

Economic Development Analysis
Of the Route 169 Corridor
In Charlton, Massachusetts

Prepared by:



June 2004

Purpose of the Study

Charlton is one of the fastest growing communities in Central Massachusetts. This point is illustrated with the following facts:

- During the decade of the 1990's Charlton gained 1,687 people for a 17.6% rate of growth. By 2000, Charlton's population stood at 11,263.
- During the past five years, Charlton has issued a total of 443 building permits for new dwelling units for an average of 89 units per year.
- Assuming an average household size of 2.92 people from the 2000 Census, since 2001 Charlton has added 815 people.
- The Central Massachusetts Regional Planning Commission (CMRPC) projects the Town will reach a population of 13,126 by 2010.

In the face of this steady residential growth, the Planning Board and Economic Development Commission (EDC) have sought to encourage new economic development opportunities to help offset the cost of services required to support the new residents and increased school costs. The Master Plan adopted in 2000 sets the course for this tack where it states:

Today, only eleven (11%) percent of Charlton's tax base is funded through business ventures. The relatively late acceptance of our zoning bylaws (1987) has conveyed to us a mixed bag of zoning districts. The insufficient numbers of business sites compared to the large amount of open land has stalled Charlton's capacity to be a regional player in attracting new businesses. Narrow commercial zones and the lack of water and sewer along portions of Route 20 have not been conducive to inviting the kinds of large, campus-like ventures that would have contributed to our tax base, local employment rate, and maintained our rural charm. (Page 33)

The two boards' first effort in promoting economic development was to examine the Route 20 Corridor since, as the Town's principal lifeline, it has become the focus of new commercial growth. The joint boards desired to promote low impact light industry and high caliber research and development to create high value taxable properties and good paying jobs as an alternative to the generally lower paying retail jobs. Working with consultant Jeanne Armstrong from LandUse, Inc., the two boards drafted a new Business Enterprise District (BEP) that codified new development standards for the district. CMRPC contributed to the effort by conducting a GIS-based analysis of the Corridor and produced maps that display the suitability of land for the desired development. A successful outcome of this reasoned approach resulted when Town Meeting re-zoned several large tracts on Route 20 to the new BEP district.

Next, the two boards decided to examine another of Charlton's highway corridors, Route 169, to determine if that area also has potential for future economic expansion. As a first step in the process, the two boards decided to conduct a preliminary analysis of the development potential of the Corridor to determine if a re-zoning effort similar to that of the Route 20 process would be rewarded here with the payoff of new economic growth. CMRPC was retained to conduct a GIS analysis of the Route 169 Corridor to provide the

two boards with detailed information about the suitability of this roadway for large-scale economic development.

Scope of Services

The scope of work for the project consisted of two tasks. Under Task 1, CMRPC's GIS staff created three maps that display existing conditions affecting growth in the area for discussion at a joint boards meeting. Map 1 is a base map that displays a corridor of 2,000' on either side of Route 169 for its entire length in Charlton. The base map contains the following data layers: roads, hydrography, zoning districts, zoning overlay districts, and protected open space. Map 2 is an environmental features map of the Corridor that displays the partial and absolute constraints for development based on the latest information available. Thirdly, Map 3 shows existing land use based upon categories identified in the MassGIS 1999 land use coverage from aerial photo interpretation. These maps were intended to be reviewed at a joint boards meeting to help identify large areas that may have potential for economic development purposes.

Task 2 consisted of conducting a statistical analysis for each focus area identified in Task 1 as deserving of further study, to assist the boards in deciding if such areas should be re-zoned for economic development. This analysis provided the total acreage within each area, the land area by zoning district, the area of undeveloped land available for development, and the area falling within the environmental constraints categories. CMRPC prepared a summary table of the analysis and presented it at a second meeting to assist the joint boards in determining whether there are opportunities to re-zone portions of the Corridor for commercial or industrial development. Finally the scope of work called for CMRPC to prepare this summary report containing the maps and analysis. If the joint boards decided to pursue re-zoning for one or more areas, the Planning Board could authorize a second phase for CMRPC to provide assistance in preparing zoning amendments for adoption by Town Meeting. As discussed below, the joint boards decided not to pursue re-zoning actions at this time.

