

Town of Raymond CTAP Buildout Report

I. Background Information

The Southern New Hampshire Planning Commission conducted a buildout analysis of the Town of Raymond based on standard methodology and datasets to ensure consistent and comparable results as part of the I-93 NH DOT community technical assistance program (CTAP). The software used in this study was the Community Viz Scenario 360 buildout tool and ArcGIS by ESRI. The first two buildouts were standard scenarios. The third buildout was developed using input from the community based on the results of the first two buildouts and issues unique to the town. A standard set of GIS data was required for the analysis:

Land Use and Regulatory

Land Use Polygons – CTAP

Zoning

Current Buildings

Community Centers (Sprawl Indicators Data)

Roads

Sewer Service Areas

Other Regulatory Overlays

Development Constraints

Natural Services Network (NSN)

Wetlands (National Wetlands Inventory (NWI))

100-Year Floodplain (FEMA)

Conservation Lands

The GIS layers used for this analysis came from a number of sources; the town, SNHPC, NH DOT and NH GRANIT. The community center data consisted of mixed use; with residential and commercial uses. Some GIS layers such as land use and current buildings were generated by the planning commission. The GRANIT website provided NSN, NWI, 100-year floodplain and conservation lands GIS layers. The NSN identifies land of ecological importance by classifying it into four categories of water supply lands, productive soils, important wildlife habitat and flood storage lands.

II. The Buildout Studies

Buildout studies are an analysis of what could happen under current zoning when all available land that is suitable for residential and non residential construction is built to capacity. Buildout studies are not predictions of what will happen; they are a planning tool of what could happen under current land-use regulations. By applying different scenarios, town planning boards can see how different land-use regulations *might* impact the growth of the town.



Two standard buildouts were run for the Town of Raymond using the same constraint layers and existing zoning for all 26 CTAP Towns. Communities were asked for input on 1 or 2 scenarios to address issues that were unique to their own community.

Buildout 1: Base CTAP Buildout:

The maximum amount of development that can occur based on current zoning regulations was calculated. Buildable land areas were identified through land use polygons and zoning overlays. Current density, setbacks and lot coverage were applied to the analysis. NWI Wetlands, the 100-year floodplain and conservation lands were also applied as constraints to development.

Buildout 2: CTAP Standard Alternative:

This buildout applied the NSN layer as an additional constraint (the NWI wetlands and the 100-year floodplain are part of the NSN data). This scenario was growth neutral; the allowable densities were made to maintain an equal number of new housing units and non-residential square feet. Growth was focused around community and commercial centers in the towns with the highest density being with ¼ mile, then within ½ mile, then within 1 mile, and using current zoning density outside 1 mile.

Buildout 3: Community Scenario A:

The purpose of this analysis was to address the specific factors and issues in Raymond. The 500-year floodplain, 4th order stream buffers based on the shoreline protection act, a 15 ft. wetlands buffer, hydric soils, forested floodplain, and steep slopes (> 25%) were added as development constraints. NSN data was removed as a constraint. Currently zoned commercial/residential areas (zone C2) were changed to multi-family. Allowable densities were doubled in designated proposed sewer areas from the Wastewater Feasibility Study from July 2007, and densities were lowered in wellhead protection areas.

Buildout 4: Community Scenario B:

The current zoning regulations were used as the density and setback rules. Allowable densities in the proposed sewer areas were not doubled and the commercial/residential areas in zone C2 were not changed to multi-family. The constraints used were the 100-year floodplain, 500-year floodplain, 4th order stream buffers, 15 ft. wetlands buffer, hydric soils, forested floodplains, steep slopes (> 25%), and conservation lands.

III. Timescope:

Timescope is a decision making tool that helps look at changes over time. Two timescopes were run on each scenario to determine what year the town would build out based on available land and the zoning and constraints that were used. A timescope based on an exponential growth rate of 0.76% per year was applied; this was determined from census and annual population data gathered by the Office of Energy and Planning (OEP). Projections from OEP between the years of 2005 and 2030 were also averaged with the percent change calculated for the 1990s.



Exponential Growth Rate	Base Buildout	Standard Alternate Buildout	Community Scenario A	Community Scenario B
0.76% per year	2108	2108	2093	2091

Dwelling Unit & Population Results

Base Buildout:

Total Dwelling Units = 3,900
Existing + Buildout = 7,757

Total Population = 9,984*
Existing + Buildout = 19,858

Standard Alternative Buildout:

Total Dwelling Units = 3,690
Existing + Buildout = 7,547

Total Population = 9,446*
Existing + Buildout = 19,320

Community Scenario A:

Total Dwelling Units = 3,151
Existing + Buildout = 7,008

Total Population = 8,054*
Existing + Buildout = 17,928

Community Scenario B:

Total Dwelling Units = 2,888
Existing + Buildout = 6,745

Total Population = 7,393*
Existing + Buildout = 17,267

* Note: Assumes average household size of 2.56 persons per household



IV. Assumptions and Indicators:

A focus of this project was indicators or impacts of buildout and how they changed for different scenarios. A total of 40 indicators were calculated for each buildout in the following seven categories: Buildout totals, Demographics and Employment, Transportation, Water/Energy use, Land Use Characteristics, Environmental/ Open Space, and Municipal Demands. Indicators will be derived using state, regional, or national standards.

Buildout Totals

Dwelling units
Buildings
Commercial floor area
Developed residential acres
Developed non-residential acres
Total developed acres

Demographics & Employment

Population
School kids
Labor force
Commercial jobs to housing ratio
Commercial jobs

Transportation

Vehicles
Vehicle trips per day
Annual CO auto emissions
Annual CO₂ auto emissions
Annual hydrocarbon auto emissions
Annual NO_x auto emission

Water/Energy Use

Residential water use
Total energy use
Residential energy use
Commercial energy use

Land Use Characteristics

Development footprint
Residential housing density
Employment density
Total density
Walkability
Proximity to community centers
Average distance to recreation
Recreational density

Municipal Demands

Solid waste demand
Emergency Service Calls – Fire & Ambulance
Emergency Service Calls – Police

