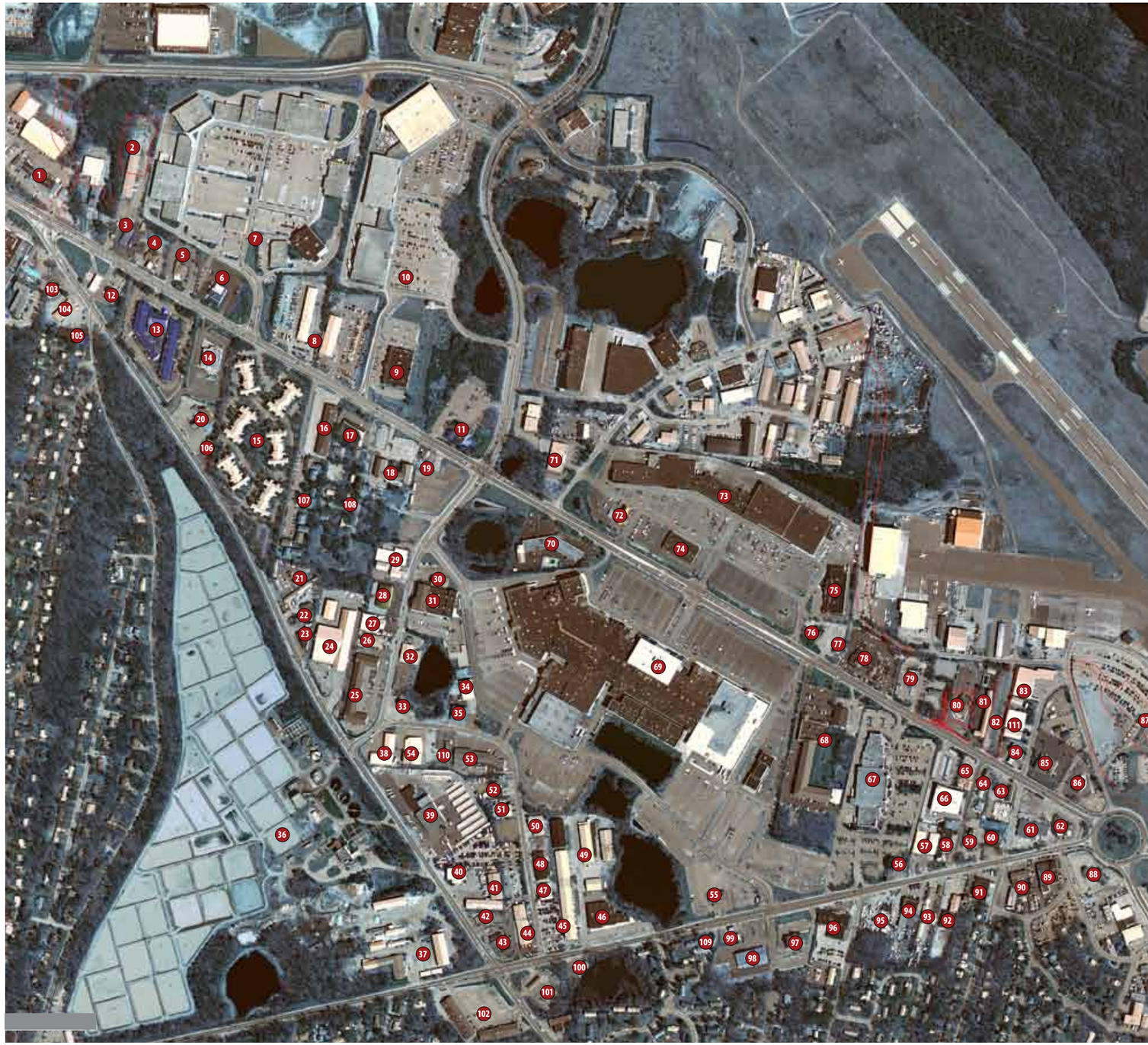


Figure C: Land Use - Fall 2009



#	Business/Plaza name	Uses
1	Commercial Plaza (Dunkin Donuts, Verizon)	retail
2	Stop and Shop (proposed)	retail
3	Parker's Liquor	retail/office
4	Town fair Tire	retail
5	Cooke's restaurant	eating/drinking
6	Friendly's restaurant	eating/drinking
7	Festival Mall (Shaws, Toys R Us, Petsmart and others)	retail
8	Hyannis Toyota	auto dealer
9	Borders Bookstore	retail
10	Southwind Plaza (Stop and Shop, Home Depot and others)	retail
11	Sam Diego's restaurant	eating/drinking
12	Cumberland Farms	gas station/convenience store
13	Holiday Inn	hotel
14	Olive Garden	eating/drinking
15	Cape Crossroads	residential condominums
16	Golf World/offices	retail/office
17	Hyannis Star Motor Inn	hotel
18	Dowling and o'Neil	office
19	oottat tattoo, heavenly pools	services
20	Elks Club	institutional
21	Vacant	vacant
22	Joe's auto sales	auto sales
23	Cape and Island Tire	auto service
24	Mid Cape Home Centers	retail
25	Commercial Plaza (Salons, florist, driving school, tanning)	services
26	A & F Towing	auto service
27	Bearses Auto	auto service
28	Linray plaza (Childrens center)	services
29	Cape & Island Sign/Cape United Elders/Childcare network/Comm. Action Comm.	services/office
30	Hyannis transmission II	auto service
31	Vacant (formerly Linens n Things)	vacant retail
32	Commercial plaza (Boston bartenders school, sprint, etc)	services/office
33	Convertables Plus	retail
34	Medeiros/Barber Shop	warehouse/services
35	Medeiros Plaza (Tech Depot)	services
36	Wastewater treatment plant	municipal
37	Dept. Public Works	municipal
38	Commercial Plaza (auto insurance, work uniforms, vehicle vibes)	retail/service
39	U-Haul	industrial/warehouse
40	Vacant	vacant
41	Allied Movers	warehouse
42	Vacant	vacant
43	Car Wash	auto service
44	Ford	auto dealer
45	Ford/Sherwin-Williams	auto dealer/retail
46	West Marine, Party Cape Cod and Mattress World	retail
47	Hyannis Autobody	auto service
48	Misc (church, dog wash, salon)	office/services
49	Sign service/vacant	warehouse/services
50	Just Us Custom Kitchens	office/services
51	Anchor Auto body	auto service
52	Iron Horse	retail
53	Corporation Plaza (bakery, mattress suppliers, dry cleaners, goodwill)	retail/services
54	Blanchards/Centerline Hobbies	retail
55	TD Banknorth	financial services
56	Monro Muffler	auto service
57	Big and Tall/Realty	retail/financial services
58	Benchmark Hearing/Corp Brothers	office/service
59	First Citizen Bank	financial services
60	Benjamin Moore Paints	retail
61	Verizon	Utility/insitutional
62	Vacant (demolished)	open space
63	Cape Opticians/Boomer McLoed	retail/auto service
64	Vacant	offices
65	Budget	auto rental
66	Bed, Bath and Beyond	retail
67	Christmas tree plaza (Trader joes, christmas tree shop and others)	retail
68	Marriott	hotel
69	Cape Cod Mall	retail
70	Days Inn	hotel
71	Bernie and Phyls	retail
72	I Hop	eating/drinking
73	Kmart Plaza	retail
74	Miscelaneous retail (Tmobile, Supercuts, etc)	retail
75	Vacant (Former Filenes Homestore)	vacant retail
76	Tiki port	eating/drinking
77	Dunkin Donuts	eating/drinking
78	Tracy VW	auto dealer
79	McDonalds	eating/drinking
80	vacant (formerly Circuit City)	vacant retail
81	Budget Host Inn	hotel
82	Parking	vacant
83	Pain D'avignon	retail
84	Sav-on-gas	gas station
85	Unos	eating/drinking
86	Wendy's	eating/drinking
87	Barnstable Airport	municipal
88	Citizens Bank	financial services
89	BMW/Mercedes Dealer	auto dealer
90	Cape Tire Service	auto service
91	WB Mason/auto smart	warehouse/auto service
92	California Closets	retail
93	Used tools/Electrolux	retail
94	Cape Motors	auto sales
95	Vacant	vacant
96	Catania hospitality group	offices
97	Cape Cod 5	financial services
98	D'Angelos, Cambridge Eye Doctors	eating/drinking/retail
99	Getty	gas station
100	Conway realty	financial services
101	Hess	gas station
102	Commercial plaza (Bobby Byrnes, conveneince store and others)	retail
103	Bud's Place	eating/drinking
104	Napa	auto service
105	Jiffy Lube	auto service
106	Zippys Autos	auto sales
107	Residencce	residential
108	Residences	residential
109	Dive World	retail
110	Vacant	vacant
111	New England Tile/Heritage Turbines	retail/office

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Figure D: Business Inventory - Fall 2009

Created 12/09 by PD using Adobe CS4. The information shown in this graphic is intended for planning purposes only and is not adequate for legal boundary definition, regulatory interpretation, or parcel level analysis. It should not substitute for actual on-site survey, or supercede deed research.

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4. LAND USE ISSUES AND OPPORTUNITIES

ISSUE 1: GATEWAYS

There are several gateways located within the study area. On the western end of the study area, the intersection of Route 132 and Bearse's Way serves a dual purpose. This intersection marks the path to the Hyannis Main Street Waterfront area Growth Incentive Zone (GIZ) and also serves as a gateway to the regional retail area along Route 132. The intersection of Bearse's Way and Route 28 also serves as a gateway intersection to the Hyannis Main Street area. On the eastern end of the study area, the airport rotary serves as a gateway to several areas: the regional retail area along Route 132, the Hyannis Main Street area (down Barnstable Road), and the Barnstable airport. While these areas function as important gateways to destinations within the town, they have few character-defining features other than signage to reinforce this purpose.

OPPORTUNITY 1A: REINFORCE GATEWAYS

Well-defined community gateways are important to people's ability to navigate through an area and also provide sense of transitioning from one distinct area to another. To reinforce these gateways, the town should aim to coordinate signage, street improvements and public art to better define the important gateways within the study area and to differentiate them from one another. For example, future plans to make improvements to the Airport Rotary and to construct a multi-use path along Bearse's Way should acknowledge this important role. The town should implement and build on the "Informational Sign Strategy" prepared for the town and explore using additional way-finding techniques geared to identifying specific areas of town. For instance, branding the regional retail area in a way to make it distinct from Main Street Hyannis or the waterfront area could provide an opportunity for district specific signage to guide travelers into the area. See Figure E for an illustration of gateways within the study area.

Directional Signage in San Francisco, simple color-coding and iconography makes way finding simpler for visitors.

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ISSUE 2: UNDERUTILIZED GREEN SPACES AND WATER BODIES

Currently, there is an area of well-established green space that coincides with the intersection of Independence Drive and Route 132 which provides a brief respite to the commercial development along the corridor. This more natural character should be continued and widened to reinforce the transition area between the more heavily developed parts of the corridor and to introduce the change in uses and forms from Area A to Area B (see Issue 3 below for a description of these areas). A network of ponds and waterbodies currently exists in the area but is buried amongst the commercial development and is poorly maintained and underutilized. These more natural features, that follow a roughly north/south pattern cutting through the center of the study area, could be an asset to the area if appropriately cared for and related to allowed uses. See Figure E for an illustration of existing/vegetated areas within the study area.

OPPORTUNITY 2A: ESTABLISH GREENBELT AREA AND ENCOURAGE APPROPRIATE USES

Encourage uses that can utilize green space and water bodies as an amenity and build upon the existing network of greenspace to provide a break in the development along the corridors. In particular, incentives should be created to convert outlying parking lots that see little usage into green space. Additional greenspace adjacent to the intersection of Route 132 and Independence Drive would help to reinforce the natural character of that transition area between two unique sections of Route 132. In addition, there are two natural ponds on the south side of the Cape Cod Mall property that are currently obscured and overrun with invasive species. These waterbodies can be better maintained and opened to views and possibly active use in the future to provide a focal point to this stretch of Route 28. This could be part of a strategy for better using the southern parking area of the Cape Cod Mall to attract visitors/customers with a mix of smaller scale commercial uses centered around newly created green spaces. The economic development benefits of providing greenways are discussed further in Section 6 of this report.

ISSUE 3: DISORGANIZED CHARACTER OF ROUTE 132

The commercial stretch of Route 132 is approximately 1.5 miles long and has few organizing principles, resulting in a lack of any coherent character. The variety of land uses and development forms makes the corridor appear disorganized, which makes it difficult for users to negotiate.

Figure E: Gateways and existing "greenways"

There is little to differentiate one area of the corridor from another or to aid the user in negotiating the many curbcuts and access points along the roadway. This is particularly an issue as one approaches the rotary, where there are a large number of curb cuts, inconsistent building placements, and limitations on left turn movements.

