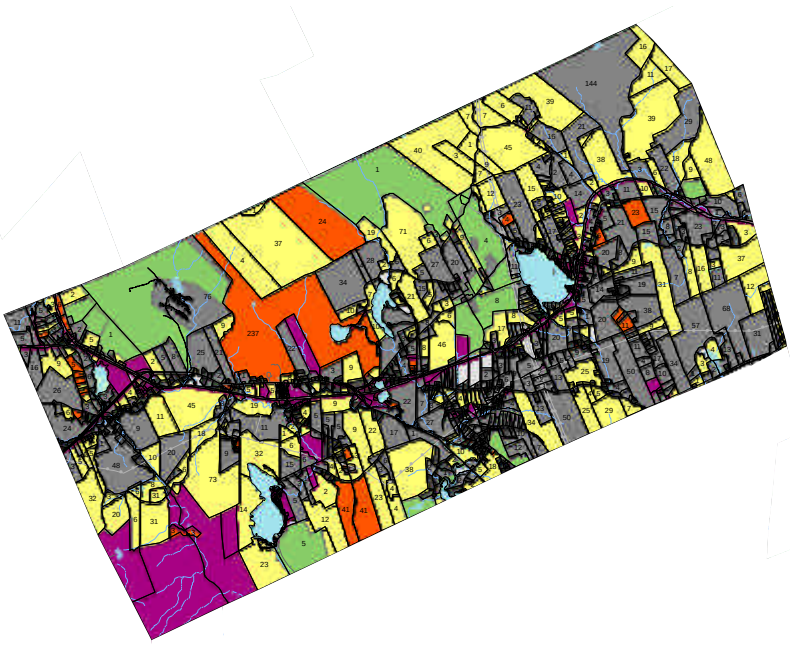
Build-Out Analysis

Town of Andover, New Hampshire



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January, 2007

The Lakes Region

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BUILD-OUT SUMMARY

Introduction

This build-out analysis was prepared by the Lakes Region Planning Commission (LRPC) at the request of the Andover Master Plan Committee, as part of the town's current effort to update the Andover Master Plan. The committee was interested in using build-out analysis to project the potential for new residential lots and units within the town. The town may use the results of this build-out analysis for planning purposes, and to keep track of land use changes over time.

For clarification, the term 'build-out' refers to the time and circumstances whereby, based on prevailing regulations and other restrictions, no more building growth may occur. For our purposes it means the point at which, under current zoning requirements, no more house units may be created in the town. It is the point at which lots have been subdivided to the minimum size allowed, all units have been built, and there is no more 'developable' land.

LRPC performed the build-out analysis using geographic information systems (GIS), with guidance from the Andover Planning Board. This report summarizes the methodology and findings of the LRPC in its performance of the build-out analysis.

To assist the reader, this report begins with the numerical results of the build-out analysis. All other information, including a detailed explanation of the methodology, data development, overlay analysis, etc. is explained in the Appendices.

Results of the Andover Build-Out Analysis

The following tables summarize the results of the build-out analysis. These tables were derived from the analysis conducted by overlaying the existing tax parcels, zoning map, and the natural building constraints datasets, as defined in the Methodology (see Appendix).

Andover has four zoning districts, Agriculture – Residential (AR), Forested-Agricultural (FA), Rural Residential (RR), Village (V); residential development may occur in any of them.

Table 1 displays information about the development potential of the community; Side A of the table shows that the two smaller zones RR and V are approximately 50% built-out at this time, while the AR and FA zones have considerable potential for subdivision. Overall, the left side of Table 1 shows that less than 20% of the land in Andover is completely subdivided under existing zoning.

Table 1 - Build-Out Lots and Units by Zone

	Side A - Lots				Side B - Units			
ZONE	**Existing Lots**	**Total Potential Lots at Buildout**	**Potential Number of Additional Lots at Buildout**	**Existing Lots as %of Total Potential Lots**	**Existing Dwelling Units**	**Dwelling Units at Build-Out**	**Potential # of New Dwelling Units**	**% of Potential Units Built**
AR	557	2450	1893	22.73%	557	2450	1893	22.73%
FA	224	2525	2301	8.87%	224	2525	2301	8.87%
RR	134	282	148	47.52%	134	282	148	47.52%
V	101	177	76	57.06%	101	228	127	44.30%
Total	**1016**	**5434**	**4418**	**18.70%**	**1016**	**5485**	**4469**	**18.52%**

Under current zoning, the only areas where more than one unit can exist on a single lot are in the Village District. Side B of Table 1 indicates that the existing number of units represents 18.5% of the possible at build-out. The Village (V) and Rural Residential (RR) zones are nearing 50% built-out under current zoning; together they can accommodate 510 more units. The Agriculture-Residential (AR) and Forest-Agricultural (FA) zones on the other hand can accommodate more that 4,400 additional units. There is potential for considerable additional development in Andover; under current zoning the town could accommodate more than five times the 1016 units that the parcel database shows currently exist.

