South of the Oval: A Comprehensive Corridor Study and Plan for South Street/RTE 13 South in Milford, New Hampshire

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Abstract

This transportation corridor analysis analyzes a wide array of current land use and infrastructure issues along the South Street/RTE 13 South corridor commencing from downtown Milford to the Brookline town line. The intent of this examination is to validate the relatively high development potential of the corridor affirmed by the Town of Milford Planning Board and Community Development Department. This study incorporates use of GIS mapping, statistical tests in SPSS, relevant research, and structural and expert oriented surveys. The expert's survey was administered to 68 Milford Officials to collect valuable opinionated information concerning the corridor. The structural survey physically assessed the corridor to provide relevant insight toward the aesthetics and developmental characteristics of the byway. Overall, the results of these examinations and analyses confirm the presence of minor developmental potential along the South Street/RTE 13 South corridor.

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Chapter I: Intent of Study

A. The Roots and Concerns of Suburbanization

One of the most prominent centripetal forces binding a particular society together is the city, which is essentially a permanently settled administrative district. These territorially bounded regions constitute the buildings, culture, economy, government, industry, and transportation of a particular society. For centuries, individuals have been attracted to these crucial necessities as a means for survival. The result of this mass influx of people descending on these urban oriented settlements has ultimately relinquished congestion, pollution, and a growing sense of loathe toward these once fundamental utopias. However, the desirable ideology to sprawl from these overcrowded conurbations was ultimately undermined by inadequate transportation networks in the early twentieth century (Owen 1972, 1).

The revolutionary invention of the combustion engine in the early twentieth century essentially cultivated motorized vehicles which virtually propelled planners in urban America to coin and enact efficient transportation networks. The mid-century attack on Pearl Harbor coincided with the American involvement in World War II led to large scale public works projects aimed at interconnecting the nation via improved and new road networks. The triumphant victory of the United States, spurred a number of monumental social and economic changes. With soldiers returning from war, a relatively high demand for family oriented housing was initiated, and newly formed families sought to migrate out of the congested cities and settle within the rural regions of America. A prime contributor to accomplish this goal was the Interstate Highway Act of 1956, which resulted in the construction of a number of efficient byways throughout the nation. This ultimately encouraged landowners and developers to coincide to commence large scale suburban developments projects located within the

proximity of these major byways (Porterfield and Hall 1995, ix).

This concept of urban sprawl reaching small towns is a recurring theme to this day. Consequently, regional planners seek methods to successfully accommodate growing populations while simultaneously instilling a community oriented society. However in order to sustain the economy, each region needs a number of businesses to provide jobs, tax revenue, and mandatory commodities. One eminent consideration is locating suitable amenities within the town to produce these developments. The process of incorporating these economic supplements is typically conceived via comprehensive corridor studies and plans (Porterfield and Hall 1995, ix).

B. Fundamentals of Corridor Studies

These imperative studies are performed along transportation routes that serve expanding metropolitan areas and inhabitants of a region. Throughout the twentieth and twenty first century, transportation planning in the United States has become increasingly implemented. Corridor studies are commonly used by the Federal Highway Administration and the Federal Transit Administration. These agencies purposely utilize this concept to examine innovative ideas for infrastructure change, expansion and preservation (U.S. Department of Transportation 2009). Corridor studies can be conducted on two different yet interchangeable levels. The first being corridor subareas, which examine specific stretches of road where notable issues have arisen and need addressing. These include changes in land use, zoning ordinances, traffic volume, road accessibility, and pedestrian walkways. The second form of regional studies take several corridor subarea studies into consideration in order to make decisions that impact an entire county or region of a state. Both corridor types (regional and

subarea) rely on one another in order to comprehensively plan for present and future facilities and growth patterns (Smith 1999 15-18).

Corridor studies are not uniform, as all corridor studies are different in some way, shape or form. A corridor study needs to be tailored specifically to the area or region that particular study defines. However there are several basic guidelines defined in the *Guidebook for Transportation Corridor Studies* that should be taken into account while conducting such a study. The first notion to consider is to never state a problem in terms of a solution. For example, a phrase that should never be said is "there is a significant need for a widening of a specific road". This provides a solution before a specific problem is even introduced. The next step is to establish current problems as well as any future problems that may take place over the existence of the corridor. Problems need to be stated as specifically as possible, this is done to insure legitimacy and accuracy of the problem. In addition to problems, alternatives and solutions need to be presented for each of these issues that are stated. Not only do problems need to be stated specifically they must also be understandable for the general public and town officials (Smith 1999, 15-18).

Agencies or groups conducting corridor studies must have an agreement on the problems at hand prior to the initiation of the project. This fundamental step aids in the elimination of controversy amongst the community. The last guideline to incorporate is that the problem statement of the study needs to be documented so as to meet the requirements of subsequent environmental documentation. These general guidelines provide a base for corridor studies; this base is then built upon as a result of tailoring the study to a specific area and community (Smith 1999, 17-18).

A corridor study is essentially a formulated plan that supplies extensive information on certain subjects and issues. This provides the public and town officials with sufficient evidence to validate notable background information. This information is prepared so that a competent decision is reached when considering important policies and regulation changes. Corridor studies are a catalyst for urban planning projects as they address new issues and bring them to the attention of the community. The alternatives provided to issues of a corridor study must be developed after a thorough analysis of problems that have arisen in the past, are arising now, and problems that have a great potential to arise in the future along the corridor.

Problems are imperative to corridor studies; they contribute to the reasoning behind why improvements are being initially considered. Community involvement provides goals, objectives and policies that are important as well. This ultimately defines the important factors to the community and town officials. Corridor studies intend to encompass all aspects of the issues and problems presented; this requires a collaboration of several differing groups of a town or region in order to view these issues from all angles and make well rounded decisions (Smith 1999, 20-22).

C. Purpose Behind the South Street/RTE 13 South Street Corridor Study and Plan

The Town of Milford Community Development Department has recently undertaken numerous Master Plan updates within the Economic Development and Traffic/Transportation chapter to foster development. A key contributor is the Town of Milford Planning Board which is reviewing design standards for rezoning, redevelopment and new development schemes. This collaborative effort analyzed several regions of the town for developmental suitability. After weighing these various current developmental conditions and implications, it was

concluded that South Street/RTE 13 South and the abutting parcels could potentially supplement the inevitable growth of the future (Bill Parker, Personal Communication, 2009).

The section of highway under exhaustive examination runs south of the Oval to the Brookline border and is classified into two distinct names. This byway is referred as South Street south of the Oval toward the RTE 101 intersection. This road then becomes RTE 13 south of the RTE 101 intersection toward the Brookline town line. Figure 1 depicts the relative location and relative length of South Street/RTE 13 South within Milford. To disclose the extent of developmental capability of this corridor, the Town of Milford concluded that a comprehensive South Street/RTE 13 South corridor study and plan must be devised to provide realistic solutions toward these beneficial propositions. The practicality of the scores of developable lots adjacent to the corridor bestows a considerable high opportunity to capitalize on the strategic location of this heavily utilized byway (Bill Parker, Personal Communication, 2009).

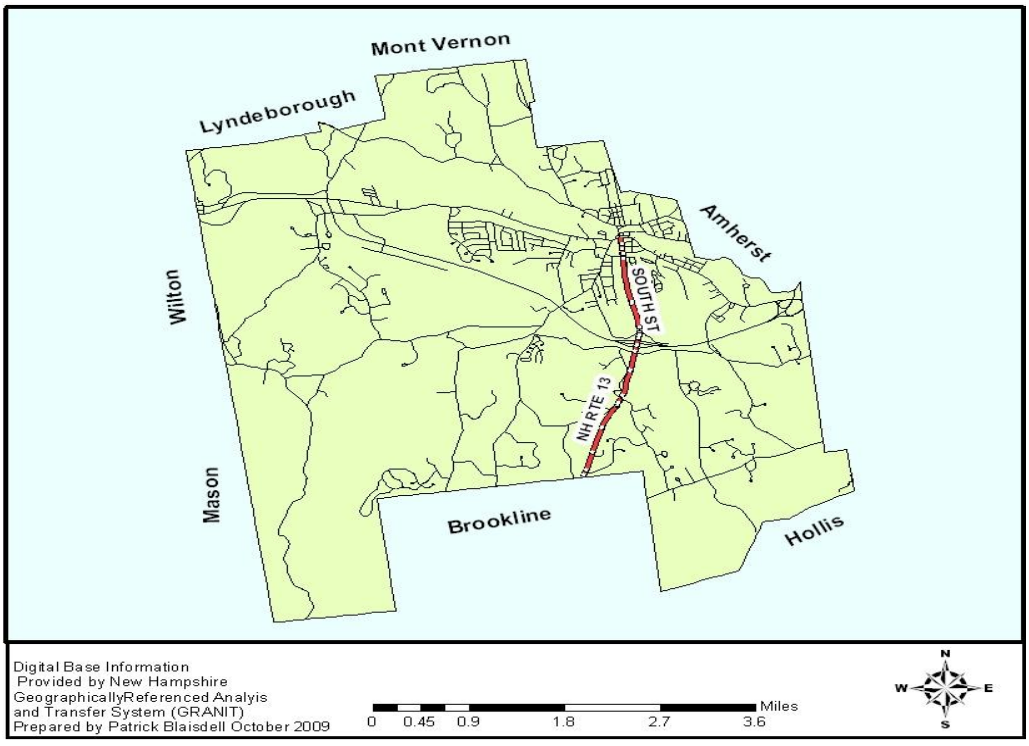

Figure 1 Relative Location of South Street/RTE 13 South.

The process of realizing these beneficial propositions requires the extensive analysis of a number of relevant subject matters. Areas under discussion include all portions of South Street/RTE 13 south of the Oval to the Brookline town line and parcels abutting the thoroughfare. A historical and contemporary assessment of the economy, demographics, and transportation of the case study town will provide preliminary background factors influencing the current development capability of the corridor. Numerous fundamentals of efficient urban design and sustainable planning enactments will be emphasized identifying the necessary measures to legitimize the effectiveness of this study.

The initial purpose of this study intends to identify current issues in land use ordinances and usages, natural constraints, abutting parcel value, transportation capacity, alternative means of transportations, physical attributes, and personal insight from town officials. Potential conflicts that could arise without the proper implementation of this effective planning initiative are addressed providing feasible recommendations to realize development potential and reconfiguration of the corridor. The completion of this imposed corridor study and plan requires the comprehension of a wide array of resources providing accuracy and validate these pragmatic limitations (Bill Parker, Personal Communication, 2009).

D. Methodology

The first step of completing this imperative planning measure was to compile a wide array of pertinent publications, personal interviews, journals, and documents pertaining to the fundamentals of successfully devising corridor studies. These resources will be incorporated throughout the extent of this study revealing invaluable fundamentals toward recognizing effective planning schemes. Statistical data were acquired and illustrated from a number of

reputable sources complementing the accuracy of background research. Synthesized GIS maps generated via ArcMap 9.2, provide adequate spatial analysis of the various resources.

Results from field work are incorporated within this study to assess the physical and informal attributes of the corridor. The photography of a number of notable features throughout the corridor are utilized to realistically illustrate the numerous issues and elements of this byway. Informative surveys were devised and distributed to town officials providing relevant insight and considerations concerning the reasonable development capacity of the study area. These surveys were the key component in producing descriptive data in SPSS testing for statistical significant differences between responses. Figure 2 outlines the integral factors employed and interpreted providing viable solutions toward fostering the development of Milford.

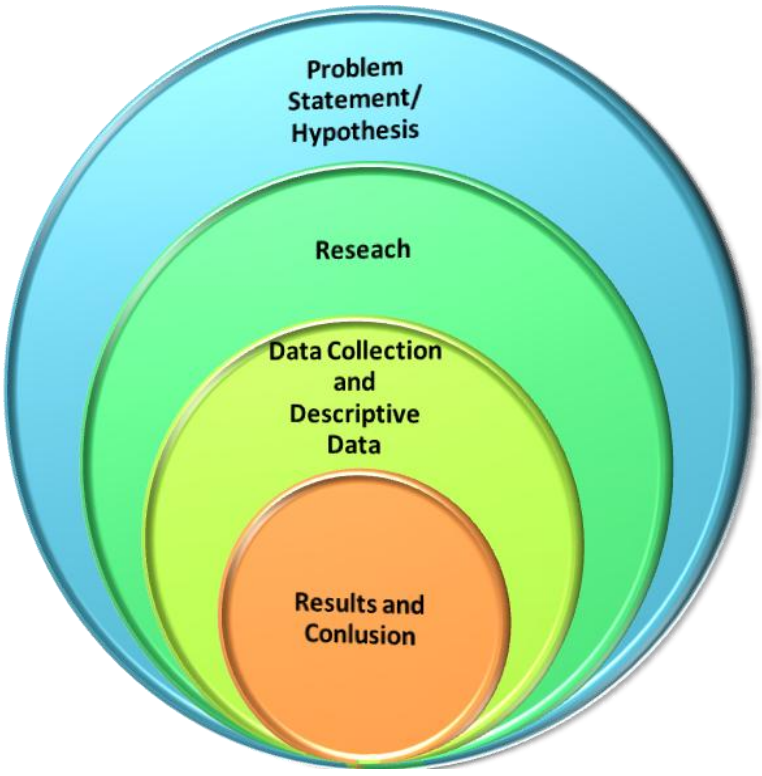

Figure 2 Methodolgy Process.

Chapter II: Analysis of Successful Planning

The decisive fundamentals and approaches utilized when creating an effective corridor study must be thoroughly understood before engaging in the completion of this important planning measure. Achieving this task requires the analysis of effective land use planning, development, smart growth tactics, and recognizing the magnitude of success of other notable corridor studies. All aspects of these relevant resources are briefly outlined and presented so as to provide an accurate method for realizing the developmental potential of the South Street/RTE 13 South corridor.

A. Principles of Land Use Planning

It is the obligatory mission for community leaders to identify adverse setbacks which can potential diminish the efficiency of a municipality. The rapidly developing suburban regions of the United States requires the coexistence of officials and the general public to propose effective planning endeavors to minimize the extent of these costs. This attentive planning investment is essentially directed through land use planning. The goal of this method includes providing the community with healthier neighborhoods, enhanced transportation networks, land stability, and economic security (Robart 1989, 1).

Additionally, these fundamental planning processes speculate infill sites which could potentially foster the economy of the community. The practice of achieving this effective community oriented utopia is applied through zoning, subdivisions, and setback ordinances. The integration of these three land use components is illustrated in Figure 3. Ultimately these planning fundamentals permit municipalities to direct their future by revising and adopting these practical tactics (Robart 1989, 1).

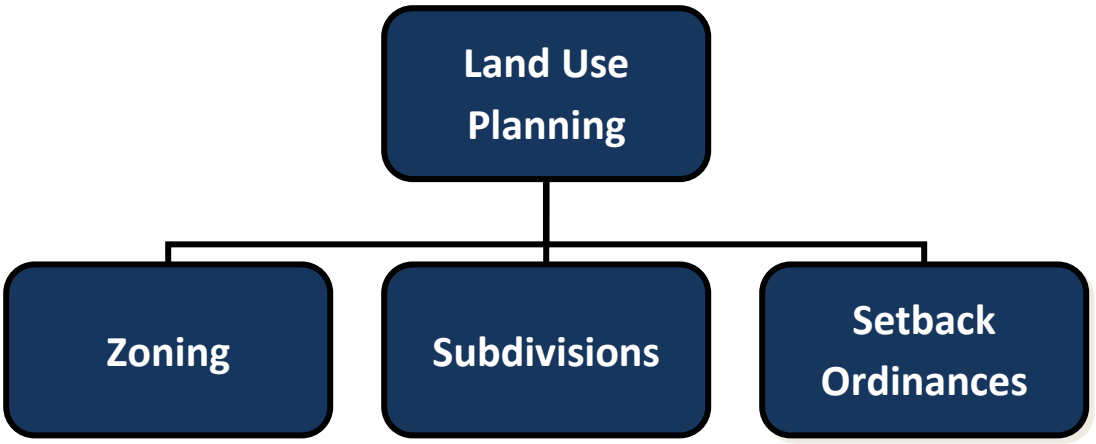

Figure 3 Components of Land Use Planning.
(Source: Robart 1989, 1).

One prominent cornerstone of preventing land exploitation and unreasonable development practices is through zoning ordinances. These regulations are conceived into administered ordinances by zoning boards and may be approved through town residents in annual voting amendments. These land use principles have the ability to dictate lot sizes, overlay districts, variances, and building and road design. These defined planning initiatives can potentially hinder the value of land and private residences based on these imposed limitations of land usage. The process of amending zoning ordinances is a relatively flexible process permitting local authorities to contest the constantly changing social and economic circumstances of a particular region (Meshenberg 1976, 1).

The main function of this planning plot is to segregate land into definite boundaries based on trends in current land usage. This essentially prevents foreseeable conflictions between the various development types within the region. These mandates aim to instill beneficial development practices while preserving the character of the community. The typical land usage classifications systems in the United States include industrial, commercial and residential zoning. Each zoning district contains entirely different administered regulations

controlling the magnitude of feasible developments within the numerous regions of a municipality. These districts can also be integrated endorsing diversified land usage maximizing the relative beneficial values of developments. Overall, the proper guidance and order of these effective planning initiatives allows effective land use management which is rapidly becoming an apparent vital element toward accommodating the persistently rising population (Meshenberg 1976, 1).

The procedure of dividing preexisting lots into one or more parcels through a subdivision is a viable land use application implemented by land owners increasing development capability. The concept of subdivisions also consists of lot line adjustments, permitting two or more land owners to propose modifications to their boundaries. This practical land usage scheme endorses landowners to draft and request the creation of feasible lots applicable for development. This profitable system attracts families, entrepreneurs, and public officials to directly purchase these lots to supplement their specific land use modification. These ordinances are generally formulated by planning boards or private interests and are primarily approved based on the intention that they will substantially benefit the community. Each municipality establishes distinctive regulations on the site design, surrounding streets, and utilities within the subdivision proposal. Ultimately, the intent of subdivisions directly aims to expand and configure accommodative developmental projects to sustain the persistent growth of communities (Meshenburg 1976, 33).

Before a proposed site plan of the project can be approved and implemented, the developer must regard the regional mandatory setback ordinances before excavating the land. These regulatory land use planning regulations are devised by local planning boards which

establish minimum distances a structure can be from a road, water body, floodplain or lot line. The general distance these developments can be from these features ranges from 20 to 50 feet. This preliminary process is determined through the particular setback line of the parcel and depth of the front yard within the district regulation of the ordinance. Private residences are generally enforced by considerably far setbacks to sanction increased privacy discouraging the anguish between neighbors (Meshenburg 1976, 30).

Structures built before the twentieth century usually contains considerably low set backs from the road, which is directly attributed from the lack of planning initiatives in that time period. This ultimately equates to considerable issues inhibiting planners to enact road widening projects to alleviate traffic congestion. Contesting these prominent dilemmas has led to the pioneering of eminent domain allowing the town to seize private land to construct feasible development projects that intends to benefit the community. Overall, these imperative land use planning initiatives advocate efficient design measures to reduce conflicts (Meshenburg 1976, 30).

B. Development Process

The process of modifying the natural landscape to erect viable structures is a relatively complicated process requiring the mutual cooperation between land owners and administrative officials. The overall purpose of establishing developmental endeavors is to introduce a demanded and embraced ingredient into the community, consequently providing profitable investment opportunities for the land developer. Although the ramifications of a development can substantially attribute the rejuvenation of the economy, these schemes can only be achieved based on the desired system of growth outlined by a specific town. In order for

landowners to accomplish this business venture, they contract a number of competent designers and planners to formulate optimum alternatives inducing town officials to validate their projects (Porterfield and Hall 1995, 3).

The preliminary step for land developers to meet their investment is to understand the specific land use ordinances of the town and state clarifying the logistics of the development. Once this is verified, a realtor group is hired advising the land developers to purchase suitable land with extensive road frontage and minimal natural constraints. Once an enviable parcel is identified, the land developer contracts a land surveying firm which then hires other competent professionals ensuring the client the project will be a success (Porterfield and Hall 1995, 3).

To accurately portray potential conflicts and the design of the future development, the land surveying firm generates a site plan with consideration toward mandated guidelines of the town and state. These blueprints toward development validation are drawn to scale which illustrate lot lines, abutting streets, building sites, open space, buildings, topography, wetlands, parking, and utility lines of the proposed project. Generally the land surveyors require the services of engineers to assist the production of private roads to supplement efficient transportation within the development site (Porterfield and Hall 1995, 3).

State and town environmental officials require all parcels with intent of development to have a preliminary test pit conducted to identify the level of land suitability. This process requires soil scientists or septic designers to excavate and test soil samples for water content and mineral composition. This ultimately determines the water table of the lot, which can act as a deterring factor toward completing developments. This examination also identifies the appropriateness for constructed septic systems to accommodate the high capacity of waste

products produced by the future patrons of the development. After the soils have been analyzed for these environmental factors, the soil scientist concludes the extent of development capability (Meshenburg 1976, 31).

If the soil is not a wetland, the site plan should be approved by the planning board and the abutting land owners at a relatively low cost. However, remnants of soil that are a wetland, pose a considerable task for the developer based on environmental regulations. One method of combating this impairment is applying for a dredge and fill permit to fill in the wetland. Accordingly, this sometimes obliges the developer to create a conservation easement within another parcel preventing development in the future. Once these mandatory procedures are approved, the land developer hires the services of a construction company to create the desired structures. Overall, the extensive process of following these integral proceedings allows communities to filter out unethical and unnecessary developments which could potentially devastate the community (Meshenburg 1976, 14).

C. Principles of Smart Growth

The landscape of an American metropolis is an ever changing reflection related to current trends in economy, population, and adequate living accommodations. The recent inclination of people migrating to suburban settings has ultimately left a deteriorating impact on the urban atmosphere. This recurring theme of urban sprawl has directly relinquished scores of vacant lots, sapping inner city developments, unmaintained transportation routes, increased poverty, low quality educational institutions, and leading to impairment of the general welfare and considerable tax deficits. The idea and implementation of smart growth into American cities has been the response of planners to the overlying problem of sprawling populations

(Daniels and Bowers 1997).

This concept was first implemented in the state of Hawaii in 1961, when the state was divided into four land use categories including urban, rural, agricultural, and conservation. Hawaii is a state where sprawl of communities is limited by the geographic location of the state and overriding land uses. A considerable portion of the land constituting Hawaii is unsuitable for development due to volcanic soils and activity. Due to the rapid population increase of Hawaii, regional planners were obligated to adopt the concepts of smart growth compared to the minuscule amount of land in other American states (Daniels and Bowers 1997).

Smart growth is intended to reduce if not eliminate population sprawl within metropolitan boundaries. Smart growth has several key purposes, the first being limiting and controlling the external expansion of new development to minimize settlements and their impact on the surrounding area. The next purpose is to improve public transportation systems as well as pedestrian walkways in order to reduce the use of private vehicles in and around the town or city. Smart growth aims to divert public costs of new development onto users and consumers, rather than the general community who may not utilize those facilities. This type of planning has been widely implemented along roadways and bridges, instead of all of the tax payers supporting the cost of the bridge or road, only the people who travel along the road pay (Downs 2004).

The development of infill sites, the subdividing of public and private land as well as revitalizing existing neighborhoods is another way smart growth reduces sprawl. Aesthetics, a substantial attribute of smart growth, includes gateway design through planting trees, scrubs, or flowers along streets, parks and sidewalks. This reduces the sense of enclosure and produces

a barrier to the street encouraging pedestrians and bicyclists to utilize these alternative means of transportation. These key purposes are general implications of smart growth, however in order for a city, town or metropolitan area to truly integrate smart growth, a specific set of goals and purposes have to be tailored for the specific situation of the area. Overall, smart growth is not set in stone; it is dependent upon the community and regional perspectives of an area (Downs 2004).

D. Successful Corridor Studies

Successful corridor studies are the fundamental basis for enhancing transportation measures and redeveloping lots adjacent to a particular portion of a highway. These planning initiatives encompass a number of prominent factors prospecting valid recommendations toward realizing the beneficial implications of development. The ultimate success of a corridor study is directly related to the ample identification and implementation of solutions to promote community efficiency.

The imposed challenges of traffic congestion and supplementing the economy of the Davenport, Iowa, metropolitan area along a seven mile corridor along I-74 were adequately identified to contend these imminent concerns. This planning initiative was a collaborative effort first employed in 2000 by the Illinois and Iowa Department of Transportation. This stretch of highway is heavily congested in both directions, particularly near the narrow bridges along the Mississippi River and other tributaries. The recognized issues that were predetermined include insufficient road design, roadway curves, limited sight range of drivers, absence of shoulders on the bridges, minimal space between the various on and off ramps along the route, narrow lanes, and increasing commuter times. This resulted in more than three times the

amount of car crashes compared to the average seven mile stretch in other American interstate corridors (Iowa Department of Transportation and Illinois Department of Transportation 2000).

One form of addressing this concern was proposing viable pedestrian and bike accommodations along the sides of the bridge to minimize traffic congestion. Another method was dispersing traffic counters along various regions of the corridor to determine trends and deviations in traffic flow. High numbers of traffic volumes indicated the regions of the corridor needed to be addressed first to foster traffic efficiency. Future traffic counts were then estimated to propose transportation enhancement projects to accommodate the inevitable population growth. Other proposed improvements along the corridor include widening ramp terminals, off ramps, and resurfacing sections of the byway. To date, only major transportation issues were alleviated due to a set annual funding through transportation departments of the two states. As the years pass these planning initiatives will be completed along sections of the corridor to supplement the economy and transportation of the Davenport metropolitan region (Iowa Department of Transportation and Illinois Department of Transportation 2000).