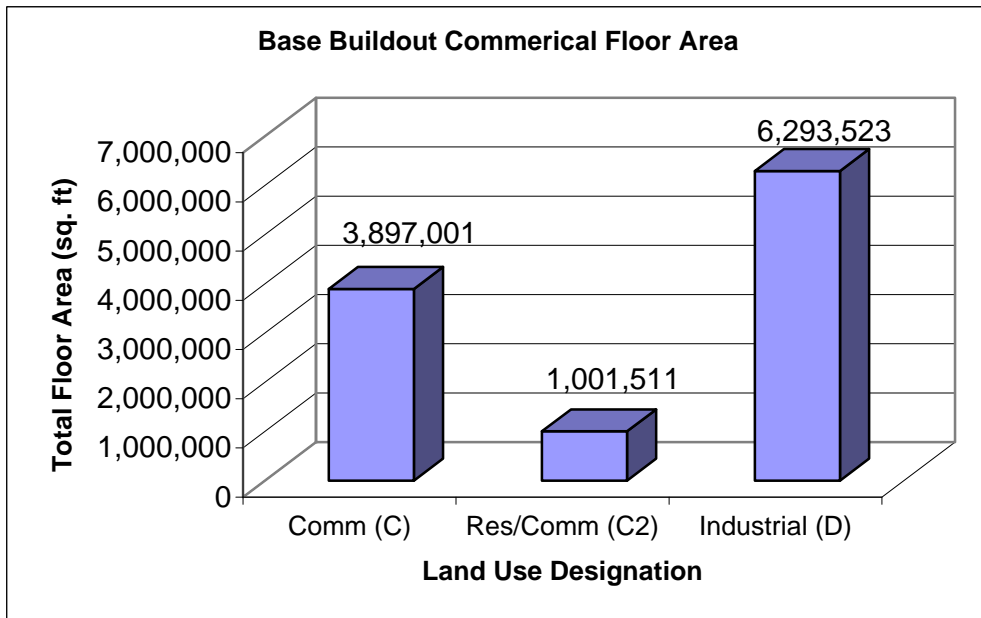
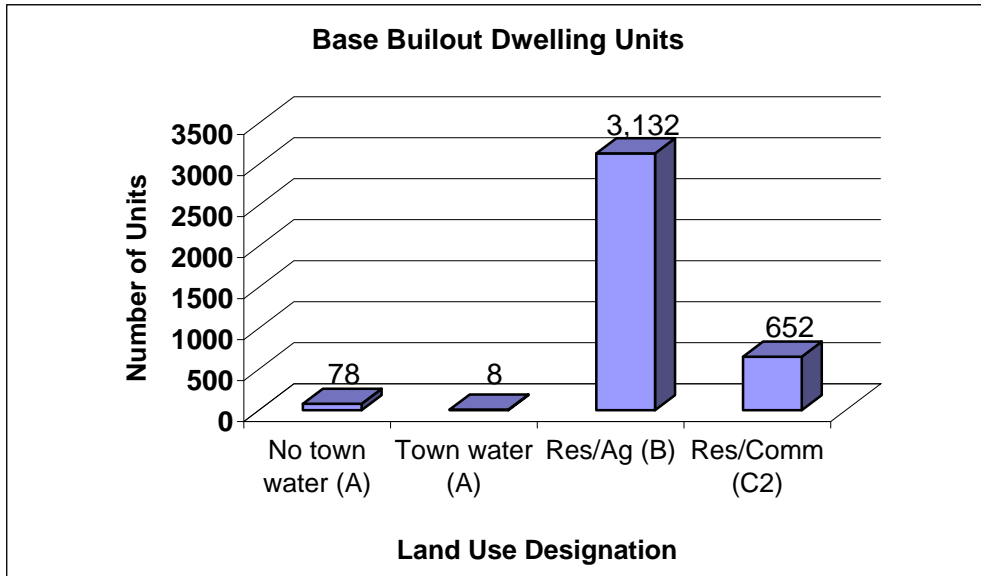
Environmental/Open Space

Residential Imperviousness
Commercial Imperviousness
Percent Imperviousness

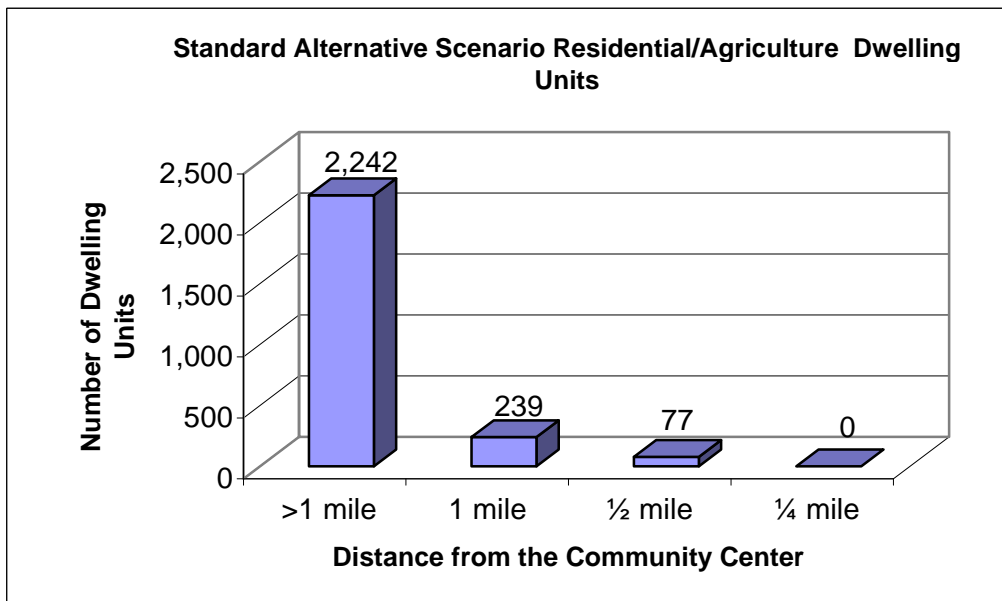
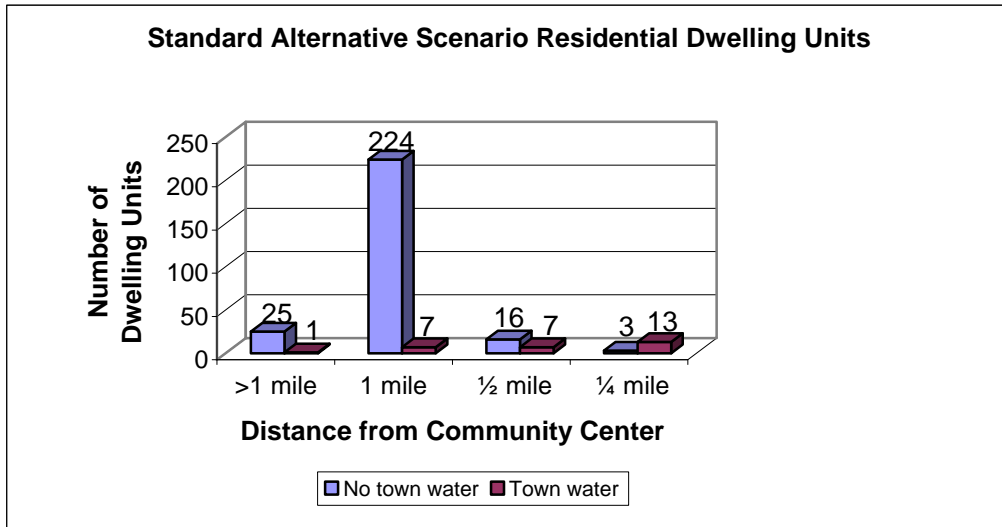


