Trends, Issues & Challenges

Land Use & Zoning

Zoning is the primary mechanism that communities use to direct development. Merrimac adopted its present zoning bylaw in 1965. As a result, homes and businesses built here since the mid-1960s express the bylaw's blueprint for growth. Not surprisingly, older forms of development in Merrimac differ in density and appearance from new development carried out under the bylaw. The cumulative results of past and present development suggest that Merrimac is at the crossroads of a fundamental change in character. Post-1970 development in Merrimac has occurred in the context of region-wide growth and change. Since the conditions that triggered Merrimac's rapid residential expansion persist today, housing growth is apt to continue at a rate comparable to that of the past 10 years. Specifically:

- Merrimac has available land.
- Despite rising property values, Merrimac's land and homes are within reach of a fairly wide market of homebuyers.
- Ready access to the regional highway network places Merrimac well within the labor market areas of both Merrimack Valley and Greater Boston.
- The town's zoning policies inspire suburban growth.
- Housing demand remains exceptionally strong throughout the region.
- The regional school district has a high-quality reputation.
- Although the zoning bylaw fosters a suburban blueprint, Merrimac has not yet adopted the homogenous appearance of many rapidly growing towns. Housing choice, a distinct town center and rural hillsides create a diverse, engaging image that makes Merrimac a particularly desirable town.

Under its current regulations and policies, Merrimac will continue to develop as a suburban community of single-family homes. Ironically, this means Merrimac's visual image at build-out will be more like the regimented appearance of towns from which it differs today. Merrimac will have achieved low-density residential development, thereby curbing population growth and limiting the need for new classrooms and teachers. However, the seeming advantages of this outcome will be outweighed by qualitative changes in the Merrimac's character and by fiscal impacts that may be difficult to foresee: more roads to maintain, higher public safety costs and demands for municipal facilities that render existing ones obsolete. Whether build-out occurs in the next 15-20 years (as historic trends suggest it may) or development proceeds more slowly, the

consequences for Merrimac's land, architectural traditions, housing diversity, and rural appeal are the same. The town's planning issues have less to do with the ***amount*** of housing and population growth than with the capacity of new development to respect the character of the land, preserve Merrimac's small-town feel, and retain its socio-economic inclusiveness. A second issue is whether the town can harness Route 110's untapped development potential.

Zoning accounts for fundamental differences between established development traditions and more recent growth in Merrimac. The bylaw anticipates a standard, low-density suburb, much like zoning in small communities all across Massachusetts. It unwittingly encourages sprawl. For the most part, it reflects practices and policies that were common in the 1960s, before the state's Zoning Act changed (1973). Unfortunately, Merrimac's present bylaw provides no flexibility to achieve the low-density outcome it seeks to implement. The zoning bylaw is based on a development plan of seven districts, as shown in Map 5, supplemented by overlay zones that address land use in floodplains and water supply areas. Below is a summary of basic dimensional controls, a description of allowed uses, and an analysis of regulatory issues for each zoning district.

Summary of Merrimac Zoning Bylaw Dimensional Requirements

Zoning District	Minimum Lot Area (Ft^2)	Minimum Frontage (Ft)	Maximum Height (Ft)
Residential (R)	10,890	100	35
Suburban Residential (SR)	43,560	150	35
Agricultural Residential (AR)	87,120	200	35
Mobile Homes (MH)	10,000	100	35
Commercial (C)	10,000	150	40
Light Industrial (LI)	21,780	150	40
Industrial (I)	87,120	200	40

The Residential (R) District is a relatively high-density, single-family zone. It recognizes and to some extent reinforces earlier development patterns, which makes it a potentially important feature of Merrimac's land use regulations. However, the R District's 100-foot lot frontage requirement effectively precludes infill development without a variance from the Board of Appeals. Further, it all but guarantees that new lots will exceed the minimum lot area of 10,890 square feet because together, the R District's frontage and lot size standards translate into a rare parcel configuration: a nearly square lot. Multi-family housing is allowed by special permit only in the R District, at a density of up to 10 units per acre.

The Suburban Residential (SR) and Agricultural-Residential (AR) Districts represent traditional one- and two-acre suburban zoning. Most of Merrimac's vacant residential land lies in the AR District, which means that as it is developed, the land will be parsed into subdivisions of two-acre lots for single-family residences. Conversions of older single-family to two-family homes are allowed by special permit on a limited basis. Multi-family and townhouse development are not allowed in either zone. The Mobile Home (MH) District provides a district within which the town's two mobile home communities are an allowed use. As such, they enjoy the same zoning protection afforded to other types of residential development. No other uses are allowed in the MH District, however, which effectively limits opportunities for future reinvestment in both locations. Since the zoning bylaw provides no land use choices in the MH District, the only way one of Merrimac's mobile home parks could be redeveloped is by means of a comprehensive permit under Chapter 40B.

The Commercial (C) District has the smallest minimum lot size (except for the Mobile Home District), and it is Merrimac's most intensive development district. It allows for a wide range of retail, office and industrial uses, by right or special permit, and residential uses by right. The C District has few dimensional or design regulations, making it an unusually liberal commercial zone. Its implications vary because the C District governs land uses in both Merrimac Square and most of Route 110:

- In Merrimac Square, a literal application of C District regulations would undermine the development traditions of a New England town center by introducing free-standing commercial buildings with large accessory parking lots, e.g., the donut shop next to Town Hall. The development concepts embedded in Merrimac's C District regulations are conducive to shopping centers and strip development, not to the preservation and vitality of a historic downtown area.
- Along Route 110, the C District translates into considerable lot depth and it has the potential to promote the intensive strip commercial development that appears along both sides of the corridor in Amesbury and Haverhill. Finally, the permissibility of single-family homes in the C District creates the potential for use conflicts, especially on West Main Street.
- The Light Industrial (LI) and Industrial (I) Districts are conspicuously weak tools for industrial growth. Municipal uses (sewer treatment plant) occupy much of the I District's land. Access, topography and site constraints, along with zoning limitations, make the remaining land ill-suited for development. LI District regulations provide for more uses, although the bylaw does not allow industrial uses as of right in either zone. Regardless, quality industrial growth has been rendered all but moot by the location of Merrimac's industrial districts. They include areas with pre-existing uses and land that is not suitable for

intensive development. In effect, the C District is Merrimac's industrial district. For many reasons, it may produce more industrial development than the two industrial zones combined.

The zoning bylaw lacks creative ways to address Merrimac's development needs. Although low-density residential development is a long-established policy in Merrimac, existing regulations essentially pit low-density development against the town's scenic beauty and rural charm – a concern also identified in the 1977 Master Plan. For various reasons, the bylaw unwittingly promotes the loss of Merrimac's remaining diversity – in architectural, land use, socio-economic and demographic terms. For example:

- The bylaw lacks quality site plan standards and an effective site plan review process, and it has no architectural design standards. These omissions mean that Merrimac has no way to require that commercial and industrial projects be developed in a safe, aesthetically pleasing manner.
- The town's only residential development option is a conventional subdivision. Merrimac does not allow cluster development, which could preserve a considerable amount of open space and encourage housing stock diversity.
- The zoning bylaw does not provide for such uses as assisted living facilities, which usually generate a strong fiscal return and almost always preserve large amounts of open space. It also does not provide for other housing opportunities that limit growth in community service costs, save land or encourage population diversity, e.g., elderly housing, planned unit developments and mixed-use development.
- The zoning bylaw does not recognize common devices for controlling density and limiting the construction impacts of new development, such as shared or common driveways and reduced-frontage lots in exchange for a significant increase in lot size (thereby lowering density).
- The bylaw includes a flood plain overlay district, yet it contains virtually none of the protective regulations that most communities use to control the impacts of development in wetland and watershed areas.

Overall, the Merrimac zoning bylaw is like many suburban zoning ordinances. The issues have less to do with what the bylaw contains than what it does *not* contain. It provides for one functional outcome, gives local officials no tools to address the development of unique or important sites, creates the potential for uncoordinated growth and land use conflicts along Route 110, and impedes creative site planning. Merrimac's subdivision regulations are similarly conceived. For example, they recognize only two street classifications: principal streets and secondary streets, with unusually high right-of-way and pavement widths of 60/40 feet and 55/35 feet respectively. Of course, planning boards may grant waivers. However, waiver practices change over time as

planning board members come and go, leaving communities without clear policy and developers without a predictable standard. The substantial right-of-way and pavement standards in Merrimac's subdivision regulations add needless cost to residential development and accelerate the losses caused by suburbanization. They will also exacerbate the storm water management and groundwater recharge problems associated with new growth. Finally, overly wide roadways will increase future public maintenance costs without any offsetting traffic or operational benefits.

It is little wonder that residents see new development as such an imposition on their town, or that the Planning Board feels powerless to require better results from developers. The device that Merrimac most needs to direct the process of growth and change – zoning – cultivates intrusive development and, in fact, gives neither the Planning Board nor the Zoning Board of Appeals room to negotiate. In all likelihood, Merrimac's developers feel similarly frustrated. Since the bylaw also denies them opportunities to negotiate, they have no choice but to build precisely what zoning requires or seek ways to circumvent the rules. Not surprisingly, the development process leaves everyone unhappy. Residents blame town officials for not doing enough to stop growth, town officials blame developers for building unwanted or unattractive projects, and developers blame the town's rigid (or unfair) regulations. In today's parlance, the zoning bylaw is largely a no-win situation.

Future Development Potential

As part of a statewide initiative sponsored by the Executive Office of Environmental Affairs (EOEA) during the past two years, Merrimack Valley Planning Commission (MVPC) prepared build-out studies for all communities in the region, including Merrimac. The purpose of a build-out analysis is to forecast population, housing units, and commercial or industrial development for a hypothetical point when all of a community's land has been converted to developed uses. To carry out build-out studies according to a consistent method across the Commonwealth, EOEA relied on orthophoto interpretation and Geographic Information System (GIS) technology because resource mapping data from aerial photographs are available for all 351 cities and towns. A second method for analyzing growth potential relies on an analysis of land parcel data. Most communities do not have digitized assessor's maps, the prerequisite for a GIS build-out study that uses parcel data as its source. In 2001, MVPC digitized all of the assessor's parcel maps for Merrimac. The GIS data became available for use by the Master Plan Steering Committee and consultants in October 2001.

Data source and procedural differences between EOEA's and the Master Plan's build-out methods help to explain the somewhat different future growth estimates presented below. While the

residential growth estimates are very similar, the commercial and industrial growth estimates differ significantly. Table 6 summarizes pertinent characteristics of Merrimac's vacant and underutilized land inventory and forecasts a series of development impacts. "Developable land" consists of the following:

- Vacant parcels, assessed as developable or potentially developable, of sufficient size to support one or more homes.
- Vacant residential parcels held in common ownership.
- Underdeveloped residential parcels, i.e., parcels with both an existing home and more land than required to meet minimum lot size requirements.
- Vacant and underdeveloped commercial and industrial parcels, i.e., parcels with an existing structure and additional (unused) development capacity.
- Land in Chapter 61-61A agreements.
- Parcels owned by non-profit organizations that have not deed-restricted their land to prevent future development.

