

## 2. Land Use

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### Introduction

Land use refers to the amounts and physical arrangement of a community's residential, commercial, industrial and institutional development, along with roads, open space and other vacant land. Since land use largely determines the need for community facilities, services, infrastructure and transportation improvements, it is the basis for all comprehensive planning. Accordingly, a land use element forms the heart of all city and town master plans.

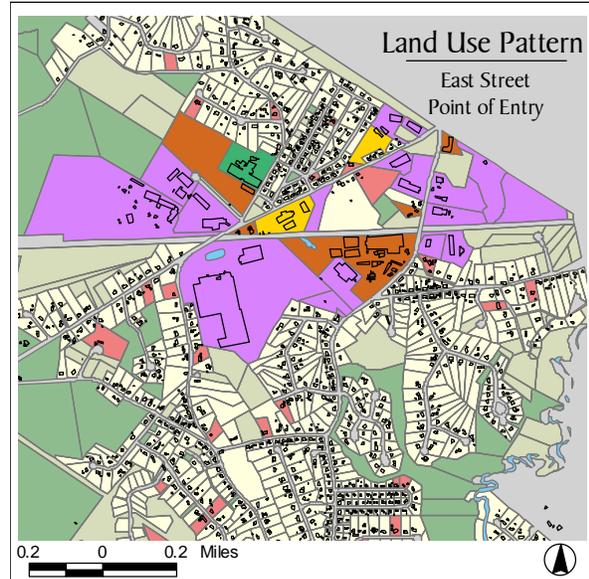
Early in the 20<sup>th</sup> century, local governments began to embrace zoning as a means to control land use by regulating the amount and location of development. Zoning is a tool for managing conflict; it

balances private property rights with the public's interest in an orderly process of growth and change. As the primary agent of land use policy in cities and towns today, zoning is a critical part of master plan implementation. To understand how zoning may aid or frustrate the achievement of community goals, alone and in conjunction with other forces, master plans typically begin with a land use analysis: a description and critical review of a town's current land use scheme, development trends, and the visual, operational and economic ingredients of its "character." Tewksbury's land use analysis considers five questions:

- What are the features of Tewksbury's present land use pattern?
- How did this pattern come about?
- What aspects of Tewksbury's land use pattern are essential to the character of the town?
- Is the foreseeable future consistent with Tewksbury's goals?
- What opportunities exist to guide future development toward outcomes that are consistent with the town's master plan goals?

### Context

Tewksbury is a maturely developed suburb of Lowell. Its 20.7 mi<sup>2</sup> area is served by 148 miles of roads including two state highways, Routes 38 and 133, and Interstate Routes 93 and 495. Not surprisingly, regional transportation improvements have played a significant role in Tewksbury's modern growth history. Although the town's current population of



East Street, Tewksbury. Light-shaded areas depict residential neighborhoods while purple represents industrial land uses and orange, commercial land uses.

28,851 represents a modest 5.8% increase over the past ten years, Tewksbury was transformed by two decades of very high rates of growth after World War II. Between 1950-1970, the number of people living in Tewksbury increased by 155%, not unlike the experience of many communities north and west of Boston.<sup>1</sup>

The land use pattern in Tewksbury today (Map 1) reflects the profound changes associated with postwar development, not only in the amount of growth that occurred at mid-century but also in its distinguishable character. However, Tewksbury is a mosaic of development traditions, many of which pre-date zoning or came about as a result of superseding state and federal policies. Local regulation has shaped Tewksbury's development since voters approved the first zoning bylaw, but new growth has occurred against the backdrop of older, established areas that differ in form, density and appearance. Though the imprint of zoning is evident throughout Tewksbury, the town retains historically significant features such as Tewksbury State Hospital, a large compound of open space and institutional facilities bounded by East, Livingston and Chandler Streets. The record of the master plan visioning forums is replete with testimony about the importance of Tewksbury's natural and historic resources. Resident perceptions are borne out by the following land use review.

## **Existing Conditions**

### Land Use Pattern

Tewksbury's land use pattern has changed considerably since the last master plan was completed in 1973. At the beginning of the 1970s, Tewksbury had 1.47 acres of forest for every acre of residential development, or approximately one-fourth of an acre of forest per person. Though farming had long since declined as a component of the local economy, Tewksbury retained nearly 1,000 acres of agricultural land 30 years ago: .26 acres for every acre used by housing. Today, forests constitute less than .80 acres per acre of residential development and .15 acres per capita while the ratio of agricultural to residential land has dropped to a mere .09 acres. Commercial and industrial land uses occupied only 3.2% of the town in 1971, but in the ensuing decades, the amount of land devoted to business and industry would double.<sup>2</sup>

Among the most striking changes in Tewksbury's late 20<sup>th</sup>-century development pattern is the increase in land used for apartments. Though its residential base traditionally included a mix of single-family, two-family and multi-family homes, Tewksbury had almost no garden apartments in the early 1970s. Indeed, the Comprehensive Plan (1973) reports only one apartment complex: 60 units of elderly housing on six acres of land.<sup>3</sup> By last year, however, about 725 rental units in large apartment buildings covered 61 acres of land. Moreover, all of today's 1,606 condominium units post-date the first master plan, accounting

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<sup>1</sup> Statistics derived from Massachusetts Institute of Social and Economic Research (MISER), "Actual and Estimated Population Counts for Massachusetts, Counties and Municipalities, 1930-1998," [pop30-90current.xls] 30 June 1999, and Census 2000, Summary File 1, Geographic Comparison Tables.

<sup>2</sup> MassGIS, Vector Data Library, "lu295ph.dbf," (2001).

<sup>3</sup> Nash-Vigier, Comprehensive Plan: Tewksbury, Massachusetts (1973), 20.

for some 267 acres of recent residential growth.<sup>4</sup> Table 1 summarizes major land use changes in Tewksbury since 1971.

Significant Natural Features

Open water, wetlands and streams constitute about 22.5% of the town’s total area<sup>5</sup> and they have played a major role in Tewksbury’s development. Two rivers – the Merrimack and Concord – define portions of the boundary between Tewksbury and neighboring communities to the north and southwest while the Shawsheen River and its tributaries form an important natural resource area in the central and eastern sections of town. Among Tewksbury’s unique features is the convergence of four watershed basins within its borders, i.e., the Merrimack, Concord, Shawsheen and Ipswich River basins. Though most of Tewksbury is drained by the Shawsheen River, about one-fifth of the town drains northwesterly toward the Merrimack River. The town’s southwest corner drains to the Concord River and a small portion of South Tewksbury, bounded roughly by South Street and Salem Road, drains to tributaries of the Ipswich River in neighboring Wilmington.<sup>6</sup>

**Table 1: Land Use Change, 1971-1999**

Description	Acres			1971-1999
	1971	1985	1999	Chg.
Agricultural Land	946.6	806.6	477.3	-469.3
Forest	5,438.4	4,669.0	4,275.4	-1,163.0
Wetlands & Water Resources	930.9	930.9	933.7	2.9
Multi-Family Housing	6.7	112.0	246.8	240.2
Higher-Density Residential	653.9	653.9	687.5	33.6
Moderate/Low-Density Residential	3,028.5	3,725.5	4,380.5	1,351.9
Commercial	224.1	301.2	349.7	125.6
Industrial	204.7	385.3	535.3	330.7
Transportation	238.1	239.9	198.2	-39.8
Open Space, Parks, Institutional Uses	589.5	717.3	565.8	-23.7
Other Open Land	1,073.8	830.0	810.6	-263.1
Miscellaneous	191.0	154.4	65.1	-125.9
Total Area	13,526.0			

Source: MassGIS, State Vector Data Library, “lu295ph.dbf” (updated 2001).

Wetlands and water resources have influenced both the location of Tewksbury’s roadways and the types and intensity of land use found throughout the community. For example, the southeast-northwest orientation of Livingston Street nearly parallels Strong Water Brook

<sup>4</sup> Tewksbury Assessor’s Office, FY02 Parcel Database, in EXCEL format [rptListbyMLU.xls], (17 October 2002).

<sup>5</sup> NMCOG, “wet5k295.shp.”

<sup>6</sup> MassGIS, Vector Data Library, “watshd.shp” (1998).

from Ames Pond to the Shawsheen River just as Pleasant and Chandler Streets follow Meadow Brook in central Tewksbury. Similarly, Shawsheen and South Streets track the Shawsheen River from Andover south to Billerica and Wilmington. The town's largest contiguous wetland system, the Great Swamp, accounts for vast areas of undeveloped land between North Street, Main Street (Route 38) and I-495. Trull Brook between the Merrimack River and the Great Swamp is a limiting factor in the number of east-west roads across northwest Tewksbury.

The eastern and central sections of town consist of low-lying areas and fairly level terrain, while modest elevations are evident to the southwest and in North Tewksbury. Elevations across Tewksbury range from 85 to 150 feet and peak at Ames Hill, or 365 feet.<sup>7</sup> About 12% of the town is located in flood hazard and floodplain areas associated with the Merrimack, Shawsheen and Concord Rivers.<sup>8</sup>

### Roadways

Local roads convey a great deal about Tewksbury's evolution from an agricultural outpost of Lowell to a modern suburb. According to data maintained by the Massachusetts Highway Department (MassHighway), Tewksbury is crossed by nearly seven miles of the interstate highway system, mainly I-495, which provides two direct access points into the town: one at Andover Street in North Tewksbury and the second at Route 38. The town has indirect access to I-93 through Andover and Wilmington. Both highways had an indelible impact on Tewksbury's development during the last half of the 20<sup>th</sup> century, though the completion of I-495 is noticeably obvious in the amount of land that converted from forest and farms to house lots in the central and west sections of town after the mid-1960s.