Another successful transportation and economic revival scheme was the Route 101 Wilton, Milford, and Amherst corridor study completed by the Nashua Regional Planning Commission. The initial goal was to identify the repercussions of traffic congestion throughout this corridor by assessing traffic volumes, pedestrian and bicycle accommodations, economy, land use and regulations, natural constraints, and physical attributes of the corridor. Some of the prominent issues identified include suitable infill sites, specific sections of narrow roadways, and conflicting conservation land. After analyzing these notable concerns of the corridor, a number of feasible recommendations were proclaimed to foster traffic efficiency

and foster development of the Souhegan Valley (New Hampshire Route 101 Corridor Plan Amherst, Milford, Wilton Final Report 2002).

One noteworthy improvement project was constructing adequate overpasses and road reconfiguration projects. Appropriate traffic management for heavily congested areas included installing traffic lights and rotaries. The construction of bike lanes along the shoulder and widening sidewalks in various portions of the corridor were advocated to promote the utilization of alternative means of transportation. Gateway accessibility projects including dispensing trees, flowers, and stone walls along segments of the corridor were recommended to augment the beautification of the region. The portion of land encompassing the BROX property in Milford was suggested to be rezoned from residential A to intergraded commercial industrial to maximize development potential. Ultimately the relative costs of these immense public works projects were outlined by the Nashua Regional Planning Commission for state and town officials to potentially adopt these integral enactments (New Hampshire Route 101 Corridor Plan Amherst, Milford, Wilton Final Report 2002).

Overall, these effective planning principles advocate the vigilant evaluation of development within a particular municipality. A number of these recommendations are taken into consideration when devising effective methods of mitigating traffic congestion and capitalizing on developmental endeavors along the corridor. A number of these facts are incorporated as beneficial resources throughout the duration of the South Street/RTE 13 South Corridor Study and Plan. Ultimately, these viable sets of information formulate a rendition of the developmental potential of this byway.

Chapter III: Historical Analysis of Milford

The overall complexity of contemporary Milford, New Hampshire, has been directly attributed to the numerous historical events, inhabitants, and initiatives which have ultimately shaped the existence of the town. To accurately convey these accounts, a comprehensive analysis and interpretation of these feats is purveyed. Sufficient background information pertaining to the progression of New Hampshire is analyzed to validate the current origin and administration of Milford. Before an inclusive explanation of the overall foundation of Milford can be attained, a proper examination and visual illustration of the physical components of the region is interpreted.

A. Relative Location and Geography of Milford

Milford is located within the central portion of southern New Hampshire and Hillsborough County and encompasses a total of 25.4 square miles. Milford is strategically located 11 miles from Nashua and 16 miles from Manchester, which has had an immense effect on the development of the town. The towns abutting Milford include Brookline, Amherst, Mont Vernon, Mason, Hollis, Wilton, and Lyndeborough. The village districts of South Milford, East Milford, and Richardson constitute Milford with distinctive administrative authority over the entirety of the town. Another regional characteristic of Milford is its situation within the Souhegan Valley of central New Hampshire. This physical classification of Milford ranges from roughly 814 feet at Boynton Hill to 200 feet located within the central portion of town. The relative location of Milford is illustrated by Figure 4. The detailed map of downtown Milford portrays the integral economic, cultural, and crossroads hub of the town (The Milford Civic Club 1940, 3-32).

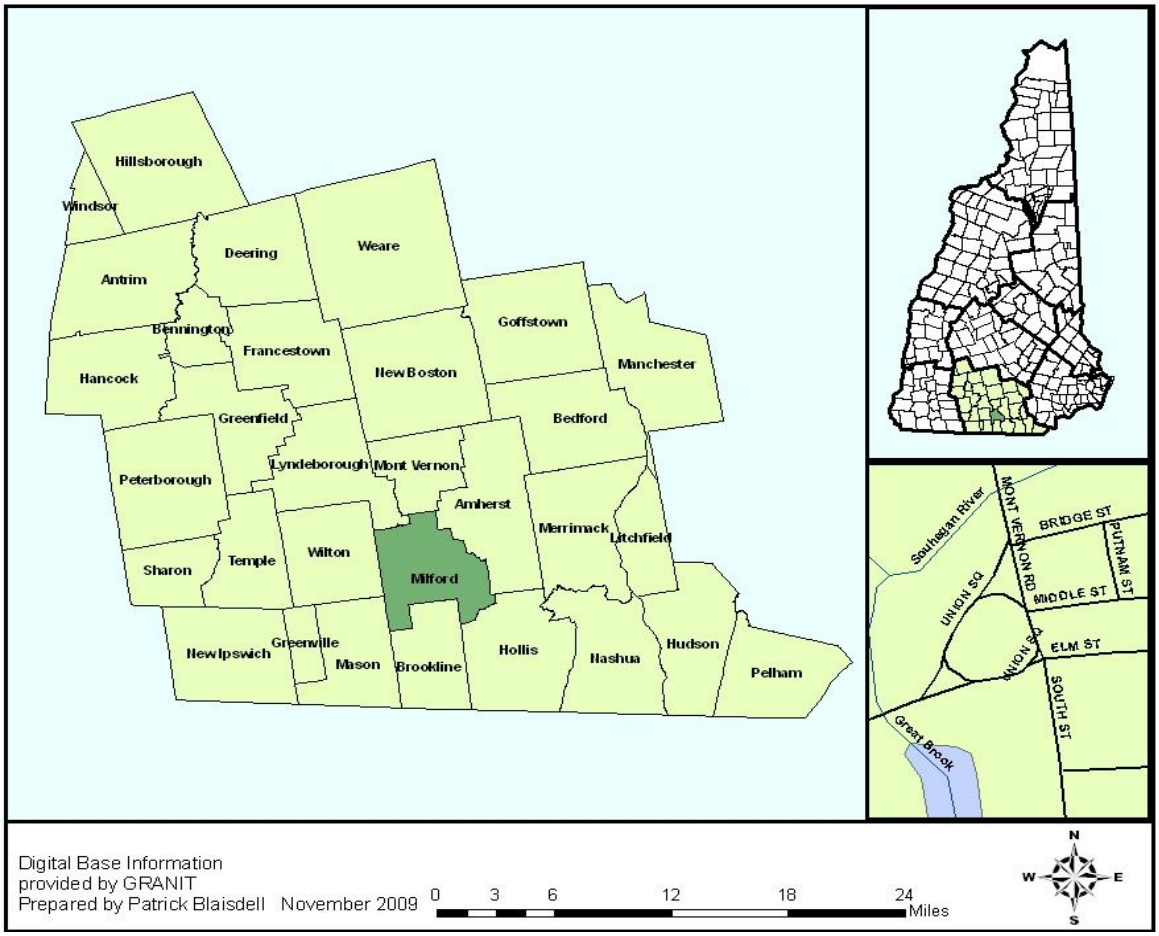

Figure 4 Relative Location of Milford, New Hampshire.

The main drainage basin for Milford is the Souhegan River, a tributary of the Merrimack River that flows in an easterly fashion. One noteworthy tributary of the Souhegan River within the premises of Milford is Great Brook, which empties into the Souhegan River near Union Square. The relative topography of the river banks is steep, which has produced a predominance of fertile soil. These nutrient rich soils have directly influenced the diverse lush forests, meadows, and agricultural flora encompassing Milford. The main geologic composition of Milford is deposits of igneous granite rocks buried beneath the crust. Figure 5 illustrates the water table of the Souhegan River during the peak of autumn. This prime example of the

importance of a river permitting a thriving agricultural oriented society was the basis for the settlement patterns of the first colonists of New Hampshire (The Milford Civic Club 1940, 11).

Figure 5 Upper Souhegan River in Autumn (Source: Authors 2009).

B. The "Mil" in Milford

The first solidified settlement within present day Milford occurred in 1741, with the grant of a 500 acre parcel to the heirs of veterans serving in the Narragansett War. The first inhabitants of present day Milford called their new home Narragansett Three or Souhegan West settled on the banks of the Souhegan River after a long expedition in 1738. One prominent forefather of this region was carpenter John Sheppard, who was commissioned by the citizens to build a gristmill and sawmill on the banks of the Souhegan River in exchange for 121 acres. The proximity of a ford in the river adjacent to the Sheppard Mill eventually influenced the coining of this region as Milford. The pioneering of the waterwheel in the mid-

eighteenth century allowed the force of the river to be manipulated to essentially turn gears powering mechanisms. Like many other towns in New England, Milford utilized the power of water to establish saw and grist mill endeavors. This provided the town with precisely split boards and crushed agricultural products to accommodate the growing population (Ramsdell 1901, 284-287).

The journey of the shift from a mercantile trading and farming society of Milford to a profitable manufacturing industry had a monumental impact on the economy of this town. The innovative concept of mass producing products efficiently and effectively was directly attributed to the Industrial Revolution. Milford initially adopted this concept in June 1814 with the construction of "The Cotton and Woolen Manufacturing Company" which would boost the economy of the town for the next century. This noteworthy event initiated the erection of numerous cotton mills along the Souhegan River to spur completion and produce an abundance of clothing for trade. These immense textile mills required scores of labor to meet quota essentially attracting thousands of people to labor and reside within the premises of Milford (Ramsdell 1901, 284-300).

One notable cotton factory located in Milford in the eighteenth century was "The Souhegan Cotton Mill". This iconic mill was established in 1848 along the south side of the Souhegan River and soon became one of the leading contributors toward the economy of Milford. The workers of this once vital industry constructed a number of the buildings within the proximity of this mill which are still apparent to this day. One of the most recognizable concerns of cotton mills was inadequate safety ordinances, ultimately leaving the Souhegan

Cotton Mill in ashes. The physical appearance of this generic mill circa mid-eighteenth century is depicted by Figure 6 (Thompson 2002, 28).

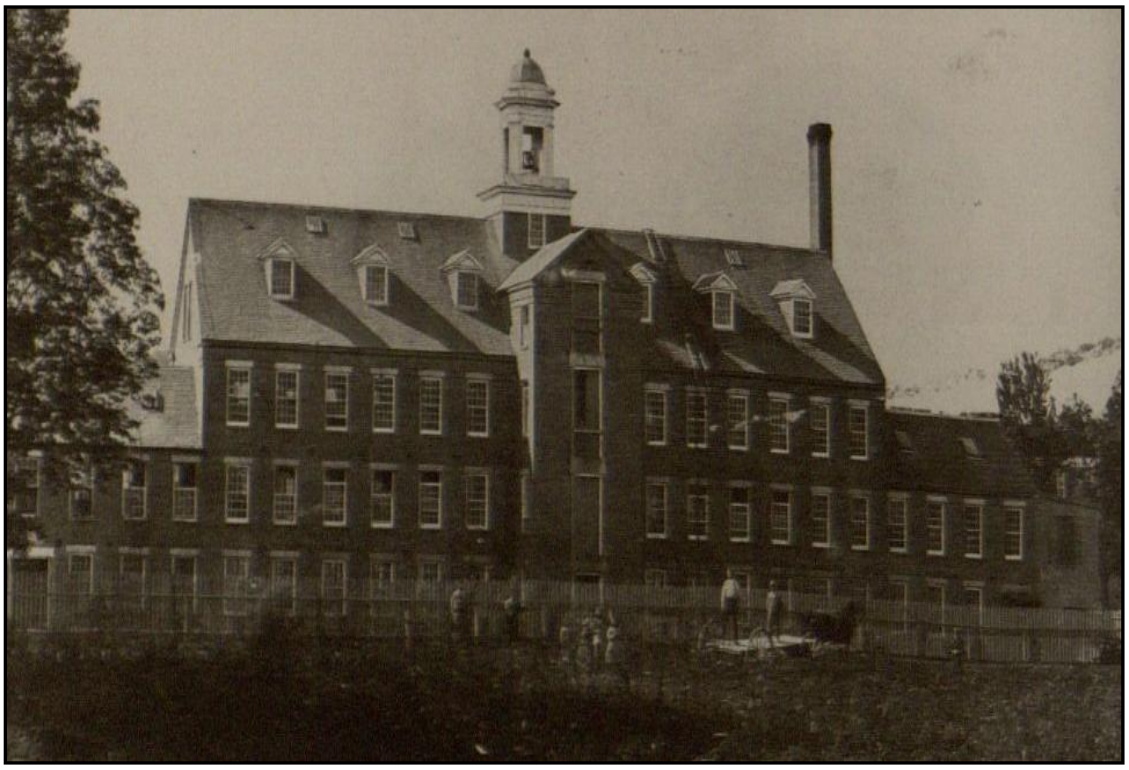

Figure 6 The Souhegan Cotton Mill, Circa Mid-Eighteenth Century (Source: Thompson 2002).

During the latter half of the twentieth century, nearly all manufacturing mills within Milford went out of commission due to foreign competition. The unhealthy dust, humidity, and occasional accidents in the textile mills also contributed to the demise of these once prominent economic capstones. Although this industry is no longer a vital component of the economy of Milford, the historical mark left on the landscape remains to this day. A number of the manufacturing mills within Milford have either been dismantled, leaving the remnants of the foundation, or have been adaptively reused to compensate for their large size and amenities. A quick glimpse into Union Square reveals a number of these historic landmarks. The illustration

of the foundation of a mill along Great Brook within Figure 7 portrays the relative mark of this dominant industry once ensued (Wright 1979, 232-234).

Figure 7 Remnants of Mill along Great Brook (Source: Authors 2009).

C. The Birth of the "Granite Town"

Another crucial economic factor which facilitated the development of Milford was the exploitation and extraction of abundant granite vessels beneath the soil. Before 1810, only small deposits of granite had been harvested for the underpinnings of bridges and walls throughout town. The first major discovery of granite influenced landowners throughout Milford to excavate the earth to find the precious ore below. However, inadequate transportation routes within Milford undermined potential trade value of this commodity (Ramsdell 1901, 298-300).

The completion of the Wilton Railroad Line in 1850 permitted mass quantities of granite to be efficiently transported to various regions of the United States substantially increasing the economy of Milford. Author Winifred Wright claimed that “It has been said that there is hardly a city or town in the United States that does that contain some Milford granite in the form of a statue, monument, building, stone or trim, curbing, or paving blocks in the street” (Wright 1979, 205). The magnitude of this compelling statement advocates the tremendous impact the granite industry had on Milford. The high demand for this chopped and polished product attracted thousands of workers to reside in Milford. The predominance of granite has a direct impact of nicknaming Milford the “Granite Town of the Granite State” (Wright 1979, 205-208).

During the peak years of operation, between 1890-1930, there were more than 20 commissioned granite quarries. One prominent granite quarry in Milford was the Lovejoy Granite Quarry established in 1894. The quarry was abandoned in 1950 once a substantial portion of the quarry was depleted inheriting the company with financial woes. Along with the demise of the Lovejoy Granite Quarry during the latter years of the twentieth century, a number of the other granite ventures were succumbed to depleted resources and financial turmoil. There is currently one functioning granite quarry left in the once flourishing granite-enriched community. Although this once iconic symbol of Milford is nearly depleted, the legacy and importance toward developing the town of Milford will live on (Wright 1978, 219).

D. Commercialization of Milford

After World War II, the economic contributors of Milford changed to fill the void left by the declining granite and textile industry. At the same time, the population throughout the country expanded with the return of soldiers, causing a demand for affordable housing.

Improvements in infrastructure across the United States had a major impact of suburban developments, and led retail businesses to be built in the suburbs to accommodate these new developments. The pioneering of one-stop shopping centers was conceived after commercial zoning was introduced to confine environmental pollution, bright lights, and traffic congestion into a single location. Land owners along these new efficient transportation routes sought to subdivide and sell their land to developers to create these retail endeavors.

The concept of one stop shopping involves an open area of shops which are arranged in rows with sidewalks and large parking lots to serve their patrons. These community oriented shopping centers permit convenient shopping because they are generally located roughly ten minutes away from all locations in a town. These shopping centers generally have a large anchor store and numerous smaller stores specializing in a wide array of retail commodities. Developers examine traffic counts, ecology, population, access, shape of the site, driving time to site, and regional economy as crucial considerations toward developing land. The strategic position of Milford and location of the transportation routes allowed this small town to flourish into a prominent anchor town attracting people from a number of smaller towns requiring these services (Hines 1985, 41-55).

The improvement in traffic access along Elm Street/RTE 101A during the mid twentieth century reduced traffic congestion in this region and increased the usage of traveling west to RTE 101 and east toward Nashua. This road construction permitted developers to capitalize on the prospective development schemes of the vacant land adjacent to this road. The Town of Milford changed the zoning in this area to mixed land use to encourage landowners to subdivide and sell their land to developers. Prospective development ventures in Milford

increased tax revenue, essentially boosting the budget of the Town of Milford. The first commercialized development in Milford was “The Milford Shopping Plaza” constructed in 1956 along Elm Street/RTE 101A. The success of the Plaza attracted a number of other developers to build shopping plazas, restaurants, and service industries along this byway. These compact shopping endeavors allowed the local citizens of Milford to conveniently indulge in the diverse shops within the area. These businesses further supplemented the growth of Milford by drawing in citizens from smaller towns around Milford to participate in shopping. This region of Milford continues to blossom with commercial business to this day which ultimately enhances the economy of Milford (Wright 1978, 59-355).

Another industry which propelled the economy of Milford in the latter half of the twentieth century is the machine shop industry. The first machine shop was established in Milford in 1949 with the construction of the O.K. Tool Company. As the years passed, this organization merged with other regional machine shops to increase their revenue and economic influence in Milford. They specialized in a wide variety of tools including grinders, cutters, and automobile parts. This successful venture sparked a number of other machine shops to be established in Milford, which continues to bind the economy of the town together (Wright 1979, 236-238).

An important machine shop within Milford is the Hitchiner Manufacturing Company, headquartered along Elm Street/RTE 101A. The company utilizes the business tactic of precision investment centered on cost saving abilities to ultimately produce a wide variety of metal products. Hitchiner Manufacturing employees 750 people, making it the largest employer in Milford (NH Community Profile 2009). The Gas Turbine Operation Sector of this successful

venture is depicted in Figure 8. As long as this vital economic contributor continues to thrive, Milford will endure a reliable source of employment and revenue (Wright 1979, 237-239).

Figure 8 Hitchiner Manufacturing Co., INC Gas Turbine Operation Sector (Source: Authors 2009).

The current industries contributing to the economy of Milford are ultimately dependent on the demand and overall importance of these products. Table 1 illustrates the top 10 employing organizations in Milford. Five of these organizations are machine shops, the other five industries are considered service based which also plays a major factor in the functioning of Milford. The Town of Milford has experienced great changes in the past two hundred years which has contributed to the overall complexity of its contemporary society. The relative stability of the economic base of Milford throughout history has been directly based on the ability to adjust and diversify industry bases to compensate for declining economies. Overall,

these integral industries will continue to attract customers from around the Souhegan Valley via their invaluable services and products.

Table 1 Top Ten Employing Companies in Milford.

Company Name	Product/Service	# of Employees	Year Established
Hitchiner Manufacturing	Ferrous/Non-Ferrous Castings	750	1946
Milford School District	Education	200	1794
Alene Candles	Candles	185	1995
Hendrix Wire & Cable	High Voltage Power Cables	180	1957
Norton Company	Industrial Ceramics	160	1957
Harborside Healthcare	Elder Care Service	145	N/A
Spear Pressure	Sensitive Labels	90	N/A
Hampshire Paper Corporation	Paper	90	1978
Airmar Technology Corparation	Ultrasonic Transducers	80	1981
NPC, Inc.	Diamond Tools and Coring	80	1972

Source: New Hampshire Community Profile (2009).

While contemporary Milford is the focal economic hub of the Souhegan Valley, Milford Community Development Director Bill Parker has identified a number of factors hindering development. The current economic crisis of the United States has had an immense affect on the development of new homes, commercial and industrial developments in Milford. New family residential building permits decreased from 30 in 2007 to 21 in 2008. To combat these economic foes, the Town of Milford Community Development completed a number of planning accomplishments in 2008 in attempt to revitalize the economy and foster development in Milford. Ultimately, as the population and demand for necessary commodities inevitably increase over time, this town will enact these measures to sustain the growth of the Granite Town (Town of Milford Annual Report 2009, 23-24).

Chapter IV: Demography of New Hampshire and Milford

Population growth of this region has been directly attributed to migration, economy, and a consistent increase in natural growth. Analysis of these key contributors will be conveyed through graphical representations of population growth trends in New Hampshire and Milford 1800-2020. Another component outlined in this section is the shifting urban and rural patterns throughout these years with comprehensive analysis of each impending factor. The estimated population for the decades of 2010 and 2020 of the two political regions is interpreted to disclose the inevitable growth of the future. Overall, this section is simplified into three time periods allowing extensive analysis of the population trends for these two regions.

A. Analysis of Population Trends 1800-2020

Examination of population trends in New Hampshire 1800-1899 reveal that the population in New Hampshire was increasing at a stagnant pace due to a relatively high rural population attributed to inadequate transportation inhibiting large scale communities to flourish. The birth of the Industrial Revolution ultimately changed the perspective of migrating from rural to urban areas to labor in the mills of cities. A considerable amount of these laborers were immigrants from Europe and Canada seeking a new life in the United States. However after 1840, New Hampshire would receive an important means of transportation that would allow a massive expansion in migrating and population increase (Hobart 1985, 6-15).

The first railroad tracks laid in the Granite State occurred in 1836 with the Lowell line frequently stopping in Nashua and Manchester. This monumental event influenced the construction of other lines linking the higher populated cities to the desolate regions of New Hampshire. The magnitude of importance from the railroad directly impacted the urban population of New Hampshire to dramatically rise from 3.3% in 1800 to 10% in 1840. This

increase in urbanization was directly related to the demand for workers to labor in these manufacturing plants to increase production of commodities. These stable and profitable organizations within the cities influenced the urban population in New Hampshire to increase from 10% in 1840 to 47% in 1890. Overall, there was a 2143% increase in population between these two time periods which would solidify the foundation of New Hampshire in the twentieth century (Hobart 1985, 6-15).

Analyzing the overall population trends between these two geo-political regions 1800-1899 reveals that Milford experienced a slightly slower rate of population than New Hampshire in general. The relative size of the Souhegan River as a tributary of the Merrimack River inhibited a high number of mills to thrive along the banks due to lower amount of water flowing to power the equipment. However, Milford experienced a 298% population increase in this time period (Hobart 1985, 6-15).

Examination of population trends in New Hampshire 1900-1949 discloses that within this time period population increased at a minimal pace due to the decline of the manufacturing industry in the state. The demise of this once prominent industry was directly related to the rapid industrialization of the southern United States with attractive benefits and cheaper methods of processing goods. This resulted in a high emigration of New Hampshire residents to venture south to begin a new life. The Great Depression was another notable contributor leading to families bearing fewer children relating to the rising cost of living (Hobart 1985, 17-20).

Comparing trends in population between New Hampshire and Milford 1900-1949 reveals that Milford has a slightly slower rate of population growth. The granite and textile

industry which once supported the economy of Milford was rapidly declining due to national competition. This halted the immigration to Milford and an out flow of residents moving to other regions of the country. Overall, there was an 11% increase in population between these two time periods. Although the developmental trends of these two regions were in a considerable state of demise, the drastic social and economic changes following the Second World War would essentially increase these assets of the regions (U.S. Census Bureau 2000).

Following this monumental event, the major contributor to this massive population influx was the rapid rise in young population, known as the Baby Boom era, persisting from roughly 1946 to 1964. Ultimately this caused an expansion of urban areas into rural areas with rapid housing developments. This drastic change in rural to urban population was quite evident in New Hampshire with the increased development of many of the smaller towns. An accurate concept of urbanization, according to the United States Census Bureau, includes all areas over 50,000 and clusters of 2,500-49,000 inhabitants (U.S. Census Bureau 2000).

The illustration of percent population change in New Hampshire 1950-2000 within Figure 9 vividly displays the rapid suburbanization of the Granite State. A considerable number of towns in southern and central New Hampshire experienced a relatively high percent population change during this time period. Although this figure reveals that these towns are rapidly expanding, they experienced a population change of a few thousand inhabitants which attributed to a high percent population change. Further analysis of Figure 9 reveals that the heavily populated cities of Nashua and Manchester experienced a relatively low percent population change. Although these graphical representations may convey these cities are declining, they experienced a demographic change of over twenty thousand new residents

attributing to a relatively low percent population change. Overall, the urban population of New Hampshire decreased from 57% in 1950 to 51% in 2000 (U.S. Census Bureau 2000).

