



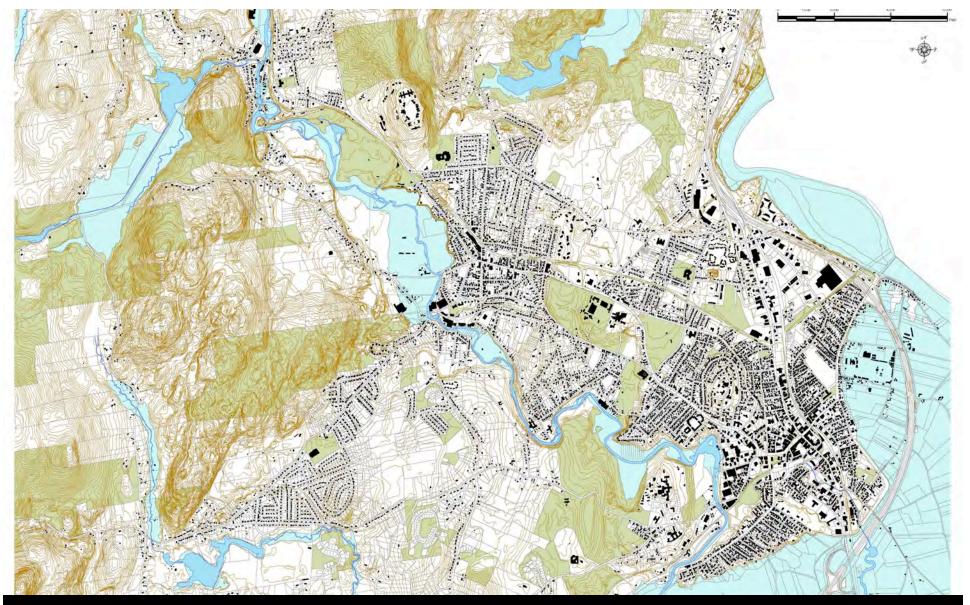
Northampton in Continental Context

Northampton, Massachusetts / Fall, 2008



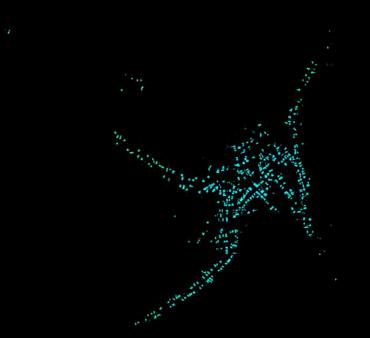
Northampton in Regional Context

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Plan of Northampton

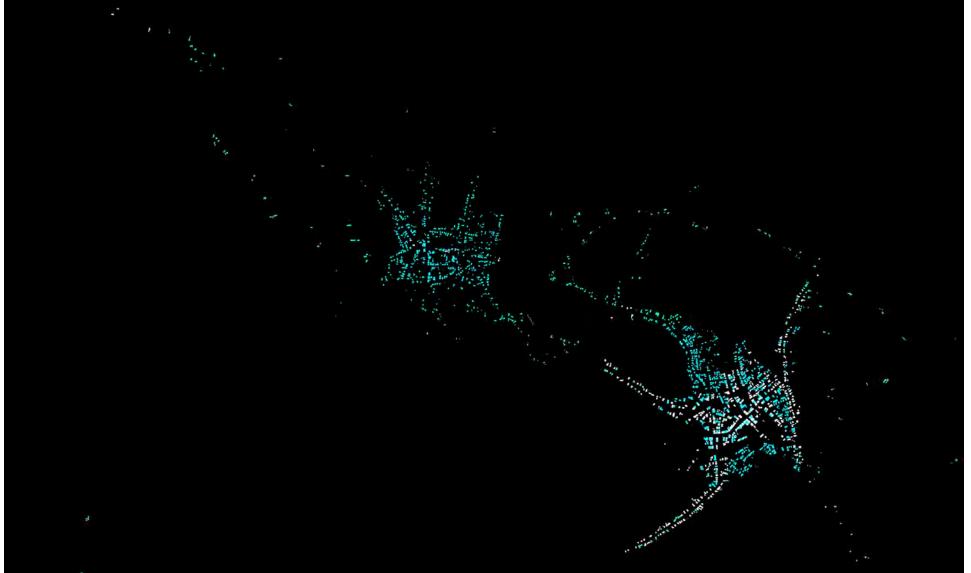
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1800: POPULATION 2,000

