3

Existing and Future Land Use

3.1 Introduction

In considering how to improve access to Chatham, Madison, and Convent Stations, it is important to consider the roles played by non-transportation factors such as land use and zoning. To the extent that people can live, work, and shop in locations close to these stations--i.e., within Transit-Oriented Developments--automotive access demands can be partially reduced by increasing the number of riders who can walk to the rail stations.

Two of the three stations being studied, Chatham and Madison Stations, already consist of a land use and transportation mix that is considered to be Transit-Oriented Development (TOD). Both of these station areas are comprised of somewhat compact, mixed (retail, residential, and commercial) land uses within a half mile of the stations. These two station areas are walkable environments that include sidewalks and other pedestrian supportive infrastructure. The Convent Station area is generally lower density and more automobile oriented than the other two station areas. The area does have some features typically found in transit-oriented development, such as some mixed-use development, pedestrian facilities, some higher density multi-

"There is no single definition of **transit-oriented development**; however, research generally describes such a development **as a compact, mixed-use, walkable neighborhood located near transit facilities.** Research has highlighted that most transit-oriented developments are typically near a fixed-guideway rail station, generally encompass multiple city blocks up to a half-mile from a transit station, have pedestrian-friendly environments and streetscapes, and include high-density and mixed-use developments."---

AFFORDABLE HOUSING IN TRANSIT-ORIENTED DEVELOPMENT, **GAO-09-871, US GAO, September 2009**

family housing, which, along with the presence of under-utilized land near the station, indicates potential for further development in a TOD fashion.

All three stations exist in developed and historic municipalities. Few, if any, parcels remain undeveloped within a half mile of the stations in the host towns that could result in significant new developments of any type with the exception of those already identified for redevelopment, Green Village in Madison, or those currently dedicated to parking. However, the following analyses will show:

The properties in these municipalities are not developed to their maximum land value which indicates that there is some potential for "spot" redevelopment in a transit-oriented manner [Section 3.3: Improvement to Land Value Analysis].

Though all markets have been impacted by current economic conditions, the real estate market in these municipalities shows a traditional, strong demand. This is in part due to the positioning of these municipalities with respect to the regional labor and industrial markets nearby and within reasonable commute distances [Section 3.4: Regional Market Analysis; Section 3.5: Labor and Industry Analysis].

There is evidence in New Jersey and in other states that municipalities of similar character have successfully planned for and absorbed new transit-oriented development [Section 3.6: TOD Comparables and Best Case Analysis].

3.1.1 Transit-Oriented Development Success Factors

The success of a Transit-Oriented Development (TOD) depends on a variety of factors, including a supportive economic, regulatory, and political environment, as well as physical characteristics conducive to a walkable community integrated with transit. A number of resources specify critical success factors, including the Voorhees Transportation Policy Institute's 2003 document *Transit Villages in New Jersey: Success Factors, Obstacles and Recommendations*. The Smart Growth Energy Toolkit, issued by the Commonwealth of Massachusetts, provides an instructive, succinct, and comprehensive list of factors critical to the success of TODs, as follows:

- Supportive market conditions, namely, development potential within walking distance from the station, and a competitive market for development, as compared to a nearby corridor and surrounding region.
- Commitment to transit, as demonstrated by policy makers, including the transit agency, and state and local officials. In addition, supportive transportation infrastructure is needed, including good pedestrian and bicycle access, and park-and-ride facilities.

- Strong and respected local leadership from both the public and private sectors.
- Supportive public policies and tools that channel development into transit corridors and increase pedestrian activity. Examples of these include:
    - Station area plans which outline strategies for facilitating and implementing TOD.
    - Higher density allowances, density bonuses, and mixed-use (commercial, residential, office) zoning as appropriate to the area.
    - Design standards/ guidelines to ensure pedestrian-friendly, attractive, and low-impact development, including Complete Streets policy and implementation plans.
    - Public investment policies to spur private investment.
    - Incentives such as sharing infrastructure and remediation costs or streamlining the approval process.