The information shown in Table 2 indicates the potential change of units in Andover in terms of Seasonal versus Year-Round population.

Table 2 – Seasonal and Year-Round housing units

ZONE	**Existing Dwelling Units**	**Dwelling Units at Build-Out**	**Potential # of New Dwelling Units**
Seasonal	173	932	760
Year-Round	843	4553	3709
Total	**1016**	**5485**	**4469**

This assumes that the percentage of Seasonal residents in Andover remains at the 17.0% level recorded in the 2000 Census. This is well below the Lakes Region average of 29.8% but above the Merrimack County average of 8.0%.

Table 3 reports the potential number of additional Seasonal and Year-Round residents based upon the number of additional units as reported in the previous table. The figures are derived by using a factor of 2.55 persons per household, based on the US Census figures of 2000. This value of average persons/household has been dropping steadily since 1980 when the figure was 2.77. The 2000 value is slightly higher than the Lakes Region average of 2.44 persons per household used by the NH Office of Energy and Planning.

Table 3 – Potential Additional Population

ZONE	Potential Number of Additional Units at Build-Out	Total Potential Additional Population	Potential Additional Seasonal Population	Potential Additional Year Round Population
AR	1,893	4,827	821	4,007
FA	2,301	5,868	997	4,870
RR	148	377	64	313
V	127	324	55	269
TOTAL	**4,469**	**11,396**	**1,937**	**9,459**

The Census reports that Andover's year-round population in 2000 was 2,109; the NH Office of Energy and Planning 2005 population estimate for Andover was 2,219. By multiplying the number of existing units and the 2000 Census figure of 2.55 persons per household, a current population estimate of 2,591 is indicated, highlighting differences in the assumptions used by the Office of Energy and Planning and this method of estimating population.

This build-out analysis is projecting a future total population of more than 13,500 for the town, about five times Andover's current population. The reader should keep in mind that this build-out scenario does not have a time frame associated with it. The NH Office of Energy and Planning currently projects the Andover population to grow from 2,219 persons in 2005 to 2,650 in 2020 and 2,800 in 2025.

Build-Out Conclusions

The purpose of this build-out analysis is to present the planning board with a model of Andover and its potential for growth. On one level, the report gives a picture of how much and where development has already occurred (current development). The predictive power of the build-out analysis allows town planners to go a step beyond by exploring how much development may occur under current zoning and where that growth might be experienced (build-out). The third level of use for this build-out analysis is as a working tool. With appropriate software (Community Viz), the project and its digital database of map layers and data tables can be maintained by the town, and updated on a regular basis. As changes occur, the town can make adjustments, which might modify the predicted numbers.

This build-out analysis assumes no further development on natural features such as wetlands and steep slopes, as well as no further residential development on restricted areas such as conservation and government owned lands. The current zoning restrictions on lot size and frontage were applied to each lot in the town. This resulted in figures indicating the potential number of housing units that could be created in Andover, and where such development could occur. The Appendix includes a complete description of the assumptions used.

Currently there are 1,514 parcels in Andover, 67% (1016) of which have been built upon. Under the current zoning ordinance, this build out assessment shows there is the potential for an additional 4,418 lots and 4,469 additional units.

Residential development is permitted in all four of Andover's zoning districts. Under current zoning, considerable subdivision may occur; in fact more than five times the current number of lots could exist at Build-Out (5,434 vs. 1,016). In the Village Districts nearly 60% of all potential lots have been created through subdivision and the Rural Residential Zone is nearly 50% fully subdivided. Between these two zones an additional 224 lots could be created under current regulations. The potential number of lots at build-out in these zones is small compared to the potential number of lots in the remaining zones. The Forest-Agriculture zone is less than ten percent built out and could accommodate more than 2000 additional lots.

Andover's Village Districts allow for the development of several units on one lot. This type of zoning encourages a variety of housing options, something that is important for encouraging residents of all income levels to live in the town. Allowing multiple units per lot would enable the Village Districts to accommodate 51 more units than if these lots were limited to one unit per lot.

According to the US Census, the population of the town of Andover in 2000 was 2,109. The New Hampshire Office of State Planning's Population Projections indicate a 2005 population of 2,240, rising to 2,380 by 2010, and a total of 2,650 residents in 2020. The town's population is considered primarily residential as opposed to the more seasonal nature of the Lakes Region as a whole (seasonal housing: Andover 17.0%, Lakes Region 29.8%). If the town were to reach build-out with the current zoning, a population of more than 13,500 residents is indicated.

