

CHAPTER VI

EXISTING LAND USE

A. INTRODUCTION

Population growth, housing needs, economic trends and the regulatory environment have resulted in direct changes to the Hudson landscape. The Town's existing natural features, roadways and built environment are the foundation for future development and conservation efforts. An examination of existing land use patterns provides a base for the future land use plan presented in Chapter IX. This chapter discusses: 1) historic development patterns; 2) existing land uses, including residential, recreational, commercial, industrial and agricultural land uses; 3) Hudson's existing zoning districts; and 4) an analysis of undeveloped land. Institutional uses are also covered in Chapter VIII, *Community Facilities*.

B. HISTORIC DEVELOPMENT PATTERN

Hudson, with an area of 29.2 square miles, is the sixth largest community in the Nashua region and has the second highest population density in the region (see Table II-6). Hudson has grown dramatically over the past few decades both as a bedroom community for Nashua and employment centers in Massachusetts as well as a center of employment in its own right. By the close of the 19th Century, most of Hudson's 1,200 residents were concentrated in the vicinity of the Taylor's Falls Bridge area. The remainder of the population was located in the old Hudson Center area on NH 111, on fertile farmlands along the Merrimack River, scattered along major roadways and on more isolated farmsteads throughout what was an overwhelmingly rural community. The Town's commercial uses were few and tended to be interspersed with residences to serve the local needs of a non-automobile oriented society. In rural areas, non-residential uses included farms as well as traditional rural industries such as sawmills, cooperages, inns and taverns. As the 20th Century progressed, fundamental technological, economic and social changes took place which would forever alter the landscape in all of the region's communities. Hudson, however, developed differently than most.



Aerial Photograph of Industrial and Commercial Development adjacent to the Merrimack River in Hudson

After World War II, most rural communities confronted development by becoming increasingly residential in character. Hudson, however, welcomed commercial and industrial growth along with residential development even though the Town had not historically been an employment center. Furthermore, although the Town's population grew rapidly, most housing development corresponded with the extension of public water and sewer which resulted in higher density residential development that was reasonably contained to the central and western portions of Town. As a result, much of the eastern portion of the Town has continued to be rural in character. With development of the Sagamore Bridge in south Hudson and improvements to the Town's highway network, commercial development sprawled along major routes such as Lowell Road (NH 3A), Derry Street (NH 102) and Central Street (NH 111). Industrial areas also developed which were to include some of the region's largest employers such as Digital Equipment Corporation and Sanders Associates (now known as BAE Systems). The Town's commercial, industrial and residential development, however, consumed most of its rich

productive farmland, some of which was located along the Merrimack River.

C. EXISTING LAND USE

The Nashua Regional Planning Commission (NRPC) maintains a Geographic Information System (GIS) database for generalized land use in Hudson based on data provided by the Town of Hudson Assessor. This GIS database is a general representation of how land is being used and is broken down into various land use categories. The database is parcel specific: i.e., each property is assigned one use for the entire area of the property. These categories include: single family residential, two-family residential, multi-family residential, manufactured housing, park/recreation, commercial, industrial, institutional, agriculture and undeveloped land. The location of these categories is illustrated in Map VI-1 and the area of each category is shown in Table VI-1.

