



Meriden TOD Market Study and Financial Feasibility Analysis: Phase I Market Study

Prepared for: the City of Meriden, Connecticut



ECONOMIC AND REAL ESTATE ANALYSIS FOR SUSTAINABLE LAND USE OUTCOMES™

Executive Summary

4ward Planning was retained by the City of Meriden, Connecticut to perform a market financial and economic analysis of transit-oriented development (TOD) adjacent to the Meriden Transit Center in downtown Meriden. Phase I of this study, herein, includes a detailed quantitative and qualitative analysis of market conditions impacting the potential TOD Study Area (a half-mile radius surrounding the transit center).

A socio-economic analysis found that the initial market for the project will not be driven by current residents in the TOD Study Area, who are primarily of low incomes. Instead, the primary, near-term demand will be driven by two age cohorts currently living in the primary market area (PMA); these are the young workers and graduates (age 25-34) and the empty nesters (age 55 to 74). Both age cohorts tend to favor smaller, rental or homeownership units in an urban setting with access to transit, entertainment, amenities and jobs. Empty nesters also have higher disposable incomes, which will be advantageous to future residential and retail development. However, the currently low-values and low-incomes in the study area represent a challenge; early development around the transit station will need to offer significant value and quality to attract future residents.

Employees both living and working in the area decreased slightly from 2006 to 2010 and, at about 13 percent, is low relative to the surrounding region. However, the share of workers commuting into the PMA (nearly 35,000 workers) increased slightly over that timeframe. This trend indicates a latent demand for housing in the PMA as a percentage of those currently commuting would be expected to move into the PMA, given more adequate housing choices.

Executive Summary (continued)

Additionally, the NHHS rail service will offer Meriden as a potential housing choice for persons who want to commute to one of the many employment centers (with nearly 140,000 jobs) along the transit line (e.g., Hartford and New Haven). Given that many metropolitan area major employers are located within a mile of rail stations along the NHHS line, Meriden's potential as a "point of origin" for prospective commuters (whether they wish to live in the Meriden TOD area or not) will be quite great.

A review of social infrastructure also found that the study area fails to provide adequate open space, childcare services and affordable quality housing options, based on industry standards.

A land improvement to land value (ILV) analysis found that 35 percent of the land area (and 25 percent of all parcels) in the study area have ILV ratios of less than 2.0 (that is, where the built structure was valued at half the value of the assessed land). These are considered to be underdeveloped, or prospective opportunities for redevelopment. Redeveloping such low-value land parcels close-in to a rail station could prove fiscally beneficial to the local community, based on the likelihood of generating net positive tax revenues.

Current low vacancy rates in Meriden suggest a tight rental market and potential latent demand, favoring residential construction in the area. This trend is supported by strong positive growth in non-family households, suggesting high receptivity for TOD-style multi-family units. An analysis of residential supply & demand indicates a potential demand for 600 to 1,000 housing units in the TOD Study Area targeted to young workers and graduates and empty nesters.

Executive Summary (continued)

The near-term challenge associated with this is financial; due to the current low rents in the market, a cap on pricing in the near-term can be expected, limiting the upside for developers until housing demand increases markedly. For the early-phase projects to get underway, public support in the way of up-front subsidies and incentives will be necessary.

Conversely, the analysis showed little demand for office space, specifically for large corporate office space users. The low demand for office space is expected to be met largely with existing vacant space, of which there is plenty around Meriden. The potential opportunity in the near-term is small-scale office space to provide medical, financial and personal services to serve the local market. In the five- to ten-year window a potential of 20,000 SF could be readily absorbed. Similar to the residential use, the near-term challenge for this office space development is that public incentives and subsidies would be needed to make private investment financially viable.

Retail demand in the vicinity of the Meriden TOD Study Area is expected to be largely limited to convenience retail and community serving retail with a focus on the local market. Projections of retail demand outlined in the PB study far exceed what is indicated by the this analysis, estimated to be up to an additional 28,000 SF.

Executive Summary (continued)

To “ground truth” the quantitative findings, the consultant team conducted interviews with real estate professionals and both an online area employee survey and a telephone survey of area residents. Key findings of the employee survey are:

- Less than half of respondents are aware of the improvements coming to Meriden.
- Very few people live near transit (less than ten percent).
- People generally do not have a good impression of downtown Meriden.

The responses reflect a common theme, that in order to attract people to new residential housing in the TOD study area, there will also need to be a change in perception and/or reality regarding downtown Meriden.

The telephone survey confirmed both the demographic analysis and the employee survey findings, that young workers and graduates would have the most interest in moving to the TOD study area, followed by empty nesters (but less so those empty nesters from higher income brackets). Therefore, the focus should be on providing the amenities of interest to these age groups, primarily basic services (grocery, banking, medical), parks and outdoor space, and restaurants. It also reiterates the point that providing new, high quality housing at low price points will be a challenge.

While their outlook was mixed, interviews with developers revealed similar themes. They noted the challenge of attracting people to the TOD Study Area without significant initial investment in the area’s attractiveness, including retail and services. They also confirmed that incentives would be necessary to induce developer interest.

Executive Summary (continued)

In summary, the recommended development program for TOD-style development around the Meriden Transit Center includes:

- 600 – 1,000 multi-family residential units attractive to young workers and graduates and empty nesters;
- 20,000 SF of small-scale office space
- 28,000 SF of convenience and community serving retail

In addition, the study area will need additional open space (such as the proposed Meriden Green), childcare services and a full-service grocery store near the transit center to provide an adequate level of service. Current low values in the area will be a significant early challenge. Public incentives and subsidies will be necessary to induce private investment and make early development of the TOD Study Area possible.

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Introduction

4ward Planning was retained by the City of Meriden, Connecticut to perform a market financial and economic analysis of transit-oriented development (TOD) pursuant to the TOD study area adjacent to the Meriden Transit Center in downtown Meriden. This work is funded by a TOD Pilot grant, awarded by the Connecticut Department of Transportation, which includes funding for pre-development analysis of the City's proposed TOD zone.

Meriden has been identified as a key node along the New Haven-Hartford-Springfield (NHHS) rail line, a new commuter rail service planned to commence in 2016. The State of Connecticut will invest nearly \$500 million in the NHHS rail program over the next four years, including significant investments in Meriden. By 2030, the rail service is expected to serve over 400 daily commuters in Meriden and spur significant development in the area. The City is positioning itself to realize the maximum economic development potential that is consistent with TOD design principles. Primarily, TOD principles include the provision of commercial, residential and retail offerings within walking distance (generally, a half-mile radius) of transit stations.

The overall goal of this analysis was to prepare the City for anticipated future development. The study also serves to both validate and supplement the recently completed TOD market analysis and land assembly study prepared by Parsons Brinkerhoff and their team and to further flesh out the feasibility of TOD-style development in Meriden.

Introduction (continued)

The goals and objectives of this analysis, as identified by the City and 4ward Planning, include:

- Determine the viability of proposed development strategies recommended in the TOD Plan (PB) with market analysis and finalize the City's land assembly strategy.
- Recommend a mix of potential development for the TOD Study Area given market conditions for office, residential, retail, entertainment, institutional and civic uses.
- Conduct outreach and develop a marketing package for potential developers and development partners.
- Estimate the costs and funding strategies of preparing key sites and underutilized parcels in the TOD area for development by conducting an infrastructure analysis and financial assessment.
- Provide a clear understanding of the long-term economic benefits that could result from the proposed development in the TOD study area with an economic benefits assessment.

Upon completion, this analysis will provide the City of Meriden with a realistic picture of the potential future build-out of the TOD study area; an understanding of the costs associated and possible funding sources; and actionable strategies for engaging developers and development partners. This report will provide the City the confidence and assurance needed to pursue a market feasible and fiscally responsible TOD strategy.

BACKGROUND ANALYSIS

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Study Area Site Visit Summary

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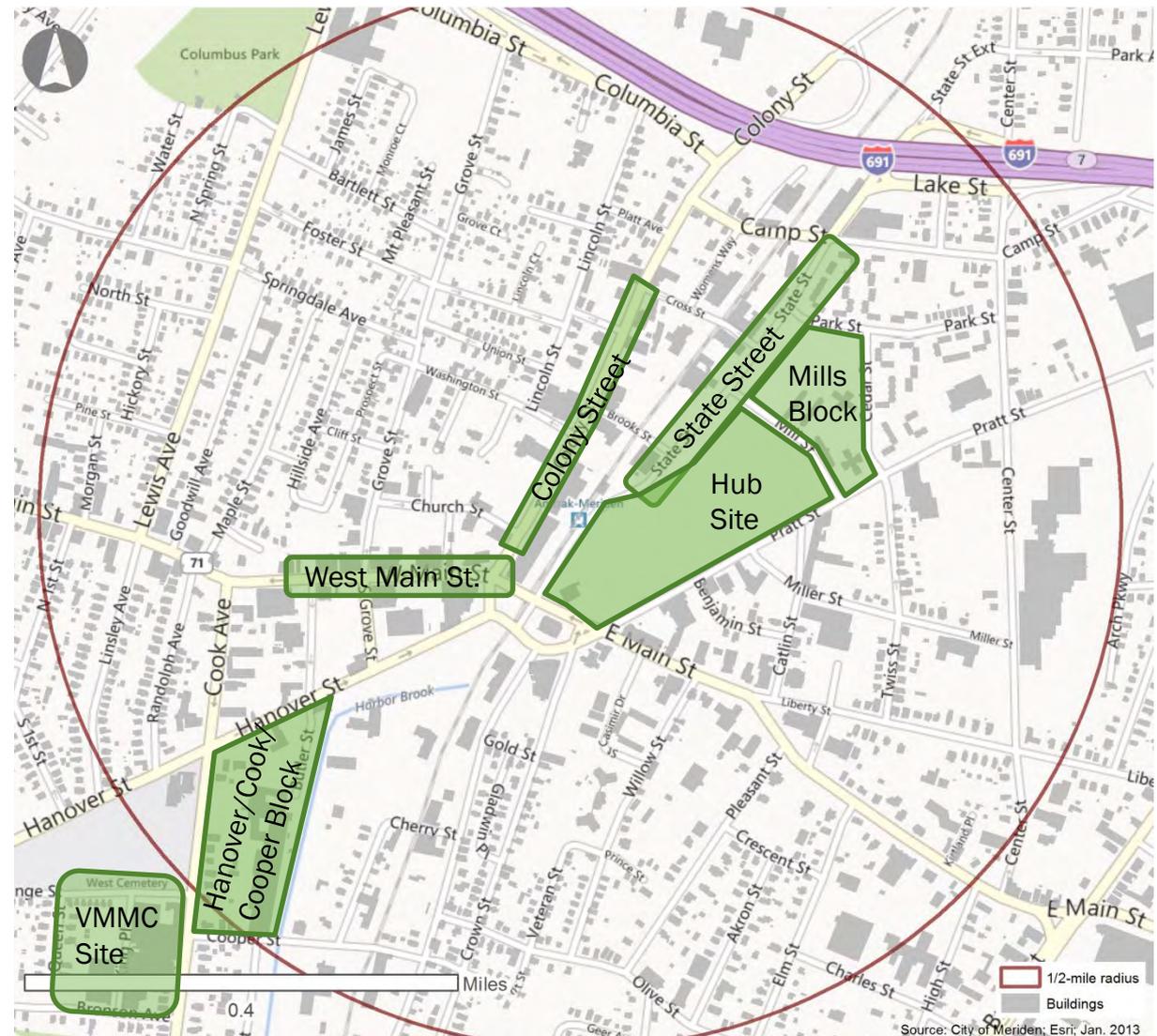


Background

Members of 4ward Planning, along with city staff member Juliet Burdelski, took a walking and driving tour of Downtown Meriden, focusing on the area within a half-mile of the Hub site, including parcels with redevelopment potential in particular.

As a record of the site visit, the key districts in the study area (listed below) are summarized on the following slides.

- State Street
- West Main Street
- Hanover Street, Cook Avenue and Cooper Street Block
- Veterans Memorial Medical Clinic (VMMC) Site



Source: City of Meriden; Esri, Jan. 2013

Hub Site

Formerly a shopping center, the Hub Site is the largely vacant parcel bounded by State Street, Mill Street, Pratt Street and East Main Street.

- The site will be converted into a park that provides flood control for Harbor Brook
- Locations at the corner of State Street and Mill Street, as well as along Pratt Street, have been designated as development sites.



Mills Block

Mill Street runs along the short northeastern edge of the Hub site between Pratt Street and State Street

- The housing units in this block are slated for demolition following relocation of the residents.
- The Community Health Center, which has facilities on the west side of State Street across from Mill Street, is planning an expansion to the northeast quadrant of the intersection.



State Street

State Street runs along the northwestern border of the Hub and accesses the station.

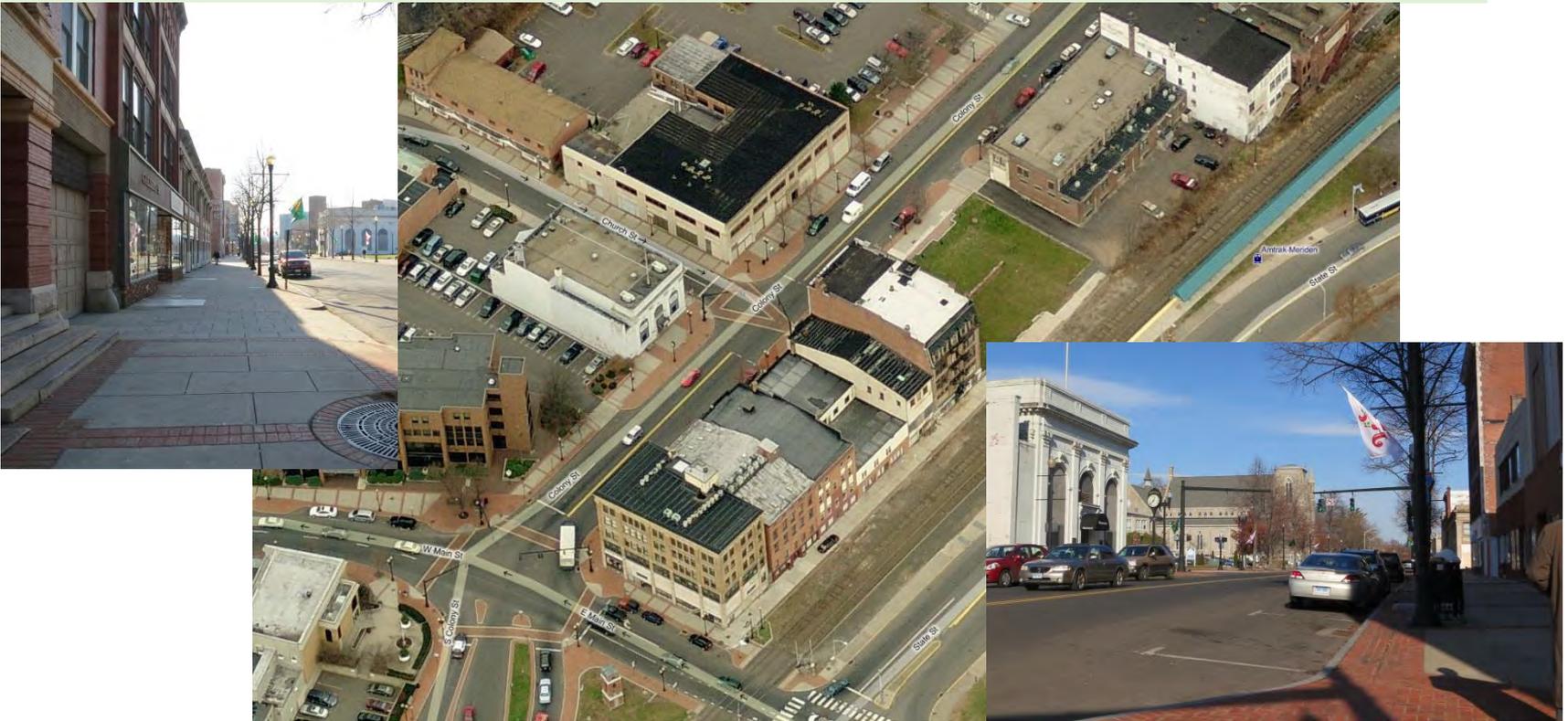
- 88 State Street is slated to be used as surface parking for the station.
- All at-grade crossings to Colony Street to be closed to pedestrian or vehicular traffic; pedestrian bridge will be constructed.
- Backsides of Colony Street buildings present visual barrier to Colony Street.



Colony Street

Colony Street runs parallel to the rail line and connects with West Main Street

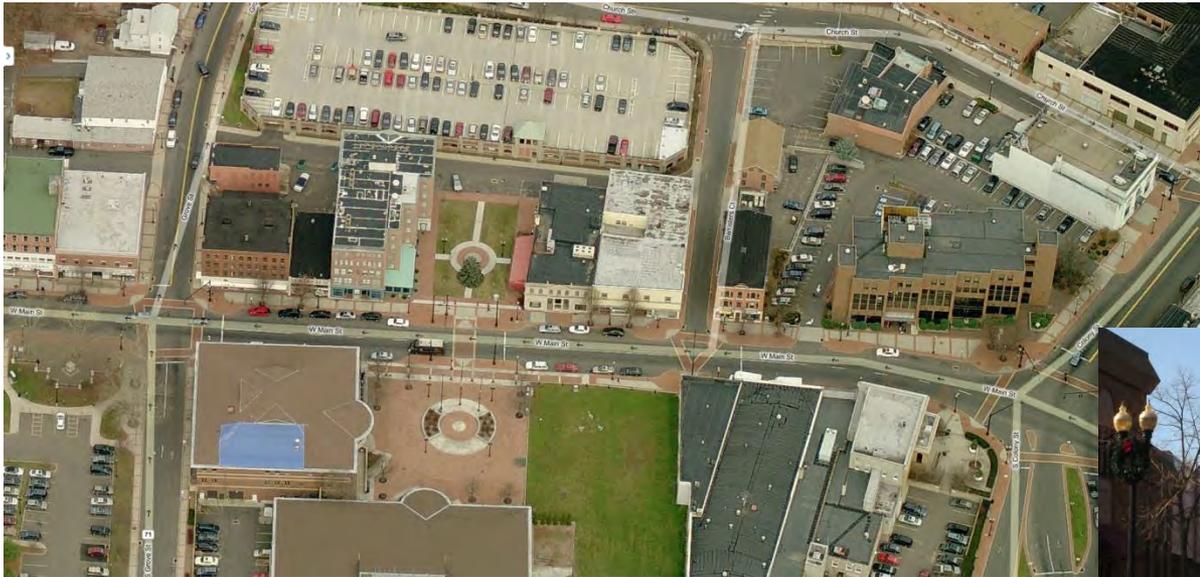
- The parcel north of Church St. on the west side of Colony St. is under consideration for redevelopment as a public-private venture to include mixed use and a parking structure.
- Current uses along Colony St. include social services and office space, with numerous vacancies.



West Main Street

West Main Street is the Central Business/Downtown District of the City.

- Traffic circulation flows one-way to the west, away from the intersection with Colony Street.
- This traffic pattern is currently being analyzed and re-visited.
- The street exhibits a concentration of municipal service buildings and support commercial services (e.g., bail bonds, cash checking retailers, and general social services)



Hanover Street, Cook Avenue and Cooper Street Block

This block, bordered on the east by Harbor Brook, is home to a former industrial building at 116 Cook Avenue, a potential reuse site.

- Factory H, the adjacent saw tooth-roofed building, was recently demolished down to the building pad, freeing up acreage for redevelopment.
- The Boiler House (not visible from this photo), a former power plant located east of Harbor Brook, is a candidate for historic designation.



Veterans Memorial Medical Clinic (VMMC) Site

Located on the west side of Cook Avenue, south of Downtown Meriden, the Veterans Memorial Medical Clinic (VMMC) is a former hospital and is a potential redevelopment/reuse site.

- The site features an existing two-level parking structure which could be reused.



Land Valuation Analysis

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Methodology

To conduct the land valuation analysis, assessed land values and improvement value data were obtained from the City of Meriden GIS Department. The ratios of improvement value to land value (ILV) were calculated and each parcel was categorized based on its ratio. Parcels with an ILV ratio of less than 2.0 (that is, where the built structure was valued at half the value of the assessed land) are considered to be underdeveloped, or prospective opportunities for redevelopment. Redeveloping low-value land parcels close-in to a rail station could prove fiscally beneficial to the local community, based on the likelihood of generating net positive tax revenues.

The ILV ratio is one metric used for identifying redevelopment opportunities. This indicator provides a snapshot based on the current valuation of properties in the area. The ILV ratio can be used as an indicator of the general economic viability of an area or as a means of identifying underutilized properties and redevelopment opportunities. Properties with low ILV ratios are considered underutilized in the sense that these properties present an opportunity to increase the overall value of the property by renovating or replacing the structures. In addition, low ILV ratios may reflect a lack of investment in the property characterized by outdated facilities or disrepair.

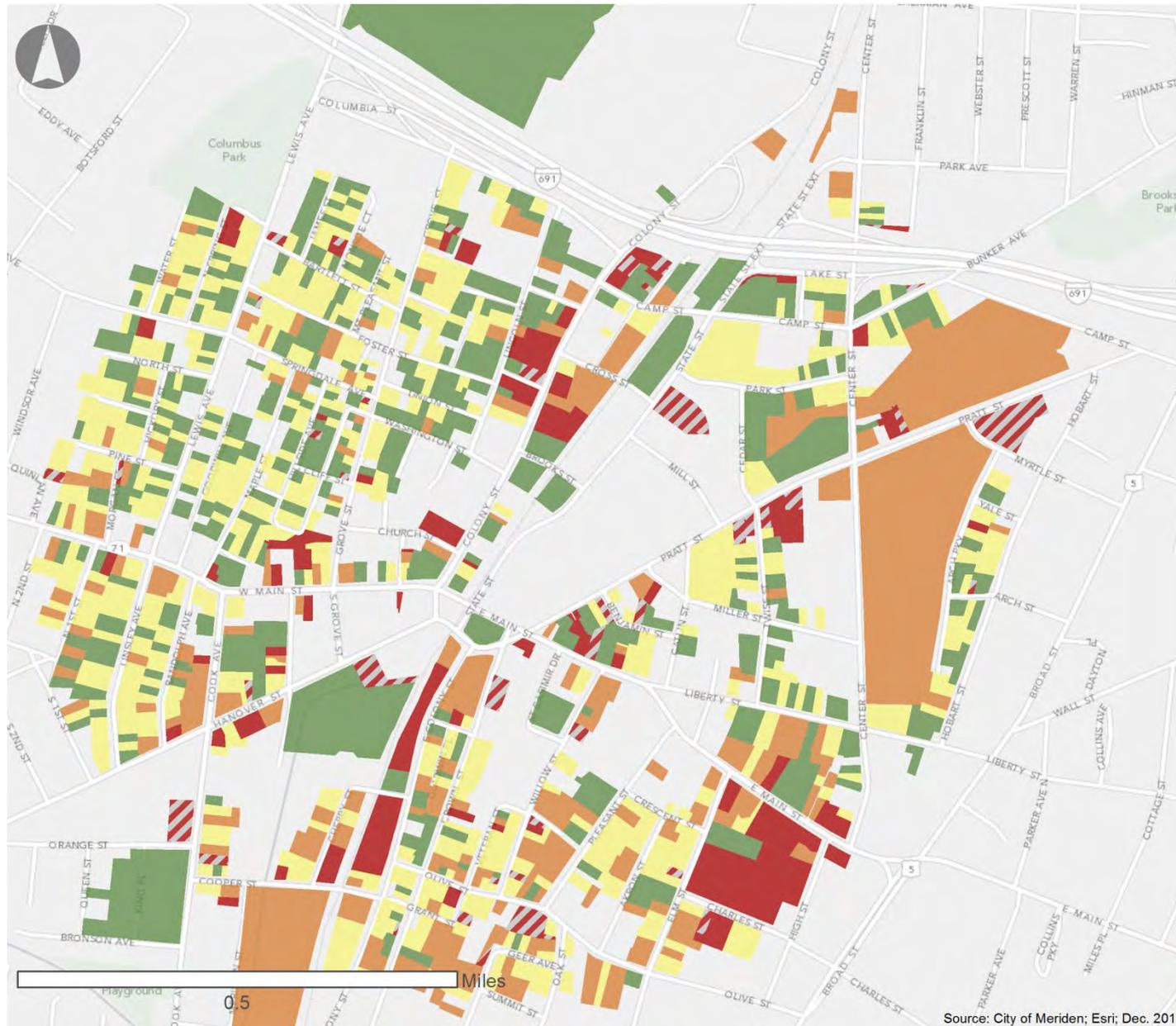


Figure A-1
Meriden TOD Market Study
**Improvement to
Land Value Ratios**

*Parcels within 1/2 mile of
Meriden Station*



Source: City of Meriden; Esri; Dec. 2012

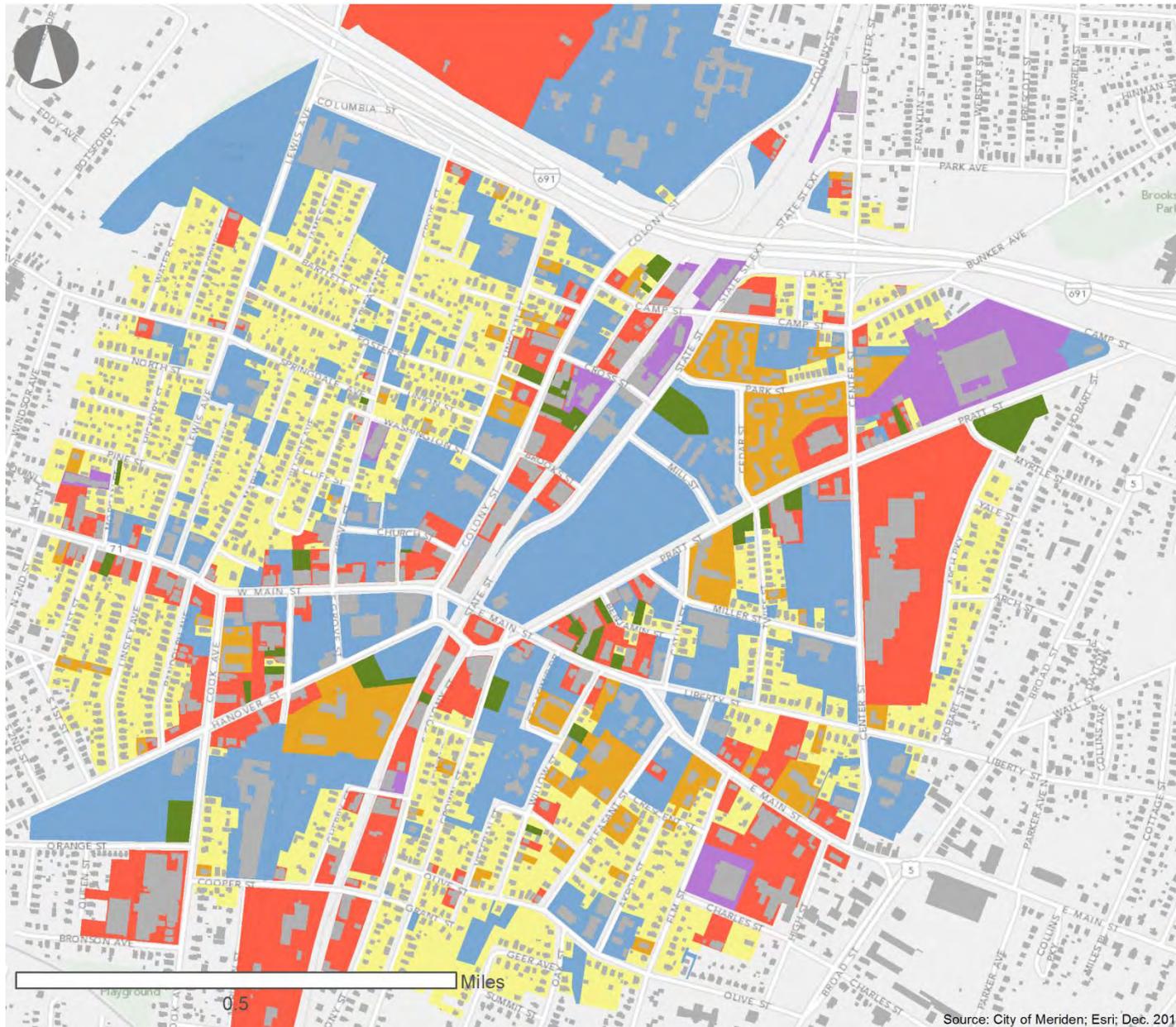


Figure A-2
Meriden TOD Market Study
General Land Use
Parcels within 1/2 mile of Meriden Station

Land Valuation Analysis

The majority of the parcels in the area have an improvement to land value (ILV) ratio of 2.0 or higher. A list of the underutilized parcels with ILV ratios of 2.0 or less is included in the appendix.