In addition to interstate highway access, Tewksbury is served by State Routes 38 and 133. Route 38, known locally as Main Street, runs in a northwest-southeast direction across the entire length of town, roughly parallel to the old Boston and Maine Railroad leg that terminates at the Lowell/Tewksbury line near I-495. Tewksbury Center. Route 133 (Andover Street) crosses North Tewksbury between Andover and Lowell. State-numbered routes contribute nearly nine miles to Tewksbury's road network. The remaining roads are local, including 19 miles classified by MassHighway as collectors and 113 miles of minor streets – mainly the numerous small subdivision roads that were built after World War II, and a few rural through streets that collect and carry low volumes of local and non-local traffic. Table 2 provides basic data about Tewksbury's roadways.

The road network in Tewksbury has played a key role in both the timing and location of development and the scattered, somewhat disorganized pattern of growth throughout the town. Land in Tewksbury is made accessible by a simple frame of roadways that run across all or a significant portion of the community – Main Street, Livingston Street to North Street, East Street, Whipple Road and Andover Street – and older, established north-south roads including Shawsheen and Chandler Streets, the confluence of Kendall Road, North and Pleasant Streets, Pike and Marston Streets, and Trull Road.

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<sup>7</sup> Comprehensive Plan, 22.

<sup>8</sup> Northern Middlesex Council of Governments (NMCOG), "firmq3~295.shp," supplied in connection with EOE Build-Out Study, Tewksbury, Massachusetts (2001).

**Table 2: Tewksbury Roadways (Summary Statistics)**

Class	Miles	Description
Interstate	6.9	I-93 and I-495
Minor arterial	10.2	State Routes 38 and 133
Other arterial/major collector	18.3	<u>Examples</u> : North, East, Shawsheen, Pleasant Streets; Whipple and River Roads
Minor collector	21.8	<u>Examples</u> : Livingston, Astle, Rogers Streets, Kendall, Salem, Trull and Foster Roads
Local	90.6	Subdivision access roads, rural through streets
Total	147.7	

Source: MassHighway, via MassGIS State Vector Data Library (updated 2002).

Most of the residential growth that occurred in Tewksbury after the 1940s resulted in small streets that met the access needs of subdivisions but created very few connections between new and old neighborhoods. This trend persisted throughout the last half of the 20<sup>th</sup> century. When Tewksbury adopted zoning favorable to economic development, hoping to capitalize on its proximity to the interstate highways, the same internal roadway frame was pressed to provide access to both residential and industrial land. By the early 1970s, the resulting land use and traffic conflicts were so obvious that Tewksbury's 1973 *Comprehensive Plan* promoted the construction of a new industrial connector road across the northern end of town, from I-93 to I-495, in order to separate industrial activity and traffic from residential neighborhoods.<sup>9</sup> The connector road was never built, but the proposal anticipated many of the problems that Tewksbury contends with today as it tries to balance neighborhood concerns with the desire for a strong tax base.

#### Residential Development

Tewksbury's land use pattern is dominated by residential development, including single-family homes on small to moderately sized house lots, two-family and multi-family uses, and several apartment complexes. Collectively, residential land uses occupy nearly 40% of the town's total area, or 5,315 acres, compared to 27.3% when the Comprehensive Plan was written. The 10,171 dwelling units in Tewksbury today represent a 30-year increase of 94.3%. Town-wide, the two most significant residential land use changes that have occurred since 1970 include a dramatic increase in the consumption of land for single-family home development and the introduction of large multi-family housing developments. These trends reflect Tewksbury's zoning and growth management policies. They also shed light on environmental and fiscal considerations that will be important to the new master plan and its implementation.

Most of Tewksbury's oldest extant homes are located in the northwest, west and central sections of town and they supply visual evidence of the town's historic development pattern. A number of 18<sup>th</sup> and early- to mid-19<sup>th</sup> century residences can be seen on River Road, Main, North and East Streets, Whipple Road and Rogers Street. Until the early 1940s, residential growth in Tewksbury occurred mainly along these and other established routes,

<sup>9</sup> Comprehensive Plan, 72-73.

including Marshall, Pleasant, Shawsheen and South Streets, and Trull Road and Fiske Street. The exception is a unique part of South Tewksbury between Main, South and Brown Streets and the Wilmington town line, where plats of very small house lots were laid out during the 1920s in the rectangular “grid” tradition of that era. Not surprisingly, this section of town has a very high percentage of homes that pre-date 1939. It also has chronic flooding problems, for much of the area is comprised of wetlands and floodplains.<sup>10</sup>

After World War II, Tewksbury entered its suburban phase of development – evident not only in the age of its housing stock but also its street pattern. Grids were replaced by scores of subdivisions with wider, curvilinear streets that opened former agricultural land to new neighborhoods throughout Tewksbury. Much like Newton Avenue, Sullivan Parkway, and Tanglewood Road, many of the early postwar subdivisions were fairly small and they began as a form of infill development in the older, established areas of town. During the 1950s, a considerable amount of housing development occurred along Chandler Street and Foster Road when the neighborhoods formed by Euclid, Grasshopper, Starbird, Kevin, Darby and Kent Streets were built.

By 1960, larger, outlying tracts of Tewksbury land had begun to give way to the same housing market pressures that drove population growth in many Middlesex County communities to a record-breaking high. The subdivisions on land adjacent to Kendall Road north of Livingston Street – Pennacook Road, Meredith Drive, William G Drive, and Cardigan Road – and several subdivisions in the vicinity of Whipple Road and Rogers Street attest to the rapid growth that occurred in Tewksbury throughout the 1960s until the mid-1970s, when the pace of single-family housing starts began to stabilize. The same subdivisions also mark the departure from small, looped neighborhood roads to cul-de-sac streets laid out on a 40-foot right of way and clearly, from small-lot to one-acre zoning.<sup>11</sup>

Since 1970, most of Tewksbury’s new single-family homes have been built on 43,650 ft<sup>2</sup> lots, which explains the length of many modern subdivision streets, the outward movement of new growth, and the rate of increase in residential land use from .12 acres per person in 1970 to .19 acres per person in 2000. While important, these indicators of land use change belie the extent to which recent residential development has gradually transformed Tewksbury at the neighborhood level. Fig. 1 shows that each of Tewksbury’s five federal census tracts absorbed varying amounts and types of housing growth during the late 20<sup>th</sup>-century. In statistical terms:<sup>12</sup>

- 54% of the housing units in the western section of Tewksbury – Census Tract 3151 – were built between 1970-2000, which represents a considerable amount of new development. More significant, however, is the relationship between housing unit growth and residential land use. In Census Tract 3151, the total number of housing

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<sup>10</sup> Data obtained by geo-coding database from Tewksbury Assessor’s Office, “rptListByMLU.xls” (June 2002).

<sup>11</sup> *Ibid*; also, road attributes derived from MassGIS Vector Data Library, “mrd102r1, 103r1, 112r1, 113r1.shp.”

<sup>12</sup> Statistics derived from Census 2000 Demographic Tables 1, 4, for Middlesex County Census Tracts 3151, 3152, 3154.01, 3154.02, 3154.03, 3155; and attribute tables formed by clipping MassGIS “lusph.shp” to ESRI Geography Network “tgr2501700grp00.shp.”

units today is 1.81 times the number that existed in 1969, yet single-family home development covers 3.81 times the amount of land used for this purpose 30 years ago.

- A different set of growth impacts can be seen in the area bounded by Main, Chandler and East Streets and the Shawsheen River, or Census Tract 3154.01. This section contains not only twice the amount of single-family development that existed in 1970, but also a substantial number of new apartments. In fact, 31% of Tewksbury’s multi-family rental housing inventory is located in this part of town, which consists of 9% of the town’s total land area.

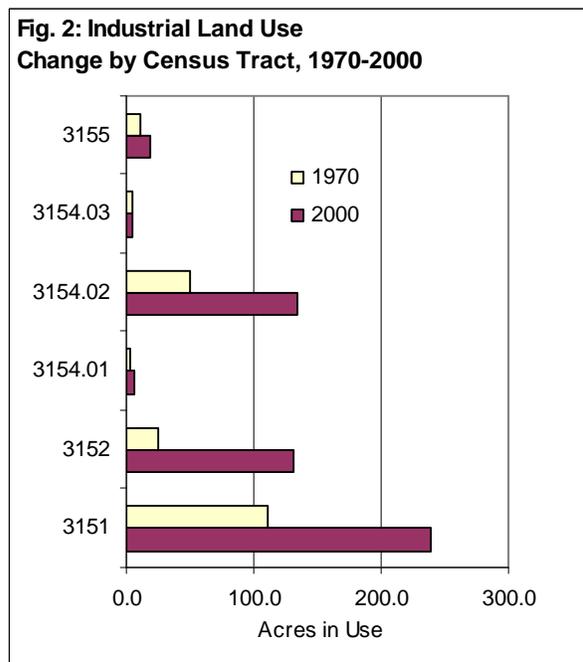
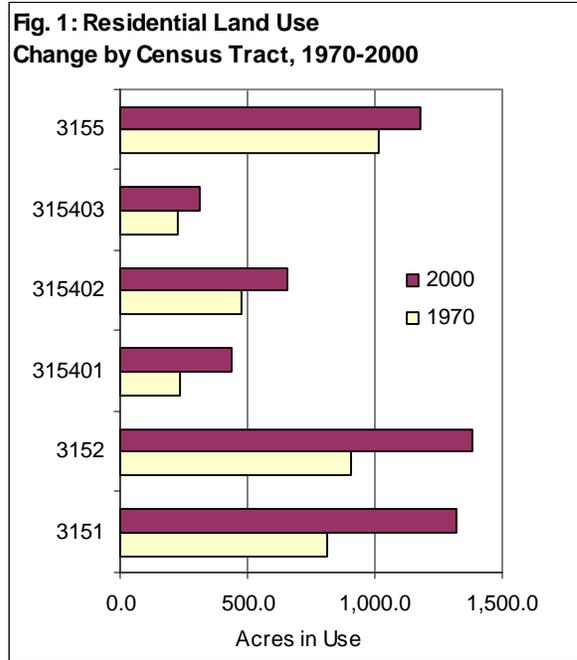
Proportionally, Census Tract 3154.01

has lost more of its 1970-level forest cover than any other section of Tewksbury.