Madison Borough is the only municipality that includes policies supportive of new TOD. Of course, as stated above, both Madison and Chatham Boroughs already exhibit many of the characteristics of successful TODs.

3.2 Existing Zoning, Master Plans and Redevelopment Plans

A review of local zoning, municipal master plans, and recent redevelopment trends and proposals affecting the areas around each of the three study area stations was conducted. In addition, discussions were held with representatives from the affected communities to understand public policies that would influence future development in each municipality. The public involvement process provided further input on local attitudes toward the potential for transit-oriented development to occur or be encouraged by town planners. The following section discusses existing zoning regulations in the vicinity of the three stations, and the relationship of each municipality's Master Plan to potential development around each station. It also identifies any current development projects near the stations.

3.2.1 Chatham Station Area

There are currently no developments or redevelopment projects proposed according to local officials and documents obtained, within the Chatham Station analysis area, which is the area within a half mile of the station. All of the parcels in the analysis area were located in the Borough of Chatham.

Zoning categories represented in the analysis area include:

- B-1 Business Service District: small-scale business and professional offices compatible with residential uses.
- B-2 Regional Business District: general goods and services on a regional scale.
- B-3 General Business District: business, office, and retail for local community in scale with historic buildings; more vehicular and less intensive than B-4.
- B-4 Community Business District: pedestrian-oriented shopping in the downtown with retail and personal services on ground level and offices and business services on upper levels.
- B-5 Office District: large scale office use and research laboratories.
- G-1 Residential District: garden apartments allowed.
- M-1 Industrial District: retail uses allowed.
- R-1/ R-2/ R-3 Residential Districts: single family residential districts.
- R-4 Residential District: two-family units allowed.

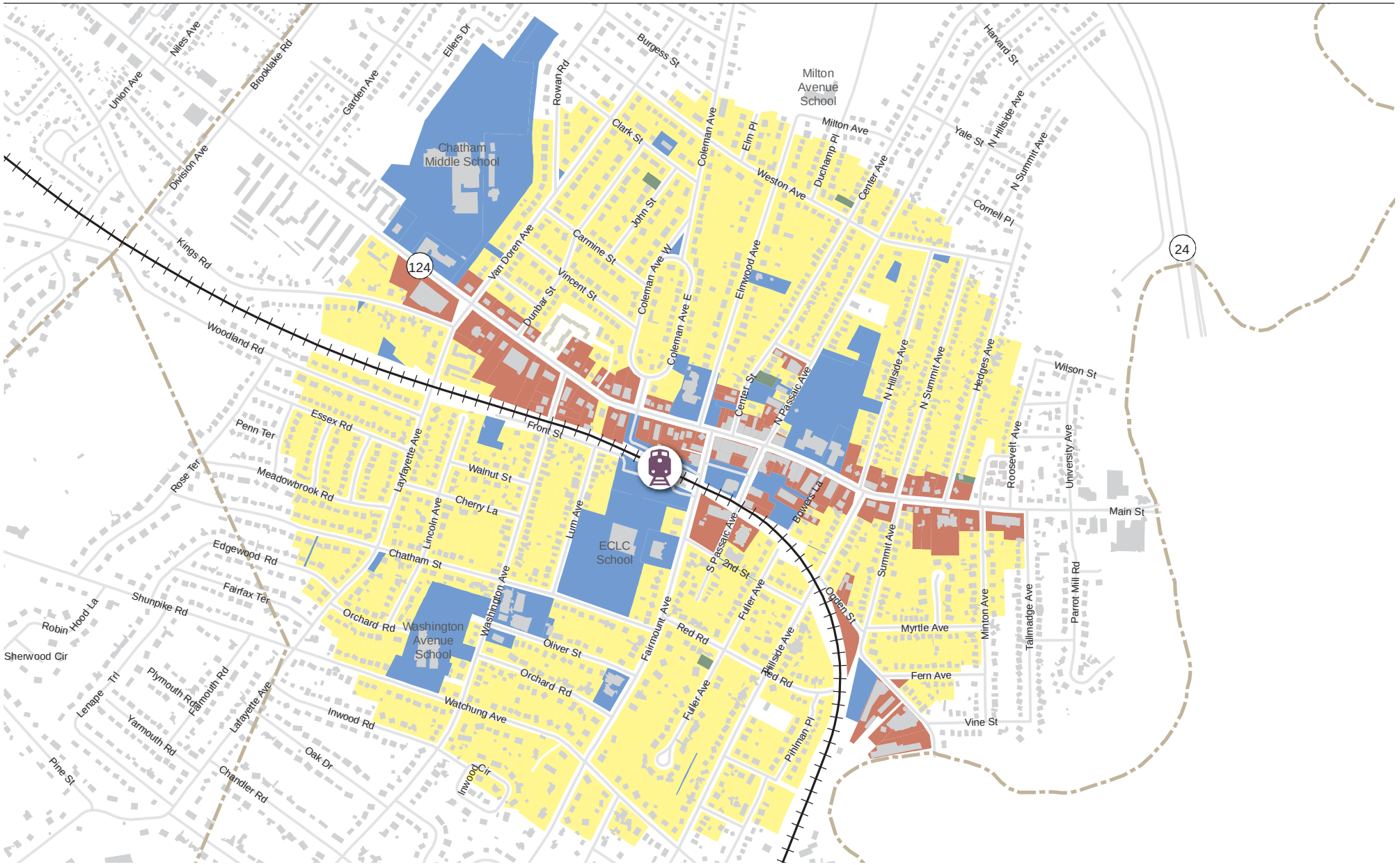
Table 3-1 summarizes the number of parcels and proportion of overall area within the analysis area by zone. Figures 3-1 and 3-2 show the general land uses and zoning designations for the Chatham Station area.