Many of the parcels with an ILV ratio of less than 1.0 are currently vacant or are being used as surface parking. The following areas feature concentrations of parcels with ILV ratios of 1.0 or less:

- Commercial and industrial sites on the west side of S. Colony St. near Cherry St.
- Commercial and industrial sites along Colony Street near Cross St.
- Commercial and industrial sites along E. Main Street near Elm St. and High St.

Table A-1: Improvement to Land Value Ratio Summary

Improvement to Land Value Ratio	Sum of Acreage	Pct. of Total Area	Parcel Count	Pct. of Total Parcels
0-1.0	43	8%	125	9%
1.0-2.0	138	27%	221	16%
2.0-3.0	116	23%	540	40%
3.0+	218	42%	458	34%
Total	515	100%	1,344	100%

Source: City of Meriden; 4ward Planning LLC 2012

Zoning Review

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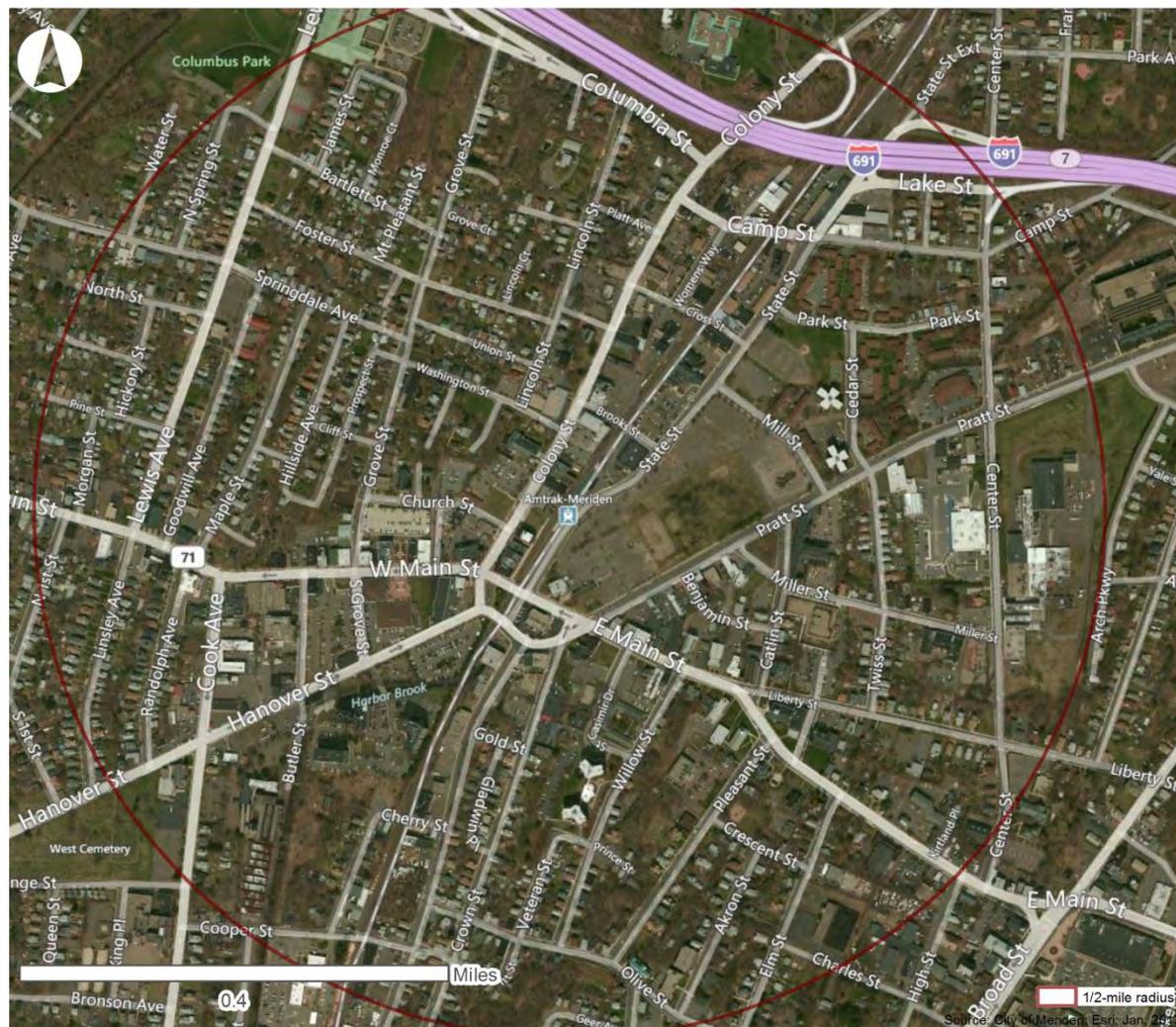
Methodology

4ward Planning performed an initial review of Meriden's current and proposed zoning requirements for the TOD planning area. Policy objectives for the area, as expressed in current planning studies, were also reviewed. The goal of this review is to become familiar with Meriden's current land-use policy thinking and to apply this framework, later in the financial analysis portion of the study, so as to determine whether or not congruency exists between proposed land-use policy, and market and financial viable uses.

Background

The TOD study area is located in Meriden's historic downtown business district. Within one half-mile of the HUB and MTC sites are a wide range of uses, residential neighborhoods, retail businesses, professional offices, entertainment venues, cultural establishments, city offices and a branch of Middlesex Community College.

Portions of the study area are located in the Colony Street-West Main Street National Historic District. The district was listed on the National Register of Historic Places in 1987, and includes a mix of office, retail and institutional properties including the state courthouse and the Meriden senior center. (POCD, 2009)



Source: Esri

Background: Downtown District

The Downtown District is identified in Meriden's 2009 Plan of Conservation and Development (POCD) as the governmental and cultural center of Meriden. The core of this area is the stretch of East Main Street and West Main Street from the City Hall/Meriden Public Library/Board of Education "municipal complex" west to the Hub site and the railroad station, and turning southwest to encompass the "Factory H" property. (POCD, 2009)

The Downtown District is envisioned as a transit-oriented area, centered around the redeveloped Hub site and an enhanced multi-modal transportation facility at the current railroad station. According to the POCD, future land uses in the Downtown District should include ground floor retail and office space coupled with high-quality residential units on upper floors.

Development should be done at a scale appropriate for Downtown Meriden, with the following suggested standards to guide future development:

- Buildings are six stories or fewer
- Green space (provided by private-sector where necessary)
- Adequate parking (provided by private-sector where necessary)
- Linkages to surrounding neighborhoods improved
- Enhanced physical environment (landscaping, urban design elements, and façades)
- Improved traffic circulation system
- Stronger review of development

Regulations: Existing Zoning

Primary current zoning districts represented in the analysis area are described below and shown in the Figure A-3 on the following page.

Zone	Description
C-1 Central Commercial	Complementary retail and service (retail, business and professional office, service, entertainment and cultural, and limited light industry and related activities; mixed use and high density residential by special exception)
CCDD Central Commercial Design District (overlay)	Mix of commercial uses and housing types at different density, lot and bulk standards and requiring an approved unified design plan
R-4 Multiple-Family Residential	Range of housing types and appropriate nonresidential uses at a high density of the scale and characteristics of the City's older neighborhoods
M-3 Planned Industrial	Industrial and related activities at greater intensity and with the potential for more truck traffic, noise or other objectionable activities (manufacturing, office, warehouse and distribution, R&D, etc.)

The following current zoning districts are located within the half-mile radius of the station and are secondary in regards to Meriden's targeted redevelopment goals. These districts will not be superseded by the proposed new zoning.

- C-4 Neighborhood/Conventional Commercial
- C-1a Central Commercial Annex
- R-2 Two- and Three-Family Residential
- R-3 Multiple-Family Residential
- M-2 Industrial
- RDD Regional Development District

Sources: City of Meriden Zoning Ordinance and Form+Place TOD Presentation, November 29, 2012.

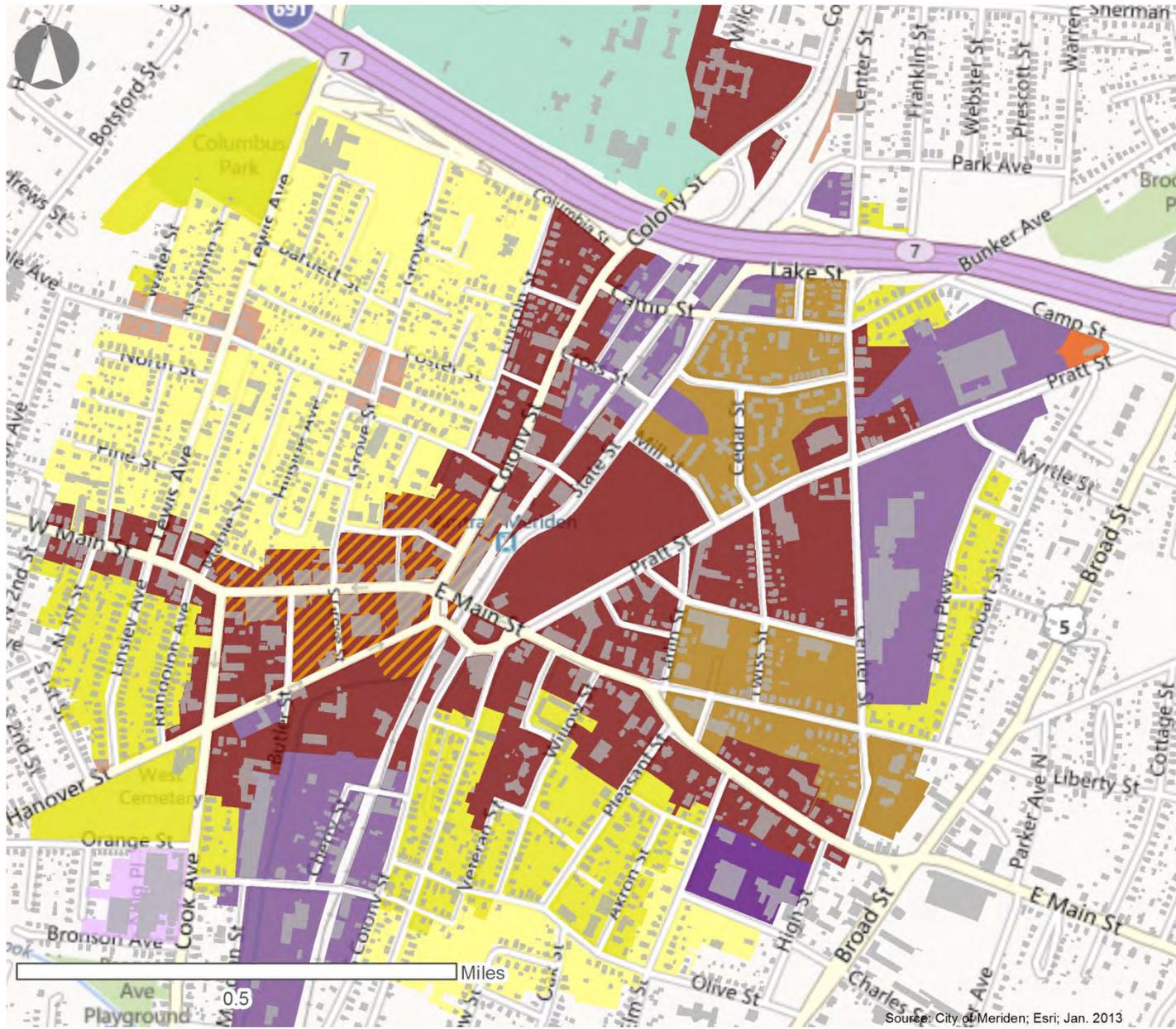


Figure A-3
 Meriden TOD Market Study
Zoning
 Parcels within 1/2-mile of
 Meriden Station

Source: City of Meriden; Esri; Jan. 2013

Regulations: Existing Zoning

The existing zoning is not suited for transit-oriented development for the following reasons:

- A mix of uses is not permitted in all districts
 - (e.g. residential, hotel, retail, mixed-use not permitted in M-3)
- Mixed-use buildings required a special exception in R-4 and C-1 districts
- Required parking ratios are too high
 - (2.0/dwelling unit; 3.33/1,000sf retail and office; 10/1,000sf restaurant)
- Shared parking arrangements require special approval
- Site plans are required for all land uses and buildings in C, M and RDD districts
- Design Review is required for CCDD overlay district

Table A-2: Existing Zoning Bulk Requirements (primary zones)	R-4	C-1	M-3
Lot size (sf)	15,000	4,000	1 acre
Allowable height (ft)^{1,2}	75	12 stories; 75 ft retail/service	120
Max. Building Coverage	75%	75% motel/hotel 90% all others	20%

1 - Service stations: 9,000 sf minimum lot size, 35 ft maximum height

2 - Office in R-4: 15,000-25,000 sf minimum lot size

Source: Form+Place TOD Presentation, November 29, 2012.

Regulations: Proposed TOD Zoning

The policy goals of a new TOD Overlay District in Meriden are to:

- Simplify approvals;
- Permit mixed-use buildings;
- Incentivize mixed-income residential development;
- Encourage adaptive reuse;
- Relax parking standards;
- Ensure quality development and overall environment; and
- Promote a vibrant, pedestrian-friendly public realm.

The City of Meriden is currently preparing new zoning districts to codify the policy supporting transit-oriented development in the analysis area. The new zoning is proposed as a hybrid form-based code, which prioritizes form and design over use while maintaining provisions, processes and standards from the existing code. The proposed overlay district is divided into five sub-districts which have varying standards.

These sub-districts, listed below, are mapped in Figure A-4.

- Historic/Commercial
- Park
- Civic
- Hanover
- Gateway

Sources: City of Meriden, TOD Master Plan and Form+Place TOD Presentation, November 29, 2012.

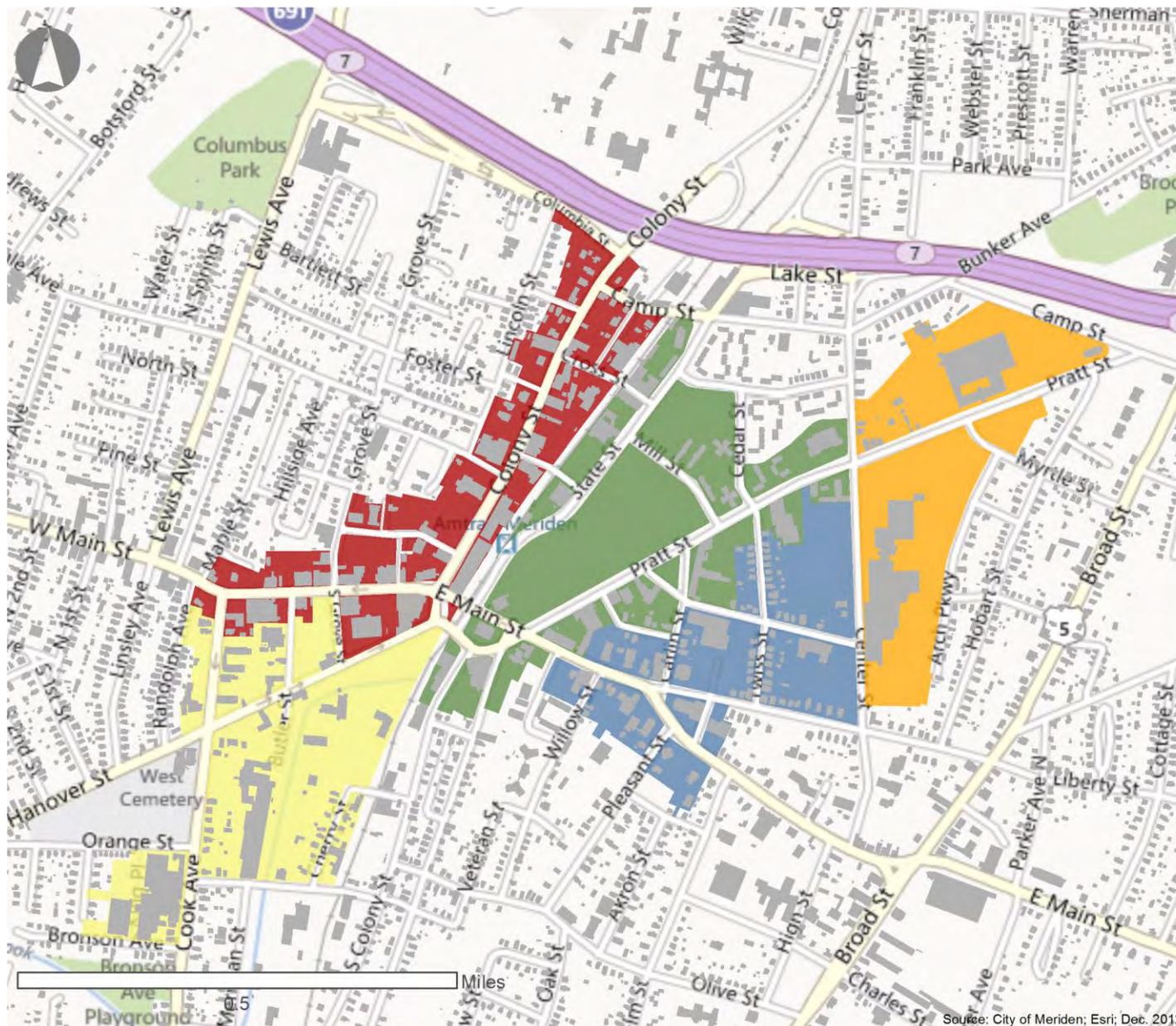


Figure A-4
 Meriden TOD Market Study
Proposed Zoning Sub-Districts

Parcels within 1/2 mile of Meriden Station

-  Buildings
- Proposed Zoning Sub-District**
-  Civic
-  Gateway
-  Hanover
-  Historic/Commercial
-  Park

Source: City of Meriden; Esri, Dec. 2012

Regulations: Proposed Zoning

Uses: A mix of uses is encouraged. The specific mix varies between the five sub-districts.

Height: Permitted height ranges from a two-story minimum to up to eight stories. The historic and civic sub-districts have lower permitted height limits of five and six stories, respectively.

Density: Residential density ranges from 35 dwelling units per acre in the Historic and Civic sub-districts to 50 dwelling units per acre in the Park, Hanover and Gateway sub-districts for TOD mixed-income dwellings. All other multiple-family dwellings are permitted at lower densities ranging from 15 to 25 dwelling units per acre.

Parking: Parking maximums are proposed and minimums have been reduced. In a TOD Mixed-income dwelling, parking minimums are reduced to as low as 0.75 to 1.0 space per dwelling unit and a maximum of 2.0 to 2.5 spaces per dwelling unit , depending on the sub-district.

Regulations: Proposed Zoning

Table A-3: Proposed Zoning Bulk Requirements

	Historic / Commercial	Park	Hanover	Civic	Gateway
Lot size (sf)	4,000	15,000	10,000	10,000	15,000
Allowable height, min/max (stories)					
TOD mixed-income dwelling	2/5	2/8	2/8	2/6	2/8
Multiple-family dwelling	2/4	2/4	2/4	2/3	2/4
All other permitted uses	2/5	2/5	2/5	2/4	2/5
Lot Coverage, min/max (%)					
Multiple-family dwellings	40/100	35/75	35/75	0/70	0/75
All other permitted uses	40/100	35/90	35/90	35/80	0/90
Allowable Density (units/acre)					
TOD mixed-income dwelling	35	50	50	35	50
Multiple-family dwelling	15	25	25	15	25

Development Potential Summary

The PB report estimates that Meriden's TOD site can accommodate 700 dwelling units at a density of 20-45 dwelling units per acre and 325,000 square feet of non-residential space (equivalent to 200,000 square foot retail/restaurant and 125,000 square foot office).

Source: Form+Place TOD Presentation, November 29, 2012, Draft Zoning Ordinance, February 4, 2013

Proposed TOD Zoning

Overall, the proposed TOD Zoning for the development area is generally conducive to the market expectations presented earlier. The following potential conflicts were identified:

Ground Floor Retail

TOD zoning typically encourages mixed-use buildings and specifically retail or commercial uses on ground floors to promote an active neighborhood. This proposed zoning for Meriden is no different. Generally, ground floor retail is encouraged and residential uses are prohibited on the ground floor in the Historic Sub-District, according to Table 213-3 and Section M.3. As mentioned earlier, there is likely not sufficient market demand for retail on the ground floor of all buildings for which it is encouraged. The City should continue to encourage, but not require, ground floor retail in the proposed zoning. To ensure the best placement of limited ground floor retail the City should consider only encouraging ground floor retail in a portion of the Historic Sub-District, restricted to the downtown core. The nearly 28,000 square feet of retail proposed for redevelopment at 24/38/44 Colony Street fulfills the anticipated retail demand.

Arts and Entertainment Uses

Section 7.g. (Special Permits) requires impact analyses for Indoor Arts, Recreation and Entertainment with a gross leasable area equal to or greater than 40,000 square feet. Based on the market analysis, we believe it is unlikely that the City will see arts, entertainment or indoor recreation uses of 40,000 square feet or greater. However, there is no harm in having this condition in the zoning.

TOD Comparables and Benchmarks

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Methodology

Utilizing the Center for Transit-Oriented Development's (CTOD) TOD Database for existing transit stations within the greater New York region, we benchmarked key TOD metrics (i.e. total population, TOD population, and median household income) for the half-mile area around the proposed Meriden Transit Center. The TOD Study Area was then compared to greater New York commuter rail station areas based on residential (housing units per acre) and employment (jobs per acre) densities. We also examined the zoning regulations of the other communities. Where possible, contact with key staff supplemented the findings. The purpose of this analysis was to place existing and proposed densities into context of other areas that function as TODs or have characteristics of TODs in similarly sized communities.

Extensive research has been performed on TOD throughout the Country. Accordingly, we conducted a brief literature review to identify the commonly-accepted baseline densities for transit-oriented development.

TOD Typologies

According to Reconnecting America and the CTOD's *TOD 202: Station Area Planning, How to Make Great Transit-Oriented Places*, there are eight TOD typologies shown in Chart A-1. With the proposed transit connection, Meriden matches most closely the characteristics of a Transit Town Center, which is defined as a local center of economic and community activity and served by commuter rail, bus or light rail. The key features are described in Table A-4.

Chart A-1: TOD Typologies	
Regional Center	
Urban Center	
Suburban Center	
Transit Town Center	
Urban Neighborhood	
Transit Neighborhood	
Special Use/Employment District	
Mixed-Use Corridor	

Table A-4: Transit Town Center Typology	
Characteristics	Local center of economic and community activity
Transit mode	Commuter or light rail, local/regional bus hub
Peak transit frequency	15-30 minutes
Density	Moderate
Land use mix	Residential, commercial, employment and civic/cultural
Retail characteristics	Community-serving and destination-retail; need for local-serving retail
Housing mix	Mid-rise, low-rise, townhomes, small-lot single family
Total units target	3,000-7,500
Net Density	20-75 dwelling units/acre
Jobs Target	2,000-7,500
Minimum FAR	2.0 FAR

Source: Reconnecting America and CTOD, *TOD 202: Station Area Planning, How to Make Great Transit-Oriented Places*.

Residential Density Targets

Over the years, TOD literature has continued to demonstrate the relationship between land use and transit ridership, suggesting minimum densities for encouraging the utilization of public transit (Pushkarev & Zupan, 1977; Ewing, 1996; Frank & Pivo, 1994). In general, these minimum densities depend on the type of transit service, and are applicable for the area within walking distance to the station (i.e. half-mile walking radius).

Recent research indicates that a minimum density of 20 units per acre is necessary to provide adequate transit ridership and support for retail and other non-residential uses within walkable distances (US EPA, 2003; WRT, 2005). Furthermore, a United State Environmental Protection Agency report finds that 30 units per acre supports high-frequency transit service (10-minute headways). This research would confirm the residential density proposed for the Meriden TOD, which, currently, is a proposed average of 35 dwelling units per acre.

Sources: US EPA, Creating Great Neighborhoods: Density in Your Community, 2003; WRT and Nelson/Nygaard, Transit-Oriented Development Opportunities in Somerset County, NJ, 2005; 4ward Planning LLC, 2012

Commercial Density Targets

Less of the aforementioned research is focused on non-residential densities, as the emphasis has been on TODs as mixed-use communities with office and retail uses supporting the residential community. A decrease in single-occupancy vehicle travel is observed at relatively low densities of between 20 and 50 employees per acre and employment density is believed to have a dramatic impact on transit use at more than 75 employees per acre (Pivo and Frank, 1995).

While there is not significant research on retail and office land use square footage thresholds (by building area), there is consensus that increasing commercial densities correlate to increased transit ridership (Cervero, 2004; Lund, Cervero, Wilson, 2004).

Sources: CTOD, Transit-Oriented Development and Employment, 2011; 4ward Planning LLC, 2012

Case Studies: Comparison

4ward Planning conducted a review of New Jersey cities with transit stations, and of similar size and character to Meriden. Density figures, provided by the Center for Transit-Oriented Development (CDOT) TOD Database (displayed in Table A-5 below) show that residential density in similar communities ranges from 7 units to 25 units per acre. Employment density ranges from 9 to 43 jobs per acre.