Growth of Northampton I

Northampton, Massachusetts / Fall, 2008



. Growth of Northampton II

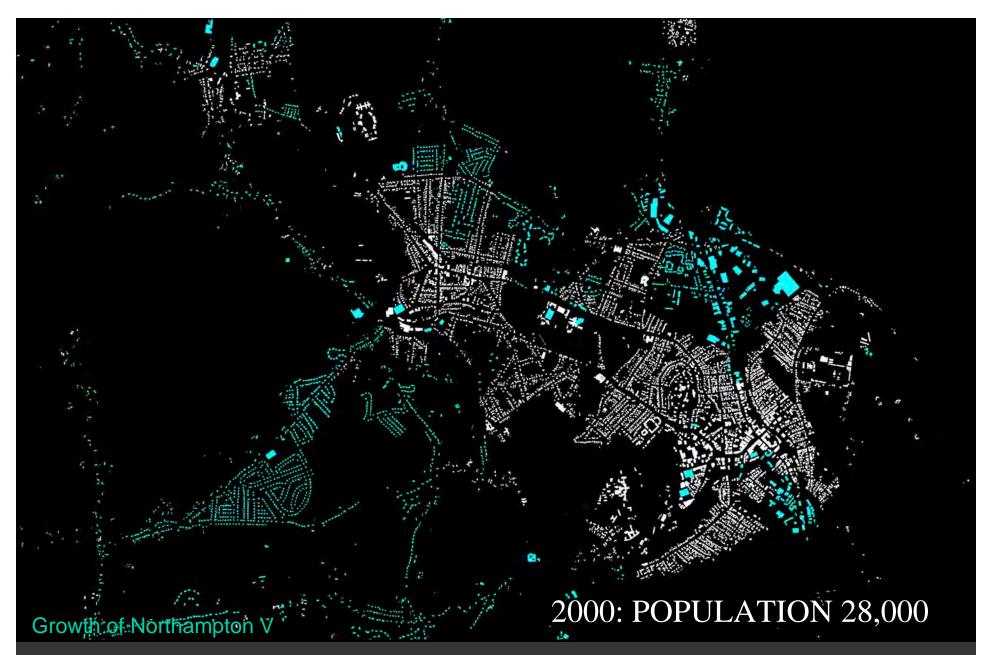
1850: POPULATION 6,000

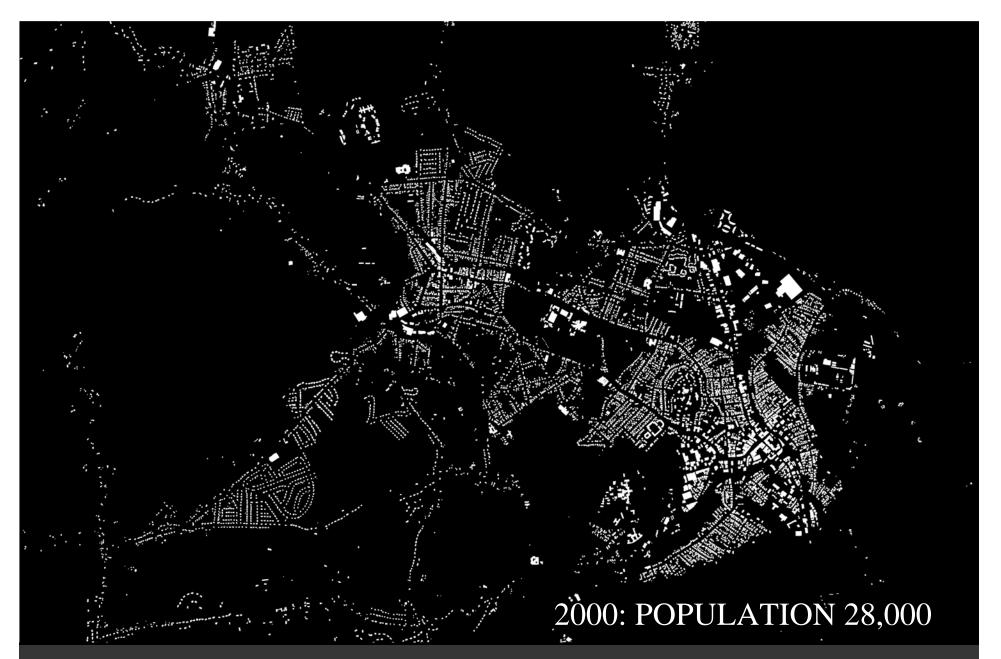
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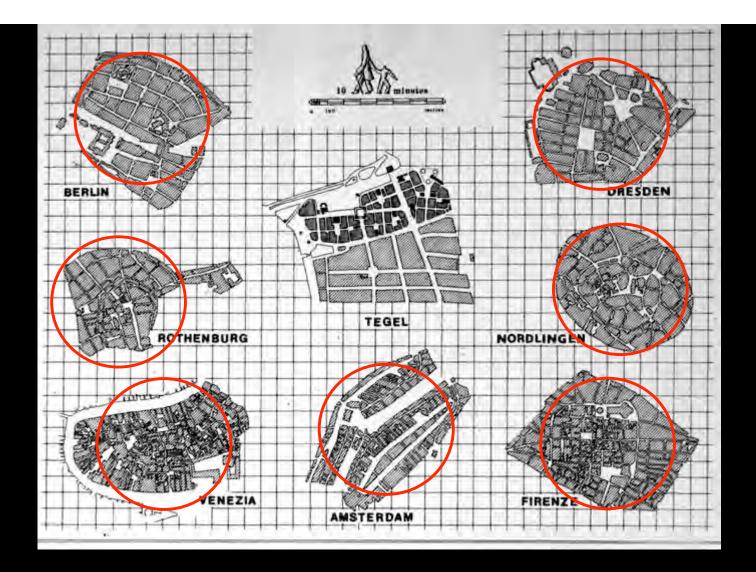
Growth of Northampton III 1900: POPULATION 18,500

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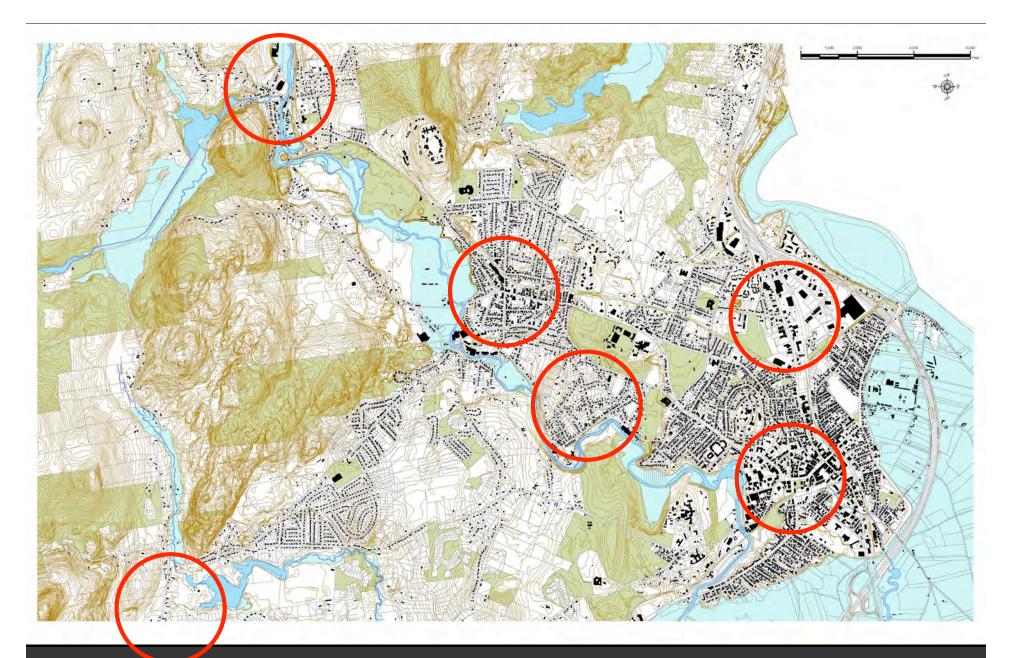




The MEASURE of good urbanism: the 1/4 mile radius (5-minute) walk

Characteristics of traditional towns and city neighborhoods - Drawing courtesy of Leon Krier

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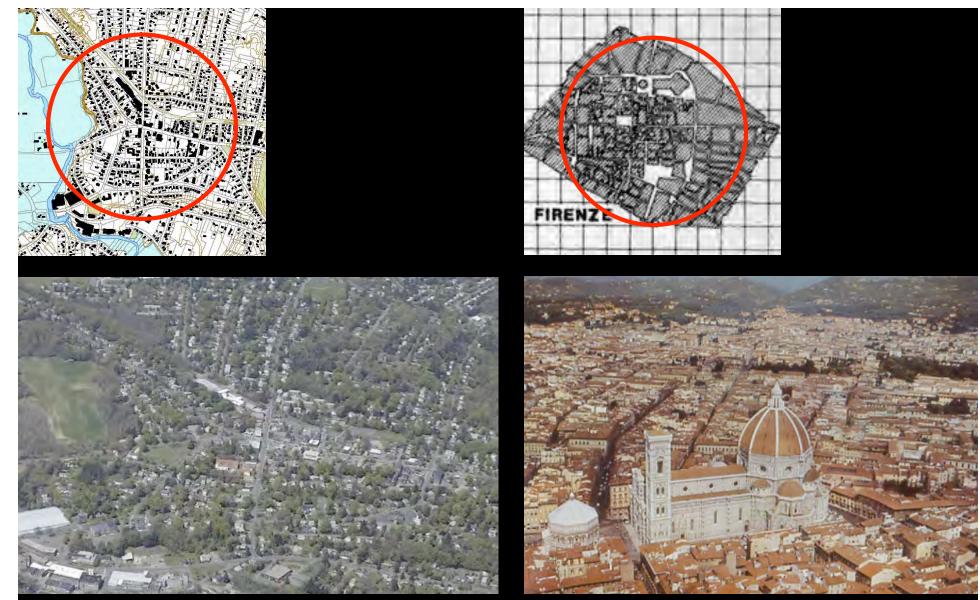