Residential Growth

The parcel analysis indicates that Merrimac has 1,389 acres of land available for new or more intensive residential development. Under current zoning, the land could yield about 622 single-family housing units;[1] using EOEA's build-out method, MVPC forecast Merrimac's additional single-family potential at 606 units based on a somewhat lower estimate of developable land. The 622 homes represent a 42% increase in the town's current single-family inventory, from 1,475 to 2,097, and a 27% increase in all housing units, that is, from today's 2,295 units to a total build-out housing inventory of 2,917 units. Viewed this way, Merrimac is at about 71% of its single-family housing potential today.

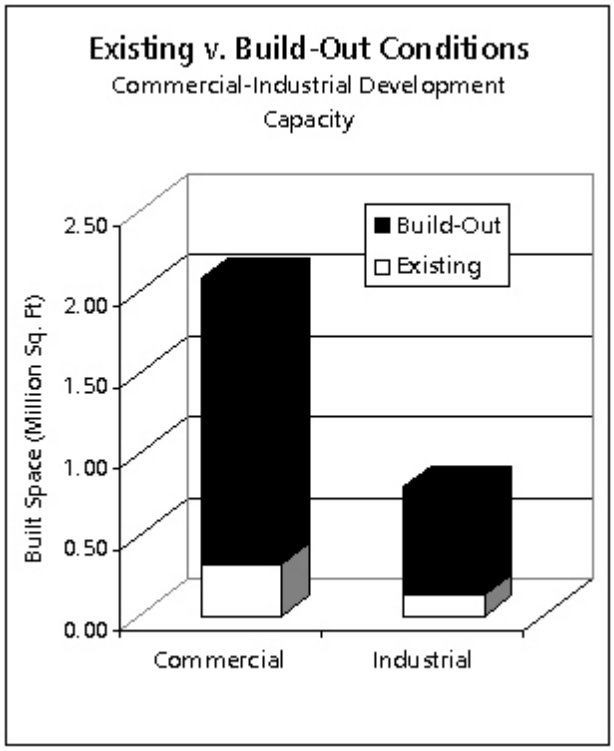
Build-out studies forecast future development under current regulations, so there is no systematic way to predict the number of two-family or multi-family units that may be developed in Merrimac. The zoning bylaw discourages two-family and multi-unit uses, but single-family to two-family conversions will occur from time to time. Merrimac will also witness additional multi-unit and single-family growth from comprehensive permits approved under Chapter 40B, but it is impossible to estimate either the number or type of subsidized low- and moderate-income housing units that may come by way of that process. Since the zoning bylaw effectively precludes multi-family housing and provides no opportunities for townhouse or mixed residential use

[1] "Land available for development" is 82-85% of total land available, given that an adjustment must be made for site constraints, road and drainage areas, etc.

development, Chapter 40B offers the only viable mechanism to create attached housing units in Merrimac. It is important to note that as traditional housing development continues, the town's low-income housing responsibility will also increase. The Chapter 40B gap in Merrimac's today is 154 units – i.e., the difference between the town's existing 76 units of low-income elderly housing and 10% of its year-round housing stock (230). Under the regional planning agency's build-out estimate of 606 homes, the total Chapter 40B gap would be 214 units if no additional low-income housing were built in Merrimac; under the master plan's build-out estimate of 622 homes, the gap would be 216 units.

Economic Growth

Merrimac's capacity for additional commercial growth is substantial. The Master Plan's commercial build-out estimate assumes 83 acres of land, and industrial build-out, 42 acres. Compared to today's 45 acres of commercial development, 83 acres of land represents nearly two times the amount of land devoted to business uses today. The 42 acres of undeveloped industrial land is about half of the amount of industrially developed land today (93 acres).



Merrimac's estimated commercial potential includes both vacant land *and* underutilized land that presently supports some degree of business development. Typically, zoning bylaws regulate the size of commercial and industrial buildings by setting a maximum floor-to-area ratio (FAR). Zoning in Merrimac does not provide FAR regulations for non-residential projects, but there is an "inherent" FAR – derived from the town's building height and parking regulations – of approximately 0.44.[2] When applied to Merrimac's vacant *and* currently developed commercial land, the inherent FAR of 0.44 yields 1.78 million ft^2 of additional commercial space, or 5.6 times the amount of commercial floor space in Merrimac today. As for industrial growth, the zoning bylaw's implied FAR of .36 yields 657,590 ft^2 of additional space, or about five times the current industrial floor area. The Master Plan's

[2] MVPC used different a different FAR formula: .49 for the Commercial District, and .70 for the Industrial Districts.

estimated non-residential development capacity of 2.43 million ft^2 of built space differs insignificantly from EOEA's estimate of 2.45 million ft^2. A critical difference between the two studies lies in the allocation of non-residential growth to Merrimac's commercial and industrial land, as shown in Table 3-1.

Actual pressure for commercial and industrial development opportunities may never approximate, let alone reach, the build-out magnitude described here. Economic development is particularly sensitive to market forces, location, and the size and composition of a community's existing economic base. However, as suitable land diminishes in neighboring communities, pressure for new growth and redevelopment of existing parcels will begin to materialize in Merrimac. Although the town stands to witness major changes as a result of aggregate build-out conditions, the intensification of commercial and industrial land use involves a fundamental difference in community character. Most of Merrimac's non-residential development potential lies on and peripheral to Route 110. If all commercially and industrially land were developed to the maximum allowed by existing regulations, the outcome would be a visual, operational and functional divide framed by I-495 and Route 110.

Implications for Water Supply

Merrimac's residential, commercial and industrial development capacity creates an additional water demand of 310,827 gallons per day (gpd). When combined with present average-day consumption trends in Merrimac, the town's daily demand for water under build-out conditions will fall narrowly below the expected capacity of existing and future water supplies. The water withdrawal permit for Merrimac's operating well fields on East Main Street and Bear Hill Road is 360,000 gpd. Over the past three years, however, the average-day demand in Merrimac has approximated 461,784 gpd. In short, Merrimac is consuming about 1.28 gallons of water for every one gallon of authorized withdrawal. Although the Merrimac Water Department has explored seeking an amendment to its withdrawal permit from the state, no change has been authorized by the Massachusetts Department of Environmental Protection (MADEP). Possibly the percentage of "unaccounted for" water in Merrimac – that is, water use not attributable to customer demand, such as water lost to leaks in the distribution system – has been too high to qualify for an increase under Massachusetts Water Management Act policies. During the late 1990s, it was not uncommon for unaccounted-for water to run as high as 18% of total water consumption per year in Merrimac.[3]

[3] Merrimac Water Department, Public Water Supply Annual Statistical Reports to MADEP, 1995-2001; Massachusetts Water Resources Commission, "Policy for Developing Water Needs Forecasts for Public Water Suppliers" (8 February 2001). One of the thresholds that public suppliers must meet n order to obtain a water withdrawal increase is that unaccounted for water may not exceed 15% of annual water consumption over a three-year period.

Predicting the threshold for water system inadequacies is complicated because each class of land use creates different demands for water, and within each class the amount of water used per day can vary significantly. For example, low-density residential development typically consumes more water per capita than small-lot or multi-family residential development. Lawns, landscaped yards and other amenities associated with large single-family homes, such as swimming pools, place large demands on a public water system. For the same amount of commercial space, a retail store uses considerably less water per ft^2 than a restaurant. Since Merrimac is already withdrawing water a rate that exceeds its Water Management Program permit from MADEP, the new well – if authorized by state environmental permitting agencies in both Massachusetts and New Hampshire – will have to absorb demand that exceeds the permitted yield of Merrimac's two well fields today and meet future demand.

Assuming that Merrimac receives authorization to develop a 500-gpm well off Bear Hill Road, the town should have enough water to accommodate existing and future development. Merrimac's water supply deficiencies seem to present more of a near-term than a long-term challenge, but it is important to point out that growth in residential demand is increasing at a faster rate than growth in non-residential demand, from an average of 51 gpd/per capita in 1995 to 57 gpd/per capita in 2000. Given Merrimac's large-lot development policies, the town should expect residential water consumption per capita to escalate from its traditionally low level – a phenomenon that mirrors the town's development pattern – to a level more like the state standard for water supply forecasting, 75 gpd per capita.

Until the new well is authorized and developed, a large, sudden increase in the number of homes served by the town's water system or a major change in non-residential demand will create very serious problems for Merrimac, not only in terms of supply but also, in terms of storage capacity and pressure in the town's distribution system. Today, the Merrimac Water Department's two stand pipes have a combined storage capacity of 1.65 mg of water. Merrimac needs a third storage tank in order to provide adequate fire flows and domestic pressure throughout town, particularly in higher-elevation areas – the very areas that are undeveloped today.

Implications for Sewer System

Sewer capacity affects the location, rate and magnitude of development, especially commercial and industrial development and higher-density housing. Merrimac's wastewater treatment plant operates at about 80% of design capacity today and according to sewer department staff, the town does not intend to enlarge the plant. When Merrimac developed its present sewer system in the late 1970s, state and federal environmental agencies encouraged communities to install and expand public sewers; toward that end, they offered generous matching-grant programs. Water resource management policies have since changed, resulting in a sharp decline in government aid for sewer projects. For purposes of an impacts analysis, it seems prudent to assume that future

sewer service in Merrimac will be dictated by the capacity of the existing plant.

The dual implications of Merrimac's build-out, residential on one hand, non-residential on the other, are very important. The wastewater treatment facility can accommodate approximately 55% of Merrimac's build-out population if the town implements the plant and collection system improvements recommended in a recently completed study.[4] However, the plant does not have enough capacity – even with the recommended improvements – to accommodate both new residential development and the commercial growth potential of Route 110. A critical sewer policy issue in Merrimac is whether extending the system should be curtailed in order to reserve plant capacity for reinvestment, infill and new development around Merrimac Center and along Route 110. Title V and local septic system regulations should govern development in the outlying sections of town. Toward this end, the Planning Board, Board of Selectmen, Board of Health and Sewer Commission need to work cooperatively to limit the extension of sewer lines unless there is a compelling environmental, public health or master plan implementation reason to do otherwise.

Implications for Public Schools

The Master Plan's estimate of 487 school-age children differs from EOEA's but it is closer to a recent study by the New England School Development Council (NESDC) for the Pentucket Regional School District (May 2000).[5] The EOEA build-out analysis forecasts 303 additional students, or an average of .5 school-age children per single-family home – a measurement drawn from the 1990 Census. The Master Plan build-out analysis assumes .8 school-age children per household, which is consistent with Census 2000 data. The shift toward predominantly single-family housing stock in Merrimac means that in all likelihood, there will be fewer non-family households and family households without school-age children. The composition of Merrimac's housing stock will largely determine the make-up of its population.