OPPORTUNITY 3A: IDENTIFY AND MARKET DISTINCT AREAS ALONG ROUTE 132

In an effort to foster different characters and to provide variety and interest while traveling along the length of the Route 132 corridor, the study area should be divided into distinct sections that can be defined by unique characteristics. Looking at existing features, the character of Route 132 between Phinney's Lane and the Airport Rotary can be divided into three sections. The first area, the western portion of Route 132, currently includes modest scale retail structures, hotels and condominiums with moderate setbacks from the street and landscaping between the buildings and the roadway. The second area, the central portion of Route 132, is currently characterized by retail malls and other large-scale retail uses with large parking lots directly adjacent to the roadway. Structures in this area are mostly large-scale, with many set a great distance away from the street. The third area, the eastern end of Route 132, is characterized by a mix of small to moderate scale retail and industrial/utility uses in the approach to the rotary, with poorly defined curb cuts and access roads. See Figure F for an illustration of distinct districts within the study area.

Existing Kmart Plaza, with parking adjacent to Route 132 and buildings in the distance.

Using the existing development patterns as a guide, Route 132 can be broken into three sections:

- Area A: From Phinney's Lane to Independence Drive
- Area B: From Independence Drive to the eastern side of the Cape Cod Mall/Kmart Plaza
- Area C: Eastern side of the Cape Cod Mall/Kmart Plaza to the Airport Rotary

Looking at the broader study area, some portions of Bearse's Way and Route 28 should be treated similarly to these areas on Route 132. Route 28 East is characterized by small scale office and industrial uses and poorly defined curb cuts and should be considered part of Area C. The center portion of Route 28 is defined by the back side of the large malls and some smaller scale retail on the south side. It should be defined more clearly as a pedestrian-oriented intersection that can connect businesses on the south side of Route 28 with development within the Mall property. Similarly, specific Design Guidelines to address pedestrian connections and a link with the surrounding residential neighborhoods should be developed for the intersection of Route 28 and Bearse's Way. Finally, the northern portion of Bearse's Way shares some of the characteristics of the western portion of Route 132 and should be considered part of Area A.

OPPORTUNITY 3B: DEVELOP DESIGN GUIDELINES FOR DISTINCT AREAS

Design guidelines should be developed for the entire area and applied by the town as development or redevelopment moves forward. These design guidelines should set out the community's expectations and should be aimed at creating a unique feel for each of the different parts of the study area. The design guidelines should also be supported by underlying zoning regulations. Design guidelines for the study area need to address both the character of the public realm – the roadway itself and the right-of-way – and also the frontage of the private developments along the roadway corridor. For example, the roadway character is influenced by the design of sidewalks, grass strips, treatment of medians, intersection design features, state signage, public art, etc. In the private realm, the corridor's character is determined by the proximity of buildings to the roadway, the scale of buildings, as well as the character and depth of landscaped areas, etc. Encouraging large retail establishments to redevelop in a manner that is consistent with a unified vision brings the challenge of designing

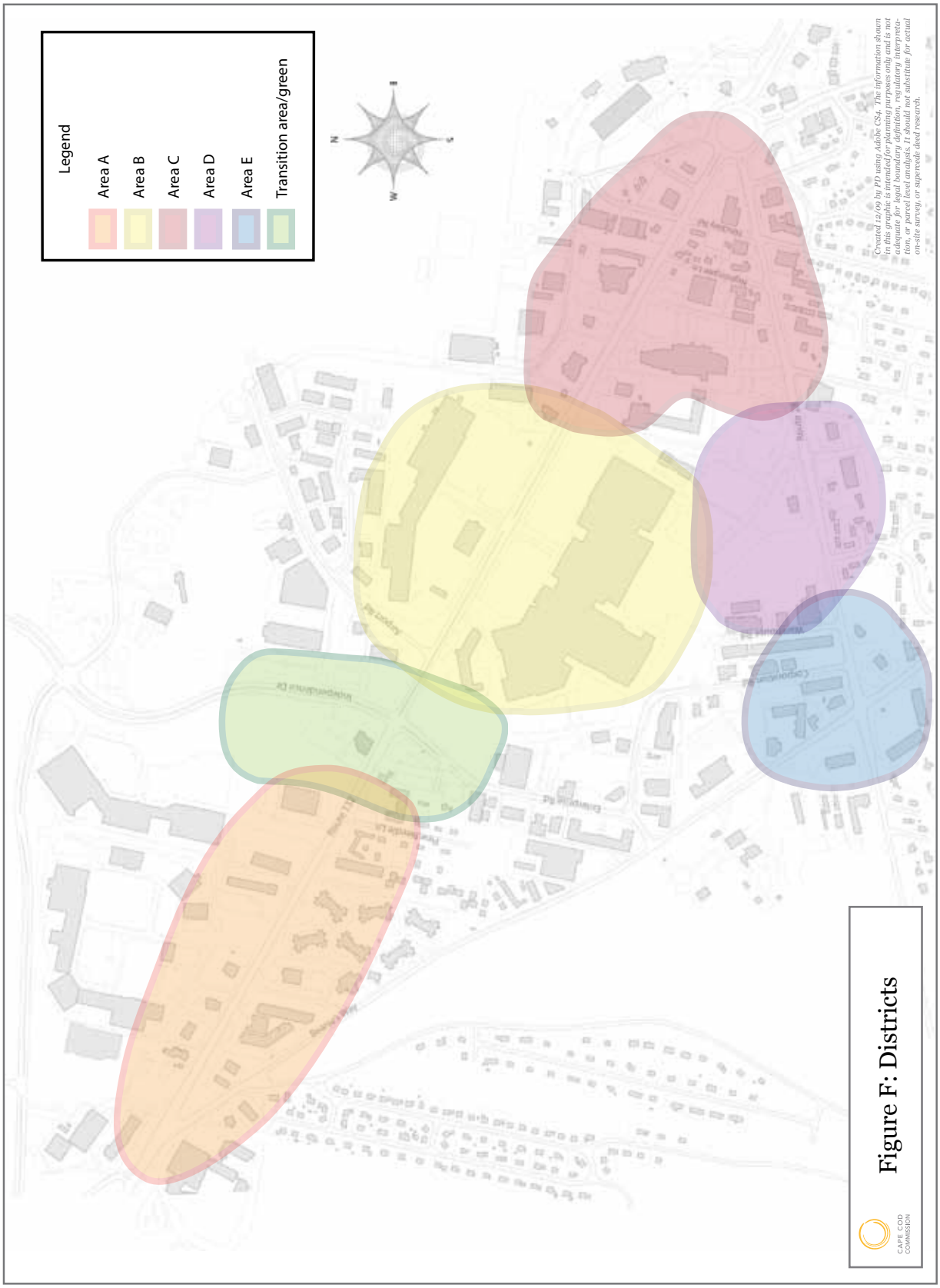

Figure F: Districts

large buildings and accommodating large parking areas in a way that is visually appealing and that respects the traditional character of Cape Cod. There is the added challenge of designing these uses on a 4-lane roadway with medians in some areas. Establishing a distinct but unified landscape character for each segment of the roadway will help to make the Route 132 corridor a more desirable place to shop. See Design Guidelines for Specific Areas of Route 132, included in Section 8 of this report.

ISSUE 4: LIMITED PEDESTRIAN WALKWAYS

Many pedestrians and cyclists use the Route 28/Bearse's Way and Route 132 corridors, including visitors, employees and residents. These streets are very un-inviting and dangerous places for these users. For example, bicycle/pedestrian users are forced into the roadway where vehicles are moving at high speed and often travel against the vehicle movements. Many choose to cross the roadway at dangerous locations, and have no central refuge in most places. Sidewalks exist in several locations along the corridor, but never on both sides of the street and often end abruptly forcing users into the road or through landscaping. A sidewalk does extend from Bearse's Way along the south side of Route 132 and past the mall, after which the sidewalk ends except for isolated pieces along the remaining frontages. No sidewalk is present on the north side of the roadway. In several areas, footpaths have been worn by heavy pedestrian usage where no sidewalk exists. There is currently no pathway designated for bicyclists or multi-use along the Route 132 corridor. Currently, there are only three crosswalks for pedestrians in the entire study area, all of which are located on Route 132. See Figure G for an illustration of existing pedestrian connections within the study area.

Pedestrians forced into the roadway because of a lack of sidewalk

OPPORTUNITY 4A: PROVIDE SIDEWALKS AND MULTI-USE PATHS IN STUDY AREA

Create pedestrian/bike linkages to define safe and efficient ways of traveling through the area. By identifying the location of potential sidewalk,

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crosswalk and bicycle connections, these missing linkages can be established as properties move through the local site plan review process. In some cases, the town may be able to provide necessary connections as part of their capital planning. The multi-modal pathway proposed along Bearse's Way is one example of this public involvement. A pedestrian bridge across Route 132 at a location where a grade crossing is difficult to make safely may be desirable. A pedestrian bridge located near the Airport Rotary may be able to take advantage of views to the airport while also facilitating pedestrian travel. Well-worn "unofficial" ways could be used to understand the predominant pedestrian travel routes to inform the establishment of pedestrian/bicycle network.

Sidewalk ends abruptly near the eastern end of Route 132.

An informal pathway is created by heavy pedestrian use along frontage.

ISSUE 5: LACK OF INTERNAL CONNECTIONS BETWEEN DEVELOPMENTS

Typically, local development regulations require that access be provided to properties from the street, but rarely are connections required to adjacent properties. In fact, in many cases, pedestrian access between adjacent uses is physically prevented by fences or landscaping along property lines therefore forcing customers/visitors to drive between adjacent properties rather than parking just once. Although there are several internal vehicular and pedestrian connections between uses in the study area, some are confusing and many are poorly defined. For example, one of the

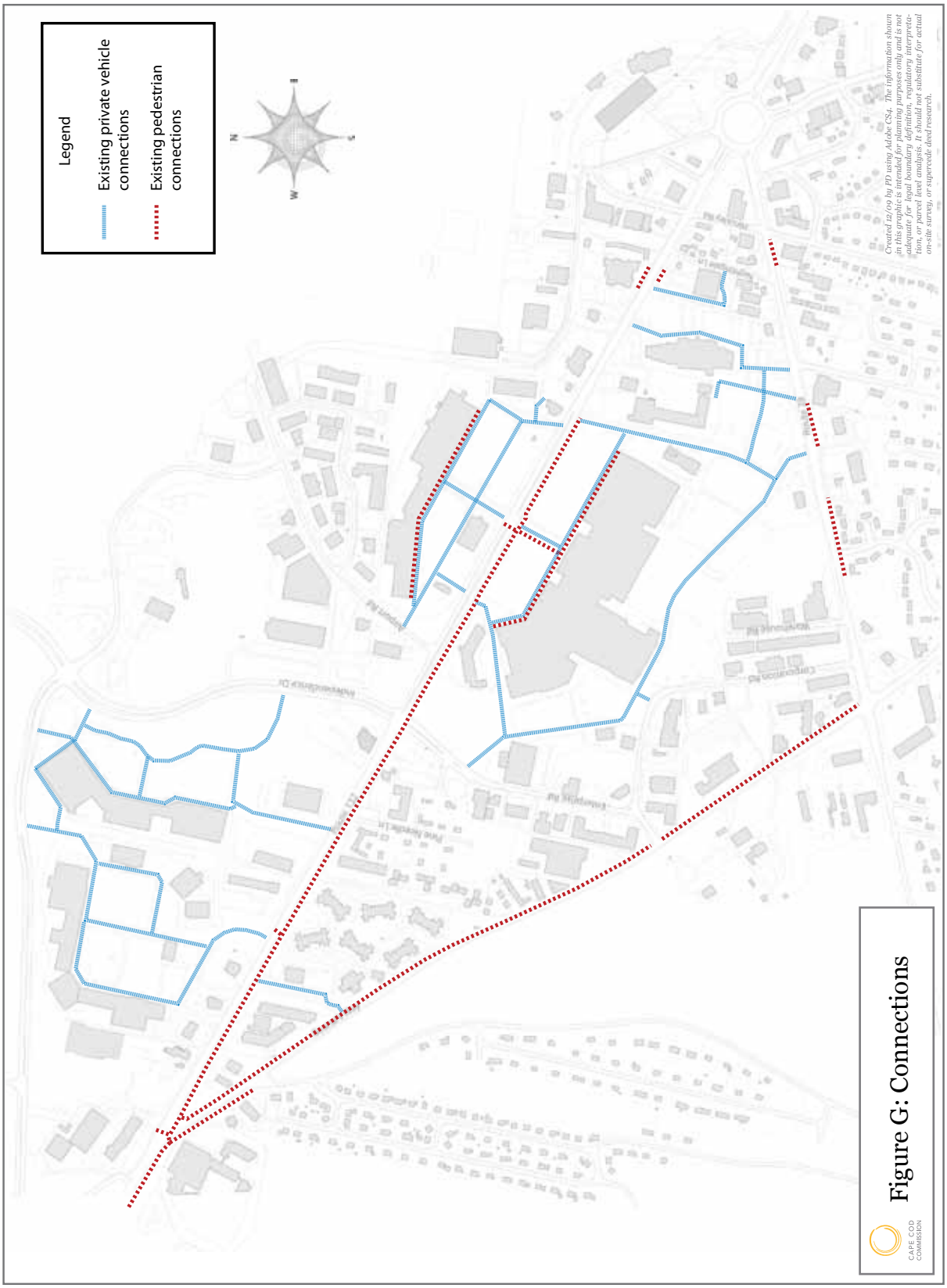

Figure G: Connections

more heavily used existing connections is between the Cape Cod Mall and Christmas Tree plaza, however, no clear route is established which results in vehicles cutting across vacant parking fields between aisles and a generally un-safe and uncomfortable pedestrian environment. Providing additional connections will allow a reduction in the number of curb cuts on arterial roads and reduce the amount of travel on Route 28 and Route 132 by allowing more pedestrian activity between uses. See Figure G for an illustration of existing private vehicle connections between developments within the study area.