Table 3-1: Parcels & Land Area by Zone, Chatham Station Area

Zone	Zone Description	Total Area (Acres)	Total Parcels	Pct. of Total Area
R-2	Residential District	224.0	719	50.5%
R-3	Residential District	91.5	484	20.6%
R-1	Residential District	38.5	83	8.7%
G-1	Residential District	28.6	51	6.4%
B-2	Business District	15.3	26	3.4%
R-4	Residential District	13.8	62	3.1%
B-4	Business District	12.3	46	2.8%
B-3	Business District	9.1	30	2.1%
M-1	Industrial District	5.3	5	1.2%
B-1	Business District	4.7	18	1.1%
B-5	Business District	1.0	5	0.2%

Source: Morris County, NJ, GIS; 2012

Chatham Borough allows for denser (increased height) development in two categories: business district (B-4 and B-5) and affordable, residential housing. In both instances, three-story buildings are allowed.



Parcels within one-half mile of Chatham Station, Chatham Borough, NJ

- Town Line
- Railroad Line
- Building Footprints
- Train Station
- Residential
- Public/Religious/Schools
- Commercial/Industrial
- Vacant Land

Morris County NJ 124
Transit Access Study

General Land Use
Chatham Station

FIGURE **3-1**

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Parcels within one-half mile of Chatham Station, Chatham Borough, NJ

- Town Line
- Railroad Line
- Building Footprints
- Train Station
- B-1 - Business District
- B-2 - Business District
- B-3 - Business District
- B-4 - Business District
- B-5 - Business District
- G-1 - Residential District
- M-1 - Industrial District
- R-1 - Residential District
- R-2 - Residential District
- R-3 - Residential District
- R-4 - Residential District

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Morris County NJ 124
Transit Access Study

Zoning Designations
Chatham Station

FIGURE **3-2**

Chatham Borough's Master Plan Reexamination Report, completed in 2006, updated the 2000 Master Plan. It noted that the 2000 plan had identified "preservation and enhancement of the small-town character of the Borough" as a major objective.