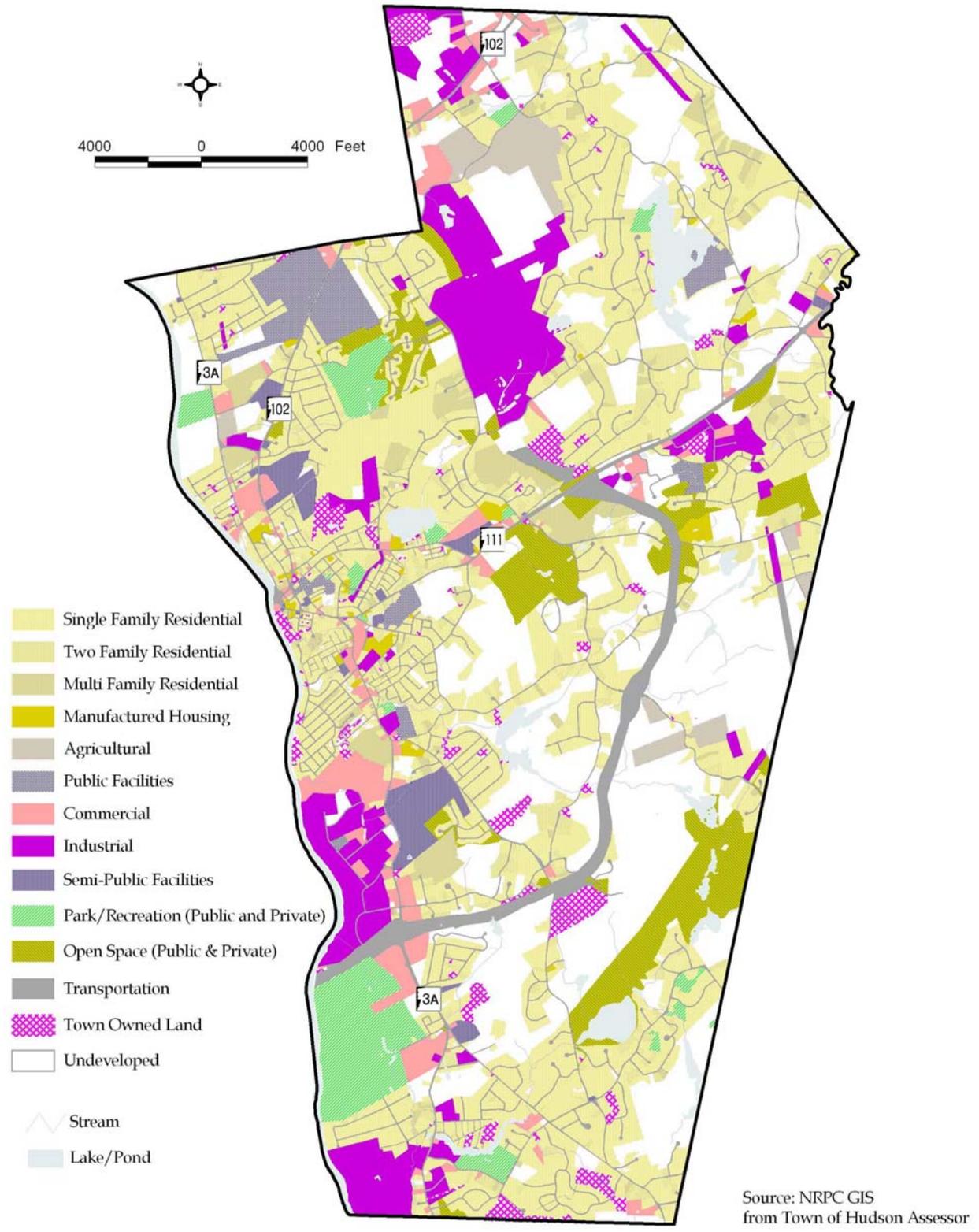
Table VI-1. Area of Generalized Land Use Types in Hudson

Land Use Category	Area (Acres)	Percent of Total Land Area
Single Family Residential	5,271	28%
Two-Family Residential	800	4%
Multi-Family Residential	707	4%
Manufactured Housing	104	0.5%
Commercial	625	3%
Industrial	1,411	8%
Semi-Public Institutional Facilities	283	2%
Public Institutional Facilities	395	2%
Open Space (Public & Private)	1,000	5%
Park/Recreation (Public & Private)	635	3%
Town-Owned	387	2%
Agricultural	290	1.5%
Undeveloped	5,040	27%
Transportation*	1,419	8%
Water	406	2%
Total	18,773	100%

Source: NRPC GIS parcel database for land use, 2003 and Town of Hudson Assessor, 2003.

* Transportation includes State and Local Roads, Circumferential ROW, Utility ROWs, Private Roads, Class VI Roads.

Map VI-1. Existing Land Use Categories in Hudson, 2003



D. ANALYSIS OF UNDEVELOPED LAND

As of August 2003, approximately 5,330 acres¹ of the total land area in Hudson remained undeveloped for various uses. A simple Buildout Analysis was conducted on this potentially developable land. A Buildout Analysis estimates the amount of developable land remaining in the Town and estimates the number of housing units and non-residential acres that could be developed. The Buildout Analysis considers issues of slope, wetlands and 100-year floodplains as development constraints. Table VI-2 shows the results of this simple Buildout Analysis. The table shows the amount of developable land remaining in the Residential-1, Residential-2, Business, Industrial, Town Residence, General and General-1 Districts. The locations of these Zoning Districts are illustrated on Map VI-2.