Implications for Traffic

The 606-622 single-family homes estimated for Merrimac's residential build-out may generate about 4,700 trips per day, with about 450-to-470 during the morning-evening peak hours on a normal weekday. Although the traffic associated with these new homes seems significant, it is not as substantial as one might imagine. Under standard methods for estimating trip generation,

[4] Tata and Howard, Inc., for Merrimac Board of Sewer Commissioners. Facilities Plan for the Merrimac Wastewater Treatment Facility (1998).

[5] NESDC's district-wide forecast of school enrollment growth by 2010 includes 330 new students from Merrimac. Like the Master Plan, the NESDC study assumes a continued rate of new-home construction comparable to that of the 1990s. EOEA derived its .5 children per household multiplier from 1990 U.S. Census data for the Town of Merrimac.

someone who leaves home and then returns has made two trips: one leaving home and one returning home. In addition, many residential trips are short and occur entirely in-town, such as taking children to appointments, activities, school or a friend's house. Finally, "trip generation" includes a considerable amount of overlap. A trip from one house to another is considered *two* trips, one from the first house and one into the second house. More than residential growth, however, Merrimac's commercial development potential raises serious traffic concerns. As the town's commercial corridor, Route 110 stands to absorb the brunt of business-generated traffic in the future. Trip estimates for commercial development are highly speculative because the actual mix of uses will determine how much traffic they induce. The regional planning agency's build-out study and the master plan's differ because the latter is based on a parcel-by-parcel analysis of all commercial land in town. If each parcel were developed to the highest and best use allowed by zoning, the commercial development that could occur on vacant and now-underutilized land is very significant – and so, of course, is the traffic it will bring.

Table 3-1: Build-Out Forecasts for Merrimac

	EOEA Study	Master Plan
Total Developable Land Area (sq. ft.)	64,321,724	65,958,873
Residential	60,245,183	60,507,195
Commercial	1,992,100	3,625,039
Industrial	2,085,330	1,826,639
Total Single-Family Homes	606	622
Total Comm./Ind. Buildable Floor Area (sq. ft.)	2,445,961	2,433,859
Commercial	977,419	1,766,269
Industrial	1,468,542	657,590
New Population	1,636	1,711
Total Water Use (gal./day)	306,147	330,244
Residential	122,700	128,288
Commercial/Industrial	183,447	182,539
Total Municipal Solid Waste (tons/yr.)	840	877
Recycled or composted	243	253
Non-recycled/non-composted	597	624
Students (K-12)	303	498
New Roads (miles)	13.5	14.1
Vehicle Trips	45,216	71,700
Residential	6,066	4,665
Commercial	30,700	55,064
Industrial	8,450	3,946
Low-Income Housing Units for Chapter 40B	61	62

Notes: (1) Commercial and industrial development potential estimated under the state's build-out method uses different FAR assumptions than the master plan's build-out method. (2) School students estimated in the state study were based on the <18 population in households as of 1990; the master plan estimates reflects <18 population in households per Census 2000. The actual number of students generated by residential development will fluctuate based on rate of new-home construction at any given point and the rate at which older homes are recycled in the market. (3) The state study did not include a forecast of Chapter 40B units that may be required to provide 10% low-income housing. The number has been added to Table 3-1 in order to forecast the compliance impact of traditional housing development.

Community Preservation

Environmental Quality

Currently, Merrimac has no local bylaw to control wetlands development beyond the 100-foot buffer zone recognized by M.G.L. c.131 §40, or the 200-foot buffer from perennial streams and rivers under the Rivers Protection Act. A local bylaw would allow Merrimac to enact additional restrictions or establish a no-build zone within the state's 100-foot buffer area. Furthermore, while the Conservation Commission works hard to enforce wetland regulations, its power is limited to that delegated by the state legislature and DEP. If the Commission operated under both state law and a local bylaw, Merrimac could issue fines for violations of its own ordinance and increase the potential for solving wetland violations in a timely manner. In addition, the town ought to have a comprehensive wetlands inventory. An accurate inventory will help not only the Conservation Commission in its role as a permitting and enforcement agent, but also the Planning Board, the Highway Department and other town offices with planning, policy and public service responsibilities.

The zoning bylaw contains two overlay districts: the Water Supply Protection District, which covers an identified aquifer recharge area on the east-northeast end of town, and a Flood Plain District that applies to flood hazard areas. The bylaw also regulates earth removal. As such, it offers some of the basic tools used by many communities, but it lacks a number of provisions that would enhance Merrimac's power to protect natural, scenic and cultural resources. The most significant omission is the lack of wetland and watershed protection bylaws. Ironically, it was the degradation of Cobbler's Brook that forced Merrimac to construct a public sewer system. The town needs effective ways to control land use in critical water resource areas.

The Merrimac Sewer Department reportedly approves developer requests to extend sewer service into outlying sections of town. In addition to promoting more development than on-site septic systems would likely support, the northward extension of public sewer service into the Water Supply Protection District runs counter to "best management practices" for watersheds and the replenishment of groundwater resources. For at least two reasons, Merrimac should curtail the migration of sewer service into water supply recharge zones and areas served by private wells. First, reserving treatment plant capacity for infill development and reuse of existing properties is essential to achieving the master plan's land use goals. Second, it makes little sense to displace water that would otherwise recharge the town's aquifers. Of course, the Merrimac Board of Health needs companion regulations to assure that homeowners and businesses maintain their septic systems properly. Mandatory septic system cleaning and maintenance is an increasingly common requirement in Massachusetts towns.

Heritage

The character of Merrimac is tied inextricably the town's historic architecture and rural landscapes. The cultural assets that contribute to Merrimac's identity are highly vulnerable because the town has no preservation policies or protective regulations. Despite the prevalence of historically significant properties in Merrimac, the town does not have an entity with either the financial or human resources to acquire, maintain, preserve or restore buildings that are at risk of being destroyed or irreparably altered by market forces. Instead, the community must rely on market sensitivity to the investment worth of historic architecture. It is clear that many existing property owners and incoming homebuyers recognize the economic value of preservation because reinvestment in older homes is common in Merrimac. However, recent demolition activity in Merrimac shows that free-market choice is hardly a reliable mechanism for safeguarding historic resources. The Town Improvement Society is the only non-profit preservation group with site control over any of Merrimac's historic buildings.

As a small town, Merrimac will find it difficult to mount a comprehensive historic preservation program; it has neither the funds nor the personnel to do so. Here, historic preservation success will depend almost entirely on adequate regulations. In order to establish local historic districts or qualify for National Register District designations, however, Merrimac needs to update its historic property surveys. Federally funded matching grants for this purpose may be obtained from the Massachusetts Historical Commission (MHC), but because of funding reductions, MHC currently limits its Survey & Planning Grant Program to local commissions that gain designation as a Certified Local Government (CLG). Just as the Conservation Commission needs an accurate wetlands inventory to carry out its work, preservation advocates need an accurate cultural resources inventory to protect the town's heritage.

A local historic district would give Merrimac critical tools to safeguard the characteristics of place that make Merrimac Square and Merrimacport unique. Listings on the National Register may help eligible property owners qualify for preservation financing and build community consciousness about the town's wealth of historic resources. However, it is important to emphasize that historic preservation can be very expensive. Flexible zoning with incentives to redevelop and reuse significant buildings will be key to the feasibility of preserving significant buildings that need major restoration work. In addition, such basic tools as a demolition delay bylaw need to be put in place to protect historic buildings from being destroyed or inappropriately altered.

Open space

Merrimac has several pressing open space needs that have to be addressed in both the master plan and local open space and recreation plans:

- Protection of natural resources.

- Managed production of resources.
- Outdoor recreation.
- Public health and safety.

Protection of natural resources

The percentage of land protected by public ownership or restrictive easements is minimal in comparison to the extent and value of Merrimac's community resources. Of Merrimac's 5,564-acre land area, about 19% qualifies as permanently protected.[6] While the town owns areas of ecological significance, including a large Town Forest and the Perkins Conservation Area, most key resources are either privately owned or they are protected through temporary means. Development rights to two privately owned open space parcels have been acquired with Agricultural Preservation Restrictions (APR), and the town's tallest hill, Red Oak Hill (315' summit elevation, 150' height), is located within the Town Forest. However, with public ownership come responsibilities that challenge even the largest communities. Fiscal and staffing constraints make it difficult for Merrimac to manage and oversee public open space. The same factors impede the town's ability to carry out a strategic, sustained effort to purchase additional land or development rights.

Merrimac's open space inventory consists of lands that serve a number of important public interests. Several issues are or will be important for the town to address, however, if Merrimac wants to retain its open, agricultural character, enhance the quality of its natural resources and provide the kinds of cultural and leisure opportunities that engage residents in the life of their community. Ownership and management capacity, effective regulations, and a unified approach are cross-cutting issues that affect all four types of open space.

Approximately 1,600 acres of vacant and underdeveloped land in Merrimac have significant natural resource value because of wetlands, wildlife habitat, steep slopes or watershed location.[7] Most of the land is in the Agricultural-Residential (AR) District, although undeveloped sites of ecological importance exist in all zoning districts. Merrimac has basic tools to regulate construction activity in wetland areas, but the zoning bylaw and general bylaws lack provisions that would help local officials, land owners and developers treat critical resource areas as open space and plan projects accordingly. Some examples of tools that would achieve this end:

- Cluster development.

[6] Note: 19% is an estimate. There are unresolved data inconsistencies between the assessor's office, other town departments, the regional planning agency and MassGIS.

[7] Acreage data derived from GIS files prepared for Merrimac's build-out study by Merrimack Valley Planning Commission (2000).

- A scenic landscapes bylaw to protect hilltops from development by relocating allowable densities to lower elevations.
- A general bylaw for wetlands protection, including no-build/no-disturbance buffer zones.
- A protective overlay district that prohibits construction activity in wetland resource areas.
- A general bylaw that governs earth removal.
- Subdivision policies that encourage flexible development in exchange for public benefits, and companion provisions for frontage waivers and common driveways in the zoning bylaw.
- Environmental performance standards for non-residential development, and an effective site plan review process.

To accomplish the objectives of any of these tools, however, Merrimac needs a comprehensive resource protection map, greater coordination among the boards and officials with permitting powers, and consistent public policies. Town-owned sites with natural resource significance also need permanent protection, whether by jurisdictional transfer to the Conservation Commission or the assignment of conservation restrictions. Among them are the small landings on River Road, for they provide Merrimac's only means of public access to the Merrimack River.