Table A-5: Density Comparison

	Meriden Existing	Meriden Proposed	New Brunswick NJ	East Orange NJ	Union City NJ	Perth Amboy NJ
Overall Population	60,838	60,838	55,444	64,270	66,455	50,814
TOD (half-mile) Population	7,294	7,294	11,244	14,861	36,272	17,465
TOD (half-mile) MHI	\$23,536 ³	\$23,536 ³	\$56,276	\$30,251	\$39,320	\$41,241
Gross Residential Density¹	5.92	20 to 45	6.81	11.92	24.89	10.01
Net Residential Density²	10.29	20 to 45	13.94	15.27	25.35	12.46
Jobs per acre	7.44	n/a	42.26	8.95	11.50	12.29

Notes:

- 1 - Households per acre. Meriden Proposed references the numbers provided in the PB Report
- 2 - Households per residential acre. Meriden Proposed references the numbers provided in the PB Report
- 3 - 2012 data
- 4 - Estimated

Source: Center for Transit-Oriented Development TOD Database; PB Report; Esri Community Analyst, 4ward Planning LLC, 2012

Case Studies: New Brunswick, NJ

The half-mile radius surrounding New Brunswick's Amtrak station is primarily zoned C-4 Downtown Commercial/Office District. This zoning designation promotes dense urban development with a focus on non-vehicular modes of transportation. The C-4 also contains graduated density zoning, which encourages adjacent property owners to work together to build better projects. New Brunswick uses Floor Area Ratio (FAR) and other bulk requirements, and does not have density requirements. Residential density (not mixed-use) is capped at 50 units per acre for a mid-rise apartments and 100 units per acre for high-rise apartments, and requires a conditional use permit.

The City of New Brunswick was designated a "transit village" by NJ Transit, which provided the City with priority funding to implement a transit-oriented downtown vision. The Gateway Transit village project, which is directly adjacent to the train station, is complete.

Figure A-5: New Brunswick (NJ) Train Station Area



Sources: City of New Brunswick, Bing Maps, 4ward Planning LLC, 2012

Table A-6: New Brunswick Bulk Requirements

Min. Footprint (SF)	Allowable FAR (max.)	Allowable Height (max.)
5,000 – 9,999	4	40
10,000 – 19,999	5	60
20,000 – 39,999	12	150
40,000 or higher	15	250

Case Studies: East Orange, NJ

Four mixed-use developments are in various stages in the Brick Church transit village area, amounting to more than 400 new housing units and 60,000 square feet of commercial. With projects ranging from 7 to 15 stories, the City attributes this influx of redevelopment to the generous height limits in the TVD as well as low rents compared to neighboring areas. These heights exceed that desired or expected in Meriden's TOD area.

Figure A-6: Brick Church (East Orange NJ) Train Station

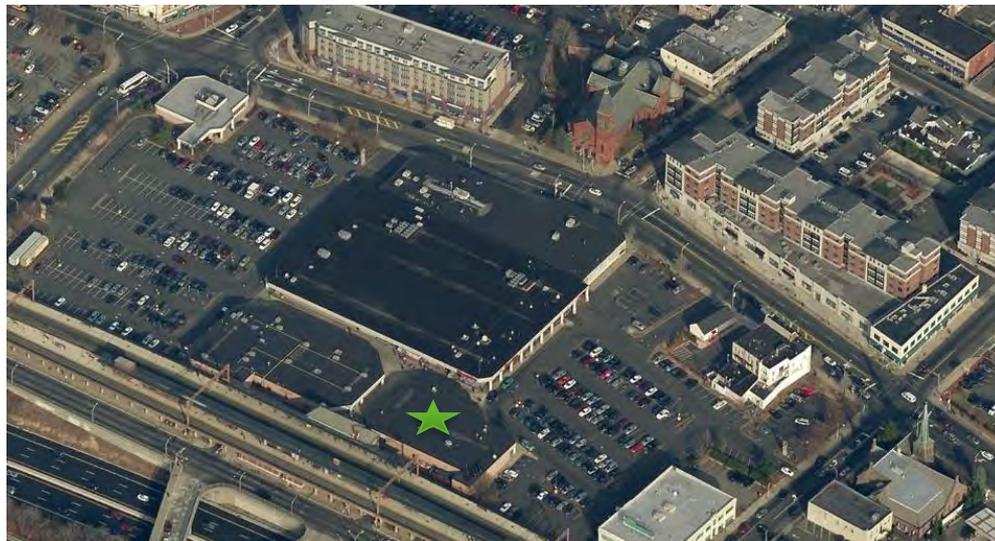


Table A-7: East Orange Bulk Requirements

	MF (up to 12 units)	Garden Apartment	High-Rise MF	Office or Mixed-Use (O/R)	Comm. or Mixed-Use (C/R)
Lot size (sf)	8,000	30,000	½ acre	½ acre	1,000
Maximum height (ft)	55	35	-	-	65 ¹
Maximum height (stories)	5	3	15	15	7
Maximum dwelling units / acre	52	52	100	100	100

¹ Up to an additional 25 feet with 10 foot minimum setback.

In June 2011, the City of East Orange, NJ adopted a Transit Village District (TVD) overlay surrounding the Brick Church transit station (one of two in town). East Orange was recently designated a “transit village” by NJ Transit, which provides the City with priority funding to implement a transit-oriented downtown vision.

Sources: City of East Orange, Bing Maps; 4ward Planning LLC, 2012

Case Studies: Perth Amboy, NJ

The half-mile radius surrounding Perth Amboy's Amtrak station is zoned C-1 Neighborhood Business, C-2 Central Business, R-25 Residential (single-family detached) and R-M(M) Residential (mid-rise multi-family). The City does not have special transit-oriented zoning to guide development around its transit station.

Perth Amboy has been designated a "transit village" by NJ Transit, which provides the City with priority funding to implement a transit-oriented downtown vision.

Table A-8: Perth Amboy Bulk Requirements

	R-25	R-M(M)	C-1	C-2
Lot size (sf)	2,500	40,000	2,500	5,000
Maximum height (ft)	28	40	35	85
Maximum height (stories)	2	4	2.5	7
Maximum lot coverage	40%	40%	50%	80%
Maximum impervious coverage	50%	70%	85%	95%
Maximum dwelling units / acre	12	25	n/a	n/a
Maximum dwelling units / building	2	24	n/a	n/a

Figure A-7: Perth Amboy (NJ) Train Station



Sources: City of Perth Amboy, Bing Maps; 4ward Planning LLC, 2012

SOCIO-ECONOMIC, LABOR & INDUSTRY EVALUATION

ECONOMIC AND REAL ESTATE ANALYSIS FOR SUSTAINABLE LAND USE OUTCOMES™



Socio-Economic Trends Analysis

ECONOMIC AND REAL ESTATE ANALYSIS FOR SUSTAINABLE LAND USE OUTCOMES™



Glossary of Terms

Household Population Household population, as compared to total population, excludes persons living in dormitories, penal facilities, hospitals, and other institutional settings.

Family A family is a group of two or more people (one of whom is the householder) related by birth, marriage, or adoption and residing together; all such people are considered as members of one family. The number of families is equal to the number of family households; however, the count of family members differs from the count of family household members because family household members include any non-relatives living in the household.

Non-Family A non-family household consists of a householder living alone (a one-person household) or where the householder shares the home exclusively with people to whom he/she is not related.

Household A household consists of all the people who occupy a housing unit. A house, an apartment or other group of rooms, or a single room, is regarded as a housing unit when it is occupied or intended for occupancy as separate living quarters. The count of households excludes group quarters and institutions.

Metropolitan Statistical Area (MSA) Metropolitan Statistical Areas (metro areas) are geographic entities defined by the Office of Management and Budget. A metro area contains a core urban area of 50,000 or more population. Each metro or micro area consists of one or more counties and includes the counties containing the core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core.

Source: US Census Bureau

Methodology

4ward Planning LLC conducted an examination of socio-economic trends (for 2010, 2012 and 2017) in the geographies surrounding the City of Meriden's Transit Center in support of the Transit-Oriented Development (TOD) Market Study and Financial Feasibility Analysis. The geographic areas studied include:

- The Base Area, which is the traditional TOD half-mile radii from the Meriden Transit Center (MTC);
- The Primary Market Area (PMA), classified as a 10-minute drive-time contour (approximately a 5-mile contour) from the MTC and typically representing the catchment area where 70 percent or more of consumer patronage originates; and
- The Secondary Market Area (SMA), classified as the New Haven-Milford CT Metropolitan Statistical Area (MSA), which represents the relatively large catchment area from which the TOD could prospectively compete for new residents and businesses.

The analysis and recommendations that follow are based on a combination of quantitative and qualitative techniques. Quantitative analysis was underpinned by a combination of public and proprietary data sources, including U.S. Census-based data and Esri's Community Analyst software — a socio-economic data analysis tool. Estimated and projected socio-economic trends examined included population and household growth, formation of family and non-family households, household income, residential tenure, educational attainment and age cohort characteristics, and consumer expenditure estimates.

Key Findings: Demographics

Flat population and household growth

The Meriden TOD Study Area, PMA and MSA all exhibited flat growth in population and households between 2010 and 2012, with these trends projected to continue through 2017. This is particularly true for the demographic segment (persons between the ages of 25 and 54) which tends to utilize transit most often.

Rise in non-family households

Consistent with national and regional trends, non-family households are growing faster than family households (which are experiencing decline) in all geographies examined. This finding is particularly informative for prospective TOD activity, as non-family households represent the greatest demand for small rental housing units – the types of units which would be developed close-in to the Meriden transit station.

More than 28,000

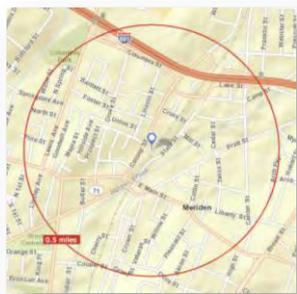
The number of adult persons 25 to 54 years of age and older, projected to live within 10-minutes of the Meriden Station in 2017. This age segment has the highest incidence of transit ridership among all adult persons 25-years of age and older and represents nearly six in ten adult persons 25-years and older within the primary market area.

\$100,000 to \$300,000

The residential price point that will be affordable to approximately 50 percent of the potential future market, projected to have incomes ranging from \$35,000 to \$99,000 per year in 2017 and exhibiting a great influence on the price of future housing.

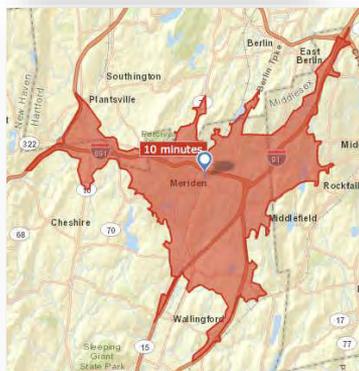
Demographic Trend Analysis Study Areas – 2010 Summary

TOD Study Area
(half-mile radius)



Population: 7,294
 Total Households: 2,964
 Median Age: 31
 2012 Median Household Income (2010\$): \$22,168
 2012 Percent of Household Incomes >\$75,000: 10%
 Percent Owner-Occupied Housing: 13%

Primary Market
Area (10-minute
drive contour)



Population: 68,866
 Total Households: 27,161
 Median Age: 38
 2012 Median Household Income (2010\$): \$49,897
 2012 Percent of Household Incomes >\$75,000: 34%
 Percent Owner-Occupied Housing: 59%

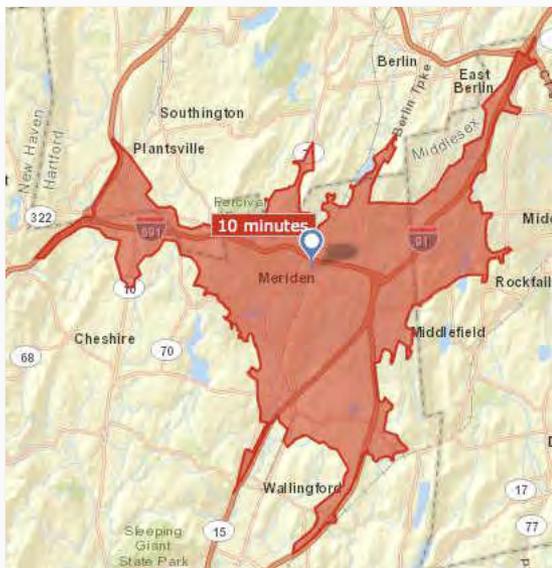
Secondary Market
Area (New Haven
MSA)



Population: 862,477
 Total Households: 334,502
 Median Age: 39
 2012 Median Household Income (2010\$): \$55,191
 2012 Percent of Household Incomes >\$75,000: 40%
 Percent Owner-Occupied Housing: 59%

Note: Data is from 2010 unless otherwise noted.
 Source: US Census Bureau; Esri; 4ward Planning LLC, 2012

Primary Market Area Dashboard



Primary Market Area
(10-minute drive contour)

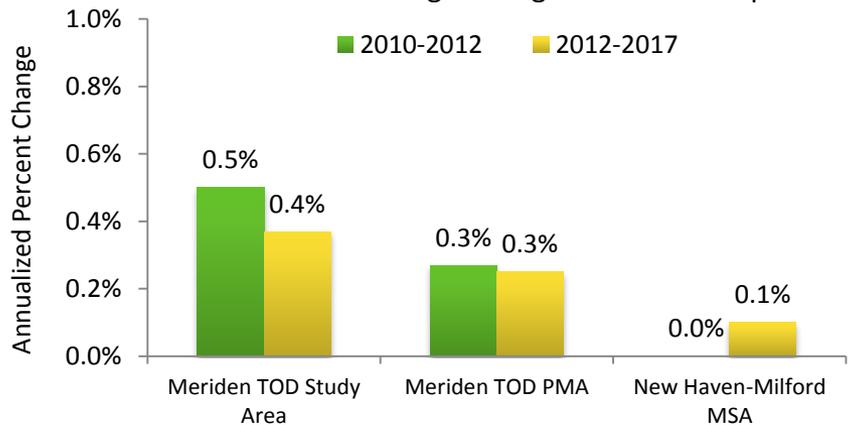
Population: 68,866
 Total Households: 27,161
 Median Age: 38
 2012 Median Household Income (2010\$): \$49,897
 2012 Percent of Household Incomes >\$75,000: 34%
 Percent Owner-Occupied Housing: 59%

Median Household Real Income



Note: Data is from 2010 unless otherwise noted.
Source: US Census Bureau; Esri; 4ward Planning LLC, 2012

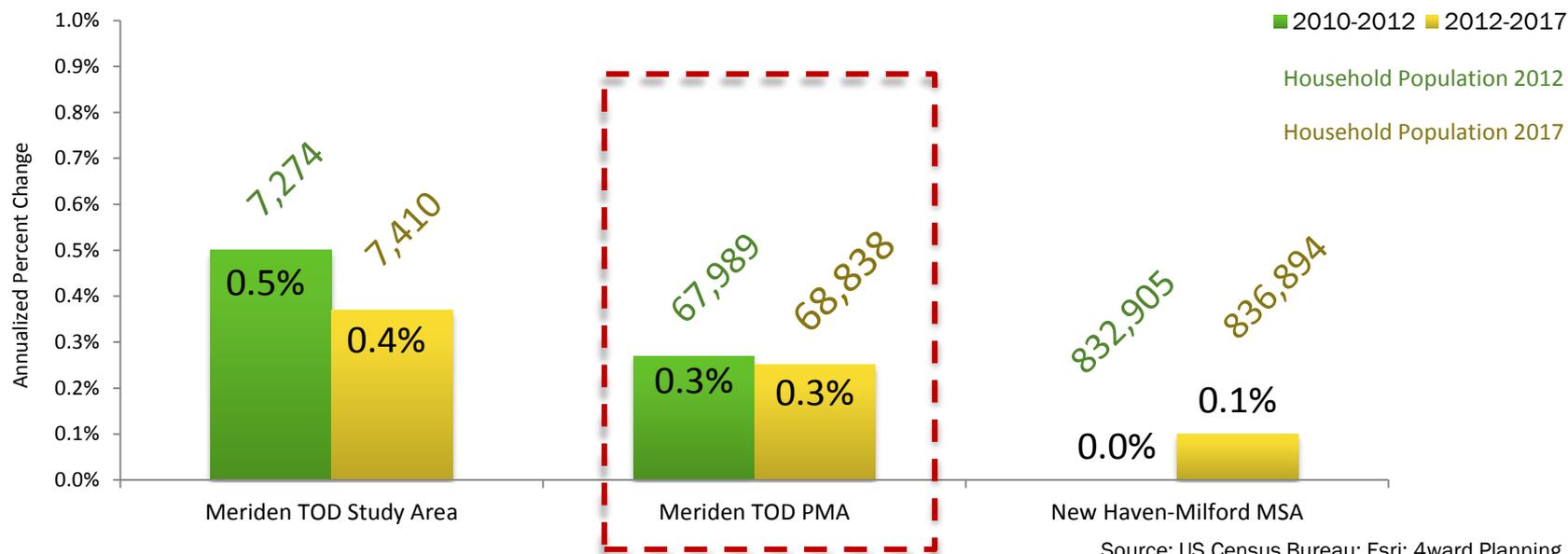
Annualized Percentage Change Household Populations



Household Population

Figure B-1 illustrates that household population growth within all three geographies studied was effectively flat over the 2010 to 2012 period – owing largely to declining in-migration and fewer births. Household population growth is expected to remain flat through 2017. At the end of 2012, the primary market area’s household population was nearly 68,000 persons – 47,244 (69.5 percent) of whom were 25 years of age or older. By 2017, the primary market area is projected to have nearly 69,000 persons – 48,143 (68.6 percent) of whom will be 25 years of age and older. This nearby household population base represents a modest sized primary market from which to draw prospective TOD residential customers.

Figure B-1: Annualized Percentage Change Household Populations



Source: US Census Bureau; Esri; 4ward Planning LLC, 2012

Household Formation

Figures B-2 and B-3 exhibit annualized change in family and non-family households, respectively, for the three geographies examined. Family and non-family households in the TOD study area are nearly evenly split at approximately 50 percent. Whereas, the other two geographies have a larger percentage of family households (65 percent each), which is common outside of urban areas.

Figure B-2: Annualized Percentage Change, Family Households

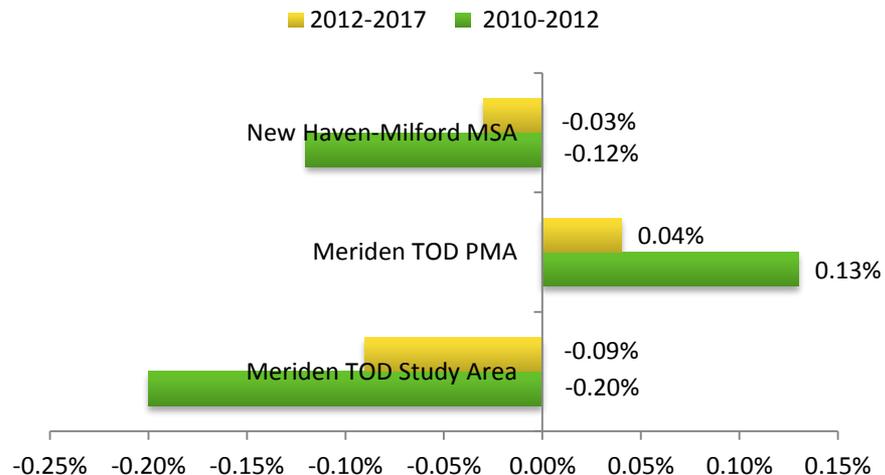
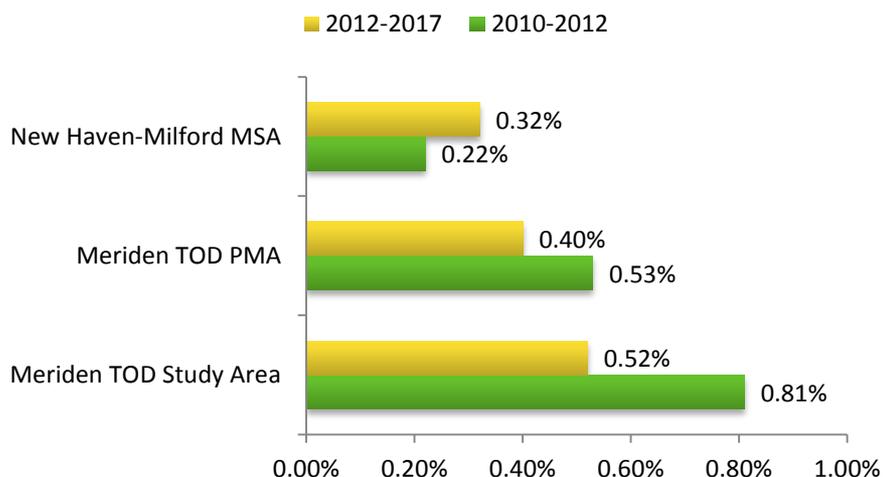


Figure B-3: Annualized Percentage Change Non-Family Households



The PMA is the only geography not losing family households. However, according to research by the Center for Transit-Oriented Development, only about one-in-five households with children is interested in the type of housing found in a TOD. Instead, demand is expected to come primarily from non-family households of less than three people. This group is exhibiting very modest growth in the PMA.

Sources: US Census Bureau; Esri; 4ward Planning LLC, 2012
TOD 205: Families and Transit-Oriented Development, CTOD, 2012

Table B-1: Population Age Trends

Age

Meriden TOD Study Area							Percentage Change	
	2010		2012		2017		2010-2012	2012-2017
Total Population	7,294	100.0%	7,380	100.0%	7,519	100.0%	1.2%	1.9%
Pre-School-Age Children	605	8.3%	613	8.3%	632	8.4%	1.2%	3.1%
Grade School-Age Children	1,225	16.8%	1,232	16.7%	1,263	16.8%	0.6%	2.5%
High School and College-Age	1,131	15.5%	1,137	15.4%	1,090	14.5%	0.5%	-4.1%
Young Workers and Grads	1,152	15.8%	1,181	16.0%	1,218	16.2%	2.5%	3.2%
Early Stage Families	963	13.2%	945	12.8%	947	12.6%	-1.9%	0.3%
Late Stage Families	883	12.1%	871	11.8%	827	11.0%	-1.3%	-5.0%
Young Empty Nesters	635	8.7%	672	9.1%	714	9.5%	5.8%	6.4%
Older Empty Nesters	387	5.3%	413	5.6%	496	6.6%	6.9%	20.1%
Mostly Retired	306	4.2%	303	4.1%	323	4.3%	-1.2%	6.9%
Median age	31years		31years		31years		0.3%	1.3%

Meriden TOD PMA							Percentage Change	
	2010		2012		2017		2010-2012	2012-2017
Total Population	68,866	100.0%	69,268	100.0%	69,878	100.0%	0.6%	0.9%
Age < 5 yrs Pre-School-Age Children	4,476	6.5%	4,502	6.5%	4,542	6.5%	0.6%	0.9%
Age 5-14 yrs Grade School-Age Children	8,953	13.0%	8,797	12.7%	8,944	12.8%	-1.7%	1.7%
Age 15-24 yrs High School and College-Age	8,815	12.8%	8,659	12.5%	8,246	11.8%	-1.8%	-4.8%
Age 25-34 yrs Young Workers and Grads	9,228	13.4%	9,490	13.7%	9,643	13.8%	2.8%	1.6%
Age 35-44 yrs Early Stage Families	9,435	13.7%	9,213	13.3%	9,084	13.0%	-2.4%	-1.4%
Age 45-54 yrs Late Stage Families	10,674	15.5%	10,390	15.0%	9,643	13.8%	-2.7%	-7.2%
Age 55-64 yrs Young Empty Nesters	8,402	12.2%	8,797	12.7%	9,294	13.3%	4.7%	5.7%
Age 65-74 yrs Older Empty Nesters	4,407	6.4%	4,710	6.8%	5,660	8.1%	6.9%	20.2%
Age 75+ yrs Mostly Retired	4,545	6.6%	4,641	6.7%	4,822	6.9%	2.1%	3.9%
Median age	38years		39years		39years		0.8%	0.8%

Research indicates that these three highlighted age cohorts have the highest incidence of transit use.

These age segments represent nearly 60 percent of the adult population...

...but families are projected to decrease in population.

This age group has experienced strong growth, especially the older cohort.

New Haven-Milford MSA							Percentage Change	
	2010		2012		2017		2010-2012	2012-2017
Total Population	862,477	100.0%	862,521	100.0%	866,067	100.0%	0.0%	0.4%
Pre-School-Age Children	48,299	5.6%	48,301	5.6%	48,500	5.6%	0.0%	0.4%
Grade School-Age Children	107,810	12.5%	106,953	12.4%	107,392	12.4%	-0.8%	0.4%
High School and College-Age	121,609	14.1%	119,890	13.9%	113,455	13.1%	-1.4%	-5.4%
Young Workers and Grads	107,810	12.5%	109,540	12.7%	110,857	12.8%	1.6%	1.2%
Early Stage Families	113,847	13.2%	111,265	12.9%	108,258	12.5%	-2.3%	-2.7%
Late Stage Families	132,821	15.4%	128,516	14.9%	118,651	13.7%	-3.2%	-7.7%
Young Empty Nesters	105,222	12.2%	109,540	12.7%	114,321	13.2%	4.1%	4.4%
Older Empty Nesters	60,373	7.0%	64,689	7.5%	77,080	8.9%	7.2%	19.2%
Mostly Retired	63,823	7.4%	63,827	7.4%	66,687	7.7%	0.0%	4.5%
Median age	39years		40years		40years		1.0%	0.8%

Source: American Public Transportation Association, Public Profile of Transit Ridership, 2007

Source: US Census Bureau, Esri Community Analyst; 4ward Planning LLC, 2012

Age of the Population

Table B-1 exhibits population trends by age group for all three geographies examined, covering the 2010 to 2017 period (estimates and projections).

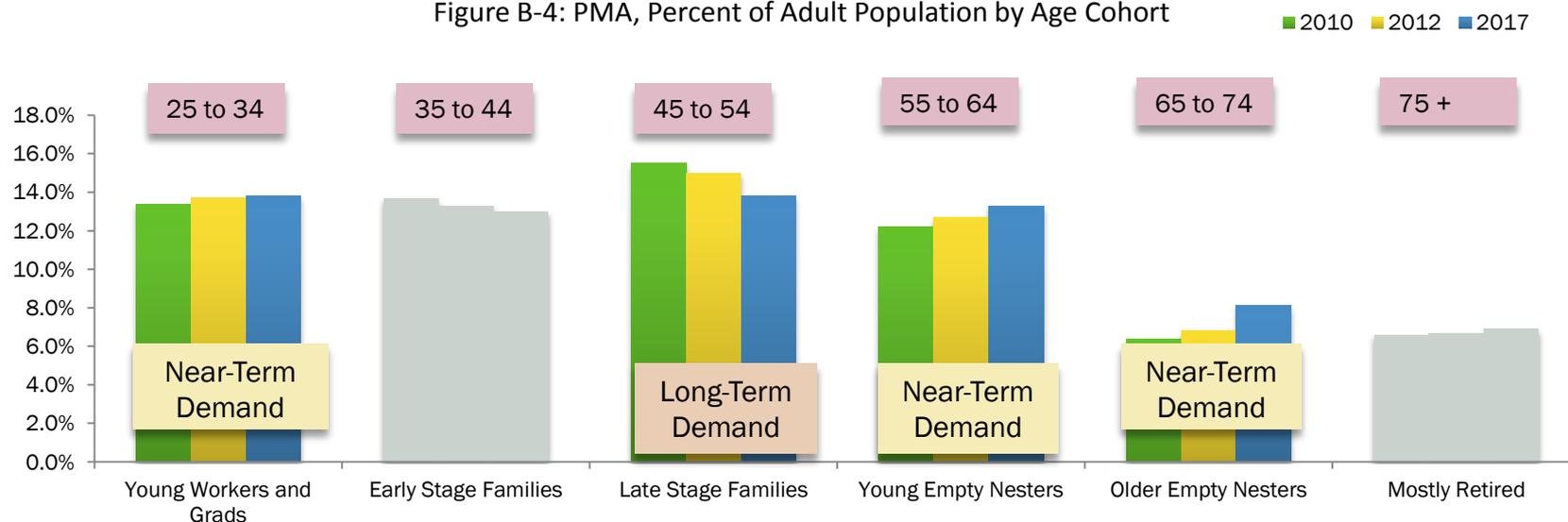
As highlighted on the previous page, those age groups shown to use transit the most (ages 25-34, 35-44, and 45-54) will represent nearly 60 percent (28,370 persons) of all adult persons 25 and older in the PMA. However, these age cohorts have been exhibiting flat to negative growth, as indicated in the right hand columns of Table B-1. While this prime market segment for TOD is projected to decrease, modestly, over the next five plus years resulting in greater competition in the PMA for the target audience, other markets are growing.