APPENDIX

Build-Out Analysis Overview

Build-Out analysis can help the town of Andover predict and plan for future development. Existing lots can be prioritized for development or for conservation. Due to zoning requirements, ownership status, and geography, the largest land lots are not necessarily the most developable. This effort allows us to make an estimate of the number of potential lots and units, using available GIS data layers.

GIS build-out analysis can vary, depending upon the complexity of the input GIS datasets, zoning requirements, and project funding. Assumptions had to be made to model some of the physical constraints and a few of the various zoning requirements. Since we do not know the locations of the potential buildings, nor do we know the specific design of each subdivision, certain zoning requirements could not be addressed within the scope of this project.

Major products of this build-out analysis include the GIS project, shapefiles, maps, associated data reports, and this report. The data could be edited by town staff to further refine the accuracy of the build-out. Editing the numbers for a single lot will automatically update the attributes in the shapefile and by running the CommunityViz program, summary tables can quickly be generated. The database may be edited to reflect actual development as it happens over time. For instance, if the build-out study calculated a parcel having five potential lots was actually subdivided into four lots with a conservation easement, the GIS layers can be edited, which results in active tracking over time. Likewise, the town may wish to see how a change in minimum lot sizes could impact the overall build-out.

Goals of this Build-Out

This build-out attempts to use existing (or derived) GIS datasets to determine estimates of the following:

1) Number of potential residential lots at build-out
2) Number of potential residential units at build-out
3) Number of potential additional lots at build-out
4) Number of potential additional units at build-out
5) Potential number of additional Seasonal and Year-Round units
6) Potential population associated with additional Seasonal and Year-Round units

Methodology

The build-out analysis was performed following these general steps:

1) Acquire existing GIS layers including polygon composite tax map layer and zoning.
2) Develop Building Constraints (non-buildable areas) Layer.
3) Link Assessing Database to Parcel layer.
4) Overlay Parcels, Zoning, and Constraints layers for Build-Out layer.
5) Determine the Buildable and Non-Buildable area for each lot.
6) Calculate an estimate of the number of potential Build-Out Lots & Units per existing lot according to zoning requirements.
7) Report the number of Build-Out Lots & Units.
8) Calculate and estimate the total number of additional housing units and potential population growth, reporting numbers by potential seasonal and residential units.
9) Produce maps to illustrate the development potential of existing lots.
10) Package project and functional database for future use.

Build-Out Assumptions

This build-out analysis, for practical reasons, cannot accurately study the specific geography of each existing lot. Nor can it successfully model every building parameter and every possible way that a lot may be developed. Therefore, several assumptions must be made and followed in the processing of the data. The build-out is also constrained by the use of the best available GIS data.

It should be noted that a Build-Out Analysis is a predictive model and based upon certain assumptions. Some assumptions are physical limitations while others are legislated assumptions, and some are based upon a combination of the two. An example of the physical assumption is, "no homes will be built on lakes"; a legislated assumption would include, "a maximum of three units may be constructed on each Village lot"; while a combination assumption might be, "no development will be allowed on land sloping 15% or greater".

The first statement is an absolute based on physical limitations to construction, the second statement is completely dependent upon the decisions of municipal officials, and the third constraint is linked to measurable, physical features (steep slopes can make development more difficult and lead to environmental problems such as erosion) but the designation of this as a limitation is based upon regulations set up by the community (15% as opposed to, perhaps 25%).

Municipal-, State-Owned, and Conservation Lands

It is assumed, for the purposes of this build-out, that existing municipal-, state-owned and conservation lands (permanently recognized conservation easements) will remain as currently developed. They will not be subdivided, and no more residential units (if any at present) will be built upon them. Government owned lots were also identified on draft maps by municipal participants. Cemeteries were also noted by planning board participants and were removed from the build-out analysis.

Wetlands

New Hampshire State regulations limit the development that may occur on wetlands, protecting this fragile ecosystem as well as the structure being built. Waivers for such development may be granted by NH DES. Site specific delineation by a Certified Wetlands Soil Scientist is required to mark the exact boundary of a wetland.

For this study the Hydric Soils identified by the NH NRCS was used as the wetland layer; this is what is referenced in the Andover Subdivision Regulations, 1986 (2.42). Prime wetlands have been identified by the town of Andover; these areas have an added layer of protection against development. It was assumed that no future development would occur on any wetlands.

