

6.0 Build Out Analysis

The Town of New Hartford has ample vacant land that can still be developed. How the Town will actually be developed is impossible to predict. A build out analysis is intended to demonstrate what kinds of development patterns are possible under a given set of conditions. The intent of this analysis is to show how development can be controlled with different land use policies. In this analysis, four different scenarios were analyzed for their potential development. The villages were not included in the analysis. The four scenarios are as follows:

- Full build-out based on existing zoning regulations
- Build-out of vacant land under existing zoning regulations
- Build-out of vacant land and farmland under existing zoning regulations
- Potential build-out of proposed future land use plan

The following build-out analysis was completed using a geographic information system (GIS). A parcel layer was intersected with a zoning or future land use layer creating a layer with current and future land use attributes. The new layer was intersected with a constraints layer. The constraints layers contained wetlands, steep slopes, and flood prone areas. Depending on the scenario, assumptions were made as to how a given land use would be developed in a build out. The areas of these parcels were then summarized to obtain an overall area that will be built out in each future land use category. The overall land area was then calculated to obtain the number of residential units, amount of commercial or industrial floor space, and area of land that would remain as farmland. These calculations were based on current zoning tolerances or tolerances specified in the future land use scenario.

The build-out analysis assumes that there is an unlimited demand for space in the town of New Hartford. Constraint areas were considered un-developable and were eliminated from the calculations in all of the scenarios. In all scenarios, community and public service properties were assumed to remain as their current use and were also removed from the calculations.

6.1 Scenario 1

The first scenario demonstrates how the Town would be built out if it were started from scratch under current zoning regulations. This scenario assumes that the entire town will be rebuilt where zoning allows a greater density of development. For this scenario, all of the land area, except for community and public service properties and constraint areas, were summarized by existing zoning classifications. The following calculations were used for each of zones. These calculations are based on the maximum allowable density of development in each of the zone.

Housing units based on minimum lot size

- $A - \text{Area}/60,000 = \# \text{ housing units}$
- $\text{RA1 (sewers)} - \text{Areas}/30,000 = \# \text{ housing units}$
- $\text{RA1 (no sewers)} - \text{Area}/40,000 = \# \text{ housing units}$
- $\text{RA2} - \text{Area}/43,560 = \# \text{ housing units}$
- $\text{LDR} - \text{Area}/18,000 = \# \text{ housing units}$
- $\text{MDR} - \text{Area}/15,000 = \# \text{ housing units}$
- $\text{HDR} - \text{Area}/10,000 = \# \text{ housing units}$
- $\text{PDRES} - \text{Area}/18,000 = \# \text{ housing units}$
- $\text{PDMH} - \text{Area}/5,000 = \# \text{ housing units}$

Commercial space based on maximum building coverage (1 floor)

- $\text{PO} - \text{Area} \times 60\% = \text{Commercial Space}$
- $\text{RB1} - \text{Area} \times 50\% = \text{Commercial Space}$
- $\text{RB2} - \text{Area} \times 50\% = \text{Commercial Space}$
- $\text{RB3} - \text{Area} \times 30\% = \text{Commercial Space}$
- $\text{RB4} - \text{Area} \times 60\% = \text{Commercial Space}$
- $\text{PHB} - \text{Area} \times 50\% = \text{Commercial Space}$
- $\text{PDMU} - \text{Area} \times 50\% = \text{Commercial Space}$
- $\text{PDP} - \text{Area} \times 50\% = \text{Commercial Space}$

Manufacturing space based on maximum building coverage (1 floor)

- $\text{M} - \text{Area} \times 50\% = \text{Manufacturing Space}$

If the Town of New Hartford was completely built out based on the maximum densities allowed under the existing zoning, there could be a total of 18,800 residential units, more than 23 million square feet of commercial space, and almost 6 million square feet of manufacturing space. The following table summarizes the calculation by zone. The final numbers were rounded to the nearest 10 residential units or thousand square feet of space.

Table 6-1 Build Out Scenario 1

Zoning District	Area (Sq. ft.)	Min Lot Size (Sq.ft.)	Residential Units	Totals
A	177,463,185	60,000	2,960	
RA1	17,585,332	30,000	590	
RA1-N	6,750,892	40,000	170	
RA2	62,719,528	43,560	1,440	
LDR	133,883,297	18,000	7,440	
MDR	27,418,276	15,000	1,830	
HDR	15,004,167	10,000	1,500	
PDRES	4,802,840	18,000	270	Residential Units
PDMH	12,979,700	5,000	2,600	18,800
Zoning District	Area (Sq. ft.)	Maximum Building Coverage (%)	Commercial Space (Sq.ft.)	
PO	356,287	60	214,000	
RB1	12,640,221	50	6,320,000	
RB2	5,488,615	50	2,744,000	
RB3	6,770,478	30	2,031,000	
RB4	1,094,901	60	657,000	
PHB	4,958,613	50	2,479,000	
PDMU	6,199,053	50	3,100,000	Sq. ft of Commercial Space
PDP	11,452,197	50	5,726,000	23,271,000
Zoning District	Area (Sq. ft.)	Maximum Building Coverage (%)	Manufacturing Space (Sq.ft.)	Sq. ft of Manufacturing Space
M	11,562,011	50	5,781,000	5,781,000

Source: peter j. smith & company, inc.