Table VI-2. Undeveloped and Developable Land by Zoning District, 2003

Zoning District	Total Area	Undeveloped* Land (acres)	Constrained Land** (acres)	Developable Land (acres)
Residential-1	1,328	65	35	30
Residential-2	4,544	1,079	336	743
Business	740	94	12	82
Industrial	1,185	215	78	137
Town Residence	966	33	6	27
General	2,618	859	282	577
General-1	7,392	2,985	795	2,190
Total	18,773	5,330	1,544	3,786

Source: NRPC GIS database, 2003.

* Undeveloped land includes 5,040 acres and 290 acres of agricultural land as defined in NRPC GIS database, 2003.

**NWI Wetlands, 100-year Floodplain, Steep Slope (>25%).

The results of the buildout analysis indicate that, of the total 5,330 acres of undeveloped land remaining in Hudson, there are 1,544 acres of constrained land. Constrained land is considered undevelopable due to the physical challenges it poses for development. This includes land that contains wetlands, 100-year floodplain, and/or steep slopes greater than 25%. After the constrained land is removed from consideration, approximately 3,786 acres throughout Hudson remain for future development.

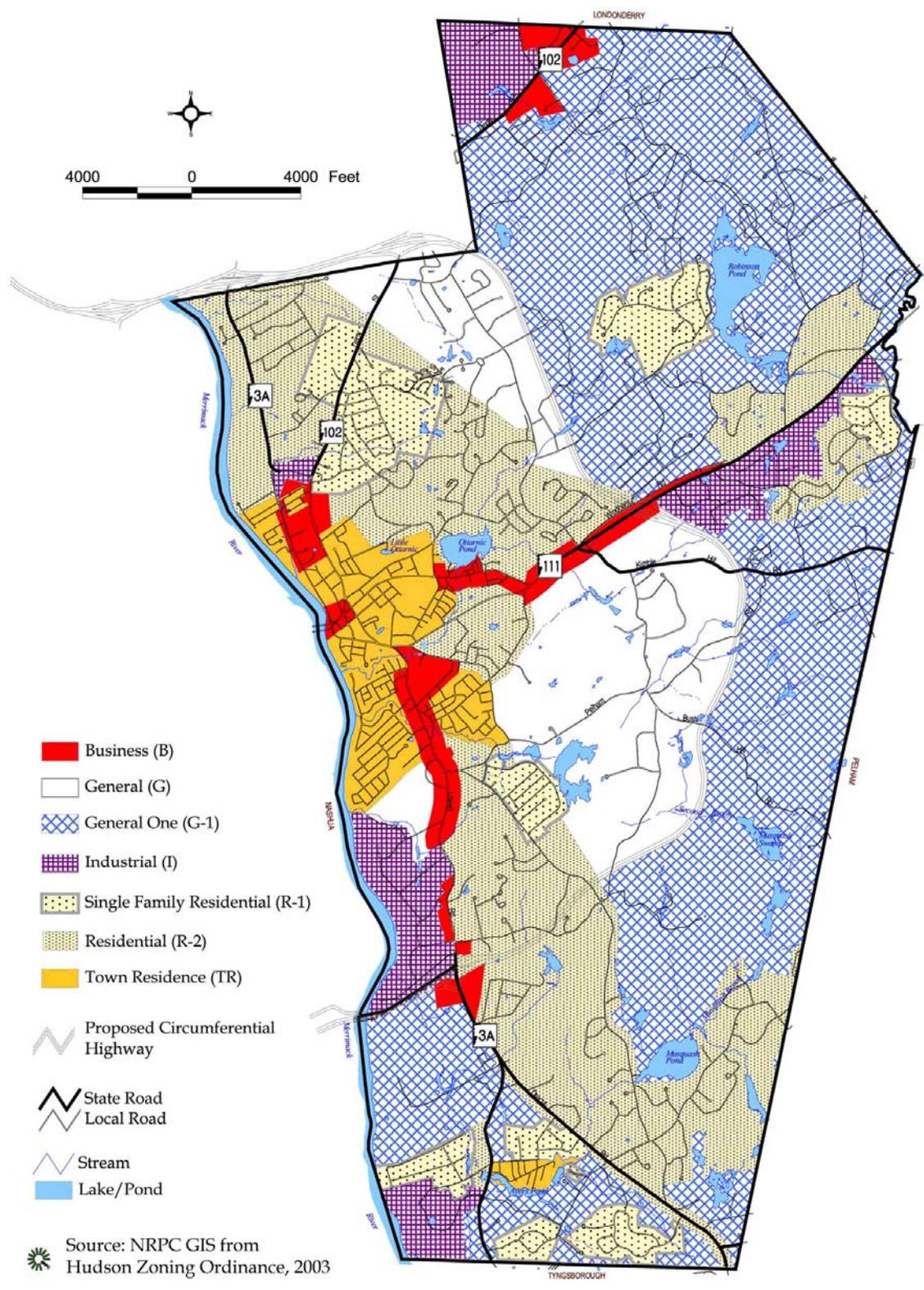
In the Residential-1 District, of 1,328 acres approximately 30 acres of land remains developable. Potentially, an additional 30 one-acre single-family house lots or 43 three-quarter-acre lots could be constructed before this district is built out.² In the Residential-2 District, there is approximately 743 acres of developable land remaining. In the R-2 District, with water and sewer, an additional 1,079 three-quarter acre single-family house lots could be constructed by build-out. Similarly, 743 duplexes could be constructed on one-acre lots. However without water and sewer available, there is only a potential for 743 single-family lots and 539 duplexes to be constructed before the district is built out.