Task 1: Study Area Conditions

Route 169 in Charlton is the principal route linking together Charlton and Southbridge. It is one of Southbridge's principal means of travel to the north to gain access to Route 20 and the Mass. Turnpike for east west travel. Route 169 is approximately 3.25 miles in length in Charlton, is maintained by MassHighway, and is classified as a rural minor arterial. The roadway carries traffic volumes in the range of 11,000 vehicles per day both south of Route 20 and at the Sturbridge town line. (For comparison purposes, Route 20 carries over 20,000 vehicles per day.) Route 169 is a two-lane roadway with a 60-foot right-of way, a 40-foot paved width throughout, and is generally in good condition. Grades are level throughout its length and there are no hazardous intersections or dangerous curves.

Existing zoning is shown on Map 1. Currently, the Corridor contains a variety of zoning districts, including Agriculture (A), Industrial General (I-G), Community Business (CB), Residential - 40 (R-40), and Business Enterprise Park (BEP). At its northern end near Route 20, a narrow CB district exists along the eastern side of Route 169, constrained from further expansion by the flood plain of Cady Brook. A large BEP district exists on

the western side of the road that was formerly zoned Industrial Park but changed to BEP by Town Meeting in 2003 to encourage advanced R&D uses such as fiber optics and biotechnology companies. This BEP district also extends north of Route 20 to encompass land on the southerly side of Griffin Road. The central part of the Corridor is zoned R-40 and Agriculture, which eventually will result in conversion of open space into single family homes on lots with minimums of 40,000 and 60,000 square feet, respectively. A large I-G district exists at the southern end of the Corridor that offers some room for expansion of traditional light manufacturing, assembly and warehousing operations, although much of the street frontage is taken up by single family homes. Table 1 below provides an indication of how land abutting Route 169 is zoned. The A district contains the largest amount of road frontage at about 2.7 miles, followed by the I-G district at about 2.0 miles

Table 1
Route 169 Road Frontage of Zoning Districts (in miles)

District	West Side	East Side	Total
R-SE	0.09	0.00	0.09
CB	0.00	1.40	1.40
BEP	0.31	0.00	0.31
A	1.68	1.01	2.69
I-G	1.16	0.84	1.99
Total	3.24	3.24	6.48

Map 1 also displays land that is in a permanently protected status and not available for development. This land includes several farms enrolled in the Agricultural Preservation Restriction (APR) program where farmers have sold the development rights to their land in order to insure the land remains in a permanent state of agricultural use. Other permanently protected land includes Union Cemetery, a parcel of town conservation land, Nature’s Classroom, Capen Hill Nature Sanctuary, and land of Millennium Power under a conservation restriction.

Map 2 displays the environmental features of the Corridor, including wetlands, 100-year flood plains, River Protection Act buffers, and slopes in categories of steep (8%-15%), very steep (15%-25%) and prohibitive (>25%). Route 169 was constructed in the valley floor of Cady Brook, which follows the road quite closely and crosses it in two locations. The flood plain and River Protection Act buffers (up to 200’ on either side of perennial streams) have the effect of limiting the development potential of the area along Route 169. Scattered pockets of wetlands are evident from the available data sources, but could be more extensive than indicated once site-specific surveys are conducted.

Finally, there is a large amount of land with steep slopes that pose a significant deterrent to development. This slope again appears due to the presence of Cady Brook,

which has carved out a narrow valley floor with rather steep sides. While it is true that moderate slope factors can be overcome with expensive blasting and land alteration, the widespread presence of steep slopes in the Corridor reduces the potential for large-scale non-residential development. More likely, there will evolve over time a pattern that individual parcels will develop under existing zoning with small building footprints that can be tucked in to the steep terrain. New subdivision development and scattered homes will be built in the long run where environmental conditions permit.

Map 3 displays existing land use. The predominant developed category along Route 169 is single family residential use. Throughout its length in Charlton, single family homes are prevalent and in several cases abut commercial and industrial uses. Residences are permitted by right in CB, R-40, and Agriculture districts, which comprise the bulk of the zoning categories for the Corridor. In the southern end of the Corridor, several homes lie in an I-G district, where such uses are prohibited and are therefore nonconforming. There is also one multi-family townhouse project, Cady Brook Crossing, in the northern end of the Corridor. This is located in a BEP district and is also a nonconforming use. There are few institutional uses, with the exception of a cemetery at the intersection of Routes 20 and 169, and an SCM Elder Bus facility.

Agriculture and open space also abound in the study area. Along Route 169 itself, much of the road frontage is undevelopable due to the presence of Cady Brook and its flood plain. This will have a long-term effect of limiting development along the roadway. Much of the land to the rear of Route 169 is still largely in agricultural and forestry uses. As shown on Map 1, several of the farms are permanently protected via the APR program. Unprotected open space, especially land with good road frontage, will eventually grow single family homes where environmental limitations can be overcome.