Southwest Post-1945 development

Bay State



Historic Center



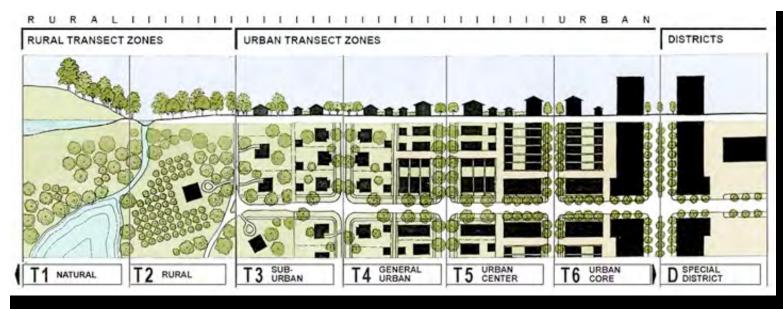
Florence, Massachusetts

Florence, Italy

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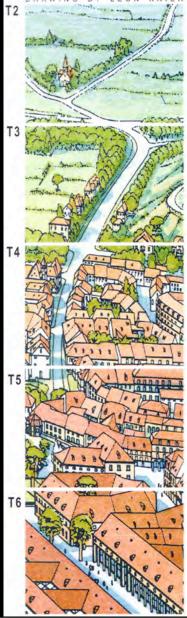
THE TRANSECT: A BRIEF EXPLANATION FROM NORTHAMPTON

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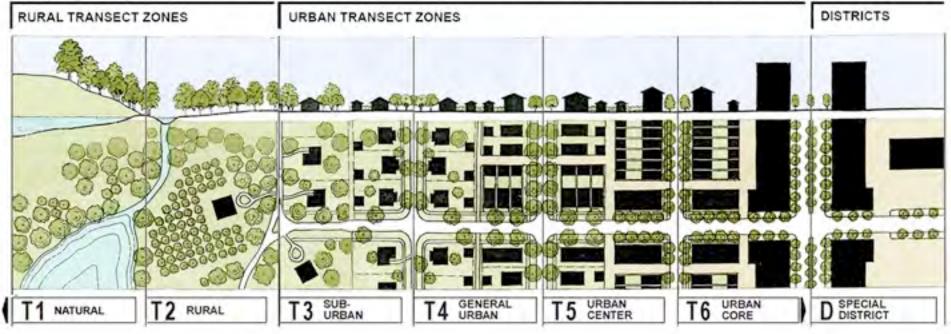


The Rural-to-Urban Transect is a diagram of human habitat describing the relationship of the rural environment to traditional urban environments. The Rural Transect proper (zones T1 and T2) designates areas generally not subject to human settlements larger than the family, and differentiates between natural landscapes (both raw and preserved) and cultivated landscapes. The Urban Transect refers in turn to that range of human habitats that support human flourishing, within which human settlements are part of a sustainable eco-system that includes both natural and cultivated landscapes. This range of human habitats, depicted as "Transect-zones," progresses from less dense human settlements (T-3) to more dense human settlements (T-6); but each urban Transect-zone denotes a walkable and mixed-use human environment wherein *within each Urban T-zone* many if not most of the necessities and activities of daily life are within a five-to-ten-minute walk for persons of all ages and economic classes.

Definition of the Urban Transect



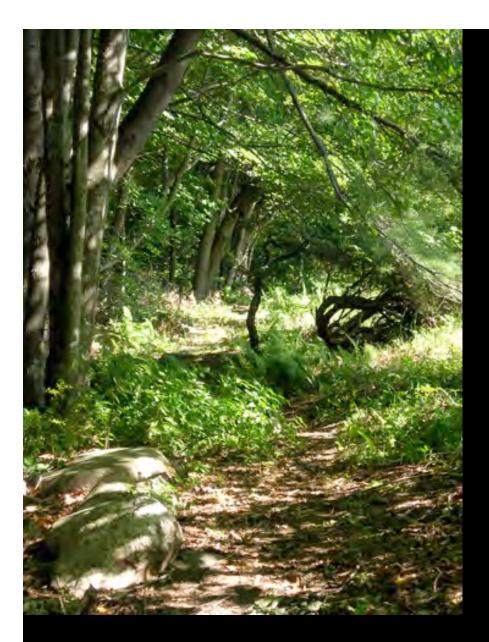
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Transect-based zoning: The Transect, as a system of classification deploying the conceptual range rural-tourban, can be employed to arrange in useful order the typical elements of urbanism, within which continuum every urban element finds its place. The continuum of the Transect, when subdivided, forms the primary basis of the following zoning categories, listed from most rural / least dense to most urban / most dense: Natural (T1), Rural (T2), Sub-Urban (T3), General Urban (T4), Urban Center (T5), and Urban Core (T6). These categories zone primarily for **density and building type rather than for use**, because it is a premise of Transect-based zoning that a mix of uses is desirable and that uses change over time. All Urban Transect zones therefore allow broadly for adjacent residential, commercial, and light industrial uses, though some of these uses are designated as primary and some secondary to particular building types.

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T-1 NATURAL

(uncultivated landscape)

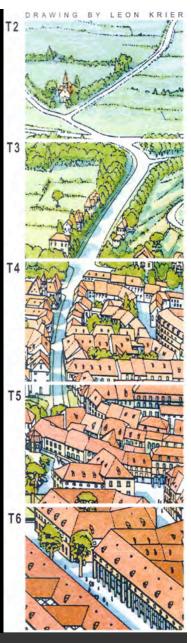
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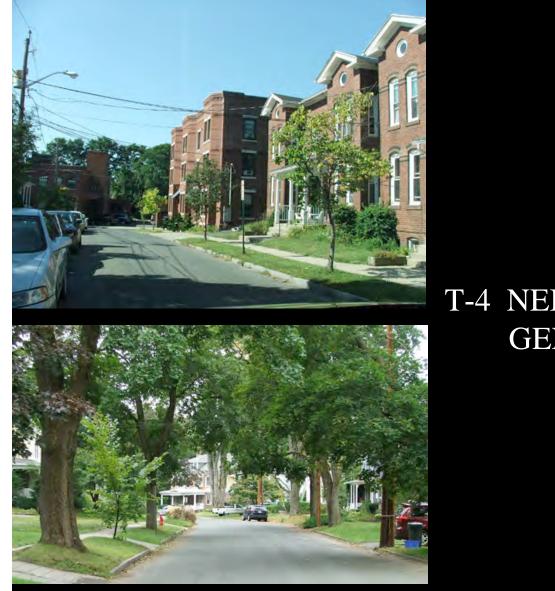
T-2 RURAL

(cultivated landscape)

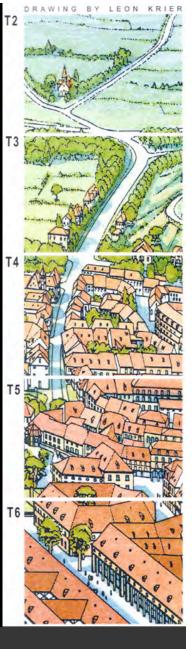


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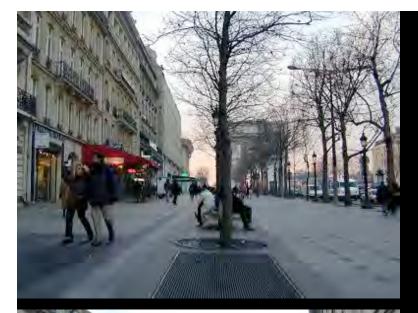
T-4 NEIGHBORHOOD GENERAL