Steep Slopes

Steeply sloped land can make development of housing difficult and expensive. Building and maintaining roads and driveways to such structures can also add to the cost. Poor construction and maintenance in steep areas can also lead to significant erosion and associated environmental problems. Slope is often measured in percent; thresholds that are frequently used by communities are 8 – 14%, 15 – 25%, and greater than 25% slope.

The layers that were used for this study were derived from USGS 1:24,000 topographic maps using the ArcView extension Spatial Analyst; this has been found to be more detailed than the USGS County Soils maps. A layer was developed showing 15 – 25% slopes and another layer for the greater than 25% slopes.

In this analysis the Lakes Region Planning Commission was asked by the Committee to use all slopes 15% or greater as a limitation. This was done; however, in the process of developing the results for this model, it was discovered that the limitation on development on these slopes could be open to a rather broad interpretation.

Andover's Zoning Ordinances do not limit development because of slope. The town's Subdivision Regulations do state, "Unless a lot has a substantial area with a slope of fifteen (15) percent or less which may be used for dwelling, septic system, driveway, and appurtenant structures, the Board shall not approve it as a building lot." (4.02). As this language is found only the Subdivision Regulations, it does not apply to development on an existing lot.

Zoning

The two zoning characteristics that pertain most to this Build-Out Analysis are minimum lot size and minimum road frontage. The zoning districts are separated into 1-acre and 2-acre minimum lot sizes. The RR and V zones have one acre minimums, while two acres is the required minimum in the AR and FA zones. Limited apartments and two-family dwellings are allowed in the Village Districts. This study is concerned with maximizing residential growth; therefore, in the Village Districts the software processed each future lot to its full potential.

Andover Zoning Districts

A. Forest and Agriculture District (Zone FA). FA Districts are composed mainly of forest, woodlands, and farms. If the Planning Board finds that the site location is appropriate, water and sewer systems can be supported, and that it meets all other state and local requirements, an adjustment may be granted for single family dwellings. The minimum frontage is 250' and the minimum area for each lot is 2 acres.

B. Agricultural and Residential (Zone AR). The AR Districts are mainly farms, residences, and woodlands. The minimum frontage is 250' and the minimum area for each lot is 2 acres.

C. Rural Residential District (Zone RR). The RR Districts consist of mainly

residences and woodlands. The minimum frontage is 150' and the minimum area for each lot is 1 acre.

D. Village District (Zone V). In the Village Districts residences, commercial establishments, community buildings, and neighborhood businesses are the primary uses. Two family dwellings and apartments made by altering the interior of an existing building are permissible within this zone. The minimum frontage is 150' and the minimum area for each lot is 1 acre.

Lots split between more than one zoning districts

While most of the lots that exist in more than one zone are covered by two zones with similar dimensional restrictions, such as FA and AR, cases do exist in which one lot falls into two zones with different area and frontage minimums. In the cases where two dimensional restrictions apply to one lot, the standards of each zone applies to the affected land and "borrowing land" is not allowed.

Lots will be subdivided to the maximum potential.

This build-out assumes that all lots which can be subdivided will be split and developed to the greatest degree. This model allows for subdivision of existing lots but not for redevelopment of existing units. Thus, all lots within the Village Districts which presently have a single-family unit will retain that single-family structure while any new lots will be developed with three units.

Setback areas

All setbacks were accounted for in terms of whether the lot could accommodate units. This model did not attempt to locate individual structures.

Road Right-of-Way Area

Where potential build-out lots are predicted to exist where there are no presently existing roads, buildable lot acreage will be subtracted from the existing lot. This is to be subtracted at the rate of:

Minimum frontage requirement X ½ the Road-ROW width.

This would yield a minimum area to be associated with roads per lot. For this study, the Road ROW used was 50 feet. Existing Road Frontage had to be derived from GIS analysis of the digital parcel layer. Discrepancies may exist between the real frontage and what the GIS analysis measured, although this is the best available data.

Minimum Shore Frontage

When calculating the number of lots that could be created from parcels with shore frontage, the town requirement of 200' of waterfront footage per lot was applied. In some cases, notably around Bradley Lake, the tax map boundaries were not in agreement with the water layer and aerial photography (See 'Tax Parcel Polygon Placement'). In such cases, the shoreland limitation was not applied.

Availability of Municipal Water and Sewer Service

Municipal sewer is not available in Andover and although water service is available in a few sections of Andover, it does not have an impact on lot dimensions. Therefore, neither of these services impacted this analysis.

Build-Out Input Details

Natural Building constraints were derived from the best readily available GIS sources. Building constraints, or non-buildable land, used in this analysis were wetlands, prime wetlands, and steep slopes, 15% or more is considered non-buildable. The Floodplain areas and Comprehensive Shoreland Protection Act were not used as constraints in this build-out analysis. These regulations outline the manner in which structures will be built but they do not limit or exclude residential development.