A handful of commercial uses exist in the Corridor, including a golf driving range, Fallon Medical Center, Patriot Chrysler auto dealership, a liquor store, and Securos Veterinary Orthopedics. Some commercial uses appear to be located appropriately in the CB district, while others may be nonconforming. A handful of industrial uses also have frontage on Route 169, including RPM HVAC (a sheet metal fabricator), L&P Converters, Inc. (printing paper), North American Tool and Machine, and Incom, a fiber optics manufacturer.

The Corridor witnessed a major change in land use when US Gen/Millennium Power constructed a 350 MW gas-fired power plant that became operational in 2001. This plant is sited prominently above the roadway, on the westerly side of the road near the Southbridge town line. Sherwood Lane provides access to the plant up a steep grade. The site was chosen primarily due to the proximity to existing gas transmission lines and the land's zoning district, Industrial-General.

Meeting 1 of the Joint Boards

After preparing Maps 1-3, CMRPC staff attended a meeting of the Planning Board and EDC to discuss the existing conditions in the Corridor. Members had extensive knowledge of land ownership patterns in the area and studied with interest the environmental and land use data to try to identify opportunities for re-zoning. In reviewing the information, the members agreed that there is not a large tract of land

that is an obvious choice for a new office park or commercial center. But the members did identify two “focus areas” that are worthy of further investigation. Area 1 containing 75.35 ac. is located east of Cady Brook and north of Snake Hill Road. . Area 2 containing 21.61 acres is located east of Carpenter Hill Road and south of Carpenter Hill. CMRPC and the Boards agreed to proceed to Task 2 to analyze these areas in greater detail to determine their potential for economic development purposes. Both areas lie entirely in land currently zoned Agriculture.

Task 2: GIS Analysis

CMRPC’s GIS staff created “polygons”, or tracts with closed boundaries, for Areas 1 and 2 in order to perform a computer based statistical analysis of the sites. These are displayed on Map 4. The purpose of this exercise was to quantify as precisely as possible, given the previously discussed data, the amount of land in each area that is suitable for economic development purposes. CMRPC’s GIS analysts first calculated the amount of land that has one or more of the constraints for development identified above. Land that is not so constrained, i.e. lacks environmental limitations and is not permanently protected, is then theoretically suitable for more intense development. In the hands of decision makers, this information can supplement local knowledge of political and economic conditions to assess whether or not to proceed with a more detailed study of the land’s development potential.

Secondly, to further assist the joint boards, planners calculated the number of lots that were theoretically possible for residential or industrial use. The determination of residential lots is based on the Agriculture district’s minimum lot size requirement of 60,000 square feet, and for industrial use, presuming the land would be re-zoned to BEP, that district’s minimum lot size requirement of 80,000 square feet.

Table 2 below displays the results of this analytical process.

Table 2
Focus Area Development Potential

<i>Focus Area</i>	Area 1 (Ac.)	Area 2 (Ac.)
<i>Total Area</i>	75.35	21.61
<i>Undevelopable Land</i>		
Forest Lands & 100 yr Flood	0.21	
Forest Lands & RPA 100' Buffer	1.07	
Forest Lands, RPA 100' Buffer, & 100 yr Flood	2.52	
Forest Lands, RPA 200' Buffer & 100 yr Flood	1.85	
Powerline ROW	21.20	
Powerline ROW, RPA 100' Buffer, & 100 yr Flood	0.64	
Powerline ROW, RPA 200' Buffer	0.48	
Powerline ROW, RPA 200' Buffer, & 100 yr Flood	0.45	
Subtotal	28.42	
<i>Land with Partial Development Constraints</i>		
Forest Lands & RPA 200' Buffer	1.48	
Subtotal	1.48	
Potential Residential Lots	1	
Potential BEP Lots.	0	
<i>Land with No Development Constraints</i>		
Agricultural Land	0.57	16.21
Forest Lands	44.88	5.4
Subtotal	45.45	21.61
Potential Residential Lots	27	13
Potential BEP Lots	20	9
Total Residential Lots	28	13
Total BEP Lots	20	9

Notes:

1. Both area options lie within the Agriculture (A) district.
2. Agricultural lands, forest lands and powerline ROW are based upon 1999 land use data.
3. RPA – River Protection Act
0 – 100' is a No-Build Zone
100' – 200' limited development is permitted
4. Minimum lot sizes:
Agriculture (A): 60,000 square feet
Business Enterprise Park (BEP): 80,000 square feet

Meeting 2 and Conclusion

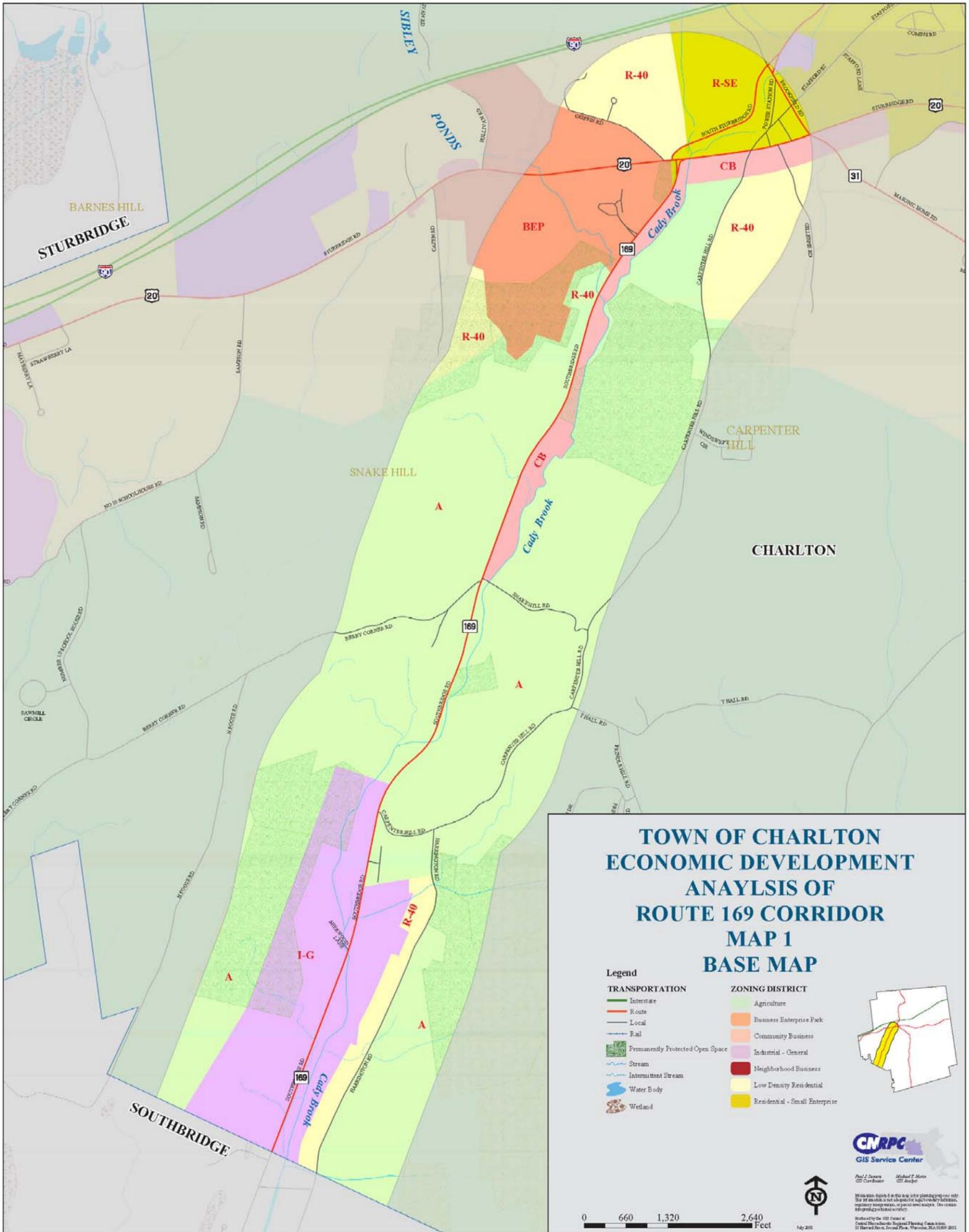
Upon completion of the development suitability analysis, CMRPC presented its findings at a second meeting of the joint boards. Area 1, while more than 75 acres in size, has over $\frac{1}{3}$ of its land (28.4 ac.) unsuitable for development, and an additional 1.5 acres is restricted by River Protection Act buffers. A total of 28 house lots or 20 BEP lots could be developed there. Area 2 at 21.6 acres is smaller in size but has no development constraints. This area could accommodate up to 13 house lots or 9 BEP lots.