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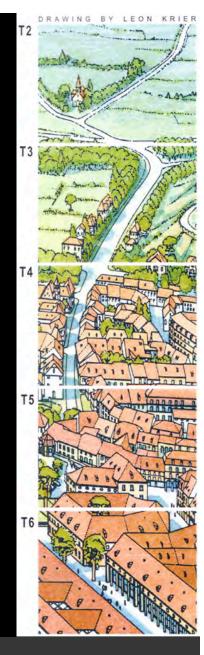
T-5 URBAN CENTER





T-6 URBAN CORE

(not Northampton)

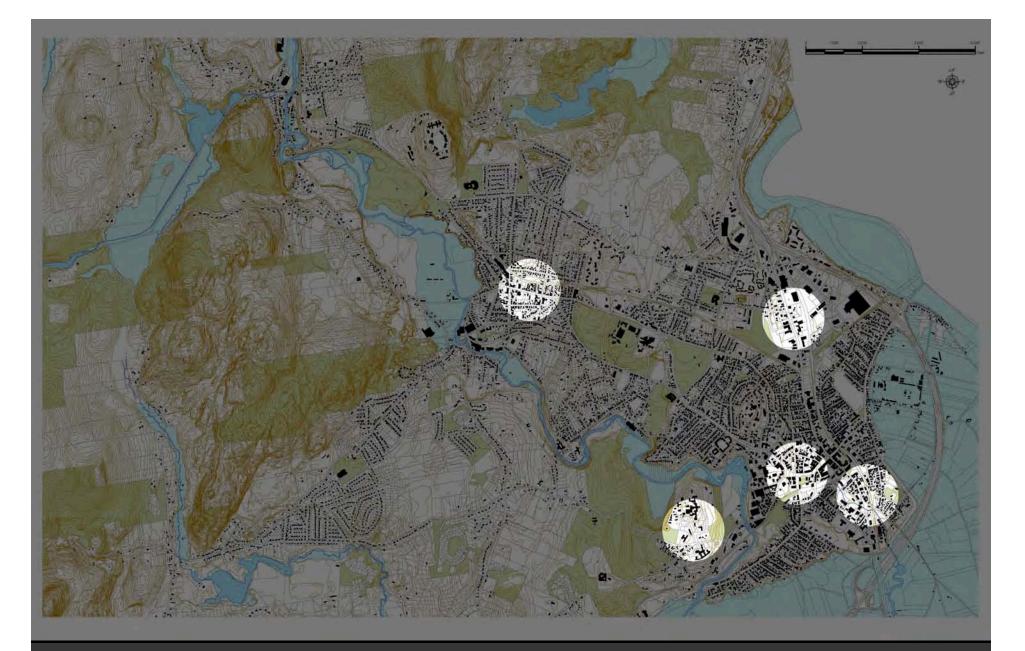


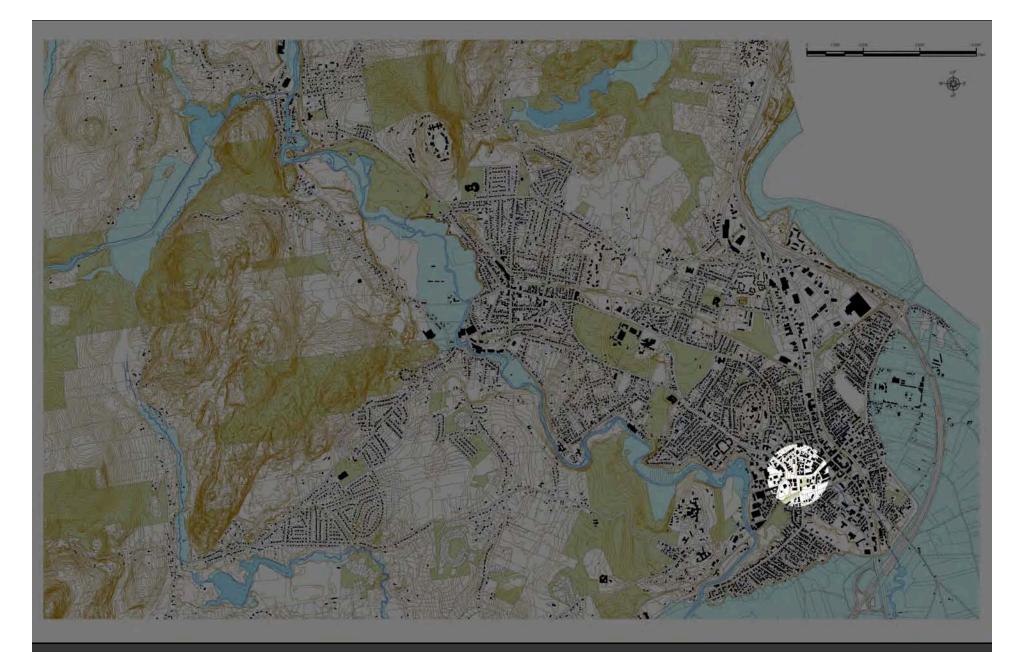
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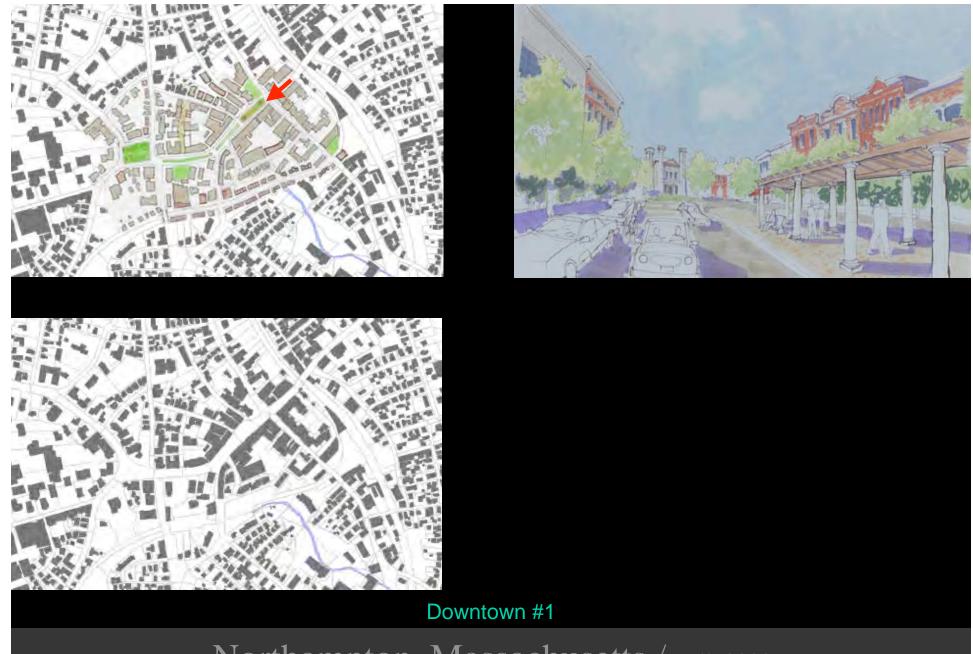