With the exception of multi-family housing units, all types of residential development are allowed in both the General and General 1-District. In the General District, approximately 577 acres of land is developable. In the General District, because of the 2-acre zoning, an additional 288 single family, two-family, manufactured, or elderly housing units could be constructed by buildout. In the General-1 District, approximately 2,190 acres of land is considered developable. Current zoning requires a

¹ The 5,330 acres of undeveloped land includes 5,040 acres of undeveloped and 290 acres of agricultural land.

² The potential number of buildable lots presented in each district is based on zoning and does not necessarily reflect what is built.

Map VI-2. Zoning Districts in Hudson, 2003



minimum lot size of 2 acres, with and without town water and sewer. Potentially, an additional 1,095 single family, two-family, manufactured, or elderly housing units could be constructed in the General 1-District.

The Town Residence District has the smallest buildable area remaining in Hudson, with 27 acres of developable land. But because this District allows smaller lots sizes, there is a potential for an additional 117 new single-family house lots that can be built. In total there is a potential for a maximum of an additional 2,270 new single-family residential housing units or 1,570 duplexes in Hudson before all remaining land is developed.

Similarly, the remaining 82 acres of developable land within the Business District could potentially support 340,632 square feet of development assuming the existing commercial development pattern, an average 4,105 square feet per acre, will continue.³ Finally, 137 acres are available for development within the Industrial District, with a potential for 535,259 square feet of development assuming the existing industrial development pattern, an average 3,907 square feet per acre,³ will continue. The results of this simple buildout analysis are utilized in the discussion of each land use category, below.

It should be noted that calculations for build-out presented above are based on the 2003 Zoning Ordinance and do not reflect what may actually be constructed in each District. In addition, the remaining residential land area is unlikely to develop at the exact density permitted by the Zoning Ordinance, given land constraints such as steep slopes and area needed for roads, utilities and/or open space, and density options for accessory dwelling units and housing for older persons. The estimates apply to future commercial and industrial developments, as it is likely that the average floor area ratio will increase as land values rise and redevelopment occurs. A more detailed buildout analysis may be useful as a planning tool to determine the full potential of the Town's land to accommodate future housing units and non-residential development.

E. ANALYSIS OF DEVELOPED LAND

1. Residential Land Use

Residential uses encompass over 6,882 acres, or 37%, of Hudson's 18,773-acre total land area. Residential development is by far the largest land use category. Based on a 2003 total housing unit count of 8,559, residential uses are developed at an average density of approximately 1.25 units per acre in Hudson.⁴

Higher density neighborhoods are found in the vicinity of the Taylor's Falls Bridge. These areas, which developed primarily in the late 19th and early 20th Century, are made up of older homes situated on lots of one eighth to one quarter of an acre in area. Single family homes here are interspersed with some multi-family dwellings, commercial uses and community facilities. During the mid 20th Century, suburban neighborhoods comprised primarily of single family homes on quarter acre lots developed to the south and east of the Taylor's Falls Bridge area. The provision of public water and sewer concentrated development for most of the century, leaving most of Hudson's rural areas untouched until the building boom of the 1970s and 1980s.

Development in the last thirty years has occurred largely in parts of the Town lacking water and



Higher density housing
in Hudson Center

³ Based on Hudson Assessing data, 2003.