In reviewing the maps and analysis, the Boards agreed that there is limited potential to create a new high-end office or research park in the Corridor as previously accomplished with the BEP amendments adopted for the Route 20 corridor. The topography in the area places limitations on development and fragments parcels that do have potential for a higher use. The presence of farmland in the area is highly valued by the Town for its open space benefits and esteemed place in the Town's history, and local officials do not wish to take action that might otherwise promote conversion to development. While Route 169 provides good roadway access, the lack of water and sewer services and cost of constructing extensions to this part of Charlton, is another reason to not establish new districts for economic development purposes.

Based upon the Master Plan and recent analysis of the Route 20 Corridor, it would be a more productive strategy to promote economic development there rather than along Route 169. Route 20 is undergoing a major upgrade by MassHighway, and the Town is extending water service from Oxford. This area has great potential to provide the Town with significant opportunities for commercial, industrial and research uses. Rather than devoting scarce financial resources to an area that has limited potential in any case, it is prudent to concentrate energy on the Route 20 Corridor where the long-term gains are more obvious and consistent with market forces. With agreement that there are no obvious opportunities for large-scale development, the boards decided not to authorize CMRPC to proceed to the next phase of preparing zoning amendments.

However, the work completed to-date does have value to the two boards. It provides an in-depth analysis of the development potential of the Route 169 Corridor and highlights the reasons why the location is not generally favorable to economic growth. The existing CB, BEP, and I-G districts do contain some vacant and suitable sites that will probably develop for small-scale commercial and industrial purposes in the not-so-distant future because of the road access and favorable zoning.

If other opportunities arise, CMRPC's GIS capabilities can be tapped for additional land suitability analysis. If landowners approach the joint boards with requests for re-zoning, the data and method used for this study can be harnessed to perform additional analysis. As already proven, this tool can provide decision makers with valuable information to make informed choices on securing new economic development to benefit the Town with good jobs and new revenue streams.



**TOWN OF CHARLTON
ECONOMIC DEVELOPMENT
ANALYSIS OF
ROUTE 169 CORRIDOR
MAP 1
BASE MAP**

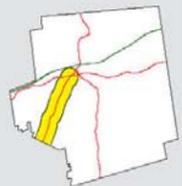
Legend

TRANSPORTATION

- Interstate
- Route
- Local
- Rail
- Permanently Protected Open Space
- Stream
- Intermittent Stream
- Water Body
- Wetland

ZONING DISTRICT

- Agriculture
- Business Enterprise Park
- Community Business
- Industrial - General
- Neighborhood Business
- Low Density Residential
- Residential - Small Enterprise