A map of existing rural-to-urban transect conditions in Northampton

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Downtown #2

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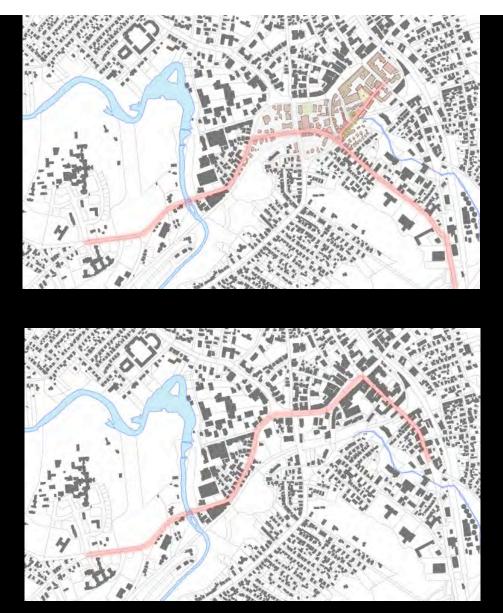


Downtown #3

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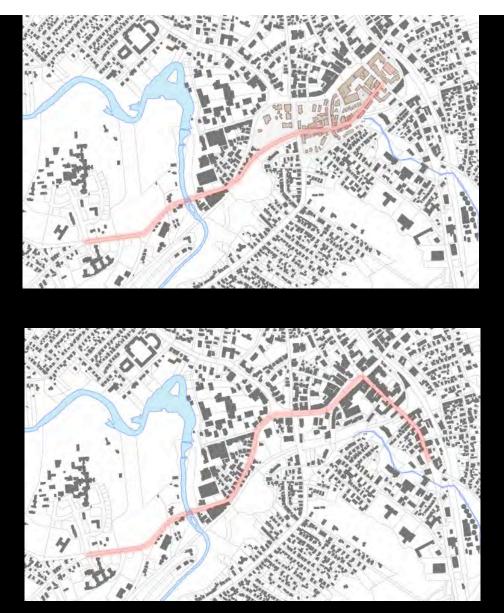


George's Street - Edinburgh, Scotland, UK - note center (parkable) median Northampton, Massachusetts / Fall, 2008 The University of Notre Dame School of Architecture Graduate Urban Design Studio



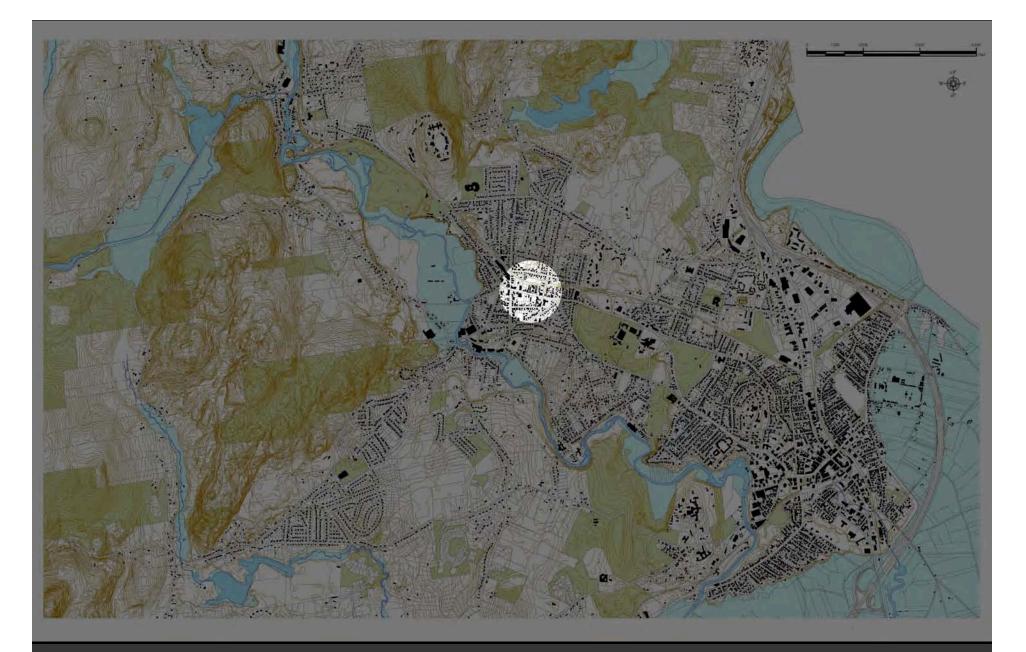
Downtown #4 (Route 66-a): existing below / proposed above