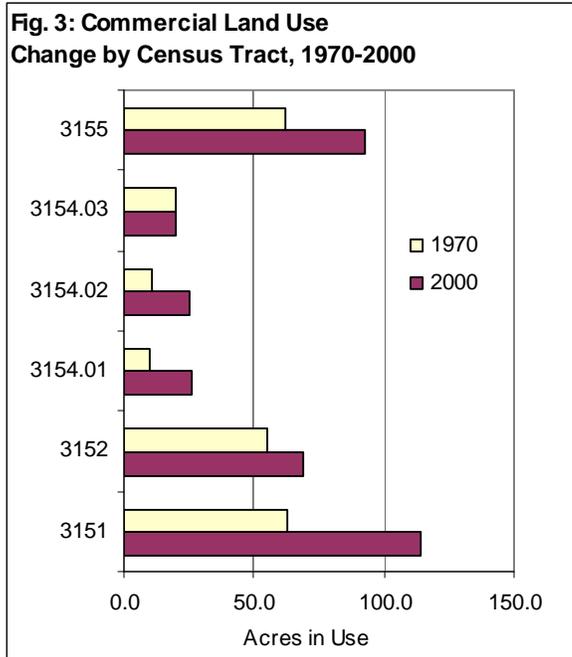
- Census Tract 3152, which covers all of central Tewksbury, has the highest percentage of homes built since 1970 – 61%. It also contains 62% of Tewksbury’s multi-family housing inventory and with the exception of the elderly housing development on Carnation Drive, all of these units were built after 1970.
- The lowest incidence of new-home construction occurred in Census Tract 3155, which extends south of Main Street and east of Pleasant Street to the boundaries of Billerica and Wilmington. Here, only 32% of the housing units were built after 1970, yet even though the number of new homes in this part of town is relatively small, single-family development occupies 3.46 times more land today than 30 years ago.

Commercial & Industrial Development

Commercial and industrial land uses have more than doubled in Tewksbury since 1970. Today, Tewksbury has 2.62 times the amount of industrial development that existed 30 years ago,



and the rate of industrial growth has far surpassed the rate of commercial growth.<sup>13</sup> New industries have located in the north and western sections of town where land zoned for heavy industry is accessible from I-495 and along East Street, not far from the Andover town line. Figs. 2-3 help to explain resident complaints about the intrusion of industrial activity on their neighborhoods, for the same areas that have absorbed large amounts of industrial development since 1970 have also absorbed many new homes. Long-time residents in these locations have seen sweeping changes in the character of their neighborhoods.



Except for a small, 8-acre area at the junction of River Road and Andover Streets, all of Tewksbury’s commercially zoned land lies in a classic strip formation along Main Street, or State Route 38. Thirty years ago, commercial land uses were concentrated in three segments of Main Street: the westernmost end by I-495, the town center area around Pleasant Street, and in pockets between Salem Road and Livingston Street. Over time, commercial development has “filled in” and intensified in these areas, notably near I-495, and expanded to previously vacant land elsewhere on Route 38.

Open Space

Tewksbury appears to have a limited and largely fragmented inventory of open space. State and local data sources indicate that about 15-17% of Tewksbury’s land area qualifies as “open space,” meaning lands with conservation, recreation or scenic value, owned by the town, other jurisdictions, private organizations or individuals. The town’s open space jewel, Tewksbury State Hospital, has character-defining importance to the entire community. It includes more than 700 acres of state-owned property with historic buildings, landscaped grounds, open fields and woodlands in the vicinity of East Street-Livingston Street.

The town does not have a current, verifiable inventory of open space or lands of conservation interest, which makes an analysis of needs, risks and opportunities very difficult. To the extent that state and local records agree, it is clear that between 450-500 acres of land are devoted to active recreation facilities such as Trull Brook Golf Course, several playgrounds and sports fields on school property, and the Livingston Street Recreation Area, a popular community recreation facility near Tewksbury State Hospital. Pockets of open space exist around or behind cluster subdivisions, and public water supply sites contribute open space value to the neighborhoods in which they are located. Tewksbury recently sold an abandoned well site for new development, however.

<sup>13</sup> MassGIS, “lusph295.dbf” (2001).

The federal census tract that contains most of Tewksbury State Hospital (Census Tract 3541.01) has the highest open space percentage of all five tracts in Tewksbury. The same census tract is also Tewksbury's second most densely populated area and it has the lowest median household income.<sup>14</sup> Together, the census tracts that make up the eastern half of Tewksbury contain 44% of the town's land area, 56% of its population and about 60% of its open space. Providing adequate, secure open space that benefits everyone in Tewksbury will remain an important issue for the community. Natural features such as the Great Swamp create a rural, open feel in some parts of west Tewksbury, but these features are not permanently protected and under the town's current zoning bylaw, they have strikingly little regulatory protection.<sup>15</sup>

### **Land Use & Zoning**

Tewksbury regulates development through zoning, subdivision control, board of health regulations for the design and construction of wastewater disposal facilities, and a non-zoning wetlands bylaw administered by the Conservation Commission. Zoning is the most important of these regulatory tools. The Zoning Bylaw's policies and manner of administration have influenced development in Tewksbury for four decades and will have a major impact on the quality, appearance and character of both future development and the redevelopment of established areas. In mature suburbs like Tewksbury, a zoning bylaw's capacity to steer redevelopment is as important as its capacity to guide the development of vacant land. Nowhere is this more obvious in Tewksbury than the Route 38 corridor and land in the town's industrial district.

The Tewksbury Zoning Bylaw includes 11 conventional use districts, as shown in Table 3, and three overlay districts.<sup>16</sup> (Map 2.) Two of the overlay districts serve environmental protection purposes – development in floodplains or within the “Zone II” of a public water supply – and the third regulates arts, crafts and cottage industries in residential neighborhoods along Shawsheen, East and South Streets and Whipple and Salem Roads.

### Residential Development

Approximately 69% of all land in Tewksbury is in the R-40 District, meaning land zoned for detached single-family homes on one-acre lots. Allowed uses in the R-40 District are limited to single-family residences and accessory uses including home occupations and “family suites,” or in-law apartments. Qualifying parcels of 12 or more acres in the R-40 District may be developed as conventional subdivisions by right or cluster subdivisions by special permit from the Planning Board. The Zoning Bylaw restricts cluster subdivisions to the same number of lots that can be developed as of right and also sets a number of special design standards. For example, the minimum lot size in a cluster development is 20,000 ft<sup>2</sup> and each lot must contain at least 75% upland, but the lot shape and perimeter requirements for lots in a standard subdivision do not apply to lots in a cluster development. Frontage and front yard setbacks are reduced, but lots in a cluster subdivision have to meet all of the

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<sup>14</sup> Analysis excludes institutionalized population living at Tewksbury State Hospital.

<sup>15</sup> See also, Chapter 4: Open Space and Recreation.

<sup>16</sup> The Zoning Bylaw also recognizes a Residence-80 District, i.e., a minimum lot size of 80,000 ft<sup>2</sup>, but the town has not rezoned any land to R-80.

other dimensional requirements for development in the R-40 District. Land not subdivided – that is, land reserved as open space – must consist of at least 30% upland, and the open space must be deeded to town, a non-profit corporation or the development’s homeowners, subject to a conservation restriction. Tewksbury strives for at least 50% of the open space in a cluster development to be protected and uses performance criteria to determine the actual amount of open space in each project, presumably to accommodate a range of site conditions.

**Table 3: Tewksbury Zoning Districts**

Zoning District	Acres	% Town Area
Commercial	480.3	3.55%
Community Development	67.8	0.50%
Farming	700.0	5.18%
Heavy Industry	2,155.6	15.94%
Limited Business	5.3	0.04%
Municipal	205.6	1.52%
Multi-Family	318.5	2.35%
Multi-Family55	70.3	0.52%
Park	103.4	0.76%
Residential	9,392.2	69.44%
Transitional	26.5	0.20%

Source: NMCOG (2002).

Tewksbury provides for a range of housing options in three zoning districts: Multi-Family (MFD), Multi-Family 55 (MFD-55) and Community Development (CDD). Multi-family housing is allowed by special permit in the MFD and MFD-55 Districts. They differ in two important ways: the MFD-55 District limits multi-family occupancy to householders over 55 and also allows for larger (150-unit) developments. Significantly, age-restricted multi-family housing is allowed in both the MFD-55 District and the Commercial (C) District. The regulations that apply to development in the MFD and MFD-55 Districts limit density to a maximum of six units per acre, unit size to two bedrooms, lot coverage for all buildings to a maximum of 30% of the site, and building height to three stories and 45 feet unless waived by the Planning Board. While MFD developments must meet a minimum lot size requirement of four acres, MFD-55 developments are subject to a 12-acre minimum. In both zones, developments must provide open space and recreation areas, along with a considerable amount of parking: two spaces per unit, and additional parking spaces for guests and common areas such as tennis courts and swimming pools. MFD District regulations also limit individual developments to a maximum of 100 units.