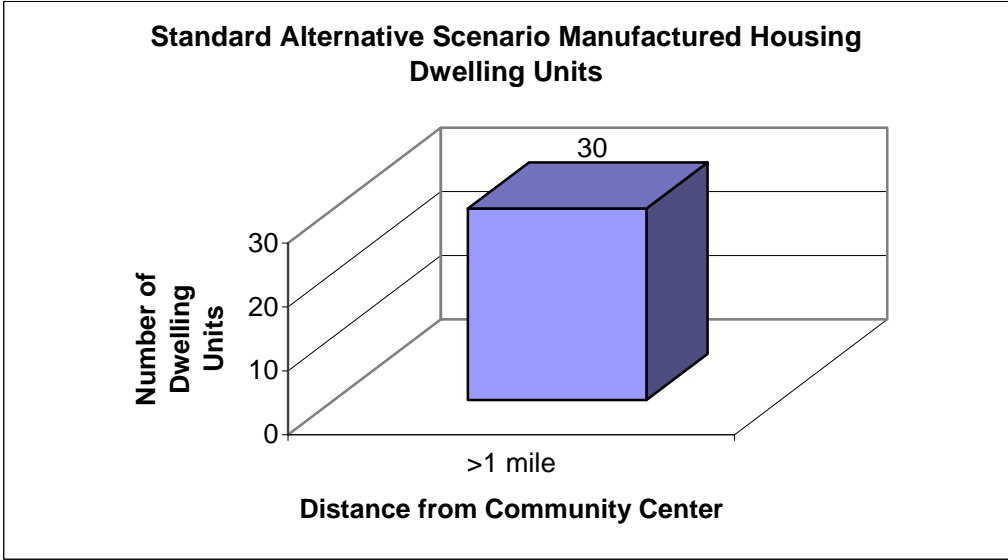
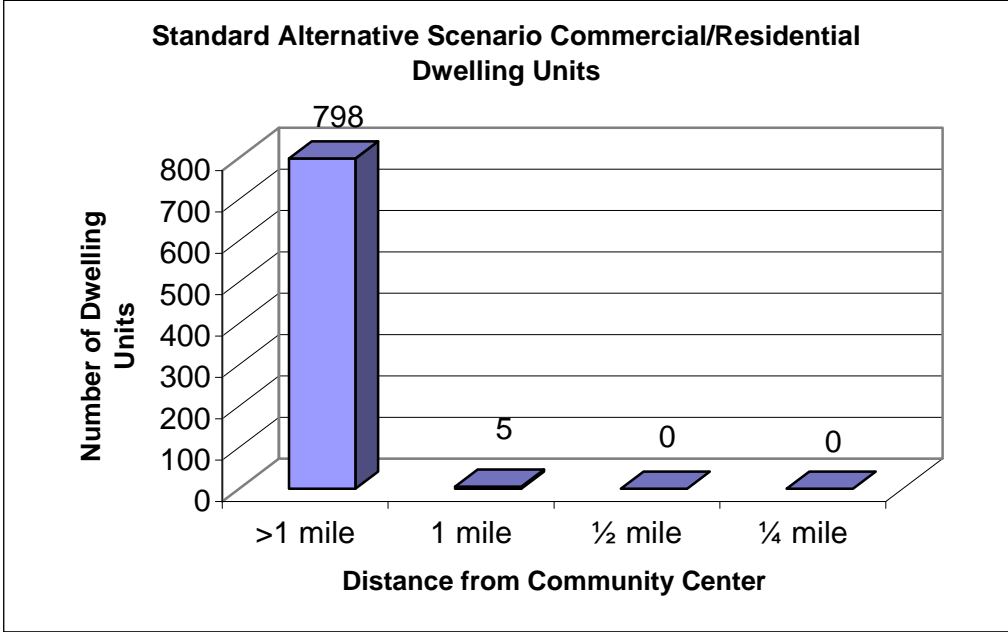
III. Results