Northampton, Massachusetts / Fall, 2008



Downtown #5 (Route 66-b): existing below / proposed above

Northampton, Massachusetts / Fall, 2008





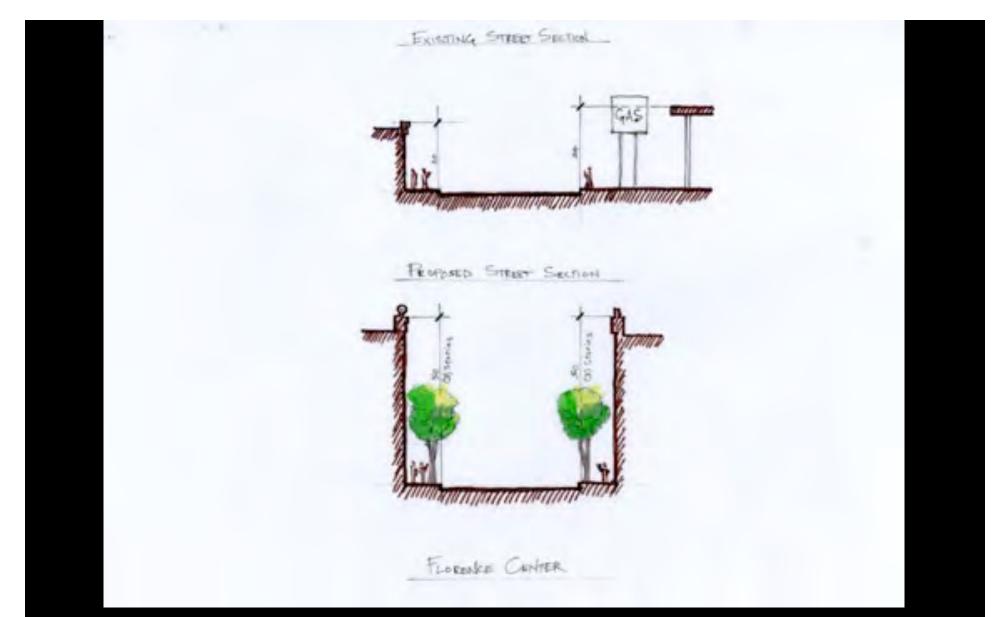
Florence Center #1

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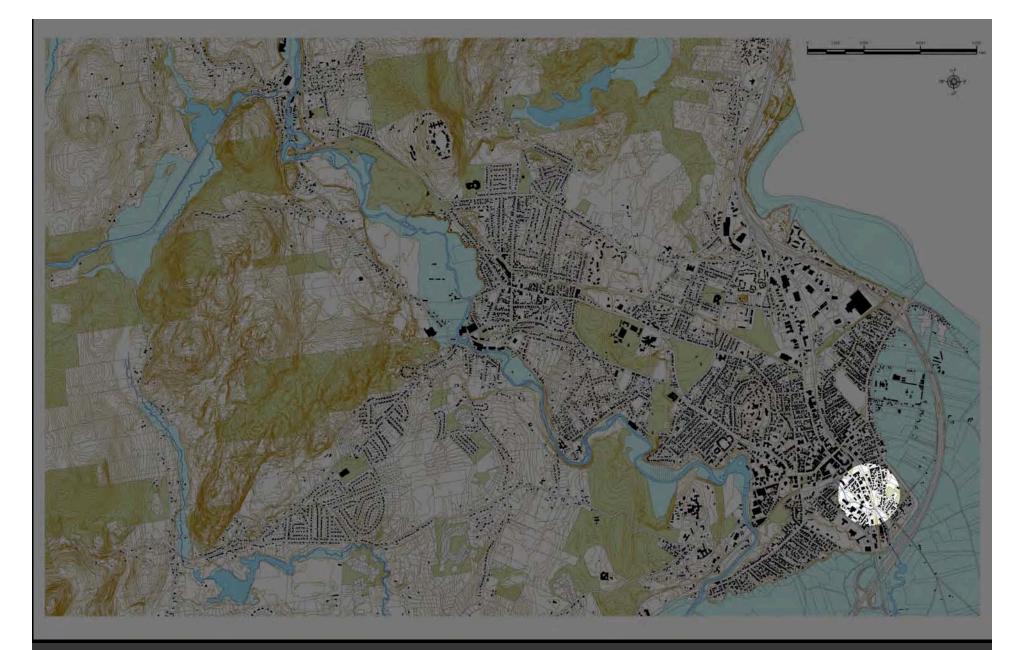
Florence Center #2

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Florence Main Street sections / existing (above) & proposed (below)

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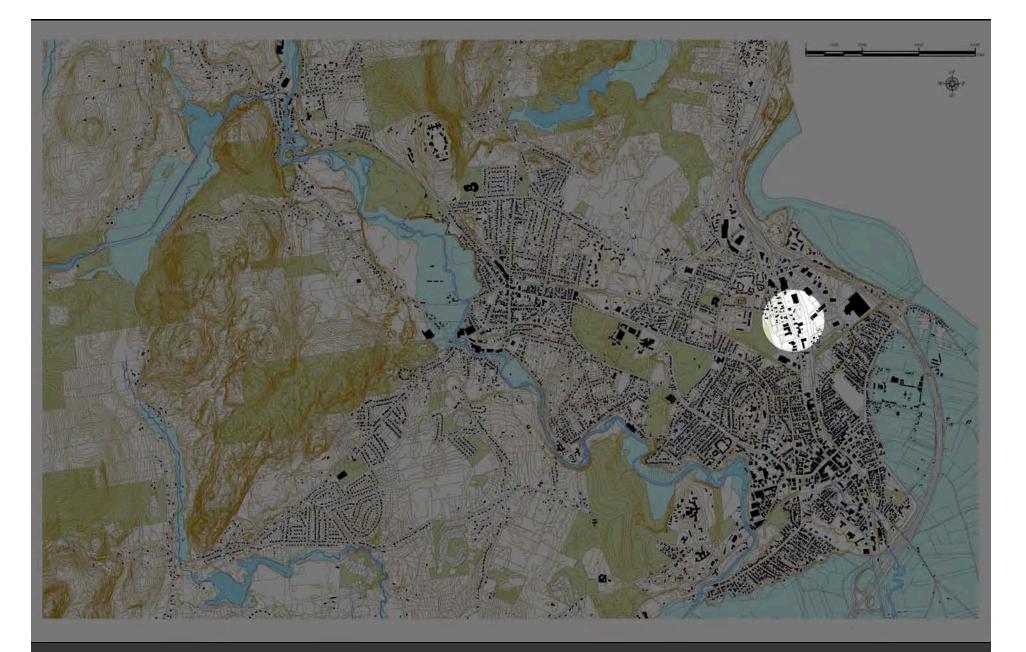
Pleasant Street #1