In the CD District, “community development” use means independent living and assisted living units and adult day care facilities, together with accessory retail and restaurant uses. Community development projects are allowed as of right subject to site plan approval by special permit. As a use distinct from age-restricted multi-family housing, a community development project may contain independent living units but it must contain assisted

living units.<sup>17</sup> The dimensional requirements for community development projects are similar to those for MFD-55 development: a 12-acre minimum lot size, a maximum density of six units per acre, a limit of two bedrooms per unit, and a maximum lot coverage of 30%. Unlike the MFD/MFD-55 Districts, which require a minimum open space set-aside of 60%, the CD District calls for 25% open space. Like the MFD/MFD-55 Districts, however, the CD District specifies a generous parking supply, including two spaces per independent living unit.

In October 2002, Tewksbury adopted an affordable housing bylaw that requires developments in the MFD and MFD-55 zones to include affordable housing units. Under the new bylaw, 15% of all units in a multi-family development will have to be deed-restricted affordable housing units that qualify for listing in the Chapter 40B Subsidized Housing Inventory. The regulations apply only to development in the MFD and MFD-55 Districts, i.e., not to conventional or cluster subdivisions of single-family homes in the R-40 District or to age-restricted developments in the CD District. At present, Tewksbury's Chapter 40B inventory consists of 410 units or 4.05% of the town's year-round housing stock.

### Commercial & Industrial Development

Tewksbury encourages business and industrial development in four zones: Commercial (C), Limited Business (LI), Heavy Industrial (HI) and Transitional (TR). These zoning districts differ significantly in their purposes, goals and requirements, their impacts on the town – both positive and negative – and their implications for Tewksbury's fiscal future. Non-residential development in all zoning districts is subject to a site plan special permit from the Planning Board, and when uses allowed by right exceed certain size thresholds, they convert to special permitted uses.

The C District is a commercial strip that runs the entire length of Route 38 except for a small pocket of TR District land near the Main Street/Livingston Street intersection.<sup>18</sup> Tewksbury divides jurisdiction over development in the C District between the Planning Board, the Zoning Board of Appeals (ZBA) and the Board of Selectmen. The C District allows several uses by right, including traditional categories such as retail trade, restaurants, bed-and-breakfast facilities and personal service establishments. Other uses require a special permit from the Planning Board, such as hotels, animal clinics, fast-food restaurants, commercial recreation and municipal facilities. The ZBA has authority over special permits for membership clubs, garaging commercial vehicles, car wash and auto storage businesses, while the Board of Selectmen acts as special permit granting authority for "itinerant roadside vending," i.e., temporary sale of goods on a lot or a vehicle parked on a lot. All business projects require site plan approval by special permit from the Planning Board regardless of whether the use is permitted by right or by special permit.

The TR and LB Districts appear to have been created to address particularized needs because each district exists in only one location. The TR District occupies a 26-acre area on both sides of Route 38. Its present land uses include two subdivisions of 1950s vintage, Hinckley Road and Tanglewood Avenue, a small pocket of open land, and about nine acres

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<sup>17</sup> At least 35% of a CDD project's development capacity must be reserved for assisted living use.

<sup>18</sup> The C District also includes a 7.8-acre area in northwest Tewksbury.

of commercial development. Tewksbury limits the uses allowed by right in the TR District to single-family homes, a bed-and breakfast, professional offices, childcare facilities in an existing structure, and accessory uses. The ZBA may grant a special permit for personal service establishments and garaging of commercial vehicles while the Planning Board has jurisdiction over special permits for retail sales, restaurants and fast-food outlets. Use regulations for the LB District, located at the corner of Shawsheen Street, Foster Road and Beech Street, differ somewhat from those for the TR District. The Zoning Bylaw allows single-family homes by right in the LB District but prohibits traditional commercial uses such as bed-and-breakfast facilities, restaurants and some retail trade, yet the garaging of light commercial vehicles is allowed as of right. Commercial land uses presently occupy 2.4 of the T District's 5-acre area.

The HI District is the second largest zone in Tewksbury. One section of the HI District runs along a portion of East Street from the Andover town line, extends to Pinnacle Road and crosses Livingston Street. A second, more substantial section begins in North Tewksbury and follows both sides of I-495 to the Great Swamp, all of which is included in the HI District. A third section covers the area adjacent to the Route 38/I-495 interchange, and a fourth lies in the southwestern corner of town adjacent to Billerica. The amount of developed industrial land in Tewksbury is only 25% of the entire HI zone, but the prevalence of wetlands reduces the district's overall development potential.

Tewksbury permits a range of industrial development by right – such as R&D facilities and machine shops – and allows other industrial uses by special permit from the Planning Board: manufacturing, fabrication plants, warehouse facilities and freight terminals. All uses are subject to site plan approval by special permit from the Planning Board, and allowed uses that exceed certain size thresholds are *also* subject to a use special permit.

Development in the HI District requires a site of at least one acre and setbacks of 50 feet in front and 50 feet along the side and rear lot lines, unless the parcel abuts a residential zone, in which case the side and rear setbacks increase to 100 feet. The Zoning Bylaw specifies a variety of landscaping, buffering, lighting, signage and internal circulation requirements that are considered during the special permit-site plan review process.

Tewksbury also requires off-street parking at one space per 2,000 ft<sup>2</sup> for up to 20,000 ft<sup>2</sup> of development, one additional space for each additional 1,000 ft<sup>2</sup> of development, and one space per employee on the largest shift. In reality, allowed uses require more land than the required minimum because most industrial facilities could not be built on a one-acre lot and still meet Tewksbury's parking and suburban height requirements (2.5 stories and 35 feet). In Tewksbury today, the average industrial parcel size is 13 acres and the average facility, 47,525 ft<sup>2</sup>, for a striking low average floor-to-area ratio of .084.<sup>19</sup>

### Overlay Districts

The Tewksbury Zoning Bylaw provides for three overlay districts. The Flood Plain (FP) District is typical of flood plain bylaws in other communities. It is triggered by uses in flood hazard areas identified on the Flood Insurance Rating Map (FIRM) and areas within the 100-

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<sup>19</sup> Data derived from electronic property database file supplied by Tewksbury Assessor's Office. Analysis confined to developed industrial parcels, i.e., with existing industrial and accessory structures, excluding industrial condominiums.

year floodplain identified by the Federal Emergency Management Agency (FEMA). The bylaw does not prohibit uses allowed in the underlying districts but rather, it bans construction activity that encroaches on a floodway. For development in the Flood Plain District, the bylaw specifies submission requirements for permits from local authorities and incorporates compliance with other laws, e.g., the Wetlands Protection Act, the State Building Code and Title V.<sup>20</sup>

Development in the Groundwater Protection (GP) District is subject to regulations that supersede the requirements of underlying districts. The GP District includes all land inside the “Zone II” or recharge area of a public water supply. Much like the Massachusetts Department of Environmental Protection’s (DEP) model groundwater protection district bylaw, Tewksbury’s prohibits uses that pose a heightened risk to public drinking water supplies – such as landfills, chemical storage and hazardous waste facilities or junkyards – and sets dimensional standards that intend to reduce storm water runoff and maximize groundwater recharge. By special permit from the Planning Board, developments may exceed the maximum size and coverage thresholds in the GP District and construct artificial recharge systems.

Finally, Tewksbury’s zoning includes an unusual overlay district, the Arts & Crafts (AC) District. It extends to a depth of 150 feet along Whipple and Salem Roads, and Shawsheen, East, and South Streets. By special permit from the ZBA, R-40 lots with at least 100 feet of frontage on streets contained in the AC District may be used for “cottage industry” home occupations, or home-based businesses engaged in the preparation and sale of arts, crafts and antiques.

## **Trends**

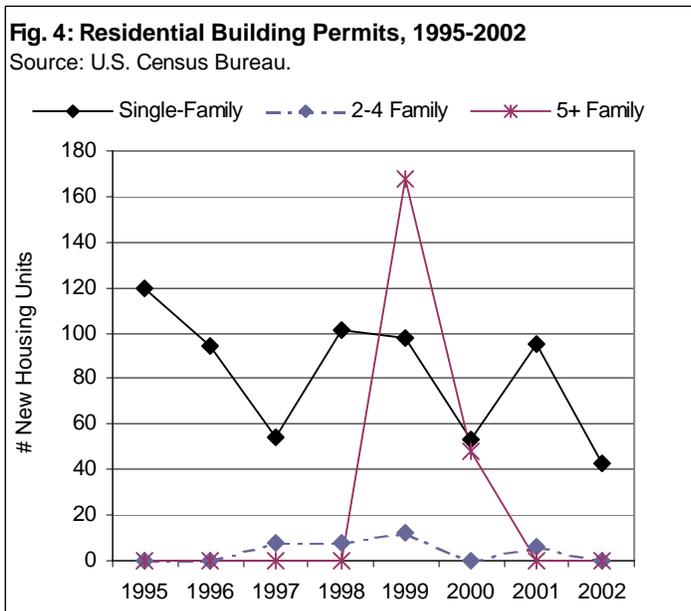
### Recent Development

Although Tewksbury absorbed new residential and non-residential development during the 1990s, the town has not grown at a rate significantly higher than that of most communities in Massachusetts. Its rate of housing growth slightly surpasses the state average and its rate of population growth is much lower than the average. To some extent, Tewksbury’s lower rate of population growth can be attributed to the amount of multi-family housing development that exists in town and to the relatively large percentage of elderly homeowners in many residential neighborhoods, especially South Tewksbury. Housing units have not recycled in Tewksbury at the pace that has occurred in several other communities along I-495, but as the make-up of Tewksbury’s population begins to change, even without new residential development, there will be associated impacts on municipal and school services as new families purchase and move into older homes.