Table B-1 also shows that Empty Nesters (ages 55-64 and 65-74) exhibited weak to strong positive growth through 2012 and are projected to continue to increase their share of the total population through 2017. In fact, older empty nesters are projected to increase by 20 percent in the five-year period. While they may not use transit the most, this age cohort has shown an interest in downsizing and moving to urban areas with amenities available in the immediate area or by transit. They also tend to have greater discretionary income than young workers or families.

Age of the Population

Near-term (the next seven years) and long-term (beyond the next seven years), housing demand in the TOD Study Area will come from within the demographic groups highlighted below. The 55 to 74 age cohort (the empty nesters) will exert considerable influence on the type of housing developed, specifically smaller housing units, as they downsize from their family homes. They are increasing as a share of the total PMA population. Young professionals (age 25-34) should also influence the housing developed as they seek small, affordable, rental units with convenient commutes to jobs or school. They are holding steady as a percent of the total PMA population. Families—the only age segments with a declining presence—are typically not interested in TOD-style development until they become empty nesters.

Figure B-4: PMA, Percent of Adult Population by Age Cohort



Source: US Census Bureau; Esri; 4ward Planning LLC, 2012

Housing Ownership Trends

Figures B-5 and B-6, below, illustrate the study area's relatively high current percentage share of renter-occupied housing units, when compared to the two larger geographies¹. The relatively high number of renter-occupied units is a common trend in urban areas, but may also be related to the high concentration of subsidized housing in the area and generally depressed real estate values. The figures also show that housing tenure has and will continue to hold steady across all geographies. The empty nesters currently living in the PMA are a primary source of demand; they are typically interested in home ownership. To meet this demand, the percentage of owned-housing units will need to increase in the TOD Study Area.

Figure B-5: Owned Housing Units

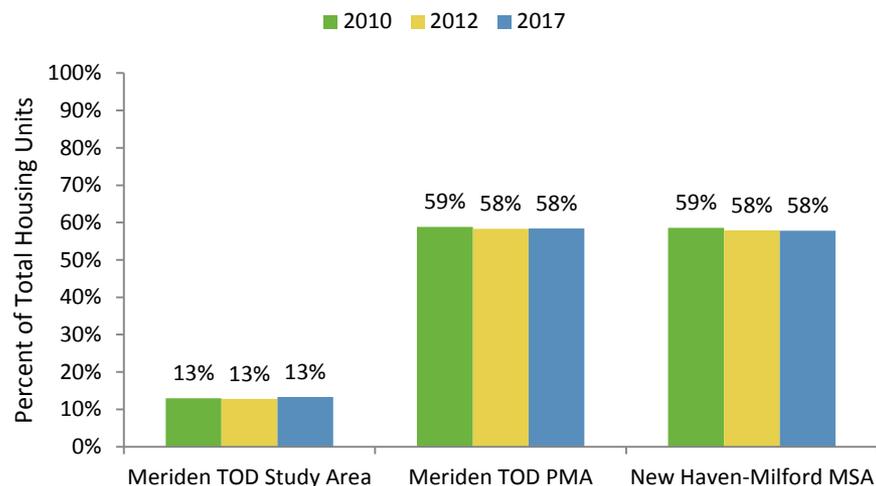
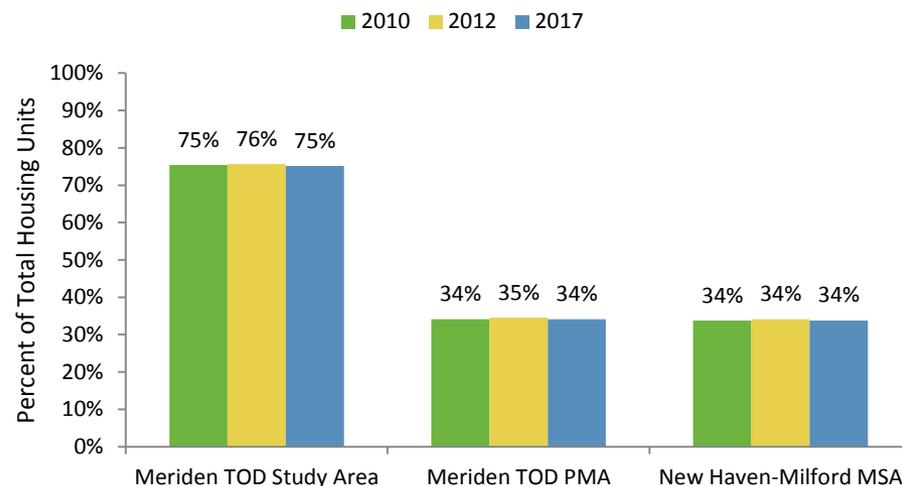


Figure B-6: Rented Housing Units



¹The percentage of vacant homes, about 11.6 percent in each geography, is not shown.

Household Income

Table B-2: Household Income Trends

While current household income within this study area is relatively low...

Meriden TOD Study Area					Percentage Change 2012-2017
	2012		2017		
Total Households	2,981	100.0%	3,012	100.0%	1.0%
< \$35,000	1,953	65.5%	1,883	62.5%	-3.6%
\$35K to \$74.9K	731	24.5%	715	23.7%	-2.2%
\$75K to \$99.9K	118	4.0%	175	5.8%	48.3%
\$100K to \$149.9K	113	3.8%	152	5.0%	34.5%
>\$149.9K	66	2.2%	86	2.9%	30.3%
Median household income	\$23,536		\$25,783		9.5%
Median household income (2010 dollars)	\$22,168		\$22,198		0.1%

Meriden TOD PMA					Percentage Change 2012-2017
	2012		2017		
Total Households	27,305	100.0%	27,535	100.0%	0.8%
< \$35,000	8,715	31.9%	7,823	28.4%	-10.2%
\$35K to \$74.9K	9,260	33.9%	8,053	29.2%	-13.0%
\$75K to \$99.9K	3,530	12.9%	4,782	17.4%	35.5%
\$100K to \$149.9K	3,977	14.6%	4,627	16.8%	16.3%
>\$149.9K	1,823	6.7%	2,249	8.2%	23.4%
Median household income	\$52,977		\$61,291		15.7%
Median household income (2010 dollars)	\$49,897		\$52,768		5.8%



...these area household income groups serve as strong potential to influence the study area's long-term land investments.

New Haven-Milford MSA					Percentage Change 2012-2017
	2012		2017		
Total Households	334,500	100.0%	336,102	100.0%	0.5%
< \$35,000	98,837	29.5%	88,090	26.2%	-10.9%
\$35K to \$74.9K	101,836	30.4%	87,073	25.9%	-14.5%
\$75K to \$99.9K	39,950	11.9%	52,754	15.7%	32.1%
\$100K to \$149.9K	56,312	16.8%	63,627	18.9%	13.0%
>\$149.9K	37,565	11.2%	44,558	13.3%	18.6%
Median household income	\$58,598		\$70,418		20.2%
Median household income (2010 dollars)	\$55,191		\$60,625		9.9%



Source: US Census Bureau, Esri Community Analyst; 4ward Planning LLC, 2012

Household Income

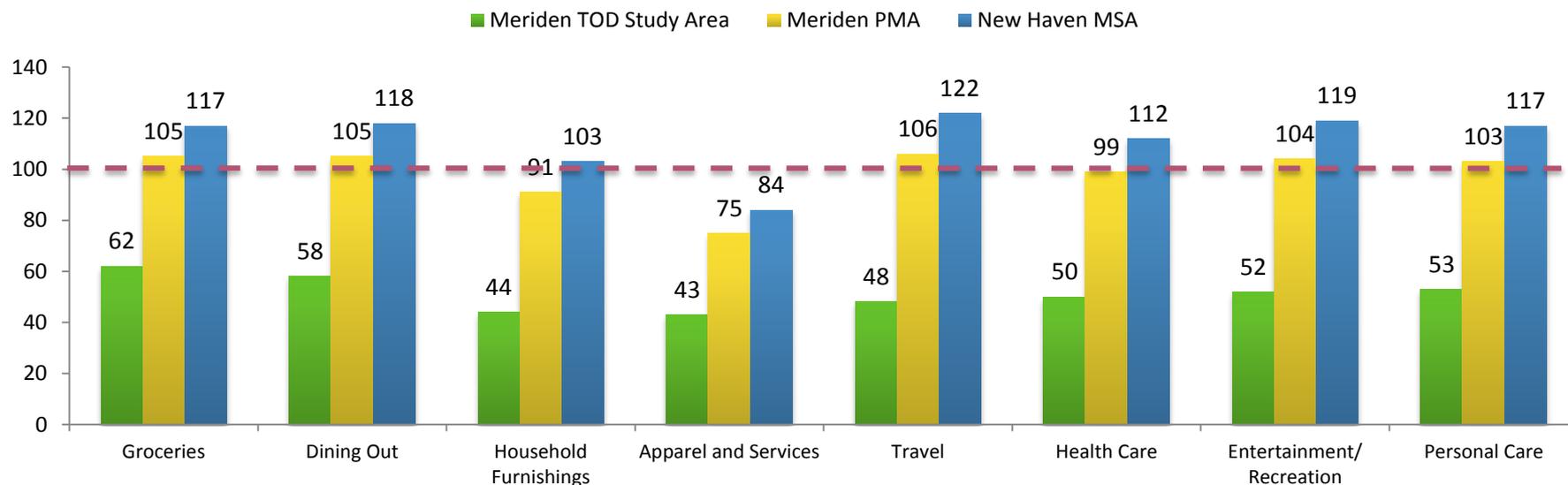
Table B-2 arrays household income for all three geographies examined, by year (2012 and 2017) and income levels. Key findings from the income data include the following:

- Upper household incomes (\$75,000 and greater) represent a very small but growing segment of households within the study area—an encouraging sign for future investment.
- However, the low-wealth of the study area and the relative regional affluence surrounding it suggests that prospective longer-term land-use investment in new and rehabilitated housing will need to attract those currently living in the broader geographies.
- The housing offered will need to appeal to a large segment of middle- and upper-middle income households in order to reduce the current 65 percent of TOD Study Area households earning less than \$35,000 annually.
- Nearly 13,000 primary market area households (46.6 percent) are projected to have incomes between \$35,000 and \$99,000 by 2017 and they will exert a great influence on the pricing of housing in the TOD Study Area. Generally, people at these income levels can afford residential price points ranging from \$108,000 to \$307,000, which are low price points for new transit-oriented development.

Consumer Expenditures

Figure B-7 below illustrates the spending potential of households in each of the three analysis geographies on a select set of discretionary spending categories. An index value of 100 represents the national average. In the PMA and MSA, spending levels are above national averages in most categories. Households in the PMA, spend more than 5 percent more than the national average in groceries and dining out, 6 percent more on travel, 4 percent more on entertainment and recreation and 3 percent more on personal care. Current residents in the TOD Study Area spend well below the national average in all categories.

Figure B-7: Spending Potential Index



Source: US Census Bureau; Esri; 4ward Planning LLC, 2012

Takeaway: Demographics

The preceding analysis of socio-economic trends for the study area and the primary and secondary markets of the City of Meriden Transit Center provides insight into how the population and housing characteristics of the area will support proposed new development in Meriden. The initial market for the project will not be driven by current residents in the TOD Study Area (the half-mile radius of the transit center) who are primarily of low incomes. Instead, the primary, near-term demand will be driven by two age cohorts currently living in the primary market area (the 10-mile radius from the transit center site).

1. First, the young workers and graduates (age 25-34), who will represent the largest share of the total PMA 2017 population and exhibit flat growth. They are interested in small, multi-family, affordable rental or home ownership units in an urban setting with a convenient commute to major employers or educational institutions.
2. Second, the empty nesters (55 to 74) represent the fastest growing segment of the PMA population and the near-term demand for housing. This cohort is downsizing and looking for small, homeownership units with access to jobs, entertainment, and other amenities. They also tend to have higher disposable incomes.

Higher relative incomes in the primary market area will be advantageous to future development. However, development will need to overcome the hurdle created by the currently low-values and low-incomes in the study area. Future development around the transit station will need to offer significant value and quality to attract future residents.

Labor & Industry Analysis

ECONOMIC AND REAL ESTATE ANALYSIS FOR SUSTAINABLE LAND USE OUTCOMES™



Methodology

As part of the Meriden TOD Market Analysis, 4ward Planning LLC conducted an examination of labor and industry trends (for 2006, 2008 and 2010) in the geographies surrounding Meriden. Three study areas were analyzed:

- Primary Market Area (PMA), defined as the 10-minute drive contour from Meriden Station
- New Haven-Milford Metropolitan Statistical Area (MSA)
- The State of Connecticut

Labor data was gathered from the U.S. Census Bureau's *On The Map* data server. Work area analysis was performed for the most recent available years.

In addition, the areas near stations along the proposed New Haven-Hartford-Springfield (NHHS) rail line were analyzed with regard to industry trends.

Key Findings: Labor & Industry

46 percent

Nearly half (46 percent) of all primary jobs in the Meriden PMA (10-minute drive contour) are in the top three industries in the area, Health Care, Manufacturing and Retail. Of these, only the Health Care industry is growing, the estimate rate of growth is 2.5 percent per year through 2018.

138,620 jobs

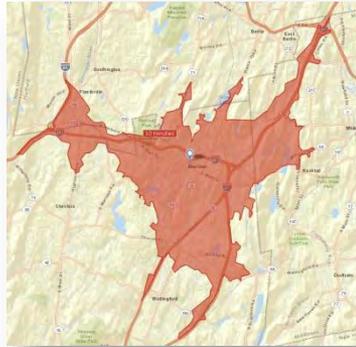
The number of primary jobs as of 2010 located within one mile of the train stations in the Meriden commuting shed (a 40-minute one-way travel time once the new rail service is operational). This indicates a significant pool of potential future residents of the Meriden TOD who could then commute to work by transit, alone. In addition, the industries near the rail stations employ the types of workers who tend to live in urban areas and prefer mass transit more so than the broader workforce.

34,835 commuters

The number of workers with primary jobs in the Meriden PMA who commuted into the area in 2010. This number represents more than half of all the people who either live or work in the PMA, up two percent from 2006. This indicates a relatively sizeable potential pent-up demand for housing in the area, since it would be expected that a small portion of these workers (five percent) would be willing to shorten their commute, if they had more appealing housing choices closer to their workplace.

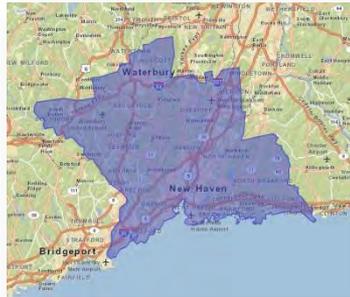
Study Areas – Labor & Industry Trend Analysis – 2009 Summary

PMA



Total Primary Jobs: 43,740

New Haven-Milford
MSA



Total Primary Jobs: 326,626

Connecticut



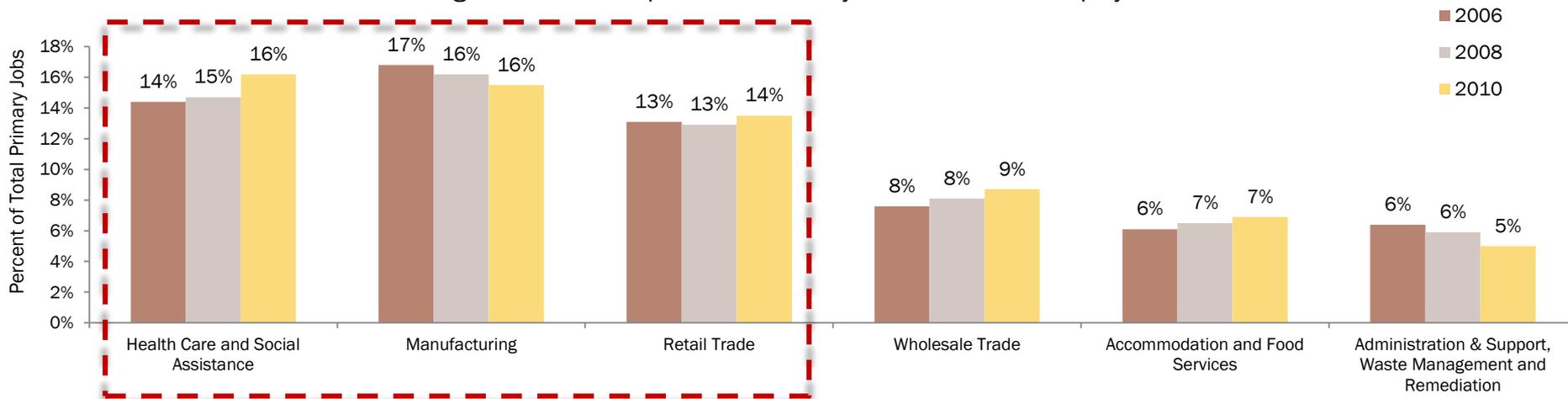
Total Primary Jobs: 1,457,513

Source: US Census Bureau; Esri; 4ward Planning LLC, 2012

Top Six Industries by Employment: PMA

Over the 2006 to 2010 period, the PMA featured an average annual primary job base of 43,740 primary jobs (while an individual may hold more than one job, a primary job is considered that job which pays most in wages or salary). In 2010, the three leading industries in this region, by employment, each held between a 14- and 16-percent share of total employment—combining for nearly half of the employment in the region. The Health Care and Education industry experienced slight growth in this timeframe, while the Manufacturing industry shrank slightly and the Retail Trade industry remained level. Among the three remaining categories, the Administration & Support industry shrank slightly while growth in the Accommodation and Wholesale Trade industry was flat.

Figure B-8: PMA Top Six Industries by Percent of Total Employment



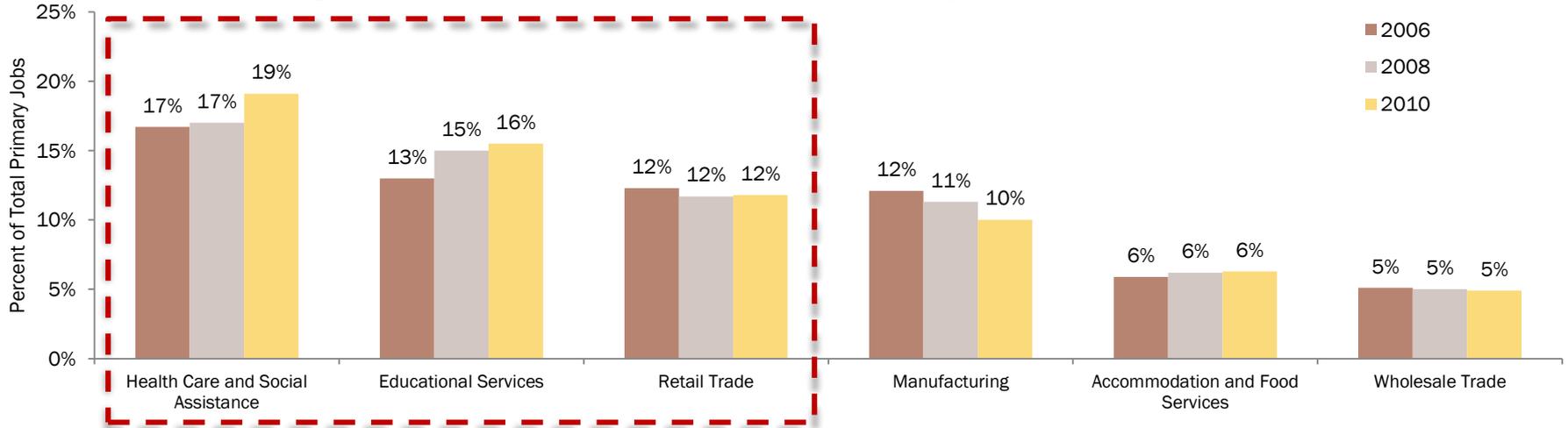
Primary Jobs by Industry, 2010	7,102	6,767	5,915	3,816	3,037	2,177
Average Annual Job Change, 2006-2010	143	(208)	2	94	72	(183)

Source: US Census Bureau; Esri; 4ward Planning LLC, 2012

Top Six Industries by Employment: New Haven-Milford MSA

Over the 2006 to 2010 period, the MSA featured an average annual primary job base of 326,626 primary jobs. In 2010, the three leading industries in this region, by employment, each held between a 12- and 19-percent share of total employment—combining for nearly half of the employment in the region. The Health Care and Education industry experienced slight growth in this timeframe, while the Retail Trade industry’s employment share remained level. Among the three remaining categories, the Manufacturing industry shrank slightly and while growth in the Accommodation and Wholesale Trade industry was flat.

Figure B-9: New Haven-Milford MSA Top Six Industries by Percent of Total Employment



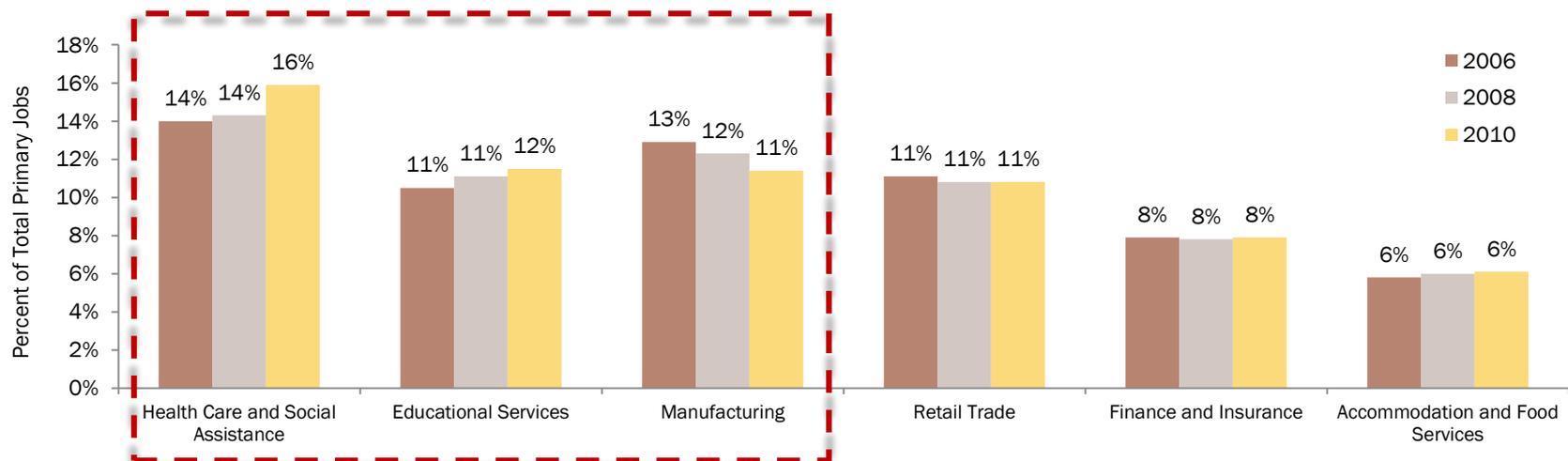
Primary Jobs by Industry, 2010	62,282	50,490	38,650	32,665	20,730	16,044
Average Annual Job Change, 2006-2010	1,472	1,676	(715)	(2,067)	190	(278)

Source: US Census Bureau; Esri; 4ward Planning LLC, 2012

Top Six Industries by Employment: Connecticut

Over the 2006 to 2010 period, the State of Connecticut featured an average annual primary job base of about 1.5 million primary jobs. In 2010, the three leading industries within the MSA, by employment, each held between 11- and 16-percent share of total employment—combining for 39 percent of employment in the state. The Health Care and Education industry experienced slight growth from 2006 to 2010, while change in the Manufacturing sector was slightly negative. Employment share in the three remaining categories was relatively flat over the observed time frame.

Figure B-10: Connecticut Top Six Industries by Percent of Total Employment



Primary Jobs by Industry, 2010	231,494	167,635	166,785	157,537	115,665	89,636
Average Annual Job Change, 2006-2010	5,316	2,337	(7,021)	(2,383)	(666)	505

Source: US Census Bureau; Esri; 4ward Planning LLC, 2012

Live-Work Patterns in and around the PMA

The figure below shows the inflow-outflow patterns for workers living in and around the PMA. In 2010, about 13 percent of workers in this radius lived within the area. From 2006 to 2010, the proportion of those living & working in this radius decreased slightly. Over this same time frame, the proportion commuting in rose slightly while the shares of those commuting out remained flat. The below trend suggests likely pent-up demand for better residential dwelling units (e.g., affordable rental units).

Figure B-11: Worker Inflow-Outflow, PMA



Source: US Census Bureau; 4ward Planning LLC, 2012

Live-Work Patterns in and around New Haven-Milford MSA

The figure below shows the inflow-outflow patterns for commuters in the years 2006 and 2010. In 2010, about 47 percent of workers in the MSA lived within the area. From 2006 to 2010, the proportion of those living & working in the MSA decreased slightly, while the shares of both those commuting out and commuting in increased.

Figure B-12: Worker Inflow-Outflow, New Haven-Milford MSA



Source: US Census Bureau; 4ward Planning LLC, 2012

Work Destinations - PMA

The table below shows the work destinations for residents of the PMA in the years 2006, 2008 and 2010. In 2010, about 18 percent of PMA residents worked in the City of Meriden. Wallingford, New Haven and Hartford follow as popular work destinations. Those jurisdictions which are shaded have stations which will be accessible from Meriden via the future New Haven-Hartford-Springfield Rail Line.