Northampton, Massachusetts / Fall, 2008

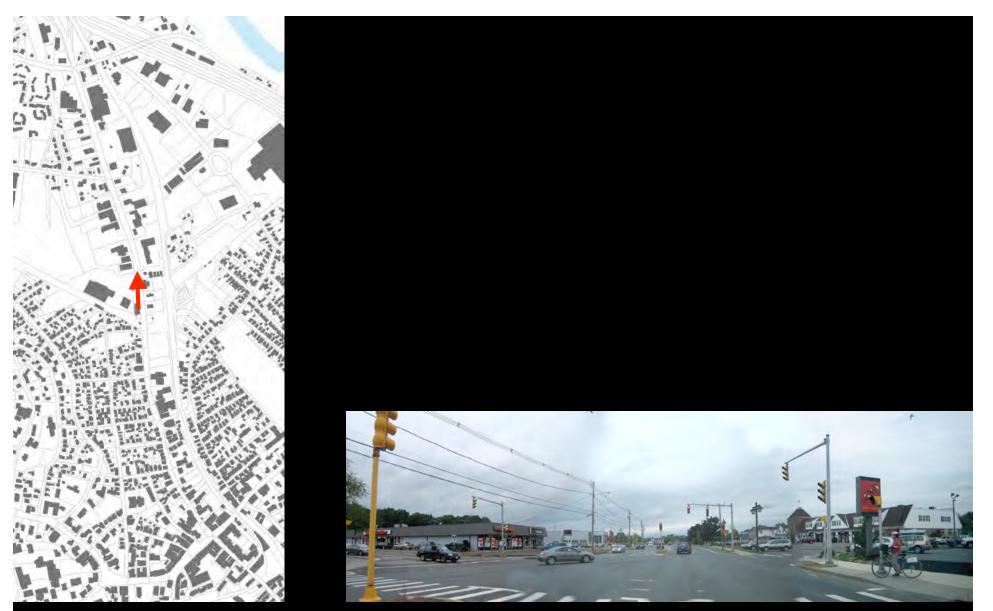


Pleasant Street #2

Northampton, Massachusetts / Fall, 2008







King Street #1

Northampton, Massachusetts / Fall, 2008







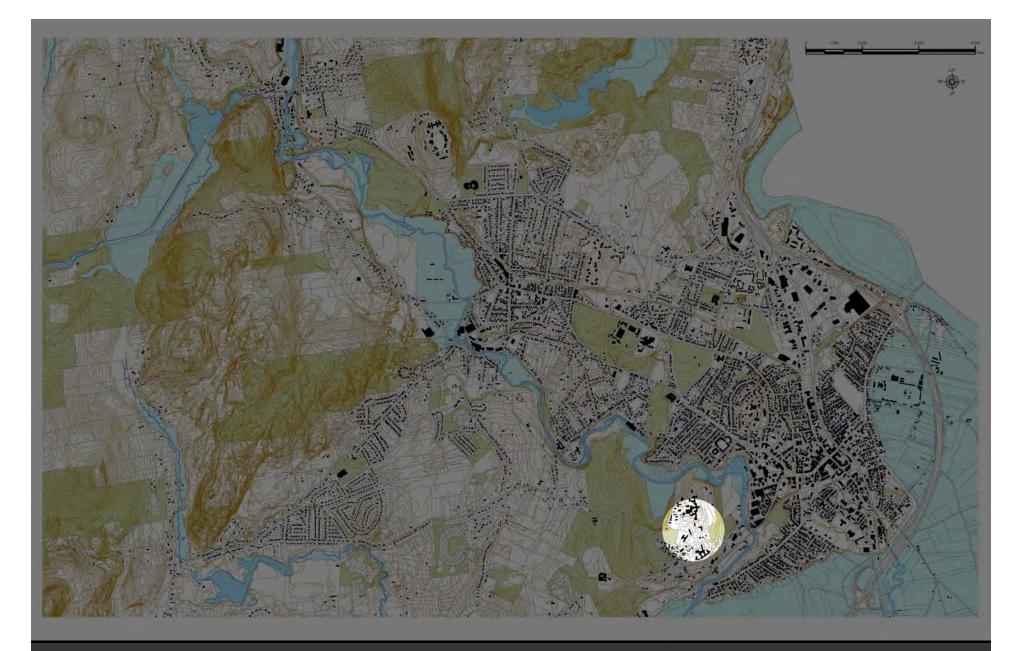
King Street #1

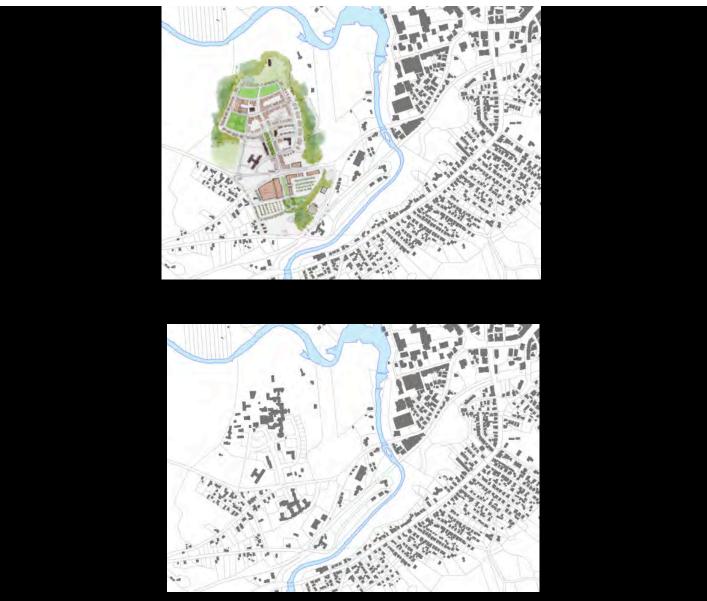
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north / upper King Street #2 / Industrial Park

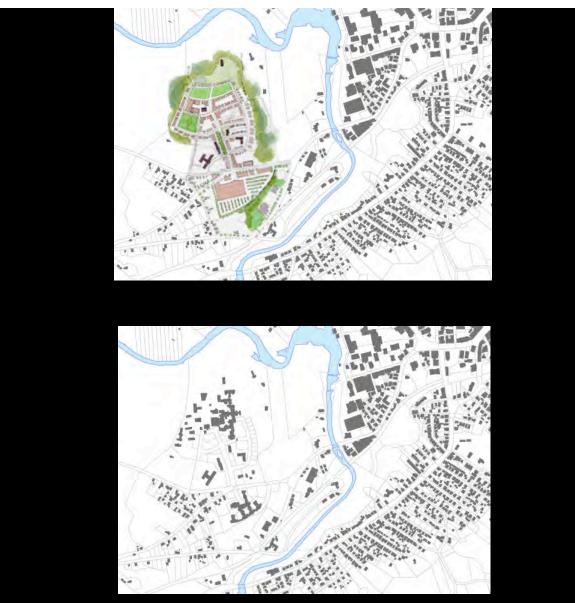
Northampton, Massachusetts / Fall, 2008





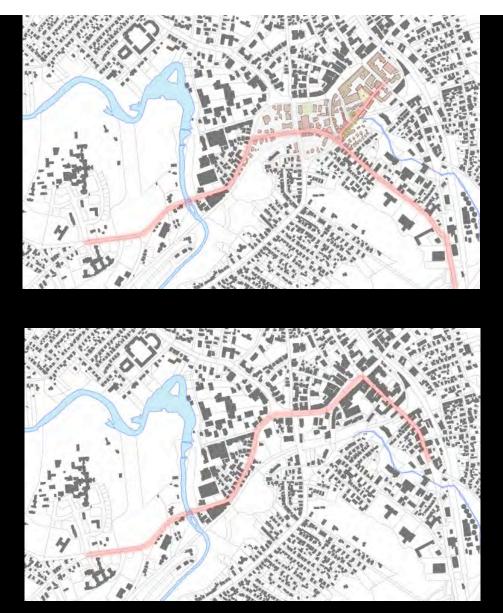
Hospital / Village Hill #1

Northampton, Massachusetts / Fall, 2008



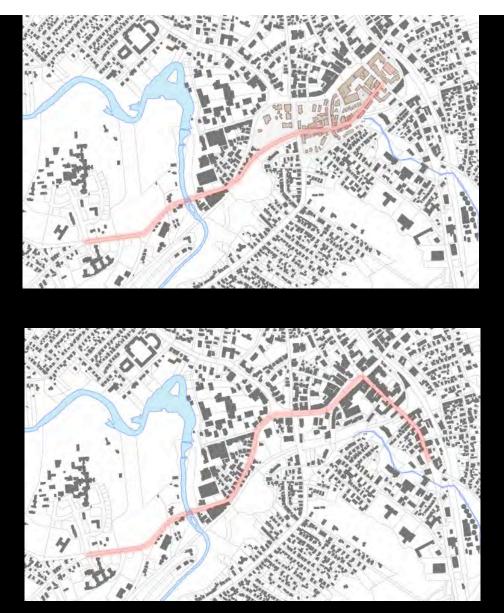
Hospital / Village Hill #2

Northampton, Massachusetts / Fall, 2008



Downtown #4 (Route 66-a): existing below / proposed above

Northampton, Massachusetts / Fall, 2008



Downtown #5 (Route 66-b): existing below / proposed above

Northampton, Massachusetts / Fall, 2008





Massachusetts rail lines (above) / Northampton trolley lines (below)