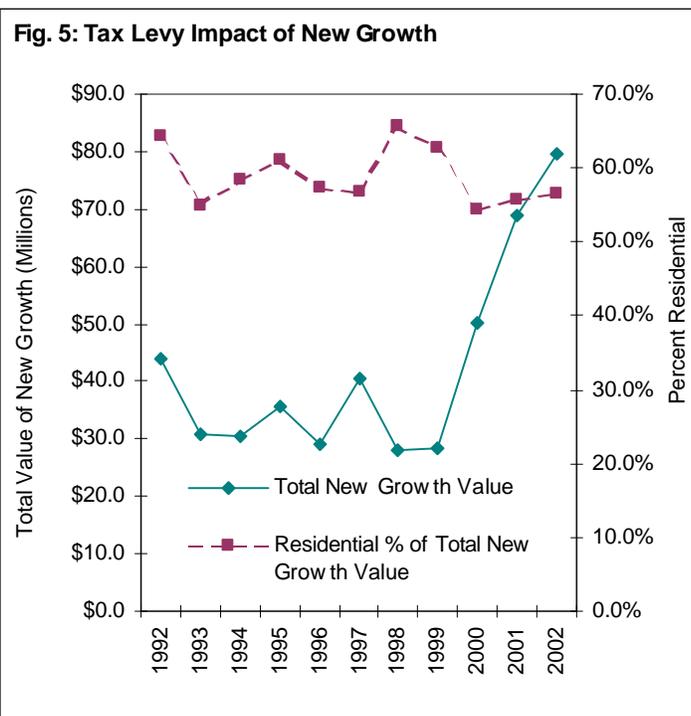
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<sup>20</sup> Tewksbury also has a local wetlands bylaw administered by the Conservation Commission in conjunction with the Massachusetts Wetlands Protection Act. A “Wet Area and Watershed Conservancy District” bylaw appears in the same publication as the local wetlands bylaw. The “Wet Area and Watershed Conservancy District” contains language that approximates the provisions of wetlands protection zoning districts in some Massachusetts communities. The bylaw is apparently not followed or enforced in Tewksbury but as written, it is of dubious legal standing.

During the 1990s, the Planning Board approved 26 subdivisions with a combined total of 358 house lots and in calendar year 2000, the Planning Board approved five more subdivisions with 260 lots.<sup>21</sup> Fig.4 shows that between 1995-2002, Tewksbury issued building permits for a total of 908 new dwelling units, or an average of 114 units per year. Since the late 1990s, the number of building permits and new residential units has begun to decline, as is the case in most communities across the state.



Although non-residential permit data are unavailable, Fig.5 suggests that in the past few years, development in Tewksbury has included not only new homes, but also considerable investment in commercial and industrial property. In most years, residential development contributed 50-60% of Tewksbury’s total “new growth” property tax revenue. The remainder came from non-residential development.



Future Development Potential

Two years ago, the Northern Middlesex Council of Governments (NMCOG) examined Tewksbury’s development potential under a statewide program directed by EOEA.<sup>22</sup> The program coincided with efforts to secure passage of the Community Preservation Act

<sup>21</sup> Northern Middlesex Council of Governments, “Tewksbury Build-Out Study,” in EXCEL format [tewksbury\_buildout\_final.xls] (2001).

<sup>22</sup> See Appendix A, Review of EOEA/NMCOG Buildout Study.

(CPA), a law that enables communities to impose a surcharge on property tax bills in order to raise revenue for open space, affordable housing and historic preservation.

Through contracts with the state's regional planning agencies and several private firms, EOEAs produced build-out studies for all 351 cities and towns in Massachusetts. EOEAs' purpose was to forecast the maximum amount of residential, commercial and industrial development that could occur in a community under its existing land use policies. To achieve consistency in a large program carried out by several organizations, EOEAs adopted standard data specifications and a Geographic Information System (GIS) model for use by all participating analysts.

At the time, NMCOG estimated that Tewksbury had 1,712 acres of developable land. For Tewksbury's build-out study, NMCOG estimated the potential number of house lots by reducing the amount of developable land in each residential district by a unique factor for roads and irregular lots, and dividing the result by each district's minimum lot size. Additional reductions were made to account for the impact of partial constraints on some of the town's developable land, e.g., wetlands buffer zone and floodplain regulations. Similarly, commercial and industrial development estimates were made by multiplying an "effective floor area ratio," or FAR, by the amount of developable land in each non-residential zoning district. The FAR represents the amount of floor space (gross) that can be built on a parcel of commercial or industrial land after access roads, parking, landscaped buffers and other site plan requirements are satisfied, along with building height, coverage and other dimensional controls. Table 4 identifies the residential, commercial and industrial multipliers that were used in Tewksbury's build-out study, along with the amount of developable land in each zoning district.

**Table 4: Summary Statistics from Tewksbury Build-Out Study (2001)**

Zoning District	Minimum Lot	Build Factor or Floor Area Ratio*	Net Developable Land (Acres)	Acres % of Developable Land	Zoning District % Town Area
C	43,560	.322	20.7	1.2%	3.5%
CDD	522,720	0.89	22.3	1.3%	0.5%
Fm	43,560	0.82	19.6	1.2%	5.1%
H	43,560	.345	283.2	16.7%	16.4%
LB	N/A	N/A	0.0	0.0%	0.0%
M	43,560	.410	6.4	0.4%	1.4%
MFD	174,240	0.88	10.5	0.6%	2.3%
MFD55	522,720	0.89	12.1	0.7%	0.5%
P	N/A	N/A	0.0	0.0%	0.8%
R-40	43,560	0.82	1,318.9	77.7%	69.4%
TR	N/A	.470	3.6	0.2%	0.2%
Total			1,697.2	100.0%	100.0%

Source: NMCOG, "Tewksbury Build-Out Study," (2001). Note: for clarity, all floor area ratios used in the build-out study are expressed as three-digit numbers. Build factors for residential development are expressed as two-digit numbers.

Though Tewksbury still has room for new growth, the town is substantially developed and in the future, land use change will come about more from redevelopment than from new building activity. About 47% of Tewksbury's land area is covered by residential, commercial and industrial land uses, including their associated roadways. Thirty years ago, the ratio of residential development to forests was .68 – that is, for every acre of forest, only .68 acres were covered with housing. Today, the ratio is 1.24, which means that residential development covers more land than the amount that remains forested. Given the town's developed suburban character and extensive wetlands, it is not surprising that NMCOG's build-out forecast foresees a maximum of 1,268 new housing units in Tewksbury's future. The more noteworthy finding is NMCOG's estimate of future commercial and industrial growth: 4,718,720 ft<sup>2</sup>. Given the locations of non-residentially zoned land, the probability of land use conflicts with surrounding residential neighborhoods is very high. Moreover, Tewksbury's wetland and water resources are already strained by the impact of development on land poorly suited for intensive uses.

### **Land Use Goals**

Several goals that emerged from the town's master plan visioning process relate directly to zoning and land use in Tewksbury. They include:

- Reduce conflicts between industrial zones and adjacent neighborhoods.
- Promote a traditional village center in the area surrounding Town Hall.
- Promote a coordinated approach to land use on Route 38, aiming for small-scale, mixed-use development of high-quality design, consolidated curb cuts, and attractive landscaping, lighting and parking.
- Subordinate the rate and total amount of development to the capacity of Tewksbury's environmental resources.
- Establish and follow sustainable economic development policies to provide local employment and tax revenue, encourage a diverse economic base and direct business and industrial growth to appropriate locations.
- Give preference to reuse and redevelopment of existing structures and infill development over new growth, assuring that reuse activities respect the architectural integrity of historic buildings.
- Preserve Tewksbury's traditional housing affordability by providing a mix of residential use types and home prices.

Since these goals should guide the Master Plan, it is important to consider opportunities that exist in order to address them. It is equally important for the town to set priorities so that implementing the new Master Plan can be accomplished in an orderly manner.

### **Analysis of Needs**

Tewksbury faces a number of challenges with respect to existing land uses and the town's physical evolution in the future. Five compelling needs must be addressed both immediately and on a longer-term basis.

**1. Developing a strong, diverse tax base while protecting wetland and water resource areas is a major challenge for Tewksbury, one that is not adequately addressed by existing regulations, policies or administrative procedures.**

Development near wetlands and floodplains has led to significant flooding, septic system failures and nutrient loading in portions of the town. Tewksbury has taken some steps to protect wetland resource areas, notably by establishing a Flood Plain District in the Zoning Bylaw, by adopting a local (non-zoning) wetlands bylaw administered by the Conservation Commission, and by implementing a town-wide master sewer plan. In concert with M.G.L. c.131, §40, the Massachusetts Wetlands Protection Act, Tewksbury's existing regulations place some constraints on wetlands development. However, the use limitations and required buffers should be augmented in order to protect people and natural resources. In addition, the "Wet Area and Watershed Conservancy District" attached to the local wetlands bylaw is apparently not administered or enforced by the town and it should be replaced with more effective regulatory tools.