Table B-3: Work Destinations for PMA Residents

	2006		2008		2010	
Meriden city, CT	7,276	21.2%	6,587	19.2%	5,822	18.2%
Wallingford Center CDP, CT	2,323	6.8%	2,399	7.0%	2,045	6.4%
New Haven city, CT	1,719	5.0%	1,909	5.6%	1,805	5.6%
Hartford city, CT	1,408	4.1%	1,568	4.6%	1,638	5.1%
Middletown city, CT	1,653	4.8%	1,504	4.4%	1,224	3.8%
North Haven CDP, CT	1,120	3.3%	1,112	3.2%	1,033	3.2%
Waterbury city, CT	834	2.4%	857	2.5%	816	2.5%
New Britain city, CT	644	1.9%	690	2.0%	708	2.2%
Newington CDP, CT	479	1.4%	536	1.6%	515	1.6%
Milford city (balance), CT	424	1.2%	438	1.3%	415	1.3%
All Other Locations	16,370	47.8%	16,795	48.8%	16,019	50.0%

Source: US Census Bureau, OnTheMap; 4ward Planning LLC, 2012

Workers by Place of Residence - PMA

The below table is a listing of the places of residence for employees working in the PMA in the years 2006, 2008 and 2010. Beyond the City of Meriden, all other workers' places of residence were geographically dispersed with no other large single "source" of workers commuting to Meriden. Those jurisdictions which are shaded have stations which will be accessible via the future New Haven-Hartford-Springfield Rail Line.

Table B-4: PMA Workers by Place of Residence

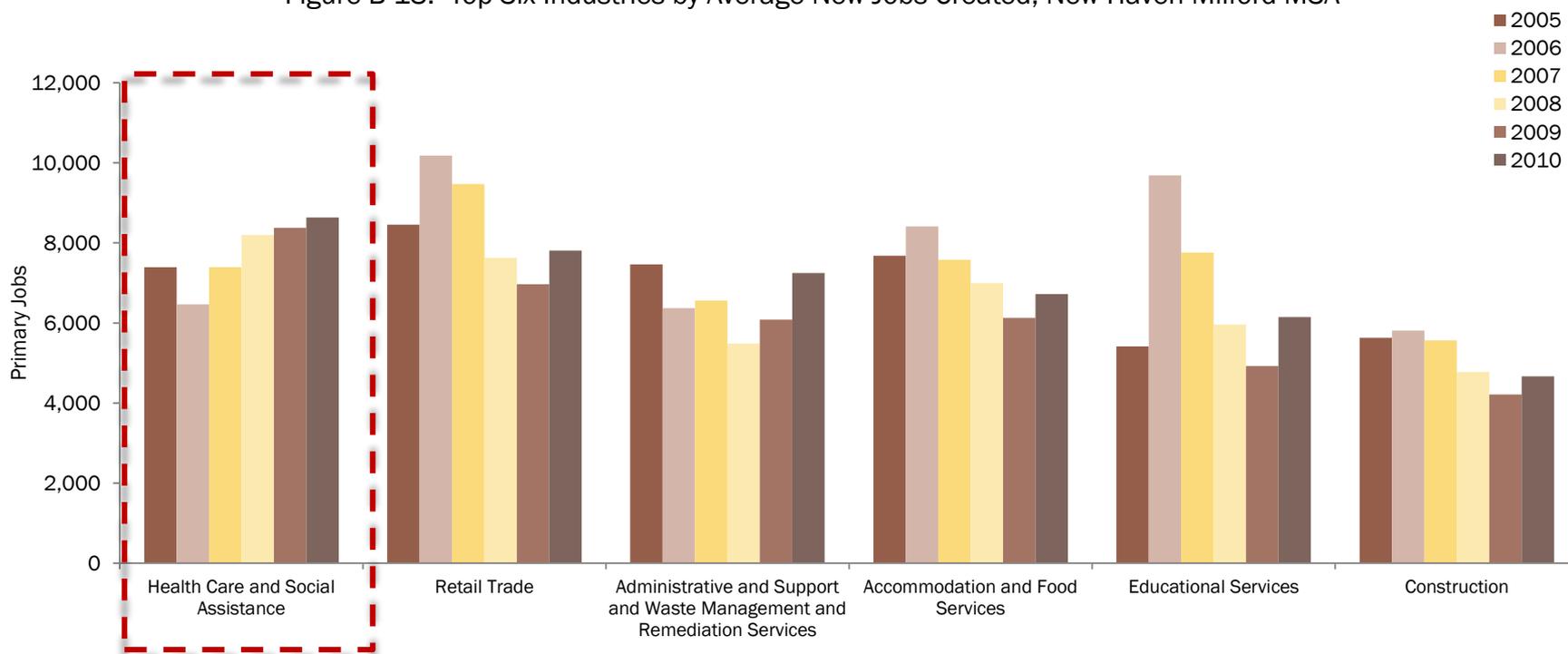
	2006		2008		2010	
Meriden city, CT	9,569	21.1%	8,821	19.4%	8,060	18.4%
Waterbury city, CT	1,801	4.0%	1,768	3.9%	1,783	4.1%
Wallingford Center CDP, CT	1,611	3.6%	1,755	3.9%	1,617	3.7%
Middletown city, CT	1,694	3.7%	1,648	3.6%	1,564	3.6%
New Britain city, CT	1,330	2.9%	1,295	2.9%	1,152	2.6%
Bristol city, CT	930	2.1%	1,012	2.2%	1,065	2.4%
New Haven city, CT	887	2.0%	871	1.9%	827	1.9%
North Haven CDP, CT	517	1.1%	598	1.3%	570	1.3%
Hartford city, CT	693	1.5%	708	1.6%	552	1.3%
Naugatuck borough, CT	481	1.1%	515	1.1%	527	1.2%
All Other Locations	25,731	56.9%	26,447	58.2%	26,023	59.5%

Source: US Census Bureau, OnTheMap; 4ward Planning LLC, 2012

Job Creation: New Haven-Milford MSA

Figure B-13 depicts the Bureau of Labor Statistics estimates of average quarterly job creation by industry for the leading six industries in the MSA for the years 2005 to 2010. The Health Care industry lead job creation in 2010, with Retail Trade as the second-highest job creator that year. The Retail Trade industry was the leader in the years 2006 and 2007. The Educational Services industry created the second-highest number of jobs in 2006 but as of 2010 fell to the fifth-highest rank.

Figure B-13: Top Six Industries by Average New Jobs Created, New Haven-Milford MSA

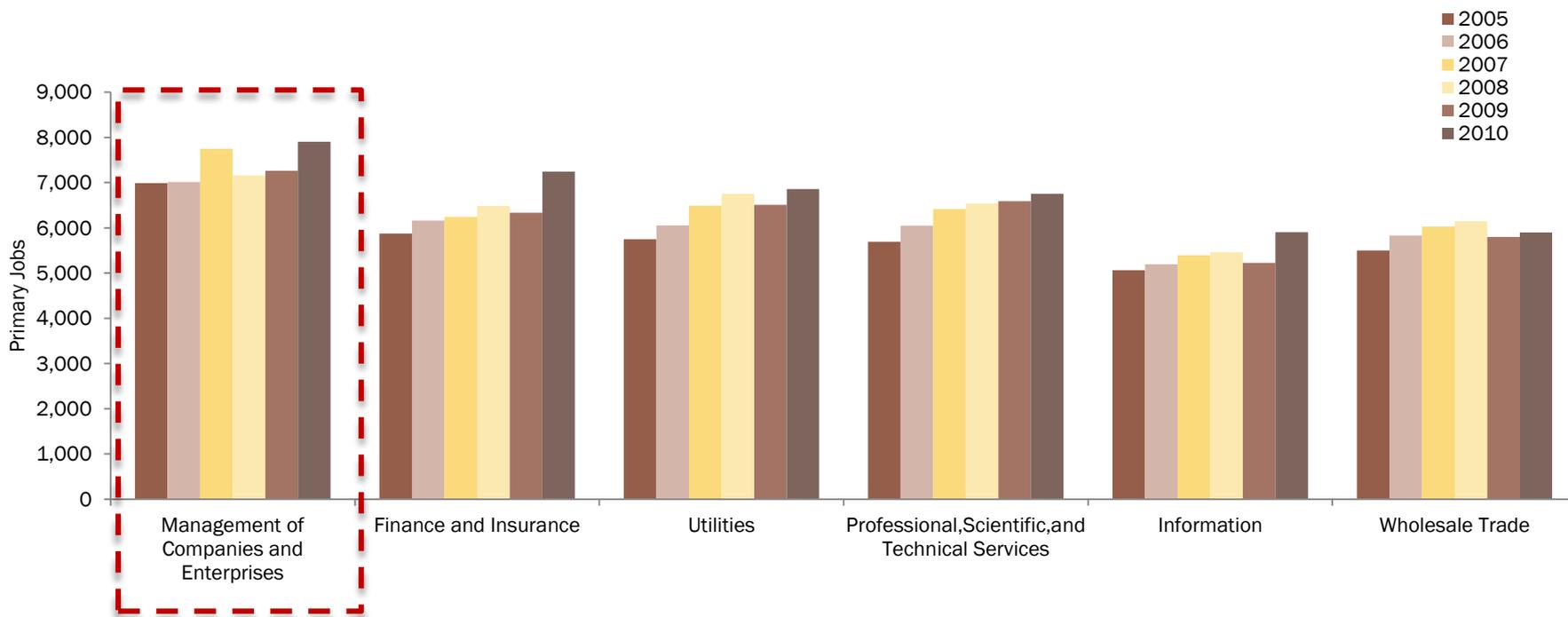


Source: US Census Bureau, QWI Online; 4ward Planning LLC, 2012

Average Monthly Earnings: New Haven-Milford MSA

Figure B-14 depicts the Bureau of Labor Statistics estimates of average monthly earnings by industry for the six leading industries in the MSA for the years 2005 to 2010. The Management of Companies and Enterprises industry was highest in this metric in each of the years. The second-highest industry, Finance and Insurance, saw a significant increase in monthly earnings over this timeframe, while earnings in the Wholesale Trade industry (sixth-highest) remained largely flat.

Figure B-14: Top Six Industries by Average Quarterly Employment, New Haven-Milford MSA

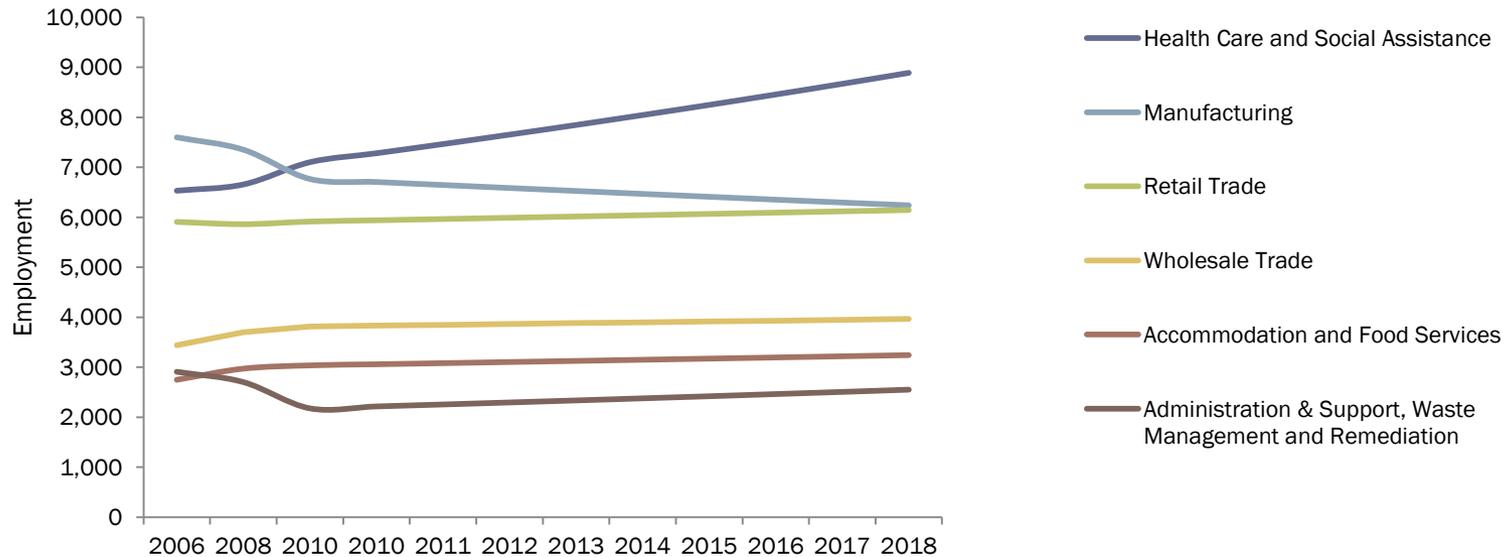


Source: US Census Bureau, QWI Online; 4ward Planning LLC, 2012

Employment Projections: PMA

Using Bureau of Labor Statistics estimates for employment growth, 4ward Planning projected growth in employment for the top ten industries in the PMA from 2010 through 2018. Of the top ten industries, highest average annual growth rates are expected in Health Care and Social Assistance (2.5 percent), Administration & Support, Waste Management and Remediation (1.8 percent), and Accommodation and Food Services (0.7 percent). The Manufacturing industry is expected to lose jobs through 2018

Figure B-15: PMA Top Six Industries, Projected Growth in Employment

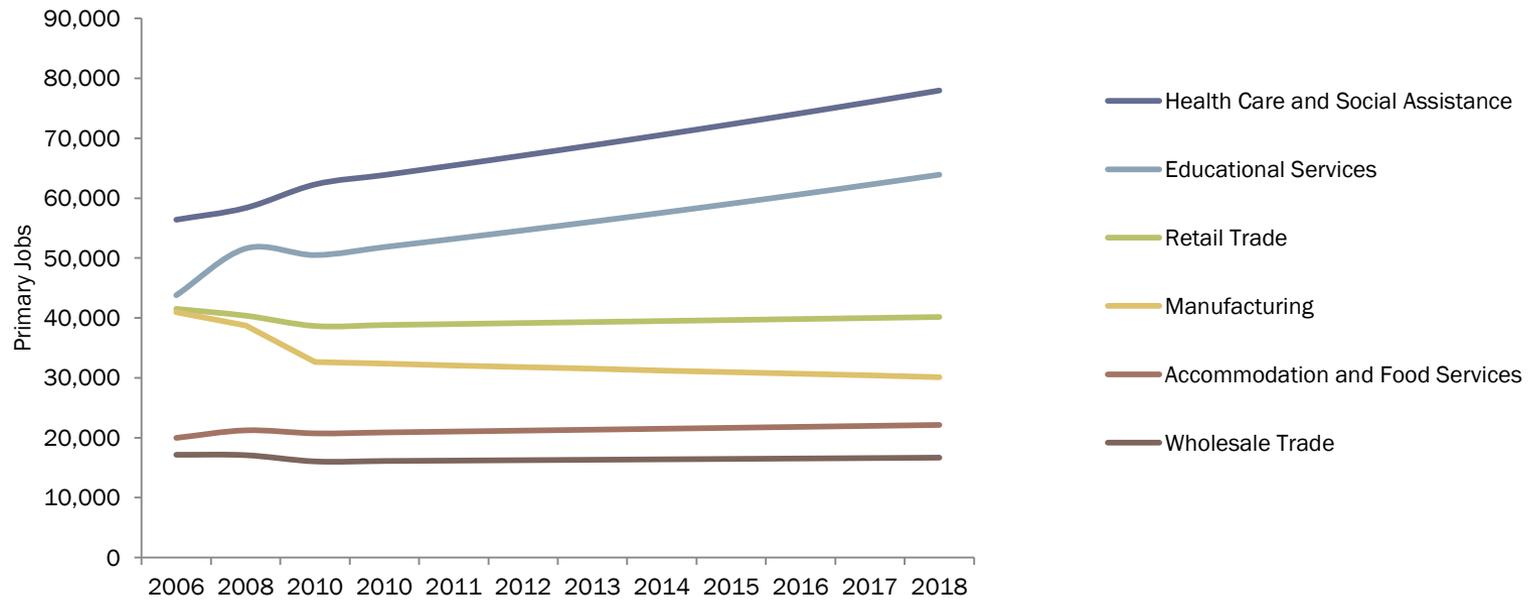


Source: US Census Bureau, QWI Online; 4ward Planning LLC, 2012

Employment Projections: New Haven-Milford MSA

Using Bureau of Labor Statistics estimates for employment growth and U.S. Census data for employment within the top six sectors, 4ward Planning projected growth in employment for the top six industries in the MSA through 2018, with the results shown below.

Figure B-16: New Haven-Milford MSA Top Six Industries, Projected Growth in Employment



Source: US Census Bureau, QWI Online; 4ward Planning LLC, 2012

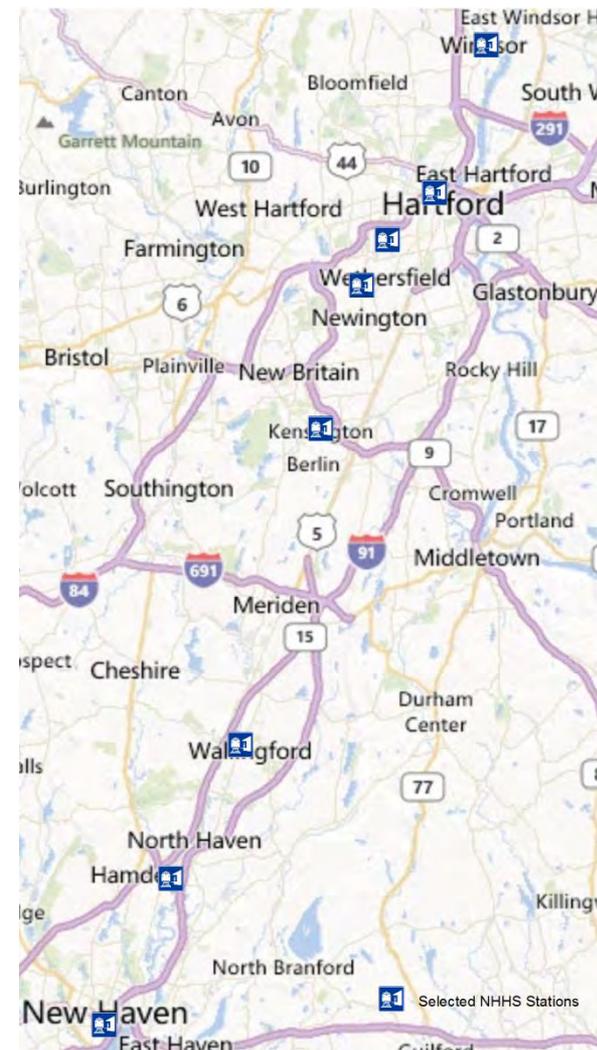
NHHS Station Areas

As a supplement to the analysis of the PMA and the surrounding geographies, an analysis was conducted to assess the industry employment share near the station areas along the proposed New Haven-Hartford-Springfield (NHHS) rail line. Stations accessible by the proposed rail service from the Meriden Station within a 40-minute travel time were selected for analysis. The areas within a one-mile radius of each station were analyzed. These areas represent locations to which Meriden residents might commute using the proposed rail service.

Table B-5: NHHS Stations Analyzed

Station	Address	City	Approx. travel time to Meriden (min.)
Windsor	41 Central Street	Windsor	36
Hartford	1 Union Place	Hartford	24
Berlin	51 Depot Road	Kensington	11
Wallingford	37 Hall Avenue	Wallingford	9
New Haven	50 Union Avenue	New Haven	34
West Hartford	630 Flatbush Avenue	West Hartford	20
Newington	200 Francis Avenue	Newington	15
North Haven	160 State Street	North Haven	25

Figure B-17: NHHS Stations Analyzed

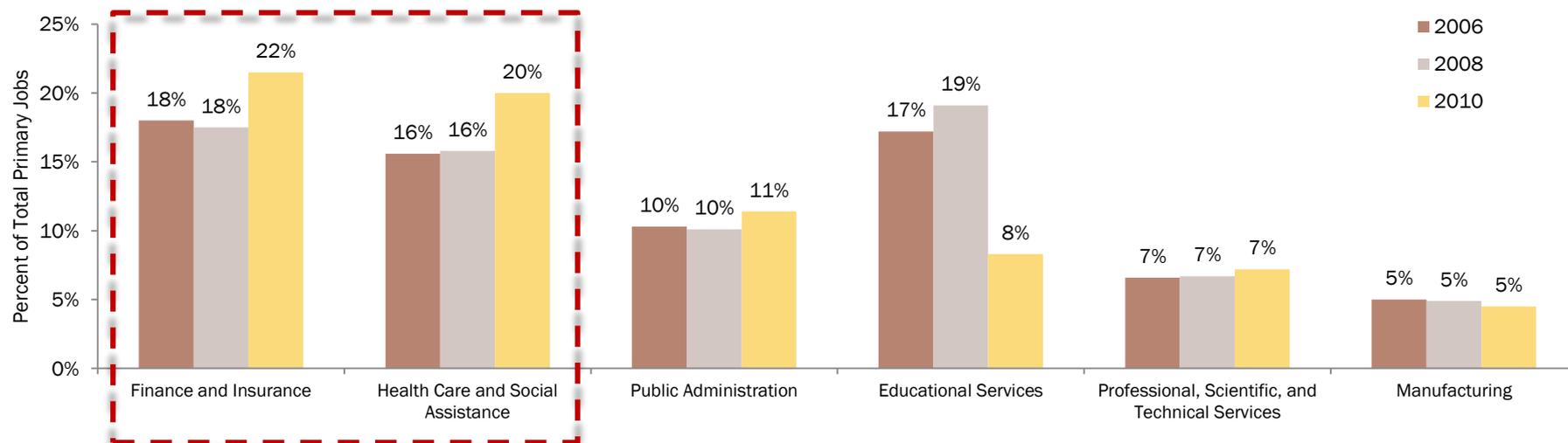


Source: US Census Bureau; 4ward Planning LLC, 2012

Top Six Industries by Employment: NHHS Station Areas

Over the 2006 to 2010 period, the NHHS Station Areas featured an average annual primary job base of 138,620 primary jobs. In 2010, the two leading industries in this region, by employment, each held between a 20- and 22-percent share of total employment—combining for 44 percent of the employment in the combined areas. The gain in employment share in the Health Care and Finance industry from 2008 to 2010 was largely due to a substantial loss in employment in the Education industry. Among the remaining categories, the Public Administration, Professional Services and Manufacturing industries were flat over the analysis timeframe.

Figure B-18: NHHS Station Areas Top Six Industries by Percent of Total Employment



Primary Jobs by Industry, 2010	28,773	25,877	16,027	23,071	10,376	7,341
Average Annual Job Change, 2006-2010	426	875	(46)	(3,866)	(102)	(373)

Source: US Census Bureau; Esri; 4ward Planning LLC, 2012

Major Employers

Major employers (with 500 or more employees) located within one-mile of the NHHS Stations that were analyzed are listed below. Once NHHS service is operational, Meriden residents would potentially be able to take transit to these workplaces within a 40-minute travel time.

Table B-6: Major Employers in the NHHS Stations Analyzed

Organization	Address	City	Business Description	Employees
Aetna Inc.	151 Farmington Ave	Hartford	Hospital & Medical Services Plans	1,000 to 4,999
Capital Community College	950 Main St	Hartford	Colleges, Universities & Professional Schools	500 to 999
Hartford Hospital	80 Seymour St # 5037	Hartford	Medical Laboratories	5,000 to 9,999
Lincoln Life	350 Church St Fl 9	Hartford	Insurance-Life Agents	500 to 999
Max Restaurant Group	249 Pearl St Fl 2	Hartford	Restaurant Management	500 to 999
Northeast Utilities	56 Prospect St	Hartford	Electric Companies	1,000 to 4,999
Shipman & Goodwin	1 Constitution Plz Fl 19	Hartford	Attorneys	500 to 999
Travelers	1 Tower Sq # 1PB	Hartford	Insurance-Property & Casualty	1,000 to 4,999
United Technologies Corp	1 Financial Plz	Hartford	Aerospace Industries Mfg	500 to 999
XL Center	1 Civic Center Plz Ste 2	Hartford	Caterers	500 to 999
AT & T	310 Orange St	New Haven	Nonclassified Establishments	500 to 999
General Counselors Office	2 Whitney Ave	New Haven	Business Services	1,000 to 4,999
Knights Of Columbus	1 Columbus Plz Ste 1700	New Haven	Fraternal Organizations	500 to 999
New Haven Police Dept	1 Union Ave	New Haven	Police Departments	500 to 999
Smilow Cancer Hospital	20 York St	New Haven	Hospitals	5,000 to 9,999
Temple Medical Ctr	40 Temple St Ste 4B	New Haven	Physicians & Surgeons	1,000 to 4,999
United Illuminating Co	157 Church St Fl 16	New Haven	Electric Companies	500 to 999
Yale New Haven Hospital	20 York St	New Haven	Nutritionists	5,000 to 9,999
Compu-Data	218 Hartford Ave	Newington	Direct Mail Advertising Services	500 to 999
Data Mail Inc	240 Hartford Ave	Newington	Direct Mail Advertising Services	500 to 999
VA Medical Ctr-Newington	555 Willard Ave # Ze	Newington	Hospitals	500 to 999
Masonicare Health Ctr	22 Masonic Ave	Wallingford	Hospitals	500 to 999
Goodrich Corp	1 Charter Oak Blvd	West Hartford	Aircraft Components Mfg	500 to 999
Town Of Windsor	275 Broad St Ste 1	Windsor	Federal Government-Executive Offices	500 to 999

Source: infofree.com; 4ward Planning LLC, 2012

Takeaway: Labor & Industry

Of the top three industries in the PMA, only one is currently expanding. The Health Care Services industry is leading in all three analysis geographies and is expected to see significant growth through 2018. This industry is also leading in job creation in the surrounding region. The Manufacturing industry, second-highest in the PMA, is in decline across the region and is projected to lose jobs through 2018. The Retail Trade industry, with the third-highest employment share in the PMA, has remained steady across all geographies and is projected to experience minimal growth through 2018. Additionally, of the six highest-paying industries in the New Haven region, only the Wholesale Trade industry is among the top six industries in the PMA by employment share.

According to live-work patterns for the PMA, the proportion of employees living and working in the area decreased slightly from 2006 to 2010 and, at about 13 percent, is low relative to the surrounding region. However, the share of workers commuting into the PMA increased slightly over that timeframe. This trend indicates a latent demand for housing in the PMA as a percentage of those currently commuting would be expected to move into the PMA, given more adequate housing choices.

Finally, the NHHS rail service will offer Meriden as a potential housing choice for persons who want to commute to one of the many employment centers along the transit line (e.g., Hartford and New Haven). Given that many metropolitan area major employers are located within a mile of rail stations along the NHHS line, Meriden's potential as a "point of origin" for prospective commuters (whether they wish to live in the Meriden TOD area or not) will be quite great.

Social Infrastructure Analysis

ECONOMIC AND REAL ESTATE ANALYSIS FOR SUSTAINABLE LAND USE OUTCOMES™



Methodology

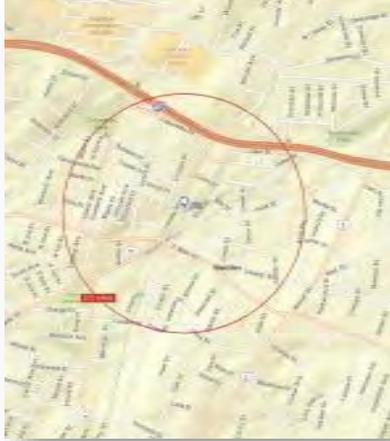
4ward Planning inventoried and assessed the adequacy of existing socio-economic infrastructure within the Meriden TOD Study Area (a half-mile radius from the station). This study element is important for identifying critical human infrastructure deficiencies which, if left unaddressed, would undermine the long-term sustainability of the overall land-use strategy.