Managed production of resources

Farmland is central to Merrimac's community character. To date, the town has successfully used the Chapter 61A program to encourage active agriculture, and it has also used Agricultural Preservation Restrictions to acquire development rights from the owners of two sizeable farms. Merrimac's farms tend to be family-owned enterprises that have been passed from generation to generation, a situation that bodes reasonably well for their survival. However, agriculture endures when it is economic for land owners to stay in the business of farming. Regulatory, taxation, market and labor force conditions make farming a difficult venture, one that can be ever less attractive to small farmers when additional factors impede their operations. Land use conflicts can be catalyst for the loss of a community's agricultural base. As homes replace vacant land near productive farms, complaints from abutters begin to surface. Low-density residential development in an agricultural area seems appropriate – until the subdivisions arrive. Agriculture is a business, and the owners of farms depend on land productivity for income.

Merrimac has neither the financial resources to acquire major tracts of farmland nor the human resources to manage them. Public acquisition is probably not the most effective or desirable way to maintain agricultural activity even if Merrimac could afford to buy the land. Ideally, farmland should stay on the town's tax rolls and be assessed as agricultural property, but these two conditions can be met *only* when farms thrive. For Merrimac, acquiring land adjacent to active farms may be a wiser public investment in the long run if the goal is to preserve agricultural

production in the local economy. Elsewhere in Massachusetts, communities have pursued agri-tourism, community-supported agriculture (CSA) and farmers market events to strengthen and retain agricultural businesses. The Massachusetts Department of Food and Agriculture provides technical assistance to municipalities seeking to protect their agricultural heritage.

Cluster zoning could help Merrimac preserve open space and simultaneously protect the economic rights of farm owners when they choose to sell agricultural land. Traditional approaches to cluster development do not guarantee the endurance of active farms, however. A cluster bylaw tailored to farmland protection, such as density bonuses in exchange for an APR over a substantial portion of the property (meaning more than 50%), may be effective in Merrimac if town boards are willing to allow flexible development solutions. Another, potentially more beneficial approach, would be to change the zoning that applies to Merrimac's farms and the land around them from residential to non-residential uses.

Outdoor recreation

Open space used for active recreation facilities is in short supply in Merrimac. The town's development as a predominantly single-family home community means that existing recreational space inadequacies will intensify with new growth. The issue is not only the number of parks, playgrounds and athletic fields, but also their location and accessibility to the elderly and persons with disabilities. These recreation enhancements seem particularly important:

- Athletic fields. At minimum, Merrimac needs two additional full-size soccer fields of a quality that can support youth league competition. This may be accomplished by reconstructing the fields at Carriagetown Park, although soil conditions in that area may preclude the park's usefulness as a playing field complex.
- Outdoor game courts. At least one additional set of tennis courts and a multi-use court seem essential to providing recreation choice. Consideration should be given to redeveloping Carriagetown Park for recreational facilities other than playing fields. Possibly, game courts for community-wide use and an equipped playground for residents on the eastern end of town would restore usefulness to this 17-acre site.
- Playgrounds. The playgrounds at Sweetsir School and Donahue School/Stevens Field are within reasonable access distance for children living in or close to the center of Merrimac, but outlying areas of town are underserved. In addition, the town's existing playground facilities do not meet Americans with Disabilities Act (ADA) design standards. As new development occurs in the Birch Meadow area and in northern Merrimac, consideration should be given to reserving a subdivision lot for future playground use or (preferably) to negotiating with the proponent of a cluster development to dedicate a portion of the open space for a neighborhood playground. To provide an accessible community park/playground, the town may consider refurbishing the Stevens Field play area or establishing a new playground at

Carriagetown Park.

- McLaren Trail. The McLaren Trail needs a management plan. The McLaren Trail is key to creating a linked system of public spaces in Merrimac. Portions of the trail are in moderately poor to poor condition. The town may want to seek technical support from the Department of Environmental Management (DEM) for trail design and management plan assistance. To qualify for improvement grants, Merrimac will need a long-term management plan and evidence of capacity to maintain the trail.
- Merrimac Square. Attention should be paid to urban greenspace and pedestrian amenities during the design and reconstruction of Merrimac Square. Achieving greenspace does not require a formal urban park, but additional trees and plantings in the square and "greening" the area around the flagpole may be effective solutions. Urban design enhancements from the intersection of Broad and East Main Streets to Merrimac Square would improve the appearance of a key gateway into the community.
- Indian Head Park. The beach and parking lot need accessibility modifications. Beach access may be achieved by means of a seasonal ramp.

Public health and safety

Approximately 1,266 acres of land are located in the Lake Attitash watershed and the groundwater recharge areas for Merrimac's existing well fields.[8] At present, the town controls only 12.2% of the land in these areas, including the Perkins Conservation Land, Indian Head Park (which includes the East Main Street well fields), and the well fields in northern Merrimac. High-density residential development around Lake Attitash and auto-related businesses on East Main Street appear to be the most obvious risk conditions in Merrimac's aquifer recharge zones. Depending on management and operations, agricultural activity may also present risks. Merrimac's zoning bylaw provides for a water supply protection district. As an overlay district, it augments the regulations of underlying zones, e.g., by prohibiting hazardous materials storage, landfills and other high-risk land uses. Most land in the water supply protection district is zoned for agricultural-residential development, meaning a minimum lot size of two acres.

Despite groundwater's advantages as a drinking water source, aquifers are invisible to the public. Communities universally rate drinking water quality high on their list of concerns, but they do not always rate land that affects both the quality and supply of drinking water high on their acquisition lists when their supply source is groundwater. Just as wetland protection laws do not stop all development in wetland areas, water supply protection zoning does not stop development in aquifer recharge areas. Ownership control is the only available mechanism to protect land from

[8] Acreage data derived from GIS files prepared for Merrimac's build-out study by Merrimack Valley Planning Commission (2000).

development, yet because communities cannot buy all of the land they would like to own, they have to set priorities – hoping that areas they leave to regulation will be developed as sensitively as possible.

Aquifer depths in Merrimac are not substantial. The proposed new well just north of the New Hampshire border will increase the town's drinking water supply, but the site requires approval from environmental agencies in two states – which means the process for receiving a water withdrawal permit may take considerable time. To meet current and projected future water demand, Merrimac needs an additional source but more importantly, the town needs to protect its existing wells. In the interests of public health and safety, land within Merrimac's recharge areas needs high-priority status for permanent open space protection.

Economic Vitality

Although a vital part of Merrimac's past, economic development has occupied a less visible place on the town's policy agenda since the 1960s. The completion of I-495 sparked new residential growth and brought about fundamental changes to the community's traffic pattern. Businesses that once catered to cross-town traffic bound for Salisbury Beach eventually closed, and Route 110 gradually settled into the low-density, mixed-use commercial zone that it is today. Despite some efforts during the 1970s to attract industry, Merrimac has never replaced the manufacturing base that it lost when the industries that built horse-drawn carriages, custom auto bodies and diners finally closed. Recommendations of the previous Master Plan (1977) to promote new types of industry by establishing a non-profit industrial development corporation, to nurture tourism by capitalizing on the assets of Merrimac Square, the historic agricultural landscape and scenic views of the Merrimack River, and to reconsider the development future of Route 110 stopped short of inspiring a long-range economic development strategy for the town.[9]

Today, aggregate assessments of commercial and industrial property in Merrimac represent only 7% of the town's total assessed value, down from 11.9% a decade ago. The average single-family tax bill rose by nearly 70% in the same period, and the residential portion of the tax levy increased 93%.[10] While most residents voice consistent support for preserving Merrimac's rural ambience and small-town social fabric, they also want quality schools and municipal services, housing affordability and public amenities. They want limited population growth, but they also want a vibrant Merrimac Square with shops and gathering places, attractive businesses on Route 110, and working farms. These aspirations can be achieved, but not under the town's present regulatory framework. In fact, if Merrimac's future development is consistent with recent trends, the more likely outcome is a low-density town without the population to support a viable local business

[9] Roy Mann Associates, *Merrimac Master Plan* (1977), 89-91.

[10] Statistics derived from municipal finance data at Massachusetts Department of Revenue (DOR), Municipal Data Bank, <http://www.state.ma.us/dor/dls>.

community or the tax revenue to finance resident services. The lack of qualitative zoning controls may impede Merrimac's ability to keep its existing businesses and thereby attract new ones.

More than zoning, however, the market and access underlie the current pattern of underutilized commercial land in Merrimac. Regulatory, location and development suitability factors have rendered industrial development all but moot. Economic development is particularly sensitive to market forces, site needs, and the size and composition of a community's economic base. All available indicators suggest that Merrimac's economy is structurally weak and will likely remain so without a clear strategy and the political will to carry it out.

The preponderance of very small businesses in Merrimac is not the problem, although they provide a window into larger, more complex issues. In land area, Merrimac is the state's 38th smallest municipality but the seventh smallest of all 61 rural-economic centers in Massachusetts – behind Winthrop, Hull, Millville, Hopedale, Whitman and Newburyport, and just ahead of East Brookfield, Abington, Rockland, Monroe, Blackstone and Amesbury. Except for Newburyport, which has successfully capitalized on its coastal location and tourism, all of the rural-economic centers that are smaller than or essentially equal in size to Merrimac have struggled to restore and stabilize their economic base against the backdrop of lost industry. Both their limited land area and geographic setting create unique economic development issues: too small to sustain a network of farms, their best land occupied by obsolete buildings and densely settled homes, they cannot afford to be "rural," and yet they lack the infrastructure and highway access to function as a modern "economic center." As a class of communities, many of them were (like Merrimac) rural outposts of larger towns until industrial development ignited growth during the 19th century.

The lower Merrimack Valley economy is dominated by small companies and "nonemployer" establishments, or self-employed individuals with no employees on payroll.[11] However, the regional economy's scale and diversity, along with the small business spin-off opportunities that arise when a number of major employers locate, stay and expand in an area with good transportation access, help to explain why economic conditions along the northern stretch of I-495 have improved significantly in the last decade – and why they have remained sluggish in Merrimac. Moreover, the region's cities and larger towns have worked together (and at times competitively) to promote economic growth, attract firms in an expansion mode and facilitate the development of small businesses. Capacity, strategy, zoning and public incentives have positioned the region to reinvent itself in the post-manufacturing era. At issue is whether Merrimac can take advantage of economic development tools used elsewhere in Merrimack Valley and still retain the

[11] U.S. Census Bureau, 1997 Economic Census, Selected Characteristics: Lawrence PMSA. See also, Massachusetts Executive Office of Economic Affairs (now Department of Economic Development), Choosing to Compete: A Statewide Strategy for Job Creation and Economic Growth (May 1993).

small-town feel that residents value so highly.