Digital parcel data, zoning, prime wetlands and soil unit boundaries (NRCS provisional county soil survey data) were provided by LRPC. All other required data layers were available in digital format and obtained from GRANIT at Complex Systems Research Center, UNH in March 2006: conservation/public lands, 1:24,000-scale hydrography, NHDOT roads, transmission lines, railroads, National Wetlands Inventory palustrine wetlands, 30-meter digital elevation model. Steep slopes 15-25% and over 25% were derived from the 30m dem using the Spatial Analyst extension in ESRI®ArcMap™ 9.1 student edition.

Natural Constraints

Identified wetlands from soils: hydric soils (NRCS provisional county soil survey data)
Identified steep slopes: 15-25%, >25% slope (derived from 30m digital elevation model)
Identified designated prime wetlands: (provided by LRPC, NH DES)
Identified surface water: extracted from 1:24,000-scale hydrography (from GRANIT)
Identified area within 250ft of:
Bog Pond, Bradley Lake, Elbow Pond, Highland Lake, Hopkins (Adder) Pond, Horseshoe Pond, Cascade Brook, Frazier Brook, Blackwater River

Cultural Constraints

Identified all conservation lands: overlaid parcels on GRANIT Conservation lands data
Conservation Lands: Permanent conservation easements as archived in the NH GRANIT database were corrected to match the Andover parcel data, and were coded with the relevant Link_Id for use in the build-out data processing. Adjustments were made based on local feedback regarding parcel ownership and protection status.

Identified all publicly-owned parcels: (from assessor's database provided by LRPC). Corrected errors in digital parcel data to remove duplicate parcels and sliver polygons. Revised parcel data per comments provided at Andover Master Plan subcommittee meeting 5/22/06 -- the Andover Village District and Proctor Academy lands do not have conservation easements on them and should be considered developable.

Tax Parcel Polygon Development

An important GIS data layer to be developed for the project is a polygon composite tax map. The Town was able to provide the digital files used to produce the Town's tax maps in GIS format. A CAD version of the digital tax map data was edited by TerraMap of Lebanon, NH. No field checking was done by TerraMap and there are some unresolved inaccuracies in this layer; the priority in adjusting parcel shape was to match the existing roads. Therefore, road frontages are deemed accurate but some shore frontages are acknowledged to be quite different from established layers.

The zoning GIS layer was provided by the Town Administrator and was included with the tax parcel GIS data produced by TerraMap. The zoning layer used in this analysis is the same layer that is used to make the town's Official Zoning Map.

Data Development

Split-Zone Parcels

A note about Split-Zones: there are many lots, especially between zones AR and FA that exist in more than one zone. As these zones have similar development parameters (minimum lot size, minimum frontage) these situations do not impact the overall build-out totals. Only in cases where a parcel falls into two zones with different development parameters is the build-out analysis impacted.

Density Rules and Lot Efficiency

Current zoning in Andover falls into four categories with two measures of density, either a one-acre or two-acre minimum lot size; and no estimate was made of floor area ratios for non-residential or mixed-use buildings (i.e. the floor area ratio between the total floor space in a building including all stories and the area of the land it is built on). Where parcels were split by two zones, each portion was analyzed separately.

Table 4 – Density Rules

Density Rules			
Land-Use Designation	**Dwelling Units**	**Floor Area**	**Efficiency Factor (%)**
Forest and Agriculture	2 acre min. lot size		90
Agriculture and Residential	2 acre min. lot size		90
Rural Residential	1 acre min. lot size		85
Village	1 acre min. lot size		80

Efficiency factors were used to account for the percent of land required for rights-of-way, drainage, setbacks, etc, and were estimated based on factors used by other NH regional planners. Efficiency could also be used to consider a "likelihood" factor, for example, chances are 20% that buildout will occur here in the next 10 years. No likelihood factor was applied to the Andover buildout analysis. However, it would be interesting to use the population projections available from the NH Office of Energy and Planning, and apply them to a time-series Build-out analysis (a technique that is available in the latest release of the CommunityViz software 3.1 but not available for this project). With a current population growth rate of well under 10% (in 5 years) in the Town of Andover, it's apparent the use of a likelihood factor would produce gradual numeric Build-Out results, though it would be difficult to determine where growth would occur.

