Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Jane Swift
Governor
Bob Durand
Secretary
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Methods

This buildout analysis is used to determine developable land area for both commercial and industrial zoning districts. Digital and hard copy data is collected. Digital zoning data is updated. Other existing digital data is gathered from a variety of sources including MassGIS, the community, Massachusetts Highway Department, and federal sources. Zoning, open space, land use, hydrography, environmentally sensative areas, wetlands, Rivers Protection Act buffers, flood zones, slope, soil, orthophotography, rail lines, road networks, and political boundaries are utilized to different degrees. Additional layers are created that included miscellaneous features that were determined to be undevelopable, an update of the most recent MacConnell Land Use, and a layer of recent subdivisions since the last MacConnell update.

The developed land data is from the aggregated land use categories in the MacConnell Land Use layer provided by MassGIS. The aggregated developed land categories are spectator and water-based recreation, residential, commercial, industrial, transportation, and waste disposal.

The GIS analysis consisted of subtracting layers from zoning. The remaining developable land area represented on MAP 2 is aggregated by zoning category.

To determine the number of future buildable residential lots by zoning category a formula was developed to determine the land requirements of a typical lot in each category. The land requirements factor in required frontage multiplied by half the road right-of-way to determine road area. This figure varies form zone to zone. Additionally 10% is subtracted from each zone to cover miscellaneous variables such a odd lot shapes. Commercial and Industrial buildable lots were determined using an "effective" floor area ratio technique.

The analysis determines developable square feet of commercial and industrial areas. For each commercial and industrial zoning district, the major alternative land uses were examined in relation to the height limitations, maximum allowable percent lot coverage and parking requirements. An effective floor area ratio (FAR) for all use categories (e.g., offices, warehousing) in a particular district is developed for analysis purposes. An effective FAR for a district is estimated by averaging the FARs for the various potential land use types. Note that where FARs are not detailed for zoning districts in the by-laws an estimated FAR is derived for similiar zoning districts by multiplying the percent lot coverage by the number of 10-foot-tall stories that could be constructed. Effective limitations on total square footages caused by the required amount of parking with each use is also factored in.