That agriculture endures in Merrimac's economic base owes in part to the long-term ties of owners whose land has been held by their families for more than one generation. Retaining farms as a component of the local economy requires a different strategy and different ways of thinking about economic development than approaches that are appropriate for a commercial corridor like Route 110. Although the Homestead Farm (Dansarseau) and a portion of Sargent's Farm are under Agricultural Preservation Restrictions (APR), permanently protected farmland in Merrimac is about one-third of today's entire Chapter 61A land inventory. Efforts to secure additional APR's will be important in Merrimac, but the town also needs other tools that give farm owners the ability to sell – if necessary – a portion of their property while keeping the balance in agricultural use. The general public views farms as open space, but to the owners, their farms are both a way of living and the means to make a living. Their land is a valuable asset. At present, the land not only contributes to the local economy but also provides a positive fiscal impact on the town.

Map 6 illustrates the types of economic activity – agriculture, trade, industry, services, culture and recreational land uses – that would be appropriate in various parts of Merrimac. The town has opportunities to expand its tax base and simultaneously reinforce and preserve its rural character. However, it lacks the regulations and policies necessary to accomplish either of these objectives. It also lacks capacity, for under its present structure, Merrimac has no economic development commission or a similar organization to formulate and carry out the kinds of strategies that will work in a small town.

Merrimac Square

Merrimac Square is the town's signature urban feature. It establishes Merrimac's visual identity and it is clearly important to people who live and work in the community. Unfortunately, the town has no regulatory or policy tools to influence the character, scale or appearance of development in Merrimac Square. In fact, the requirements that Merrimac's zoning bylaw sets for development in the Commercial District – weak as they are – run contrary to the basic principles of central business district design. As written, Commercial District regulations anticipate shopping centers and strip development. One of Merrimac's most pressing needs is an approach to zoning in Merrimac Square that respects the center's historic form and building fabric, provides for reuse flexibility, sets effective design controls and encourages reinvestment.

Zoning is not the only challenge that must be addressed, however. Much like the need for an economic development strategy on Route 110, Merrimac needs to focus on long-term development and public realm issues in Merrimac Square. Chief among them: circulation and

parking.[12] The town is currently weighing design options for a major road layout and reconstruction project in Merrimac Square. All of the proposed layouts call for the elimination of on-street parking spaces in order to improve vehicular and pedestrian safety. For many people in Merrimac, reducing Merrimac Square's parking supply runs counter to their experience as patrons of local shops or as visitors to Town Hall. Save for an oversized lot behind the donut shop on School Street, there is a limited inventory of off-street parking for customers of Merrimac Square establishments and many of the on-street spaces do not comply with MassHighway's design requirements. Pedestrian access from one side of Merrimac Square to the other is made dangerous by the lack of adequately marked crosswalks and clear travel lanes, the convergence of peak-period traffic and generally, a poor separation of pedestrian-vehicular users of the area.

A parking needs analysis was conducted recently under a state grant from the Massachusetts Downtown Initiative. The study argues that one of the key contributors to Merrimac Square's apparent parking shortage is a lack of enforcement by police personnel, evidenced by a large number of vehicles parked in on-street spaces for many hours, some as long as an entire day. At the same time, some of the off-street parking areas tucked behind Merrimac Square buildings lay wholly or partially empty. The study recommends a number of solutions to the parking problems in Merrimac Square: coordination among private property owners to share their parking areas, strict enforcement of town parking rules, and ultimately the construction of more off-street parking within a 400-foot radius of the main commercial area. While local officials are concerned about approving a road layout that will reduce the district's parking supply, the public safety issues in Merrimac Square are very serious. Lack of enforcement and long-term parking in spaces intended for short-term use is a common problem in downtown areas everywhere. Local police feel they cannot enforce parking rules when drivers have no realistic choice to park in longer-term spaces. Often, the long-term parking users are the owners and employees of downtown businesses, a situation that likely exists in Merrimac. The town needs to move forward with one of the proposed design options and work with property owners to increase access to what are presently underutilized off-street parking spaces.

Housing

In the fall of 2001, the Merrimac Zoning Board of Appeals received a 468-unit comprehensive permit application for a 70-acre site on East Main Street. As the Master Plan process came to a close, the project's fate remained unclear. However, its impact on the town – at least in the short run – was very clear. The developer's plans have angered many residents and town officials. His proposal involves a large project that may generate considerable traffic on Route 110 and strain an already limited water supply. A portion of the developer's land lies in or immediately adjacent to

[12] See also, "Traffic & Circulation," p. 3-29.

Merrimac's watershed protection district, where higher-density housing is prohibited by town policy. The site plan calls for a congested arrangement of one-and two-bedroom units and although the project is unlikely to attract large numbers of families with children, people in Merrimac worry about the development's fiscal impact on their community. They are also very concerned about traffic impacts on Route 110.

Regardless of how the East Main Street proposal unfolds, it points to a number of housing policy, zoning, and local capacity needs in Merrimac. First, the town does not have clear policies about housing of any kind, and affordable housing in particular. Other than the Master Plan Steering Committee's informal survey to evaluate local housing need (March 2001), there has been no local needs assessment or an evaluation of sites suitable for affordable housing development – i.e., sites that can support higher-density housing by virtue of their location, soil conditions, or character of surrounding land uses. In the absence of needs data or site studies, Merrimac cannot reasonably expect to articulate housing preferences, direct development to appropriate areas of town or take charge of affordable housing production in ways that might be more acceptable to residents. Chapter 40B can be made to work to a community's advantage when there is a commitment to address affordable housing need and a framework for doing so.

Second, like many other communities in Massachusetts, Merrimac has unwittingly primed itself for Chapter 40B proposals. Since the zoning bylaw effectively discourages multi-family housing, the only way a developer can respond to market demand for apartments or condominiums is to use the Chapter 40B process. The same holds true for affordable housing. Merrimac's zoning provides no mechanism for "inclusionary" housing, i.e., mandatory inclusion of low-income units in what is otherwise a market-priced development. The town would probably have far more control over the production of low-income housing if it offered realistic development choices, especially the all-important density bonus that affordable housing needs in order to be feasible.

Third, Merrimac's small, nearly all-volunteer local government is in a difficult position to respond to comprehensive permit applications. Managing Chapter 40B is not easy for any community, but it is most challenging for small towns with no professional planning staff. In Merrimac, town officials worked very hard to navigate the Chapter 40B process in response to a smaller scale low-income housing development on Broad Street was proposed a few years ago, yet the project was never built. Since last fall, the Board of Appeals has been trying to process two concurrent comprehensive permit applications: the 468-unit development on East Main Street, and a 30-unit development of "over-55" housing on West Main Street.[13] Merrimac has neither a town planner nor a well-organized, experienced housing partnership committee, so the town has had to consider

[13] While the Master Plan was in progress, the town received a request to amend the Broad Street comprehensive permit as well as a fourth comprehensive permit application involving land with an existing apartment development on West Main Street.

and act on all of these applications without benefit of comprehensive permit review guidelines or a solid command of Chapter 40B procedures. The lack of guidelines, preference criteria and more significantly, demonstrated progress toward meeting the 10% low-income housing standard all leave Merrimac ill-equipped to negotiate with developers or to defend what may be a legitimate denial of a comprehensive permit proposal.

Affordable housing and Chapter 40B may be timely, pressing concerns, but they are not the only housing issues that Merrimac needs to address. Since current zoning anticipates a uniform housing outcome of single-family homes on two-acre lots, Merrimac stands to lose its housing stock diversity as growth continues. Aside from the fiscal consequences of building out as a town dominated by single-family homes, the composition of Merrimac's housing stock has contributed directly and indelibly to its population mix, as well as its affordability. The Eastern Massachusetts landscape is replete with suburbs: places not at all like Merrimac. The town still has opportunities to stay the momentum of conventional development. Stopping growth is not the answer. In fact, the loss of open space in Merrimac's recent history has little to do with the number of homes that have been built in town. Rather, it owes almost entirely to large-lot zoning and the town's lack of qualitative development controls. Map 7 identifies areas of town that are appropriate for different types of housing, given the environmental and land use goals of the Master Plan.

Community Services & Local Government Capacity

Growth and change affect a community's public facility and service needs in several ways. Some are quantifiable; others are difficult to measure and predict. Population growth invariably means greater demand for services. The most obvious impacts of population growth are rising school enrollments. In many communities, school budgets absorb more than half of all local operating expenditures. Moreover, higher school costs also affect other non-school expenditures, and when existing school buildings become inadequate to house the number of school-age children, debt payments skyrocket. Local governments also experience the impact of population growth on municipal services. They process more tax bills, dispose of more solid waste, pump, treat and distribute more water, respond to more fires, traffic accidents and medical emergencies, impound more stray dogs, and inherit more roads to salt, sand, plow and sweep. Public libraries issue more patron cards and overdue notices, circulate more books, tapes and films, and process more inter-library loan requests. The same children who need teachers, textbooks and classroom space also create demands for soccer fields and playgrounds. Behind every contact between residents and the town clerk, school principal, building inspector or police officer lies the invisible yet crucial infrastructure of local government: administration and finance.

In addition, population growth often triggers change in local needs and priorities – impacts that are hard to forecast. Rapidly growing communities are also demographically changing communities. As new-home construction reduces the supply of vacant, developable land, housing costs increase. One of the consequences of home-price escalation is that incoming families typically have higher incomes than long-time residents. They can absorb tax increases more readily, and depending on where they have lived in the past, they may also expect more or different services from local government.

Master plans strive to achieve the best fit between a town's desired land use pattern and the location and cost of its public facilities and services. Merrimac has important advantages for providing services to those who live or work in the community. For example, its existing institutional buildings and the compact form and accessibility of its town center bode well for accommodating growth efficiently. However, the town also faces significant challenges. Deferred maintenance, modernization and expansion of municipal facilities, coupled with all-but-certain outlays for a new school, will likely converge in the next five years. In addition, Merrimac town government is small and decentralized. These attributes contribute to the town's sense of tradition and its charm, but they may also make it more difficult for Merrimac to coordinate the fiscal, policy and planning demands that development places on growing communities.

In local government, an executive-branch structure with many elected and appointed officials has distinct advantages. Its most obvious advantage is that by design, it encourages citizen participation. For small towns, citizen participation has traditionally served social and fiscal needs: it fosters a sense of community and also keeps administrative costs down because volunteers perform so many functions. By providing opportunities for citizens to engage in town affairs, a loosely organized executive branch also encourages diversity of opinion. Finally, by dividing power among several boards and commissions, local governments limit the authority of their executive departments. Consensus is key.

However, decentralized local governments like Merrimac's also have limitations. They require enough volunteers to fill many elected and appointed offices, they sometimes have trouble recruiting and keeping volunteers with special expertise, and the same division of power that makes them attractive also creates a risk of "turf wars." There are also enduring issues of representation: holders of public office differ, in politics, social position and experience, from the larger population of their communities. Although this is universally true at all levels of government, it creates unique challenges for communities that retain a traditional form of New England town government. Rapidly growing towns face this problem more than towns with a stable population base because new and old residents often have different values, traditions and expectations of government. Inevitably, tensions between competing ideas about the functions and costs of government erupt on town meeting floor. School budgets are a common source of tension, but not the only source.