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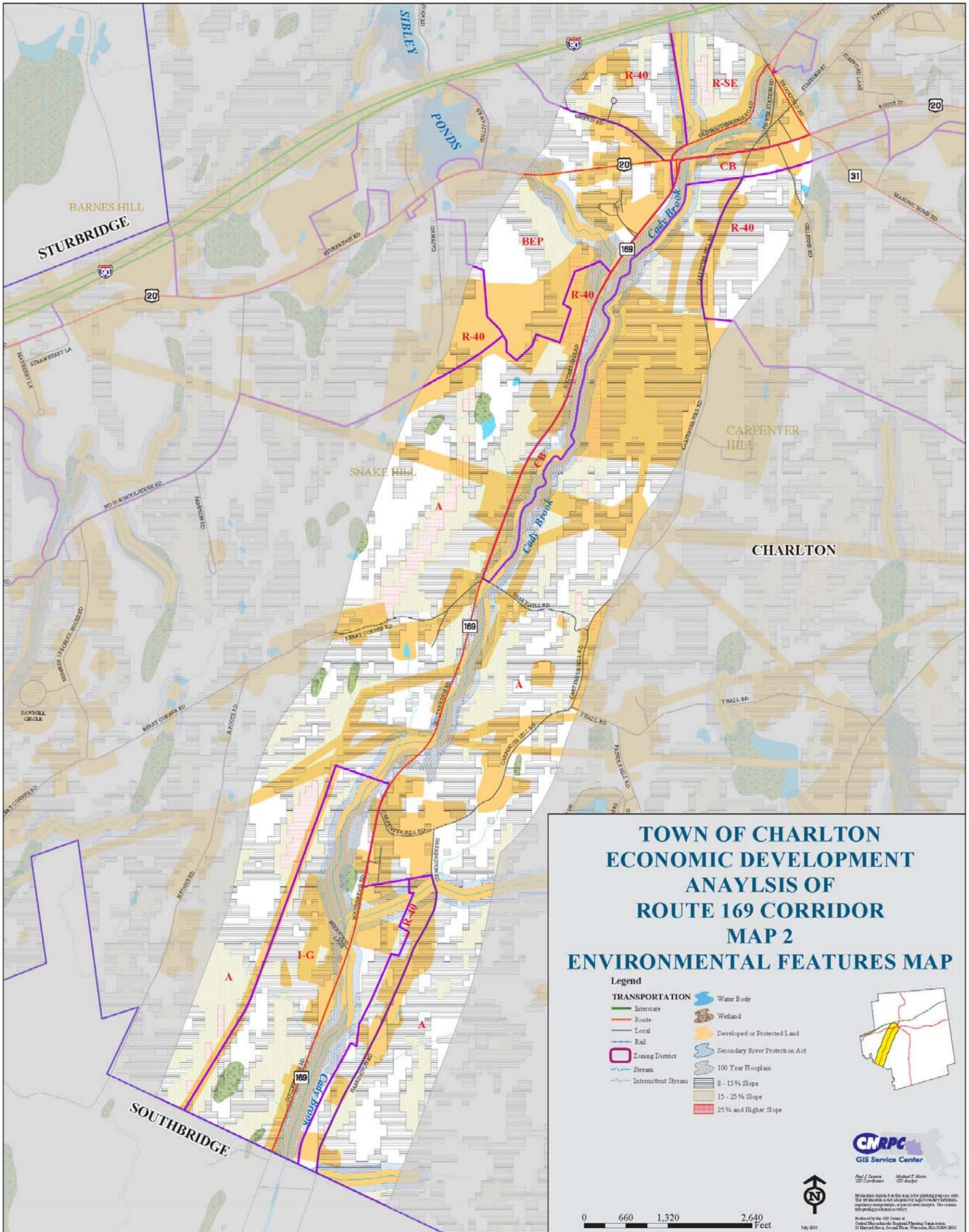
0 660 1,320 2,640 Feet



July 2011

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Revised by the GIS Center at
Central Massachusetts Regional Planning Commission
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**TOWN OF CHARLTON
ECONOMIC DEVELOPMENT
ANALYSIS OF
ROUTE 169 CORRIDOR
MAP 2
ENVIRONMENTAL FEATURES MAP**

Legend

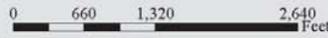
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|-----------------------|--------------------------------|
| TRANSPORTATION | Water Body |
| Interstate | Wetland |
| Route | Developed or Protected Land |
| Local | Secondary River Protect on Act |
| Rail | 100 Year Floodplain |
| Zoning District | 8 - 15% Slope |
| Stream | 15 - 25% Slope |
| Intermittent Stream | 25% and Higher Slope |