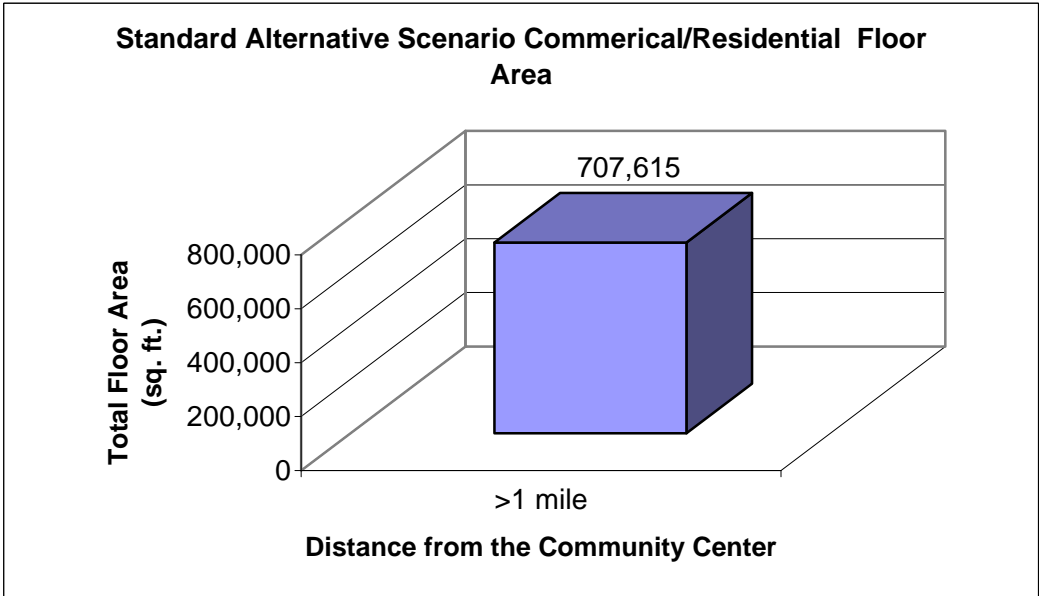
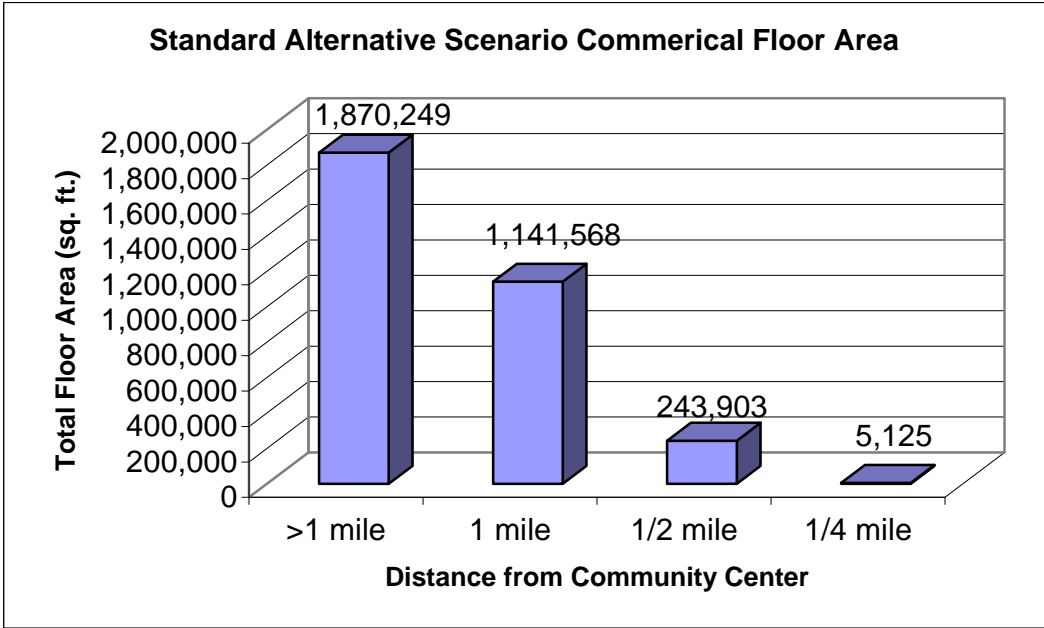
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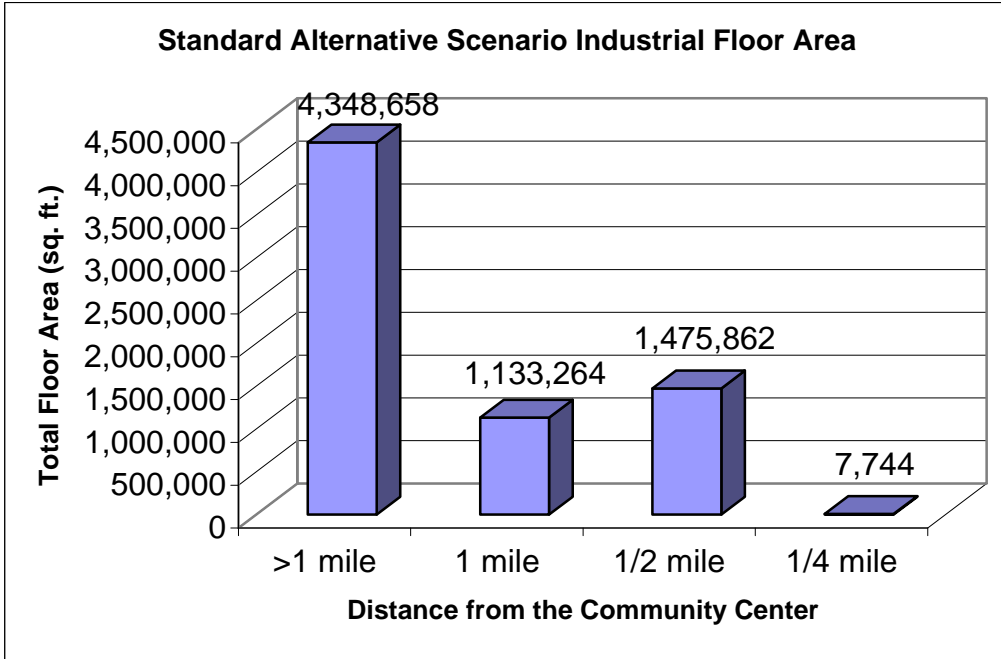