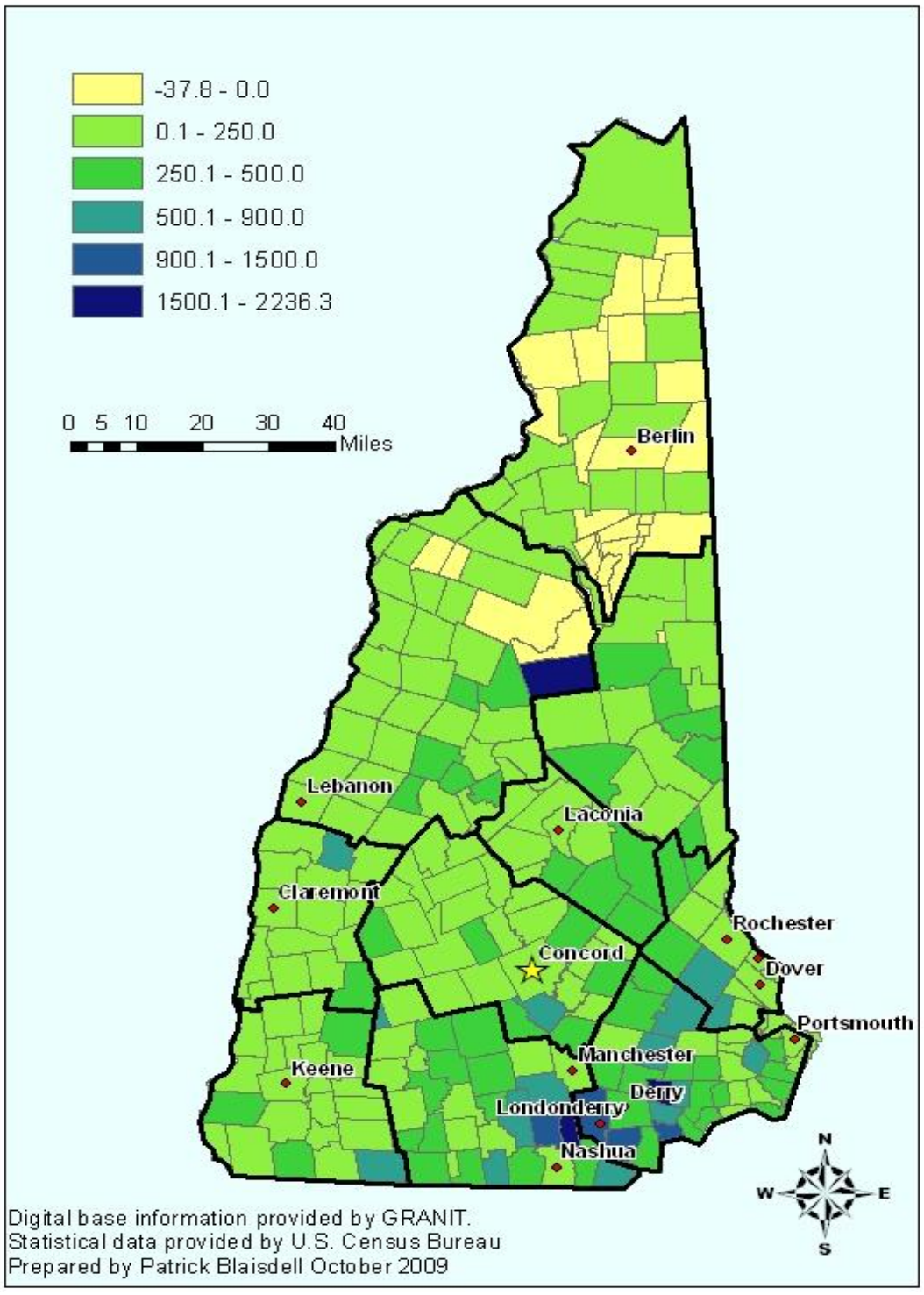

Figure 9 Percent Population Change in New Hampshire 1950-2000. (Source: U.S. Census Bureau 2000).

Analysis of population trends in New Hampshire 1950-2020 reveals that population trends within this time period increased substantially due to a considerable high birth rate and immigration. The construction of interstate and major state roads in New Hampshire directly influenced the higher populated states of New England to migrate to the Granite State. These individuals were seeking to escape the congested life in the cities and were attracted to the low taxes of the state. Another impending factor of the rapid percent population change was the construction of high tech industrial parks situated in southern New Hampshire. This resulted in the construction of family oriented developments in southern New Hampshire from the high influx of job opportunities permitting people working in Massachusetts to commute to work. The 2010 and 2020 estimated population in New Hampshire calculated by The New Hampshire Department of State Planning essentially conveys that this region will persistently rise in the number of inhabitants due to these notable factors. Examination of Figure 10 reveals a 163% increase in population in these time periods which is directly related to these ensuing demographic trends (Hobart 1985, 22-29).

Examination of population variations in New Hampshire and Milford 1950-2020 reveals that that Milford experienced an even faster rate of change population compared to New Hampshire in general. During this time period, Milford saw a rapid increase in commercialized retail business and industrial parks, contributing to increased population. The proximity of Milford to the Massachusetts border, substantially contributed to the 321% population increase. These individuals were also attracted to the relatively low property tax and lack of income tax in the Granite State. Figure 10 and 11 depict these population changes (U.S. Census Bureau 2000).

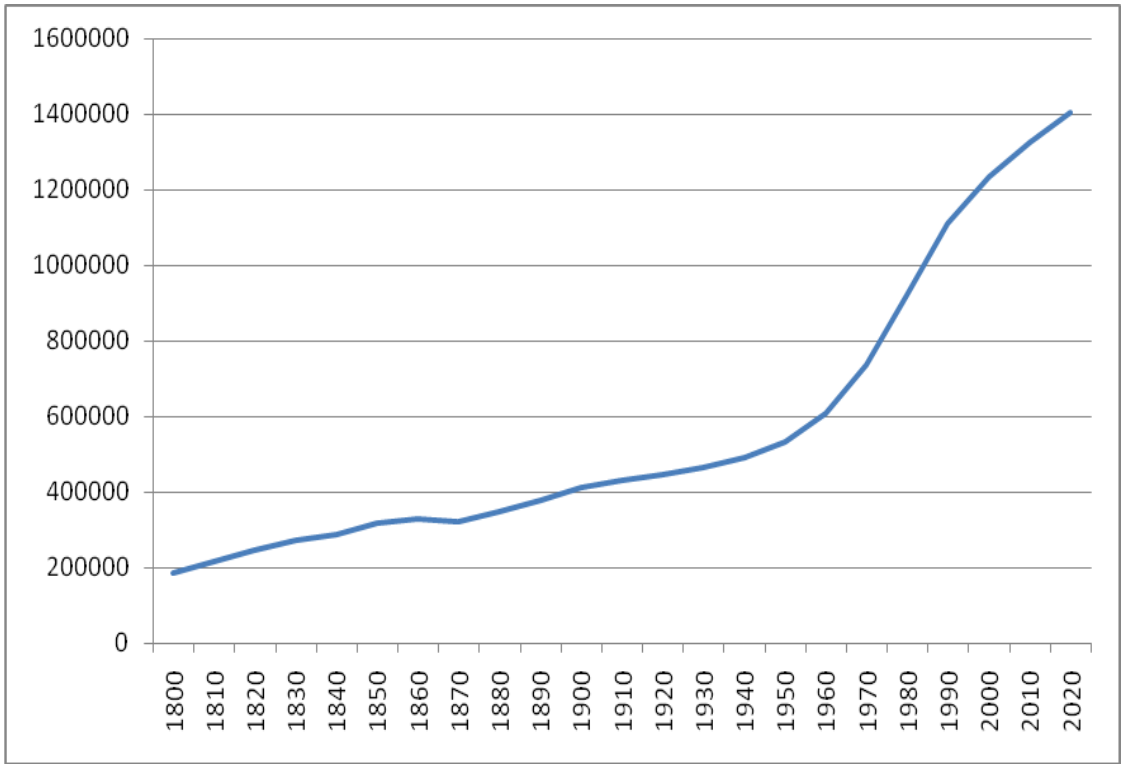

Figure 10 Historical Population Trends in New Hampshire 1800-2020.
(Source: New Hampshire Department of State Planning 2009).

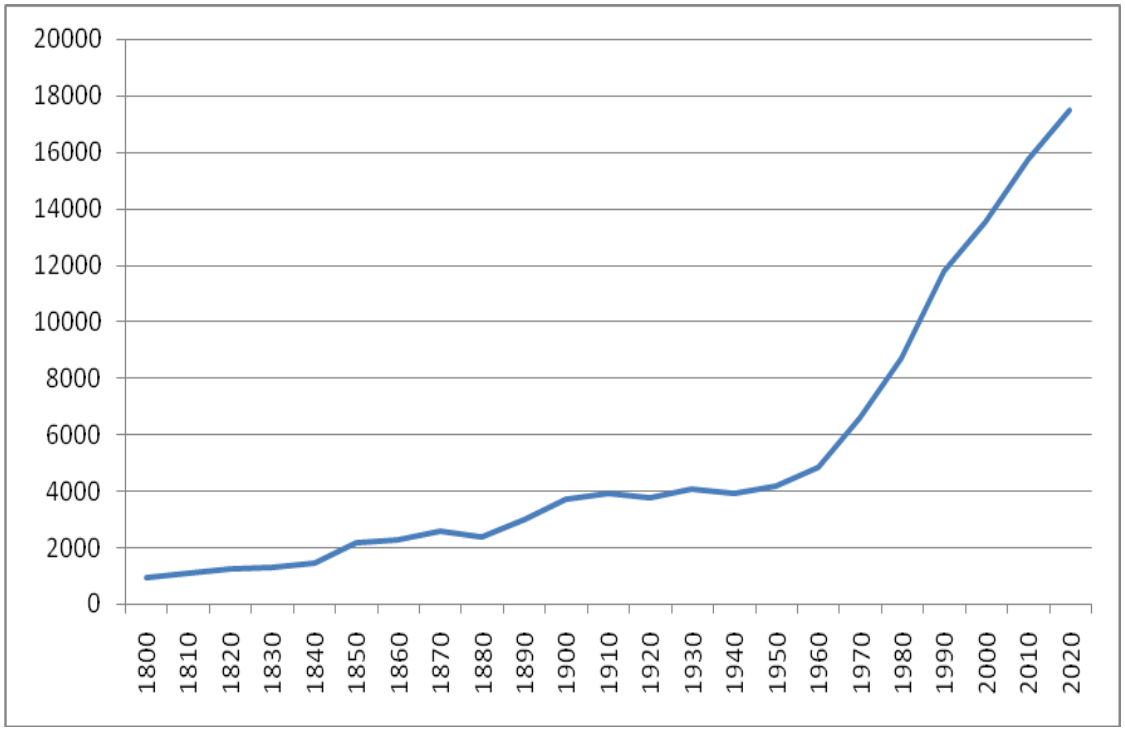

Figure 11 Historical Population Trends of Milford 1800-2020
(Source: Population History of Milford 2009).

B. Age/Sex Structure of New Hampshire and Milford

The demographic characteristics pertaining to a specific society are directly linked to social aspects, the economy, and health aspects. The magnitude of these attributes signifies the relative level of development directly linked to the overall age and sex composition of the society. One method for visually portraying these differences is devising population pyramids to compare the age and sex statistics of the society. These graphs essentially disclose these trends by classifying the percentage of people within each applicable gender into the explicit age category. The overall appearance of these generated age-structure diagrams indicates the relative growth of the population through the fertility and mortality rate of each age cohort. To present an accurate depiction of this demographic model, the production of population pyramids contrasting the 2000 age/sex structure of New Hampshire and Milford reveal these potential deviations (Cutter and Renwick 2004, 95).

The age/sex structures depicted within these figures reveals a relatively constrictive shape displaying lower percentages of younger people on the bottom with slightly higher numbers of older populations on top of the pyramid (Cutter and Renwick 2004, 95). According to the United States Census Bureau, there were 1,235,786 people living within New Hampshire during 2000. Figure 12 resembles a relatively constrictive shape with a few notable outliners. A majority of the population depicted in this pyramid reveals that most of the residents of New Hampshire are between the ages of 30-54. One perceptible outliner was the population between the ages of 20-29 was slightly lower than the abutting age category. The overall scheme of this graphical representation reveals that New Hampshire will contain considerably more people on top and less people on bottom within the next 10-30 few decades. This is a

result of the baby boomers living longer due to the advancement of modern medicine. Ultimately, Figure 12 reveals that New Hampshire is experiencing a slight population increase due to the social acceptance of bearing fewer children and an influx of migrants (U.S. Census Bureau 2000).

According to the United States Census Bureau, there were 13,535 residents in Milford in the year 2000. Analyzing the shape of Figure 13 reveals that the age/sex structure of Milford follows a similar pattern with minor exceptions. One noteworthy distinction is people between the ages of 20-24 are substantially lower than the same age group for New Hampshire. Inhabitants of Milford between the ages 30-44 are also considerably higher compared to New Hampshire, implying that the Granite Town will be composed of an older generation within the next 10-30 years. Overall, the comparison of the age/sex composition of Milford and New Hampshire discloses that Milford is experiencing a slight population growth with a slightly older population (U.S. Census Bureau 2000).

The persistent population expansion in this region has resulted in a number of varied implications directly related to these new residents. The several decades of this demographic explosion has resulted in the increased development of land, education, affordable housing, infrastructure, and ample workers sustaining the crucial industries. These necessities have been made possible by increased tax revenue permitting state and local agencies to implement effective planning measures. Ultimately the ability of identifying issues from this rising population by community planners will allow the Granite State to successfully accommodate these beneficial building blocks of the future.

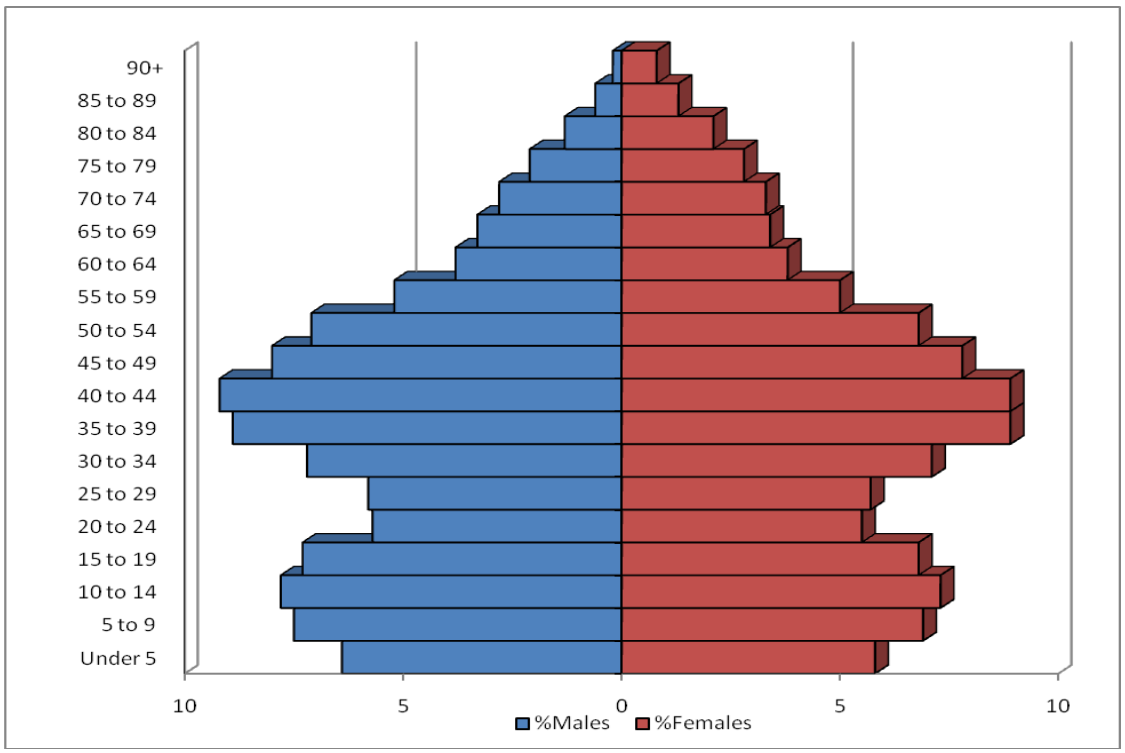

Figure 12 Age/Sex Structure of New Hampshire.
(Source: U.S. Census Bureau 2000).

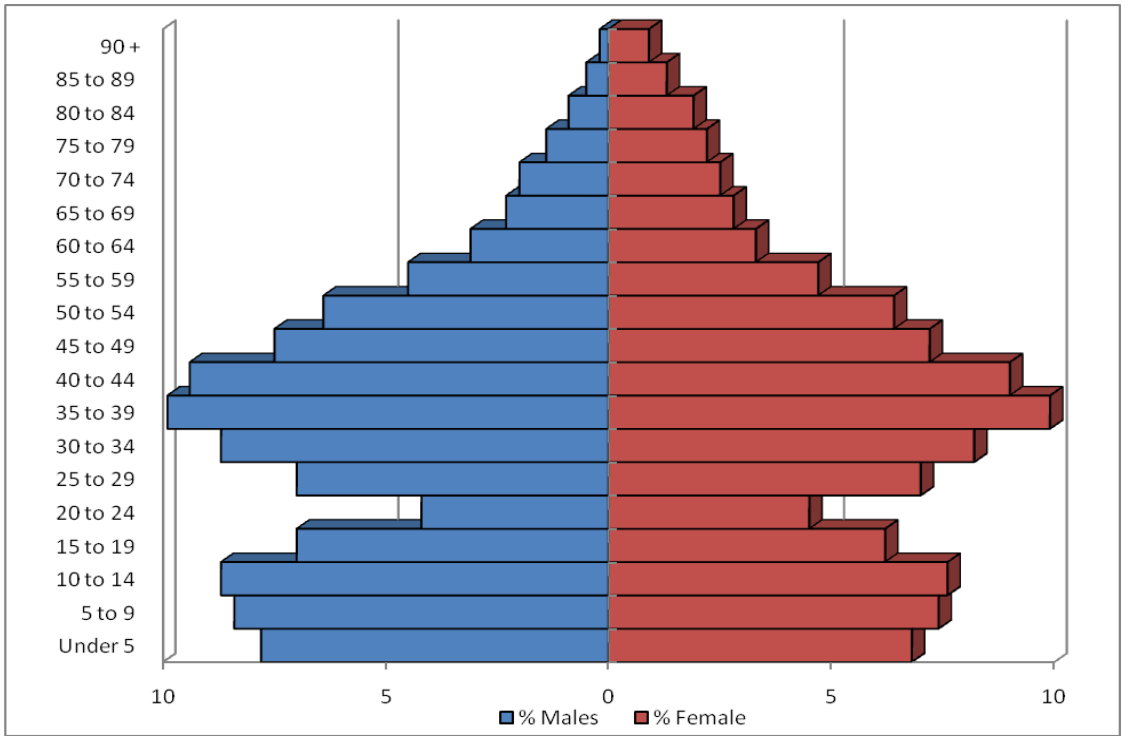

Figure 13 Age/Sex Structure of Milford.
(Source: U.S. Census Bureau 2000).

Chapter V: Transportation in Milford

A. The Milford Oval

The iconic New England common, situated within the center of town, symbolizes the heart of a community serving as an optimum location for prominent events, access to shops, and linkage to transportation routes. Commons are generally designed in a concentric manner with a beautified public park including monuments, picnic benches, and bandstands endorsing community involvement. They are surrounded by a rotary connecting the major transportation routes of a town. They are generally state or prominent local roads anchoring residents to utilize these imperative means of infrastructure and commercialized shops. Numerous pedestrian friendly sidewalks abut the curb permitting access to local shops, administrative buildings, and branch alongside major roads reducing traffic congestion. Overall, these traditional urban design structures are the focal economic, transportation, and event hub of a New England community (Calthorpe 1993, 91).

Milford is no exception to this general theme of New England landscape containing a town common nicknamed the Oval. The land constituting the Oval was originally a gift to the town in 1784 by William Crosby, enabling the public to maintain a common meeting place for events, administrative buildings, and prime economic contributors. This rotary comprising the Oval links the major transportation routes of Milford together with a number of pedestrian friendly accommodation to alleviate traffic. The illustration in Figure 14 portrays the physical appearance and structure of the Oval in a summer afternoon. Since the creation of the Oval, there have been numerous annual events which have ultimately developed the identity of the Granite Town (Wright 1979, 451).

Figure 14 The Milford Oval During Summer (Source: Authors 2009).

Indulging in local events broadens the comprehension of the culture and tradition of a specific community. Some noteworthy methods of this enrichment process include attending community yard sales, plays, sporting events, parades, and listening to the music of local artists. These events are generally sponsored by the town government and nonprofit organizations which articulate these means of spreading local pride to the onlookers. There are a number of these events sponsored by a wide array of participants who ultimately bind the community and draw in money from tourists.

One utilization of the centralized location of the Oval is the annual Fourth of July and Labor Day parade celebrating the freedom of America. The bandstand within the Oval is home to a series of yearly concerts lead by local musicians and artists. One of the most attractive events is an abundance of Christmas decorations and lights ultimately spreading the holiday

spirit to the spectators (Wright 1979, 455). The highly anticipated Milford Pumpkin Festival is one of the most popular events held within the confines of the Oval. This event symbolizes the fall harvest with vivid displays of jack-o-lanterns, corn, gourds, and stalks of wheat. Some of the notable events of the annual Milford Pumpkin Festival include pumpkin painting, pumpkin catapulting, pumpkin weigh in, live music, haunted hay rides, and scary movies shown at the legendary Amato Center. Overall, this captivating event binds the community together and brings in a considerable amount of capital from the thousands of spectators celebrating the spirit of autumn (Milford Do-IT 2009).

B. Existing Transportation Routes in Milford

Transportation is one of the most important components of a society allowing communication, commerce, and travel between various regions. The incorporation of transportation networks within Milford has essentially allowed this small town to develop into a vibrant town over the course of time. Maintained roads are the main mode of transportation within Milford allowing these important aspects to function. The main intersection of roads within Milford is the Oval connecting RTE 101A/13 together. Another major route in Milford is RTE 101 located at the southern end of town and is considered the main throughway for eastern and western travel in New Hampshire. These highways are essentially easements owned and maintained in trust by the State of New Hampshire for the public to utilize. The New Hampshire Department of Transportation classifies these roads as Class II roads that are essentially secondary state highway systems. These roads usually contain segments of two to three lanes and permit high speed travel to decrease traffic congestion. These transportation routes are typically intended for nonlocal passengers who seek quick and efficient means of

transportation through towns. These roads play a considerable role in connecting the people of Milford to various regions of the country (Local Government Center 2004, 56).

Milford also contains of a number of Class V, or local roads, which are classified by the NHDOT as town owned and maintained roads. These roads are ordinarily located within residential regions of the town enabling local passengers to venture to other regions of the town. These roads usually contain two lanes with an enforced speed limit of 30-40 miles per hour to promote safety in these residential regions of town. The illustrations of the numerous varieties of roads within Milford are depicted within Figure 15. Ultimately, these vital transportation routes of Milford allow passengers to travel efficiently travel to regions within the town and beyond (Local Government Center 2004, 57).

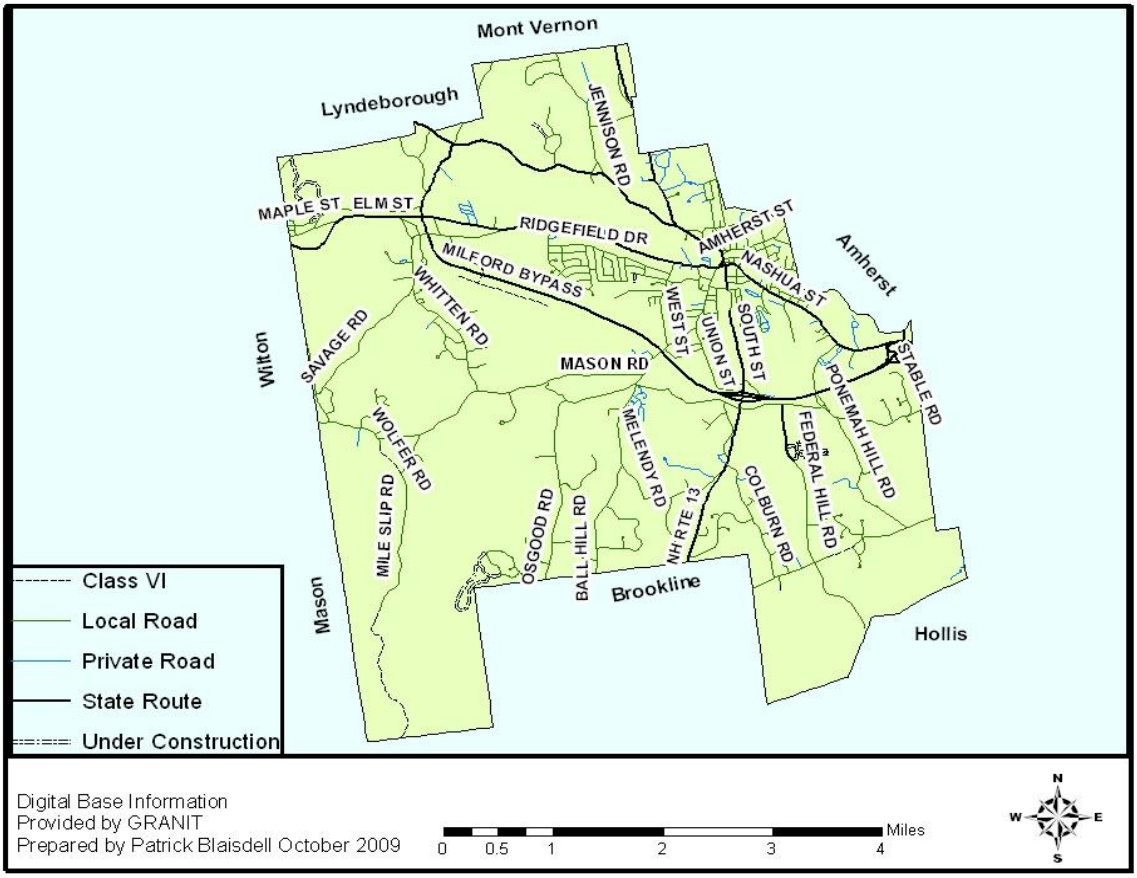

Figure 15 Existing Transportation Routes of Milford.