In October 2009, the Borough completed a Business Zones Study which examined the B-1 through B-5 zones. The focus of the study was on potential build-out in each zone and its relationship to parking availability. The study found the current parking supply to be adequate.

Overall, the Borough's planning objectives appear to be primarily concerned with preserving the scale and character of the business areas rather than encouraging higher density TOD, summarized in the implementation strategies as follows:

"Continue to pursue planning and zoning rules and procedures, including development incentives that will protect and enhance the historic character of the downtown and of the residential areas."

3.2.2 Madison Station Area

All of the parcels reviewed in this analysis are (within a half mile of the station and are located in the Borough of Madison. The following redevelopment projects are ongoing in the vicinity of Madison Station:

- A mixed-use project under construction at the intersection of Greenwood Avenue and Main Street (NJ 124).
- A mixed-use redevelopment for the former school site located at Green Village Road and Main Street (NJ 124). The borough issued a Request for Qualifications in spring 2012 from developers interested in developing the Green Village Road Special Use District (GVRSU) zoned property in accordance with the Borough's Redevelopment Plan for the GVRSU Area (see below for description).
- Residential development under construction at the intersection of Cook Avenue and Ridgedale Avenue.
- A redevelopment project located on Elmer Street that is currently seeking approval.

Zoning categories represented in the analysis area include:

- CBD-1, CBD-2 Central Business District Zones: intended to promote a vital, mixed-use downtown core that permits residential, retail, office, institutional, theaters, and customarily similar uses.

- CC Community Commercial Zone: intended to provide commercial uses to serve local residents rather than regional demand. Permits retail, office, institutional, and other uses, in addition to apartments over commercial establishments.
- OSGU Open Space/ Government Use Zone: intended to recognize and preserve open space and government uses, including the train station.
- P - Professional Office Zone/ Residential: Permits offices and single-family residences.
- R-1/ R-2/ R-3 Single-Family Residence Zones.
- R-4 Two-Family Residence Zone.
- R-5 Multiple-Family Residence Zone.
- R-SH Senior Citizen Housing Zone.

The Table 3-2 summarizes the number of parcels and proportion of overall area within the analysis area by zone. Figures 3-3 and 3-4 show the general land uses and zoning designations for the Madison Station area. It should be noted that in the figures the vacancy at the Stop and Shop parcel is only meant to indicate the parking lot portion of the parcel. Also, since the graphic was originally prepared the land use on the parcel at Greenwood Avenue and Main Street has now become occupied by a Walgreens. Neither of these changes affect the analyses presented in this report. In addition, Madison Borough is currently evaluating updated zoning designations for the Stop and Shop and Walgreens properties since their current use does not appear to be consistent with Community Commercial zoning.

Table 3-2: Parcels & Land Area by Zone, Madison Station Area

Zone	Zone Description	Total Area (Acres)	Total Parcels	Pct. of Total Area
R-3	Single-Family Residence Zone	294.4	321	47.1%
R-2	Single-Family Residence Zone	146.7	286	23.5%
R-4	Two-Family Residence Zone	66.1	198	10.6%
CBD-1	Central Business District Zone	25.4	98	4.1%
R-5	Multiple-Family Residence	22.0	16	3.5%
P	Professional Office	21.6	24	3.5%
CC	Community Commercial Zone	16.7	37	2.7%
R-1	Single-Family Residence Zone	14.2	17	2.3%
CBD-2	Central Business District Zone	8.8	46	1.4%
OSGU	Open Space/Government Use	5.0	1	0.8%
R-SH	Senior Citizen Housing Zone	4.4	4	0.7%