2. Standard Alternative Scenario

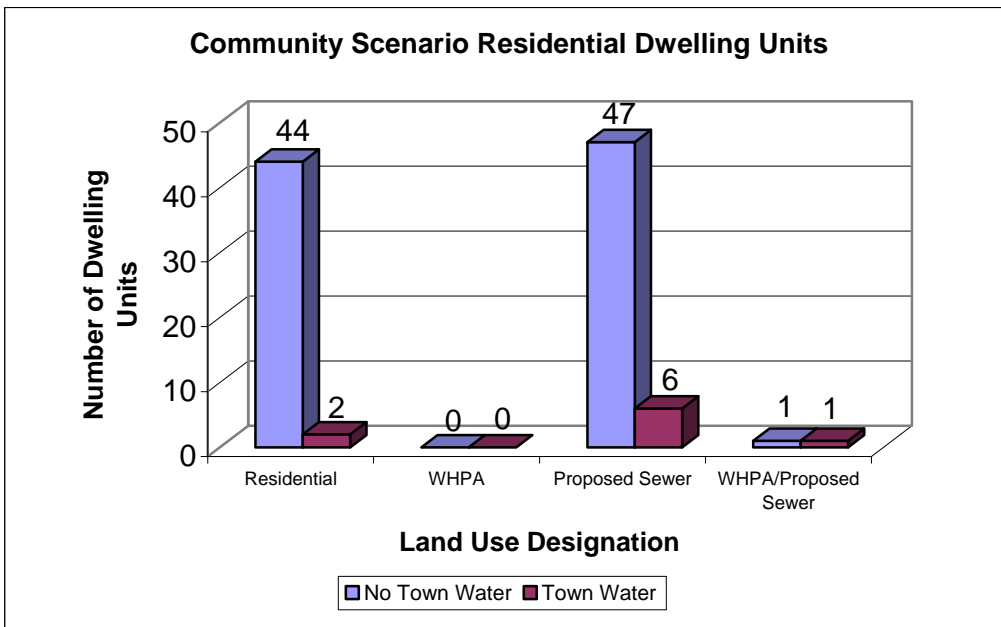


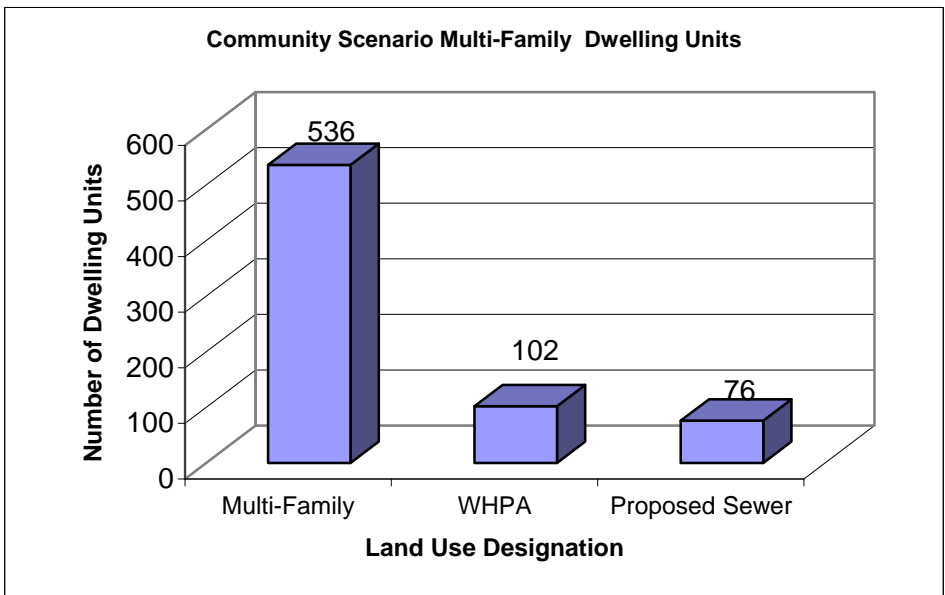
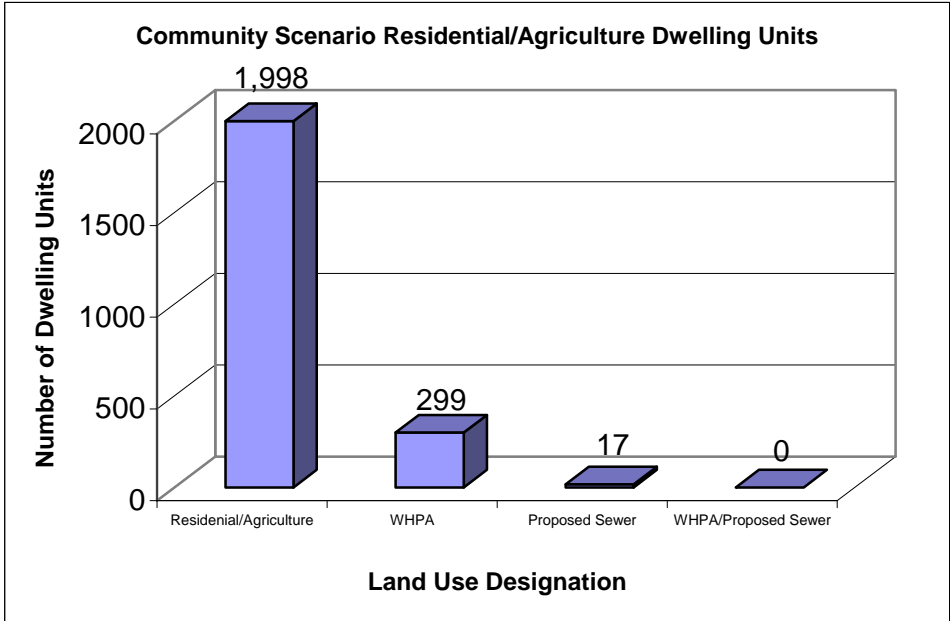


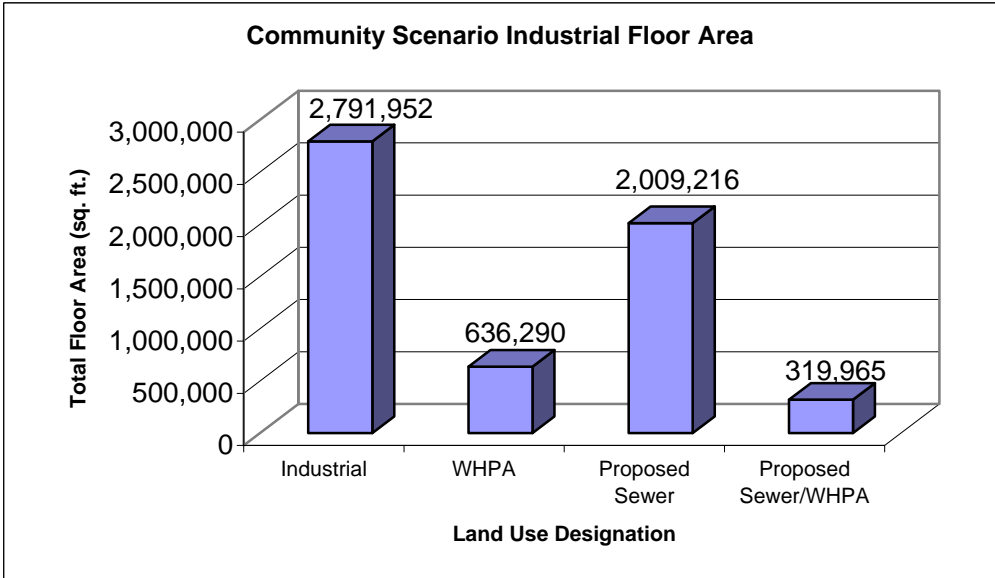
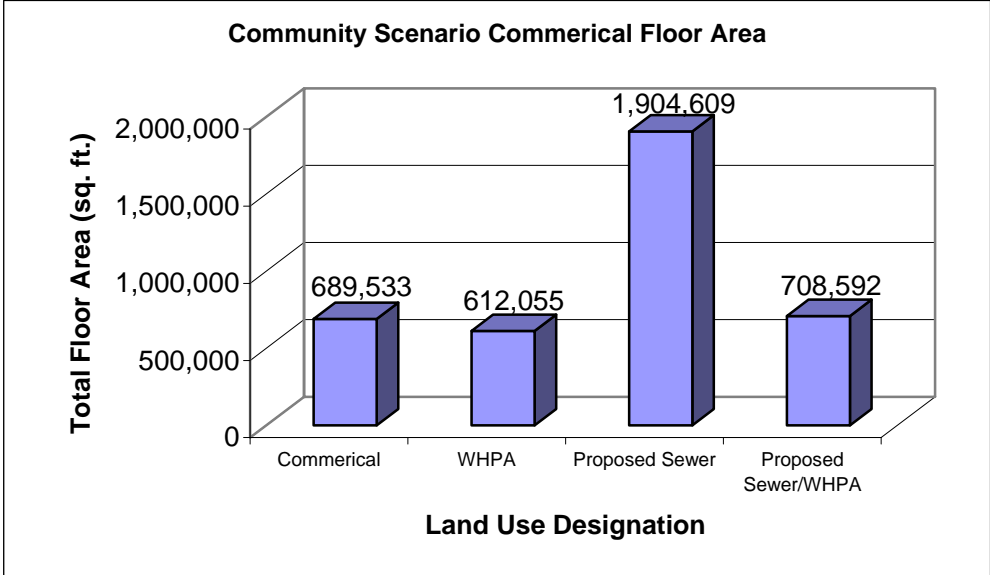