OPPORTUNITY 5A: PROVIDE INCENTIVES FOR CONNECTIONS BETWEEN DEVELOPMENTS

Encouraging additional interconnections and improved articulation of these routes could be accomplished through incentives, such as allowing additional square footage in exchange for beneficial internal connections. For example, providing a clearer and pedestrian friendly connection between the Cape Cod Mall and the Christmas Tree Plaza with additional commercial space would potentially encourage more pedestrian activity, reduce traffic on the arterial roadways and provide much needed activity through the underutilized parking field at the south Mall entrance. Similarly, on the north side of Route 132, providing a connection between the Kmart Plaza and Barnstable Road would allow vehicular movement between the north side commercial uses without the need to travel on Route 132 provided rear access was allowed.

ISSUE 6: LACK OF ADEQUATE LANDSCAPING

There is no established pattern of landscaping or street trees along Route 132. Parts of the roadway have no landscaping of any significance and no streets trees (most notably near the rotary). Other areas have managed landscaping of varying depth and quality, some with street trees but no additional plantings, and others with low plantings but few trees. The western section of the study area has the most properties with well-established landscaping and a well-defined line of street trees, most notably on the south side of the roadway between Bearse's Way and Independence Drive. Landscaping is also lacking along significant portions of Route 28 and Bearse's Way in the study area.

OPPORTUNITY 6A: REQUIRE LANDSCAPING ON INDIVIDUAL PROPERTIES/LINK TO STREETSCAPE IMPROVEMENTS

Street trees in particular provide a clear definition to the roadway edge, a sense of enclosure to the street and help to soften the visual impact of larger structures located at its edge. They also provide shade to pedestrians and are a very simple way of unifying a district. For instance, regular spacing of street trees that are of a consistent species and/or pattern lends a character-defining element to an area, as would a consistent signage program. Similarly, a consistent approach to the placement, depth and presentation of landscaping can have a unifying effect on an area. Incorporating elements dealing with landscaping and street trees within design guidelines that are applied through future town permitting would re-establish or create a stronger character to these areas. Any roadway medians should also incorporate landscaping or unique surface treatment to break up the appearance of the wide paved roadway lanes. See Figure H for an illustration of areas needing additional landscape along Route 132.

Street trees and well-maintained landscaping on the west side of Route 132 establish a strong street-edge, provide shade and help screen larger buildings from the road.

ISSUE 7: VISIBILITY OF PARKING AREAS

Large parking areas adjacent to the roadway corridor have significant impacts on the character of the area. Large parking lots are particularly visible on the Route 132 and Route 28 sides of the Cape Cod Mall, and also in front of the K-Mart Plaza. Some of these large parking lots are chronically underused much of the year and are therefore areas of little activity or interest. Several smaller developments along Route 132 also have very visible parking along the roadway frontage.

OPPORTUNITY 7A: SCREEN PARKING AREAS WITH PLANTINGS AND FRONTAGE BUILDINGS

Locating parking in front of buildings and adjacent to the roadway diminishes the sense of enclosure of the roadway and is incompatible with both

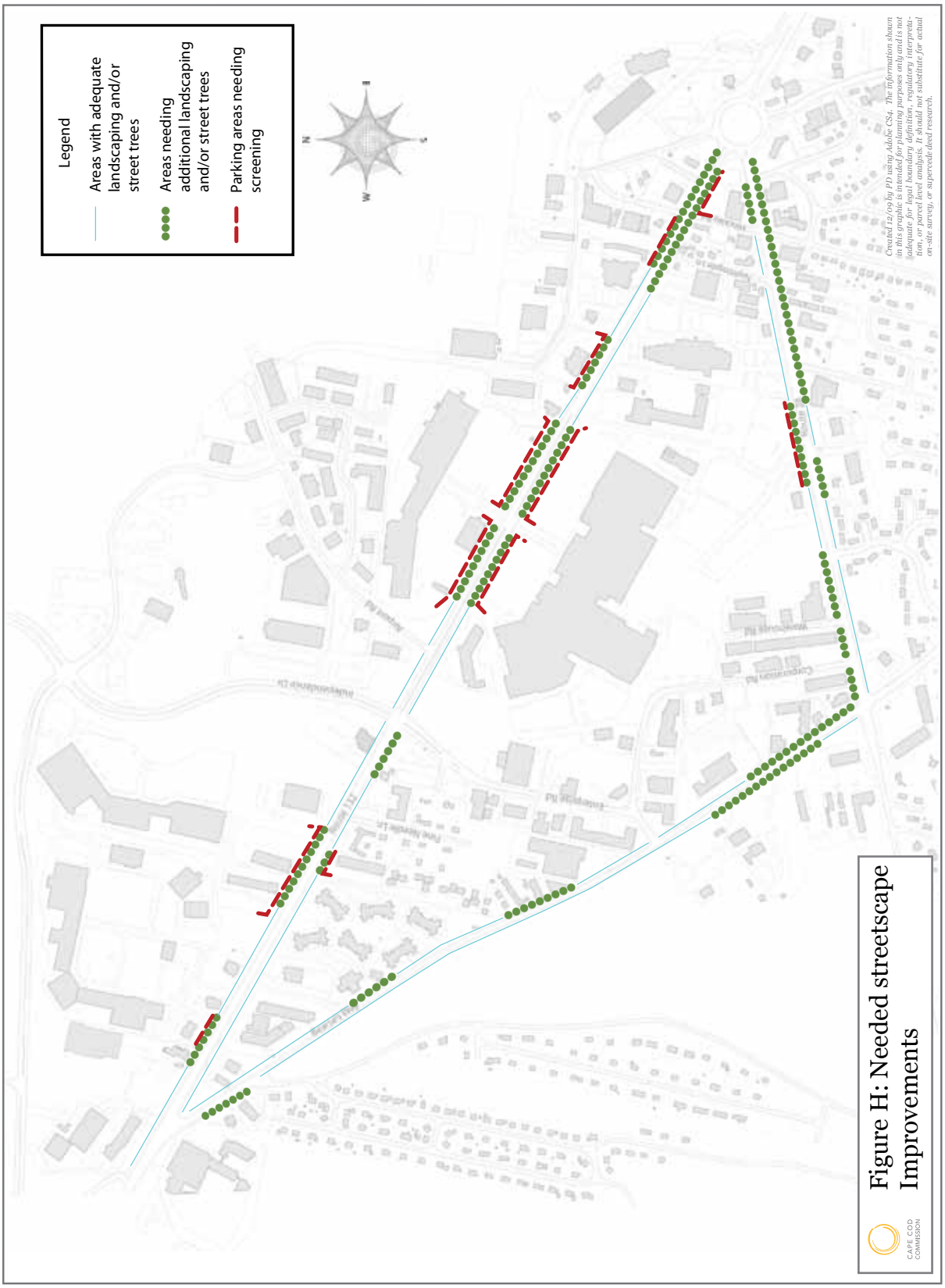

Figure H: Needed streetscape Improvements

pedestrian activity and regional development patterns. To address this design concern, modifications should be made to the zoning and design guidelines established for the location of parking and associated landscaping to insure that parking is not located in front of small to moderate scale developments along the corridor. Large mall developments may have parking in front, but only when screened by landscaping or frontage buildings. With larger landscaped buffers, the area would need clear directional and identifying signage to ensure that businesses in the area can be easily located and identified. See Figure H for an illustration of parking areas needing additional screening within the study area.

Example of parking lot located to the side of commercial buildings that incorporates a modest but effective landscape buffer.

Larger developments may require more substantial landscaping to buffer larger parking areas.

OPPORTUNITY 7B: DECREASE PARKING FOOTPRINTS WITH PUBLIC TRANSIT

Rather than dedicating so much of the area to parking, which is underutilized and desolate, consideration should be given to improving transit and connections for visitors and customers of the area. Nearby residential neighborhoods may benefit from improved transit and/or pedestrian linkages to provide an alternative for driving (and parking) when going to the regional retail areas. Similarly, finding a way of linking downtown businesses and visitors at the transit hub in Hyannis to the regional retail areas could provide additional convenience without any need for automobile travel. The Regional Transit Authority (RTA) currently services the study area through two of its year-around routes, the Barnstable Villager and the Sealine services. The Sealine route connects the ferry at Woods Hole to the Barnstable Municipal Airport, with a stop in the study area on the south side of the Cape Cod Mall. Other

stops include Falmouth Mall, Mashpee Commons, Centerville, West Main Street and the Hyannis Transportation Center. The bus runs every hour, Monday through Saturday, between 5:30 am and 5:30 pm. The Barnstable Villager provides transit between the Barnstable County Complex in Barnstable Village and the Hyannis Transportation Center. There are several stops in the study area, including Festival Mall, Southwind Plaza, the Cape Codder hotel and the Cape Cod Mall. The bus runs every hour, Monday through Saturday, between 7:30 am and 5:30 pm. Establishing additional public transit nodes along the corridor that can initially be served by local bus and transit systems and with greater frequency (including Sundays) would offset any reduced area dedicated to parking. Furthermore, the corridor may provide a future opportunity for mass transit, such as bus rapid transit or light rail service, and therefore these transit nodes may in the future have the potential to become light rail stops if a light rail system is pursued. Potential transit stop nodes could include: entrance to Festival, entrance to Cape Cod Mall/Kmart Plaza, near rotary/airport, intersection at Route 28 entrance to Cape Cod Mall, Bearse's Way/Route 28 intersection.

Existing transit provided at the Cape Cod Mall.

OPPORTUNITY 7C: ENCOURAGE DECKED PARKING

One of the factors that have left large areas of parking under utilized is the spaces' proximity to the establishments they are serving. Although the required parking spaces under zoning is likely established to deal with peak demand (only reached at a few days/year), the rest of the year most customers park as close to the buildings they are visiting as possible. Therefore, the most distant spaces are left for employee parking or are left empty. This is particularly noticeable at the Cape Cod Mall, where parking located at the corner of Independence Drive and Route 132, and adjacent to Route 28 (in the vicinity of the two ponds) is almost never used.

To reduce the amount of surface parking needed, especially in large developments, reduced parking requirements or incentives to allow decked parking or parking contained within structures should be explored. Although more expensive to construct than surface parking, a parking

structure allows for more spaces to be provided in closer proximity to stores and frees up large areas of a site for alternate uses and/or landscaping. Reduced parking requirements or other incentives, such as allowing additional square footage on properties in exchange for providing reorganized parking within a structure, should be pursued to encourage re-development and investment in properties in the area.

ISSUE 8: PREPONDERANCE OF CURB CUTS

There are a large number of curb cuts providing access to property fronting on Route 132 that create a confusing and sometimes dangerous lack of definition to vehicles when accessing property. Generally, poorly defined access results in greater traffic congestion, whereas better-spaced and clearly articulated access allows through traffic to flow with less interruption. In the eastern and western ends of the study area, there are a large number of curb cuts that include multiple access points to single properties and large open curbcuts that span the entire lot width (particularly near the rotary). In the center portion of the Route 132 corridor, near the Malls, there are a limited number of curbcuts with most accessing one or other of the regional malls.

OPPORTUNITY 8A: DEFINE AND REDUCE CURB CUTS

Reducing the number of curb cuts for each use with frontage not only provides a safer and clearer pathway for access but also allows additional area for landscape improvements and for pedestrian pathways. Particularly in the western and eastern portions of Route 132, and the eastern half of the Route 28 section in the study area, large open curb cuts can be reduced to improve safety, traffic flow and visual amenity. Improvements to site landscaping and screening of parking areas should be coordinated with efforts to reduce the number and breadth of curb cuts on each property.

ISSUE 9: POTENTIAL COMPETITION WITH HYANNIS MAIN STREET AREA

The town of Barnstable has several ongoing efforts to encourage redevelopment and growth in Hyannis Main Street area. To limit competition with the Main Street area, and to foster economic development in both areas, the Route 132 corridor and study area needs to identify and encourage different uses from those that are desirable in the Main Street area.

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OPPORTUNITY 9A: PROVIDE INCENTIVES FOR DESIRED USES IN STUDY AREA

Zoning regulations for the area could be modified to identify uses that are less desirable in the Main Street Area and are better suited to the regional retail area due to their scale. Niche markets may be established that allow starter businesses to flourish in a less expensive rent district, or can be built upon existing trends in the area. For example, if a hotel/conference facility was to be located in proximity to the airport/airport rotary that serves visitors, businesses that provide for these hotel patrons could be established in the area. See Section 6 for a further discussion of economic development issues and opportunties.

ISSUE 10: FEW USES RELATE TO AIRPORT, WHICH IS KEY ELEMENT OF CORRIDOR

One of the major land uses in the study area is the Barnstable Municipal Airport. This facility not only brings visitors and business people directly to the area, but it also has a wide variety of ancillary and airport-serving businesses that are reliant on the facility (such as aircraft maintenance, car rental and restaurants). Despite the key nature of this use, few of the uses in the immediate vicinity are directly tied to the airport and in some cases certain uses are located in awkward proximity to their airport customers (for example, vehicle rental or hotels located across Route 132 with few connections of any kind).