TOWN OF HUNTINGTON

Zoning District		Undeveloped Land Area (Sq. Ft.)	Acres	Lots	Dwelling Units	Effective FAR	Buildable Commercial / Industial sq. Ft.	Commercial / Industrial Water Use	Future Residents	Residential Water Use (GPD)	Municipal Solid Waste (tons)	Students	New Roads (miles)	Non-Recycled Solid Waste (tons)
Residence 25														
	Area without constraints, residential	4,418,568	101.44	139	139				393	29,494	201.74	79	1.98	143.54
	Area without constraints, nonresidential	490,952	11.27			0.25	122,738	9,205.4						
	Area with slope, residential	4,774,586	109.61	75	75				212	15,935	109.00	43	1.07	77.55
	Area with slope, nonresidential	530,510	12.18			0.125	66,314	4,973.53						
	Area in river zone, residential	672,413	15.44	2	2				6	449	3.07	1	0.03	2.18
	Area in river zone, nonresidential	74,713	1.72			0.025	1,868	140.09						
	Total Area	**10,961,740**	**251.65**	**217**	**217**		**190,920**	**14,318.96**	**612**	**45,878**	**313.80**	**124**	**3.08**	**223.27**
Residence 45														
	Area without constraints, residential	18,455,158	423.67	328	328				925	69,391	474.64	187	7.46	337.70
	Area without constraints, nonresidential	2,050,573	47.07			0.25	512,643	38,448.25						
	Area with slope, residential	14,649,738	336.31	130	130				367	27,542	188.38	74	2.96	134.04
	Area with slope, nonresidential	1,627,749	37.37			0.125	203,469	15,260.14						
	Area in river zone, residential	1,494,237	34.30	3	3				7	562	3.84	2	0.06	2.73
	Area in river zone, nonresidential	166,026	3.81			0.025	4,151	311.30						
	Area in wetlands, residential	196,259	4.51	3	3				7	553	3.79	1	0.06	2.69
	Area in wetlands, nonresidential	21,807	0.50			0.1875	4,089	306.65						
	Total Area	**38,661,546**	**887.55**	**464**	**464**		**724,351**	**54,326.34**	**1,307**	**98,048**	**670.65**	**264**	**10.54**	**477.17**
Residence 90														
	Area without constraints, residential	143,633,166	3,297.36	1357	1357				3,825	286,907	1,962.45	773	30.83	1,396.28
	Area without constraints, nonresidential	15,959,241	366.37			0.25	3,989,810.18	299,235.76						
	Area with slope, residential	144,583,222	3,319.17	683	683				1,925	144,402	987.71	389	15.52	702.76
	Area with slope, nonresidential	16,064,802	368.80			0.125	2,008,100.30	150,607.52						
	Area in river zone, residential	9,134,181	209.69	9	9				24	1,825	12.48	5	0.20	8.88
	Area in river zone, nonresidential	1,014,909	23.30			0.025	25,372.73	1,902.95						
	Area in wetlands, residential	2,050,704	47.08	15	15				41	3,072	21.01	8	0.33	14.95
	Area in wetlands, nonresidential	227,856	5.23			0.1875	42,723	3,204.23						
	Area in Aquifer Protection District	1,012,526	23.24	9	9				26	1,961	13.41	5	0.21	9.54
	Total Area	**333,680,607**	**7,660.25**	**2072**	**2072**		6,066,006	454,950.47	5,842	**438,167.2**	2,997.06	**1,181**	**47.08**	2,132.41
Residence 135														
	Area without constraints, residential	18,948,924	435.01	119	119				336	25,174	172.19	68	4.06	122.51
	Area without constraints, nonresidential	2,105,436	48.33			0.25	526,359	39,476.9						
	Area with slope, residential	11,340,590	260.34	36	36				100	7,533.2	51.53	20	1.21	36.66
	Area with slope, nonresidential	1,260,066	28.93			0.125	157,508	11,813.1						
	Area in river zone, residential	66,060	1.52	0	0			0.0	0	0	0	0	0	0
	Area in river zone, nonresidential	7,340	0.17			0.025	184	13.8						
	Area in wetlands, residential	702,277	16.12	3	3				9	699.7	4.79	2	0.11	3.41
	Area in wetlands, nonresidential	78,031	1.79			0.1875	14,631	1,097.3						
	Total Area	**34,508,723**	**792.21**	**158**	**158**		**698,681**	**52,401.1**	**445**	**33,407.2**	**228.51**	**90**	**5.38**	**162.58**
Business														
	Area without constraints, residential	1,824,758	41.89	58	58				162	12,180.1	83.31	33	0.82	59.28
	Area without constraints, nonresidential	456,189	10.47			0.25	114,047.35	8,553.55						
	Area with slope, residential	2,320,002	53.26	37	37				103	7,742.9	52.96	21	0.52	37.68
	Area with slope, nonresidential	580,000	13.31			0.125	72,500.05	5,437.50						
	Area in river zone, residential	550,181	12.63	2	2				5	367.2	2.51	1	0.02	1.79
	Area in river zone, nonresidential	137,545	3.16			0.025	3,438.63	257.90						
	Area in wetlands, residential	21,501	0.49	0	0				0	0	0	0	0	0
	Area in wetlands, nonresidential	5,375	0.12			0.1875	1,007.85	75.59						
	Area in Aquifer Protection District	901,324	20.69	8	8				23	1,745.3	11.94	5	0.12	8.49
	Total Area	**5,895,551**	**135.34**	**104**	**104**		**190,994**	**14,324.54**	**294**	**22,035.6**	**150.72**	**59**	**1.48**	**107.24**
Central Business														
	Area without constraints	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Area	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Industrial														
	Area without constraints	22,339	0.51	0	0		0	0	0	0	0	0	0	0
	Total Area	**22,339**	**0.51**	**0**	**0**		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
State & Federal Preserve														
	Total Area	**14,881,055**	**341.62**	**0**	**0**		**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**
Totals:		**438,611,561**	**10,069**	**3,014**	**3,014**		**7,870,952**	**590,321.4**	**8,500**	**637,535.7**	**4,360.74**	**1,718**	**67.57**	**3,102.67**

1. Buildout is based on available data from Mass GIS, the Town of Huntington and the U.S. Census..
2. The buildout scenario addresses only uses by right and not uses allowed by special permit.
3. Business uses in all districts are calculated to have a FAR of 25%, which is the maximum lot coverage.
4. Flood zones in all districts require a special permit for all construction, and are therefore added to the area of total constraints.
5. Residential and light commercial uses are allowed in all districts. All residential districts are assumed to be 90% residential and 10% commercial.
6. The Business District is assumed to be 80% residential and 20% business.
6. The Central Business District has no land available for development.
7. The area remaining in the Industrial District does not meet the minimum lot requirement, and is therefore undevelopable for these calculations.
8. State and Federal Preserve land only allows municipal and religious uses, and is therefore undevelopable.
9. The Aquifer Protection Overlay District allows only single family uses by right.
10. For all area with over 15% slope, a universal constraint factor of 50% is applied.
11. For all area in wetlands, a constraint factor of 25% is applied.
12. For all area in the river 200-foot protective buffer zone, a constraint factor of 90% is applied.
13. Future residents are calculated using a ratio of 2.82 persons per household; future students, a ratio of .57 students per household.

Huntington, Massachusetts
MAP 2: Developable Land And Partial Constraints

Symbol	Legend	Symbol	Legend
	Aquifer Protection Overlay		Transmission Right of Way
	Wetlands		Highway
	200		Secondary Road
	Slope 15 - 24% Grade		Railroad
	Slope 25% Grade or Greater		Streams
			Ponds

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