Small communities across the Commonwealth are struggling to preserve open town meeting. Time, work schedules, commuting distances and other factors have contributed to declining voter attendance at town meeting everywhere. Lack of a quorum prevents town meeting from moving forward, delays action on legislative matters large and small, and increases the cost of running local government. At the same time, communities are loath to abandon town meeting in favor of more efficient modes of self-government. Instead, they address problems symptomatically, e.g., by reducing or altogether eliminating quorum requirements.

Town Administration and Community Services

Compared to communities of similar size (population and land area), Merrimac's town government appears to be under-staffed, that is, the ratio of municipal employees to population served is low. This, coupled with deferred capital investment in public buildings and infrastructure, sheds light on the low per capita cost of government in Merrimac today. An analysis of government spending per capita by a group of demographically similar towns shows that while Merrimac town meeting authorizes spending that is below the median for the group as a whole, its current appropriations for most "municipal-side" services – public safety, public works, health and welfare, and general government – are very low, except for debt service. Merrimac's education spending per capita is at the mid-point for comparable communities.

Across the state, more than 80% of communities with populations of 5,000-7,500 have a town administrator, executive secretary or similar position. Merrimac provides for day-to-day oversight of municipal operations through a finance director, but finance directors and town administrators differ in role, scope and purpose. Moreover, the positions of town manager, town administrator and executive secretary differ as well. Communities that institute professional town management generally adopt a model that fits their circumstances, and from time to time, they abandon one model in favor of another. Growth in population and capital assets, the complexity of local government problems, a desire for efficiency and a decline in the number of available, competent volunteers typically persuade towns to hire public managers. While Merrimac may not have pressing needs for a town administrator today, the town should consider conducting a local government study in the next three to five years.

An aspect of local government that needs immediate review is the organization of Merrimac's public works functions. Currently, the highway, water, sewer, tree, cemetery and park operations are governed by separately elected boards and commissions or office holders. Consistent with trends toward professional town administration, an increasing number of Massachusetts communities have consolidated their public works functions in order to increase operating efficiency and strengthen accountability. Given the cost of public works operations in Merrimac and their relative share of the town's general fund budget, Merrimac needs to examine departmental consolidation. It is very important to consider the policy consequences of a system in which services essential to managing development are divided among several independent

boards. Finally, a public works director who is also a licensed professional engineer may benefit not only traditional public works functions, but also the Planning Board and other officials who need engineering support to carry out their statutory duties.

The town's land use and development departments – the Planning Board, Conservation Commission, and Zoning Board of Appeals – do not employ any professional staff.[14] In fact, few non-urban communities in Massachusetts have full- or part-time professional planners, conservation or health agents. Regional planning agencies (RPA's) supply some technical assistance and expertise to communities, especially to small towns, but they have neither the staff nor budgets to provide sustained professional support. Most RPA's carry out regional transportation and water resource planning, and some provide more specialized services to the communities in their districts. Recently, RPA's across the state completed city and town build-out studies under the direction of the state Executive Office of Environmental Affairs (EOEA). As for ongoing local planning, development review and management, however, it is up to communities to staff or contract for planning services.

Merrimac is and will remain a small town, even at build-out. There may not be a compelling need for full-time planning staff, but a part-time planner seems critical. Merrimac's zoning and subdivision regulations need to be overhauled and the development process needs more oversight than volunteer members of boards and committees can provide. Although regulatory changes should improve Merrimac's ability to obtain high-quality community development, zoning amendments alone cannot accomplish the land use outcomes that the master plan goals anticipate. Undeniably, a town planner would enable Merrimac to manage development more effectively. Merrimac could consider "sharing" a professional planner with a neighboring community, although this arrangement has not been very successful elsewhere. Another option is to retain planning services on a contractual basis. If the town establishes and funds a full-time town planner in the future, it makes sense to hire an environmental planner and thereby facilitate better coordination between the Planning Board, Zoning Board of Appeals and Conservation Commission. This year, Merrimac wisely increased the budget for inspectional services and zoning enforcement. Given its recent and present growth rate, and the prevalence of renovating and expanding older homes as an alternative to new-home construction, the town needs adequate inspectional support and zoning enforcement.

Merrimac also needs enhanced capacity to engage in economic development. Toward that end, the town may seek to fund an economic development planner jointly with other communities in its new ETA, but certain prerequisites have to be met in order for sub-regional planning to succeed. First, all four ETA communities would need to agree on a method of financing economic

[14] The Conservation Commission presently retains a part-time conservation agent on a contractual basis.

development assistance. Second, they would need to enter into an inter-local agreement, designating one community as the lead. Third, they must have some degree of commitment to common economic development goals. Fourth, they would need to think "regionally" – i.e., to recognize that developing an economy requires patience, innovation, and the ability to see public benefits beyond local tax revenue.

A final service area that needs near-term attention is public safety. Like many small towns, Merrimac relies heavily on call firefighters to answer fire and medical emergencies. The Fire Department, which provides fire protection and ambulance services, is staffed by a full-time chief, full-time firefighter/EMT, and call officers for support and back-up. The success of the call firefighter system everywhere depends on readily available people with proper training – conditions that are becoming difficult for small towns to meet. According to the Fire Department, calls have been increasing at a rate of about 60 per year. More than half are medical emergencies. Given that Merrimac's elderly population is projected to increase by 45% between now and 2010,[8] the likelihood of growth in medical emergency calls is very high.

National norms for suburban police departments call for two officers per 1,000 residents. These are norms, not formal standards. Ultimately, communities have to base their public safety staffing plans on local conditions, which may argue for a somewhat higher or lower ratio of police personnel to population served. If Merrimac's population approximates 8,000 people in the next 20 years, the national-norm approach would call for a police force of 15-16 officers and patrolmen. More intensive business development along or adjacent to the Route 110 corridor will trigger needs for a larger police force. However, quality business development will also generate more revenue.

Public Facilities

The master plan's build-out estimate translates into a population of 8,000-8,300 residents. If Merrimac proceeds with planned improvements to Town Hall and the construction of a new library, the community should have adequate civic space to accommodate its projected build-out population. Both projects are critical for providing high-quality services, assuring safe work environments for town employees and conducting public business. The town also needs to address public safety facilities as population growth continues. The present fire/police station on East Main Street is not adequate to house expanded public safety and highway operations. If reconfigured and expanded, the building may be adequate for public safety purposes, but this decision requires a specialized study of public safety space needs and a code analysis. Ultimately, the location of highway offices, personnel and equipment depends on whether the town consolidates its public works functions in the future.

[8] Massachusetts Institute of Social and Economic Research (MISER).

In terms of public water and sewer services, the Water Department's anticipated approval of a new supply on Bear Hill Road should support build-out consumption. However, it may take several years for Merrimac to obtain water withdrawal permits from MADEP and the State of New Hampshire. Merrimac also needs to address storage, however, because fire flows are already weak in some sections of town. Increasing the water supply and constructing a third tank are essential for improving pressure throughout the system.

The town is gradually upgrading its wastewater treatment plant pursuant to a 1998 sewer facilities study. The estimated cost of treatment plant and collection system improvements is approximately $1.2 million (1998 dollars). As Merrimac already knows, the existing wastewater treatment plant cannot accommodate a build-out population of 8,000 people. Assuming that water use patterns remain constant, the plant can probably accommodate another 500-600 people, or an equivalent combination of households and businesses. Clearly, Merrimac must make policy choices concerning the allocation of remaining plant capacity.

The Pentucket Regional School District's ten-year enrollment projections substantially exceed the planned operating capacity of existing buildings on a region-wide basis. With the exception of Merrimac's Sweetsir School and West Newbury's Page School, the regional school system does not have adequate facilities to educate the number of children the district expects to serve by 2010. Grade reconfiguration is a short-term solution to a problem with long-term complications and costs. At issue is not only what Merrimac, Groveland and West Newbury taxpayers will have to pay to expand the district's physical plant, but also the location of new schools and the state's school building reimbursement policies. Although the three communities have been unable to agree on a school construction plan and the regional school committee is currently weighing a number of options, Merrimac's future community service expenditures will reflect a major investment in new or expanded school facilities and higher school operating costs.

Traffic & Circulation

Roadway Character and Safety

The village of Merrimac – including Merrimac Square and adjacent neighborhoods – is distinctly different in character than other areas of Merrimac. Its distinction should be enhanced, not only to retain the village's character but also to control traffic circulation patterns in the center of town. Generally, the area bounded on the south by I-495 extending out to approximately Orchard Street to the west and Broad Street to the east along Route 110, and north along Winter Street and Church Street to generally the point where they intersect, represents the village district. The site plan and subdivision requirements of many surrounding towns would be out of place in Merrimac. For example, it makes no sense to require off-street

parking, access design, and building setbacks that are incompatible with the village atmosphere of Merrimac Square. Likewise, the informality of Merrimac Square land uses would be inappropriate elsewhere in town. The town's site design regulations need to acknowledge this dichotomy.

Merrimac needs to establish a framework for maintaining village streets and those beyond it in order to meet the needs of both sets of roadways. Within the village, there ought to be curbing and sidewalks on at least one or both sides of every roadway. The village's character, density and proximity to town services invite walking trips by children and adults alike. Since both of Merrimac's elementary schools are near Merrimac Square, pedestrian links would enhance access to the playing fields and playgrounds at both locations. The close intersections and relatively perpendicular roadway patterns are conducive to both walking trips and lower travel speeds, which enhance safety. At village entry points, signage and a consistent traffic control program will reinforce the village's character and heighten the consciousness of drivers to anticipate more pedestrian activity and higher-density development. Along with sidewalks and curbing, other features that may be used to control traffic in this area include standard crosswalk, speed limit and informational signage. Corresponding urban design improvements such as ornamental lighting, benches, and historic markers create an ambience that would contribute to slower travel speeds and encourage more walking trips.

Inside the village district, Merrimac needs to adopt appropriate roadway standards: narrower widths, certain parking restrictions, and pavement striping. The new flourescent yellow/green pedestrian crossing signs that are currently being installed throughout the country would detract from Merrimac's village ambience, but they are appropriate in other locations along Route 110 where travel speeds are faster and pedestrian are less prevalent. Although new single-family subdivisions are unlikely within the village area, design standards for them should conform to existing development patterns so that new roadway and traffic patterns complement and are consistent with the established character of the village.

A more typical complement of subdivision rules and roadway controls make sense outside the village. In these areas, high-visibility signage is appropriate and desirable. For example, driveway design should include wider radii so that turning movements in and out of businesses is easier and less disruptive to through traffic. All roadways outside the village need to be brought up to consistent standards, which Merrimac should set by consensus. At a minimum, appropriate speed limits and pavement striping should be provided along all roadways that serve greater volumes of traffic: e.g., Highland Street, Heath Road, Bear Hill Road, River Road. Neighborhood streets should be so designated and they ought to have slightly different standards, such as the elimination of posted speed limits – the default speed would be 30 miles per hour in a thickly settled area – but may include centerline striping and "slow children" signage. A consistent, tiered

system of signage, striping and related traffic controls will provide all drivers (both local and visitors) with ways to recognize the type of roadway they are traveling on and simultaneously encourage appropriate driver habits. Developing a vocabulary of traffic controls reinforces good driving behavior for everyone.