OPPORTUNITY 10A: ENCOURAGE APPROPRIATE USES IN AIRPORT NEIGHBORHOOD

Encourage uses in Area C that could provide services for airport users, such as car rental facilities, food establishments, hotels or conference center. Around the rotary, encourage themed art that relates to the airport and unites the area and emphasizes its gateway role. Pedestrian and vehicle connections should be improved between the airport and properties on the south side of Route 132, and greater and improved access should be provided along Barnstable Road to address the airport and facilities on the north side of Route 132 in Area C.

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ISSUE 11: LACK OF CONNECTION TO ADJACENT RESIDENTIAL NEIGHBORHOODS

The south side of the study area backs up to several dense residential neighborhoods, yet this portion of the study area provides few amenities to residential users. There are no sidewalks along most of the south side of Route 28, and few crosswalks to accommodate people wishing to cross the busy roadway to access other uses in the study area. In addition, several of the uses adjacent to the residential neighborhoods are not desirable uses to have in close proximity to residential developments.

OPPORTUNITY 11A: ENCOURAGE PEDESTRIAN ORIENTED DEVELOPMENT AT MAJOR INTERSECTIONS

Create design guidelines for the two major intersections along Route 28 to make them more pedestrian-oriented. At the intersection of Route 28 and the entrance to the Cape Cod Mall, pedestrian-scale buildings and mixed-use developments that and are easily accessed by pedestrian paths and greenways will promote a better connection to the surrounding neighborhoods. Redevelopment could include additional stories for mixed use residential/retail. The intersection of Route 28 and Bearse's Way is

Sketch of Cape Cod Mall Entrance on Route 28 showing suggested pedestrian-scaled buildings, pedestrian paths and landscaping. Illustration from Design Guidelines in Section 8.

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currently defined by a mix of buildings that are not oriented to street. Any redevelopment in this area should require the buildings to be of a pedestrian scale and located close to the street, separated only by landscaping or pedestrian areas, with parking to the side away from the intersection. See Design Guidelines for Area D included in Section 8 of this report.

ISSUE 12: WATER RESOURCE PROTECTION CONCERNS

Most of the study area is located within the town's water protection district, except for the properties adjacent to the Route 28/Bearse's Way intersection. There are many non-conforming uses located within this district, including numerous auto service uses that may be a threat to water quality.

OPPORTUNITY 12A: PROVIDE INCENTIVES TO RELOCATE NON-CONFORMING USES

Explore incentives to facilitate relocation of auto-uses on Route 132 to Bearse's Way, in areas outside the Water Protection District.

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ISSUE 13: CONFLICTS FOR ALL USERS (MOTORISTS, BICYCLISTS AND PEDESTRIANS) WITHIN AREA C

Area C is defined by excessive curb cuts, unsafe access for all users (motorists, bicyclists and pedestrians) and underperforming business. Crash records for Route 132 in Barnstable between the Airport Rotary and the Cape Cod Mall have been provided by the Town of Barnstable Police Department. The collection of reports, which spans the time period from January 1, 2007 to October 24, 2009, does not include incidents occurring at either the Airport Rotary or at the Route 132 intersection with the Cape Cod Mall entrance. There are 51 reported incidents of varying severity for this duration – omitting all accidents occurring within commercial properties. It should be noted that this is the minimum number of crashes that have occurred at this location. Crashes lacking injury or significant damage may have gone unreported. The most important features of the crash reports are summarized in Table 1.

Table 1: Route 132 Crashes 2007 - 2009
(Source: Town of Barnstable Police Dept. (Jan 07-Oct 09)

Severity	Injury:	13
	Property Damage Only:	38
Crash Type	Angle:	30
	Lane Departure:	4
	Rear-end:	10
	Sideswipe:	5
	Pedestrian:	2
Year	2007:	16
	2008:	16
	2009:	19
	Total Crashes:	51

Several facts from this data should be highlighted:

- Most of the crashes (33 of 51) are the result of a movement that would not be permitted after the installation of a center, raised median.
- Four of the ten rear-ended vehicles were either waiting to take a left turn or waiting behind a vehicle that was intending to make a left turn.

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- Only three crashes (out of 51) involved a right hand turn, one of which was a collision between a vehicle and a bicycle traveling in the wrong direction.
- There are two pedestrian incidents documented, both with the person trying to cross from the south side of the street to the north.
- 23 of 51 accidents occurred at Nightingale Lane, Hinckley Road or in between the two (this represents about 325 feet of the roughly 2,000 foot corridor).
- Several of the drivers that were hit while turning left onto Route 132 claim they were waved out by a person driving their vehicle in the near lane.
- 2007 and 2008 had sixteen reported crashes each. 2009 had nineteen reported crashes through the first eleven months.
- Of the 51 crashes, seven involved one vehicle, 42 involved two vehicles, and two involved three vehicles.

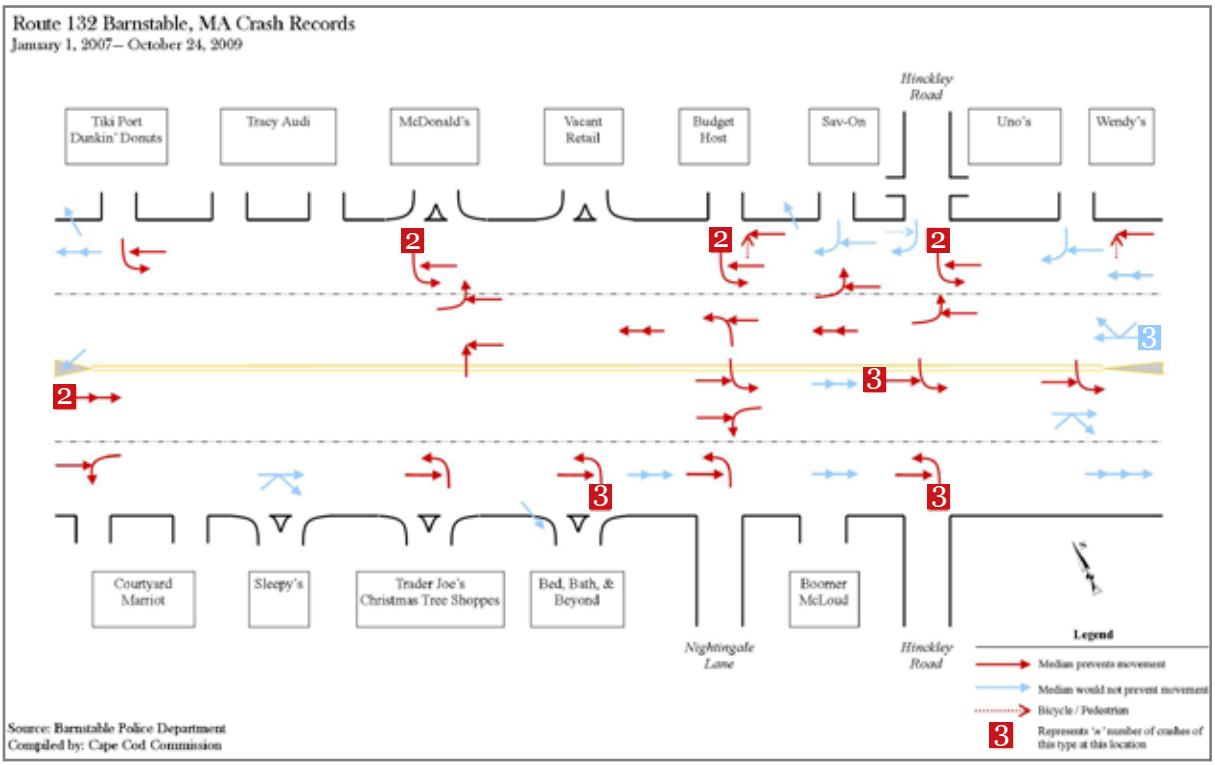

Diagram illustrating Route 132 Crash records

OPPORTUNITY 13A: PROVIDE SAFE ACCESS FOR ALL USERS (MOTORISTS, BICYCLISTS AND PEDESTRIANS) WITHIN AREA C

Providing Safe access will enhance the development potential of Area C. Providing a raised median along Route 132 from the Airport Rotary to the existing raised median (south of the Cape Cod Mall) on Route 132 would eliminate the majority of crashes within Area C as well as improve traffic flow between the Airport Rotary and the two (2) malls currently within Area B.

The Crash Diagram (shown previously) distinguishes crashes that could be eliminated with the installation of a center, raised median from crashes that could still occur regardless of a raised median. A number beside a diagramed crash indicates the number of times an incident of that nature occurred during the time period. The diagram is not to scale.

One concern that has been articulated about a raised median is that it could restrict access into the existing businesses within Area C. Patrons on Route 132 could reverse direction at the Airport Rotary to access businesses on the north side of Route 132. A new traffic signal could also be introduced within Area C along with interconnections between adjacent parcels to the lateral streets (such as Nightingale Lane or a new internal roadway) providing safe access for businesses within Area C.

Area C north of Route 132 has a unique opportunity to interconnect businesses currently fronting Route 132 along a back access road currently proposed to be upgraded by the Barnstable Municipal Airport. This access road could connect to a new Route 132 traffic signal and into the Kmart Plaza. These connections would provide multiple safe signalized intersections connecting all businesses on the north side of Route 132.

Any proposed roadway improvement project along Route 132 within Area C is complicated by a proposed MassDOT project to change the configuration of the Airport Rotary. Due to the close proximity between any new Route 132 traffic signal within Area C and the MassDOT Airport Rotary improvement, an analysis has been preformed to see how a new proposed traffic signal would work in conjunction with the proposed Airport Rotary improvements. The new traffic signal has been analyzed for Level of Service and to ensure that vehicle queues from a traffic signal would not back up into the new Airport Rotary improvements.

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Four alternative configurations for the reconstruction of the Airport Rotary have come forward from the Hyannis Access Study. Two locations for signalization along the study corridor have been modeled in eight scenarios: each location with each of the four MassDOT Airport Rotary alternatives. The four rotary alternatives are summarized as follows (source: Hyannis Access Study 2008):

1. Signalization – This alternative creates a new traffic signal located on the existing rotary's island. It would be composed of four legs: Route 132, Route 28 to/from Mashpee, Route 28 to/from Yarmouth, and Barnstable Road from the south. Barnstable Road from the north would end prior to the signal.

Signalization diagram, detail shown in inset.

2. Split Signals – This alternative creates two offset intersections, with Route 28 as the through movement. The Barnstable Road/Route 28 and the Route 132/Route 28 intersections would be offset from each other by about 450 feet (diagram shown opposite).

Split signals diagram, detail shown in inset.

3. 28 to 28 Underpass – The current rotary would be modified to a modern roundabout. There would be a bypass lane from Route 28 prior to the roundabout, continuing under the roundabout, and then reconnecting with Route 28.

Route 28 to Route 28 underpass diagram, detail shown in inset.

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4. 132-28 Underpass – The current rotary would be modified to a modern roundabout. There would be a bypass lane from Route 132 prior to the roundabout, continuing under the roundabout, and then reconnecting with Route 28.

Route 132 to Route 28 underpass diagram, detail shown in inset.

Commission transportation staff looked at the effects of installing a traffic signal at two potential locations on Route 132. For each location a computer model was used to project changes in level of service and estimate queue lengths for each signal location.

The first modeled signal location (Location 1) is at Nightingale Lane, which could be a four way intersection with the construction of a northern approach. This location is roughly 700 feet from the entrance to the existing rotary. The second location (Location 2) is at the current entrance to Trader Joe's and McDonald's which is roughly 1,200 feet from the rotary.

Screen shot depicting modeling of potential signalization at Nightingale Lane

Level of Service (LOS) is a designation used to rate an intersection's operational conditions. The analysis considers factors such as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. There are six LOS designations, A-F, with A being ideal traffic flow conditions and F being least desirable. Using Synchro analysis software, Table 2 displays the Level of Service (LOS) values generated for each scenario.

Table 2: New Route 132 Traffic Signal Level of Service (LOS)		
Signal Location	Rotary Alternative	LOS
Location 1	Signalization	E
Location 1	Split Signals	E
Location 1	28-28 Underpass	D
Location 1	132-28 Underpass	D
Location 2	Signalization	E
Location 2	Split Signals	E
Location 2	28-28 Underpass	D
Location 2	132-28 Underpass	D

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The existing, non-signalized intersection of Nightingale Lane has an LOS F. Current volume inputs do not alone warrant a left turn only lane for eastbound vehicles, although the estimate is close. The inclusion of the additional lane could change each scenario's evaluation to a LOS C. Model outputs also include estimated queue lengths. Table 3 displays 95th percentile queues that would extend towards the rotary.

Table 3: Traffic Signal Westbound Traffic Queue (ft)

Signal Location	Rotary Alternative	WB Queue (ft)
Location 1	Signalization	690
Location 1	Split Signals	650
Location 1	28-28 Underpass	664
Location 1	132-28 Underpass	253
Location 2	Signalization	690
Location 2	Split Signals	520
Location 2	28-28 Underpass	620
Location 2	132-28 Underpass	337

6. ECONOMIC DEVELOPMENT

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As discussed in the "Issues and Opportunities" section of this report, the Town of Barnstable has several ongoing efforts to encourage redevelopment and growth in the Hyannis Main Street area. In order to avoid competition with the Main Street area, and to foster economic development in both areas, the town should identify and encourage different uses from those that are desirable in the Main Street Areas. To understand this picture more fully, the Cape Cod Commission used ESRI's Business Analyst to explore the existing business mix in the corridor and Hyannis Main Street, and to better understand the makeup of neighborhoods in the vicinity of the two areas.