Comprehensive wetlands protection requires zoning and non-zoning bylaws, high-quality resource area maps, sustained public education and consistent enforcement. Many communities in Massachusetts adopt more than one regulatory tool to protect their wetlands and watershed areas. In addition, communities that adopt wetlands protection overlay districts typically assure that the underlying zoning in or adjacent to wetland resource areas provides for low-impact land uses and adequate environmental performance standards. Tewksbury has limited opportunities to preserve its beauty and natural resources, to protect its residents from flooding and to increase its safeguards against groundwater contamination. Toward these ends, the town should:

Priority Land Use Needs

- Update, strengthen and enforce the local wetlands bylaw.
- Replace existing groundwater protection regulations with a comprehensive aquifer protection overlay district.
- Establish a wetlands protection (zoning) district.
- Increase the minimum upland requirement for a buildable lot.
- Reduce pressure on land in or adjacent to wetland and water resource areas by changing the zoning to low-impact open space and recreation uses.

**2. Tewksbury needs more open space – in terms of amount, location, usability, and to protect the community's natural and cultural assets. Capacity to manage land, identify conservation and recreation opportunities, and network with regional and national land trusts, coupled with open space-sensitive development rules, will be key to a successful open space program in Tewksbury.**

Since Tewksbury is largely developed, there are very few opportunities to expand its open space inventory. In many cases, "open space" in Tewksbury consists of fragmented parcels of land behind conventional subdivisions or within cluster developments, and isolated lots,

possibly in tax title, scattered about the town. The most substantial open space areas in Tewksbury have very little protection.

#### Priority Land Use Needs

- Develop an accurate, descriptive inventory of public and private open space, classifying land by ownership, use, protection level, public access, key resource features, and relationship to neighborhood or community-wide needs. "Open space" so defined should be zoned for conservation, recreation, agricultural and public uses. A new, consolidated "Open Space and Public Use District" could replace the existing Farm, Municipal and Parks Districts, and it should include small pockets of town-owned land that are presently zoned for other types of development.
  - Strengthen the cluster bylaw's design standards to require visible, usable open space in all new residential subdivisions, and consider offering incentives to create small parks, neighborhood playgrounds or tot lots.
  - Connect isolated parcels of open space wherever possible. A stronger, more directive cluster bylaw, supplemented by measures such as the town's existing tax title policy, could help Tewksbury work toward a geographically distributed system of open space.
  - Marshal all available political resources to secure permanent protection of the land at Tewksbury State Hospital.
- 3. The future evolution of Route 38 is critical to Tewksbury's visual character, the safety and efficiency of local traffic circulation, and the economic and fiscal health of the town. An inviting town center should act as the focal point for a reconceived Route 38.**

Existing conditions and the zoning bylaw's blueprint for future development on Route 38 suggest a low-value image that is unattractive, unsafe and operationally confusing. Instead of carrying traffic out of Tewksbury, Route 38 should attract people into the community. Clear strategies to guide the evolution of the Main Street (Route 38) corridor are essential to Tewksbury's future development. Route 38 is primarily zoned "C," or "Commercial, a generic zoning classification that permits a wide range of land uses, including retail and personal services uses, automotive uses, restaurants, small offices, and a limited repertoire of housing uses. Not surprisingly, existing land use along the corridor reflects the town's long-standing zoning regime: strip commercial development, numerous curb cuts, and a lack of design coherence and continuity.

The Zoning Bylaw establishes a few dimensional requirements for uses in the Commercial District, including minimum lot area, frontage, side and rear yard setback requirements, and maximum building height and lot coverage. However, there is a general absence of design guidelines or standards. Tewksbury could encourage more attractive development along Route 38 by creating several land use districts, each with customized zoning and design guidelines that further the objectives of the Master Plan and those of the individual districts. Few streets are as influential as Route 38 for conveying an impression of Tewksbury, yet today, the impression is largely unfavorable. In its present condition, the Commercial District – Main Street – is less than it could be, and far less than the town deserves.

Priority Land Use Needs

- Emphasize the highest quality of architectural and site design in all commercial development along Route 38.
  - Encourage the development of a pedestrian-oriented Town Center around the intersection of Route 38, East, North and Pleasant Streets.
  - Replace the existing “Commercial” District with smaller, distinctive commercial zones to provide for controlled variety in land use, built form and design along Route 38.
  - Increase the attractiveness of commercial land for new investment or redevelopment by providing mixed-use opportunities that include multi-family housing.
- 4. Tewksbury needs a commonly shared vision of its economic base, effective strategies and local capacity to guide industrial development. While much of the town’s industrial land is located around I-495, significant amounts are adjacent to single-family homes. Zoning and economic development policy should work together, not at cross-purposes, by fostering a safe, pleasant and attractive environment for those who live and work in the community.**

Tewksbury’s single industrial district, "Heavy Industrial (HI)," reflects dated zoning terminology. Industrial uses permitted in this district include research laboratories, equipment manufacturing, appliance assembly, and the like. Certain uses such as fuel storage, transportation facilities, freight terminals, and steel fabrication require a Special Permit from the Planning Board. Many commercial uses are permitted in the HI district, including major commercial projects, business and professional offices. Curiously, restaurants, hotel and motel establishments are permitted only by Special Permit, but the parking of light or heavy commercial vehicles are permitted as of right. Over many years, the town has created an industrial zone that permits a wide variety of industrial and commercial uses, presumably to attract non-residential development and tax revenue, without giving enough attention to the impact on adjacent residential neighborhoods.

The HI District is symbolic of deficiencies that exist elsewhere in the Zoning Bylaw, namely its emphasis on quantitative regulation and the near-absence of qualitative regulation. For example, the Zoning Bylaw establishes an array of dimensional requirements for uses in the HI District, including minimum lot area, frontage, side and rear yard setbacks, and building height and lot coverage. To its credit, the Zoning Bylaw includes special dimensional regulations designed to insulate residential properties from abutting industrial development. The HI District also applies open space landscape buffer standards to land abutting residential uses. Beyond these basic dimensional rules, however, the Zoning Bylaw lacks floor area or total build-out limits, there is virtually no attention to design, and no consideration for traffic, noise, environmental and quality of life impacts on neighborhoods. Buffers and setbacks for industrial land next to single-family homes are not adequate to control for fundamental conflicts between certain types of land use.

Tewksbury could consider emphasizing office, research and development facilities and “green” or eco-industries in a selection of industrial areas, and zone accordingly. In addition, the town needs to discourage or significantly curtail warehouse, trucking and distribution establishments, and provide substantial buffers between industrial and residential areas. Incentives for design improvements at existing warehouse and

distribution facilities will be very important to making these sites less intrusive on, and more compatible with, surrounding neighborhoods while also fostering a better image of the town. More attention to attracting and retaining high-value industrial development in appropriate locations may be a more effective way for the town to secure non-residential tax revenue than allowing many types of development in a “one-size-fits-all” industrial district that covers a large percentage of the town’s total land area.

Priority Land Use Needs

- Create differentiated industrial districts that do a better job of separating high-impact industrial uses from nearby residential uses.
- Establish Open Space and Public Use Districts, and include industrial land located within or adjacent to large wetland areas in order to assure that critical resources are adequately protected from the impact of new development.
- Reorganize allowed and special permitted uses to strengthen the town’s discretionary powers over uses that are likely to conflict with adjacent residential land uses.
- Set maximum size thresholds that bring otherwise allowed uses under the special permit purview of the Planning Board.
- Adopt and enforce design guidelines for development in all industrial districts.

**5. Tewksbury needs protection against large, poorly sited comprehensive permit developments. The town should assure that all new or redeveloped housing includes units that qualify for listing on the Chapter 40B Subsidized Housing Inventory.**

Most of Tewksbury’s land is poorly suited for higher-density development, yet Tewksbury remains vulnerable to large comprehensive permits because at present, the town does not have enough “Chapter 40B” units to protect itself from a state-regulated appeals system that places local officials at a tremendous disadvantage. Chapter 40B provides a streamlined approval process for low- and moderate-income housing through the issuance of comprehensive permits by the Zoning Board of Appeals.<sup>23</sup> When less than 10% of a community’s housing stock is affordable to lower-income households, Chapter 40B establishes a statutory presumption that housing needs outweigh other local planning considerations. Like most towns in Massachusetts, Tewksbury does not meet the 10% low-income housing goal. Recently, Tewksbury adopted an inclusionary housing bylaw to mandate affordable housing units in the MFD and MFD-55 Districts. However, the vast majority of Tewksbury’s developable residential land (more than 90%) lies in the R-40 zone and there is no requirement for affordability in the Community Development Districts.

Priority Land Use Needs

- Adopt an inclusionary zoning bylaw that extends to all residential development in the R-40, MFD, MFD-55 and Community Development Districts. The town should allow a limited amount of development as of right, e.g., 5-6 single-family house lots or housing units on parcels over a certain size, over which a special permit would be required from the Planning Board. One of the special permit granting requirements would be the

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<sup>23</sup> See also, Housing Element.

inclusion of affordable homes in the development, the creation of an equivalent number of affordable homes elsewhere in Tewksbury, or payment of a fee in lieu of creating new affordable units. The town may offer a nominal density bonus or provide other ways to reduce development costs in exchange for the affordable units, e.g., flexible subdivision standards including a lower frontage requirement to facilitate a shorter road.

- Modify Tewksbury's existing cluster bylaw to require affordable units in a cluster subdivision.
- Modify Tewksbury's existing "family suite" regulations to allow accessory apartments subject to an affordable housing deed restriction.
- Allow mixed-use development (residential and commercial) by special permit from the Planning Board in portions of the C District, provided that the residential component of a mixed-use development includes deed-restricted affordable housing units.
- Allow conversion of older single-family homes to multi-family units as of right, subject to a minor site plan review procedure, or by special permit, provided that 10% of the units are deed-restricted for long-term affordability.