C. Development of Case Study Street

South Street as it is called today is known to have existed prior to 1787, at which time it was identified as “the Road to Brookline”. The records for the town illustrate South Street commencing south from what is currently Union Street to about where Union Street presently intersects South Street. The road then followed Old Brookline Road to the intersection of Melendy Road; after there the road continued where Ruonala Road is all the way to Brookline, New Hampshire. After about 85 years, several straightening and renaming efforts the “Road to Hollis” also called “Water Street” was officially renamed by the board of Selectman on March 12, 1872, to be South Street (Town of Milford Road List N-Z 2001).

South Street endured several more changes before it reached the current state it is today. On January 23, 1948, South Street no longer would intersect Union Street, the selectman decided that it would continue to the intersection of Federal Hill Road. As of 1953, RTE 13 was constructed in order to create a direct connection road between Union Square and the Brookline border (Town of Milford Road List N-Z 2001).

The RTE 101 bypass was constructed along South Street/RTE 13 South to enhance transportation efficiency within this region. This monumental event ultimately encouraged landowners to subdivide their land for the construction of numerous single family homes. The strategic location of Milford and accommodative transportation route spurred developers to create mass commercialized businesses along this route in the late twentieth century. This was essentially a result of portions of this corridor being rezoned to encourage development to facilitate the economy. The relative physical appearance of South Street/RTE 13 is visually conveyed in Figure 16. Overall, this historic linkage of the major northern to southern byway in

Milford is poised to be subjected to increased development and road maintenance due to the strategic location within New Hampshire (Bill Parker, Personal Communication, 2009).

Figure 16 South Street/RTE 13 South and RTE 101 Intersection (Source: Authors 2009).

The Town of Milford will likely grow at a moderate pace, based on the increasing demand for residential, commercial, and industrial development. Furthermore, this will relay a substantial amount of stress within the South Street/RTE 13 South corridor due to the increasing consideration of high developmental potential. Without adequate planning measures, this concern could ultimately relinquish scores of unpractical development, pedestrian safety, roadway capacity, road maintenance, and traffic congestion. Ultimately, identification and implementation of these existing concerns will direct the Town of Milford in a positive direction.

Chapter VI: Current Land Attributes Abutting Corridor

The connection between transportation routes, land use, and the environment is an important consideration in the redevelopment of any corridor. Analysis of these conflicting factors by constructing land use plans can reveal feasible solutions toward prospering the economy of a region. This procedure will be replicated for the South Street/RTE 13 South corridor and plan to devise and prospectively implement an effective land use plan. This proposal aims to accommodate the persistent growth of the community by identifying existing land use ordinances, uses, natural constraints, and value of the parcels abutting the corridor. A comprehensive analysis of these elements will potentially disclose trends, deficiencies, locational and spatial characteristic for specific regions of the corridor. Overall, the resultant factors of this land use guide will ultimately provide realistic development capacity solution for the Granite Town (Nashua Regional Planning Commission 2006, IV-1).

A. Existing Land Uses and Regulations

The land use regulations formulated by the Town of Milford Planning Board aspire to promote the public health, safety, morals, and general welfare of the inhabitants of Milford. The determining factor in solidifying these eminent privileges is weighing the current land usage to establish definite zoning districts deterring possible conflictions. The current zoning districts of Milford include commercial, industrial, intergraded commercial-industrial, limited-commercial, residential A, residential B, and residential R. The existing zoning, subdivisions, and setback ordinances manipulating land usage varies depending on each zoning district. These land use regulations are outlined in Appendix A to properly identify restrictions on development capability in the future. This classification system limits the impingement of new developments from interfering with extant developments, fulfilling the preservation of the

small town atmosphere of Milford. The examination of existing zoning regions constituting tracts of land adjacent to the South Street/RTE 13 South corridor aims to reveal the restraining factors toward future development endeavors (Procos 1976, 6-8).

The largest zoning district encompassing these tracts of land is commercial dominating either side of the corridor extending south of the Oval to the RTE 101 overpass. Beginning at the RTE 101 intersection to Colburn Road is predominately intergraded commercial-industrial zoning with two residential R zoning districts parcel outliers. This district then follows the side of the intergraded commercial-industrial district down to the Brookline town line of either side of the corridor. The importance of these two zoning districts being located relatively close to the corridor permits potential fiscal economic opportunity due to the relative location of RTE 101 and the citizens of the residential R district (Town of Milford Planning Department 2009, 20-35).

One noteworthy exception zoning regulation pertaining to this corridor outlined in ordinance 10.02.04, is the restriction of constructing self storage units in residential R district. All self storage units site plans seeking approval by the planning board must be located 50 feet from the lot line, contain a 15 foot landscaped buffer, and be considered outside storage units. Figure 17 color coordinates the various zoning districts of the South Street/RTE 13 corridor with the abutting parcels to analyze the current trends in prospective development schemes. Overall, the mandated zoning districts within the tracts of land adjacent to the corroder reveals a relatively segregated land use design to protect the general welfare of the community for years to come (Town of Milford Zoning Ordinance 2009, 227-128).

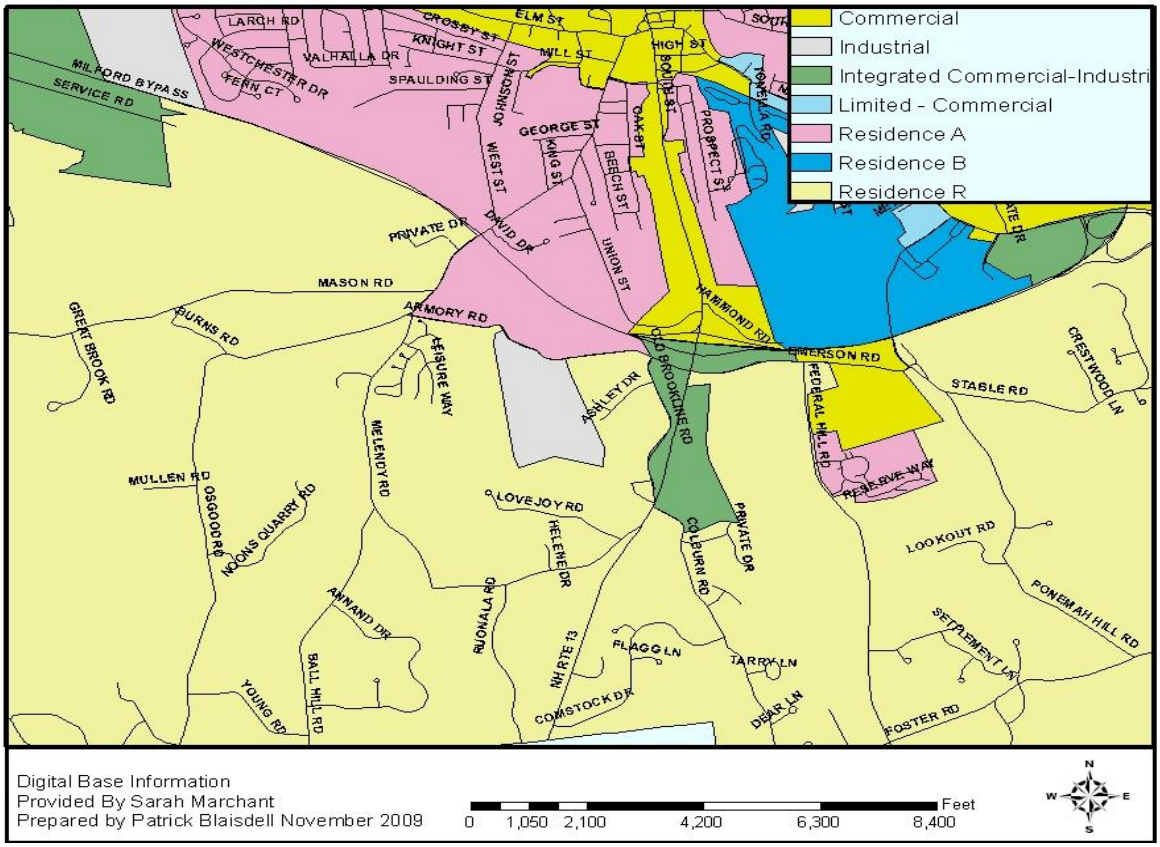

Figure 17 Zoning Districts of Milford.

The relative complexity of the land utilization within a specific municipality is directly attributed to the extent of development limitation administered by town officials. Analyzing trends and variations of land usage among parcels abutting a particular corridor can ultimately locate suitable infill sites and realistic subdivisions endorsing supplemental economic endeavors. The process will be replicated for the proper identification of the current land usage of parcels adjacent to the South Street/RTE 13 South corridor. Ultimately this prospectively determines suitable sites which will be a necessary component to accommodate the growth of the region.

Examination of the existing land usage of parcels adjoining this limited access byway reveals substantially diverse schemes. The prominent land functions within these parcels

include commercial, industrial, multifamily residential, permanent open space, recreation, municipal facility, single family residential, and vacant. The relative land use designation between the Oval and Lincoln Street reveals a major concentration of multifamily residential and commercial parcels. The two elongated parcels just before Lincoln Street is an abandoned railroad track also serving as a pedestrian utilized trail (Town of Milford Department of Planning and GIS 2009).

The land usages extending downward from Lincoln Street parallel to Phillips Way are dispersed with commercial, municipal facility, single and multifamily residential. These lots are considerably larger than the preceding portion of the corridor based on the interests of single families demanding a higher sense of enclosure. Three parcels running adjacent to the byway are owned by the Town of Milford which is also the headquarters of the Public Works Department. Figure 18 depicts a vacant lot just north of the RTE 101 intersection (Town of Milford Department of Planning and GIS 2009).

Figure 18 Vacant Lot Just North of RTE 101 Intersection (Source: Authors 2009).

The overall land use composition of the parcels abutting the corridor parallel to Phillips Way toward the RTE 101 overpass, are mainly concentrated with large tracts of single family residential, vacant, permanent open space, and commercial. These parcels are generally undeveloped containing dense forest cover increasing the potential for developmental endeavors. The permanent open space abutting RTE 101 contains the 12 acre Smith Well Site which is a privately owned parcel (Town of Milford Department of Planning and GIS 2009).

The land use designation of lots abutting the corridor from the RTE 101 bypass to Colburn Road consist of commercial, industrial, single family residential, and recreational. The immense recreational tract of land situated near the RTE 101 intersection is the Burns Rock property which serves a wide array of outdoor activities. Figure 19 displays a single family residential home located near Colburn Road. Overall, these parcels all contain considerable extendable road frontage which could be a suitable location for future development (Town of Milford Department of Planning and GIS 2009).

Figure 19 Single Family Residential Home Near Colburn Road (Source: Authors 2009).

The final examined land usage of the parcels abutting the corridor runs from Colburn Road to the Brookline town line. The predominant land usage within this segment is designated single family residential and permanent open space. There are also parcels with the land usage commercial, multifamily residential, and vacant. The one commercial tract is a farmstand which was approved for incorporation into the overwhelming single family residential land usage sector (Town of Milford Department of Planning and GIS 2009).

A number of the lots within this section are extensively narrow and protracted which poses a presenting difficultly to enact subdivisions. Table 2 portrays the specific number of parcels and acreage of each designated land usage. The color coordinated land usage of all parcels along the corridor is depicted in Figure 20 and 21 to reveal the overall diversity of land utilization along the corridor. The examination of the overall scheme of land usage abutting the corridor reveals a proportion of single family residential and recreational dominated landscape. Overall, the variations and trends concerning the existing land usage encompassing the parcels abutting this corridor discloses the extent of the development potential within this region (Town of Milford Department of Planning and GIS 2009).

Table 2 Land Use Statistics of Parcels Abutting Corridor

Land Use	# Parcels	Acreage
Single Family Residential	51	118.6
Commercial	35	57.7
Multi Family Residential	24	21.8
Vacant	11	32.4
Permanent Open Space	5	66.2
Municipital Facility	4	17.3
Recreation	3	94.8
Industrial	3	6.5
Total	136	520.5

Source: GIS Maps and Data (2009).

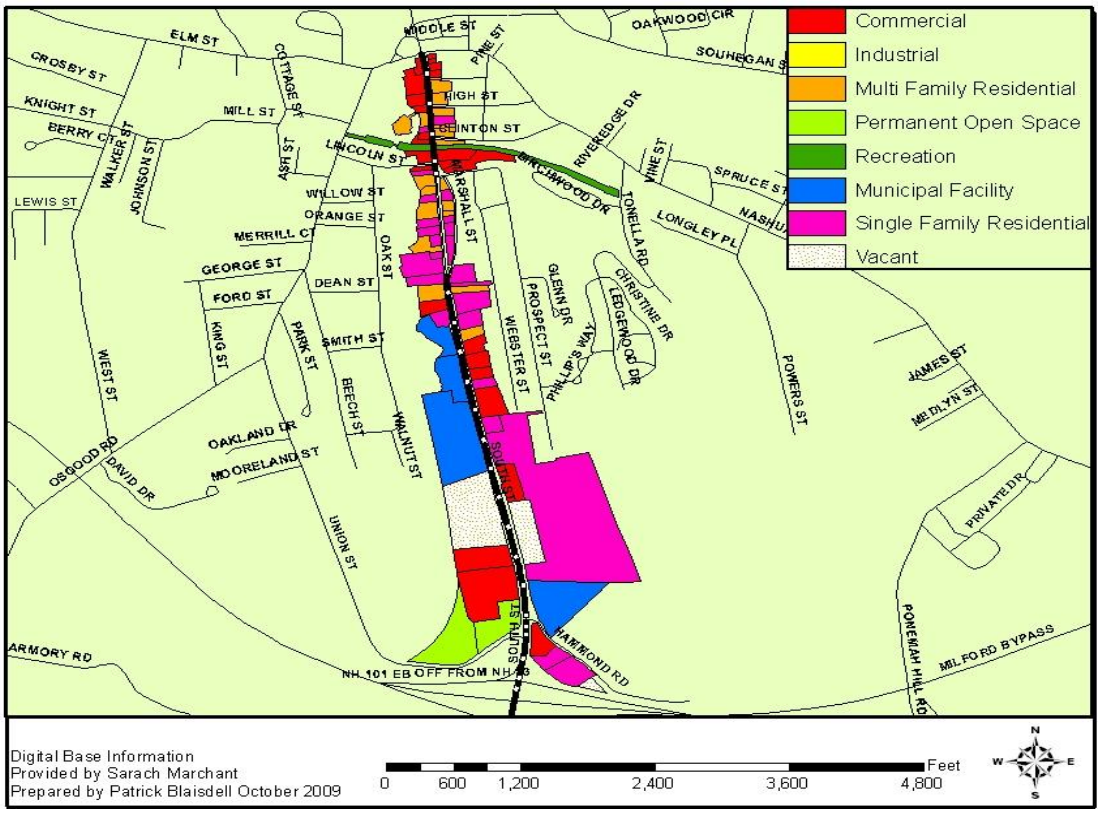

Figure 20 Existing Land Usage North of RTE 101 Intersection.

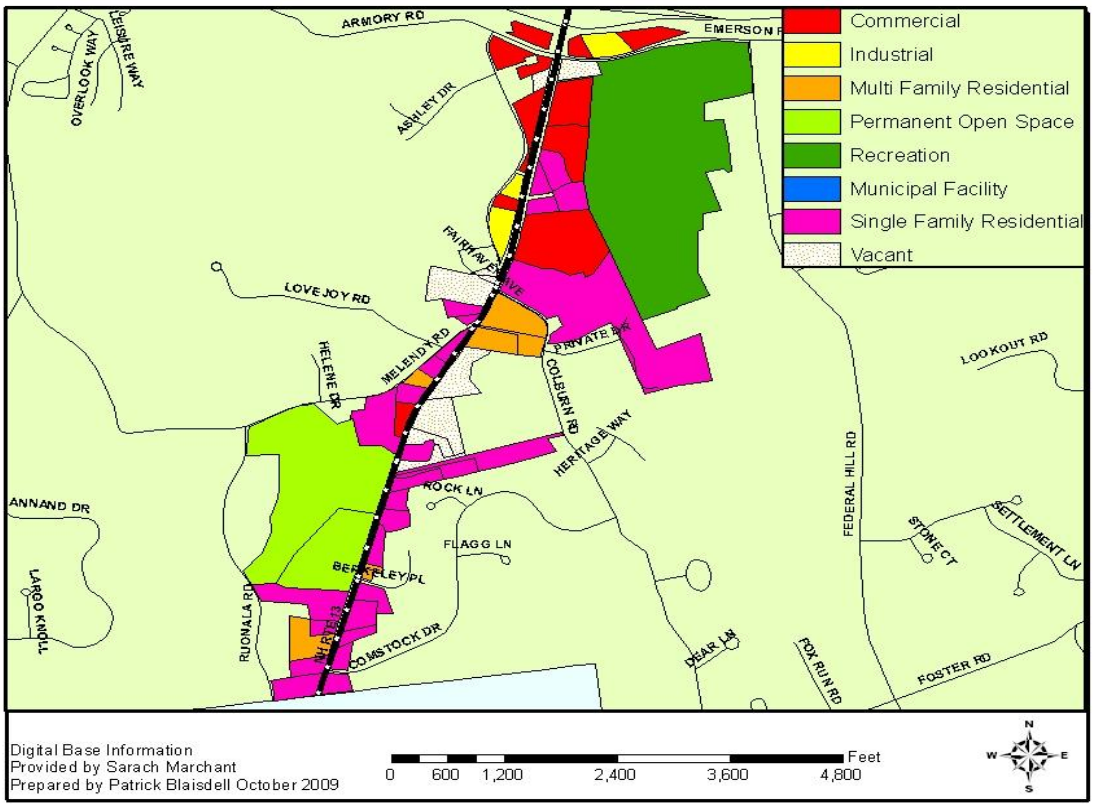

Figure 21 Existing Land Usage South of RTE 101 Intersection.

B. Natural Constraints Inhibiting Development

The interaction between humans and the natural environment can result in a negative impact on these resources. To mitigate the extent of these detrimental effects, environmental organizations have enacted action plans to properly utilize and sustain these crucial amenities. As the population of Milford increases, the demand for optimal developable parcels encourages land owners to capitalize on the natural environment for profit. Although a specific lot may contain considerable road frontage and suitable space for developments, natural constraints dominating the landscape can substantially diminish the opportunity for this endeavor to be ratified (Wolf 1982, 252-260).

One prominent resource receiving protective rights from land development are water bodies in the form of rivers, streams, lakes, ponds, wetlands, aquifers, and floodplains. The Town of Milford Planning Department mandates all new structures must be located out of a 25 foot buffer from every stream, pond, and wetland reducing conflictions between these two elements. Large water bodies such as lakes, which are more heavily impacted by environmental degradation, are protected by a 50 foot buffer so as to reduce polluting runoff (Town of Milford Zoning Ordinances 2009, 47-48).

However, these ordinances can be contradicted by the New Hampshire Department of Environmental Services permitting the filling of a specific wetland if the cause of the development is practical. Another loophole of filling wetland is creating conservation easements. The formation of these preserved tracts of land is another natural constraint inhibiting development. The proper identification of the development potential within the tracts of land adjacent to South Street/RTE 13 South corridor requires a thorough analysis of

the existing water resources and preserved land within the study area. Overall, this ultimately yields developmental limitations based on the trends and variations of the natural constraints (Constantino, Personal Interview, 2009).

Analysis of natural constraints encompassing the western portion of the parcels north of the RTE 101 intersection reveals a large stretch of water resources directly attributed to the drainage basin of the Great Brook. A majority of the wetland along this stretch are located at the back end of the parcels exhibiting higher development potential. The two abutting parcels of conserved land stretching from the beginning of the RTE 101 intersection extending down the Granite Rail Trail relative to Walnut Street are another inhibiter of development. Figure 22 depicts a wetland adjacent to South Street located near the Public Works facility. Overall, the presence of natural constraints along the eastern side of the parcels north of the RTE 101 intersection discloses no apparent restrictions in development.

Figure 22 Wetland Along Western Side of South Street (Source: Authors 2009).

Analysis of natural constraints encompassing the parcels on the western half of the corridor south of the RTE 101 intersection reveals two wetlands and a stream encompassing the region. The large tract of conservation land located near the Brookline town line is the town-administered Roach Wildlife Preserve, which is protected from future development. This immense wildlife sanctuary is depicted within Figure 23. The eastern half of the parcels abutting the corridor south of the RTE 101 intersection contains sparse amounts of water resources, promoting prospective development. The overall schemes of natural constraints within the parcels abutting the South Street/RTE 13 South corridor are illustrated in Figure 24 and 25. This reveals the spatial and relative size of these hindering factors of development. Overall, the scarce presence of natural constraints located within the parcels does not pose a considerable threat toward developmental potential along this corridor.

Figure 23 Roach Wildlife Preserve (Source: Authors 2009).

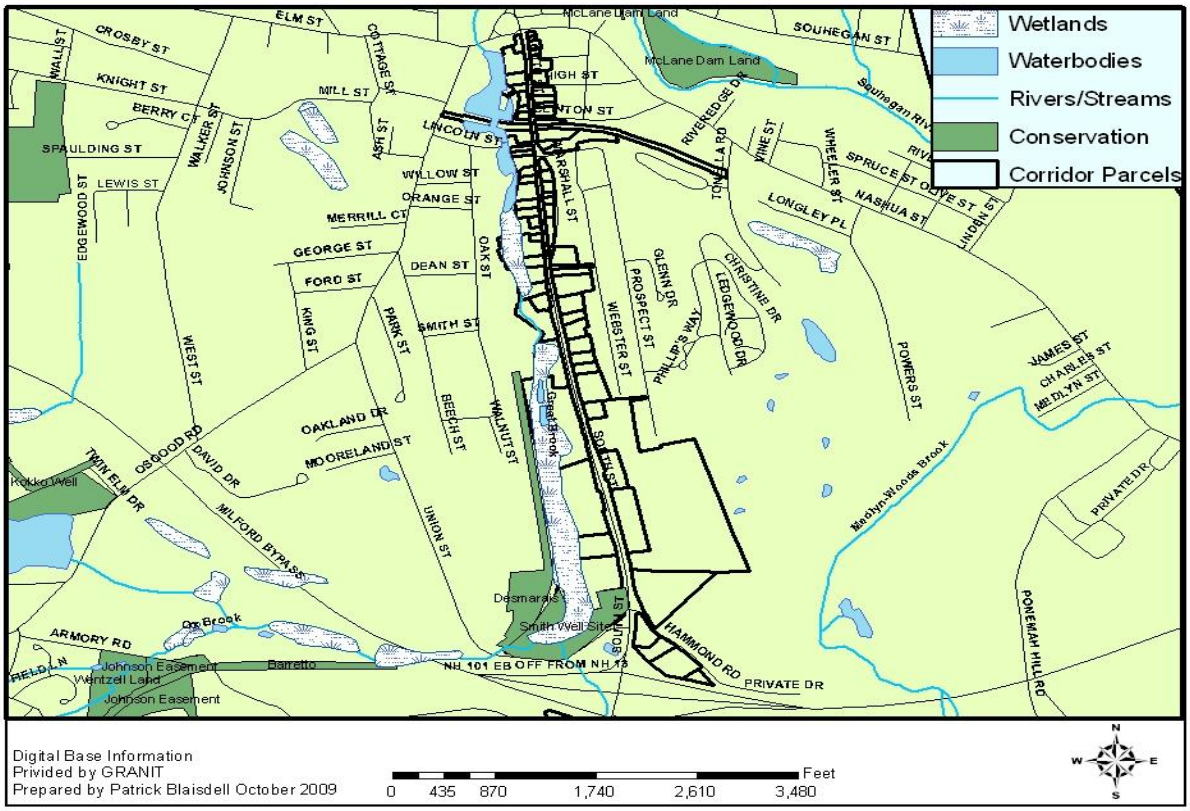

Figure 24 Natural Constraints North of RTE 101 Intersection.