EXISTING BUSINESSES

ESRI's Business Analyst data was used to conduct an analysis of the existing businesses in the Route 132 corridor area. The businesses with the largest sales volume include:

- FORD OF HYANNIS
- TRACY VOLKSWAGEN AUDI
- PAIN D'AVIGNON
- CHRISTMAS TREE SHOPS
- BEST BUY
- EVERETT H CORSON CADILLAC OLDS
- SEARS
- MACY'S
- TRANS ATLANTIC MOTORS INC.

The largest employers in the area (i.e. businesses with over 100 employees) are:

- CAPE CODDER RESORT & SPA
- SEARS
- CHRISTMAS TREE SHOP
- MACY'S
- OLIVE GARDEN ITALIAN RESTAURANT
- SAM DIEGO'S
- HEARTH N KETTLE RESTAURANT

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Below, Table 4 and Table 5 provide the number of employees and sales volumes respectively for the Route 132 Study Area and comparitive statistics for Main Street Hyannis and Cape Cod as a whole.

Table 4: Comparison of Employees
(source:ESRI Business Analyst 2009 edition)

	Cape Cod		Study Area		Main Street Hyannis	
Private Sector Business Type	Total Employees	% of Total	Total Employees	% of Total	Total Employees	% of Total
All Businesses	109,459	100%	4,673	100%	3,597	100%
Hotel/Motel/Inn	5,811	5.31%	371	7.94%	205	5.70%
Eating/Drinking	12,657	11.56%	932	19.94%	577	16.04%
Entertainment/ Amusements	3,612	3.30%	27	0.58%	21	0.58%
Retail/Services	21,203	19.37%	2,384	51.02%	596	16.57%
Offices	39,592	36.17%	482	10.31%	1,384	38.48%
Industry/ Manufacturing	16,994	15.53%	395	8.45%	412	11.45%
Other	976	0.89%	11	0.24%	0	0%

Table 5: Comparison of Sales Volume
(source:ESRI Business Analyst 2009 addition)

	Cape Cod		Study Area		Main Street Hyannis	
Private Sector Business Type	Sales Volume (1000s)	% of Total	Sales Volume (1000s)	% of Total	Sales Volume (1000s)	% of Total
All Businesses	21,394,655	100%	974,762	100%	518,628	100%
Hotel/Motel/Inn	438,572	2.05%	28,224	2.90%	16,274	3.15%
Eating/Drinking	608,408	2.84%	40,588	4.16%	29,068	5.60%
Entertainment/ Amusements	366,224	1.71%	3,455	0.35%	588	0.11%
Retail/Services	5,776,085	27%	654,486	67.14%	145,289	28.01%
Offices	4,412,847	20.63%	93,272	9.57%	193,722	37.35%
Industry/ Manufacturing	9,678,293	45.24%	148,753	15.26%	131,511	25.36%
Other	114,226	0.53%	5,984	0.61%	2,176	0.42%

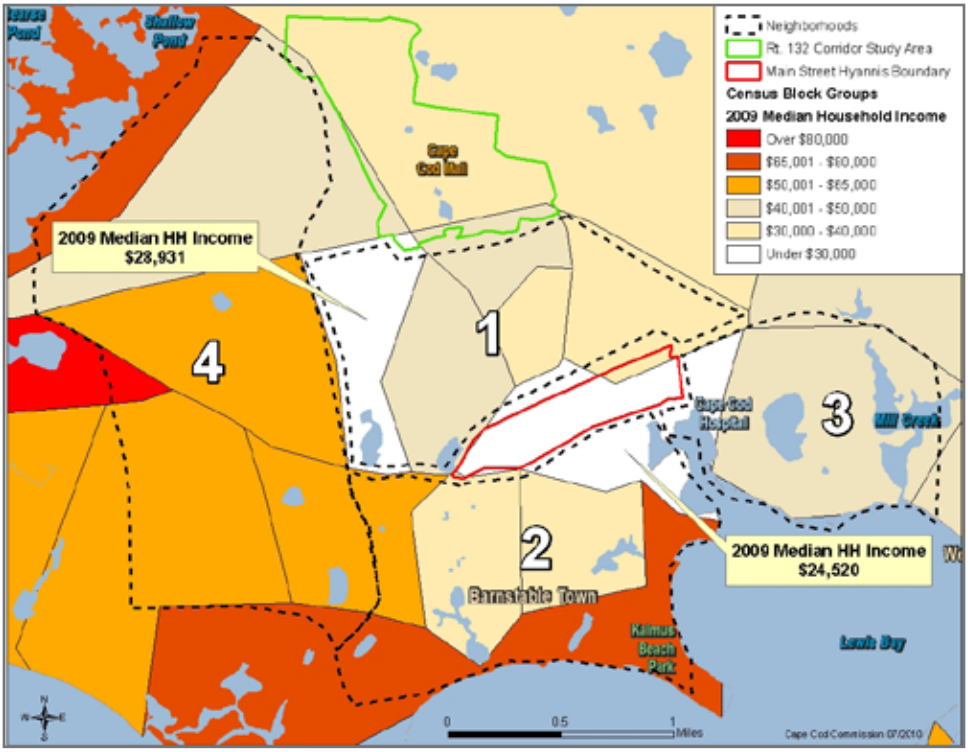
Table 6 below provides a summary of the sales per employee in the Route 132 Study Area, and provides a comparison between the sales per employee in the Main Street Hyannis area and Cape Cod as a whole.

Table 6: Comparison of sales/employee (source:ESRI Business Analyst 2009 addition)			
	Cape Cod	Study Area	Main Street Hyannis
Private Sector Business Type	Sales/employee ($)	Sales/employee ($)	Sales/employee ($)
All Businesses	$195.46	$208.59	$144.18
Hotel/Motel/Inn	$75.47	$76.08	$79.39
Eating/Drinking	$48.07	$43.55	$50.38
Entertainment/ Amusements	$101.39	$127.96	$28.00
Retail/Services	$272.42	$274.53	$243.77
Offices	$111.46	$193.51	$139.97
Industry/ Manufacturing	$569.51	$376.59	$319.20
Other	$117.03	$544.00	n/a

With 208 establishments in the study area, the retail/services sector comprises 51% of employment and 67% of sales volume, reflecting the areas function as a regional retail center. The industry has a high sales/employee ratio relative to other industry sectors, partially due the number of auto dealerships with service departments and the use of part-time employees by large retailers. Manufacturing is the sector with the highest sales/employee ratio; this sector provides only 8% of emplotment, but 15% of sales volume.

ADJACENT NEIGHBORHOODS ANALYSIS

The ESRI Tapestry Segmentation system (psychographic data) classifies neighborhoods based on their socioeconomic and demographic compositions and provides a generalization of consumer profiles as to the type of goods and services that may be expected to be in demand. In considering potential niche markets for Hyannis Main Street, tapestry segments were run for the four adjacent neighborhoods to donwtown. The neighborhoods are illustrated in the following graphic.



Graphic showing neighborhoods described in the tapestry analysis and Census Block Groups 2009 Median Household Income (Source-ESRI Business Analyst 2009 edition).

The prevalent Tapestry Segmentation markets are described for each of the four adjacent neighborhoods.

Prevalent Tapestry Segmentation Markets: Neighborhood 1

Main Street USA

These residents have a median age of 36.7 years. Their median household income is $57,082 and their median net worth is $86,618. Family-oriented and frugal, they may occasionally go to the movies or eat out at a family restaurant, such as Friendly's or Red Robin, but are most likely to stay home and watch a rental movie or play games with their children. Active members of the community, residents participate in local civic issues and work as volunteers. Main Street USA residents play baseball and basketball and go swimming. They go to the beach and theme parks or take domestic vacations to visit with family or see national parks. They buy tools and supplies for home improvement projects from Home Depot or Ace Hardware and keep up their lawns and gardens by planting bulbs, fertilizing, and applying lawn care products.

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Inner City Tenants

This multicultural market is younger than average, with a median age of 27.8 years. These residents are a microcosm of urban diversity; their population is represented primarily by white, black, and Hispanic cultures. Three in ten residents are Hispanic. The median household income is $33,563. The household composition also reflects their youth. Household types are mixed; 34 percent are singles, 28 percent are married-couple families, 21 percent are single parents, and 10 percent share housing. Turnover is high in these neighborhoods because many are enrolled in nearby colleges and work part-time. These neighborhoods are also a stepping-stone for recent immigrants, with an annual population growth of 0.6 percent. With their busy lifestyle, Inner City Tenants residents frequently eat at fast-food restaurants and shop for groceries at nearby stores such as Albertson's.

Prevalent Tapestry Segmentation Markets: Neighborhood 2

Great Expectations

Young singles who live alone and married-couple families dominate the Great Expectations market, although all

household types are represented. The median age is 33.2 years. Some residents are just beginning their careers or family lives. Compared to the U.S. figures, this segment has a higher proportion of residents who are in their 20s and a higher proportion of householders younger than 35 years. The ethnic diversity and racial composition of this segment are similar to U.S. levels. The median household income is $38,790. Great Expectations homeowners are not afraid to tackle smaller maintenance and remodeling projects, but they also enjoy a young and active lifestyle. They go out to dinner and to the movies. They do most of their grocery shopping at Wal-Mart Supercenters, Aldi, and Shop 'n Save. They occasionally eat at Arby's and Dairy Queen. They shop at major discount and department stores. They rarely travel.

Simple Living

With a median age of 41 years, this market is slightly older than the U.S. median of 36.8 years. Approximately one fifth of Simple Living residents are aged 65 years or older; 12 percent are aged 75 or older. Half are singles who live alone or share housing; 32 percent are married-couple families. Young families with children and

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ethnic cultures are in the minority; most residents are white. This market size is stable with negligible growth. The median household income is $29,255. The lifestyle of these residents is reflected by their ages; younger people go to nightclubs and play musical instruments; seniors refinish furniture and go saltwater fishing. Community activities are also important to the latter; they join fraternal orders and veterans' clubs. Simple Living households spend wisely on a restricted budget. They buy the essentials at discount stores and occasionally treat themselves to dinner out and a movie.

Prevalent Tapestry Segmentation Markets: Neighborhood 3

Mid Life Junction

The median age of Mid Life Junction residents is 41.5 years. Their median household income is $49,139 and their median net worth is $86,152. They live quiet, settled lives as they move from child-rearing into retirement. To finance their retirement, they own certificates of deposit, savings bonds, and IRAs. They're careful spenders, always looking for bargains, and not swayed by fads. On weekends, they eat fast food or go to family restaurants such as Friendly's or Perkins. They drive standard-sized domestic cars and shop by mail or phone from the L.L. Bean and Land's End catalogs. They go fishing, take walks, work crossword puzzles, play board games, do woodworking, and read science fiction or romance novels.

Social Security Set

Four in ten householders are aged 65 years or older; the median age is 46 years. Most of them live alone. Somewhat ethnically diverse, Social Security Set neighborhoods are a blend of different racial groups; however, half of the residents are white and one-third are black. Although Social Security Set residents live on very low fixed incomes, they have accumulated some wealth they can tap into now that they're retired. Their median household income is $16,997. Limited resources somewhat restrict the activities and purchases of residents in Social Security Set neighborhoods. They shop at discount stores, but prefer grocery stores close to home. Many depend on Medicare or Medicaid to pay their health care costs.

Prevalent Tapestry Segmentation Markets: Neighborhood 4

Mid Life Junction

The median age of Mid Life Junction residents is 41.5 years. Their median household income is $49,139 and their median net worth is $86,152. They live quiet, settled lives as they move from child-rearing into retirement. To finance their retirement, they own certificates of deposit, savings bonds, and IRAs. They're careful spenders, always looking for bargains, and not swayed by fads. On weekends, they eat fast food or go to family restaurants such as Friendly's or Perkins. They drive standard-sized domestic cars and shop by mail or phone from the L.L. Bean and Land's End catalogs. They go fishing, take walks, work crossword puzzles, play board games, do woodworking, and read science fiction or romance novels.

Main Street USA

These residents have a median age of 36.7 years. Their median household income is $57,082 and their median net worth is $86,618. Family-oriented and frugal, they may occasionally go to the movies or eat out at a family restaurant, such as Friendly's or Red Robin, but are most likely to stay home and watch a rental movie or play games with their children. Active members of the community, residents participate in local civic issues and work as volunteers. Main Street USA residents play baseball and basketball and go swimming. They go to the beach and theme parks or take domestic vacations to visit with family or see national parks. They buy tools and supplies for home improvement projects from Home Depot or Ace Hardware and keep up their lawns and gardens by planting bulbs, fertilizing, and applying lawn care products.

Discussion

ESRI's Business Analyst provided estimates on the 2009 median household income for the four adjacent neighborhoods, which are illustrated in the map below. The Business Analyst Census Block Groups data indicates that there are two areas within the neighborhoods where the 2009 median household income was under $30,000. These two areas comprise the lowest median household income census block groups in the Town of Barnstable.