The streets just north and south of Route 110 and around Merrimac Square are on a scale that befits a small village. The roadways are relatively narrow for suburban streets and include narrow rights-of-way that limit the corner radii at intersections and require drivers to travel at slower speeds. In the subdivisions that are being built outside the village, many of the roadways are wider and they do not follow the typical grid pattern. These are more like subdivisions in other communities, with homes generally set back from the street. The wider pavement width, the greater setback for homes and the wider rights-of-way that provide better visibility also result in higher travel speeds compared to village streets. Commonly referred to as "sprawl," these newer style subdivisions become more conducive to automobile travel than pedestrian or bicycle mobility. Unlike many modern suburbs, Merrimac has a distinct combination of these two land use patterns. Maintaining and controlling them requires different approaches.

While traffic safety is always of concern to local residents, the community as a whole benefits from the fact that a vast majority of drivers along local streets are regular users since the town does not attract a high amount of transient traffic – drivers unfamiliar with local travel patterns and roadway layouts. Typically, where traffic speeds and safety are a concern, the first step is to post additional signs to control traffic. The second step is to redesign the existing roadways to better control traffic without designing the character out of the neighborhood. There appear to be a few locations in town that have suffered this fate, even along Route 110 and River Road. Probably the best example of this is Merrimac Square, where the parking and traffic circulation layout is unique and has remained basically unchanged for decades.

Through Traffic Concerns

Two roadways in Merrimac are specifically designed for regional traffic: I-495 and Route 110. To a lesser extent, River Road, Bear Hill Road, Highland Street and Hadley Road are designed to carry through traffic, but not specifically long-range through traffic. For obvious reasons, I-495 is out of Merrimac's control and, aside from the interchange itself, there is no need for the town to be involved with its operations or management. Route 110, however, is a roadway that to some extent defines the town and the image people have of it.

Merrimac residents use Route 110 every day. While it should not be upgraded to a point that it encourages regional through traffic, Route 110 needs to be maintained at a level that facilitates smooth and efficient traffic operations. This may, in the future, include turn lanes at major

driveways or cross streets to allow turning traffic to get out of the way of through vehicles. Likewise, there will be a need to revise the circulation through Merrimac Square and to upgrade (possibly with signals) the intersection of Route 110 and Broad Street. These types of improvements will enhance Merrimac's ability to redevelop the corridor for commercial and mixed land uses while also providing local residents with more convenient access to goods and services.

Local residents do not want to encourage traffic along the major north/south roads, regional population growth will inevitability lead to increasing traffic volumes. It is unlikely that the overall capacity of these roadways will be tested in the near future. Current traffic data indicate that they are operating at less than twenty-percent of their capacity, even at peak times. Nonetheless, it is important to manage traffic so that it stays at an appropriate speed and so that drivers remain vigilant about safety. Most of these roadways have no sidewalks and limited shoulders, which detract from pedestrian and bicycle safety. Merrimac's north/south road system should be upgraded to provide enough shoulder width so that pedestrians can step off the roadway if traffic conditions warrant. Likewise, a graded earth shoulder provides bicyclists with an area to "bailout," if necessary. Sidewalks may be desirable in some locations, but not throughout the community. Finally, speed limits and appropriate warning signs at curves or intersections should be installed. In addition, some minor roadway widening, clearing trees or brush on the inside of corners, or minor geometric changes at some intersections are worth considering. All of these would be designed to improve safety, not to increase travel speeds.

General Traffic Management Strategies

Because of its locations, geography, and relation to surrounding cities and towns, Merrimac is unlikely to witness significant commercial development pressure. Instead, it is more likely that services and retail businesses along Route 110 and near the I-495 intersection will focus on businesses that provide services to the community and for the immediate surrounding towns. Businesses that rely on larger market areas typically locate in places with better regional access and proximity to related types of businesses. Merrimac falls "between the cracks" in this commercial-business mosaic.

Safety is the major traffic issue in every community. People usually drive differently within the areas they feel ownership of and in places they consider safety-sensitive. Merrimac residents probably drive differently in town than they do elsewhere. Since a majority of the trips in Merrimac are by residents, this benefits general safety within the community. Traffic hazards are often associated with locations that carry a high number of non-local drivers or traffic traveling through a community on a regular basis. It is important to establish a high priority for safety and to convey this priority to commuters that use Merrimac's streets on a regular basis. It is <u>not</u>

realistic to expect residents of adjacent communities to avoid traveling through Merrimac in their normal commuting or shopping trips. However, it is realistic to train them to drive carefully while they are in Merrimac. This can be done in a number of ways: traffic controls (signage, striping roadway design), traffic enforcement (portable speed equipment, police enforcement and visibility), or publicity (special event signs or reminders). Establishing a regular program of police enforcement action on major commuter routes will reinforce the message.

Broad Street

As the roadway that provides interchange access to Route 495, Broad Street is a key circulation feature in Merrimac. The current layout and controls along Broad Street are limited, with a minimum amount of striping and signage. In addition, the roadway edges and driveway locations are poorly defined, which lends a rural or rustic character to the area but also leads to less controlled traffic flows. Since Broad Street is apt to carry a significant increase in traffic in the coming years, it is appropriate to consider improvements that may be necessary to maintain safe traffic flows onto and off of I-495 as well as between the north and south portions of town.

A roadway improvement plan should be developed for Broad Street that includes curbing, sidewalks, signage and striping, and consistent driveway design. Broad Street is used by a higher percentage of non-residents than any other road in Merrimac because of I-495 interchange. Therefore, it is important to implement standard traffic controls and clear directional signage. It seems particularly appropriate to post a sign stating that there are no services south of the interchange, mainly to discourage transient traffic from using River Road. Despite anticipated traffic growth, it seems unlikely that capacity at the interchange will need to be increased in the foreseeable future. Existing volumes appear to be low enough that signalization will not be necessary. While more development along Route 110 may lead to an increase in traffic onto and off of I-495, traffic movement should occur relatively easily as long a through traffic along Broad Street does not increase. Today, left turns off of the northbound ramp have very little through traffic to yield to, and the amount of traffic from the southbound ramp that turns left is relatively low because there is no commercial development on the south side of I-495. These factors suggest that signalization or ramp widening may be unnecessary, possibly even in the long term.

Signalization of Broad Street at Route 110 may be necessary depending on the overall traffic growth and the pattern of development along Route 110. Under current conditions, this intersection has wide enough roadway widths to accommodate existing flows, but it may need to be widened to provide dedicated turn lanes with signalization. Specifically, a left-turn lane onto Broad Street and/or a left- or right-turn lane out of Broad Street would be appropriate, as would a channelized right turn from Route 110 onto Broad Street. Any signal located at this intersection

must include provisions for signalizing the fire department driveway. While no specific planning needs to be done now, Merrimac should anticipate the potential for signalization at Broad Street and Route 110. Changes to the land uses at the intersection should be reviewed to ensure that nothing is changed that might preclude widening and signalization in the future.

Fiscal Implications of Present and Future Development

By virtue of its location, developable land and desirability, Merrimac will continue to grow. Under both the state's build-out study and the master plan's, the town is at about 70% of its residential development potential today and a mere 18.2% of its commercial and industrial development potential. In the near-term, Merrimac will likely absorb new housing units at a rate comparable to or slightly lower than its most recent development experience. During the 1990s, the town's housing inventory increased by 14%. While significant for a small town, the 281 new homes that were built in Merrimac between 1990-2000 translate into a lower rate of housing growth than that of the previous two decades. Merrimac witnessed a 21% increase in homes during the 1980s and a 24% increase during the 1970s. Over the past 40 years, however, population growth has been more erratic than housing growth, as shown in Table 3-2.

Table 3-2 Housing Unit Growth in Merrimac, 1960-2000

	1960	1970	1980	1990	2000
Housing Units					
Total	1,116	1,341	1,663	2,014	2,295
% Change		20.2%	24.0%	21.1%	14.0%
Population					
Total	3,261	4,245	4,451	5,166	6,138
% Change		30.2%	4.9%	16.1%	18.8%

Source: Bureau of the Census.

The data in Table 3-2 convey part, but not all, of an intriguing story about Merrimac's late 20th-century development history. Between 1970-1980, the number of housing units in Merrimac skyrocketed, yet the rate of population growth was quite low. For such a significant increase in the town's housing inventory, one might expect a corresponding rate of land use change. However, as Table 2-1 indicates, the amount of land absorbed by residential development between 1971-1985 was considerably less than the land used for residential development between 1985-2000. Toward the end of the 1960s through about 1975, the housing stock changes that occurred in Merrimac were driven more by an intensification of pre-existing land uses than by new-home construction: a steady flow of mobile homes into the town's two mobile home parks, conversions of single-family homes to duplex and multi-family units, infill development, and new construction of attached housing units. The 1977 master plan notes that between 1964-1970, single-family homes *decreased* by 4%. By 1980, single-family home homes had become the preferred

mode of development in Merrimac, although most of the condominium units that exist in Merrimac today were developed in the 1980s.

In the same period that Merrimac absorbed a considerable supply of small housing units, households were beginning to downsize nationally. The state's population increased by less than 1% between 1970-1980 and across Essex County, the population dropped slightly, -0.67%. Against the backdrop of these two forces – housing growth mainly among small units intended for one or two-person occupancy, and national demographic trends – it is no surprise that Merrimac's population increased by only 4.9% between 1970-1980. Similarly, it is no surprise that by 2000, Merrimac had witnessed two decades of significant population growth: for the past 20 years, single-family homes have been the predominant form of housing development in Merrimac. Common (fiscal) sense explains why Merrimac's average single-family tax bill was increasing at a somewhat higher pace than in other cities and towns at the end of the 20th century.

In contrast to the town's desirability for homebuyers, Merrimac has seen almost no commercial or industrial development in the past decade. The absence of economic development, coupled with a steady stream of new-home construction, relates not only to such conditions as sluggish job growth but also to changes in weight placed on local revenue sources: in particular, an increasing reliance on the residential tax levy. For example, the assessed value of Merrimac's industrial property increased from $4.8 million in FY97 to $6.7 million in FY02, or 39%, but the value of its commercial base inched upward from only $11.5 million to $13.3 million in the same period, 15.6%. More significantly, as of FY02, Merrimac's commercial tax base still had not recovered its pre-recession assessed value of $17.5 million. Residential assessments increased by nearly 60% in the past five years and simultaneously moved from 92% of the town's total assessed value to 94%. The growth in residential property values can be attributed to three factors: alterations and improvements to older homes, the volume of homes sales in town, and the value of new construction. As a percentage of each year's tax levy, the tax revenue that Merrimac received from "new growth" – i.e., development added to the tax rolls – equaled or exceeded the percentage in communities statewide, but predictably, the residential share of Merrimac's new-growth revenue was substantially higher than the state's as a whole. Throughout the 1990s, residential new growth averaged 95% of all new growth revenue in Merrimac, but in cities and towns across the Commonwealth, residential new growth was closer to 77% of the total.