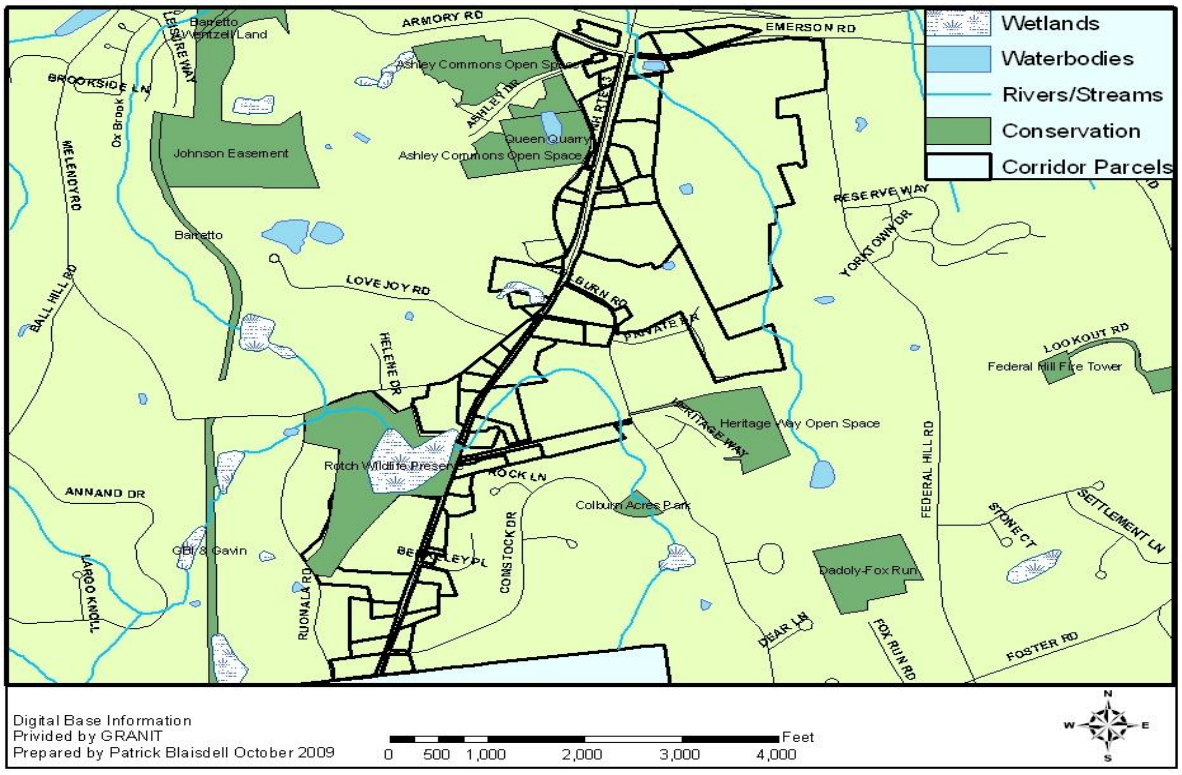

Figure 25 Natural Constraints South of RTE 101 Intersection.

C. Assessed Value of Lots Adjacent to Corridor

The capitalist mentality of acquiring land as an asset has greatly resulted in large scale investments pursuits to capitalize on their untapped value. Land ownership in the United States is an undeviating reflection of wealth endorsing land owners to exploit their land for development. To minimize the extent of unethical development and to supplement funding for schools, fire and police protection, and other public services, property taxes are imposed on individuals possessing property. The estimated property value is then divided by a percentage for the monthly tax for the property owner. This wealth extraction process is administered by town officials with a portion of the revenue divided among county and state governments. The magnitude of wealth expulsion is directly mandated by town assessing officials who evaluate the relative value of the property based on a number of noteworthy land and building characteristics. Figure 26 illustrates the most prominent assessment factors when calculating the estimated value of a property (Wolf 1981, 102).

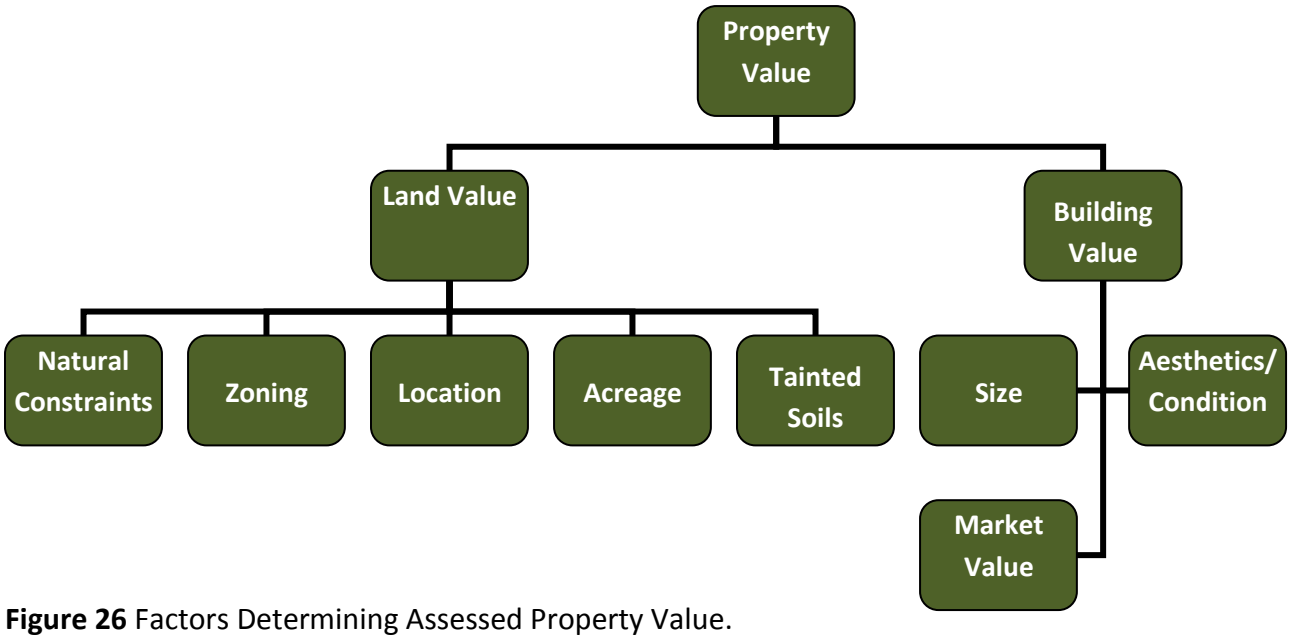

Figure 26 Factors Determining Assessed Property Value.
(Source: Noel 2009).

One method for determining the development capability of a region is analyzing trends and variations in the estimated property values of parcels adjacent to a particular corridor. This process is comprehensively employed for the lots abutting the South Street/RTE 13 South corridor. This legitimizes the extent of willingness for these land owners to develop their land in the future. The presence of building contributing to the overall assessed property value of the parcels is also presented. Ultimately this procedure aids in the process of evaluating suitable development sites based on the numerous assessed property values.

The overall trends of assessed property values of lots north of the RTE 101 intersection indicates a broad range of property values based on the relative size of the parcels. A majority of these parcels contain buildings which are directly attributed to their relative location to the Oval. The predominant land designation of commercial zoning further contributes to a higher property value of this region. A majority of the estimated value of the lots along this segment are between 193,800.1-514,600 dollars. A number of lots just south of the Oval are large Victorian homes with considerably high estimated property values. One notable outlier is the parcel located at the central portion of this region containing the Town of Milford Public Works Department. A considerable amount of the parcels along this segment of the corridor contain more than one building which substantially contributes to a relatively higher property value. This is directly related to the tremendous size and importance of this facility. The large single family residential and vacant lots near the RTE 101 intersection are heavily forested, substantially reducing their assessed property value. Overall, the parcels within this portion of the study area are considerably diverse based on the numerous amounts of vegetated and developed land (Tetley 2009).

The assessed property value of the parcels south of the RTE 101 intersection discloses considerably higher value based on the extent of diversified land usage and larger parcel size. The majority of the lots encompassing this intergraded commercial-industrial zoning district have estimated property values between 514,600.1-940,500 dollars. This is attributed to the large parcels and high precision industries within the landscape. Examination of parcels within the residential R zoning district yields lower estimated property values (Tetley 2009).

One perceptive outliner within this region is the estimated property value between 2,437,400.1-7,999,973 dollars. The building within this parcel contains the GFI Milford LLC real estate firm containing a substantially high building value. Figure 27 depicts the percentage of parcels within the specific estimated value range. Figures 28 and 29 depict the visual comparison of the numerous estimated property values of parcels adjacent to South Street/RTE 13 South. Overall, the relative composition of assessed property values of lots abutting the corridor divulges the prevalence of estimated property values between 198,300.1-514,600 dollars which is practical toward developing land (Tetley 2009).

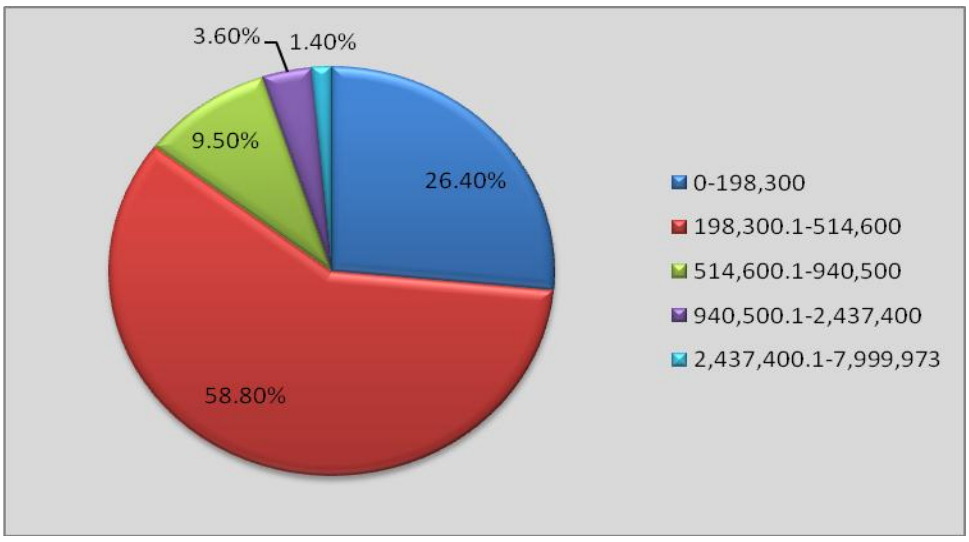

Figure 27 Percentage of Parcels within Estimated Value Range.
(Source: Tetley 2009).

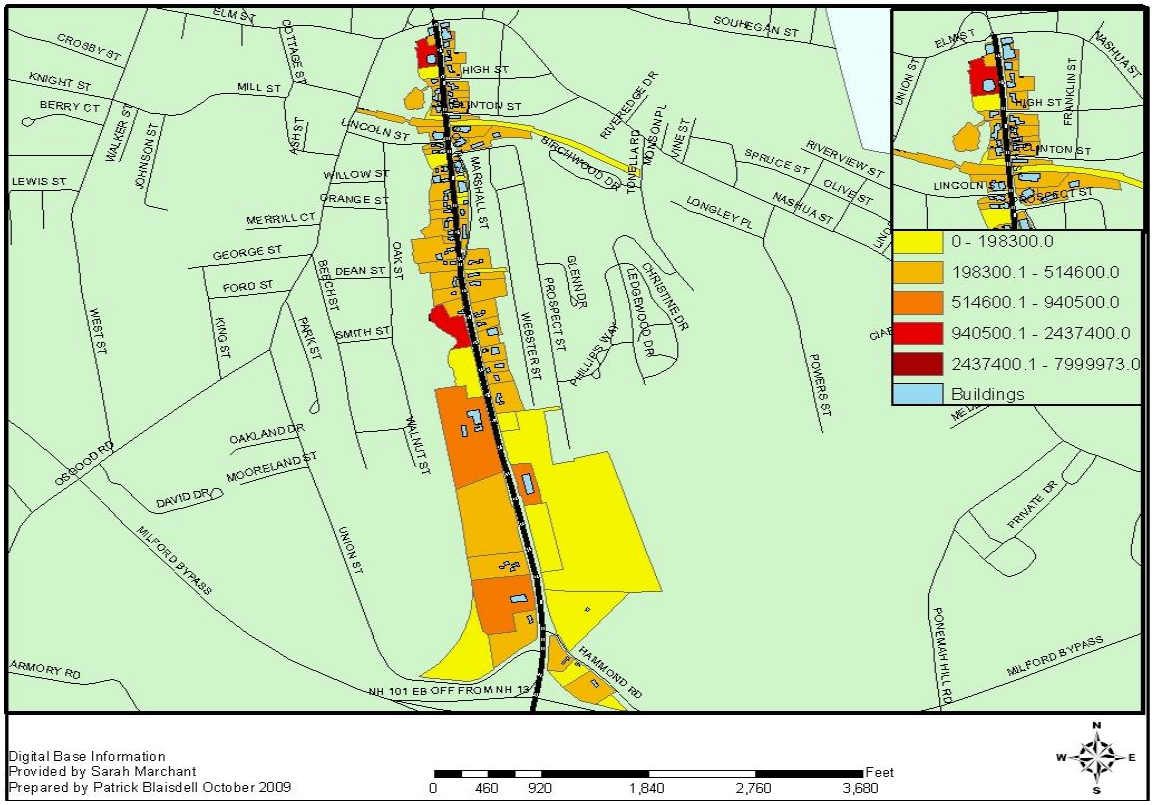

Figure 28 Assessed Values of Parcels North of RTE 101 Intersection.

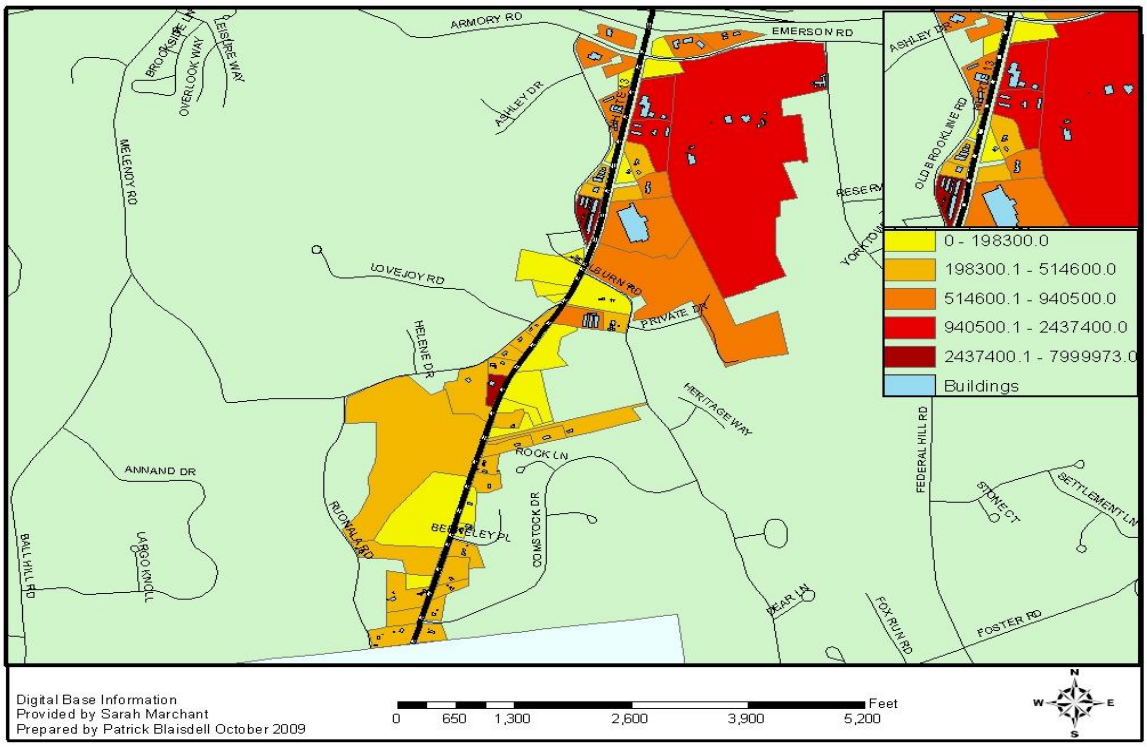

Figure 29 Assessed Values of Parcels South of RTE 101 Intersection.

The proper balance of developing land with consideration toward possible adverse repercussions on the natural environment is an enduring issue for planners to thwart. The procedure of assessing the current attributes on the land toward these vital life sources is the key component toward a sustainable future. Without these crucial planning measures, the community can become consumed with congestion and economic dismay. Overall, the proper implementation of effective and efficient land use planning provides the logistics for the limitation and capability of the South Street/RTE 13 South corridor.

Chapter VII: Current Transportation Issues

The ever persistent reliance on transportation networks for commerce and interaction has generated a growing concern toward the safety of the general public. This is directly related to inadequate transportation capacity and design yielding a nationwide traffic congestion epidemic. Traffic woes include longer commute times, economic loses, increased accidents, and environmental degradation. A need for immediate reform is a necessary component toward developing effective, efficient, and sustainable means of transportation. This notion has been adopted by local planners toward measuring the current congestion rates, accidents, road quality, and access points of the region to ultimately devise effective improvement projects to combat these concerns (Lewis 2008).

In order to identify the extent of transportation impairment and quality along the South Street/RTE 13 South corridor, a comprehensive analysis is employed. Proper assessment of the current traffic volumes, accident rates, pedestrian and bicycle amenities, and physical condition of the corridor compliments appropriate implementation of improvement projects. The future capacity of this vital thoroughfare is also examined to combat these concerns. The goal of this evaluation aims to supplement the inevitable development of the parcels adjacent to the byway. Various trends and deviations of these prominent factors are identified to indicate immediate action methods to relieve traffic congestion. Overall, this guide to the current transportation characteristics of this corridor enables viable recommendations toward fostering the development potential of the corridor to be formulated.

A. Analysis of Corridor Traffic Capacity

One applicable technique for distinguishing the current and future capacity of a particular transportation network is calculating the amount of vehicles passing a certain point

during a time constraint. This is primarily disclosed by installing traffic counters along numerous sections of a corridor which records traffic volumes during a workweek. The daily traffic volumes for each weekday are averaged minimizing bias results. The amount and varying flow in traffic patterns can ultimately unveil the degree of traffic congestion through analyzing the predetermined capacity of the corridor. Ultimately this can manipulate the number of new access points within the corridor to reduce potential conflictions and costs. Future estimated traffic volumes are generally computed with a 1½ increase in traffic volume for each subsequent year. Overall, the proper analysis of these statistical inferences can be utilized to prospect transportation improvement projects (Waitkens 2009).

To detect the extent of traffic capacity and congestion along certain segments of the South Street/RTE 13 South corridor, traffic volume data was utilized from the Nashua Regional Planning Commission. This organization aims to provide comprehensive solutions toward the environment, land usage, transportation, and other planning issues of the Greater Nashua region. One method of achieving their mission was dispensing 60 traffic counter locations throughout Milford between the years 1996-2006 to identify regional shifts in traffic flow. Thirteen of these traffic counter locations encompassed the corridor, the RTE 101 intersection, and roads connecting to the corridor. These locations are identified and analyzed for spatial volume variations. The inconsistencies in the recorded years of these volumes are supplemented by estimating the current 2009 volumes. The 2020 estimated traffic volumes for each location is computed to identify the future need for transportation improvements along this corridor. Examination of Figure 30 and 31 depicts the spatial distribution of the traffic counters (Traffic Count Data 2009).

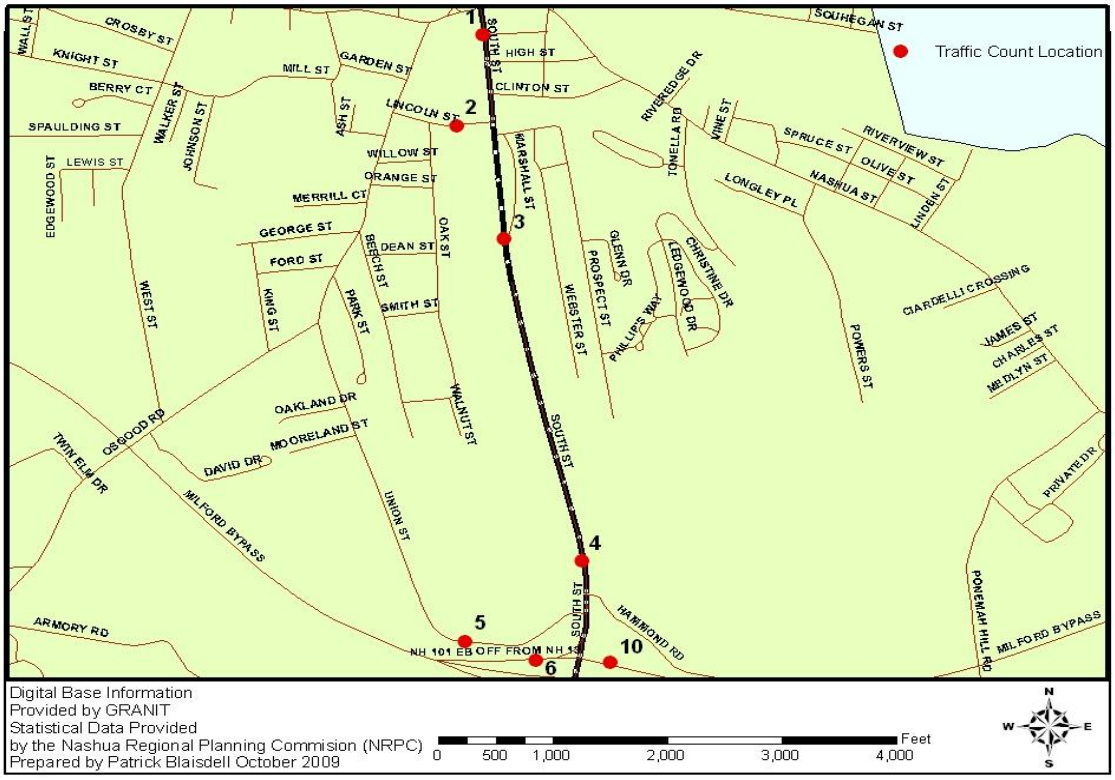

Figure 30 Traffic Count Locations North of RTE 101 Intersection.
(Source: Traffic Count Data 2009).

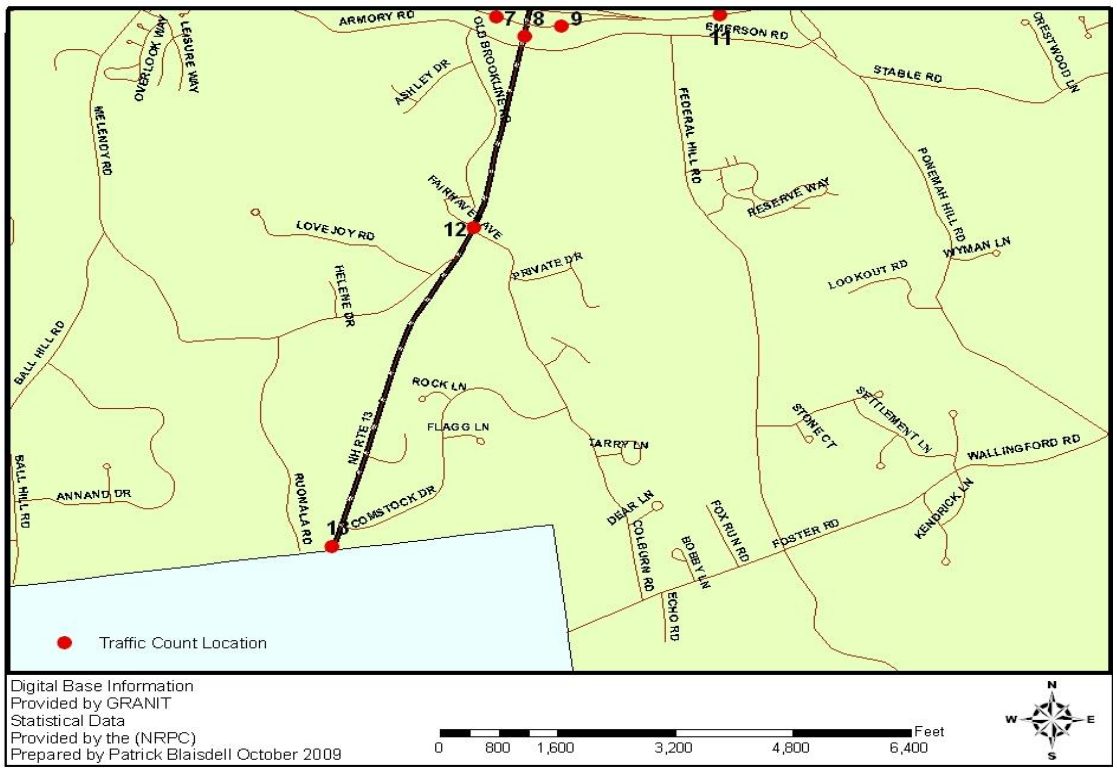

Figure 31 Traffic Count Locations South of RTE 101 Intersection.
(Source: Traffic Count Data 2009).

Analysis of the estimated 2009 total traffic volume and spatial distribution of each traffic counter encompassing the corridor, the RTE 101 intersection, and roads connecting to the corridor reveals the levels of utilization within this region. Traffic counters 1, 2, 3, 4, and 5 ranged from 2,258-7,246 average vehicles per weekday. This degree of corridor utilization can be directly attributed to patrons seeking access to the Oval and RTE 101 for efficient access to various regions of the state. Further examination of traffic counters 1 and 3 disclosed considerably higher rates of utilization which can be directly linked toward the presence of densely packed buildings. Analysis of traffic counters 6, 7, 9, 10, and 11 reveals numerous variations of transportation dependence toward RTE 101. Traffic counters 6 and 7 ranged from 1,534-1,720 average vehicles per weekday implying that residents of Milford rarely travel to the smaller towns of western New Hampshire. Traffic counters 9, 10, and 11 ranged from 5,231-29,234 average automobiles per weekday. One logical examination for these substantially higher numbers can be directly related to residents of Milford traveling to the larger cities of eastern New Hampshire for commerce and work (Traffic Count Data 2009).

Examination of traffic counter locations 8, 12, and 13 ranged from average traffic volumes per weekday of 9,868-14,252. These relatively high numbers can be directly related to the industrial and commercial organizations located south of the RTE 101 intersection. Another rational measure of these numbers is that single family residents of Milford and citizens of Brookline seek access to RTE 101 or the Oval. The estimated 2020 traffic volumes of these traffic locations reveals that these numbers will nearly double in the next decade. Comparison of the estimated 2009 and 2020 average traffic volumes per weekday for each traffic counter location is displayed in Figure 32. Overall, these variations in the forecasted traffic volumes

relating to the corridor justify the immediate need for transportation improvements along this rapidly developing byway (Traffic Count Data 2009).