Building Placement

Irregular shape of parcels, or location and configuration of buildable land, will affect a parcel's potential for development, as will separation distance between units and setbacks from roads. The CommunityViz Build-Out accounts for building placement by providing the user to run a spatial Build-Out, in addition to a numeric Build-Out. In this study, the following criteria were applied:

Table 5 – Building Placement Rules

Designation	Minimum Separation Distance *feet*	Layout Pattern	Road or Line Layer	Setback *feet*
AR	200	Random	dotroads	50
FA	200	Random	dotroads	50
RR	100	Grid	dotroads	50
V	100	Grid	dotroads	50

Joining the Assessing Database

Merging the Assessing Database with the Tax Parcel Polygon Layer yields information that is vital to the build-out analysis. Gaining this link populated the tax parcel layer with fields from the assessing database necessary for build out. When matching parcel data to assessing information, a one-to-many match will exist. That means that the assessing database may have several records for one parcel.

Overlay Analysis and Build-Out Calculation

Once the development of the necessary datasets was completed, overlay analysis to identify development potential could be performed. Overlay analysis is a GIS software procedure to combine the various data layers together to make spatial comparisons; it is used to determine the buildable areas per lot. Once the input data layers have been readied, overlaying the GIS inputs is a straightforward procedure.

Build-Out Calculation Process

Lots

The total lot area comprises buildable AND non-buildable land. The basic logic in calculating the build-out lots is as follows:

Number of Potential Lots = The LESSER OF:

The total lot area divided by the minimum lot size OR The total lot frontage divided by the minimum frontage unless there is adequate buildable area to put in subdivision roads to supply needed frontage. In that case, the land area for each potential new lot is subtracted from the totals, along with an amount of buildable land area to cover road right-of-ways.

Units

The number of potential units equals 1 x each potential build-out lot for the AR, FA, and RR zones and 3 x each potential build-out lot for the Village zones. The number of additional units was set to the difference between the number of potential build-out units and the number of existing units.

Findings

The Town of Andover has 25,479 acres of which 10,739 acres or 42% are buildable. Below is a table of the total and buildable area within each zone:

Table 6 – Buildable Area

Buildable Area			
Land-Use Designation	**Gross Area (acres)**	**Net Buildable Area (acres)**	**Difference (acres)**
AR	8527	5009	3518
FA	16158	5201	10957
RR	465	312	153
V	329	217	112
Total	**25479**	**10739**	**14740**

Build-out results reflect the remaining capacity for an area and do not include existing buildings. No estimate was made to determine potential redevelopment of existing sites that are currently vacant, or for example structures in the Village district that currently have only

one dwelling unit per building. No attempt was made to predict future commercial or mixed-use capacity; the build-out only addresses residential development.

Table 7 – Current lot characteristics

BUILD LEVEL	ACRES	LOTS
Built and not subdividable	1,385	678
Built and subdividable	9,912	362
Unbuilt and constrained	9,659	226
Unbuilt and not subdividable	491	94
Unbuilt and subdividable	804	29
EXEMPT-MUNIC	285	55
EXEMPT-STATE	1,608	39
ROW	36	30

The Village and Rural Residential zones are most built, at 44% and 47% respectively; and the Agriculture and Residential zone is 23% built, while the Forest and Agriculture zone is the least developed at 9%.

Table 8 – Existing and Potential Development by Lost and Units

ZONE	Existing Lots	Total Potential Lots at Build-out	Potential Number of Additional Lots at Build-out	Existing Lots as %of Total Potential Lots	Existing Dwelling Units	Dwelling Units at Build-Out	Potential # of New Dwelling Units	% of Potential Units Built
AR	557	2450	1893	22.73%	557	2450	1893	22.73%
FA	224	2525	2301	8.87%	224	2525	2301	8.87%
RR	134	282	148	47.52%	134	282	148	47.52%
V	101	177	76	57.06%	101	228	127	44.30%
Total	**1016**	**5434**	**4418**	**18.70%**	**1016**	**5485**	**4469**	**18.52%**

The numeric build-out is a mathematical calculation of the holding capacity of the land. The spatial build-out converts numeric building counts to actual points and tries to place them on a 2D map. A parcel may have enough buildable area for two buildings, but perhaps due to its shape or the configuration of the buildable land area, it may only fit one unit. CommunityViz provides both results:

Table 9 – Difference between Numeric and spatial Build-out

Land-Use Designation	Numeric Build-Out	Spatial Build-Out	Difference	Existing Dwelling Units	Percent of Potential Units Built
FA	2301	1802	499	224	9%
AR	1893	1641	252	557	23%
RR	148	129	19	134	47%
V	127 (76 bldgs)	93 (43 bldgs)	34	101	44%
Total	**4469**	**3665**	**804**	**1016**	**18%**

The build-out analysis results reflect the remaining capacity for an area. Once a project is started, multiple scenarios could be run, for example, to determine the effect changes in zoning, or allowable density, or different constraints, would have on an area.