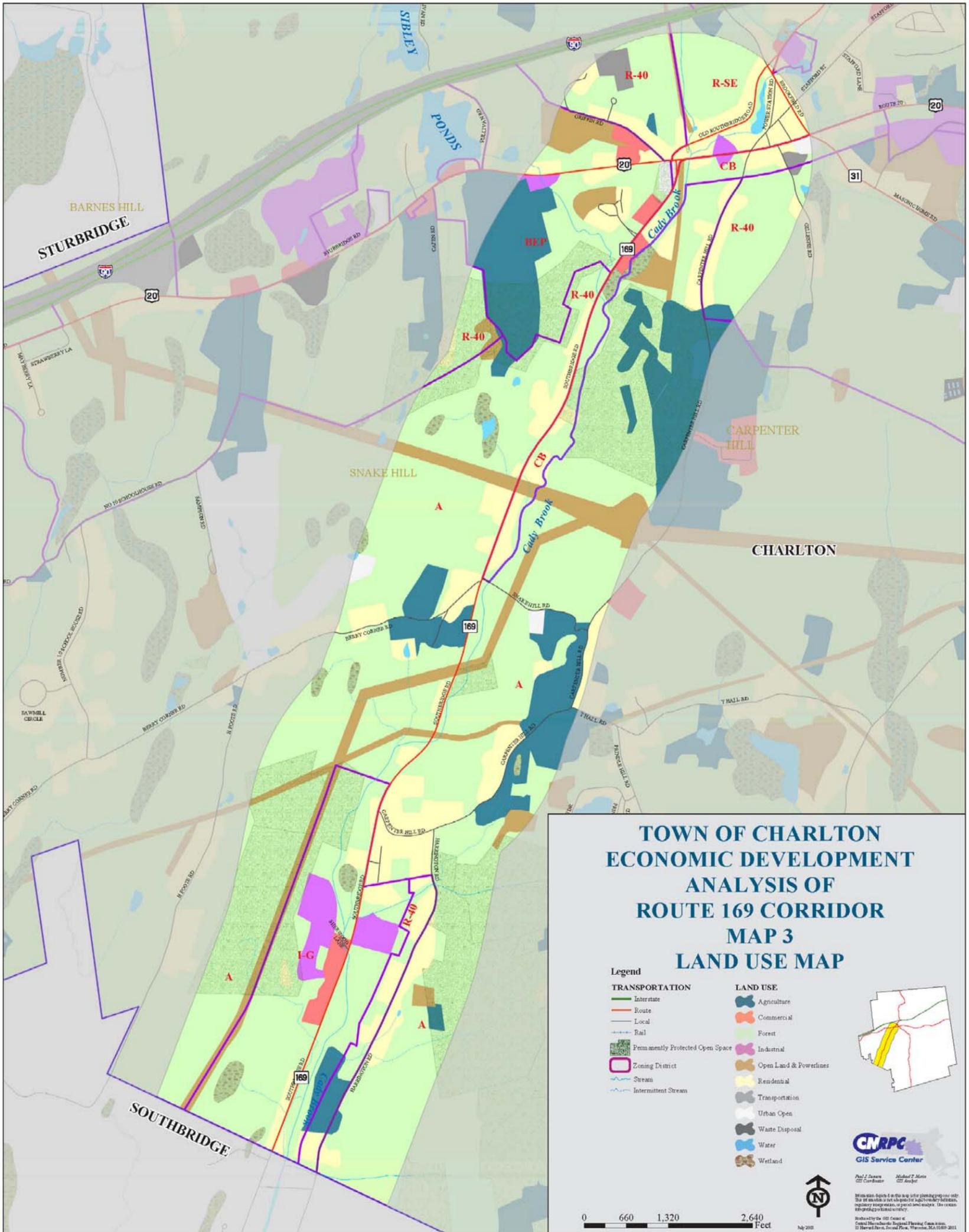
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Revised by the GIS Center at
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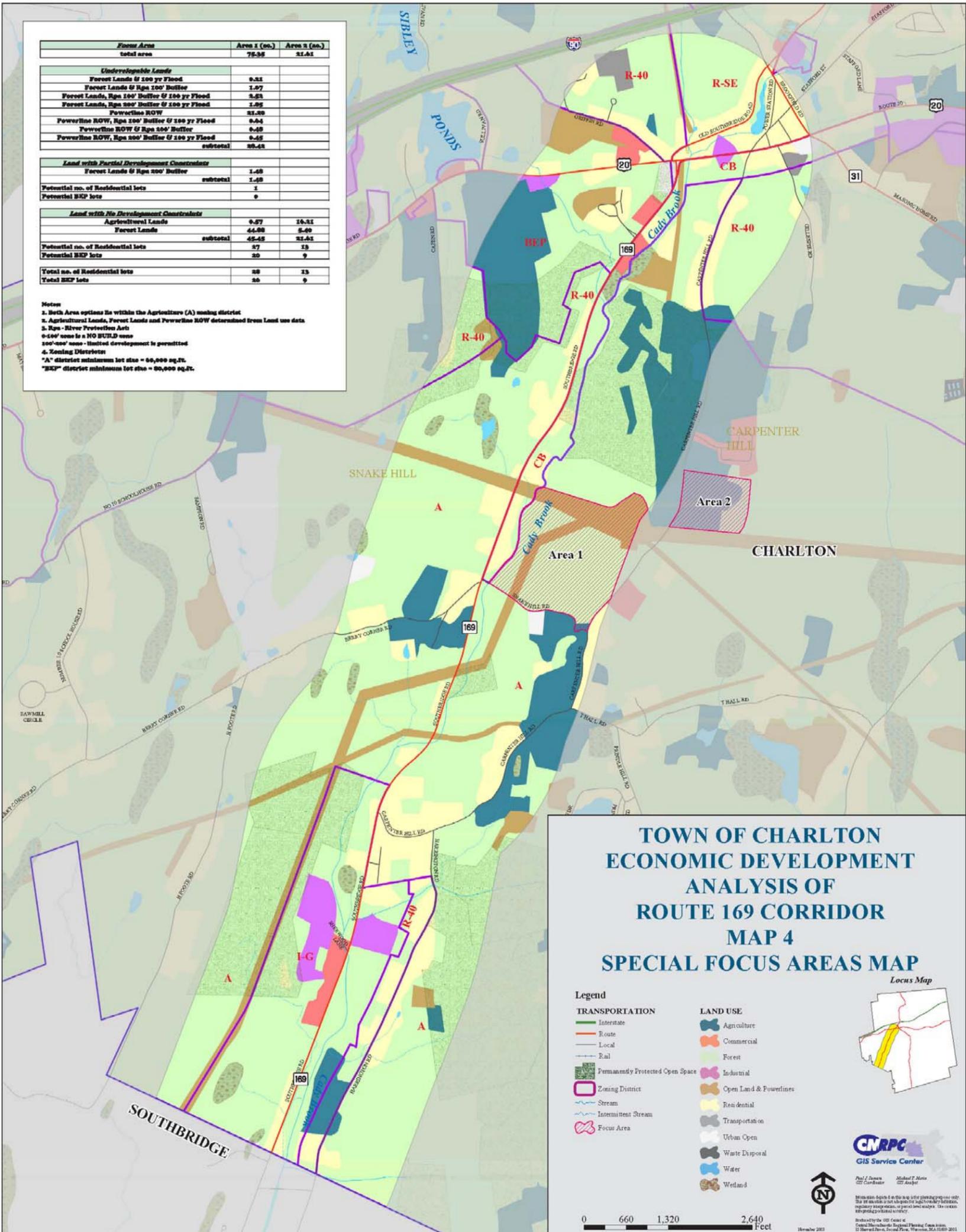


