

Palmer, Massachusetts MAP 3: Composite Development and Partial Constraints

- Zoning District Code & Boundary
- Absolute Development Constraints
- Future Developable Land
- Partial Development Constraints
- Water Bodies
- Streams
- Interstate
- Highways
- Roads
- Trains
- Transmission Lines

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 sensitive 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.

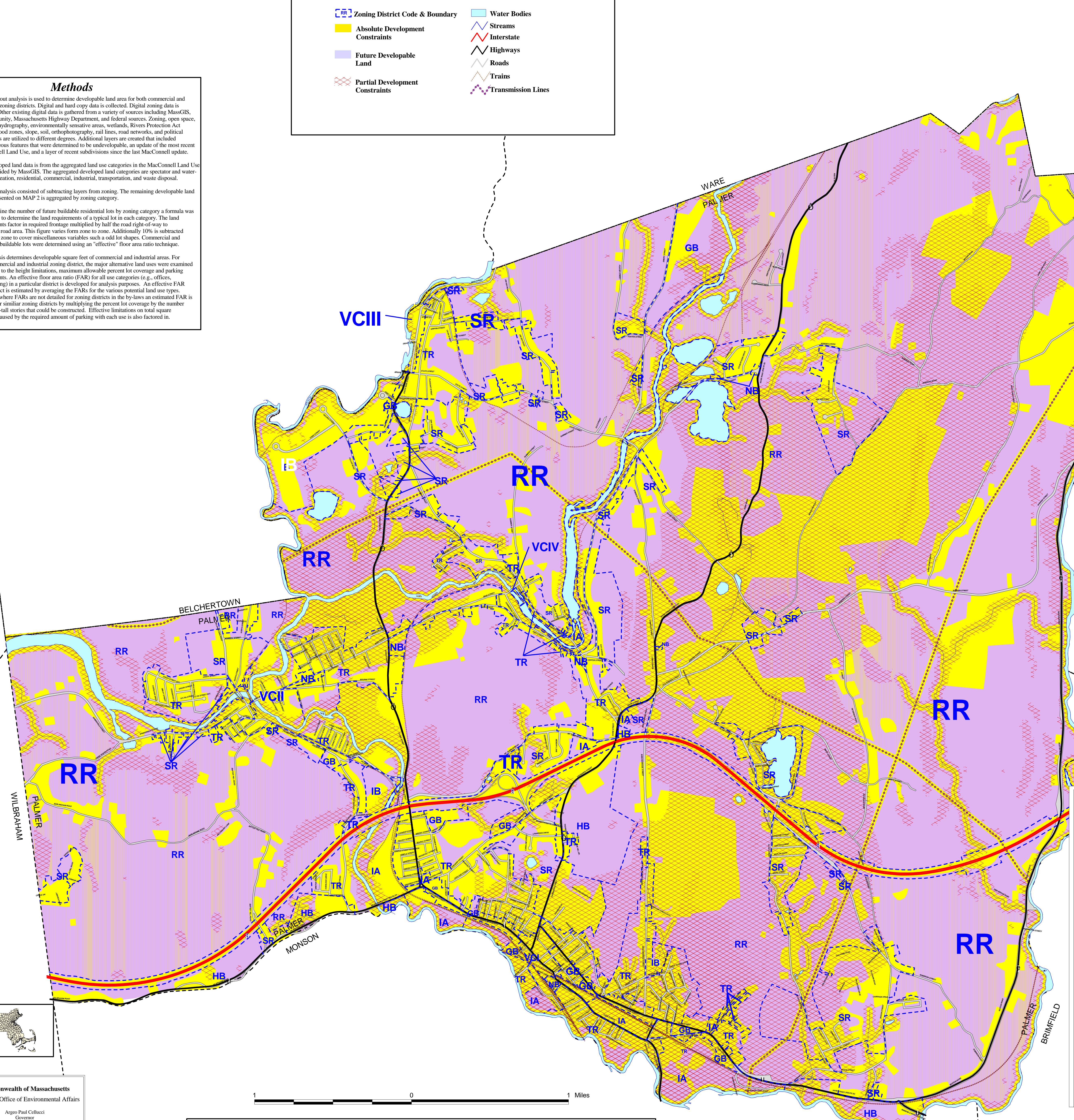
The developed land data is from the aggregated land use categories in the MacConnell Land Use layer provided by MassGIS. The aggregated developed land categories are spectator and water-based recreation, residential, commercial, industrial, transportation, and waste disposal.