4ward Planning use appropriate benchmarks as well as comparison to the surrounding New Haven-Milford MSA to identify levels of adequacy for each of the following categories:

- Number of full-service grocery stores per 10,000 residents
- Number of licensed childcare slots per 100 children five-years of age or less
- Open space acreage per resident
- Adequacy of housing choice for study area workers

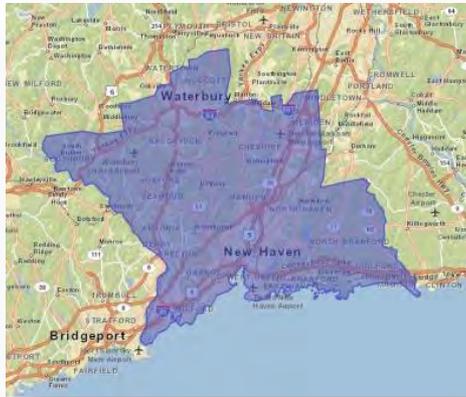
Social Infrastructure Indicators – Analysis Geographies

Study Area



Population (2012): 7,380

New Haven-
Milford MSA



Population (2012): 862,521

Source: US Census Bureau; Esri; Scan US; 4ward Planning LLC, 2012

Social Infrastructure Indicators

Open Space

Using GIS data provided by Esri, the distribution of open space in the study area was assessed to gauge whether or not the residential community has adequate service. The aggregated open space in the Study Area, including the Hub site, totals about 20.1 acres, yielding a value of 0.003 acres of open space per resident. By comparison, the New Haven-Milford MSA has about 33,500 acres of open space, yielding a ratio of 0.04 acres per resident. Based on this analysis, the Study Area lacks adequate open space. However, the dense residential neighborhoods surrounding the downtown do have access to many parks and recreational sites located outside the Study Area. Furthermore, the Hub site will be a valuable asset serving future residents of the TOD area.

Childcare Availability

Using data provided by the websites infofree.com and childcarecenter.us, the availability of daytime child care in the study area was assessed to gauge whether or not the residential community has adequate service. There was approximately 135 child-care slots within the Study Area for children five-years of age or less (pre-school age children). Census data indicates that there were a total of 613 children below the age of five living in this area, yielding a total of about 22 slots per 100 children in the analysis area. A one-to-one ratio of licensed child-care slots to pre-school age children is considered an adequate service level. This observed ratio is below the adequate service level.

Food Access

There is one full-service grocery store, the Stop-and-Shop, located on the outer edge of the study area. Census data indicates the half-mile TOD area has a population of 7,380, yielding a ratio of 1.36 grocery stores for every 10,000 residents. As a comparison, the population of 862,521 residents in the surrounding MSA is served by about 61 full-service grocery stores, yielding a ratio of 0.7 facilities for every 10,000 residents.

An industry rule-of-thumb prescribes one-full service grocery store per 10,000 persons. While this indicates that the study area is adequately serviced, the location of the full-service Stop-and-Shop is located up a steep grade and more than 2,500 feet from Colony Street – not likely a trek most residents would be willing to walk for groceries.

Consequently, another full-service market closer to the rail station will likely be required.

Figure B-19: Grocery Stores one half-mile radius from Meriden Station



Source: Esri; 4ward Planning LLC, 2012

Housing Data Summary

The table below summarizes the availability of housing for the Study Area. A limited supply of rental units were available within one half-mile of Meriden Station; the surrounding one-mile radius area was evaluated to determine the general range of rental availability. The data indicates a lack of housing options for area workers. Building stock is very old with likely disrepair and maintenance issues.

Housing Availability, One-Mile Radius from Meriden Station		
For Rent	2-bed, price range	\$800-\$950/mo.
	3-bed, price range	\$900-\$975/mo.
	4-bed, price range	none
	Age of Stock	33 to 117 Years
For Sale	2-bed, price range	\$79,000-\$120,000
	3-bed, price range	\$59,900-\$159,000
	4-bed, price range	\$109,000-\$127,500
	Age of Stock	93 to 133 Years

Source: Zillow.com; Trulia.com; Apartments.com; 4ward Planning LLC, 2012

Rental Market

The current rental availability in the vicinity of Meriden Station was reviewed as part of evaluating the adequacy of housing in the area. The properties are listed below.

Rentals, Half-Mile Radius from Meriden Station			
Location	Bedrooms	Monthly Rent	Yr. Built
65 W. Main St.	1-bed.	\$725	1900
787 N. Colony St.	1-bed.	\$725	1980
80 Hanover St.	1-bed.	\$695	n/a
71 Caitlin St.	1- to 2-bed.	\$775 to \$875	n/a
235 Grove St.	2-bed.	\$875	n/a
65 Camp St.	2-bed.	\$950	1930
123 Camp St.	2-bed.	\$880	1965
72 E. Main St.	3-bed.	\$900	n/a
51 Park St.	1- to 3-bed.	\$775 to \$950	n/a

Source: Zillow.com; Trulia.com; Apartments.com; 4ward Planning LLC, 2012

REAL ESTATE ANALYSIS

ECONOMIC AND REAL ESTATE ANALYSIS FOR SUSTAINABLE LAND USE OUTCOMES™



Key Findings: Residential

Flat inventory growth

No new multi-family rental units entered the North Haven Submarket in the last five years. Reis projects weak positive growth through 2016, especially as compared to the larger markets. Furthermore, there are only three multi-family properties currently for sale within the primary market area.

Very low vacancy

Vacancy in the Submarket has hovered around two- to three-percent for the last five years and is expected to remain low through 2016. Such a low vacancy rate indicates a very tight multi-family rental market – a favorable trend for new TOD residential construction.

Rents are increasing, but remain lower in the TOD Study Area

Effective monthly rent in the submarket is projected to increase three-percent annually through 2016, after a five-percent increase over the last five years. However, the average asking rent in the TOD Study Area (\$1,077) remains 11 percent lower than the effective rent (\$1,211) in the submarket. This metric is reflective of older housing stock in fair to poor condition.

More than 600 new units

are projected to be in demand through 2027, within the housing submarket.

Key Findings: Office

Flat to negative growth

Office space in the Northeast Submarket has experienced negative absorption in the last three years and zero inventory growth in the last five years. However, and notwithstanding these trends, Reis projects that approximately 150,000 square feet of new space will be constructed in the submarket by 2016.

\$20 per square foot

The average asking rent for office space in the submarket is estimated to be \$20 per square foot. However, effective rents in the Meriden TOD Study Area are less than half (\$8 per square foot), suggesting it would be a considerable challenge to construct new office space in the near-term, given current rent rates.

Demand will largely be filled by existing vacancies

While our analysis shows a projected demand for approximately 600,000 square feet of office space within the submarket by 2019, the vast majority of this demand is likely to be met by existing vacant space – meaning little new office space is likely to come on-line in the Meriden TOD within the next ten years.

Key Findings: Retail

28,200 square feet

The projected potential retail demand, in terms of supportable square footage, based on a projected upper threshold of 1,000 new multi-family housing units being constructed in the TOD over the next ten years. Note, this is a conservative estimate which does not account for prospective spending by new commuters to the area or by people living in the surrounding areas, outside of the TOD, who may travel to Meriden to dine or shop.

15 Eating & Drinking Establishments

are currently located in the Meriden TOD Study Area, as of 2011. This total is on the low end of the range, as compared to a number of similar station areas examined in the Northeast region. Five of the station areas evaluated featured between 28 and 94 restaurants or food service establishments, indicating that the TOD area will likely realize increasing demand for dining and drinking establishments, as build-out occurs.

\$13,539 per year

The total amount spent, on average, by each household in the Meriden PMA on a number of retail categories, including food, clothing, entertainment and personal services. Each new household developed in the TOD would be expected to spend at similar levels, creating net new demand for retail in the TOD area.

Methodology: Key Steps for Analyzing Trends

4ward Planning utilized Reis, a nationally recognized supplier of office, retail, industrial, and multi-family rental data, to identify submarket real estate trend data (multi-family residential and office). In addition to analyzing Reis data, 4ward Planning's third party data review included industry products, such as Loopnet.com and Apartments.com, to identify location and character of currently available properties.

4ward Planning focused on the following metrics:

- **Change in Unit or Square-foot Inventory:** Indicates, in broad terms, whether new real estate construction has been active in the area.
- **Year-over-Year Vacancy Rates:** Combined with absorption as a percent of occupied stock, this metric signals whether new construction is being leased and occupied (signaling high demand), or whether it remains vacant (signaling an over-supply of real estate).
- **Absorption as a Percent of Occupied Stock:** Absorption as a percent of occupied inventory reflects the net square footage which has either become occupied (positive absorption) or vacant (negative absorption) during the time period, expressed as a percentage of occupied total unit inventory at the end of the time period.
- **Effective Monthly or Annual Rent:** A measure of the relative value of real estate within the area.
- **Existing Properties:** Additionally, the location and character of currently available properties is examined using industry products.

Residential Trends Analysis

ECONOMIC AND REAL ESTATE ANALYSIS FOR SUSTAINABLE LAND USE OUTCOMES™



Residential Submarket

The Residential Submarket is compared to the nearest metropolitan area (New Haven) as well as the larger region (Northeast) and the nation. The New Haven Metro Market, shown at right, consists of three Submarkets:

- 1 – New Haven Harborside
- 2 – North Haven/Wallingford/Meriden
- 3 – Naugatuck/Waterbury

The North Haven/Wallingford/Meriden Submarket (hereinafter “North Haven”) is the subject of this analysis. As identified by Reis, it is delineated in the map at right and by the following features (in no specific order):

- Boundaries of Wallingford, Hamden, North Haven and New Haven County
- State Highways 42, 69 and 10
- Downs Road, Sanford Road, Carmel Road, Litchfield Turnpike and Brooks Road



Source: Reis, Bing Maps

Apartment Inventory

According to Reis, there has been no apartment inventory change in the North Haven Submarket in the last five years. Apartment inventory growth was also flat in the larger New Haven metropolitan area in the last year. However, the New Haven Metro exhibited flat growth in the three and five-year periods, which reflects trends in the Northeast and the United States. Reis projects the North Haven Submarket will see new units enter the market again in the next five years, resulting in positive, albeit weak, growth; but the submarket is projected to underperform, compared with the three other geographies studied, and identified in the below table.

Table C-1: Inventory Growth Rates

	Inventory Growth Rates							
	Quarterly			Annualized			5 year	
	3Q12	2Q12	YTD Avg	1 Year	3 Year	5 Year	Forecast	
North Haven	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	
New Haven	0.0%	0.0%	0.0%	0.0%	0.9%	0.9%	0.8%	
Northeast	0.1%	0.3%	0.2%	0.6%	0.8%	0.8%	1.1%	
United States	0.1%	0.1%	0.1%	0.4%	0.9%	1.0%	1.2%	
Period Ending:	9/30/12	6/30/12	9/30/12	12/31/11	12/31/11	12/31/11	12/31/16	

Source: Reis; 4ward Planning LLC 2012

Apartment Vacancy Rate

Reis reports the North Haven Submarket apartment vacancy rate declined from third-quarter 2008 to third-quarter 2012 by more than 13 percent per year, which is a sign of strong demand for rental housing. Vacancy rates in the submarket are extremely low and less than those in the three other geographies studied. Interviews with local realtors and property owners confirm that the multi-family market in Meriden is strong. Reis forecasts apartment vacancy rates in the North Haven Submarket will continue to fall and remain very tight (below three percent) over the next five years – a favorable trend for TOD residential investment.

Figure C-1: North Haven Submarket Residential Year-over-Year Vacancy Rates

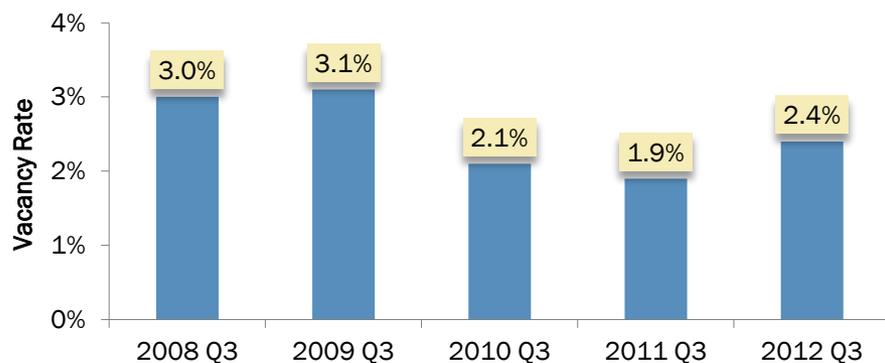
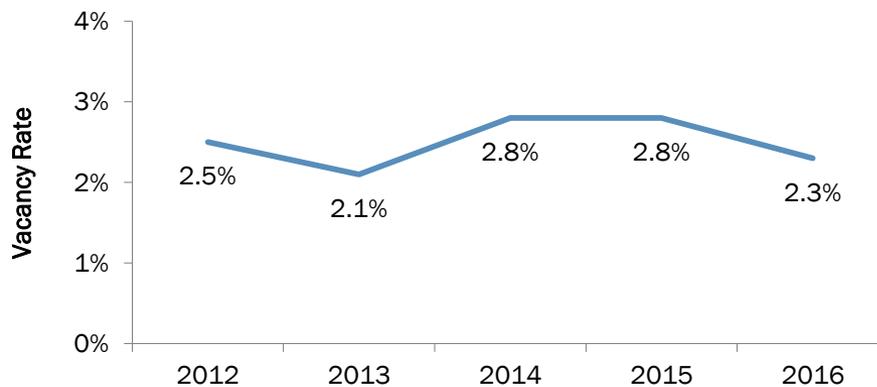


Figure C-2: North Haven Submarket Projected Year-over-Year Vacancy Rates



Source: Reis; 4ward Planning LLC 2012

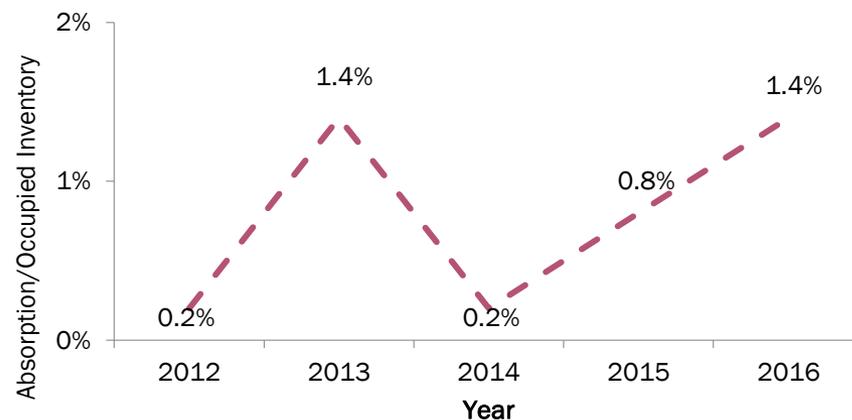
Apartment Absorption

Apartment absorption, as a percent of occupied units, has been relatively flat in the North Haven Submarket over the last five years. This is consistent with the flat inventory and low vacancy rates described earlier and indicates that there is not a wealth of available multi-family units on the market (which would be reflected in negative absorption). Reis projects apartment absorption to fluctuate in the next five years, but remain positive, which is a sign of a healthy rental market. Nodes of residential development, such as near rail stations, will likely fare better than the host submarket, given the advantage of commuter rail access to major employers, educational institutions, and entertainment.

Figure C-3: North Haven Submarket
Absorption as Percent of Occupied Inventory



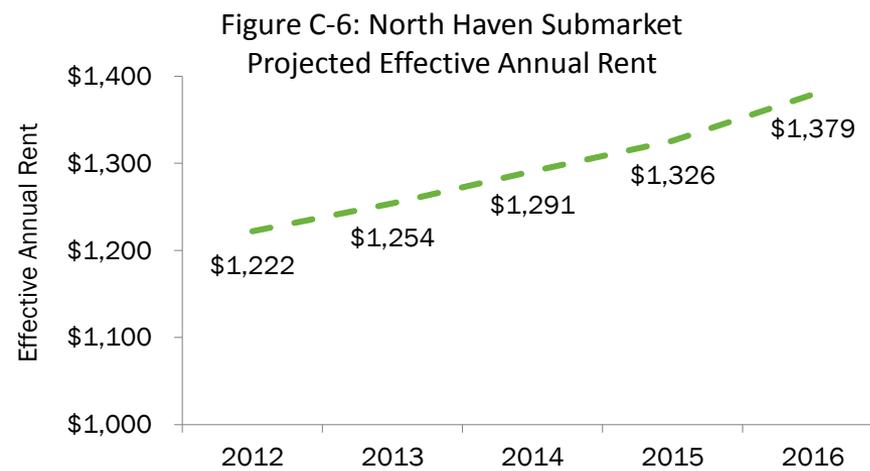
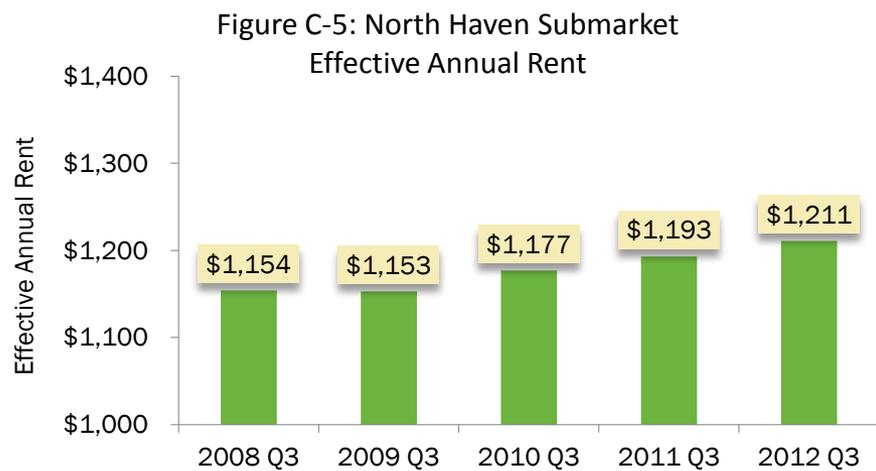
Figure C-4: North Haven Submarket
Projected Absorption as Percent of Occupied Inventory



Source: Reis; 4ward Planning LLC 2012

Apartment Effective Monthly Rent

The apartment effective monthly rent (which includes incentives) in the North Haven Submarket steadily increased from \$1,153 in the third-quarter of 2009 to \$1,211 by third-quarter 2012, according to Reis - representing a five-percent increase over the three-year period. Reis projects effective monthly rents in the North Haven Submarket will continue to rise by approximately three-percent per year, on average, over the next five years. The projected increase in effective rent, combined with low vacancy rates, suggests tight inventory and a strong multi-family rental demand. This observation has been confirmed by interviews with area brokers and property owners who report that multi-family residential units spend very little time on the market. These noted trends are quite favorable for prospective multi-family rental development.



Source: Reis; 4ward Planning LLC 2012

Apartment Characteristics: For Rent

According to data provided by Apartment.com and Zillow.com, there were sixteen multi-family properties with units for rent in Meriden, as of January 2013. The majority of these rentals are found in two- and three-family structures or townhouses. Table C-2 shows that average rent for properties currently on the market ranges from \$750 for a 1-bedroom to \$1,238 for a three-bedroom. Average price per square foot ranges from \$1.00 for a 3-bedroom to \$1.26 for a 1-bedroom (unit size was not available for the one studio unit). The average rent currently asked for in the Meriden area (\$1,077) is approximately 11 percent lower than the effective monthly rent for third quarter 2012 reported by Reis for the North Haven Submarket.

Table C-2: Multifamily Rentals in Meriden, as of January 2013

Name	City	Studio Average		1 Bedroom Average		2 Bedroom Average		3 Bedroom Average	
		Rent	Price per SqFt	Rent	Price per SqFt	Rent	Price per SqFt	Rent	Price per SqFt
Merritt Station Apartments	Meriden			\$912	\$1.22	\$1,128	\$1.07		
Brittannia Commons	Meriden			\$938	\$1.34	\$1,219	\$0.98		
366 Bee Street (a Hotel)	Meriden	\$1,188	n/a						
62 Gravel Street, Apt D	Meriden					\$775	\$1.15		
72 E Main Street	Meriden							\$900	
234 Sherman Ave	Meriden			\$925	\$1.46	\$1,275	\$0.99	\$1,250	\$1.00
Parkside Terrace	Meriden					\$1,075			
94 Mattabasset Dr, Unit 94	Meriden							\$1,750	\$1.15
208 S Colony St	Meriden							\$1,050	\$0.84
82 Woodland St, 3rd Fl	Meriden			\$600	\$1.00				
67 Metacomet Dr, Unit 67	Meriden					\$1,300	\$1.00		
25 New Street, 2nd Fl	Meriden			\$550					
465 Crown St.	Meriden			\$750	\$1.31				
45 Webb Street, Apt 3B	Meriden					\$1,095	\$1.11		
680 N Colony St, Apt. 30	Meriden					\$1,275	\$0.82		
No address	Meriden					\$1,100	\$1.14		
Average		\$1,188	n/a	\$750	\$1.26	\$1,134	\$1.03	\$1,238	\$1.00

Source: Apartments.com, Zillow.com 4ward Planning LLC, 2012

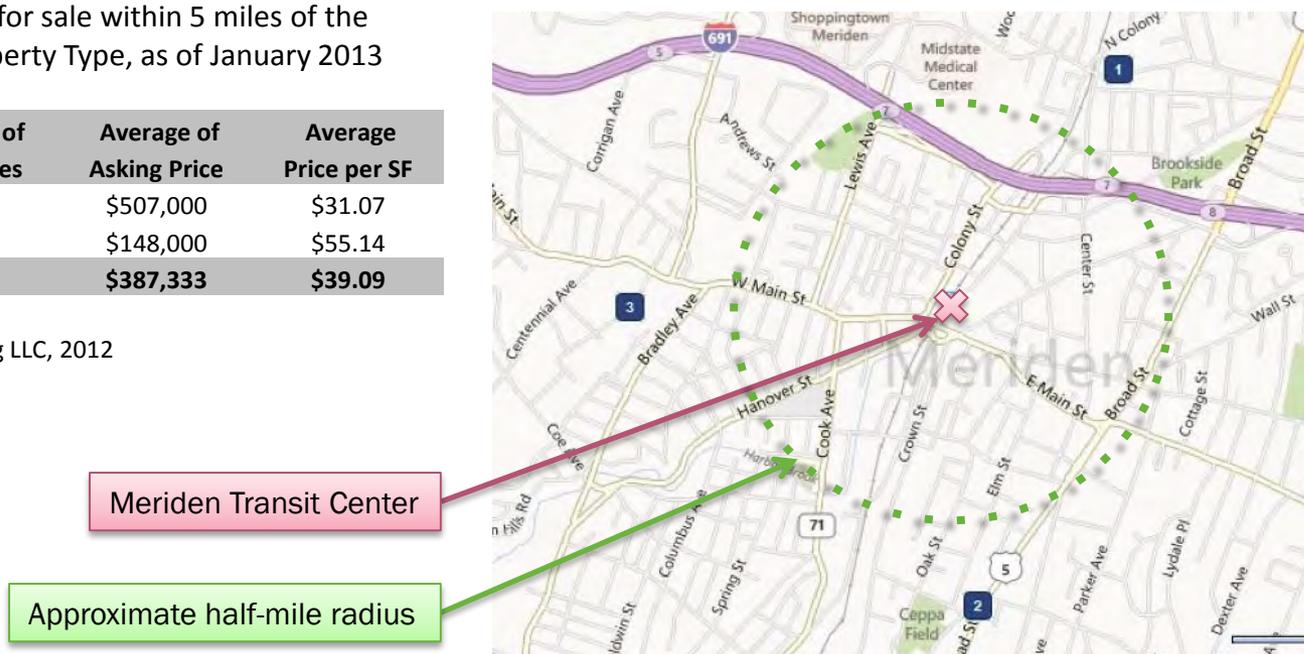
Apartment Characteristics: For Sale

According to data provided by Loopnet.com, as of January 2013, there were only three multi-family residential rental properties for sale in the primary market area (10-minute drive or 5 miles from the transit center); none are within the TOD Study Area. The asking price ranged from \$10 per square foot for a vacant high-rise property permitted for redevelopment (a maximum of 66 units) to approximately \$52-\$55 per square foot for two other properties (a relatively new mid-rise building and an older, low-rise mixed-use property with one residential unit and one commercial unit).

Table C-3: Multifamily Housing for sale within 5 miles of the Meriden Transit Center, by Property Type, as of January 2013

Property Subtype	Number of Properties	Average of Asking Price	Average Price per SF
Mid/High-Rise	2	\$507,000	\$31.07
Garden/Low-Rise	1	\$148,000	\$55.14
Grand Total	3	\$387,333	\$39.09

Source: Loopnet.com, 4ward Planning LLC, 2012



Takeaway: Apartment Trends

Very low projected vacancy rates (below three-percent) and rising rents indicate that the Northeast Submarket is strong and favorable for new multi-family residential housing units in the near term. Further, this trend is supported by demographic analysis for the primary market area (a ten-minute drive from the transit center) showing strong positive growth in non-family households—young workers and empty nesters in particular. These trends suggest high receptivity for TOD style multi-family rental units (e.g., small, high-density one- and two-bedroom units) within Meriden’s HUB district.

However, given the relatively low current apartment rental rates in Meriden, developers of new multi-family rental units will be financially challenged, initially, to affordably build new units and price them to be in-line with area rents. Consequently, the city and/or state may need to provide some up-front subsidy (and possibly land conveyance at a nominal fee), in order to stimulate financial feasible rental development, up until rents rise to a level sufficient to support typical market construction costs.

This is will be determined, specifically, within the financial analysis section of this study.

Residential Supply-Demand Analysis

ECONOMIC AND REAL ESTATE ANALYSIS FOR SUSTAINABLE LAND USE OUTCOMES™



Methodology: Residential Supply-Demand Analysis

Selection of Population and Household Growth Scenario

4ward Planning examined a modest growth scenario based on our 2017 projections for population and households. While population and household growth trends could increase at a more robust pace through 2017, absent a large influx of large employers to the area, such a trend is not likely.

Estimation and subtraction of physically obsolescent housing units in the market area

Housing units, like most things, wear out over time. Dependent upon the age of local housing stock and the manner of care applied to it, generally, the annual housing obsolescence rate can range from 0.5 percent annually (solidly built homes that are well cared for) to as high as two percent annually (older housing stock which has seen little preventative maintenance over the years). Based on conditions observed and data analyzed for the Northeast (New Haven) housing submarket, 4ward Planning utilized a 1.5 percent annual obsolescence rate for its analysis.