Northampton, Massachusetts / Fall, 2008



Northampton bike trails and public green space

Northampton, Massachusetts / Fall, 2008



Pleasant Street north / Pleasant Street south

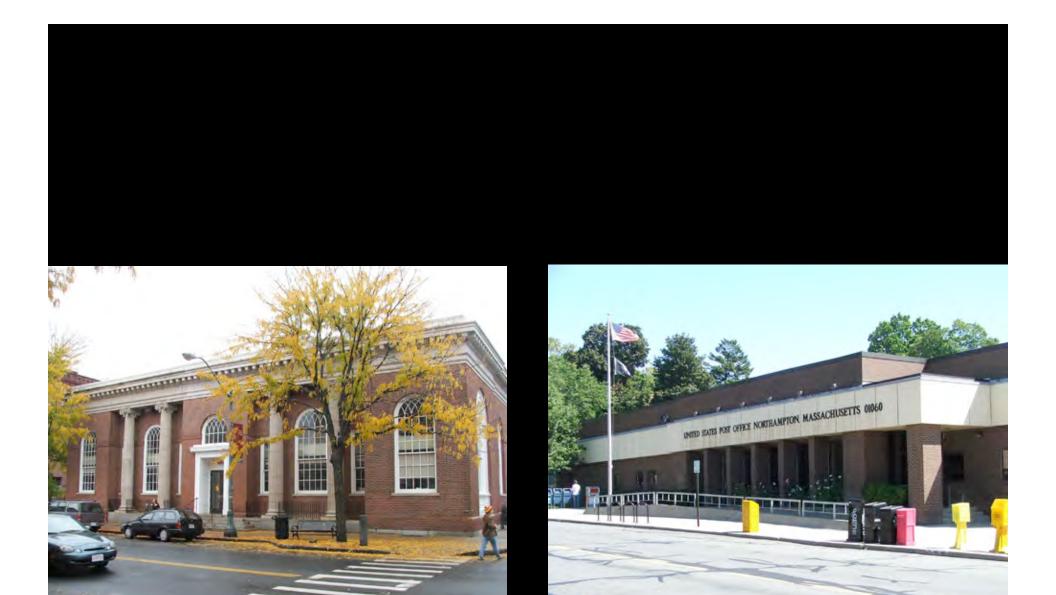
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Old court house / New court house

Northampton, Massachusetts / Fall, 2008



Old post office / New post office

Northampton, Massachusetts / Fall, 2008





Old jail / New police station

Northampton, Massachusetts / Fall, 2008



Affordable Housing precedents I: Bruges "godshuises" (left) / Churchill - Holyoke Section 8 housing Northampton, Massachusetts / Fall, 2008 The University of Notre Dame School of Architecture Graduate Urban Design Studio



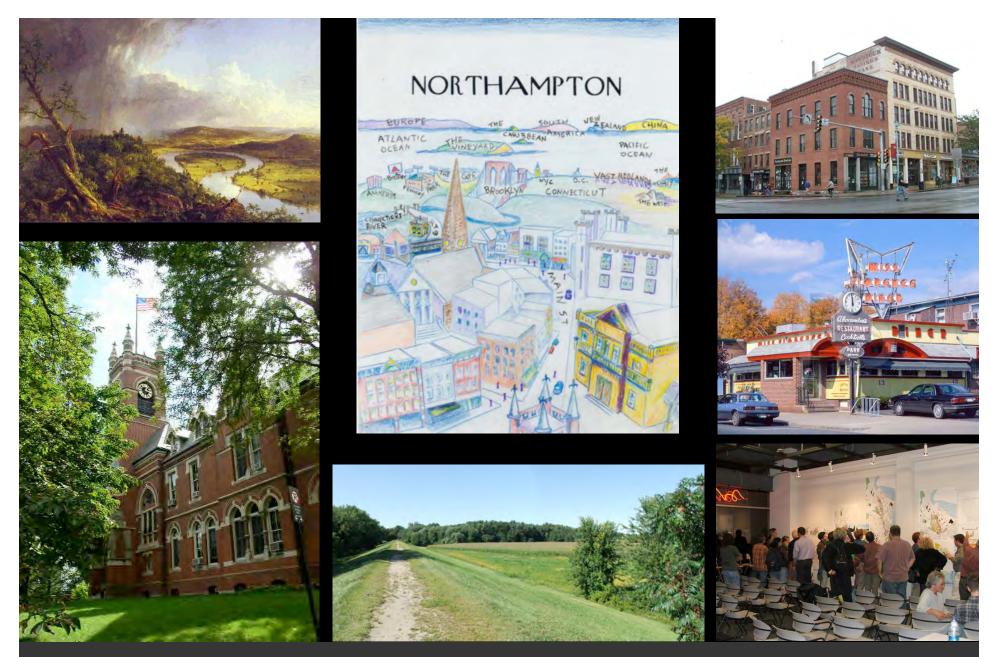
Affordable Housing precedents II: coach-houses / flats / studio and 1-bedroom apartments

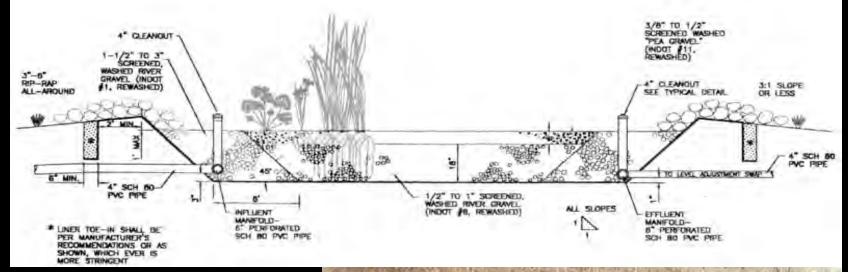
Northampton, Massachusetts / Fall, 2008



Affordable Housing precedents III: multi-dwelling unit domestic buildings

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CONSTRUCTED WETLANDS:

• Purify waste water and return to ground drinking-quality water

- Are environmentally friendly
- Are odorless and dry to walk on

• Are cost-competitive, can be built incrementally, and require minimal maintenance

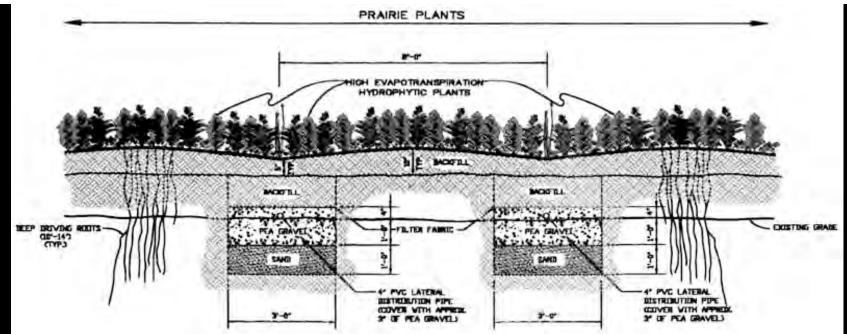
• Work in part anaerobically, making them suitable for even cold-weather climates

• Can be employed for aesthetic purposes



Constructed Wetlands Cell (Step 1 of 2)

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BIO-FIELDS:

 Rushes and prairie grasses dissipate ammonia from water filtered through

constructed wetlands cell, returning PURE WATER to ground (unlike conventional septic systems)

- Wetlands / Bio-field sizing info:
 - --1.2 s.f./gallon/day for wetlands; same for bio-fields
 - --150 gallons/day for first two bedrooms, 100 gallons/day for others
 - --4 bedroom house = 500 gallons/day = 600 s.f. cell, 600 s.f. bio-field
 - --3 bedroom house = 400 gallons/day = 480 s.f. cell, 480 s.f. bio-field
 - --2 bedroom house = 300 gallons/day = 360 s.f. cell, 360 s.f. bio-field

Constructed Wetlands Bio-field (Step 2 of 2)

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