Source: Morris County, NJ, GIS; 2012

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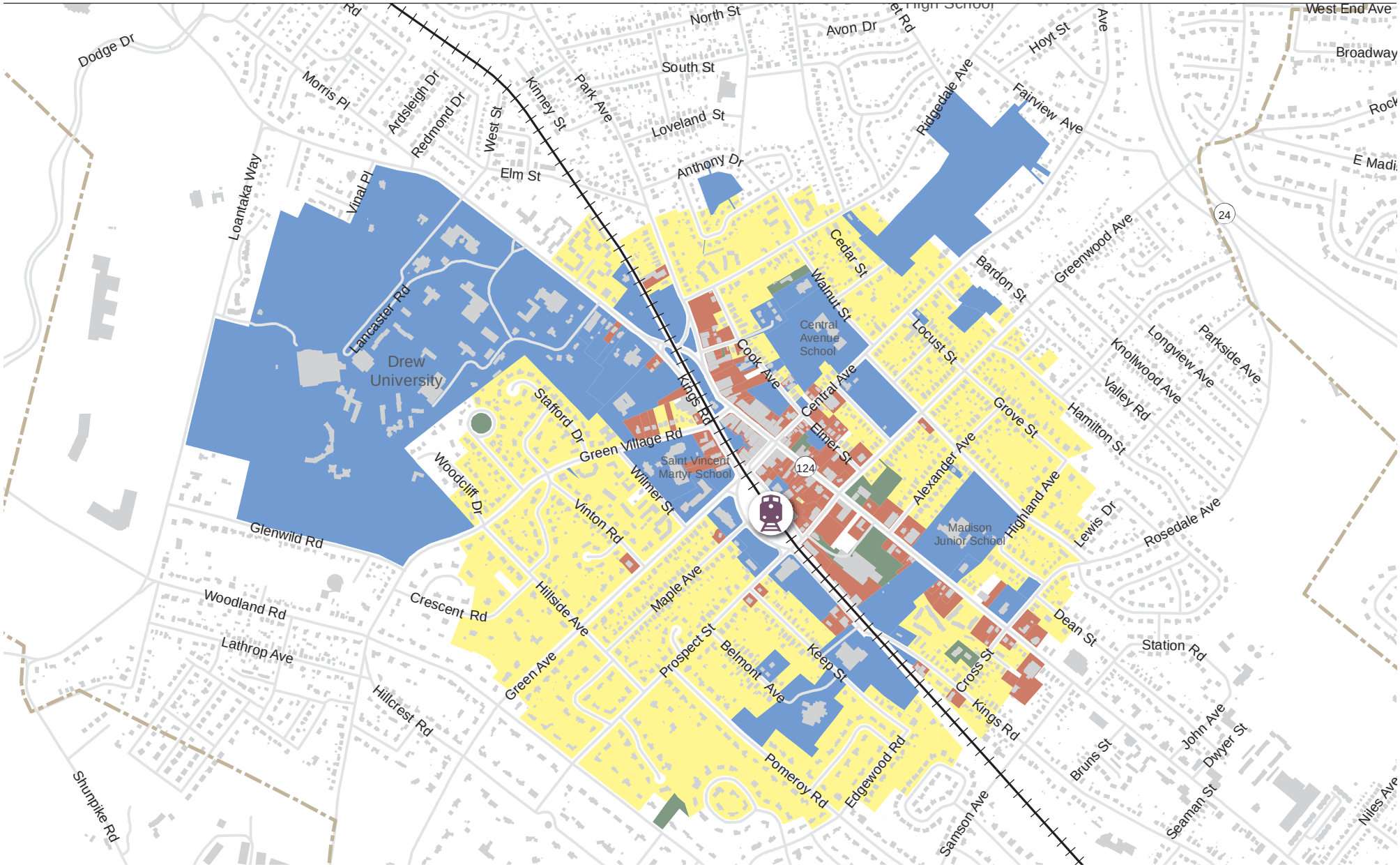

Parcels within one-half mile of Madison Station, Madison, NJ

- Town Line
- Railroad Line
- Building Footprints
- Train Station
- Residential
- Public/Religious/Schools
- Commercial/Industrial
- Vacant Land