Non-Residential Zoning

Non-Residential zoning lots were processed for build-out potential as residential lots and units. Andover Zoning allows some non-residential development in each of its zones, however this model assumed that all commercial lots would be converted to residential lots.

Map Products

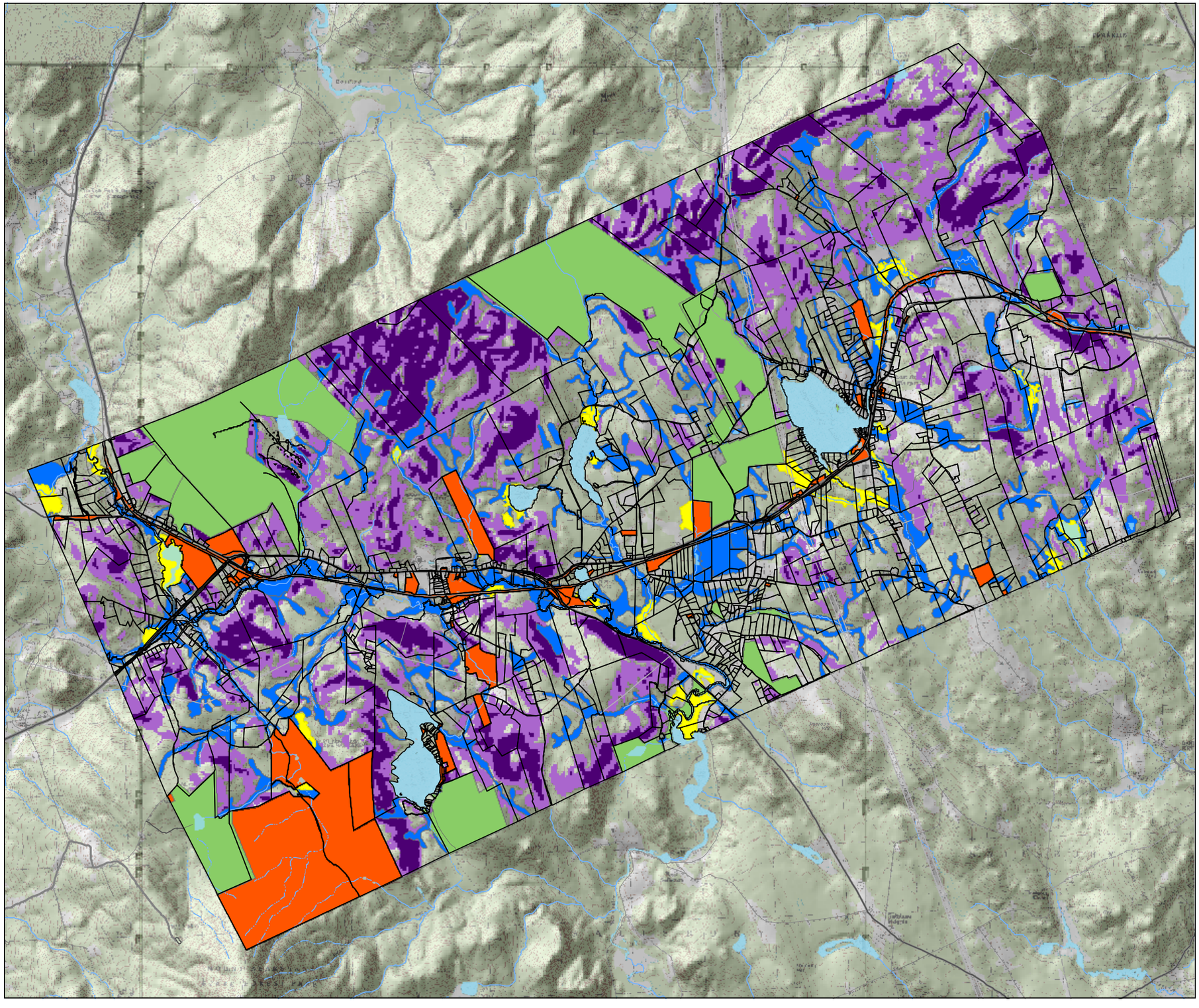
Composite Constraints Map

Current Development Map

Zoning Map

Buildable Lots Map

TOWN OF ANDOVER
Buildout Analysis: COMPOSITE CONSTRAINTS



- River / Stream
- Lake / Pond
- Prime wetlands
- Hydric soils
- Slope > 25 percent
- Slope 15 to 25 percent
- Conservation Lands
- Publicly-Owned Lands
- Parcels