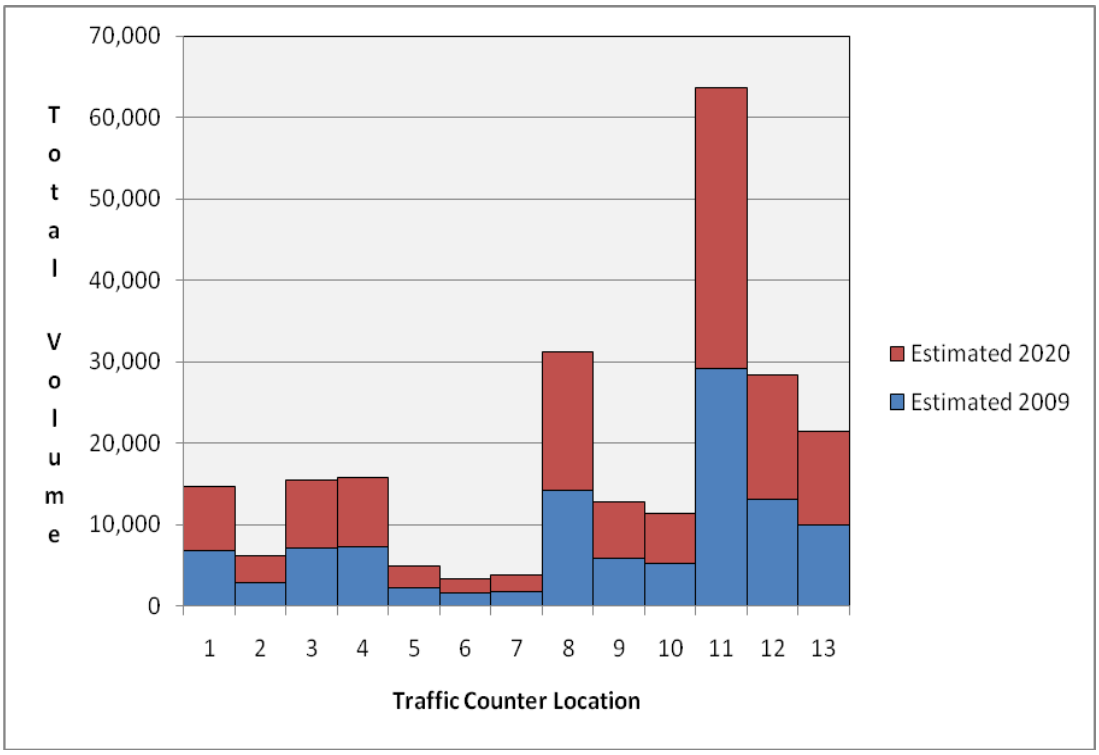

Figure 32 Estimated Traffic Volume During Average Workday 2009 and 2020. (Source: Traffic Count Data 2009).

One notable repercussion of traffic congestion is car accidents. The principal causes of the high fatality rates of accidents are likely related to drivers being unattentive to their surroundings. These impaired drivers are often indulging in telephone conversations, drinking coffee, or switching the radio station as opposed to paying attention to their situation. This is a common theme along a high volume and high speed capacity road such as South Street/RTE 13 South, impyling these drivers tend to increase speed and are less courteous. Identifying the spatial distribution of accidents along the corridor potentially reveals variation in these public safety issues (New Hampshire Route 101 Corridor Plan Amherst, Milford, and Wilton Final Report 2002, 15-20).

The dismal subject matter of reporting car accidents in Milford is administered through the Town of Milford Police Department. Between the years 2004-2008 there were 94 total reported car accidents along the corridor. After analyzing the complied report by Captain Stephen Toom, it was confirmed that there was 33 reported accidents occurring along South Street and 65 misadventures along RTE 13 South (Toom 2009).

One logical explanation for the relatively lower accident rates along South Street can be linked to the relatively narrow width and an enforced speed limit of 35 miles per hour. Contemplating the considerable higher reported accidents along RTE 13 South could be directly associated with the enforced speed limit of 50 miles per hour and a higher concentration of travelers seeking access to RTE 101 from the south. Figure 33 illustrates the overall percent of reported accidents along the two sections of the corridor. Overall, these bleak statistics advocate the need for the reconfiguring of sections along the corridor to minimize these catastrophes (Toom 2009).

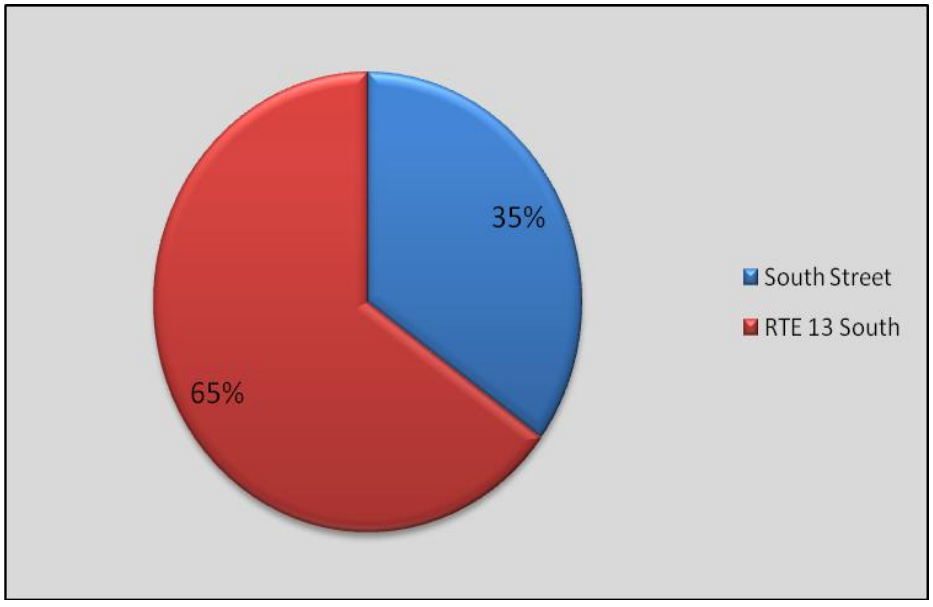

Figure 33 Percent Accident Occurrences along South Street/RTE South 2004-2008. (Source: Toom 2009).

B. Pedestrian/Bicycle Amenities

As the rapid improvement in automobile technology persistently improves, people are less inclined to expend physical energy for a method of transportation. This has directly impacted a considerable increase in traffic congestion, pollution, and fatal accidents. Current planners intending to deter these effects through feasible pedestrian accommodations have occasionally been hampered by high suburban setbacks. Encouraging people to get out of the automobile and on to their feet is directly related to the extent of pedestrian friendly accommodations within a particular byway. Identifying the current pedestrian and bicycle accommodations along a specific corridor can ultimately determine the alternative modes of transportation utilized. Assessing this issue essentially allows planners to devise and implement increased pedestrian and bicycle amenities to reduce these adverse concerns of increased automobile usage (Porterfield and Hall 1995, 92-93).

This process is addressed to determine the current pedestrian and bicycle facilities along the South Street/RTE 13 South corridor. The spatial trends, variations, and types of all these alternative transportation elements are analyzed into various segments of the corridor. The interaction between these alternative transportation routes toward the corridor is taken into consideration to identify potential confliction points. Ultimately, this outline to the current pedestrian and bicycle accommodations of the South Street/RTE 13 South corridor determines the level of implementation within certain regions of the thoroughfare.

Analysis of the existing pedestrian utilities from the Oval south to Lincoln Street consists of five foot asphalt sidewalks on either side with four feet sideways at the intersections running up High and Clinton Street. From Clinton Street to Lincoln Street there are painted sidewalks to

safely maneuver past this busy intersection. The width of the curbs in this region range from four to eight inches containing rolls at the intersection of access points. There are currently three crosswalks within this region, two connecting High Street to South Street and the remaining crosswalk located at Lincoln Street. There are currently no feasible means of bicycle transportation within this section of the corridor. Another deterring factor for bicyclists is that the Town of Milford mandates no bicycles are to be ridden on any region of the sidewalk due to safety issues. Figure 34 illustrates the relative width of the sidewalk and shoulder along South Street near Lincoln Street (Bill Parker, Personal Communication, 2009).

Figure 34 Sidewalk Along South Street, Near Lincoln Street Intersection (Source: Authors 2009).

Examination of pedestrian and bicycles accommodations from Lincoln Street to the RTE 101 intersection reveals considerably less alternatives means of transportation compared to

the previous section. Beginning at Lincoln Street, the sidewalk on the west side of South Street abruptly ends. However there is a two sided sidewalk located at the intersection of Prospect Street allowing safe access to the scores of multi family residential houses. The sidewalk on the east side on South Street is continuous in nature until reaching Papa Joes Humble Kitchen Restaurant located within the vicinity of Marshall Street. Bicycles are permitted to utilize the shoulder extending toward the RTE 101 junction. Bicyclists and pedestrians are also encouraged to utilize the Granite Rail Trail located at the entrance of the Public Works Headquarters. This nearly three mile trail runs from the Highway Garage on South Street and extends past the Brookline town line. Figure 35 depicts the physical appearance and secluded atmosphere of the Granite Rail Trail.

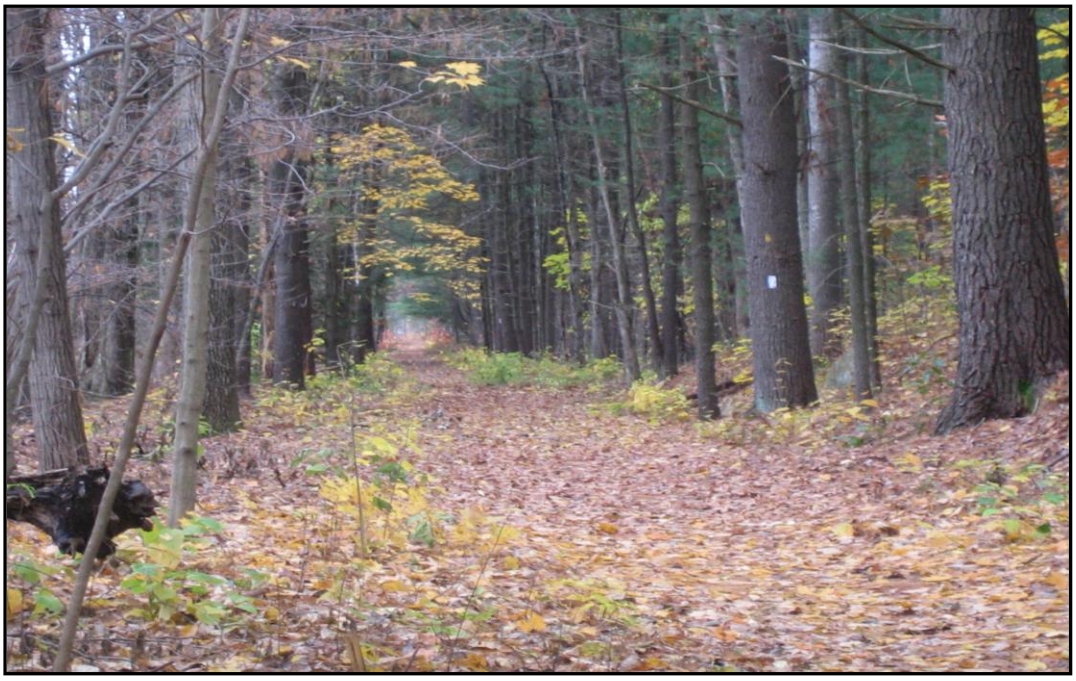

Figure 35 Trail Head of the Granite Rail Trail (Source: Authors 2009).

Analysis of pedestrian and bicycle facilities ranging from the RTE 101 intersection to the Brookline town line reveals a lack of pedestrian and bicycle friendly accommodations. The only

feasible means of this alternative for pedestrian and bicycles along this transportation route is the dirt shoulder ranging from roughly two to eight feet. Multiple regions of the shoulder are abutted by grass on the right hand side enhancing the sense of enclosure. Figure 36 portrays the relative composition and width of the shoulder along RTE 13.

Figure 36 Shoulder Along RTE 13 South, Near Old Brookline Road (Source: Authors 2009).

With the exception of the pedestrian and bicycle amenities extending to the Oval to Lincoln Street, there is a tremendous deficit of these vital means of alternative transportation. This ultimately relays the need for a number of pedestrian and bicycle amenities action projects. The construction, maintenance, and reconfiguration of these accommodations may ultimately relieve traffic congestion along this high volume byway. Figure 37 and 38 illustrate the spatial distribution of the various pedestrian and bicycle utilities parallel of the corridor. Overall, these visual components need to be taken into consideration toward devising viable solutions toward promoting this cause.

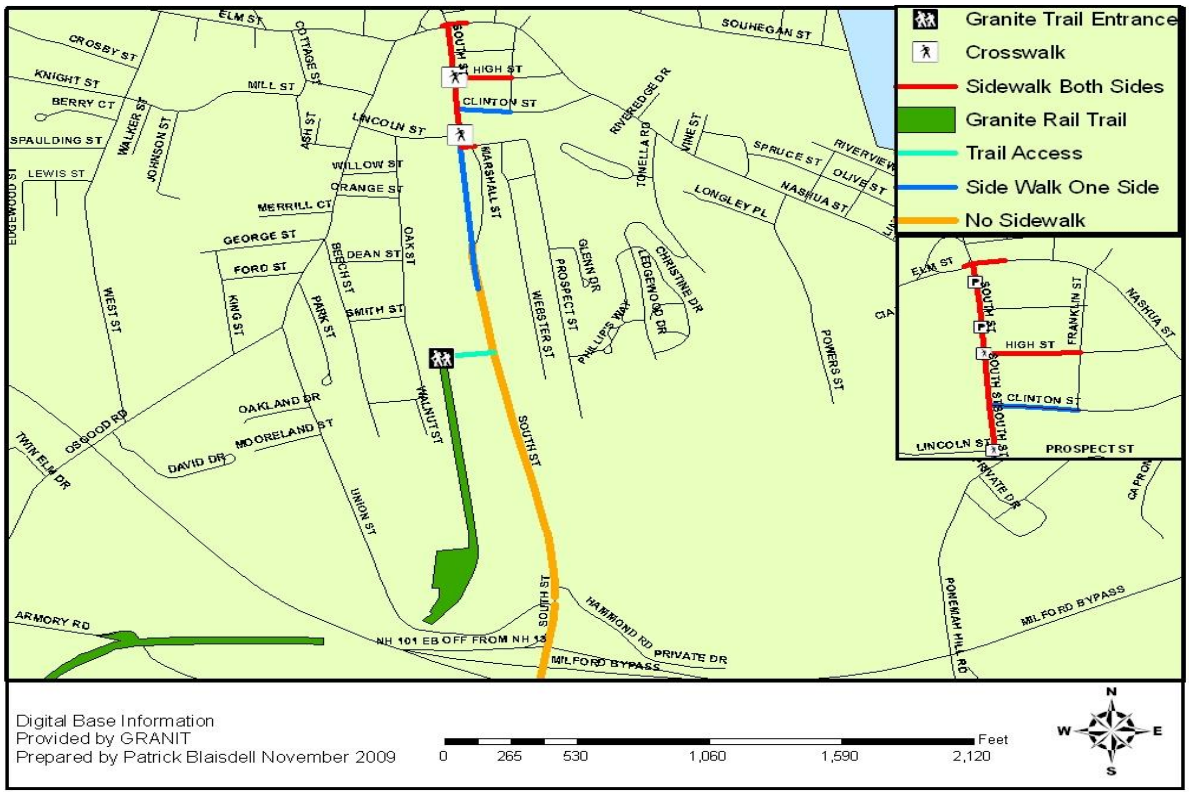

Figure 37 Pedestrian and Bicycle Accommodations North of the RTE 101 Intersection.

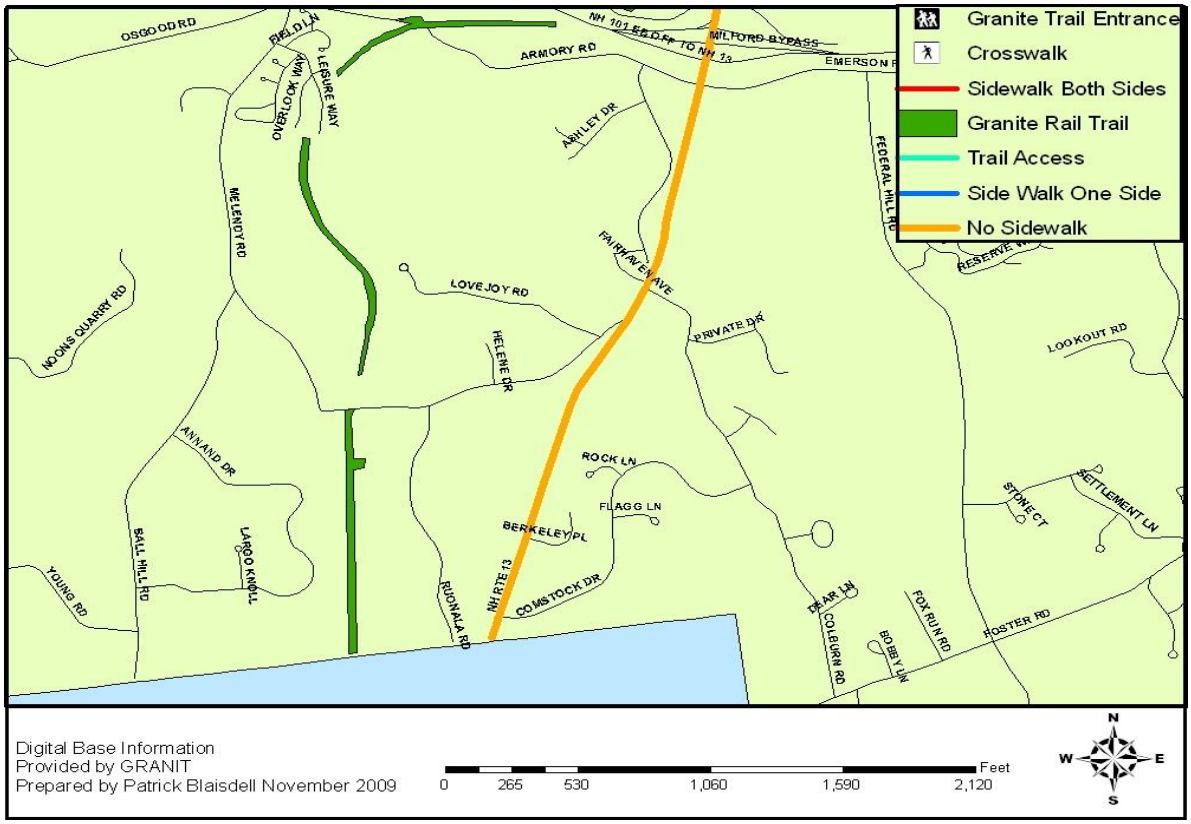

Figure 38 Pedestrian and Bicycle Accommodations South of the RTE 101 Intersection.

C. Corridor Visual Analysis

One accurate method for acquiring important insight of the physical conditions of the South Street/RTE 13 South corridor is to assess a number of notable transportation conditions. To complete this task, a structural survey was devised to disclose the environment, alternative means of transportation, utilities, and conditions of the corridor. The first section of the survey consists of physically assessing various conditions and presence of specific attributes of the corridor. The second piece was comprised of subjectively assessing the extent of safety, development potential, and congestion. A template of the various assessments can be located within Appendix B. The data collection process consisted of walking along the sidewalks and shoulders of the corridor with the group negotiating on the assessments. Figure 39 portrays the approach toward evaluating the corridor in action. Overall, this survey provides valuable information toward devising feasible solutions toward improving the corridor.

Figure 39 Relative Method of Assessing Corridor (Source: Authors 2009).

In order to limit bias in the physical and subjective assessments within the structural survey, the corridor was broken into numerous stretches of roads based on similar trends. Initially, the corridor was characterized into three study areas based on the zoning districts of the region. Various segments of the study areas were then divided based on similar means in land usage, environment, alternative means of transportation, utilities, and road condition. The existing Town of Milford zoning map provided tremendous assistance toward accurately assessing the spatial location of all regions of the study areas. Figure 40 illustrates the three main study areas and segments assessed along the South Street/RTE 13 South corridor. Each study area and segment is analyzed to supplement the extent of development potential along the corridor.

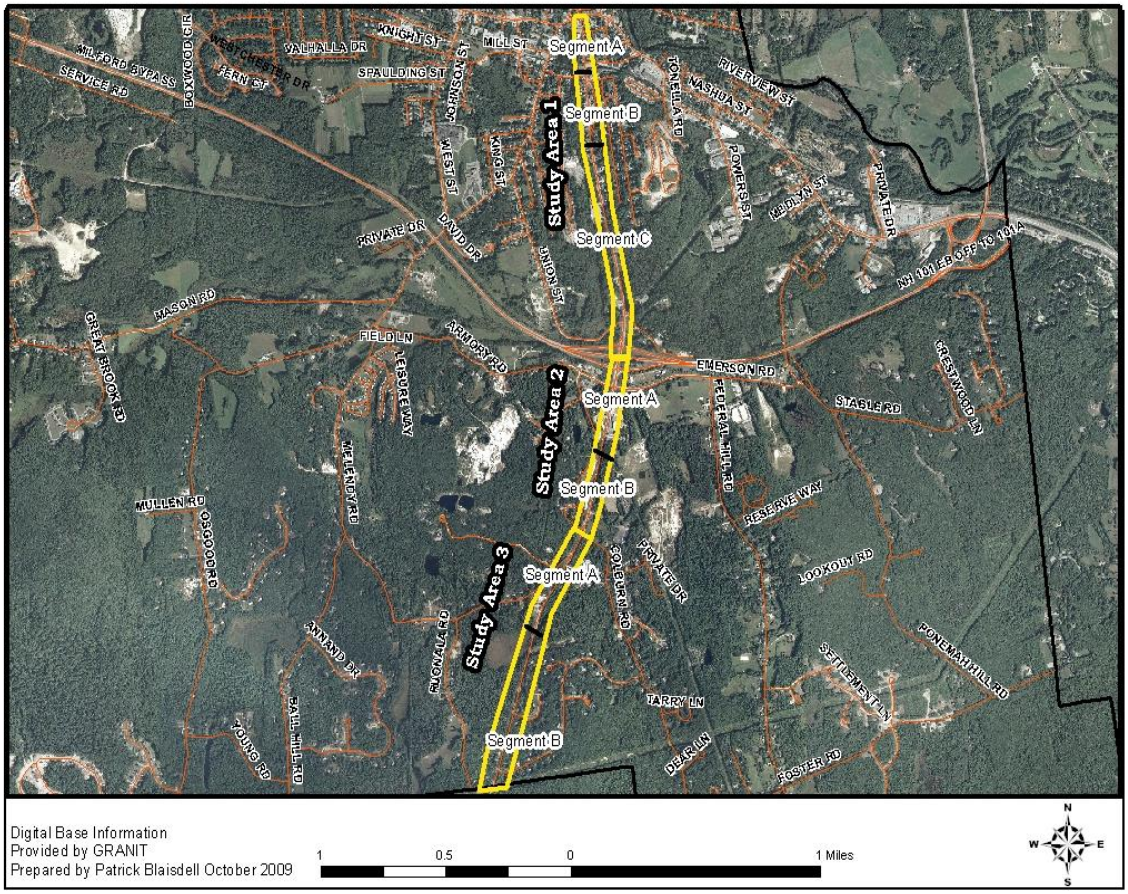

Figure 40 Assessed Study Areas and Segments.

The initial physically and subjectively assessed region of the corridor was Study Area One, ranging from the Oval, south to the RTE 101 bypass. This study area was then divided into three segments areas based on similar physical features. The first examined segment extends from south of the Oval to Lincoln Street. The overall physical composition of this segment reveals a high concentration of developed land and traffic. A number of the buildings are Victorian homes adaptively reused for multifamily residential housing. These densely packed homes and numerous commercialized businesses are supplemented with walkways on both sides and crosswalks. Examination of the physical conditions of the sidewalks varies from good to poor. Figure 41 illustrates the relative complexity of this segment located at the High Street intersection. Other prominent assessments pertaining to this segment can be located within Appendix C. Overall, it was deduced that this segment has a considerable low level of development potential due to the scores of preexisting buildings.

Figure 41 Study Area 1 Segment A, High Street Intersection Looking South (Source: Authors 2009).

The second segment of the study area ranges from Lincoln Street to Papa Joes Humble Kitchen located near Marshall Street. This section can be categorized as slightly less congested with buildings and a higher presence of vegetation. The sidewalk on the eastern half of South Street abruptly ends with a number of trees providing a sense of enclosure. The lack of way finding and crossing aids inhibit the level of comfort along this segment. Toward the end of the section, there is slightly more vegetation with a fair amount of trash on the edge of the sidewalk. The condition of the road is lackluster with a number of cracks and holes inhibiting traffic efficiency. The width of the street steadily widens from the absence of low setbacks. Further description of this assessment can be located within Appendix D. Figure 42 illustrates the magnitude of diversity of the physical conditions of this segment located at the Lincoln Street. Overall, the level of development capability along this segment is considered to have a fair amount of potential from the number of large lots which could be subdivided.

Figure 42 Study Area 1 Segment B, Lincoln Street Intersection Looking South (Source: Authors 2009).