Estimation of pent-up housing demand by PMA workers currently living outside of the TOD Study Area

Typically, some percentage of workers who commute to places of employment at considerable distance from their homes desire living arrangements closer to their place of employment. For reasons of inadequate housing stock (type, price, location, etc.) currently near their place of employment, these workers do not enter the local housing market and, therefore, are said to represent pent-up demand for local housing. A survey of workers who commute outside the housing area about their desire to live locally was conducted, but there is not a precise method for estimating pent-up housing demand among local workers. 4ward Planning believes that three out of every 100 workers is a very conservative estimate for the pent-up demand which likely exists in this market, all other things being equal. Accordingly, we have assumed that three percent of the identified in-commuting workers to the TOD Study Area represent pent-up demand.

Methodology: Residential Supply-Demand Analysis

Estimation of demand for owner-occupied versus renter-occupied units

Analysis and projection of demand for owner- versus renter-occupied housing units is based on a number of factors within a given market area. These include:

- Current ratio of owner-occupied to renter-occupied units
- Household income levels and trends
- Household type (e.g., family versus non-family households) and trends
- Population age trends
- Current & forecasted financial conditions (employment outlook, mortgage rates, ease of mortgage qualification, etc.)

All of the above factors pertaining to the Meriden Transit Center PMA were taken into consideration for this analysis.

Estimation of demand for one-, two-, and three-bedroom unit types

The estimation of one-, two-, and three-bedroom units as a percentage of all housing units, whether the housing type is for-sale or for-rent, involves many of the same factors identified under the estimation of demand for owner-occupied versus renter-occupied units, as well as an examination of current market trends for various bedroom-unit mixes.

Estimation of the natural vacancy rate

A housing market's natural vacancy rate is a function of such factors as whether or not the area is a seasonal tourist destination (higher vacancy rates during the off-season) or whether the area is well established and desirable (typically associated with relatively low vacancy rates). Every housing market has some degree of vacancy, as households are constantly in motion. Nationally and regionally, stable and generally well-maintained housing markets exhibit vacancy rates ranging from three percent to six percent.

Supply and Demand Analysis: Modest Growth Scenario

Under a modest growth scenario, if no new housing were built in the PMA...

...by 2017 there would be

Households:	28,104
Net Marketable Housing Units:	27,633
Pent-Up Worker Demand in Units:	1,365
Annual Average Number of Vacant Units:	1,934
<i>Estimated Net Housing Unit Demand:</i>	3,770

...by 2022 there would be

Households:	28,814
Net Marketable Housing Units:	27,219
Pent-Up Worker Demand in Units:	1,434
Annual Average Number of Vacant Units:	1,905
<i>Estimated Net Housing Unit Demand:</i>	4,935

...by 2027 there would be

Households:	29,542
Net Marketable Housing Units:	26,810
Pent-Up Worker Demand in Units:	1,507
Annual Average Number of Vacant Units:	1,877
<i>Estimated Net Housing Unit Demand:</i>	6,115

The metrics to the left demonstrate that, under a modest household growth scenario, almost half of the housing unit demand in the primary market area (10-minute drive from the Meriden Transit Center) is derived from pent-up worker demand.

Replacement units/or substantial rehabilitation is projected to be required for more than 400 housing units.

The remaining demand for new units will come from new household growth.

Supply and Demand Analysis: Modest Growth Scenario

Key Assumptions Underpinning the Modest Growth Scenario

Net Household Formation Increases by 0.5 Percent per Annum from 2012 to 2027

This assumption is based on increased in-migration from the metropolitan area and increased immigration, in response to local area job growth.

Number Employed within Meriden Transit Center PMA Increases from 141,406 to 164,168 by 2027

This estimate is based on a modest one-percent annualized increase over 2012 base employment.

Three Percent of Those Working in the PMA but Living Elsewhere Represent Pent-Up Demand

Based on an assumption that approximately one-in-thirty workers would trade their commute if there were adequate housing choice in the PMA.

Five percent of the PMA's Current Housing Stock is Physically Obsolescent and Unmarketable

Much of the PMA's rental housing stock is more than forty years old, increasing the incidence of physical obsolescence.

1.5 Percent of the PMA's Remaining Housing Stock Becomes Obsolescent Annually

All housing stock gradually wears out over time and, on average, 1.5 out of every 100 units becomes obsolescent, annually.

65 percent of New Unit Demand will be for Rental Housing

Based on current and likely future socio-economic characteristics of the area and tight lending standards into the future.

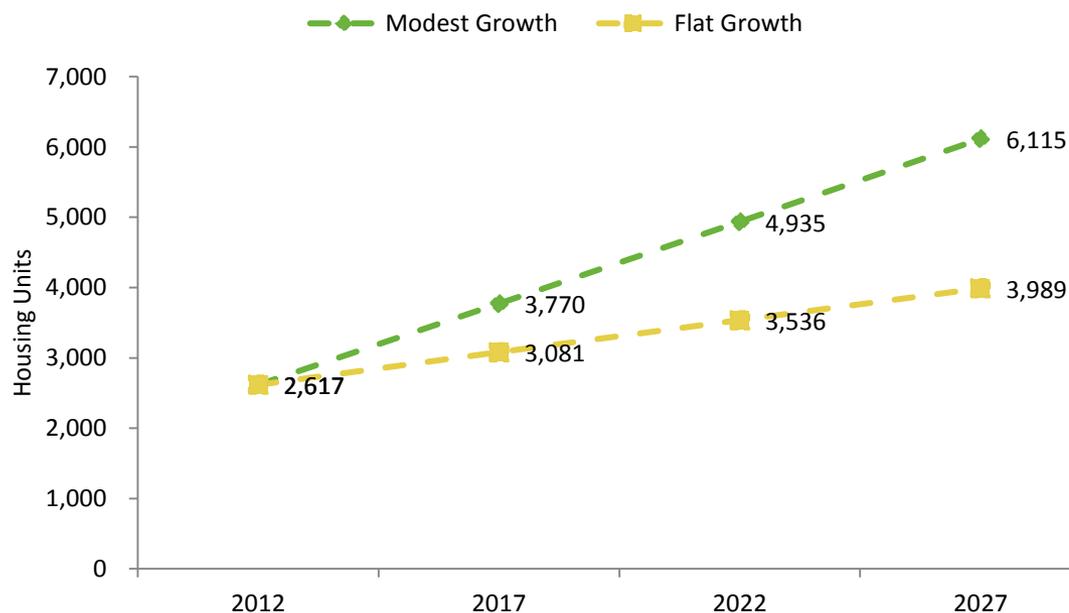
The PMA will Maintain an Annual Housing Vacancy Rate of approximately Seven-Percent

The PMA's naturally occurring annual vacancy rate will remain relatively low, based on existing and projected conditions.

Projected Growth Scenarios

In 2012, the estimated net housing demand within a 10-minute drive of the Meriden Transit Center (the PMA) was approximately 2,600 units, as shown in Figure C-7. Based on a modest growth scenario, pent-up worker housing demand, replacement demand from physically obsolescent housing units and new household growth, demand is projected to steadily increase to more than 6,100 housing units by 2027. Assuming a flat growth scenario (should no additional units be built), housing demand would be nearly 4,000 units.

Figure C-7: Net Housing Unit Demand



Source: US Census Bureau; On The Map; 4ward Planning LLC 2012

Residential Capture

The TOD Study Area has the opportunity to capture more than 600 new multi-family residential dwelling units by 2027, as shown in Table C-4. This figure was reached, based on the assumption that 10 percent is a plausible capture rate for the TOD Study Area for the following reasons:

- The dearth of existing, quality multi-family rental in the area.
- The fact that areas around transit can support a higher percentage of multi-family residential growth.
- A build-out study conducted for the City which suggested the half-mile study area could support 700 housing units.

Table C-4: Residential Capture Rates

		2017									
		TOD Study Area									
Capture Rate	Units Captured	Affordable to Household Incomes @									
		1-BR	2-BR	3-BR	Own	Rent	\$39K & Less	\$40K to \$74.9K	\$75K & Greater		
5.0%	189	38	132	19	66	123	113	38	38		
10.0%	377	75	264	38	132	245	226	75	75		

		2022									
		TOD Study Area									
Capture Rate	Units Captured	Affordable to Household Incomes @									
		1-BR	2-BR	3-BR	Own	Rent	\$39K & Less	\$40K to \$74.9K	\$75K & Greater		
5.0%	247	49	173	25	86	160	148	49	49		
10.0%	494	99	345	49	173	321	296	99	99		

		2027									
		TOD Study Area									
Capture Rate	Units Captured	Affordable to Household Incomes @									
		1-BR	2-BR	3-BR	Own	Rent	\$39K & Less	\$40K to \$74.9K	\$75K & Greater		
5.0%	306	61	214	31	107	199	183	61	61		
10.0%	612	122	428	61	214	398	367	122	122		

Unit Capture Assumptions

1-Bedroom Units	20%
2-Bedroom Units	70%
3-Bedroom Units	10%
Owner-Occupied	35%
Renter-Occupied	65%
\$39,000 and Less	60%
\$40,000 to \$74,999	20%
\$75,000 and Greater	20%

Source: US Census Bureau; On The Map; 4ward Planning LLC 2012

Takeaway: Residential Supply-Demand

Based on the modest household growth estimates, there will be demand for thousands of new housing units within the primary market area over the coming years. However, not all of this demand will be met within the TOD Study Area (the half-mile radius of the transit center). Assuming a residential capture rate of 10 percent, the TOD Study Area can support more than 600 new housing units to meet this demand.

Approximately 16 percent of the population in the TOD Study Area will be young professionals, the largest age cohort in both the PMA and the Study Area. This population tends to prefer smaller housing units with access to amenities, jobs and entertainment; these are features more likely to be found in transit-oriented developments. This population is also one of the groups research shows is more likely to use public transit.

Office Trend Analysis

ECONOMIC AND REAL ESTATE ANALYSIS FOR SUSTAINABLE LAND USE OUTCOMES™



Office Submarket

The Office Submarket is compared to the nearest metropolitan area (New Haven) as well as the larger region (Northeast) and the nation. The New Haven Metro Market, shown below, consists of six Submarkets:

- | | | |
|----------|---------------|---------------|
| 1 – CBD | 2 – New Haven | 3 – East |
| 4 – West | 5 – Northwest | 6 – Northeast |



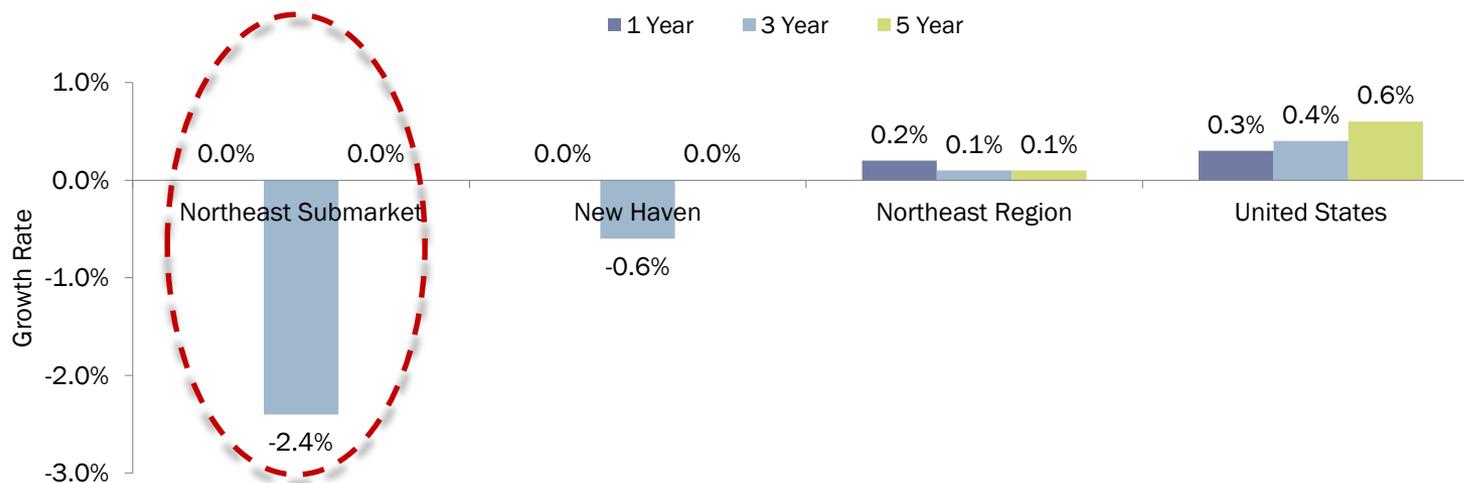
The Northeast Submarket (not to be confused with the Northeast Region) is the subject of this analysis. As identified by Reis, it is delineated in the map at right and by the boundaries of Wallingford, Hamden, North Haven, and Cheshire towns and New Haven County.

Source: Reis, Bing Maps

Office Inventory

Nearly 70 percent of the existing office inventory was built more than 20 years ago; in fact, half of the inventory was built in the 1980s. The age of the inventory indicates Class B and C quality space. Office inventory growth has weakened nationally - indicating on-going economic challenges for office space using industries. More particularly, both the Northeast Submarket and the New Haven Metro have experienced negative absorption (more space has become vacant than leased) in the last three year period. However, the five-year forecast projects growth for both the Submarket (150,000 SF) and Metro (over 600,000 SF), projections which exceed regional and national growth rate projections.

Figure C-8: Northeast Office Inventory Growth Rate



Source: REIS; 4ward Planning LLC 2012

Office Asking Rent

The median asking rent for office space in the Northeast Submarket is approximately \$19 per square foot. Asking rents have been relatively flat since 2008 (1.8 percent decline overall) and effective annual rents (which includes incentives such as free rent and discounts) has decreased by nearly eight-percent. A lower and decreasing effective rent indicates that landlords are finding it difficult to rent space. Reis projects that both asking and effective rents in the Northeast Submarket will increase in the next five years, but growth in lease rates will still lag behind regional and national rates. Broker interviews and research on Loopnet.com suggests that the effective rent around the Meriden transit station is approximately \$8 per square foot – a rate far too low to justify development of new office space.

Figure C-9: Office Asking and Effective Rent, Northeast Submarket



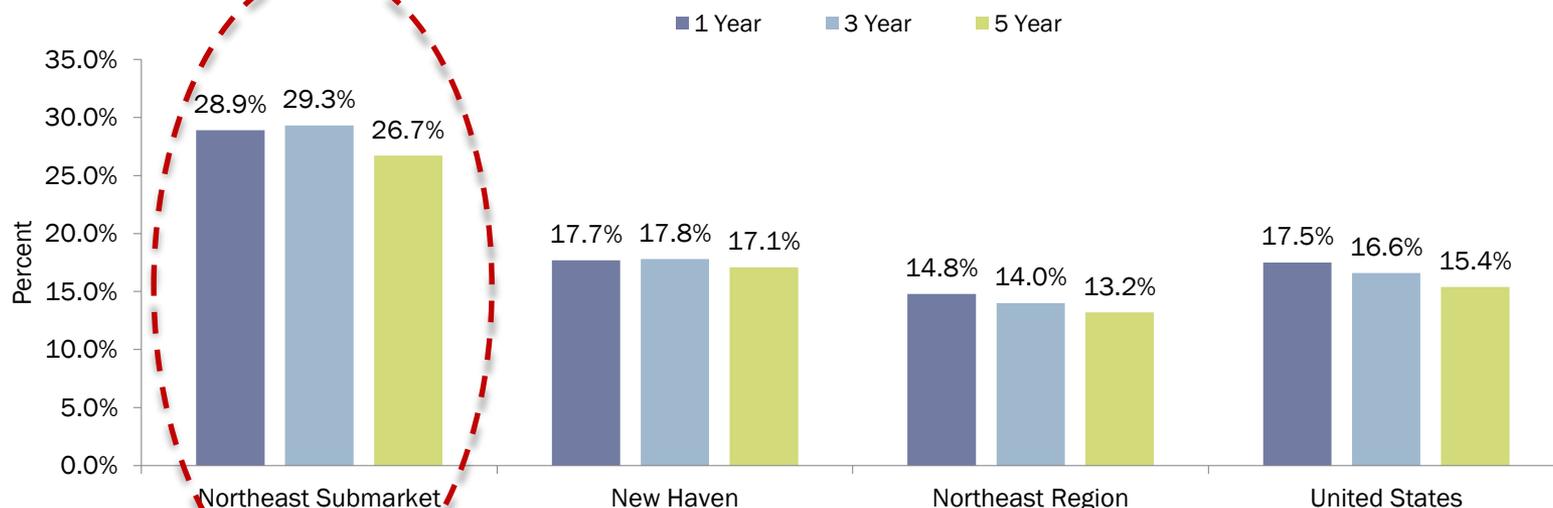
The average submarket lease terms for office properties in the Northeast Submarket include a four-year lease term, a 6.3 percent leasing commission, and approximately \$8.40 per square foot in commercial expenses annually. Tenant improvements average \$23.10 per square foot. Leasing incentives include an average 7.7 percent contract rent discount (CRD) from asking price and approximately two months of free rent.

Source: REIS; 4ward Planning LLC 2012

Office Vacancy Rates

The vacancy rate for all office properties in the Northeast Submarket in 2012 was 25 percent, or 600,000 square feet of total space. As Figure C-10 indicates, annualized vacancy rates within the submarket have consistently been more than ten points higher than annualized office vacancy rates in the New Haven Metro, the Northeast Region and United States, over the same time period. Vacancy is particularly high in buildings built in the 1990s, at 37 percent. Reis projects office vacancy rates will begin to decrease after 2013, but will still remain above 20 percent – a relatively high vacancy rate for any office market.

Figure C-10: Northeast Office Vacancy Rate (Annualized)

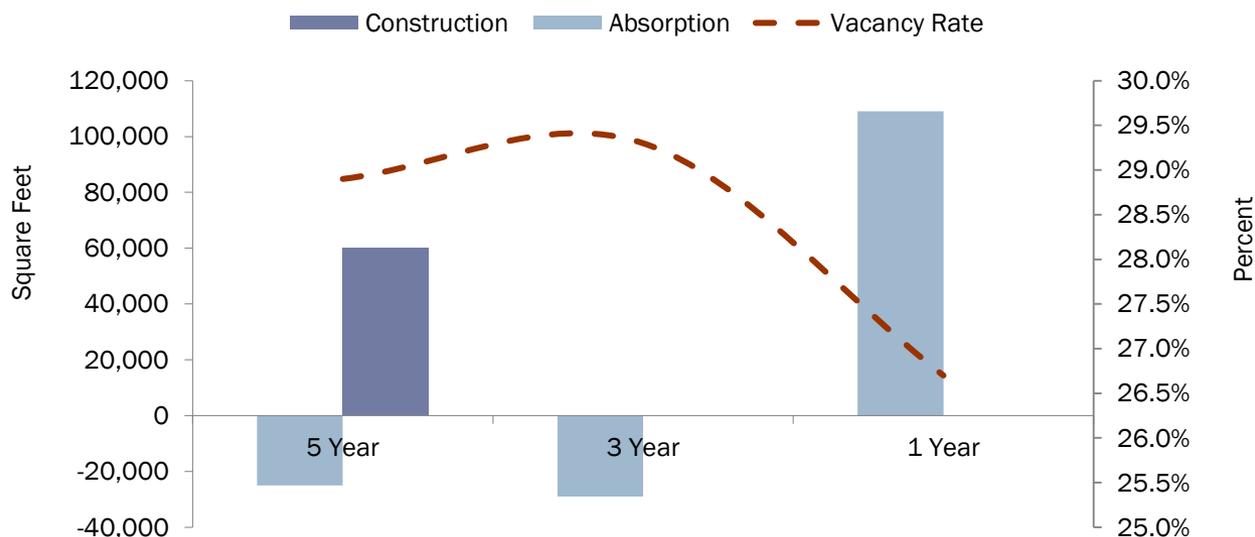


Source: REIS; 4ward Planning LLC 2012

Office Absorption

The office space market in the Northeast Submarket has demonstrated fluctuating absorption in the last five years, with positive absorption in the most recent year and negative absorption over the last three and five year periods. While there has been no new office space construction in the past three years, more than 100,000 square feet of office space was absorbed in the last year (2011) within the submarket. The ratio of construction/absorption of office space in both the submarket and the New Haven Metro has decreased to zero, according to the Reis third-quarter 2012 report. This trend suggests little demand for new office development in the Northeast Submarket or the greater region.

Figure C-11: Office Space Trends (Annualized), Northeast Submarket



Source: REIS; 4ward Planning LLC 2012

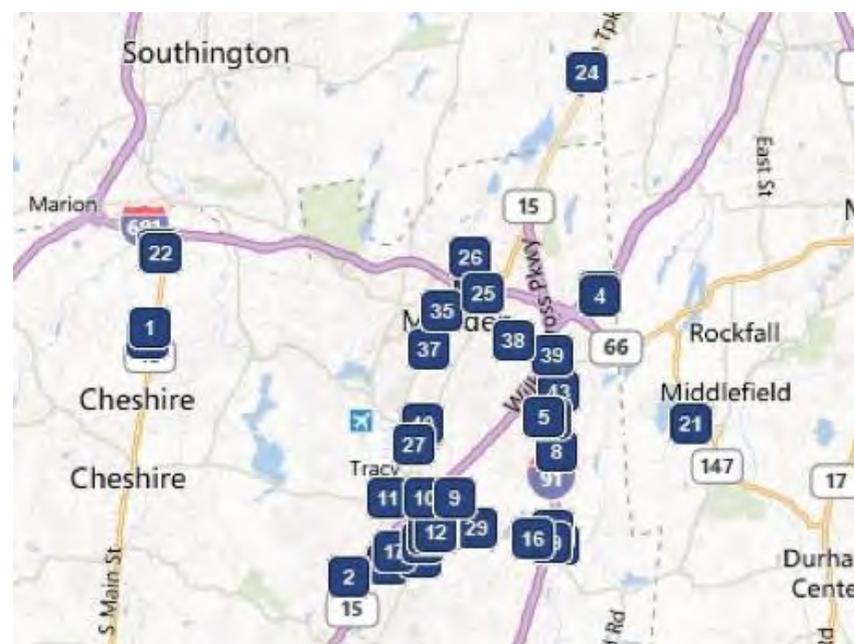
Office Characteristics: For Lease

According to data provided by Loopnet.com, as of January 2013, there were forty-three office spaces for lease within five miles of the Meriden Transit Center, representing more than 400,000 square feet of total available space. Sixteen of these office spaces are located in Meriden and two are located within the half-mile TOD Study Area. More than half the properties available are standard professional office buildings. Average asking rents (not including the warehouse or special purpose subtypes), range from \$10 per square foot for Office-R&D to \$16 per square foot for Medical Office. Broker interviews indicate these asking rents are high for the TOD Study Area. In fact, the two properties with leasable space within the TOD Study Area had asking rents of \$6 to \$10 per square foot.

Table C-5: Office Space for Lease within 5 miles of the Meriden Transit Center, as of January 2013

Property Subtype	Number of Properties	Available Square Feet	Average of Asking Rent
Medical Office	6	50,413	\$16.00
Office Building	32	319,205	\$15.12
Office-R&D	3	24,579	\$9.67
Warehouse	1	21,000	\$7.00
Special Purpose	1	1,920	\$15.00
Grand Total	43	417,117	\$14.64

Source: Loopnet.com, 4ward Planning LLC, 2012



Takeaway: Office Trends

The combination of high vacancy rates and little new office product delivered within the Northeast Submarket over the past five years indicates the area encompassing Meriden has little attraction for large corporate office space users. Anecdotal evidence from real estate brokers and property owners, as well as general observations, suggest this finding holds particularly true for the half-mile radius surrounding the transit center. While Reis forecasts indicate that regional office market vacancy rates will decline, effective rents will increase over the next five years, and 150,000 square feet of inventory will enter the market, the question remains whether the TOD Study Area will be poised to capture this growth, given the amount of office space currently vacant and the extremely low rental rates currently asked in the half-mile area.

In the near-term, office demand within the TOD study area will likely need to be met by the existing inventory of Class B and C buildings (older buildings having relatively few amenities and limited floorplates). Such buildings will have greatest appeal to small business professionals such as attorneys, accountants, architects and consultants. Indeed, many of these types of professionals – solo practitioners and small firms – seek out such space for purposes of achieving lower overhead costs and as a matter of personal choice (desiring the aesthetics of older buildings).

Like residential development, however, new office development within the TOD study area, if it is to occur over the near-term, will likely require public incentives (contribution of land, tax abatements and low-cost financing) in order to make development financially viable.

Office Supply-Demand Analysis

ECONOMIC AND REAL ESTATE ANALYSIS FOR SUSTAINABLE LAND USE OUTCOMES™



Methodology: Key Steps for Deriving Office Demand

Projecting 2019 Primary Jobs

To determine projected office space demand, primary jobs in the Meriden Transit Center PMA were projected through 2019 based on 2010 primary jobs data and Bureau of Labor Statistics industry growth rates. Primary jobs were then aggregated into industry sectors.

Estimating the Number of Office Workers

A National Center for Real Estate Research study has estimated the percentage of workers in various industry sectors that typically work in an office environment. Using these percentages, we were able to estimate the number of workers in the Meriden Transit Center primary market area who would work in an office.

Determining Office Space Demand

Assuming a space requirement of 150 square feet per worker, the total demand for office space was estimated based on the projected office workers for each year through 2019.

Projected Office Jobs

The tables below show the projected jobs and office workers, respectively, aggregated by industry sector, for the Meriden Transit Center PMA.

Table C-6: Primary Jobs Per Industry, Meriden Transit Center PMA

	2,011	2,012	2,013	2,014	2,015	2,016	2,017	2,018	2,019
Health Care and Social Assistance	7,281	7,465	7,654	7,847	8,046	8,249	8,457	8,671	8,890
Manufacturing	6,706	6,646	6,586	6,527	6,469	6,411	6,353	6,296	6,239
Retail Trade	5,940	5,965	5,991	6,016	6,042	6,068	6,094	6,120	6,146
Wholesale Trade	3,832	3,849	3,865	3,882	3,899	3,915	3,932	3,949	3,966
Accommodation and Food Services	3,059	3,081	3,104	3,127	3,149	3,172	3,196	3,219	3,242
Administration & Support, Waste Management and Remediation	2,216	2,255	2,295	2,336	2,377	2,420	2,463	2,506	2,551
Professional, Scientific, and Technical Services	2,132	2,204	2,279	2,356	2,436	2,519	2,604	2,693	2,784
Educational Services	1,830	1,879	1,929	1,980	2,032	2,086	2,142	2,198	2,257
Finance and Insurance	1,679	1,688	1,697	1,706	1,715	1,724	1,734	1,743	1,752
Public Administration	1,631	1,643	1,656	1,668	1,681	1,693	1,706	1,719	1,732
Total Primary Jobs, Top Ten Industries	36,307	36,677	37,056	37,446	37,846	38,257	38,680	39,114	39,559

Source: U.S Census Bureau, 4ward Planning LLC 2012

Table C-7: Estimated Average Office Workers Per Industry, Meriden Transit Center PMA

	2011	2012	2013	2014	2015	2016	2017	2018	2019
Health Care and Social Assistance	3,527	3,616	3,707	3,801	3,897	3,995	4,096	4,200	4,264
Manufacturing	1,984	1,966	1,949	1,931	1,914	1,896	1,879	1,863	1,861
Retail Trade	1,383	1,389	1,395	1,401	1,407	1,413	1,419	1,425	1,413
Wholesale Trade	2,215	2,224	2,234	2,243	2,253	2,263	2,272	2,282	2,251
Accommodation and Food Services	227	229	230	232	234	235	237	239	241
Administration & Support, Waste Management and Remediation	776	790	804	818	833	848	863	878	897
Professional, Scientific, and Technical Services	1,898	1,962	2,029	2,098	2,169	2,242	2,318	2,397	2,480
Educational Services	1,036	1,064	1,092	1,121	1,151	1,181	1,213	1,245	1,280
Finance and Insurance	1,617	1,626	1,635	1,644	1,652	1,661	1,670	1,679	1,688
Public Administration	718	723	728	734	739	745	751	756	763
Total Average Office Workers, Top Ten Industries	15,381	15,589	15,803	16,022	16,248	16,480	16,718	16,963	17,138

Source: NCRER, U.S Census Bureau, 4ward Planning LLC 2012

Projected Office Space Demand

Table C-8 below shows the projected office space demand, aggregated by industry sector, for the Meriden Transit Center PMA, as derived based on projected office workers and assuming an estimated requirement of 150 square feet per worker. As shown, the anticipated increase in office space demand from 2011 to 2019 is approximately 260,000 square feet. Tables C-6 and C-7 on the previous page, show an estimated increase of approximately 3,253 primary jobs in the top ten industries and 1,757 new office workers, respectively, from 2011 to 2019 in the PMA. On paper, some of this growth could be absorbed in the TOD Study Area but it should not be expected that the Study Area will absorb much of this growth based on weak office market shown in the Office Trends section of this report.