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Together, the income and tapestry data provide a picture of the resident customer base within walking distance or short driving distance to downtown. The data is also relevent to Route 132 but is used here to consider how downtown might differentiate itself as a customer destination. While the data is imperfect, it does suggest that there might be demand for arts, theatres, and movie theatres. Some of the current music entertainment venues include Harry's, Island Merchant, and the Cape Cod Melody Tent. Otherwise, the Main Street area should consider offering high-quality, locally-owned alternatives to the formula businesses identified in the tapestry segment analyis. At the same time, new development along these generic lines should be discouraged along Route 132 to allow alternatives to thrive along Main Street.

RECOMMENDATION: CREATE A LIGHT INDUSTRIAL AND AUTO SERVICES DISTRICT

The Route 132 corridor is more reliant on industrial and retail uses (especially in terms of sales volume) than the Cape and Hyannis Main Street, which are more evenly distributed across retail, office, and industrial.

The niche consisting of industrial/manufacturing and airport related uses could be built upon; one option would be to establish a light manufacturing and auto services district with small lot sizes to encourage locally owned and start-up businesses. The industrial and manufacturing sector has the highest return and is the least likely to detract from businesses on Main Street. Incubator space for light manufacturing start-up companies within the district could be encouraged provided that it is consistent with water resource goals.

As most of the study area is located within the town's water protection district, water quality protection would need to be accommodated; this may limit use options. The one area outside the water protection district is located adjacent to the intersection of Bearse's Way & the corner of Route 28, yet there are non-conforming auto service uses located throughout the 132 study area which may pose a threat to water quality. Incentives could be offered to facilitate relocation of auto service uses to this one area outside the water protection district.

RECOMMENDATION: CREATE A TRANSPORTATION DISTRICT

A Transportation District consisting of airport, train, and ferry related uses should be established, with a portion located within the Growth Incentive Zone (GIZ) as well as within the study area. The features of this district would include hotels and visitor services, such as car rental facilities. Entertainment options may be viable in this area. However, retail establishments targeting visitors and residents would be best located elsewhere. The transportation connections should be enhanced by establishing a network of pedestrian and bicycle pathways. Joint parking facilities and shuttles between the airport, transportation center, and ferry should be a priority at least during the high season.

RECOMMENDATION: ESTABLISH GREENWAYS AND REDEVELOPMENT

A greenway is a linear open space that is reserved for environmental preservation and recreational use. Greenways can link parks and communities within an urban environment and provide opportunities for recreation, transportation, and fitness. A survey of recent research on the economic impact of greenways was completed with over thirty-five studies showing that greenways generate a wealth of benefits for communities. Studies have demonstrated that greenways increase the value of adjacent properties, thereby increasing local tax revenues. Greenways enhance marketability and sales for nearby businesses patronized by residents and visitors and generate revenue through increased tourism and local spending. While greenways have many economic benefits, the inherent intrinsic environmental and recreation value increases the quality of life for both residents and visitors. Greenways can also minimize the need for built infrastructure; they create a natural buffer zone that conserves and protects waterways and treats stormwater to improve water quality. This prevents soil erosion, provides pollution control, and reduces costs resulting from flood damage.

The use of greenways should be utilized within the Route 132 corridor area to the greatest extent possible. Greenways can create connections with the adjacent neighborhoods to the south and the small residential area within the study area.

In some areas this could mean un-development of existing structures. Means for compensating the owners of these properties must be part of the town's consideration. This could include traditional methods and/or the development of incentives to encourage green space by tear-down/

undevelop using a Transfer of Development Rights (TDR) system. Ideally, given the current surplus of commercial space, there should be no net increase in retail within the study area; instead incentives should guide existing retail establishments into the existing retail zones around the Cape Cod Mall, Kmart Plaza, Southwind Plaza, and the Festival Mall. An alternative would be to allow a net increase if reductions were made simultaneously in the commercial strip locations outside the study area.

ECONOMIC DEVELOPMENT CONCLUSION

Opportunities for the Route 132 corridor will center around the ability to capitalize on uses appropriate for the area. For example, building upon the industrial and manufacturing sectors and encouraging uses relating to airport services. Focusing on specific uses appropriate to the area will reduce potential competition with Hyannis Main Street. Additionally, non-retail employers offer skilled job opportunities with higher earning potential. The concept of capitalizing on a unique niche or draw for individual nodes based upon serving different segments of the economy and population would seem to be an essential element of successful redevelopment in these areas. The unique nature of Hyannis Main Street should be encouraged and protected to prevent the possibility of becoming generic.

Challenges to redevelopment for the Route 132 corridor are posed mostly by current sprawling development patterns and a generally disorganized character. Underutilized green spaces and water bodies, limited pedestrian walkways, and lack of internal connections are some of the impediments. In an effort to provide interest and variety along the Route 132 corridor, the area should be divided into distinct market sections that can be defined by unique characteristics. Successful redevelopment of node areas will need to include provisions for un-development in the areas between the nodes to establish a greenway.

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7. ACTION PLAN

The opportunities presented in the preceding sections suggest a variety of ways to encourage the redevelopment and the reorganization of land use in the study area. The following section groups the strongest opportunities into a simplified list of actions. Each action item provides a brief summary of its key components and a list of the opportunities it addresses. A reference is provided to the more detailed discussion provided in the "Issues and Opportunities" section of this report. Many of the actions and recommendations presented here are illustrated in Figure I. Further illustrations accompany this report, specifically in Figures E, F, H, J, K, L, M and N. On request, the Cape Cod Commission can further assist the town in implementing many of these recommendations and formulating a redevelopment strategy for the area.

A. ESTABLISH IDENTITY FOR STUDY AREA AND DISTRICTS

Building on this report, the town should establish consensus on the character of the various districts in the study area. This "branding" of the sub-districts within the study area would be incorporated into the town's design guidelines, policies and public investment strategy in the area. The town could consider soliciting the local artist community in developing signage, banners and iconography for this purpose. This effort would help provide a sense of place and could be incorporated into the work already completed for the "Informational Sign Strategy" and other local initiatives. The report notes that the area near the rotary could be "branded" as a gateway with particular reference to the airport and its function. Art, signage and businesses in this location, such as hotels, conference centers and supporting businesses, could build on this theme to further support the character of the area.

Establishing a clear identity would address the following opportunities:

- Reinforce gateways (Opportunity 1A)
- Identify and Market Distinct Areas along Route 132 (Opportunity 3A)
- Develop Design Guidelines (Opportunity 3B)
- Encourage appropriate uses in the airport neighborhood (Opportunity 10A)

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B. REINFORCE IDENTITY THROUGH DESIGN GUIDELINES

The design guidelines included in this report should be implemented to help establish a consistent approach to the character-defining elements of the corridor. The design guidelines establish: a consistent setback and scale of buildings; the appropriate placement and depth of landscaping; the location of parking; and the provision of amenities for pedestrians and bicycles in the street. The guidelines should inform both private development, through local permitting such as the special permit process or site plan review, and the design of public improvements.

The design guidelines can also be used to improve connections to adjacent residential neighborhoods, particularly those on the south side of Route 28. Two locations along this part of Route 28 are of particular importance. The intersection of Bearse's Way and Route 28 that is a gateway to Main Street, an area of potentially high pedestrian activity and the location at which the new multi-use pathway is proposed to connect. The intersection of the Cape Cod Mall south entrance and Route 28 is also an important location for pedestrians travelling from adjacent neighborhoods to work or shop at the regional retail businesses. Guiding development at these locations in a manner that accommodates pedestrians and provides a transition from the residential neighborhood to the regional retail area is important to the successful functioning of the district.

Adopting design guidelines would address the following opportunities:

- Develop Design Guidelines (Opportunity 3B)
- Provide Sidewalks and multi-use paths in study area ((Opportunity 4A)
- Require landscaping on individual properties/link to streetscape improvements (Opportunity 6A)
- Screen parking areas with plantings and frontage buildings (Opportunity 7A)
- Encourage pedestrian oriented development at major intersections (Opportunity 11A)

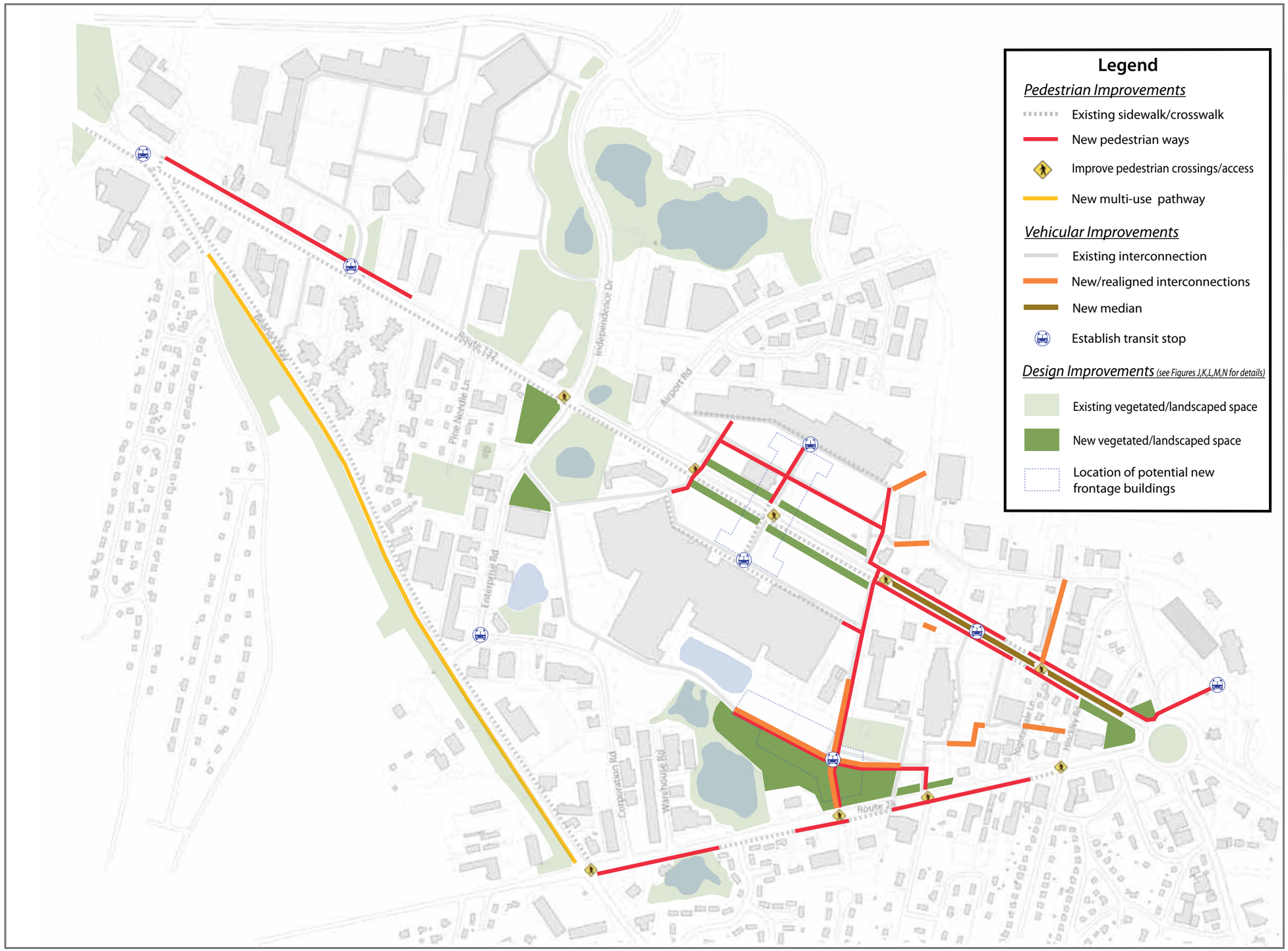

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Figure I: Recommended Actions

Created 12/09 by PD using Adobe CS4. The information shown in this graphic is intended for planning purposes only and is not adequate for legal boundary definition, regulatory interpretation, or parcel level analysis. It should not substitute for actual on-site survey, or supercede deed research.

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C. PROVIDE INCENTIVES TO FOCUS RE-DEVELOPMENT ACTIVITY CONSISTENT WITH THE VISION

A number of the recommendations in this report are best implemented through providing incentives to property owners to re-invest and redevelop their properties. A number of options exist, some of which are described below. In order to successfully implement these recommendations and identify the actions most likely to succeed, private parties should be engaged in conversation by the town.

Several locations in the study area have been identified as potentially being utilized for greenbelt areas. Most of these areas are under private control, either the Cape Cod Mall (corner of Independence Drive/Route 132, southern parking field of the Mall) or the Kmart Plaza (parking lot abutting Route 132). Many of the sites are currently used for parking, most of which is severely under-utilized. In these cases, the town could provide incentives in local ordinances to create this additional green space by reducing parking requirements or providing floor area bonuses. In return for these benefits, private property owners should be required to meet certain performance standards such as the construction of parking structures to minimize impervious areas or providing pedestrian and vehicular interconnections. Alternatively, to offset reduced parking, additional and more frequent transit options could be provided to reduce parking demand. In addition, the town could also explore regional regulatory tools such as Growth Incentive Zones or flexible DRI thresholds to streamline the development permitting process for projects that are consistent with the established vision for the area (see Action item E below).