July 2003



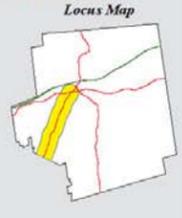
Focus Area	Area 1 (ac.)	Area 2 (ac.)
total area	75.95	21.41
Undevelopable Lands		
Forest Lands @ 100 yr Flood	0.31	
Forest Lands @ Rpa 100' Buffer	1.07	
Forest Lands, Rpa 100' Buffer @ 100 yr Flood	0.21	
Forest Lands, Rpa 100' Buffer @ 100 yr Flood	1.25	
Powerline ROW	21.25	
Powerline ROW, Rpa 100' Buffer @ 100 yr Flood	0.41	
Powerline ROW @ Rpa 100' Buffer	0.45	
Powerline ROW, Rpa 200' Buffer @ 100 yr Flood	0.45	
subtotal	26.41	
Land with Partial Development Constraints		
Forest Lands @ Rpa 200' Buffer	1.45	
subtotal	1.45	
Potential no. of Residential lots	1	
Potential BEP lots	0	
Land with No Development Constraints		
Agricultural Lands	0.87	16.11
Forest Lands	44.88	5.40
subtotal	45.75	21.51
Potential no. of Residential lots	27	15
Potential BEP lots	20	9
Total no. of Residential lots	28	15
Total BEP lots	20	9

Notes
 1. Both Area options lie within the Agriculture (A) zoning district
 2. Agricultural Lands, Forest Lands and Powerline ROW determined from Land use data
 3. Rpa - River Protection Act
 0-100' zone is a NO BUILD zone
 100'-200' zone - limited development is permitted
 4. Zoning Districts
 "A" district minimum lot size = 60,000 sq.ft.
 "R-40" district minimum lot size = 80,000 sq.ft.



TOWN OF CHARLTON ECONOMIC DEVELOPMENT ANALYSIS OF ROUTE 169 CORRIDOR MAP 4 SPECIAL FOCUS AREAS MAP

- Legend**
- TRANSPORTATION**
 - Interstate
 - Route
 - Local
 - Rail
 - Permanently Protected Open Space
 - Zoning District
 - Stream
 - Intermittent Stream
 - Focus Area
- LAND USE**
 - Agriculture
 - Commercial
 - Forest
 - Industrial
 - Open Land & Powerlines
 - Residential
 - Transportation
 - Urban Open
 - Waste Disposal
 - Water
 - Wetland



0 660 1,320 2,640 Feet

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 November 2013