6.2 Scenario 2

In the second build out scenario, only the vacant parcels were developed based on the existing zoning. The calculations for each zone are the same as in the first scenario. The results were then added to the existing development to get the total build out. The existing commercial and manufacturing space is based on data from Town of New Hartford's Planning Department. Existing residential units is based on the 2000 census plus the number of building permits issued since 2000. In this scenario, existing agriculture land was maintained.

If the vacant land were build out based on existing zoning densities, there would be a total of 14,470 residential units. The decrease in residential units from the first scenario was due to the preservation of 3,400 acres of farmland. Vacant land in commercial zones could yield 7.3 million new square feet of commercial space. However, when this is added to the existing commercial space, the result is about half of what is possible if the whole town was redeveloped. The numbers demonstrate that existing commercial space is not being built to the maximum lot coverage allowed by current zoning regulations. Vacant land in industrial zones could yield 1.6 million new square feet of manufacturing for a total of 2.5 million square feet. The following table summarizes the calculations for the second scenario by zone.

Table 6-2 Build Out Scenario 2

Zoning District	Area (Sq. ft.)	Min Lot Size (Sq.ft.)	Residential Units	Totals	
A	23,827,709	60,000	400		
RA1	9,216,323	30,000	310		
RA1-N	3,053,706	40,000	80		
RA2	15,220,852	43,560	350		
LDR	42,558,784	18,000	2,360		
MDR	5,623,113	15,000	370	Residential Units	
HDR	8,377,775	10,000	840	Existing	9,400
PDRES	939,015	18,000	50	New	5,070
PDMH	1,573,639	5,000	310	Total	14,470
Zoning District	Area (Sq. ft.)	Maximum Building Coverage (%)	Commercial Space (Sq.ft.)	Square feet Commercial Space	
PO	10,094	60	6,000		
RB1	1,521,034	50	761,000		
RB2	1,680,458	50	840,000		
RB3	1,969,276	30	591,000		
RB4	171,733	60	103,000	Square feet Commercial Space	
PHB	1,205,801	50	603,000	Existing	5,456,000
PDMU	62,421	50	31,000	New	7,292,000
PDP	8,714,754	50	4,357,000	Total	12,748,000
Zoning District	Area (Sq. ft.)	Maximum Building Coverage (%)	Manufacturing Space (Sq.ft.)	Square feet Manufacturing Space	
				Existing	860,000
				New	1,621,000
M	3,241,335	50	1,621,000	Total	2,481,000
Future Land Use	Area (Sq. ft.)		Agricultural Acres	Agricultural Acres	
Agriculture	169,060,520		3,400	Total	3,400

Source: peter j. smith & company, inc.

6.3 Scenario 3

In Build-out scenario 3, all vacant and existing agricultural land is developed based on the maximum densities allowed by the current zoning ordinance. Calculation for each zone and the existing development is the same as in scenario 2.

In this scenario, the 3,400 acres of active farmland are replaced by 3,540 residential units for a total of 18,010 residential units in the Town. Commercial and Industrial space remains the same as in scenario 2 because no active agricultural land is in a commercial or industrial zone. The following table summarizes the calculations for the third scenario by zone.

Table 6-3 Build Out Scenario 3

Zoning District	Area (Sq. ft.)	Min Lot Size (Sq.ft.)	Residential Units	Totals	
A	140,791,509	60,000	2,350		
RA1	12,690,484	30,000	420		
RA1-N	3,053,706	40,000	80		
RA2	45,477,320	43,560	1,040		
LDR	55,355,581	18,000	3,080		
MDR	6,499,741	15,000	430	Residential Units	
HDR	8,377,775	10,000	840	Existing	9,400
PDRES	939,015	18,000	50	New	8,610
PDMH	1,583,557	5,000	320	Total	18,010
Zoning District	Area (Sq. ft.)	Maximum Building Coverage (%)	Commercial Space (Sq.ft.)	Square feet Commercial Space	
PO	10,094	60	6,000		
RB1	1,521,034	50	761,000		
RB2	1,680,458	50	840,000		
RB3	1,969,276	30	591,000		
RB4	171,733	60	103,000	Square feet Commercial Space	
PHB	1,205,801	50	603,000	Existing	5,456,000
PDMU	62,421	50	31,000	New	7,292,000
PDP	8,714,754	50	4,357,000	Total	12,748,000
Zoning District	Area (Sq. ft.)	Maximum Building Coverage (%)	Manufacturing Space (Sq.ft.)	Square feet Manufacturing Space	
				Existing	860,000
				New	1,621,000
M	3,241,335	50	1,621,000	Total	2,481,000

Source: peter j. smith & company, inc.