Development that occurs over the next 10-15 years will place more demands on Merrimac's complement of community services: police, fire, highway, water, and sanitation, along with culture, recreation and human service programs, and the general government functions that sustain each of these operations. However, growth that has *already* taken place accounts for the operating and debt increases that Merrimac is experiencing today, especially for schools. Future development will

have important consequences for Merrimac's fiscal condition, but they need to be put in perspective:

- Throughout the 1990s, Merrimac experienced a modest but steady rate of home sales. Together, new-home construction *and* the recycling of older homes triggered an increase in municipal and school expenditures. The taxable value of older homes is not as high as the taxable value of new homes, yet *aggregate* home sales generated higher community service costs because as housing units were sold, Merrimac's population increased.

- On a per capita or per-pupil basis, community service costs are the same regardless of property value or age of home. Merrimac's newest single-family homes are considerably larger than its older homes; consistent with national averages, they appear to generate more school-age children. They also generate more property tax revenue, although not always enough to "pay their way." Older single-family homes may be self-supporting when occupied over the long term by the same owner. Once transferred to a new homebuyer, however, they often become "revenue-negative" again. Town service costs normally will be the same, but as incoming families bring children into the schools, the taxable value of an older home rarely yields enough revenue to cover the additional education costs.

- After a period of relatively low bonded indebtedness, Merrimac began to incur new debt in the early 1990s, which sheds light on the increase in debt service expenditures by FY95. Most of today's debt is for school and water system improvements. These bonds will be retired in the next 10-12 years. Since the town is capable of absorbing a modest of amount of additional new debt, it is critical that voters approve the proposed modifications to town hall – a project that is *long* overdue and has very little to do with population growth in Merrimac. In fact, Merrimac has several deferred capital projects that need attention, including sewer and water system improvements as well as a new library. These investments have almost nothing to do with anticipated growth and their costs cannot be attributed to future development. Rather, they are attributable to pre-existing development. It should be noted that the last master plan – 1977 – recognized Merrimac's need for a new library.

If residential development continues at a rate more or less consistent with that of the 1990s, Merrimac will grow by another 275-300 single-family homes in the next ten years. A slower rate of growth would not be at all surprising, however. Given Merrimac's late-20th century experience, the town may be approaching an era of growth rate decline, which is typical for a suburban community. Region-wide economic conditions will dictate both pressure for new homes and the total volume of home sales in Merrimac.

Cost of Community Services

Identifying explicit relationships between cost and revenue generation is important for town planning, although land use choices should never be made solely on the basis of fiscal predictions. While fiscal impact studies explore the cost-and-revenue dimensions of land use, a community's political culture has a direct bearing on costs just as population demographics and the structure of the local economy have a direct bearing on revenues. Land use provides a consistent basis for measuring costs, but government does not serve housing units or commercial facilities. Rather, it serves *people*. To fiscal policy analysts, the issue is not limited to how many people a community may be asked to serve in the future, but more importantly, their ages, where they live and work, their household incomes, and what they expect from local government.

Each class of land use generates demands for certain types of service, but within each class the demands vary significantly. For example, residential land uses trigger municipal service costs, but not to the same degree, and they generate different school impacts as well. Housing for the elderly or persons with severe disabilities, and single-room occupancy (SRO) units do not attract school-age children. Among residential land uses, however, housing for the elderly often demands more service from police, fire and ambulance personnel just as single-family homes demand more classrooms and soccer fields. Similar differences exist for commercial land uses: compared to a professional office complex, retail development usually costs more for public safety, namely police. Since industrial development needs adequate infrastructure, it tends to increase a community's public works costs. Still, some industries consume disproportionately high amounts of amount of water and others consume very little; some industries generate large volumes of peak-period traffic, others generate noise but not much traffic. The town finance-land use connection is an intricate one, and it differs across municipalities. Accordingly, the conclusions of a fiscal impact analysis in one town may have little validity elsewhere even though general cost-revenue tendencies usually hold true.[9]

The master plan has evaluated relationships between land use and town finances in Merrimac using the "Cost of Community Services" (COCS) model developed by the American Farmlands Trust[10] and two fiscal impact models refined by Burchell and Listokin (1974), "comparable city"

[9] Robert Burchell and Naveed Shad, "A National Perspective on Land Use Policy Alternatives and Consequences," National Public Policy Education Conference, Portland, OR (September 1998), 23.

[10] See American Farmlands Trust, Southern New England Forest Consortium and Commonwealth Research Group, Inc., Cost of Community Services in Southern New England (September 1995). The definitions used by AFT to classify land as residential, commercial-industrial and open space appear in Appendix A.

and proportional valuation.[11] It is important to point out that while many factors influence the fiscal impact of development, all analytical models assume to some degree that today's land use-service cost-tax revenue relationships provide a useful barometer of a community's fiscal future *if* new growth adheres to historic trends. "Cost-revenue ratios" express an estimate of the fiscal impact of new growth, based on the probability of recent trends holding true in the future. However, unforeseen changes can and do alter the relationship between service costs and revenues: federalism, state policies governing the distribution of local aid, the expectations that voters place on local government service delivery, the complex network of laws and credit practices that affect municipal bonds, the economy, zoning and other development regulations, and population cycles are among the obvious factors that alter local government realities. Additionally, present costs are not always indicative of historical trends. One-year aberrations happen, even in communities with a stable growth history and a conservative approach to fiscal administration.

The conclusions derived from each model in Merrimac's fiscal impact analysis appear in Table 3-3. Overall, the analysis suggests several important findings:

- Existing residential land uses cost slightly more for municipal and school services than they generate in revenue – about $1.04 for each $1 in revenue. A cost-revenue ratio of $1.04 is nearly a break-even or "revenue neutral" condition, and it is attributable to two factors: 30% of the town's residential base consists of multi-family, mobile home and other housing units designed for small households, and the town spends very conservatively on municipal-side (non-school) services. Like all communities, however, Merrimac relies on other sources of revenue (state aid and local receipts) to pay for resident services. Considering property taxes alone, residential land uses cost about $1.64 per dollar of revenue. Since single-family homes occupy an increasing share of Merrimac's residential base, a cost-revenue gap of $1.64 is not surprising.
- A new single-family home, assessed at the average value of new homes built during the past three years, costs approximately $1.23 for every dollar of revenue it generates.
- Privately owned elderly housing produces a very favorable cost-revenue ratio: .39 cents for

[11] All three models have limitations. COCS is not useful for forecasting the fiscal impact of new growth, but it does support a profile of existing fiscal conditions. The comparable city method was developed specifically for new-growth impact assessments, and it was selected for this study in order to reduce the potential for service cost distortions. Finally, the proportional valuation method is intended only for estimating the fiscal impacts of commercial or industrial (*not* residential) development. Since it was designed for project-specific impact analysis, any results derived for a master plan study – e.g. to test the fiscal advantages or disadvantages of commercial development throughout a particular zoning district – must be used cautiously.

services to each $1.00 in tax and other revenue. The ratio for assisted living facilities is somewhat higher, .51 cents for services for each $1.00 in revenue. However, the net revenue yield – that is, the amount of surplus revenue available to support the cost of services for other land uses – is *much* higher for assisted living facilities than for conventional elderly housing. The cost-revenue ratio is higher because assisted living facilities often trigger some additional service costs, mainly in public safety and especially in small towns like Merrimac.

- Commercial development costs the town very little to serve, but it also generates a limited amount of revenue. Merrimac's non-residential base is weak and the use intensity of commercial and industrial land is extremely low.
- A commercial project at a use intensity more consistent with Merrimac's zoning, e.g., with a floor-to-area ratio of .40 to .45, would generate somewhat higher costs than today's base but at a considerably greater fiscal return to the town.
- Open space – mainly farmland under Chapter 61-A and other vacant land – also provides more revenue than it generates in costs.
- Commercial, industrial and open space land uses provide surplus revenue even when the cost-to-revenue ratio accounts only for property taxes. They do not generate enough tax revenue to offset Merrimac's residential gap.

Cost-revenue ratios represent an *estimate* of the fiscal impacts of land use. Local revenues and service costs are dictated by political choices made at all levels of government. As communities mature, they incur capital costs and absorb long-term debt without the benefit of new-growth revenue. For purposes of forecasting fiscal impacts, building a new school for both existing students and anticipated enrollment growth is not the same as building a replacement school for a stable base of K-12 enrollments. The reason: a town that anticipates rising school enrollment s also anticipates new-growth revenue. Often, however, the combined cost of school operations and debt service in a growing town exceeds the tax revenue realized from new-home construction. This appears to be the case in Merrimac.

Table 3:3 Land Use and Town Finance Analysis

Existing Fiscal Conditions			
Cost of Community Services (COCS)	Cost-Revenue Ratio		Net Revenue Yield
Residential	$	1.04	Negative
Commercial-Industrial	$	0.52	Very Low
Open Space	$	0.19	Moderate
Fiscal Impact of New Development			
"Comparable City" Method (Residential Only)			
Single-Family	$	1.23	Negative
Two-Family	$	1.19	Negative
Multi-Family	$	0.79	Moderate
Elderly Housing (Apartment)	$	0.39	Moderate-High
Elderly Housing (Congregate)	$	0.28	Moderate
Assisted Living Facility	$	0.51	Very High
Proportional Valuation (Non-Residential Only)			
Industrial R&D and Office	$	0.37	Very High
Industrial: Warehouse	$	0.19	Low
Commercial: Retail	$	0.65	Moderate
Commercial: Office	$	0.48	High

Notes: (1) Cost assumptions reflect FY02 budgeted revenue in Merrimac. (2) Revenue assumptions reflect FY02 assessed values, estimated local receipts and other sources, and state aid as reported by DOR (FY02 Cherry Sheet). (3) Under the COCS model, costs are assigned to land uses based on the relative assessed value of each use class, including taxable open space. Open space does not include land owned by governmental or non-profit organizations, i.e., non-taxable open space. COCS defines open space as famland, other vacant parcels over 5 acres, and "underdeveloped" parcels over 10 acres. (4) The fiscal impacts of new commercial and industrial development may vary considerably depending on type and location. For industrial impact forecasting, the master plan assumed an unusually low assessed value, $35/foot. The commercial ratios differ because the service costs are higher for retail and the value/foot it somewhat higher for professional offices, which also generate very few service costs.