⁴ All housing unit counts from Town of Hudson Assessing data and U.S. Census, 2000-2003. All area figures from NRPC GIS parcel database.

sewer service. Due to the need for on-site septic systems and wells and more stringent development standards, single-family subdivisions in recent years have generally been of a lower density, approximately one acre per residence, and more scattered than in the past. This type of development pattern is not as an efficient use of land as the historic development patterns of the late 19th and 20th Century.

a. Single Family Residential Use



Single family residential uses encompass about 5,271 acres, or 28%, of Hudson’s 18,773-acre total land area (Table VI-3). In 2003, 74%, or 6,328 housing units, were single family. Single family residential uses are developed at an average density of approximately 1.2 units per acre.

Table VI- 3. Number of Residential Units by Type in Hudson

Property Type	Number of Units	Total Acres
Single-family	6,328	5,271
Two-family *	1,000	800
Multi-family (3 +)	1,113	707
Manufactured Housing	158	104
Total	8,599	6,882

Source: NRPC GIS database, 2003.

* These numbers include ALUs – accessory living units – a.k.a. – in-law apartments.

b. Two-Family (Duplex) Residential Use⁵

Two-family, or duplex, residential uses encompass about 800 acres, or 4%, of Hudson’s 18,773-acre total land area. In 2003, 12%, or 1,000 of the total housing units in Hudson were two-family. Two-family residential uses are developed at an average density of approximately 1.25 units per acre.

c. Multi-Family Residential Use⁶

Multi-family (3+ units per building) residential uses encompass approximately 707 acres, or 4%, of Hudson’s 18,773-acre total land area. In 2003, 13%, or 1,113, of the total housing units were multi-family. Multi-family residential uses are developed at an average density of approximately 1.6 units per acre.

d. Manufactured Housing

Manufactured housing uses encompass approximately 104 acres, or 1%, of Hudson’s 18,773-acre total land area. In 2003, 2%, or 158 units, were considered manufactured. Manufactured housing uses are developed at an average density of approximately 1.5 units per acre.

⁵ Two-Family Housing – Includes all buildings containing two housing units which may be one above the other or side-by-side. As defined by the U.S. Census.

⁶ Multi-Family Housing – Includes all buildings containing three or more housing units. As defined by the U.S. Census.

2. Commercial Land Use

Commercial uses encompass about 625 acres, or 3%, of Hudson's total land area. Based on a 2003 total floor area count of 2,565,949 square feet, commercial uses are developed at an average density of approximately 4,105 square feet per acre. The pattern of "strip development" that has characterized commercial development in Hudson gives the appearance that business uses encompass far more of the Town land area than is actually the case. This is particularly true since commercial development is located along major arterials and at prominent intersections. Hudson's most significant commercial areas are located along the NH 3A, NH 111 and NH 102 corridors. Under existing zoning, commercial uses are permitted in the Town's Business District and in the General District. A handful of commercial uses, such as restaurants, auto repair and offices/professional services are also permitted in the Industrial District. Many commercial uses have also been developed in Residential Districts either before zoning was adopted in Hudson or through variances granted by the Zoning Board of Adjustment. In 1994, the Town's zoning district map was amended to rezone some of the larger commercial developments so that they would be within the Business District; however, the process of realigning the zoning district boundaries to reflect existing land use patterns is not yet complete.

3. Industrial Land Use

Industrial land uses are the second largest land use category (next to Transportation) in Hudson, encompassing about 1,411 acres or 8% of the Town. It should be noted, however, that approximately 496 acres of the 1,411 acres devoted to industrial uses are earth excavation sites. Therefore, based on the 915 acres of developed industrial land and a 2003 total floor area count of 3,574,714 square feet, industrial uses are developed at an average density of approximately 3,907 square feet per acre.

As noted in Chapter IV, Economic Development, industry is an important component of Hudson's economy and of the region in general and many industrial uses tend to require large sites for their operations. Most of the Town's industrial uses are located between Lowell Road and the Merrimack River, on NH 102 near the Town line and on NH 111. As with commercial uses, the General District also permits industrial uses. In 2003, approximately 50% of the Town's industrially developed land, or 703 acres, was located in the General District and the General-1 District. Of this, only 9% is located in the General District.