## LAND USE ELEMENT

### Land Use Concept Plan

The Land Use Element is based on the Land Use Concept Plan shown in Map 3. It presents a future land use pattern for Tewksbury, including desired land uses, land allocation, and the physical layout for the town. As the centerpiece of the Master Plan, the Land Use Concept Plan is supported by recommendations found in other elements. It should serve as the basis for new zoning regulations, as a blueprint for future development and open space, and as a guide for residents, town officials and developers. By adhering closely to the Land Use Concept Plan, Tewksbury officials will be able to judge development proposals for consistency with the town's long-term goals and needs, make capital improvement choices and allocate resources accordingly. Moreover, by adopting and consistently implementing the Land Use Concept Plan, Tewksbury will have a stronger position in legal or political challenges that relate to land use, such as comprehensive permits or zoning enforcement.

An effective Land Use Concept Plan recognizes the physical, environmental, locational, cultural and economic features of different areas. Although Tewksbury has several zoning districts, most of the planning that it represents occurred many years ago. The town seems to have implemented past plans in a haphazard, often incomplete way. As a result, the zoning map encourages outcomes that are sometimes inconsistent with the aspirations and needs of residential, business and industrial property owners. For example, the industrial zoning along East Street was promoted as part of a larger plan that called for an industrial connector road between I-93 and I-495. Tewksbury adopted the zoning, but the roadway was never built. In addition, the town wanted to cultivate a strong tax base and toward that end, nearly all of Route 38 was zoned for relatively undifferentiated commercial development, with few incentives for a coordinated approach.

The Land Use Concept Plan is reasonably simple, straightforward, and responsive to the Master Plan goals expressed at the visioning forums. It does not reduce Tewksbury's overall build-out potential to a significant degree. Rather, its purpose is to promote an appropriate mix of residential, commercial and industrial development, emphasize traffic safety and secure, healthy environment for the town's present and future residents.

### Categories of Land Use

The Land Use Concept Plan includes the categories shown in Table 5 (next page). For comparison, Table 5 shows the allocation of land in Tewksbury's existing zoning districts and the allocation of land promoted by the Land Use Concept Plan. However, it is important to point out that the Land Use Concept Plan is not a proposed zoning map. Rather, it represents goals for the distribution and arrangement of future land uses by area of town.

### Summary of Land Use Concept Plan

#### Residential Development

Predominantly Single-Family Residential Development. The Residential Development Areas shown on the Land Use Concept Map are very similar to Tewksbury's existing Residential District. The key difference between them lies in a proposed reallocation of town-owned

land in the Residential District to “Open Space and Public Use” to reflect their status as community resource areas. The Land Use Concept Plan promotes no change to the town’s basic dimensional regulations, e.g., the minimum lot size of 43,560 ft<sup>2</sup>. Clustering of new development should be required or strongly encouraged through incentives in order to provide for useable open space, contiguous trails and other amenities. Compatible uses such as agriculture, conservation, and recreation should be permitted in Residential Areas, as should accessory uses such as accessory dwelling units and home occupations. Non-residential development should be limited to exempt uses, e.g., schools and religious organizations, and municipal uses approved by town meeting. In all cases, non-residential uses should be subject to Site Plan Review.

**Table 5: Comparison of Existing Zoning to Land Use Concept Plan Recommendations**

Area	Acres	% Area	Acres	%
<b>Existing Zoning</b>				
<u>Commercial</u>			<u>Heavy Industry</u>	
Commercial District	480		2,156	
Limited Business	5		Subtotal Industrial	2,156 15.9%
Transitional	<u>26</u>			
Subtotal Commercial	512	3.8%	<u>Open Space, Recreation,</u>	
			<u>Municipal</u>	
			Farming	700
<u>Residential</u>			Municipal	206
Residential	9,392		Park	<u>103</u>
Multi-Family	319		Subtotal Open Space/Public	1,009 7.5%
Multi-Family55	70			
Community Development	68			
Subtotal Residential	9,849	72.8%	Total	13,526
<b>Land Use Guide Plan</b>				
<u>Commercial</u>			<u>Industrial</u>	
Wamesit Commercial Area	140		Office-Research	1,065
Gateway	75		Light Industrial	<u>370</u>
Town Center	135		Subtotal Industrial	1,435 10.6%
Shawsheen	200			
South Tewksbury	45			
Mixed Use PD	<u>194</u>		<u>Special Planning Areas</u>	
Subtotal Commercial	789	5.8%	Neighborhood Compatibility Areas	130
			Open Space & Public Use Areas	<u>2,110</u>
<u>Residential</u>			Subtotal Special Planning	2,240 16.6%
Single-Family Areas	8,647			
Multi-Family Areas	<u>420</u>			
Subtotal Residential	9,067	67.0%	Total	13,526

Multi-Family Residential Development. For Multi-Family Areas, the Land Use Concept Plan corresponds mainly to Tewksbury's existing MFD, MFD-55 and Community Development Districts. Since the town has allocated only a few areas for multi-family residential development, Tewksbury should reserve them exclusively for multi-family housing. It is appropriate to encourage senior housing in these areas, perhaps by providing a modest density bonus or allowing senior housing as of right, but the town should reconsider its existing policy of restricting some MFD areas to over-55 housing.

Commercial and Commercial Mixed-Use Development

Wamesit Commercial Area. Existing development and traffic patterns suggest that the area along Route 38 adjacent to the I-495 interchange should remain designated for traditional highway commercial uses: larger regional retail establishments in stand-alone or "power-center" shopping areas. Tewksbury should establish special design guidelines and site plan standards for development in these areas in order to provide a more attractive point of entry to the town, control for environmental impacts, and improve pedestrian safety.

Gateway Area. Route 38 needs a transition zone from highway and regionally oriented commercial uses at the I-495 interchange to land use that has a more local and neighborhood character, with more traditional signage and greater attention to aesthetics. Toward that end, Tewksbury should consider a "gateway" area, one that provides the public with a more welcoming sense of arrival to the Town Center (below). The Land Use Concept Map identifies the Gateway Area as beginning near the intersection of Main Street and Pike Street and extending southeasterly to the vicinity of Marshall Street and Erlin Avenue. A wide selection of retail uses and personal services would be permitted, but big-box development and large-scale retail and regional shopping would be discouraged through the use of density and dimensional requirements and floor area limits. Flexible design standards could be crafted to further shape the form and function of this area.

Town Center. The Town Center encompasses the area surrounding the Town Hall, the library, and other older school and building sites. Beginning at the Gateway Area, the Town Center District extends southeasterly on Route 38, incorporating a portion of North and Pleasant Streets and terminating just beyond the Route 38/Chandler Street intersection. This area's main objective is to promote a sense of place by creating an identifiable village center with pedestrian activities, traditional building form, mixed uses, and greater coherence of architectural treatment and design. For example, future design guidelines should foster and encourage:

- Traditional building form
- Subordination of parking in relation to buildings
- New standards of signage and overall aesthetics
- High quality landscaping and pedestrian amenities
- On-site lighting in traditional and pedestrian scale
- An improved "sense of entry" to the Town Center
- Protection of older buildings that contribute to the Town Center's image.

Tewksbury could implement the Land Use Concept Plan's proposed Town Center Area by establishing a special zoning district with new design standards and special use regulations.

Permitted uses within the district could include municipal, office, small retail and a mix of residential uses, designed to be compact and representative of a traditional village scale and form. When properties are re-developed, parking areas could be encouraged to be located to the side and rear of properties, and be subordinated in relation to building form. Landscape treatments should reinforce the vocabulary of civic uses characteristic of a traditional town or village center. To enhance village-style development, the town may need to consider a number of public improvements, including ornamental lighting, landscaping, and village-style street furniture. These improvements should be part of a long-range capital plan for the Town Center, one that is developed with ample input from residents and local businesses.

Shawsheen Area. The Shawsheen Area shown on the Land Use Concept Map begins north of the intersection of Main Street and Salem Street, and extends northwesterly to the intersection of Main Street and Colonial Drive. The objective of this area is to foster high-quality commercial development that serves residents of the town and surrounding neighborhoods. A wide selection of retail uses and personal services are envisioned. Large box stores and large-scale retail and regional shopping would be discouraged through the use of density and dimensional requirements (including floor area limits) that would be carefully tailored to the district objectives. Flexible design standards could be crafted to further shape the form and function of this area. Incentives could be provided to encourage improved signage, building design, curb-cut consolidation, and landscape treatments.

South Tewksbury Area. The Land Use Concept Plan identifies the South Tewksbury Area as the segment of Route 28 that runs from the Wilmington town line northwesterly to the beginning of the Shawsheen Area. The objective of this area is to encourage local businesses that serve surrounding neighborhoods. Much like the Shawsheen Area, the South Tewksbury Area is envisioned as a local shopping area with small, pedestrian-oriented retail and service centers. Here, the town's zoning should allow a wide selection of retail uses and personal services while discouraging big-box stores and large-scale retail and regional shopping through density and dimensional requirements and maximum floor area limits. Small grocery stores, delicatessens, dry cleaning establishments, gift stores and general retail in small- to medium-scale buildings.

Much like the Shawsheen District, the South Tewksbury District needs incentives to encourage improved signage, building design, curb-cut consolidation, and landscape treatments. As these shops will likely (and should) attract pedestrian traffic, site design guidelines should identify appropriate building layout, site configuration, and required pedestrian facilities. Design guidelines must address setback requirements, sidewalks, curb cuts and other aesthetic guidelines, including design and signage standards to promote attractive development. Some public investment may be required to maximize the economic potential of these areas, such as streetscape improvements or public/shared parking facilities.