Table C-8: Estimated Total Office Space Per Industry, Sq Ft., Meriden Transit Center PMA

	2011	2012	2013	2014	2015	2016	2017	2018	2019
Health Care and Social Assistance	529,022	542,388	556,093	570,144	584,549	599,319	614,462	629,988	639,566
Manufacturing	297,596	294,924	292,276	289,652	287,051	284,474	281,919	279,388	279,191
Retail Trade	207,432	208,315	209,202	210,093	210,988	211,887	212,789	213,695	211,964
Wholesale Trade	332,198	333,623	335,055	336,492	337,936	339,386	340,842	342,305	337,663
Accommodation and Food Services	34,044	34,292	34,542	34,795	35,048	35,304	35,562	35,821	36,120
Administration & Support, Waste Management and Remediation	116,425	118,494	120,599	122,742	124,923	127,142	129,401	131,701	134,490
Professional, Scientific, and Technical Services	284,675	294,334	304,320	314,645	325,321	336,359	347,771	359,571	372,043
Educational Services	155,472	159,596	163,829	168,175	172,637	177,216	181,917	186,743	191,985
Finance and Insurance	242,618	243,915	245,219	246,530	247,849	249,174	250,506	251,845	253,216
Public Administration	107,646	108,452	109,265	110,084	110,909	111,740	112,578	113,422	114,417
Total Office Space, Top Ten Industries	2,307,126	2,338,334	2,370,401	2,403,352	2,437,210	2,472,000	2,507,747	2,544,477	2,570,654

Source: NCRER, U.S Census Bureau, 4ward Planning LLC 2012

Takeaway: Office Supply-Demand

The office supply-demand analysis indicates a projected 2019 demand for office space of more than 2.5 million square feet, based on anticipated jobs in the primary market area. This represents a net demand increase of about 260,000 square feet over 2011 inventory in the PMA. Although there will be a demand for office space in the next five to ten years, 4ward Planning projects much of this space will be met by the approximately 600,000 square feet of currently vacant space in the Northeast Submarket.

Interviews with brokers working in the TOD Study Area caution that demand for office space in the Study Area, specifically, is still quite low - as evidenced by low inventory, very low effective rents, and available properties sitting on the market for years. The uncertainty of future investments related to the proposed new rail service complicates matters (e.g. space identified for redevelopment is unmarketable). Brokers and property owners also indicate that rehabilitation costs are prohibitive to existing property owners, given the low current lease rates.

However, none of this precludes new, small-scale professional office from being built in the TOD Study Area. As the residential population grows, office space such as medical, financial, and other personal services may develop from the growing customer base. Over the next ten years, but not likely before five years, it is feasible that the TOD Study Area will achieve new office development of up to 20,000 square feet

Retail Trends Analysis

ECONOMIC AND REAL ESTATE ANALYSIS FOR SUSTAINABLE LAND USE OUTCOMES™



Methodology

4ward Planning, LLC, conducted an analysis of retail trends and opportunities for the Meriden TOD Study Area. For the analysis, station areas in the Northeast comparable to Meriden in terms of a number of demographic metrics were identified. The existing retail establishments in the Meriden TOD Study Area were compared to retail in the other station areas to assess what types and amounts of retail development would be appropriate for Meriden as part of a TOD project.

According to Reconnecting America and the CTOD's *TOD 202: Station Area Planning, How to Make Great Transit-Oriented Places*, Meriden will match most closely the characteristics of a Transit Town Center, once the increased transit service is in operation. Appropriate supporting retail for this type of TOD should be a combination of community-serving and destination retail, with a need for local-serving retail.

As an additional evaluation, the average annual spending per household on a range of goods and services in 2011 by residents of the Meriden PMA (a 10-minute drive from the station) was used as a basis to estimate future retail demand in the Meriden TOD Study Area.

Case Studies: Comparable Station Areas

4ward Planning conducted a review of Northeast region cities with transit stations of similar size and character to Meriden. Density figures, provided by the Center for Transit-Oriented Development (CDOT) TOD Database, and displayed in Table C-9 below, show that residential density in these communities ranges from 7 to 15 households per acre.

Table C-9: Demographic Metrics, Comparable TOD Station Areas (0.5-mile radius)

Station Area (0.5-mile radius)	Meriden, CT	Forest Hills, Jamaica Plain, Boston, MA	Salem, MA	Mattapan, Boston, MA	Haverhill, MA	Revere Beach, Revere, MA	Roslindale Village, Boston, MA	New Brunswick, NJ	East Orange, NJ
Overall Population	60,838	37,468	41,340	36,480	60,879	51,755	29,116	55,444	64,270
Station Area Population	7,294	6,008	7,447	7,861	8,078	8,475	10,343	11,244	14,861
Households	2,902	2,763	3,944	3,106	3,325	3,514	4,467	2,037	6,291
Median Household Income	\$23,536	\$56,786	\$58,127	\$61,506	\$38,754	\$44,595	\$63,380	\$56,276	\$30,251
Median Disposable Income	\$19,703	\$50,304	\$44,769	\$41,365	\$32,139	\$33,089	\$51,199	\$39,787	\$22,983
Per Capita Income	\$15,086	\$31,438	\$37,897	\$25,769	\$21,486	\$20,250	\$29,344	\$21,476	\$16,499
Net Residential Density ¹	10.3	11.9	10.1	6.6	9.5	13.1	9.3	13.9	15.3
Total Businesses	349	204	837	229	460	138	347	733	372
Total Employees	3,735	3,123	9,897	2,160	4,103	1,391	4,044	13,885	7,549
Employee/Res. Pop. Ratio	0.51	0.52	1.28	0.27	0.48	0.15	0.40	1.41	0.51

Notes:

1 - Households per residential acre

Source: Center for Transit-Oriented Development TOD Database; Esri Community Analyst, 4ward Planning LLC, 2013

Case Studies: Comparable Station Areas

Table C-10 below lists characteristics, and the number and type of retail establishments in each station area as compared to the Meriden Study Area. As shown, the overall number of retail establishments in each station area ranges from 36 to 204, with Meriden lying on the lower end of the scale with 56 retail establishments. In addition, specifically, Meriden is among the station areas with the fewest eating and drinking establishments, with a total of 15.

Table C-10: Retail Metrics, Comparable TOD Station Areas (0.5-mile radius)

Station Area (0.5-mile radius)	Meriden, CT	Forest Hills, Jamaica Plain, Boston, MA	Salem, MA	Mattapan, Boston, MA	Haverhill, MA	Revere Beach, Revere, MA	Roslindale Village, Boston, MA	New Brunswick, NJ	East Orange, NJ
Home Improvement Stores	1	3	10	2	2	1	3	1	1
General Merchandise Stores	0	2	1	5	5	3	3	5	2
Food Stores	15	3	17	8	13	15	17	23	21
Auto Dealers, Gas Stations	6	3	10	1	8	2	1	2	4
Apparel & Accessory Stores	0	1	19	10	7	5	8	15	8
Home Furnishings	1	3	13	6	10	2	6	3	5
Eating & Drinking Places	15	14	67	9	49	13	28	94	28
Miscellaneous Retail	16	8	67	7	21	7	19	33	17
Total Retail Locations	56	36	204	48	114	47	84	177	85

Source: Center for Transit-Oriented Development TOD Database; Esri Community Analyst, 4ward Planning LLC, 2013

Case Studies: Haverhill, MA

Haverhill was selected for a more in-depth examination as a case study due to its similarities with the Meriden in terms of key demographics, population, income and density. The table below lists example retail businesses located in the two station areas, along with the NAICS code, business category and total employment. By comparison, Meriden has far fewer employees in retail categories that would provide service to local residents such as Electronics/Appliances, Apparel/Accessories and Eating & Drinking.

Haverhill, MA – Station Area



Table C-11: Retail Employment

NAICS 3-digit code	Business Types	Total Employment	
		Meriden TOD Study Area	Haverhill Station Area
441	Automotive	13	27
442	Furnishings	5	6
443	Electronics/Appliances	0	31
444	Home/Hardware	6	3
445	Groceries	10	16
446	Personal Care	5	10
447	Gasoline	0	5
448	Apparel/Accessories	3	16
451	Books	0	7
452	General Merchandise	0	2
453	Miscellaneous	21	23
722	Eating & Drinking	89	273
Total		152	419

Source: Esri Community Analyst, 4ward Planning LLC, 2013

Consumer Expenditures: Projected

In order to gauge retail demand based on new residential development in the TOD, retail spending levels were extrapolated based on estimated dwelling unit totals. A low threshold of 600 new housing units and an upper threshold of 1,000 new housing units, over the next ten years, were used as estimates. A capture rate of 60 percent was assumed to represent the percentage of expenditures made within the TOD area, with the balance of expenditures being made outside of TOD area (e.g., while travelling for work, vacation, etc.) Using Urban Land Institute standards for retail floor area by spending category, the retail demand, in terms of floor area, was estimated. As shown below, supportable new retail would range from about 17,000 square feet to 28,000 square feet, based on the number of new multi-family units constructed and occupied.

The retail demand, as estimated below, is based strictly on consumer expenditures from new multi-family residential units. It is important to note that these estimates do not account for spending by workers commuting to the area, nor do they account for spending by people living in the surrounding areas (outside of the half-mile) who may travel to the TOD to dine and shop. Based on this approach, these retail demand estimates are conservative and represent a baseline level of demand that would be expected to be higher, given an increase in overall activity within the TOD area.

Table C-12: Retail Demand (SF) by Number of New Dwelling Units

Retail Expenditures per Household (annually)	2011 Unadjusted	Capture Rate	2011 Adjusted	Avg. Ann. Sales/SF	Low Threshold 600 DU	Upper Threshold 1,000 DU
Food: At Home	\$4,556	60%	\$2,734	\$400	4,100	6,800
Food: Away From Home	\$3,284	60%	\$1,971	\$320	3,700	6,200
Apparel & Services	\$1,742	60%	\$1,045	\$240	2,600	4,400
Entertainment	\$3,258	60%	\$1,955	\$200	5,900	9,800
Personal Care Products & Services	\$698	60%	\$419	\$400	600	1,000
<i>Total per Household</i>	<i>\$13,539</i>			<i>Total</i>	<i>16,900</i>	<i>28,200</i>

Source: US Census Bureau; Esri; ULI Dollars & Cents of Shopping Centers; 4ward Planning, 2013

Takeaway: Retail

As stated above, appropriate supporting retail for a Transit Town Center, like that proposed for Meriden, is recommended to be a combination of community-serving and destination retail, with a need for local-serving retail.

As shown, Meriden currently has fewer retail establishments than existing comparable Transit Town Center stations. Specifically, the Meriden TOD Study Area currently lags behind similar station areas in the Eating & Drinking and Miscellaneous Retail categories. Additionally, the Meriden TOD Study Area currently has no General Merchandise or Apparel and Accessory stores, while each of the comparison stations has at least one of these types of establishments.

While these comparisons don't, in and of themselves, indicate a potential demand for particular types of retail within the proposed Meriden TOD, they serve as instructive for planning purposes. Additionally, as residential units are planned, accompanying retail should be developed that is targeted towards serving the convenience needs of those residents, which would call for additional establishments in categories such as Food/Grocery stores. As office development brings more employees to the area, retail to serve their needs will be in demand as well – personal services (salons, gyms, dry-cleaners), dining and drinking establishments.

TOD VIABILITY ANALYSIS

ECONOMIC AND REAL ESTATE ANALYSIS FOR SUSTAINABLE LAND USE OUTCOMES™



Methodology

Incorporating the findings of the various supply & demand analyses conducted as part of the Meriden TOD Market Study, 4ward Planning, LLC, evaluated the potential to implement each of the TOD projects identified in the Meriden TOD Master Plan (April 2012) produced by the consulting firm of Parsons Brinkerhoff (PB).

The purpose of the evaluation is to assess whether or not each land use project is viable as well as to determine the appropriate timeframes and near-term challenges associated with each project.

Retail Demand

Retail demand in the vicinity of the Meriden TOD Study Area is expected to be largely limited to convenience retail and community serving retail with a focus on the local market. Some retail may also serve users of the transit service as they pass through on the way to and from work. As the residential units come on line, accompanying retail could be developed in categories such as food/grocery, general merchandise, apparel/accessories and personal services such as salons, gyms, dining/drinking

Projections of retail demand outlined in the PB study far exceed what is indicated by the 4ward analysis. Given an upper threshold of projected retail to serve potentially 1,000 residential units, an appropriate amount of retail to serve this market is estimated to be up to an additional 28,000 SF. As this would need to accompany construction of residential facilities in the area, it would be expected to viable in a five- to ten-year window.

A limited amount of destination retail or entertainment/museum space may be viable in the long-term if Meriden were to experience marked growth in key demographic segments such as empty-nesters or young professionals.

Retail Projects

The table below itemizes the individual retail development proposed as part of the conceptual plan drafted by Parsons Brinkerhoff. As shown, the development concepts represent a total of nearly 150,000 SF. Based on limited demand for retail in the area, largely convenience retail serving the local market, the retail developments proposed by the PB study are not viable beyond a maximum of about 28,000 SF.

Table D-1: Proposed Retail Development Projects

District	Site	Gross Floor Area (SF)
Historical/Commercial	24/38/44 Colony Street	27,250
HUB Park	Site 1 (State St.)	22,750
HUB Park	Site 2 (Pratt St.)	32,750
HUB Park	29/31/35/45 Pratt St.	4,650
HUB Park	Mills Block	18,000
Hanover	Factory H/116 Cook	43,600
Total		149,000

Source: PB; City of Meriden; 4ward Planning LLC 2013

Residential Demand

In the Northeastern market, construction of multi-family residential inventory is expected to be flat through 2016. Current low vacancy rates in Meriden, however, indicate a tight rental market and potential latent demand, favoring residential construction in the local area. This trend is supported by strong positive growth in non-family households, suggesting high receptivity for TOD-style multi-family units.

An analysis of residential supply & demand indicates a potential demand for new housing units in the Meriden area, a percentage of which can be expected to be captured in the TOD Study Area. The low threshold is estimated to be 600 units with an upper estimate of 1,000 units. Units developed should be targeted to young professionals looking for smaller residences with access to amenities, jobs, entertainment and transit access.

The appropriate timeframe for this development would be paced-out over a ten-year period, beginning at about the time that the new commuter rail service begins full operations in 2016.

The near-term challenge associated with this is financial in nature. Due to the current low rents in the market, a cap on pricing in the near-term can be expected, limiting the upside for developers until housing demand increases markedly. For the early-phase projects to get underway, public support in the way of up-front subsidies and incentives will be needed to overcome this near-term challenge.

Residential Projects

The table below itemizes the residential developments proposed in the master plan drafted by Parsons Brinkerhoff. As shown, the development concepts represent a total of 467 dwelling units. Based on demographic trends and the availability of commuter transit service, potential housing demands of 600 to 1,000 units are projected in a ten-year timeframe, exceeding the total units proposed in the PB plan.

Table D-2: Proposed Residential Development Projects

District	Site	Dwelling Units
HUB Park	29/31/35/45 Pratt St.	40
HUB Park	Mills Block	220
Hanover	8 So. Grove St. (Butler Lot)	50
Hanover	Factory H/116 Cook	98
Gateway	289 Pratt St. (at Myrtle)	59
Total		467

Office Demand

Demand for office space in the region is expected to be met largely with existing vacant space; demand for new office space is expected to remain low through 2023.

The Meriden area in general (and the TOD Study Area in particular) has minimal attraction for corporate office space users. While some inventory is expected to enter the market in the next five years, the TOD study area is not well-positioned to capture this growth. Although a net demand increase of over 250,000 SF through 2019 is expected, much of this demand will be met by currently vacant space in the market. Specifically, the existing inventory may appeal to small business professionals, many of whom seek outdated Class B & C building stock due to the low overhead and the aesthetics of older buildings.

The potential opportunity in the near-term is small-scale office space to provide medical, financial and personal services to serve the local market. In the five- to ten-year window a potential of 20,000 SF could be readily absorbed. The appropriate timeframe for this development would be concurrent with the phasing-in of residential units over a ten-year period starting in 2016.

Similar to the residential use, the near-term challenge for this office space development is that public incentives and subsidies would be needed to make private investment financially viable.

Office Projects

The table below itemizes the office development projects proposed as part of the conceptual plan drafted by Parsons Brinkerhoff. As shown, the development concepts represent a total of about 160,000 SF. Based on narrow demand for new office space in the Meriden TOD Study Area, the office developments proposed by the PB study are not viable beyond a maximum of about 20,000 SF.

Table D-3: Proposed Office Development Projects

District	Site	Gross Floor Area (SF)
Historical/Commercial	24/38/44 Colony Street	48,250
HUB Park	Site 1 (State St.)	22,750
HUB Park	Site 2 (Pratt St.)	29,650
HUB Park	Mills Block	58,000
Total		158,650

Source: PB; City of Meriden; 4ward Planning LLC 2013

Proposed TOD Zoning

Overall, the proposed TOD Zoning for the development area is generally conducive to the market expectations presented earlier. The following potential conflicts were identified:

Ground Floor Retail

TOD zoning typically encourages mixed-use buildings and specifically retail or commercial uses on ground floors to promote an active neighborhood. This proposed zoning for Meriden is no different. However, there is not enough market demand for retail on the ground floor of all buildings for which it is encouraged. The City should continue to encourage, but not require, ground floor retail in the proposed zoning.

In order to ensure the best placement of limited ground floor retail, on major commercial streets, the City may want to consider reducing the area in which ground floor retail is encouraged and be more open to ground floor residential on secondary and tertiary streets.

Arts and Entertainment Uses

Indoor Arts, Recreation and Entertainment is defined as a special permit use in the proposed TOD Zoning (Section 7.g.), with a gross leasable area equal to or greater than 40,000 square feet. The market analysis indicates very limited demand for retail and commercial use, not more than 28,000 square feet. Therefore, an entertainment use as defined in the proposed zoning may not be viable.

Table D-4: Project Viability Matrix, Conceptual Development Projects

District	Site	Proposed Uses / Size				Ownership	Existing Zoning	Proposed TOD Sub-District	Viability
		Office (GSF)	Retail, Museum or Restaurant (GSF)	Residential (Dwelling Units)	Total Floor Area (GSF)				
Historical/ Commercial	24/38/44 Colony Street	48,250	27,250	-	75,500	City of Meriden	C-1/CCDD	Historic/CBD	Total retail development of up to 28KSF is viable; proposed office exceeds local market demand
HUB Park	Site 1 (State St.)	22,750	22,750	-	45,500	City of Meriden	C-1	Park	Not viable; proposed development exceeds local market demand
	Site 2 (Pratt St.)	29,650	32,750	-	62,400	City of Meriden	C-1	Park	Office development of up to 30KSF is viable; proposed retail exceeds local market demand
	29/31/35/45 Pratt St.	-	4,650	40	48,650	Various Private	C-1	Park	Residential component is viable; proposed retail exceeds local market demand
	Mills Block	58,000	18,000	220	318,000	CSC Investments/ City of Meriden	R-4/M-3	Park	Residential component is viable; proposed office/retail exceeds local market demand
Hanover	8 So. Grove St. (Butler Lot)	-	-	50	55,000	Silver City Thrift Store/City of Meriden	C-1/CCDD	Hanover	Viable
	Factory H/116 Cook	-	43,600	98	151,400	City of Meriden	C-1/R-3/M-3	Hanover	Residential component is viable; proposed retail exceeds local market demand
Gateway	289 Pratt St. (at Myrtle)	-	-	59	64,900	290 Pratt St LLC	M-3	Gateway	Viable
Total		158,650	149,000	467	821,350				

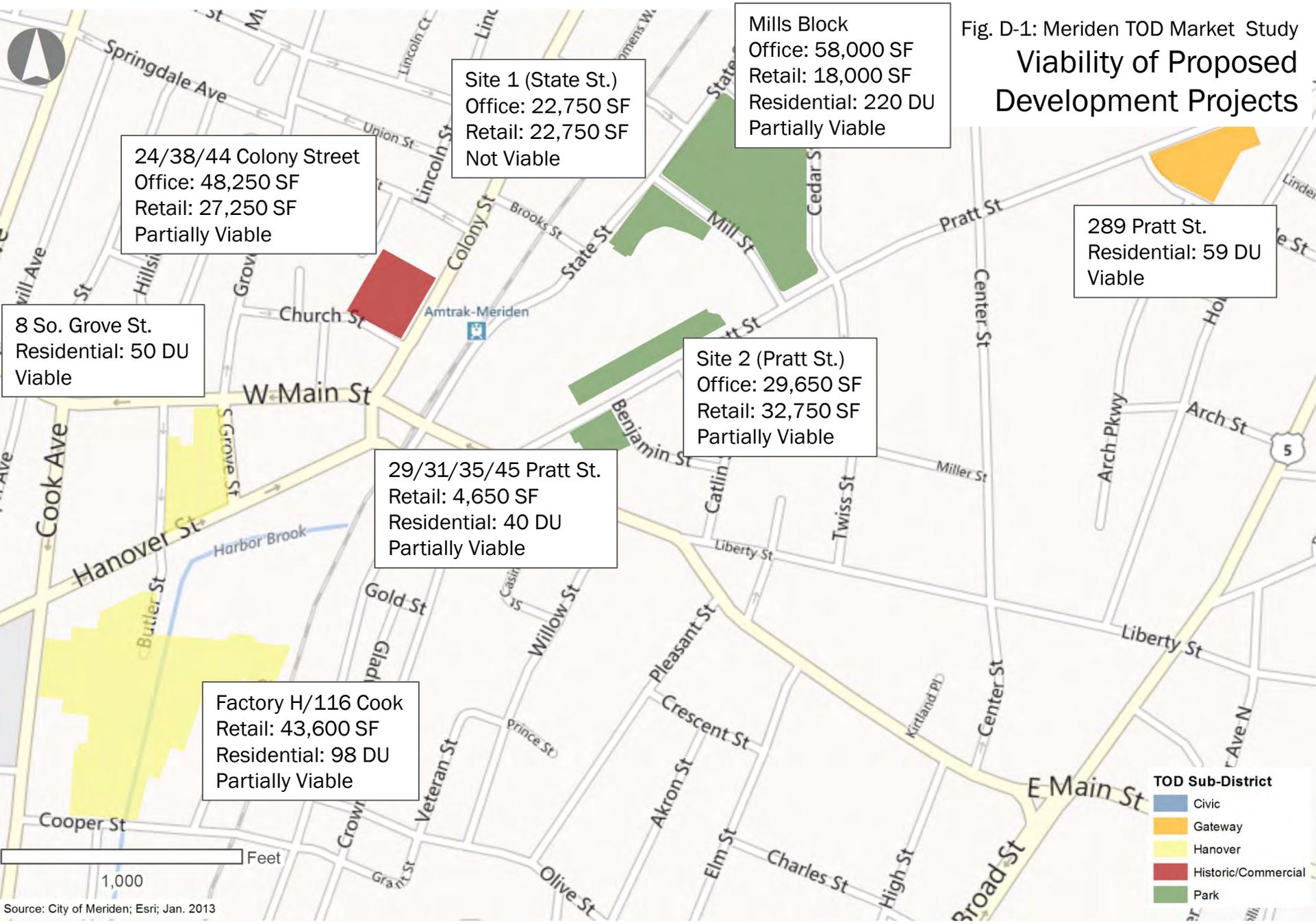
Notes:

Average floor area per dwelling unit is 1,100 SF

Required parking for each development is accommodated on-site

Source: PB; City of Meriden; 4ward Planning LLC 2013

Fig. D-1: Meriden TOD Market Study
**Viability of Proposed
 Development Projects**



Mills Block
 Office: 58,000 SF
 Retail: 18,000 SF
 Residential: 220 DU
 Partially Viable

Site 1 (State St.)
 Office: 22,750 SF
 Retail: 22,750 SF
 Not Viable

24/38/44 Colony Street
 Office: 48,250 SF
 Retail: 27,250 SF
 Partially Viable

8 So. Grove St.
 Residential: 50 DU
 Viable

Site 2 (Pratt St.)
 Office: 29,650 SF
 Retail: 32,750 SF
 Partially Viable

29/31/35/45 Pratt St.
 Retail: 4,650 SF
 Residential: 40 DU
 Partially Viable

289 Pratt St.
 Residential: 59 DU
 Viable

Factory H/116 Cook
 Retail: 43,600 SF
 Residential: 98 DU
 Partially Viable

TOD Sub-District

- Civic
- Gateway
- Hanover
- Historic/Commercial
- Park

Source: City of Meriden; Esri; Jan. 2013

General & Limiting Conditions

4ward Planning LLC has endeavored to ensure that the reported data and information contained in this report are complete, accurate, and relevant. All estimates, assumptions, and extrapolations are based on methodological techniques employed by 4ward Planning LLC and believed to be reliable. 4ward Planning LLC assumes no responsibility for inaccuracies in reporting by the client, its agents, representatives, or any other third party data source used in the preparation of this report.

Further, 4ward Planning LLC makes no warranty or representation concerning the manifestation of the estimated or projected values or results contained in this study. This study may not be used for purposes other than that for which it is prepared or for which prior written consent has first been obtained from 4ward Planning LLC. This study is qualified in its entirety by, and should be considered in light of, the above limitations, conditions, and considerations.



For more information, please contact:

Todd Poole

412.428.9644

tpoole@landuseimpacts.com

Sam Eisenbeiser, AICP

617.207.4033

seisenbeiser@landuseimpacts.com

APPENDIX

- A. Underutilized Parcels
- B. Infrastructure and Parking Demand Assessment
- C. Housing Affordability Analysis
- D. Developer Interviews Summary
- E. Meriden-Area Employee Online Survey Summary
- F. Meriden-Area Telephone Survey Summary
- G. Meriden-Area Telephone Survey Full Report