The third segment of this study area begins at Marshall Road and ends at the RTE 101 overpass. This segment is dominated by broad views of rolling hills and abrupt dips amongst the shoulder. The absence of a sidewalk, compensated with a five foot shoulder, aided in the assessment of a low level of safety. The deficiency of road intersections along this segment contributed in the sparse amount of single family residential homes, municipal facilities, and commercial outlets along the corridor. After the Public Works Department, heavy vegetation and wetlands dominate the landscape aiding in the scores of vacant lots. This physical character is continuous in nature until the end of the RTE 101 intersection with traffic islands restraining the speed of the persistent traffic volume. Further analysis of the subjective and physical assessment of this segment can be located in Appendix E. Figure 43 illustrates the considerably wide road and heavy vegetation encompassing the segment. Overall, the physical conditions and scores of vacant lots abutting this segment bestow a strong possibility for development.

Figure 43 Study Area 1 Segment C, Just North of RTE 101 Intersection Looking North (Source: Authors 2009).

The second study area assessed ranged from the RTE 101 bypass to Colburn Road consisting of two segments encompassing the intergraded commercial-industrial zoning district. The first segment follows the RTE 101 overpass to Old Brookline Road. Initially this segment is dominated by heavy traffic seeking access to RTE 101. The medians separating the generic clover shaped intersection are landscaped will grass hills. A slight slope steadily rises past the predominance of dense strips of mini storage units, tractor, and recreation outlets. The lack of adequate crossing aids and sidewalks at this intersection poses a considerable safety concern. Further examination of this segment can be observed within Appendix F. Figure 44 portrays the mass commercialization and high traffic volume raised upon a hill. Overall, the evaluation of the physical attributes of this segment divulges a relatively low development potential from the densely packed commercialized industries.

Figure 44 Study Area 2 Segment A Just North of RTE 101 Intersection Looking South (Source: Authors 2009).

Analysis of the second segment of Study Area Two extends from Old Brookline Road to Colburn Road. This region of the corridor can be a categorized as a moderately dense forested region with scattered commercial and residential structures. This section initially begins at the summit of a hill then gradually flattens out. Examination of the physical conditions of the road and buildings of the section reveals they are in excellent condition. The final region of this section was scattered with upscale single family residential housing. The prevalence of thick brush and granite ledges in this region reduces the potential for development of nearby infill sites. Further examination of other specific physical and subjective assessment of this section can be analyzed within Appendix G. Figure 45 illustrates the overall trends of commercialized businesses and forested regions of this section. Overall, the examination of the physical attributes of this region of the corridor reveals a moderate level of developmental capability.

Figure 45 Study Area 2 Segment B, Just North of Old Brookline Road looking South (Source: Authors 2009).

The final physical and subjective assessment of the South Street/RTE 13 South Corridor classified as Study Area Three runs from Colburn Road to the Brookline town line. The first of the two sections evaluated extends from Colburn Street to the Roach Wildlife Preserve. The speed increase from 35 to 50 miles per hours produced a predominance of high volume traffic. The relatively narrow shoulders along this section were supplemented with town maintained landscaped edges. Pressing further into this section reveals dense forest scattered with single family residential housing. Further examination of the specific subjective and physical evaluation of this section can be identified within Appendix H. Figure 46 reveals the overall physical landscape of study area A segment 1. Overall, it is concluded that there is a moderate level of development potential from the numerous single family residential homes which can possibly be subdivided.

Figure 46 Study Area 3 Segment A, Just North of Colburn Road Looking South (Source: Authors 2009).

The final section of this study area extends from the Roach Wildlife Preserve to the Brookline town line. This portion of the corridor can be categorized as heavily forested with a number of mobile homes, single family residential homes, and numerous vacant lots. The gravel shoulder along this section is between two and five feet which endows a sense of safety. Beginning at the Roach Wildlife Preserve, the road remains persistently flat until the high transmission line before the Brookline town line servicing the patrons of the region. Appendix I summarizes the various physical and subjective assessments of Study Area Three segment b. Figure 47 reveals the relative scarcity of buildings and numerous amounts of open land looking north from the Brookline town line. It is concluded that this section has a low amount of development potential due to the elegant single family residential homes that may be reluctant to subdivide their land. Ultimately these physical and subjective assessments serve as a guide to recognizing the developmental potential of the corridor.

Figure 47 Study Area 3 Segment B, at Brookline Town Line Looking North (Source: Authors 2009).

These informative results, from analyzing the various existing and forecasted transportation issues of the South Street/RTE 13 South corridor, reveal the need for public works improvements along this thoroughfare. As development consumes portions of the lots adjacent to the corridor, addressing the needs of the community will substantially complement the formulation of an effective action plan. Ultimately these fundamental components will inspire the general community to gain a sense of accountability toward meeting these essential goals for the future without sacrificing the character of the Granite Town.

Chapter VIII: Analysis of Survey

A. Analysis of Personal Insight

In order to accomplish a comprehensive analysis of the South Street/RTE 13 South corridor, a survey was implemented to obtain the views of Milford town officials both upon this specific stretch of road and the town of Milford itself. The survey experienced several revisions prior to its distribution amongst the target population and may be viewed in Appendix J. The survey was completed by 68 Milford Selectman, Planning Board, Zoning Board of Adjustment, Conservation Commission, Economic Development Advisory Council, Heritage Commission, as well as 16 Department Heads. The surveys were distributed by Town of Milford Community Development Director Bill Parker to the various officials and were obtained via pick up of hardcopies in Milford and Email. The questions employed in the survey were constructed in way as to provide an inside look to specific goals and expectations of town administrators. It was conferred toward the target group that this survey is not intended for the general public, and that their responses are entirely anonymous. Town Officials and Administrators were chosen due to their overriding impact upon the infrastructure of Milford and their proven knowledge of the subject at hand.

After obtaining the returned surveys, the next step was to analyze the responses given by the participants and search for any statistically significant differences or similarities within the data. All of responses to the survey questions were meticulously counted and recounted providing numerical data in which statistical programs could be applied for a better understanding of the results. This numerical data were then compiled based upon the question and the response. In order to compare and contrast this data the computer software program SPSS was employed to illustrate these statistics. SPSS is a program in which variables are

identified followed by the input of data for each variable. The program then offers an array of statistical tests of which the user chooses the test that best coincides with the input data.

The survey intent is to acquire a general reason to why the participants lived in the town and their overall utilization habits of the South Street/RTE 13 South corridor. The participants could choose any or all of the eight different choices provided; small town atmosphere, sense of community, close to local employment, affordable housing, family roots, education, easy commute out to work outside Milford and other (see Figure 48). The most popular category or reason of the eight was the small town atmosphere that coincides with Milford. This was followed closely by the sense of community of the town. Next the utilization habits of the participants were taken into consideration; why are residents and non-residents alike using the South Street/RTE 13 South corridor (see Figure 49). The figure shows that though all reasons played a role in why these people utilize the corridor.

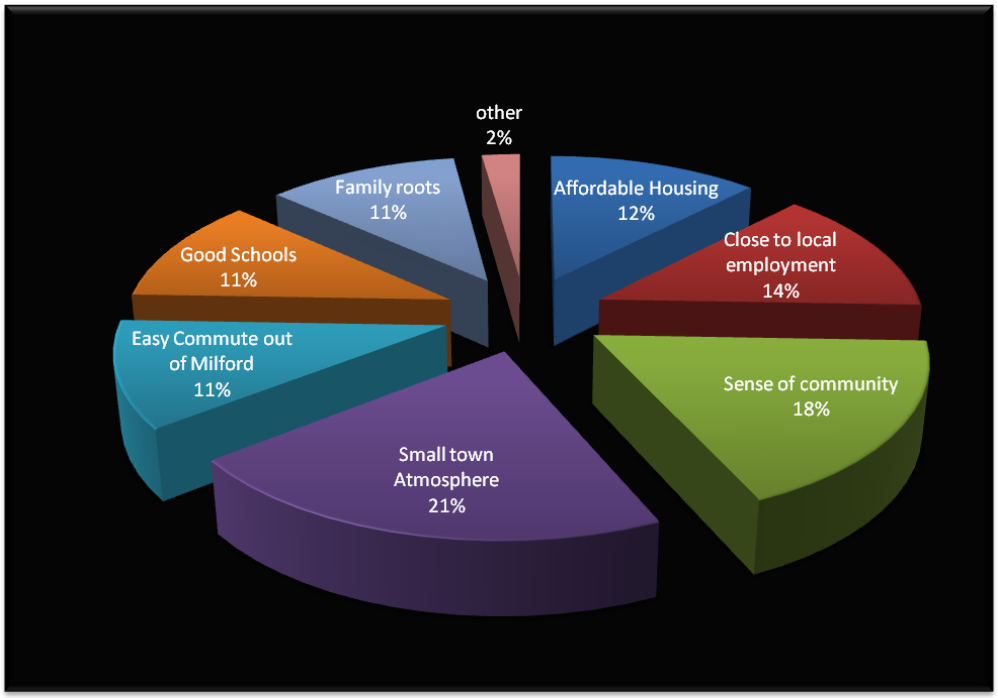

Figure 48 Reasons For Residing in Milford.

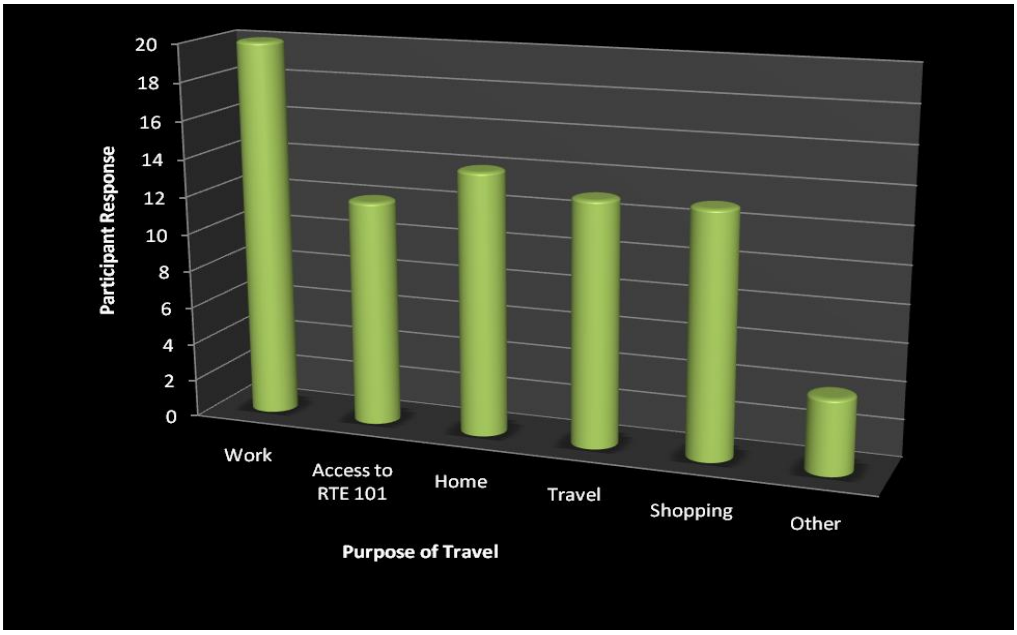

Figure 49 Utilization Habits of South Street/RTE 13 South.

B. Examination of Descriptive Statistics

The survey consisted of fifteen open ended and closed response questions. In order to obtain a general feeling towards a certain subject or idea the use of the likert scale was employed. This scale requests the participants' specific attitudes towards a certain subject; does the person strongly agree, agree, have no opinion, disagree or strongly disagree. Accompanying this statistical rating system there were two different statistical tests employed. The first was a Chi Square Test which is used to test for a statistical significance between two coinciding variables. The second was a Two Sample Difference of Means test, intended to test for a statistical significance between a control variable and an independent variable. The Chi Square test was used for one of the survey questions and the Two Sample Difference of Means test was used for two different questions, and aided in the statistical comparison between these questions and the responses.

The first statistical test implemented was a Chi Square test regarding the economic status of the town. The test was solely based upon opinion oriented answers in which the participants could choose how they personally conceived the economy of Milford. The economic choices provided were *Stable*, *Prosperous*, *Declining* or *Other*. Each category was counted for how many times it was chosen and if it was chosen more than once each category received a point. Chi Square was applied in order to test for statistical significance between the number of responses and the differing economic categories, the results of which can be viewed in Table 3. The results show that the perception of the economy of Milford is statistically significantly with a significance level of .000 meaning the opinion that Milford is a stable town is irrefutable. The same outcome can be viewed in Figure 50.

Table 3 Chi Square Test Results for Economic Perception of Milford.

Perception	Observed N	Expected N	Residual	Assumed Sig.
Stable	28	9.8	18.2	.000
Prospering	2	9.8	-7.8	
Declining	7	9.8	-2.8	
Other	2	9.8	-7.8	
Total	39	N/A	N/A	

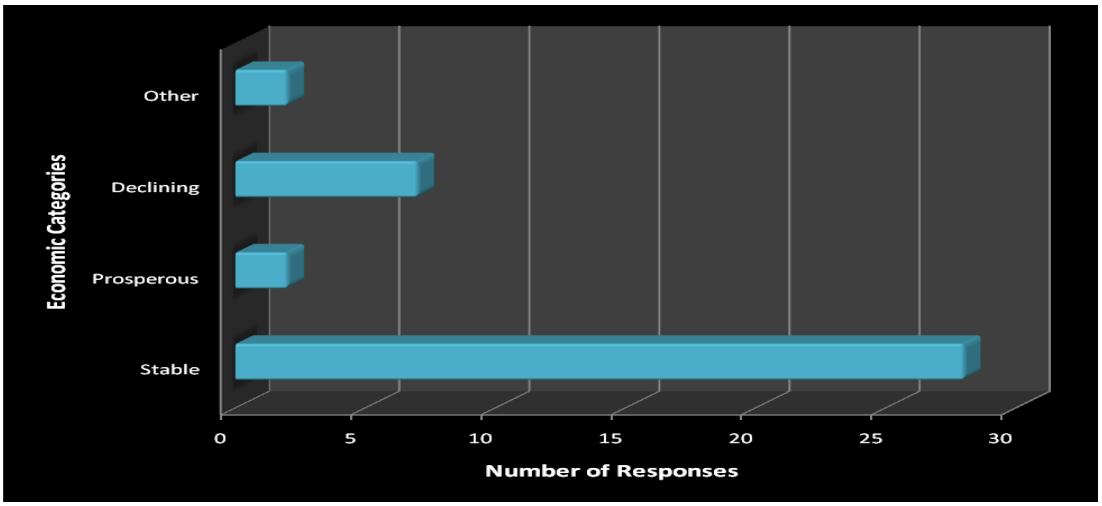

Figure 50 Percent Perceived Economic Status of Milford, New Hampshire.

The results of the Chi Square test (table 3) and Figure 50 were visually compared to the fourth likert scale statement on the back of the survey. This statement requests the overall personal rating to the idea of "A positive increase in economy within Milford will ultimately encourage developmental projects along South Street/RTE South". The participants were given 1-5 ratings from which to choose how they felt about the statement; *Strongly Agree* (1)*, Agree* (2)*, No Opinion* (3)*, Disagree* (4)*,* and *Strongly Disagree* (5). The surveys were then divided into two groups, residents of Milford and non-residents. This is done in order to provide a control variable for the two sample difference of means test. The independent variable is supplied by the ratings and each number of responses they received.

The results from the descriptive group statistics determined that of the 26 residents who participated, 25 of them agreed. Also, of the nine non-residents, all agreed that a positive change in the economy of Milford would induce development of the South Street/RTE 13 South corridor. Therefore the two sample difference of means test concluded with a significance level of .444 that there was not a significant difference between the feelings of the Residents opposed to the feelings of the Non-Residents. This illustrates that both groups are in agreement that should Milford experience a positive economic change, potential commercial or residential development may occur along the South Street/RTE 13 South corridor.

Table 4 Two Sample Difference of Means Results for Positive Economic Change and Development Along South Street/RTE 13 South.

Residency	Total	Mean	Standard Deviation	Sig 2 Tailed
Resident	26	1.61	.57	.444
Non-Resident	9	1.77	.44	

New development along a corridor implies the need for the rezoning of already existing land parcels within the potential developmental area. The rezoning of land parcels along a corridor may ignite some negative attitudes amongst landowners who disagree with the change. In order to gather a general attitude consensus towards the rezoning of area along South Street/RTE 13 south, the second likert scale statement on the back of the survey was analyzed (Appendix j). The statement "The town of Milford should consider rezoning specific land adjacent to South Street/RTE 13 South to foster development" advocates a general attitude of residents and non residents upon the subject of rezoning within the corridor. The response ratings may be viewed in Table 5.

A two sample difference of means test was applied once again to determine if there is a significant difference between the attitudes of Residents and non-Residents. The residency of the participants was the control variable and the test variable was the response numbers. The results concluded that non-Residents were more opposed to the rezoning of the corridor compared to the Residents of the town. However with a significance level of .094 the opposition is apparent but not statistically significant, see Table 5. When the specific attitudes were examined it was noticed that almost half of the town Residents *Strongly Agreed*, while only one of the non-Residents had the same response. The broad attitudes expressed by the non-Residents could be interpreted as they do not live in the town therefore the rezoning does not directly affect them. Further analysis of Table 5 conveys that the Residents of the town interested and intrigued by rezoning and the potential developmental change of the South Street/RTE 13 South corridor.

Table 5 Independent Two Sample Difference of Means of Attitudes Toward Rezoning Corridor.

Attitude	Residents	Non Residents	Total	Sig 2 Tailed
Strongly Agree	11	1	12	.094
Agree	8	3	11	
No Opinion	5	3	8	
Disagree	1	2	3	
Strongly Disagree	1	0	1	
Total	26	9	35	

The tests that were employed along with the response results of the survey questions provide an insight to the attitudes of the town officials toward the future of the South Street/RTE 13 South corridor. The nature of the statements and questions must be taken into consideration. They were presented in a way as to suggest change but not that change was eminent or absolutely necessary. The overall consensus seems to be that whether the officials are residents or non-residents the majority are interested in a positive developmental change. This is supported by the results of the SPSS statistical analyses; which confirm that the Milford Town Officials are very interested in idea of potential development along the South Street/RTE 13 South corridor.

Chapter IX: An Effective and Efficient Vision for the Future

Persistent population growth and the current national economic crisis directly endows a substantial burden on available land, public safety, and transportation efficiency along the South Street/RTE 13 South corridor. The inflow of migrants seeking the attractiveness of a small town atmosphere and economic stability requires a sound economic development strategy to achieve the goal of incorporating sustainable developmental measures (Town of Milford Community Development Department 2009, 1-3).

Throughout the identification of various urban related conditions along the corridor, a number of provisions were conceived to achieve economic success. Evaluating the developmental limitations and capability ultimately resulted in the recognition of a number of suitable development sites. A number of land use and transportation recommendations were devised to prospectively implement. The extent of inaccuracy and future adjustments of this corridor study will be addressed to realistically assess the empowerment of this planning enactment. Overall, the proper incorporation of the notable recommendations concerning the development of the suitable plots can prospectively alleviate these detrimental concerns.

A. Developmental Capability of South Street/RTE 13 South Corridor

After extensive analysis of the existing land use ordinances, usage, natural constraints, proximity to RTE 101, and assessed parcel value of lots adjacent to the corridor, the potentially redeveloped and infill sites were identified. The spatial distribution and acreage of these optimum sites are examined to validate their prospective uses. Overall, this analysis, attempts to confirm the relatively high level of developmental capability along the South Street/RTE 13 South corridor affirmed by the Town of Milford Planning Board and Community Development Department.

Examination of parcels abutting the corridor north of the RTE 101 intersection reveals a conglomeration of suitable lots just north of the byway. There are currently six suitable lots inheriting large acreage, lack of natural constraints, feasible property value, and adequate land use designation. Their strategic location toward RTE 13 and 101 further complements strong possibility for development. It would be beneficial if the largest lot encompassing the biggest parcel was developed first which would spur an economically viable nucleus dispersing development potential to surrounding lots in the future. Figure 51 reveals the spatial distribution and size of suitable lots north of the RTE 101 intersection. Overall, there is a considerably high opportunity for redevelopment and development of infill sites within this portion of the corridor.

Analysis of parcels containing adequate criteria for development south of the RTE 101 intersection reveals seven lots which can potentially be developed. The suitable lots just south of the RTE 101 junction contain relatively high development potential from their conjoined nature. However the scattered nature of the lots farther south of the RTE 101 intersection bestows potentially less developmental opportunity. The two lots just above the Brookline town line are likely to be developed last due to their relatively small acreage and far distance away from the RTE 101 intersection. A number of these lots extend far back from the corridor which increases the development possibilities of these land tracts. Some of these parcels are classified as single family residential housing which hinders large scale development potential. Figure 52 conveys the disseminated location of developable plots south of the RTE 101 intersection. Overall, the realistic development potential of the lots abutting this section of the corridor varies by the spatial distribution of these parcels.

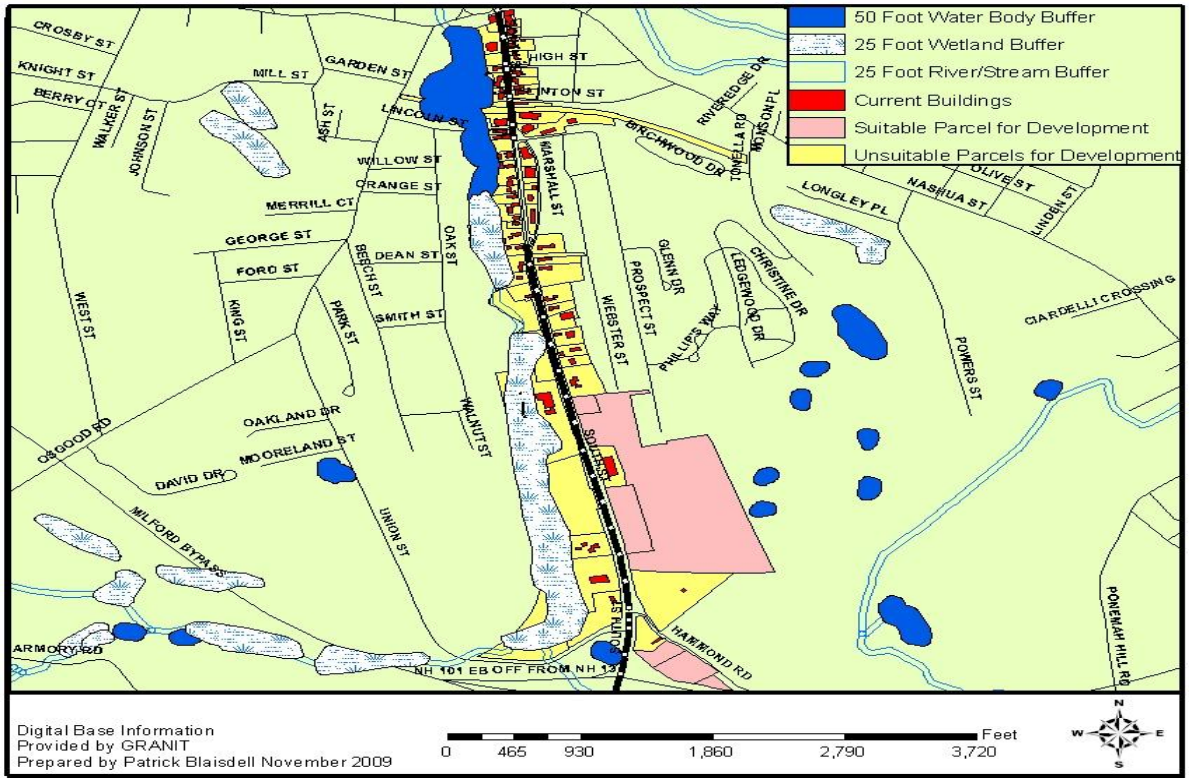

Figure 51 Suitable Developmental Parcels North of RTE 101 Intersection.

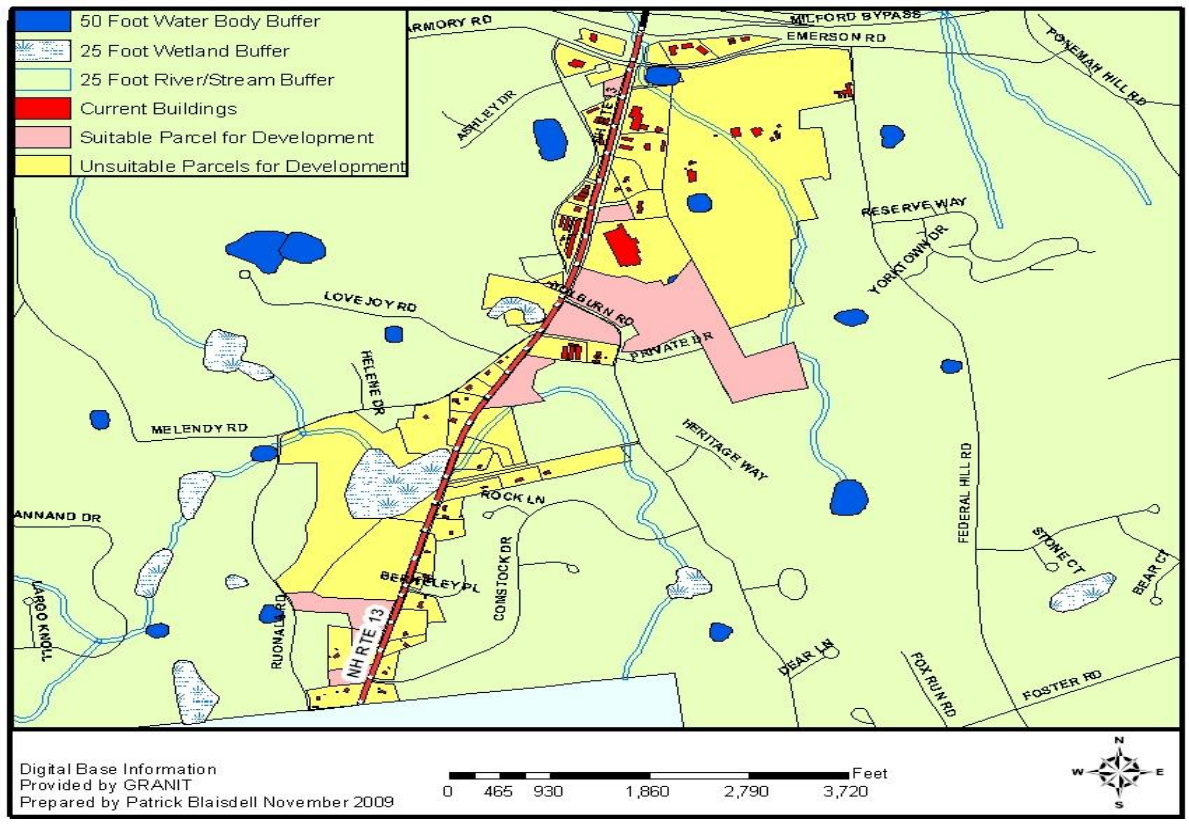

Figure 52 Suitable Developmental Parcels South of RTE 101 Intersection.