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 from zone to zone. Additionally 10% is subtracted from each zone to cover miscellaneous variables such as 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 similar 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.

LUDLOW
BELCHERTOWN



WILLIAMSBURG
PALMER

WILLIAMSBURG
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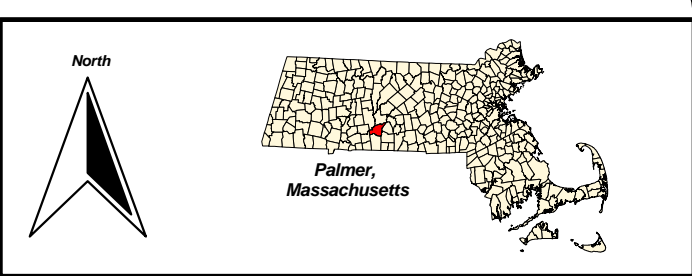
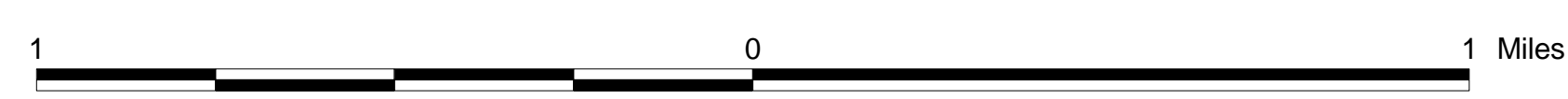
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ZONING DISTRICT	ORIGINAL ACRES
RR - RURAL RESIDENTIAL	15472.8
SR - SUBURBAN RESIDENTIAL	1447.6
TR - TOWN RESIDENTIAL	1434.1
VC I (DEPOT VILLAGE) VILLAGE CENTER	32.7
VC II (BONDVILLE) VILLAGE CENTER	20.8
VC III (THREE RIVERS) VILLAGE CENTER	76.4
VC IV (THORNDIKE) VILLAGE CENTER	25.7
GB - GENERAL BUSINESS	257.6
NB - NEIGHBORHOOD BUSINESS	34.0
HB - HIGHWAY BUSINESS	436.1
IA - INDUSTRIAL A	316.2
IB - INDUSTRIAL B	233.0
WATER	386.9
MASS TURNPIKE	330.9

Summary Build-Out Statistics Impact of Additional Development-Palmer, MA	
Developable Land Area (Acres)	12,587
Additional Residential Units	7,281
Additional Commercial/Industrial Floor Area (Square Feet)	9,828,642
Additional Residents	18,202
Additional Residential Water Use (Gallons Per Day)	1,365,181
Additional Commercial Water Use (Gallons Per Day)	737,148
Additional Residential Solid Waste (Tons)	9,338
Additional Students	3,072
Additional Miles of Roadway	40

Assumptions:

- Residential Water Use based on average consumption of 75 gallons per day per person.
- Commercial/Industrial Water Use based on average consumption of 75 gallons/day per 1000 square feet of floor area. Industrial water use does not include special manufacturing processes that utilize "process water".
- Residential Solid Waste is based on an average generation rate of 1026 lbs. Per person per year. This figure includes recycled and non-recycled solid waste generation.
- Additional Students figure is based on an average of 2.5 persons and 0.43 students per household.
- Additional Road Miles calculated for residential development only. Overall impacts on the transportation network in Palmer should reflect the number of trips generated, level of service at key intersections, and other critical factors.



Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Argo Paul Cellucci
Governor
Jane Swift
Lt. Governor
Bob Dandard
Secretary
Presented to the Community of
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The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analysis.

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MASS GIS
Massachusetts Geographic Information System
Massachusetts Executive Office of Environmental Affairs - 2000