Any new development ordinances in this area must also be carefully crafted to avoid encouraging additional development that competes directly with businesses currently located in other parts of Barnstable (most notably Main Street). The town has prioritized the re-vitalization of Main Street and therefore any initiatives that are implemented for the Route 132 area should focus on those businesses that are desired but unlikely to locate in a downtown setting. For instance, the town could build on the areas established identity as a regional retail location when designing zoning floor area limits.

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Incentives could be used to implement recommendations in the following areas:

- Establish Greenbelt Area and Encourage Appropriate Uses (Opportunity 2A)
- Provide incentives for connections between developments (Opportunity 5A)
- Encourage Decked Parking (Opportunity 7C)

D. IMPLEMENT TRANSPORTATION IMPROVEMENTS

Establishing a strategy for making improvements to the transportation network that is consistent with, and supportive of, the vision for the area is a critical component to the success of the plan. Investing in public infrastructure to improve the safety and flow of traffic, and by improving transit options throughout the area, can spark economic development in the district by providing easier access for customers. An investment of public capital in street improvements also can produce an incentive for business owners to upgrade properties that are under-performing.

Implementing transportation improvements consistent with the land use vision for the area would incorporate the following recommendations:

- Decrease Parking Footprints with Public Transit (Opportunity 7B)
- Define and Reduce Curb Cuts (Opportunity 8A)
- Provide safe access for all users in Area C (Opportunity 13A)

E. EXPLORE REGULATORY TOOLS AVAILABLE TO ACHIEVE THE VISION

Many of the recommendations discussed in this report can be implemented through changes in regulation, either aimed at providing encouragement for private investment through incentives or more streamlined review, or by requiring through regulation more modest improvements and upgrades to be consistent with an overall vision.

At the local level, the town could provide guidance to the development community through its zoning regulations. For instance, incentives can be created within the zoning regulations (density bonuses, parking reductions) to provide benefits to property owners in return for designing projects in a manner consistent with the vision for the area. Amendments to the town's non-conforming use provisions might also be employed to

encourage uses that have large quantities of hazardous materials and that are operating in Wellhead Protection (WP) districts to relocate to areas outside the WP District (perhaps in combination with density bonuses). The town could also use new design guidelines to ensure a consistent approach to streetscape improvements and building placement/scale in the district. Another option available to the town, but beyond the scope of this particular study, would be to establish a transfer of development rights (TDR) program for the area. The town could establish "sending" areas for locations where development intensity needs to be reduced (for instance, near congested roadway intersections, or under-invested properties) and establish "receiving" areas where additional development is desired to create vitality, screen large buildings or improve character.

At the regional level, a number of tools are available that could be pursued by the town to facilitate re-development through the streamlining of the permitting process. Growth Incentive Zones (GIZ) could remove Cape Cod Commission review from the permitting pathway, provided that the town had sufficient regulatory controls in place to protect the resources protected under the Cape Cod Commission Act. However, as the town already has a GIZ for downtown and the immediate adjacent areas, it seems that designating this area as a GIZ would not be consistent with the town's redevelopment goals.

Alternatively, the Assembly of Delegates has recently adopted flexible threshold regulations that may be pursued by the town for this district. The flexible threshold process outlined in Chapter H of the Commission's regulations allows for the modification of certain DRI thresholds. For instance, thresholds could vary within the study area to encourage and discourage larger scale development by sub-area depending on the types of business desired. With respect to retail, thresholds could be increased in the Kmart Plaza area to encourage the development of liner buildings, but reduced in other areas to discourage retail development. Compared to the current structure, this would allow larger projects to move forward without Commission regulatory review provided that certain measures had been taken at the local level to address impacts. Transportation planning, design guidelines and infrastructure planning could be used to support such an application. This step, in combination with other recommendations in this report, could boost re-investment in the area by reducing permitting timeframes. In addition, the town could explore a performance standard approach to raising thresholds, whereby projects consistent with the design guidelines would avoid the Commission's regulatory review while projects inconsistent with the goals for the area would continue to be subject to Commission oversight.

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Another regional planning tool is the district of critical planning concern (DCPC) for economic development. Use of the DCPC is unique in that it is the only tool in Massachusetts that can eliminate grandfathering or provide a sunset timeframe. The DCPC could also be used to establish a TDR program entirely within the study area. The "sending" areas could become the greenway areas and the small pockets of residential within the study area, while the "receiving" areas could be where additional growth and infill is desired. This could be used with or as an alternative to the purchase of open space. The use of a Redevelopment Authority to purchase and sell land would complement a DCPC.

Other approaches could involve property tax abatement (TIF), however, these should be used sparingly and only for industrial and manufacturing uses within the zones preferred for these uses. To encourage independently owned and entrepreneurial ventures, some areas could be zoned for small-scale industrial uses as the Groundwater Protection Overlay District and Wellhead Protection Overlay District allows.

Exploring regulatory tools consistent with the land use vision for the area would incorporate the following recommendations:

- Establish Greenbelt Area and Encourage Appropriate Uses (Opportunity 2A)
- Provide incentives for connections between developments (Opportunity 5A)
- Encourage Decked Parking (Opportunity 7C)
- Provide incentives for desired uses in study area (Opportunity 9A)
- Encourage appropriate uses in the airport neighborhood (Opportunity 10A)
- Provide incentives to relocate non-conforming uses (Opportunity 12A)

8. DESIGN GUIDELINES

Without an historic development pattern to follow in the study area, the proposed design guidelines make an effort to establish patterns that build on the existing streetscape character. Looking at existing features, the character of Route 132 can be divided into three distinct sections. The first area, Route 132 West (Area A), includes modest scale retail structures, hotels and condominiums with moderate setbacks from the roadway and landscaping between the buildings and the roadway. The second area, Route 132 Center (Area B), is characterized by retail malls and other large-scale retail uses with large parking lots directly adjacent to the roadway. The third area, Route 132 East (Area C), is characterized by a mix of small to moderate scale retail and industrial/utility uses in the approach to the rotary with poorly defined curb cuts and access roads.

Looking at the broader study area, some portions of Bearse's Way and Route 28 should be treated similarly to areas on Route 132. The eastern end of Route 28 is characterized by small scale office and industrial uses and poorly defined curb cuts and should be treated similar to Route 132 East. The center portion of Route 28 is defined by the back side of the large malls and some smaller scale retail on the south side. This area should be defined more clearly as a pedestrian-oriented intersection that can connect businesses on the south side of Route 28 with development within the Mall property. Similarly, specific Design Guidelines to address pedestrian connections and a link with the surrounding residential neighborhoods should be developed for the intersection of Route 28 and Bearse's Way.

The design guidelines below address streetscape design issues and building design issues in both the public and private realms, as well as on back lots.

A. PRIMARY ISSUES FOR STREETSCAPE DESIGN

- Define the road edge -- with consistent landscape treatments and pedestrian amenities. Street trees and landscape buffers will define the road edge in some areas. Hard edge buffers such as fences or low walls may be an appropriate solution along the road frontage where parking is visible or buildings are set too far back to create a sense of enclosure. Landscape strips at least 2 to 3 feet wide should be provided between the road

surface and pedestrian walkways. Highway median strips, where they exist, also define the roadway character and should have consistent landscape treatment.

- Create effective landscape buffers – at large mall areas and at smaller scale developments with large parking areas, wide landscape buffers are needed to establish a sense of enclosure and screen large parking lots in some areas, and to lend a greener character to the roadway corridor. Appropriate landscape buffer depths are needed for each area of the corridor, responding to the prevailing building setback and scale.
- Reduce the visibility of parking areas – with effective landscape screening, low walls or frontage buildings. Restricting parking from the front portions of parcels, easing parking requirements if properties are linked to adjacent parcels, and providing greater access to public transportation will also help to reduce parking areas.

B. PRIMARY ISSUES FOR BUILDING DESIGN

- Bring down the building edges. Determine appropriate building height and building setback and regulate for that to maintain established scale along roadways. An appropriate range of bulk, height and massing should be established for buildings along the road frontage of each district. Larger structures should be allowed behind these structures, and should incorporate lower roofed portions that relate more to pedestrian scale activities.
- Vary the façade line/wall heights/roof line. To maintain neighborhood scale in frontage buildings along the corridor, and to break down massing of larger structures to the rear of these properties, variation in the building façade plane should be required.
- Incorporate pedestrian scale features. In addition to making the massing and siting of buildings more pedestrian friendly, pedestrian features such as display windows, seating, and other amenities should be included.

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Design Guidelines for this area of Route 132, stretching from Bearse's Way to Independence Drive, reinforce the modest scale of buildings along the Route 132 road frontage and support the mix of residential and commercial uses that knit this area together. Structures along the roadway frontage must present a narrow façade and "neighborhood scale," with landscaping between the roadway and the building. Larger developments are accommodated to the rear of "neighborhood scale" frontage structures. Enhanced pedestrian facilities and consistently good landscaping between the roadway and frontage buildings are essential to maintaining a pedestrian friendly character in this area. The lack of a median in this area supports a narrower road corridor that is consistent with the neighborhood scale.

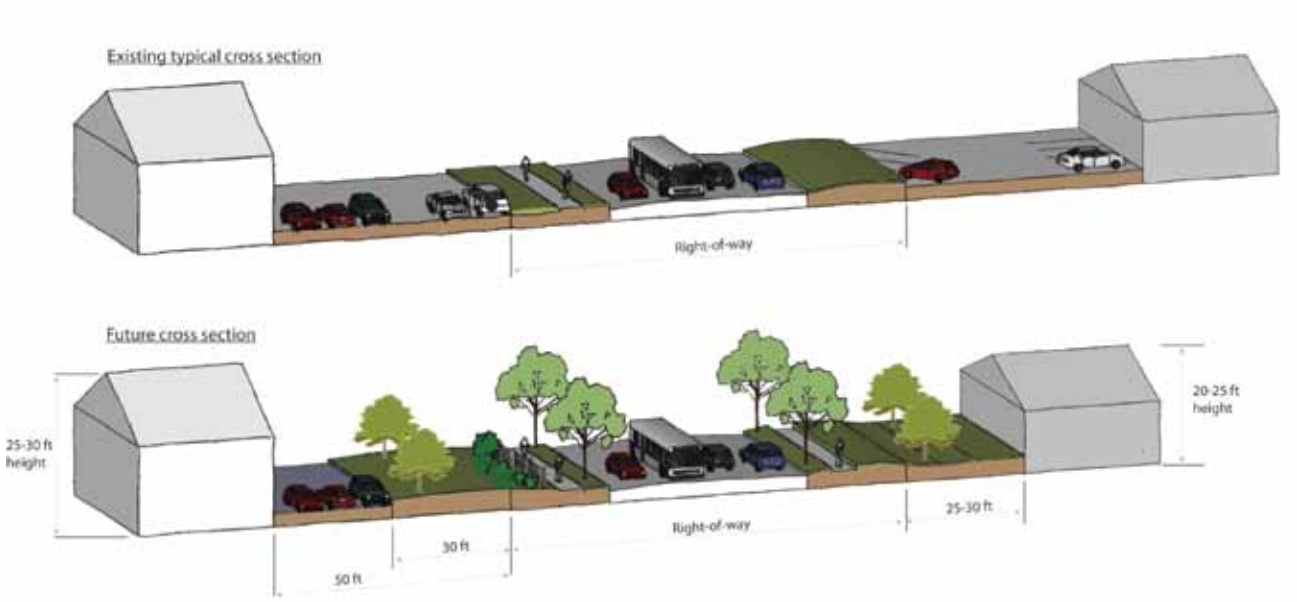

Figure J: Cross Section of Development in Area A/Route 132 West
Illustration of existing development setbacks and proposed changes following the design guidelines below. In the future cross section, the taller building on the left remains where it is and parking is shielded by a 30-foot landscape buffer on the property. The shorter building on the right is moved closer to the street and landscaping fills the front setback area.

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1. Area A - Guidelines for Neighborhood Scale Structures Fronting on Route 132:

a. Building Setback

Buildings should be set back from the front property line between 25 feet and 70 feet. Only landscaping and pedestrian amenities are allowed within the building setback from the roadway. No parking or driveways should be located between the building and the road frontage.

b. Building Scale

Building footprints should range from 4,000 square feet to 8,000 square feet. Building footprints should be oriented so the narrow façade faces Route 132, and the narrow façade should not exceed 50 feet in width. Any façade that exceeds 75 feet in length should have at least 10 feet of projection or setback. The recess or projection can be split into several components, but changes in the façade line of 10 feet or greater are most likely to reduce the visual impact of the building mass.

c. Building Height

Building height, measured to the tallest part of the roof structure or decorative feature on the building, should range from 20 to 25 feet when sited within 50 feet of the front property line. Taller structures of 25 to 30 feet in height may be accommodated by setting them back more than 50 feet from the front property line.

d. Parking

All parking should be located to the side or rear of the structure. No parking is allowed on the site forward of the building's front façade. Parking lots along the roadway frontage should be screened from the street by a low wall, fence, hedge or landscaping.