Mixed-Use Planned Development. The Mixed-Use Planned Development Area applies to one location on the Land Use Concept Map, an area presently zoned for "Heavy Industry" on East Street. This area needs special attention because it is a key gateway location into the community for traffic entering from the Dascomb Road/I-93 interchange in Andover. Tewksbury should encourage a mix of retail, office, service and multi-family residential uses in order to maximize the area's market appeal to investors, but rigorous site plan, architectural design, signage and landscaping standards are a must for all development that

occurs in this area. The same standards should govern development that occurs in a recently created “Highway Services Overlay District,” which was adopted by town meeting as work on the new Master Plan was coming to a close.

### Industrial Development

Office-Research Areas. Areas for Office/Research are intended to provide designated zones for high-value office developments and similar uses. Office-research development generally requires that land be reserved for these uses, i.e., by discouraging a wide variety of other commercial or industrial uses in close proximity. The Office-Research areas shown on the Land Use Concept Map include several parcels northwest of the I-495 and Route 38 interchange, and land presently zoned for “Heavy Industry” in the southwest corner of town, near Billerica.<sup>24</sup> In these areas, allowed uses should be limited to office buildings, research laboratories and similar facilities. Industrial and other commercial uses should be prohibited except for small-scale retail and service establishments as accessory uses that serve employees in the Office-Research areas: restaurants, coffee shops, dry cleaners, and similar businesses. Generous landscaped buffers should be provided to shield the residents from the visual impacts associated with the office development.

Light Industrial Areas. These areas include land in Tewksbury’s existing HI district but in close proximity to residential property. A range of light industrial and professional uses should be encouraged, subject to extensive landscaping and buffer requirements. Owing to existing development in these areas, the town should allow the continuation and limited expansion of businesses such as distribution, warehousing, and manufacturing facilities and utilities because the retention of these businesses will allow Tewksbury to retain economic diversity and balance. Transitional districts between light industrial and predominantly residential neighborhoods must be factored into any plan for the Light Industrial Areas. In addition, the town should adopt and enforce performance standards to minimize negative impacts associated with noise, air pollution, and traffic that might be generated by development in the Light Industrial Areas. As referenced above, eco-industrial uses should be considered, particularly those that produce or develop natural food or other environmentally friendly products. Major retail development and regional shopping centers should not be allowed.

Tewksbury should be careful about the temptation to reclassify properties from residential to commercial uses for “quick fix” development proposals that lack the means to provide adequate infrastructure to offset adverse neighborhood and traffic consequences. Despite the promises made by development interests, however sincere, once land is rezoned, it is difficult to marry a specific proposal to the land area or a given user. Therefore, it is important to resist highly individualized rezoning that is not consistent with the land use policies articulated in this plan.

### Special Planning Areas

Neighborhood Compatibility Areas. The Land Use Concept Plan identifies several “neighborhood compatibility areas” that are intended to encourage a predominantly residential mix of uses and provide generous landscaped buffers between industrial, commercial and residential areas. The areas lie along East Street opposite the proposed

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<sup>24</sup> See also, Economic Development Element.

Mixed-Use Planned Development Area, off Route 38 between the Town Center and an area designated for Light Industrial uses, northwest of the Highway Industrial area by I-495 and Andover Street, and between the Light Industrial area between East and North Streets and property that belongs to Tewksbury State Hospital. Permitted uses could include townhouse and multi-family residences, small professional or medical office buildings, business and personal service establishments.

Open Space and Public Use Areas. The Land Use Concept Plan combines three existing zoning districts with other land into a single designation for areas that serve open space and community needs. It includes virtually all land owned by the Commonwealth and the Town, along with private property that should be protected because of its environmental sensitivity or importance for neighborhood-level open space and recreation uses. Where appropriate, land in Open Space and Public Use Areas could be developed for active recreation areas, such as ballfields or playgrounds, for municipal and school uses, or for passive recreational activities such as walking, picnicking, fishing, or bird watching. To the extent possible, all sections of Tewksbury should have the benefits of open space.

### **Growth Management Considerations**

Throughout the master plan process, residents have expressed concern about the impacts of new growth on the quality of neighborhood life and the volume and types of traffic on their streets. Since 1995, the town has issued building permits for an average of 114 new housing units per year. Approximately 28% of these new units are in multi-family developments and the rest are single-family homes. Still, residents seem less worried about new housing development than new commercial and industrial development, particularly the latter. Recently, these concerns echoed throughout the Planning Board's review of a proposed expansion of the DeMoulas headquarters and distribution facility on East Street.

As a substantially developed town, Tewksbury does not have a wide range of options to address growth in quantitative terms. The town needs to embrace better ways to regulate new development, but it is important to underscore that Tewksbury's visual character and livability hinge on strategies to guide redevelopment and reinvestment in established areas. For Tewksbury, growth management policy should emphasize qualitative controls: architectural design guidelines, rigorous site development requirements to improve aesthetics, environmental and other performance standards, and regulations to control intensity of use. The Land Use Concept Plan rests on an explicit belief that Tewksbury deserves a much higher standard of development, particularly on commercial and industrial sites, than the town has been able to harness to date. Six principles guided the development of the Land Use Concept Plan, including:

1. Take a planned approach to mixed-use development, recognizing that some uses function quite compatibly while others do not. Mixed-use development provides many benefits that range from convenience for local residents and employees to reducing dependence on auto trips for routine activities. The Zoning Bylaw should allow developers more flexibility to propose a mix of uses appropriate to areas where they plan to build. "Mixed-use development" does not mean that a particular combination of uses should apply equally to all situations, or that prescribed ratios of commercial, residential, industrial and open space uses should be achieved by every project. In Tewksbury, appropriate mixed-use development could include the following approaches:

- Convenience retail in residential areas. The corner store may seem like an emblem of the past, but retail development remains appropriate within higher-density residential areas such as multi-family and retirement housing communities. As part of the special permit process for these types of developments, developers should be encouraged to integrate retail and service businesses that cater to the housing development and its immediate vicinity.
- Convenience retail in office and industrial areas. Within Office/Research areas, developers should be allowed to include small, convenience retail and service establishments that cater mainly to the workers within an Office/Research development. This will meet the needs of employees and minimize the amount of traffic they generate in order to conduct small daily errands. Having small stores and service establishments within easy walking distance of the office may also encourage workers to carpool.
- Moderately high-density housing mixed with limited commercial uses. Multi-family and townhouse development should be allowed in planned “transitional” zones between industrial or commercial areas and single-family neighborhoods, carried out in conjunction with small-scale, low-impact commercial and office development and shared community facilities, e.g., small neighborhood parks and playgrounds.

The Land Use Concept Plan promotes a philosophy of locating residences, shopping, and workplaces within close proximity to one another wherever possible. Policies to encourage live-work situations and other strategies to reduce auto dependent travel should be pursued wherever possible in Tewksbury.

2. Give primacy to design. Tewksbury seems to have focused all of its regulatory attention on use and dimensional requirements which, while necessary, do not address the visual impact of development on nearby neighborhoods or on views from the road. Clear architectural design guidelines and site plan standards should be drafted to require that new construction respect, reinforce and enhance the town’s historic development patterns. Design standards can be accomplished by supplement to the town’s site plan review bylaw or by a separate design review bylaw, which would be administered by an appointed design review board.
3. Think strategically about infill development. Infill development refers to the targeted redevelopment of vacant parcels in otherwise developed areas. The redevelopment of these parcels, along with high-quality redevelopment of underutilized land throughout Tewksbury, should be a top priority for both land use and economic development reasons. Other communities have successfully used incentives to promote infill redevelopment, including density bonuses for desired types of development and a streamlined permitting process for targeted areas. Public investments in streetscape enhancements and amenities such as public parking can generate matching private investment in an area.
4. Put pedestrians first. Tewksbury should focus on enhancing the pedestrian environment along Route 38, but especially in the Town Center, Shawsheen and South Tewksbury areas. This will require a combination of public investments and regulations. Public investments should prioritize safe, attractive sidewalks and landscaping. Private business owners can and should play a role in these improvements, however.

Development regulations should focus on controlling curb cuts, parking and landscaping on private property.

5. Make zoning an agent of high-value, quality development. The range of uses allowed in the Heavy Industrial district is not conducive to establishing a planned, sustainable economic base. Similarly, the Zoning Bylaw's general lack of design standards in the Commercial District is not conducive to public safety or fostering a favorable image of the town, especially in the Town Center. Elements of a pedestrian-oriented village typically include small (or no) building setbacks, a mix of small retail and service establishments, and parking either on the street or behind the building. Flexible dimensional rules would be beneficial for promoting village-style development. In addition, regulations to encourage village development should establish a maximum setback distance and prohibit auto-oriented site layouts with large parking lots in front of the building.
6. Open space is a public asset and should be treated accordingly. At various times during the development of this Master Plan, discussions about open space revealed a sense that some local officials perceive open space advocacy as tantamount to no-growth advocacy. However, the Master Plan's emphasis on open space protection has very little to do with curbing future development. Rather, the Land Use Concept Plan promotes open space as a central component of neighborhood design and environmental quality, just as it promotes stronger building and site standards as central components of commercial and industrial design. In many parts of Tewksbury, open space – even in small, relatively isolated pockets – provides visual or scenic relief from development and preserves a clear impression of Tewksbury's rural past. The large expanse of open space around Tewksbury State Hospital has a character-defining impact on a key point of entry into town, but it does not provide neighborhood-level or geographically distributed benefits. Moreover, much of Tewksbury's land is directly influenced by wetlands and floodplains because of the town's relationship to three watersheds, especially that of the Shawsheen River. Open space, whether wetlands or upland, should be seen as a critical environmental protection tool for the town. It provides a measure of relief from the impact of existing development on Tewksbury's water resources. The town may not be able to acquire more open space in the future, but every effort should be made to retain and protect land the town already owns.