6.4 Scenario 4

In the fourth scenario, Vacant and Agricultural land was built out based on the future land use plan. In this scenario, calculations are slightly different. All developable area was assigned a future land use based on the future land use map. A best attempt to match the future land uses with current zoning districts was made in order to validate the calculations. The calculations are as follows:

6.4.1 Future Land Use

Agriculture

- Existing Agriculture remained Agriculture
- Vacant parcels – $\text{Area}/60,000 = \# \text{ of residential units (as in A District)}$

Low Density Residential

- $\text{Area}/30,000 = \# \text{ residential units (as in RA-1 District)}$

Single Family Residential

- $\text{Area}/18,000 = \# \text{ residential units (as in LDR District)}$

High Density Residential

- $\text{Area}/10,000 = \# \text{ residential units (as in HDR District)}$

Traditional Area (Mixed Use District)

- $\frac{1}{2} \text{ Area}/10,000 = \# \text{ residential units (as in HDR District)}$
- $\frac{1}{2} \text{ Area} \times 50\% = \text{Commercial square feet (As most commercial districts)}$

Historic Area (Mixed Use District)

- $\frac{1}{2} \text{ Area}/10,000 = \# \text{ residential units (as in HDR District)}$
- $\frac{1}{2} \text{ Area} \times 50\% = \text{Commercial square feet (As most commercial districts)}$

Regional Commercial

- $\frac{1}{2} \text{ Area} \times 50\% = \text{Commercial square feet (As most commercial districts)}$

Industrial

- $\frac{1}{2} \text{ Area} \times 50\% = \text{Manufacturing square feet (As in I Districts)}$

The results of these calculations were then added to the existing development to get a total build out.

Based on these assumptions, the Future Land Use Build-out produced 19,150 residential units. The number of residential units in this scenario was slightly higher than the complete build-out (scenario 1) because a larger area was developed as high density residential. 2,300 acres of agriculture was preserved in this scenario. The build-out based on the future land use yielded 12.4 million square feet of commercial space and nearly 1.5 million square feet of manufacturing space. The following table summarized the calculations for the fourth scenario by future land use designation.

Table 6-4 Build Out Scenario 4

Future Land Use	Area (Sq. ft.)	Min Lot Size (Sq.ft.)	Residential Units		
Rural Residential	16,382,278	60,000	270		
Low Density Residential	56,473,325	30,000	1,880		
Single Family Residential	106,266,713	18,000	5,900	Residential Units	
High Density Residential	14,801,128	10,000	1,480	Existing	9,400
Historic Area	1,423,643	10,000	140	New	9,750
Traditional Area	840,508	10,000	80	Total	19,150
Future Land Use	Area (Sq. ft.)	Maximum Building Coverage (%)	Commercial Space (Sq.ft.)	Square feet Commercial Space	
Historic Area	1,423,643	50	712,000	Existing	5,456,000
Traditional Area	840,508	50	420,000	New	6,977,000
Regional Commercial	11,690,034	50	5,845,000	Total	12,433,000
Future Land Use	Area (Sq. ft.)	Maximum Building Coverage (%)	Manufacturing Space (Sq.ft.)	Square feet Manufacturing Space	
Industrial	1,278,724	Area x 50%	639,000	Existing	860,000
				New	639,000
				Total	1,499,000
Future Land Use	Area (Sq. ft.)		Agricultural Acres	Agricultural Acres	
Agriculture	99,552,687		2,300	Total	2,300

Source: peter j. smith & company, inc.

6.4.2 Summary of Build-out Scenarios

The future land use build-out (scenario 4) created the largest number of residential units, but only slightly more than if the whole town was redeveloped or if vacant and agricultural land was developed based on existing zoning. By concentrating densities, the future land use plan was able to achieve an equivalent amount of residential units while maintaining some agriculture. The last three scenarios supplied roughly the same amount of commercial space. The first scenario produced almost twice as much commercial space because existing commercial developments did not utilize 50% of the lot area. The future land use plan allots less area for manufacturing; therefore the amount of manufacturing area in that scenario is less than the others.

The following table displays the number of residential units, amount of commercial and industrial space, and the amount of agricultural land preserved in each of the scenarios. Existing quantities are displayed for reference. The existing figures are also incorporated into the totals of scenarios 2,3, and 4.

Table 6-5 Summary of Build Out Scenarios

	Residential Units	Sq.ft. Commercial Space	Sq.ft. Manufacturing Space	Acres of Agriculture
Existing	9,400	5,456,000	unknown	3,400
Scenario 1	18,800	23,271,000	5,781,000	
Scenario 2	14,470	12,748,000	2,481,000	3,400
Scenario 3	18,010	12,748,000	2,481,000	
Scenario 4	19,150	12,433,000	1,499,000	2,300

Source: peter j. smith & company, inc.