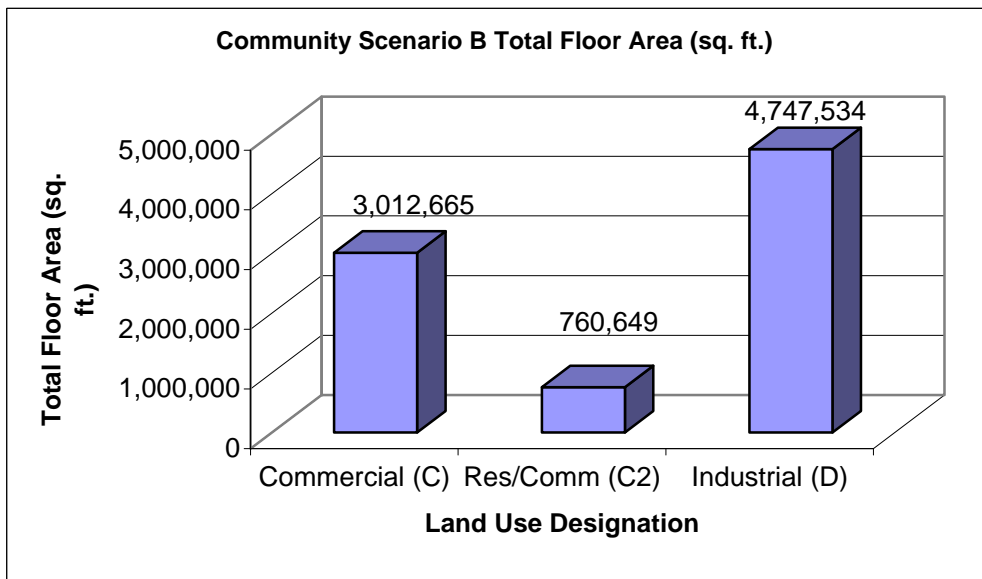
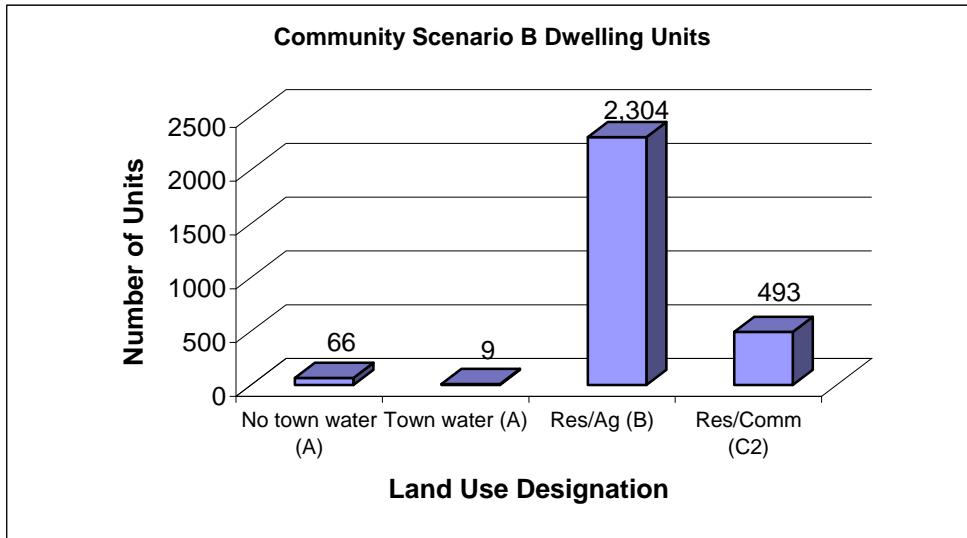
3. Community Scenario A