4. Institutional Land Use

Institutional uses are generally divided into two categories: public and semi-public. Institutional uses encompass 678 acres, or 4%, of Hudson's total land area.

a. Public Institutional Facilities

Public institutional uses in Hudson include the Town offices, the DPW garage, the police and fire stations, the schools, the library, the post office, and any other local, state or federal facility not classified under other uses. These facilities encompass about 395 acres, or 2%, of Hudson's total land area.

b. Semi-Public Institutional Facilities

Semi-public uses are those uses which are generally open to the public but privately owned, such as a private hospital, or facilities which are open to the public on a less regular basis such as a private club or church. In Hudson, existing semi-public institutional uses include churches, cemeteries, and civic clubs such as the American Legion. Semi-public institutional uses encompass about 283 acres, or 2%, of the Town of Hudson. The largest of these uses is the 221-

acre Presentation of Mary Academy complex on Lowell Road. The remaining acres are scattered throughout the Town.

5. Park/Recreation Land Use

Park/Recreation uses encompass about 635 acres of Hudson's total land area. Parks and recreation lands encompass about 3% of the developed land in the Town. There are two types of park and recreation land uses in Hudson: private and public. Further discussion of parks and recreation can be found in Chapter VIII, Community Facilities.

a. Public Park/Recreation Land

Publicly owned park and recreation lands encompass about 69 acres in Hudson, or 11% of the total park and recreation land in the Town. Parcels in this category range in size from 0.3 to over 14.26 acres and include parks, playing fields (not located on school property), public beaches, and playgrounds. These parcels include the Merrifield Park (9 acres), Jette Field (4 acres), and Hills Family Park (24 acres).

b. Private Park/Recreation Land

Privately owned park and recreation land in Hudson encompasses about 566 acres, or 89% of the total park and recreation uses in the Town. Private park and recreation uses include golf courses, hunting clubs, and raceways. Parcels in this category range in size from 12 acres to 379 acres and include Green Meadow Golf Course (379 acres), Hudson Speedway (12 acres), and Hudson Fish and Game (39 acres).

6. Open Space Land Use

Open space is considered any land that is not developed and is protected in perpetuity through conservation easements or other deed restrictions. Open space land uses encompass about 1,000 acres, or 5%, of the total land area in Hudson. There are two types of open space in Hudson: public and private.

a. Public Open Space

Public open space land uses encompass about 811 acres, or 81%, of the total open space area in Hudson. Public open space land includes areas of passive recreation that requires limited or no maintenance. Parcels in this category range in size from 20.2 acres to 457 acres and include the Musquash Conservation Land (457 acres), Benson's Park (165 acres), the Town Forest on Kimball Hill Road (55 acres) and Parker Nature Area (20.2 acres).

b. Private Open Space

Private open space land uses encompass about 188 acres, or 19%, of the total open space area in Hudson. Private open space land includes all areas protected as common open space in open space subdivisions. Parcels in this category range in size from 0.65 acres to 44 acres and include the Pond View (43.59 acres), Provincial Heights (19.47 acres), and Royal Oak (21.81 acres) subdivisions.

7. Agricultural Land Use

While approximately 2,186 acres of prime and statewide significant farmland soils can be found in Hudson, it is estimated that active agriculture uses encompass only about 290 acres, or 1.5%, of Hudson's total land area in 2003, based on Town of Hudson Assessor data. An NRPC study estimated that 385 acres were in active agricultural use in 1998. This is a 70% loss from the 1974 estimate of 1,298 acres.⁷ Much of the former agricultural land in Hudson has been converted to other uses, particularly along the Merrimack River. The remaining agricultural land in Hudson includes the Nadeau Farm.

8. Current Use Land

NH RSA 79-A, enacted in 1973, authorized current use taxation of property. Administered by the NH Department of Revenue Administration, the current use program is designed to "prevent the conversion of open space to more intensive use by the pressure of property tax values incompatible with open space usage" (RSA 79-A:1). Parcels of fieldland, farmland and forestland of ten acres or more; "natural preserves" or wetlands of any size; and farmland generating more than \$2,500 annually are eligible for reduced property assessments under the program. Local officials must lower the assessed valuation of any property in the program to a prescribed level. When a parcel is removed from the program, the owner must pay a penalty (or "land use change tax") equal to 10% of the land's fair market value. In Hudson, 100% of this land use change tax is allocated toward the purchase of land for conservation purposes; however, these taxes need to be spent within the year they are collected or they are transferred into the General Fund. According to the Hudson Assessing Department, as of June 2003, approximately 3,798 acres of land in Hudson is in current use.⁸

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⁷ NRPC, *Change in Agricultural Land Use in the NRPC Region, 1974- 1998*, 2002.

⁸ Town of Hudson Assessing Department, June 2003.