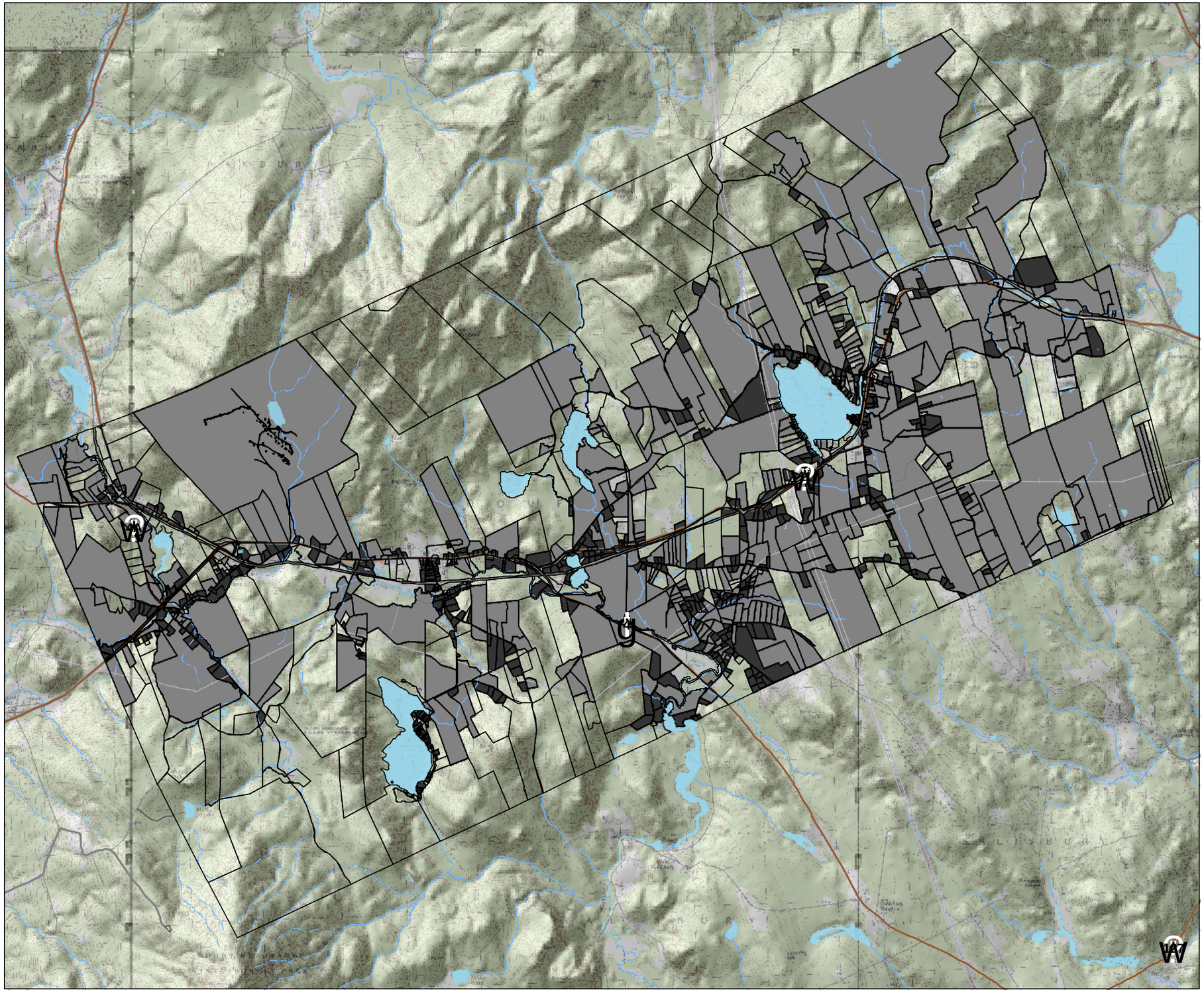
December 15, 2006

0 1 2

Miles

L R P C

TOWN OF ANDOVER
Buildout Analysis: CURRENT DEVELOPMENT



Built and not subdividable

Built and subdividable

October 28, 2006

0 1 2

Miles

L R P C

TOWN OF ANDOVER
Buildout Analysis:
ZONING

- Forest and Agriculture
- Agriculture and Residential
- Rural Residential
- Village

October 28, 2006

0 1 2

Miles

L R P C

TOWN OF ANDOVER
Buildout Analysis:
BUILDABLE LOTS

- Built and not subdividable
- Built and subdividable
- Unbuilt and subdividable
- Unbuilt and constrained
- Unbuilt and not subdividable
- Exempt

10 Number of potential additional lots*

* Due to limitations on space, the number of potential additional lots cannot be shown on this map for some of the smaller lots.

October 30, 2006

0 1 2

Miles

L R P C