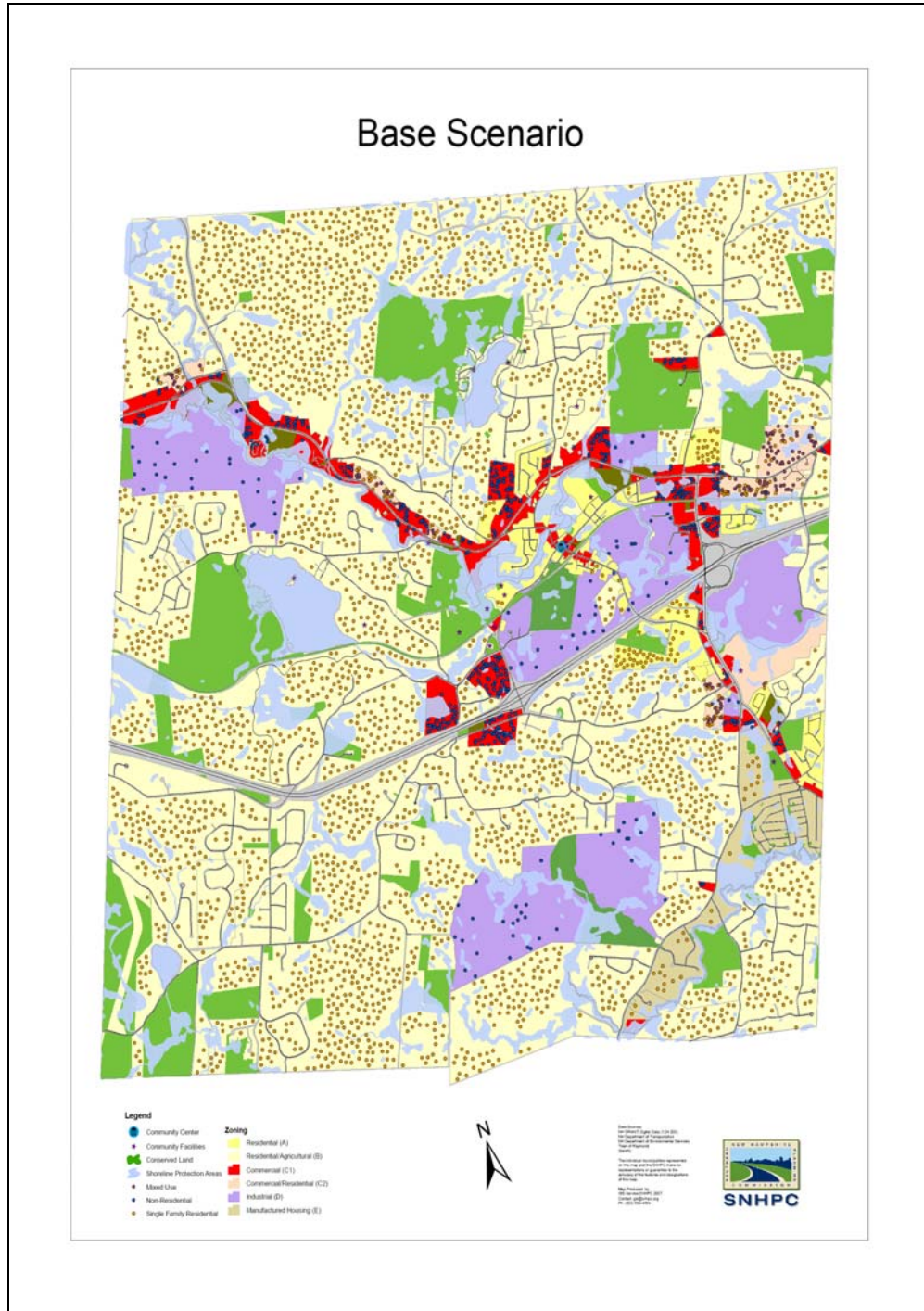


4. Community Scenario B

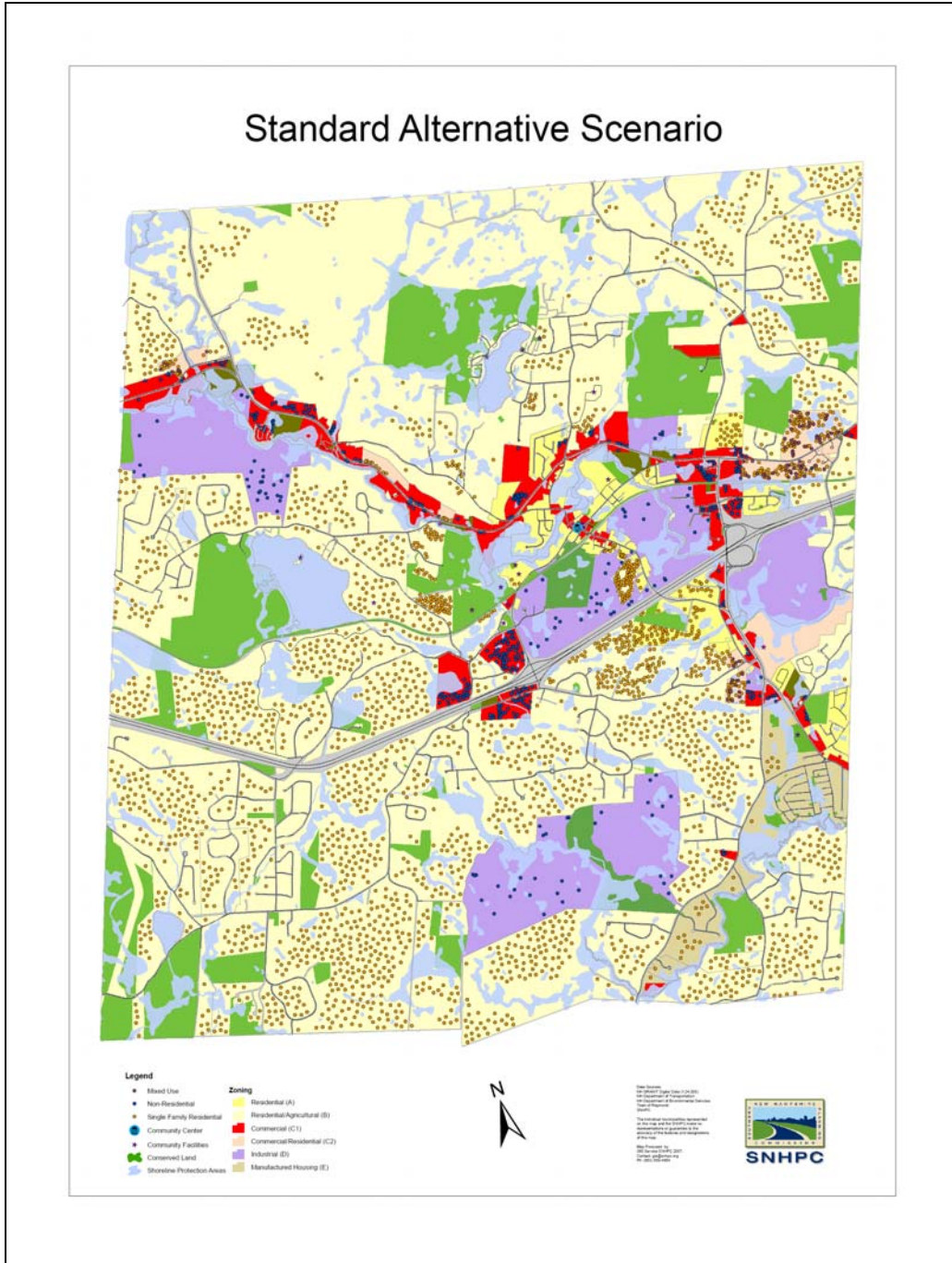


IV. Maps

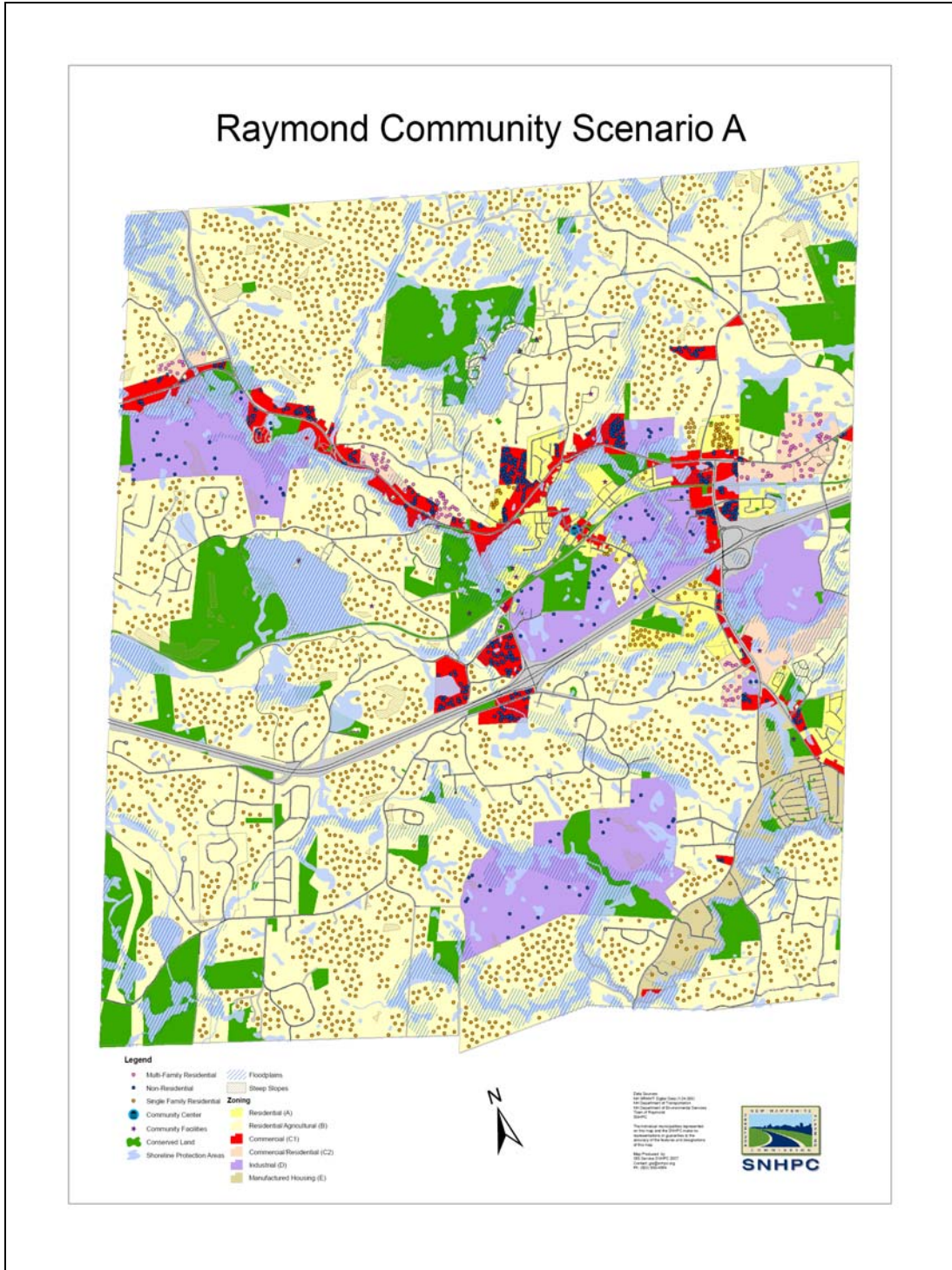
1. Base Scenario



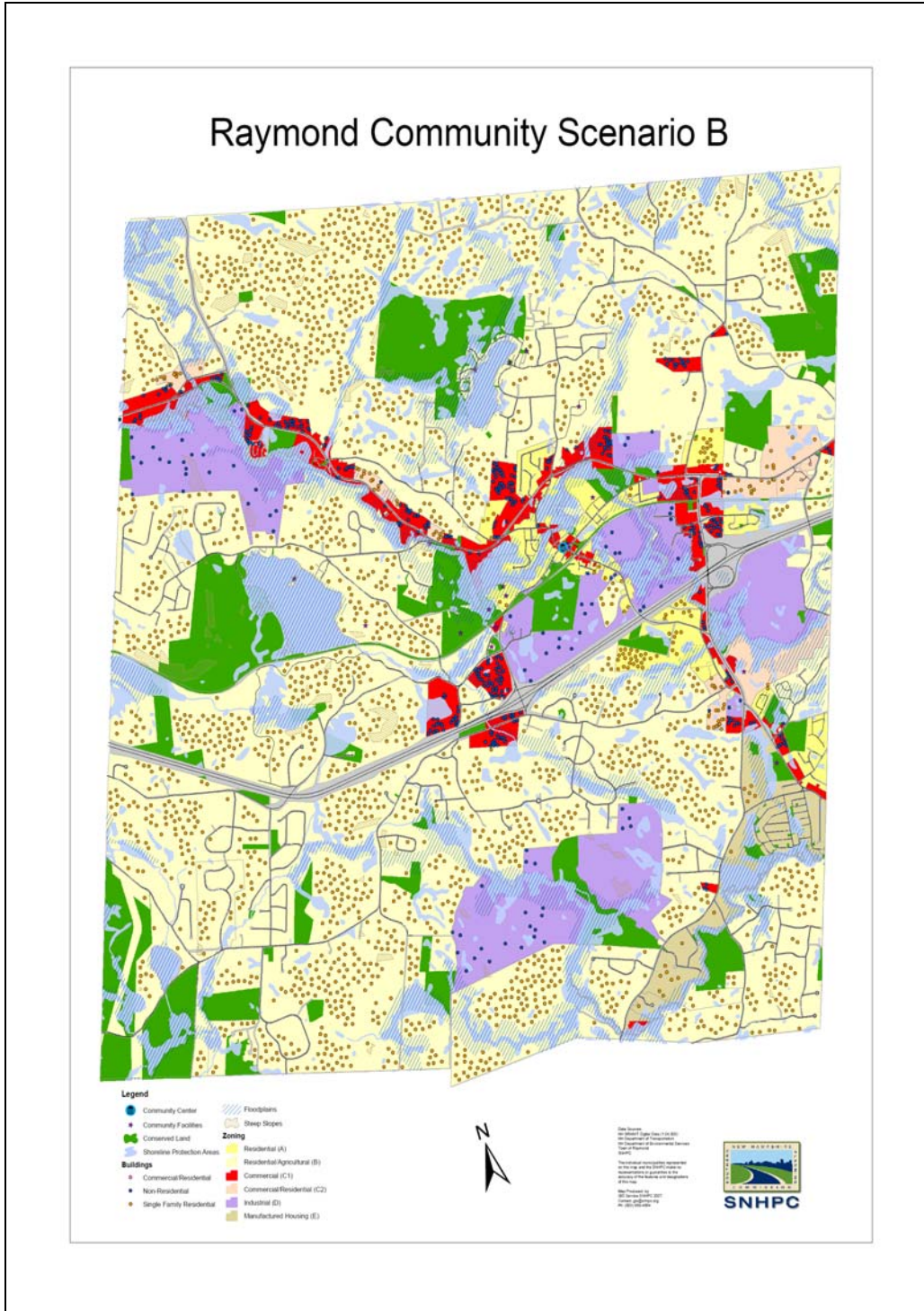
2. Standard Alternative Buildout



3. Community Scenario A



4. Community Scenario B



V. Summary

Total number of residential dwelling units for each buildout:

Buildout	Number of Dwelling Units*
Base Buildout	7,757
Standard Alternative Scenario	7,547
Community Scenario A	7,008
Community Scenario B	6,745

*Includes current residential dwelling units

Total commercial/industrial floor area for each buildout:

Buildout	Total Floor Area (ft²)*
Base Buildout	13,552,606
Standard Alternative Scenario	13,294,561
Community Scenario A	12,032,783
Community Scenario B	10,881,420

*Includes current square footage

Total population for each buildout:

Buildout	Total Population*
Base Buildout	19,858
Standard Alternative Scenario	19,320
Community Scenario A	17,928
Community Scenario B	17,267

*Includes current population