To address existing situations where buildings are set well back from the road with parking in front, to town may choose in the short term to allow parking areas in front if they are screened behind 30 feet or more of landscaped buffer and a berm or low wall on the subject property. The town may also choose to allow existing car dealerships to place up to 5 parking pads for display of individual cars within this landscaped buffer.

e. Landscaping

All of the front setback area between the building and the roadway should be landscaped with a mix of low plantings and occasional taller trees, with provisions for pedestrian paths and other pedestrian amenities. Landscaping should continue along the entire road frontage of the lot, except where crossed by a curbcut/access road, to reinforce the landscaped pedestrian corridor. Pedestrian paths should be provided within the public right-of-way along Route 132, separated from the road surface by a grass strip or landscaping.

2. Area A - Guidelines for Larger Developments Set Back from Route 132:

a.Landscaping/Screening

Large buildings or developments should be set several hundred feet back from the roadway on rear lots behind substantial landscaped buffers and frontage buildings to screen them. In cases where existing vegetated buffers have been disturbed or degraded and do not provide sufficient screening, new plantings should consist of mixed hardwood and evergreen trees, with associated shrubs and groundcovers to provide variation in planting height. Landscaping should create sense of visual depth with massed plantings that include vegetation of various textures, sizes, and colors.

b. Access Roads

Entrance and site access roads should be designed to meander through the buffer to limit views into the larger development. Trees are especially important along access roads to limit broad views of the development and provide enclosure. A single access road to new rear lot development is required, though additional access may be gained through entrances from other major roadways and through interconnections with adjacent developments. Pedestrian access should be provided within the public right-of-way along the Route 132 road frontage, with a grass strip or landscaping separating the pedestrian way from the road surface.

D. DESIGN GUIDELINES: AREA B – ROUTE 132 CENTER

Design Guidelines for this area of Route 132, stretching from Independence Drive to the eastern side of Cape Cod Mall/Kmart Plaza, reinforce the more open feeling of deep vegetated buffers and development set well back from the roadway. Open space beginning to the east of Border's, heavy landscaping around Sam Diego's restaurant, and open space on the northeast and southeast corners of the intersection with Independence Drive mark a clear transition to a more vegetated and open character of development. This open character needs to be carried across the frontage of the regional malls with much deeper and more varied landscape buffers. The mall buildings and circulation patterns for pedestrians and cars should be focused on the interior of these sites, with structures approaching Route 132 only at key pedestrian intersections. Additional commercial and mixed use development can be accommodated in neighborhood scale structures along these internal road networks. The roadway median in this area should support this green character with plantings or be treated with a unique surface pattern to make it a visual asset.

Figure K: Proposed Development in Area B/Route 132 Center (facing north)
This view looks north, across Route 132, from the Cape Cod Mall entrance road to the Kmart Plaza. It illustrates how the area could look with wider landscaped buffers along Route 132 and additional frontage buildings oriented toward the internal pedestrian/road network.

Figure L: Proposed Development in Area B/Route 132 Center (facing south)
This view looks south, across Route 132, from the Kmart Plaza entrance toward the Cape Cod Mall. It illustrates potential landscape improvements and frontage buildings oriented toward an enhanced pedestrian walkway network in this portion of the corridor.

1. Area B - Guidelines

a. Landscaping/Screening

Mall developments should be screened by landscape buffers 50 to 75 feet deep with a mix of trees, low shrubs and grasses on the subject property. New plantings should consist of mixed hardwood and evergreen trees, with associated shrubs and groundcovers to provide variation in planting height. Landscaping should create sense of visual depth with massed plantings that include vegetation of various textures, sizes, and colors.

b. Frontage buildings

Frontage buildings should be limited so as to maintain a more heavily landscape-oriented focus in this area. Where frontage buildings occur, they should be oriented not toward Route 132, but toward crossroads, access roads, and internal circulation networks. Frontage buildings should maintain a neighborhood scale, similar to that described in Area A, with a footprint of approximately 4,000 to 8,000 square feet and variation in the façade and the roof form to break the structure into pedestrian-scale elements. The maximum

building height should range from 20 to 30 feet measured to the tallest part of the building.

c. Internal Pedestrian Networks

Pedestrian walkways should be established in coordination with any new frontage buildings in this area. The placement of both buildings and sidewalks should reinforce the internal pedestrian circulation network illustrated in Figure I.

d. Large Mall Buildings

Any changes to the primary mall structures should be oriented toward the internal pedestrian and vehicle circulation network. Expansions of existing buildings, through the addition of a second story or expansion of the building footprint, should be designed to be experienced by pedestrians and slow-moving vehicles rather than those traveling on the Route 132 corridor. Traditional building materials are encouraged.

E. DESIGN GUIDELINES: AREA C – ROUTE 132 EAST

Design guidelines for this area of Route 132, from the eastern side of Cape Cod Mall/Kmart Plaza to the Airport Rotary, accommodate a series of smaller malls and moderate-scale retail structures with frontage buildings that are a slightly larger scale than seen in Area A. Large-scale structures should be set further back from the roadway and separated by substantial planted areas or smaller frontage buildings in order to maintain a moderate-scale feel along this portion of the corridor. Design in this area should take advantage of its proximity to the airport and incorporate air-related features into the design of landscape improvements and pedestrian features. This area may also include the portion of Route 28 from the Airport Rotary to the southern entrance to the Cape Cod Mall.

1. Area C - Guidelines for Moderate Scale Structures Fronting on Route 132:

a. Building Setback

Frontage buildings should be set back from the front property line between 25 feet and 70 feet. Only landscaping and pedestrian amenities are allowed within the building setback from the roadway. No

parking or driveways should be located between the building and the road frontage.

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b. Building Scale

Building footprints for frontage buildings should range from 5,000 square feet to 20,000 square feet. Building footprints should be oriented with the narrower façade facing Route 132. Any façade that exceeds 75 feet in length should have at least 10 feet of projection or setback. The recess or projection can be split into several components, but changes in the façade line of 10 feet or greater are most likely to reduce the visual impact of the building mass.

c. Building Height

Building height, measured to the tallest part of the roof structure or decorative feature on the building, should range from 20 to 25 feet when sited within 50 feet of the front property line. Taller structures of 25 to 30 feet in height may be accommodated by setting them back more than 50 feet from the front property line.

d. Parking

All parking should be located to the side or rear of the structure. No parking is allowed on the site forward of the building's front façade. Parking lots along the roadway frontage should be screened from the street by a low wall, fence, hedge or landscaping.

To address existing situations where buildings are set well back from the road with parking in front, to town may choose in the short term to allow parking areas in front if they are screened behind 30 feet or more of landscaped buffer and a berm or low wall on the subject property. The town may also choose to allow existing car dealerships to place up to 5 parking pads for display of individual cars within this landscaped buffer.

e. Landscaping

All of the front setback area between the building and the roadway should be landscaped with a mix of low plantings and occasional taller trees, with provisions for pedestrian paths and other pedestrian amenities. Landscaping should continue along the entire road frontage of the lot, except where crossed by a curbcut/access road, to reinforce the landscaped pedestrian corridor. Pedestrian paths

should be provided within the public right-of-way along Route 132, separated from the road surface by a grass strip or landscaping.

f. Curbcuts

For each development, either one curb cut with two-way travel or two narrow curb cuts allowing one-way travel should be allowed. Curb cuts should be well defined and as narrow as possible to increase landscaped area and to reduce conflict points.

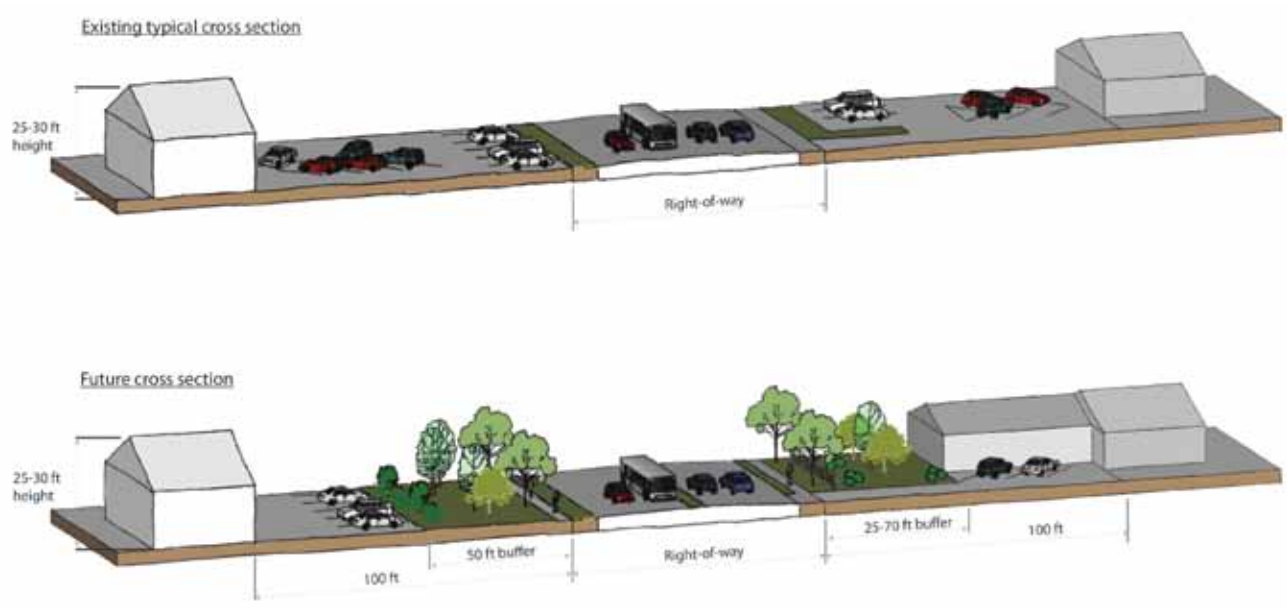

Figure M: Cross Section of Development in Area C/Route 132 East
Illustratiion of existing development characteristics and proposed changes following the design guidelines below. In the future cross section, the large scale commercial building and parking are screened by a 50-foot landscape buffer on the subject property. The large parking area in front of the small building on the right is replaced by a moderate scale building and a landscape buffer within the front setback.

2. Area C - Guidelines for Larger Structures and Developments:

a. Landscaping/Screening

Buildings with footprints over 20,000 square foot and mall developments should be set at least 100 feet back from the property line behind substantial landscaped buffers of 50 feet or more and/or smaller frontage buildings to screen them. In cases where existing vegetated buffers have been disturbed or degraded and do not provide sufficient screening, new plantings should consist of mixed hardwood and evergreen trees, with associated shrubs and groundcovers to provide variation in planting height. Landscaping should

create sense of visual depth with massed plantings that include vegetation of various textures, sizes, and colors.

b. Access Roads

Entrance and site access roads should be designed to meander through the buffer to limit views into the larger development. Trees are especially important along access roads to limit broad views of the development and provide enclosure. A single access road to new rear lot development is required from Route 132, though additional access may be gained through entrances from other major roadways and through interconnections with adjacent developments. Pedestrian access should be provided within the public right-of-way along the Route 132 road frontage, with a grass strip or landscaping separating the pedestrian way from the road surface.

F. DESIGN GUIDELINES: AREA D – CAPE COD MALL ROUTE 28 ENTRANCE

Design Guidelines for this portion of the study area, the back entrance to the Cape Cod Mall along Route 28, seek to establish a new small scale commercial or mixed use area with pedestrian scale features that can serve as a transition between the larger mall development and the residential area to the south of Route 28. This area is currently defined by wide open parking lots located to the rear of the Cape Cod Mall. New buildings should be focused along the internal road network and should take advantage of green space adjacent to the existing ponds nearby. A substantial landscaped buffer should be retained at the intersection with Route 28.

The parking area where this development is proposed is largely underutilized, even during the summer and holiday seasons, but a parking deck would likely be necessary elsewhere on the Mall property to address parking needs if this new development is allowed.

1. Area D - Guidelines

a. Building Setbacks

New buildings within the Mall property should be set back 50 to 100 feet from the Route 28 property line. New buildings should be set back 10 to 15 feet from the internal roadway edge within the Mall property to foster pedestrian activity.

Figure N: Proposed Development in Area D/Route 28 Access to Mall
This view looks north from the intersection of Route 28 and the Cape Cod Mall rear entrance. It illustrates how the area could look with enhanced landscape buffers along Route 28 and a series of pedestrian-scale buildings fronting on a revised internal road/ sidewalk network. The buildings are set close to the street and oriented to take advantage of visual access to the nearby ponds and green space.

b. Building Scale and Height

Building footprints should range from 3,000 to 7,000 square feet, but any footprint over 5,000 square feet should be broken into at least 2 components to maintain a neighborhood scale and pedestrian orientation.

c. Parking

Parking should be located to the side and rear of any new buildings, but not between Route 28 and the buildings. In addition, parking should not be allowed in the proposed green spaces adjacent to the ponds, as illustrated in Figure I. This area should be retained as a visual break from the developed areas on the site and should serve as a visual amenity to nearby businesses. On street parking may be possible on secondary circulation networks.

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d. Landscaping

Open grassy landscaping should be provided adjacent to the ponds to encourage visual access to the water. Street trees and small clusters of plantings should be included around buildings. Larger clusters of plantings and trees should be placed along the intersection with Route 28, but pedestrian visual access to the site should be maintained to encourage a connection to the residential community to the south.