B. Recommendations to Foster Development

Although these optimal parcels have been indentified for future development, a number of initiatives must be ordained to successfully accomplish the extraction of these economic cornerstones. A number of viable recommendations benefiting the general community and private land owners holding the key to unlocking these essentials is exhaustively outlined. The most prosperous speculated utilizations of these infill and developable parcels is addressed to suffice the mandatory needs of the town. Properly accommodating the inevitable development of these parcels entails the mass initiation of a number of infrastructure improvement projects for the safety of the general public. Ultimately these solutions permit effective coexistence between the suitable parcels and the corridor.

One method to sanction these suitable parcels is reconstructing the property tax system to relieve the citizens of Milford and development investors from the current turbulent economy. The current property tax of 18.52% could potentially be reduced to the precedent rate of 17.49% to encourage development of the parcels. The process of incorporating this plan could see opposition from both state and county officials which could lead to the Town of Milford Board of Selectman appeasing these authorities for the best interests of Milford. Although this reduced levy may endow a deficit for education, public safety, income of officials, utilities, and other setbacks, the economic contribution from the imminent large scale development projects would thwart this potential fiasco (Town of Milford Master Plan 1999, 1-7).

One affirmative deployment pertaining to fostering development is rezoning portions of land which diversifies opportunities to maximize the utmost potential of the land. An effective

tailored method of this process is increasing the presence of integrated commercial-industrial zoning districts. This method could be applied for enclosing this zoning district within the suitable parcels located on the eastern side of the corridor north and south of the RTE 101 intersection. The most feasible utilization of this modification would be industrial parks offering both attractive design and economically sound benefits from their technological advanced services (Porterfield and Hall 1995, 153-160).

These developments require the proximity of affordable housing, universities, and similar land uses. The convenience of these preexisting attributes located within the vicinity of Milford bestows a strong possibility for these developments to prosper. Subsequently this would generate higher land value relaying increased property taxes and an influx of proficient workers requiring single family residential housing. This could be affirmed by revising current subdivision, site plan, and setback ordinances promoting subdivisions to occur upon the suitable parcels within the vicinity of the Brookline town line (Milder 1997, 39).

Another option for developing these infill sites could be retail intensities constituting a number of anchor stores and smaller regional stores. These outlets would essentially attract patrons requiring the services of these amenities. These structures would contain publically assessable pedestrian amenities promoting the Town of Milford to construct off street parking to accommodate these patrons. Figure 53 and 54 illustrates the recommended revisions toward extending the integrated commercial-industrial zoning district into the eastern side of the corridor. Overall, these invaluable recommendations prospectively encourage the development of these parcels to commence to aid the economy of Milford (Calthorpe 1993, 78-79).

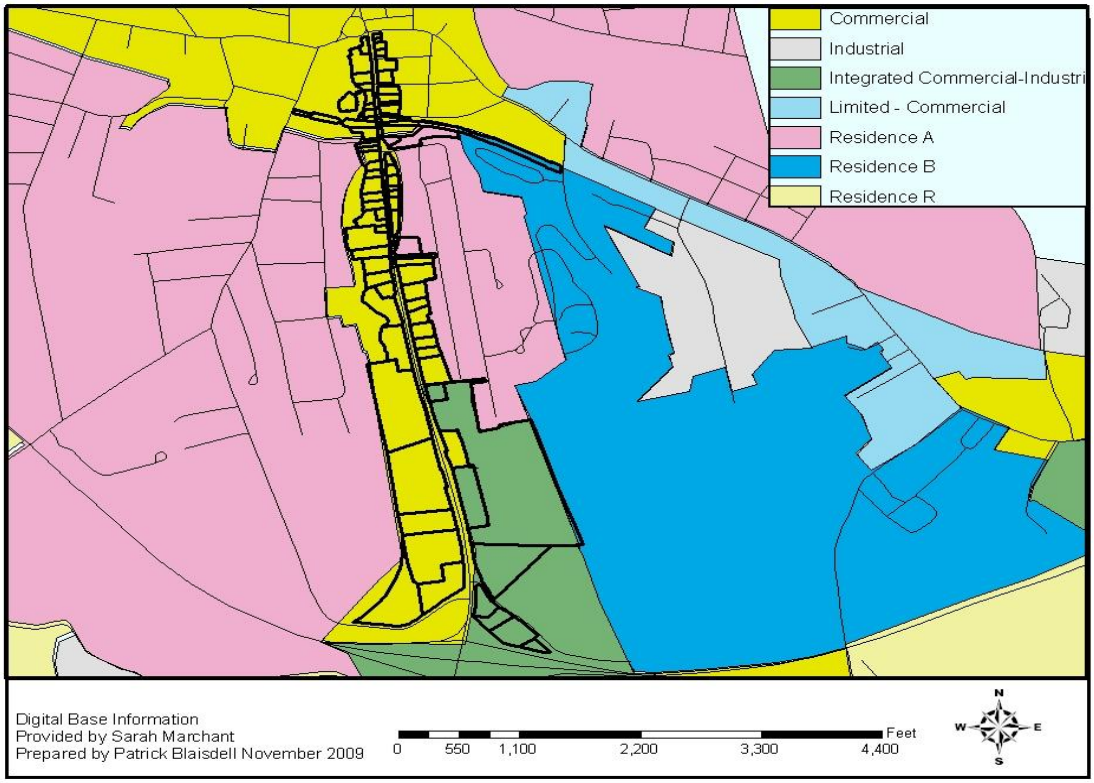

Figure 53 Recommended Rezoned Districts North of RTE 101 Intersection.

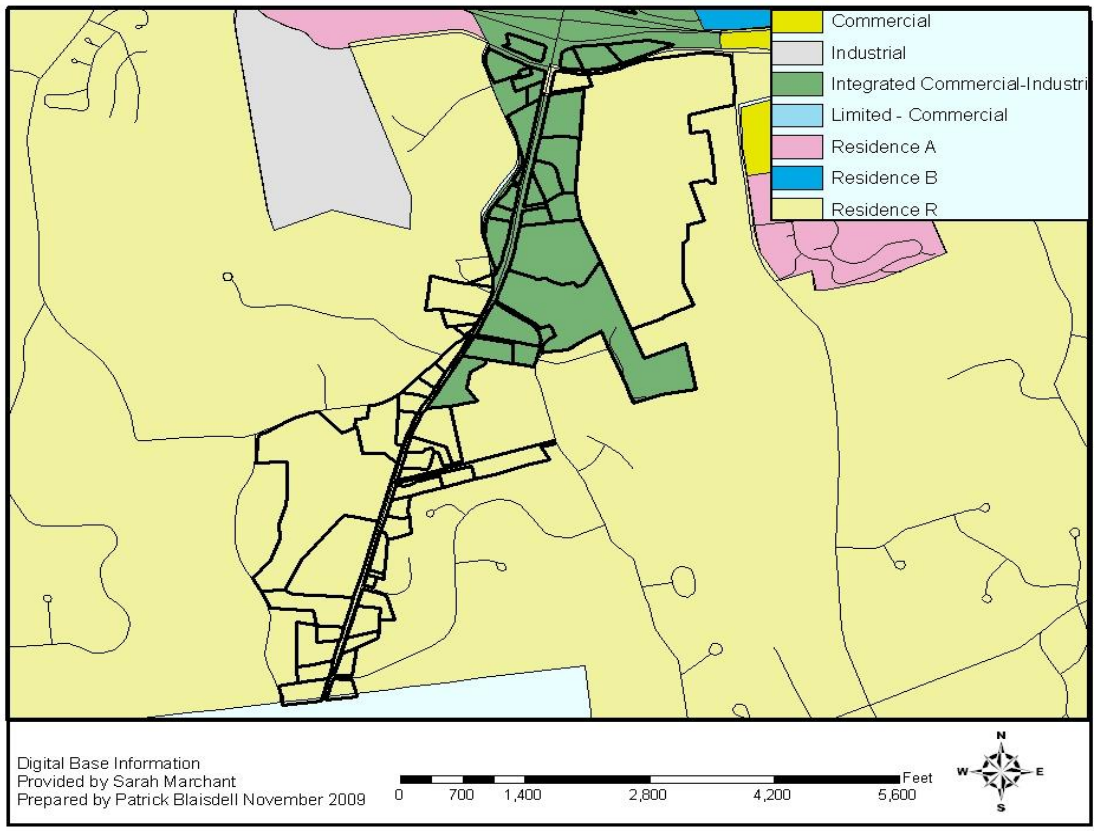

Figure 54 Recommended Rezoned Districts North of RTE 101 Intersection.

Although these large scale developments may bestow economic relief, through the presence of additional patrons seeking reliable access to these sites will possibly yield increased congestion. The recognition of the current attributes of the corridor spawned the conception of positive transportation visions instilling enhanced safety, efficiency, and aesthetics. The method of implementing these outlined solutions requires detailed drafting of site plans. Overall, these solutions advocate a more efficient and developmentally primed South Street/RTE 13 South corridor.

The initial scheme requiring immediate transportation reconfiguration commences from south of the Oval to the entrance of the Granite Rail Trail. Installing a landscaped traffic median enclosed with flowers and scrubs within the South Street/Elm Street intersection will potentially reduce traffic speed and present an attractive entrance into the corridor. The necessary straightening of this section of the corridor is currently undermined by low setbacks posing a considerable threat toward adequately reconfiguring the byway. Concurrently curtailing the inconsistent width of the street through avoiding these setbacks may be accomplished through excavating the current sidewalks and street. Ultimately, this conceptual plan aims to level out this section of the corridor while providing additional leeway to construct alternative means of transportation (Consulting Engineers 2009, 1-3).

This will essentially sanction the erection of a new street and walkway on either side of this section. Additionally Lincoln, Marshall, and the private street slightly below the Oval should be provided with new walkways on either side. These five foot sidewalks will be complemented with a one foot bike lane on the east side of the corridor which authenticates access from the Granite Rail Trail to the Oval. The resurfacing of the walkways located on High, Prospect, and

Elm Street will substantially increase the visual conception of this region. Painting crosswalks within the junction of Clinton, Prospect, Marshall, Granite Rail Trail, the new railroad path, and the private road just below the Oval, will increase the safety of pedestrians in the region. The conversion of the abandoned railroad track located slightly north of Bicentennial Park presents another viable alternative mode of transportation. Revitalizing this park by installing picnic benches, boat docks, trees, and water foundations will prospectively benefit the utilization of this iconic facility (Consulting Engineers 2009, 1-3).

Another imperative aspect of restoring this section is installing landscaped gateways reducing the sense of enclosure and promoting a more enjoyable stroll. However, attempting to achieve this vision is currently hampered by inadequate space. This can be compensated with the adoption of an ordinance requiring industrial and commercial businesses to plant landscaped gateways adjacent to the sidewalks. Planting native New England trees including Red Maple, Littleleaf Linden, and Skymaster English Oak are recommended to accurately depict the landscape. Another related method requires all single and multi residential homes abutting the sidewalks to frequently maintain their lawn (New Hampshire Route 101 Corridor Plan Amherst, Milford, Wilton Final Report 2002, 97-100).

All of these potential beneficial applications require the coexistence between private land owners and officials of Milford. Figure 55 displays the recommended transportation and visual improvement projects extending south of the Oval to the entrance of the Granite Rail Trail. Overall, the proper implementation of these provisions will considerably aid the transportation efficiency of this portion of the South Street/RTE 13 South corridor.

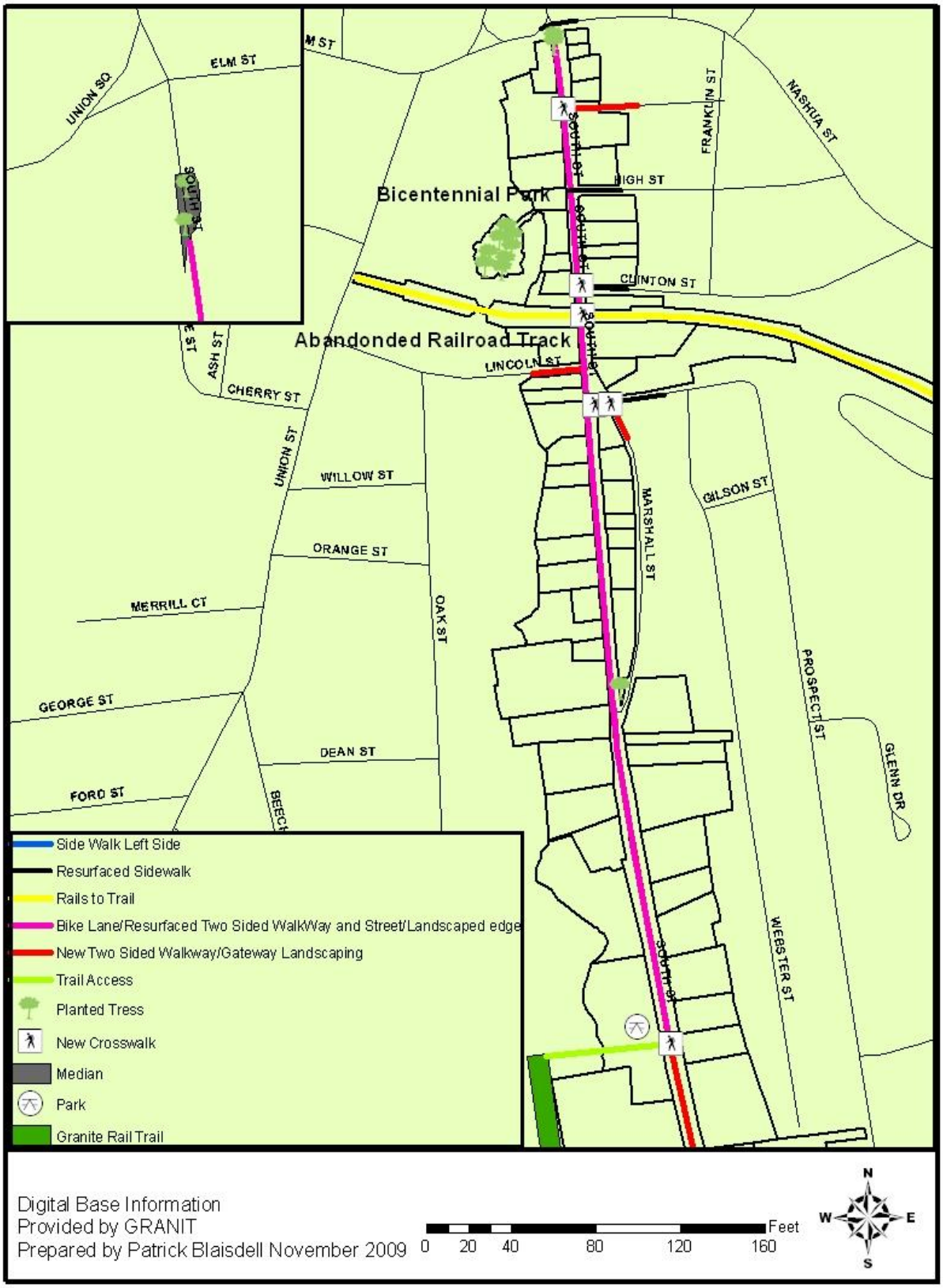

Figure 55 Infrastructure Improvements Oval to Entrance of Granite Rail Trail.

The second portion of the corridor advocated for reconfiguration ranges from the entrance of the Granite Trail to the Brookline town line. Due to higher setbacks and wider streets, desirable improvements of this region can be attained with minimal limitations. Installing walkways on either side of the corridor with landscaped gateways permits feasible accessible routes. However, this amenity will abruptly end roughly 500 feet south of Colburn Road from the number of natural constraints and single family residential homes which could potentially yield idle utilization. Constructing sidewalks along Union Street and Hammond Road will complement pedestrian transportation. Connecting a walkway on the left side on Union Street to the Granite Rail Trail endorses increased utilization of this recreational trail. Introducing crosswalks to the busy RTE 13/101 intersection ultimately increases safety and fosters activity within the local industries.

Another consideration of revolutionizing the composition of this stretch of highway is enhancing the visual character bestowing a more positive image of the Granite Town. A number of state administered lots and grass medians are currently composed of trimmed grass in this region. One solution of developing a more attractive intersection is planting native trees with dispersed wildflowers in these areas to add vibrant and colorful diversity. This viable vision would prospectively endow a sense of comfort toward arrival and departure from the numerous patrons relying on this crucial byway. Figure 56 depicts the conceptual plan for landscaping and infrastructure alterations ranging from the entrance of the Granite Rail Trail to the Brookline town line. Overall, these enhanced transportation and visual guidelines will compensate the increased utilization of the future (New Hampshire Route 101 Corridor Plan Amherst, Milford, Wilton Final Report 2002, 12-17).

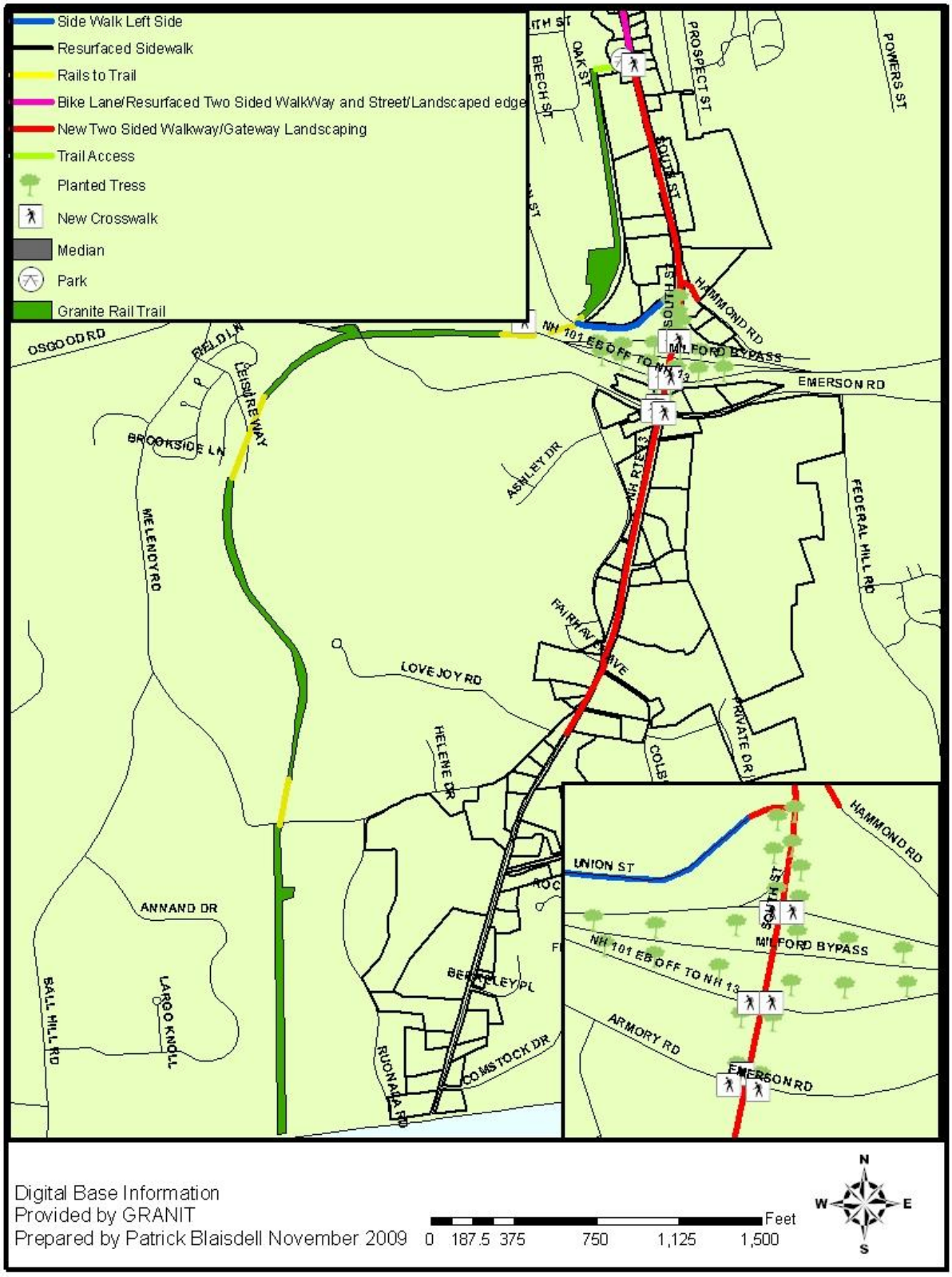

Figure 56 Infrastructure Improvements Granite Rail Trail Entrance to Brookline Town Line.

In order for these prospective solutions to become a reality, a substantial amount of revenue must be attained to fund the workers, resources, and design required for these projects. One prospective approach is submitting the conceptual recommendations to the New Hampshire Department of Transportation for appraisal toward the ten year program. This program identifies the level of immediate action, cost, practicality, and suggested funding alternatives to implement a particular project. There is currently 135 million dollars in state funding and 130 million dollars for the American Recovery and Reinvestment Act for Infrastructure improvements in New Hampshire. However a substantial portion of this revenue was already used to address notable road deficits of the state, presenting a current dilemma for these projects (State of New Hampshire 2009, 1-5).

This can be compensated by immediately submitting these conceptual solutions to Governor John Lynch and legislature for the adoption of a statewide transportation improvement program which will potentially relinquish adequate funding from the Federal Highway Administration. They will ultimately base their decision on possible sound economic contributions, accuracy of design, and minimal environmental impact on these solutions. Overall, this key initiative scheme is the only viable option permitting the proper adoption of these plans to complement the South Street/RTE 13 South corridor for the imminent growth of the future (State of New Hampshire 2009, 1-5).

C. Future Considerations

The intention of a corridor study is to analyze the existing and foreseeable conditions of a particular byway of a town to prepare for the challenges of tomorrow. Although extreme changes in these predictions through the years may yield inaccuracy toward the particular

corridor study. The only legitimate method of validating the accuracy of a particular corridor study is by contrasting the projected attributes to that same year in the future. Apparent deviations in these statistics would require the revisions of corridor studies to increase accuracy. Current corridors studies can also be complemented with different aspects diversifying the range of valid information. A number of these prospective future revisions were identified within the South Street/RTE 13 South corridor study and plan to update this imperative planning enactment.

Comparing traffic count data for each subsequent year until the year 2020 is one noteworthy method of assessing the accuracy of this corridor study and plan. This would ultimately reveal the extent of drastic differences between the estimated and current traffic volumes. Once these recommendations are commenced, a visual corridor analysis could be employed to contrast between the current and prospected design of these improvements. This would be supplemented by distributing surveys to a number of patrons utilizing these transportation projects and the new developments along the South Street/RTE 13 South corridor. This would ultimately reveal invaluable insight concerning their attitudes and overall approval of these monumental changes in Milford. These responses could then be compared to the insight from Town of Milford officials in the 2009 rendition of the corridor study and plan to test for significant differences between these findings.

Another potential future update of this corridor study would entail a comprehensive access management study evaluating the number and quality of these confliction points along the corridor. This would ultimately disclose if viable revisions of the current driveway and setback regulations of Milford should be implemented. Obtaining the precise location of

accidents along regions in the corridor could be correlated to access points. This would essentially reveal if major reconfiguration of these confliction points should be designed and incorporated. Ultimately these notable revisions of the South Street/RTE 13 South corridor study and plan will validate the progress and degree of success of this vital planning measure.

After extensive analysis of the current attributes of the South Street/RTE 13 South corridor and abutting parcels, the extent of development potential was ultimately disclosed. Overall, the prospective development of these parcels and transportation improvements of the corridor will yield limited success. The number of preexisting conflictions within the number of parcels along the corridor substantially reduced the number of suitable lots. However, the considerably large acreage of the suitable lots with identification of other suitable lots in Milford, would potentially supplement the formulation of additional sustainable development endeavors. Although the extent of facilitating the economy of Milford is restricted to some degree, these measures should continue to be adopted to compensate for these vital initiatives.

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