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Transit Access Study

General Land Use
Madison Station

FIGURE **3-3**

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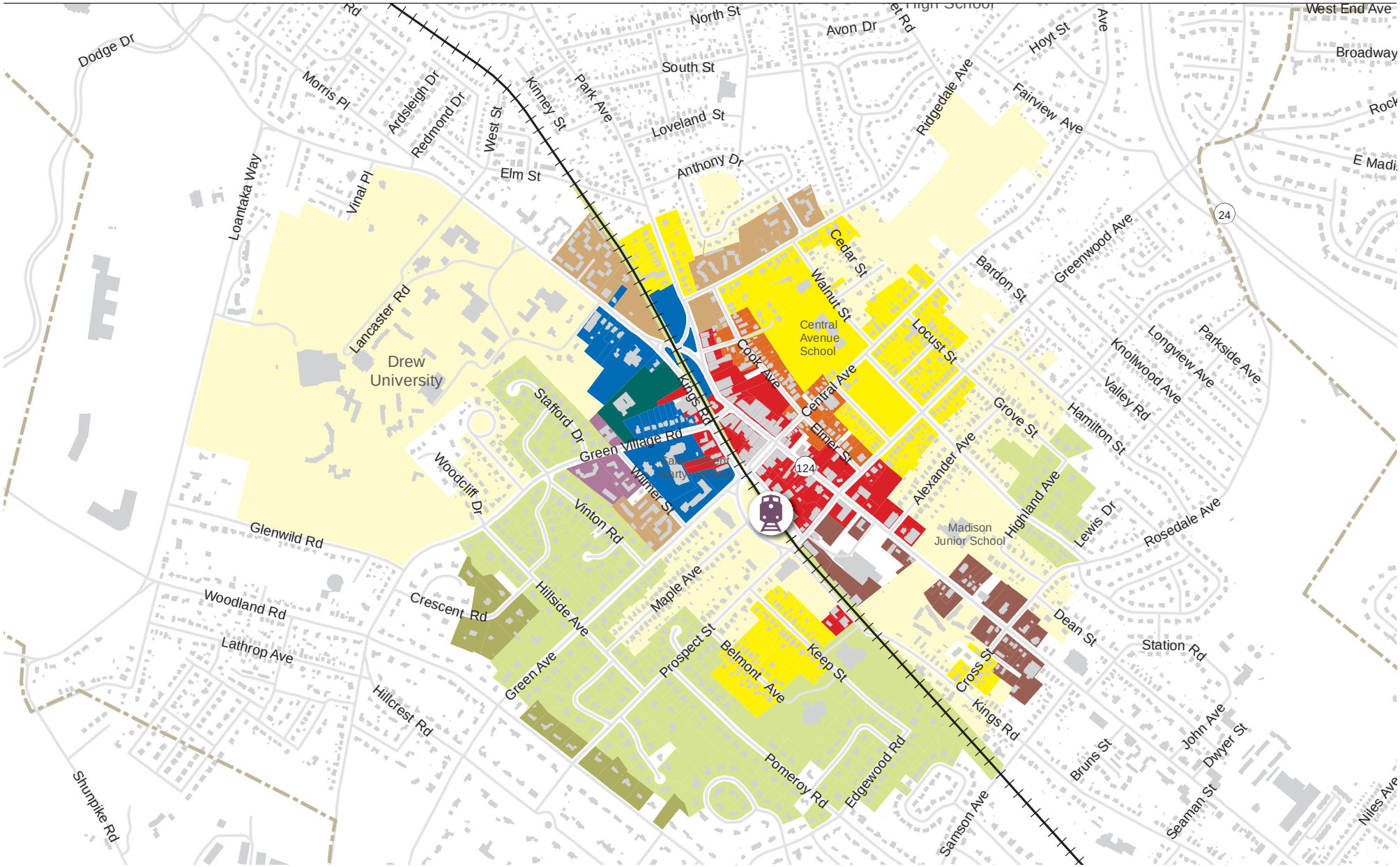

Parcels within one-half mile of Madison Station, Madison, NJ

- Town Line
- Railroad Line
- Building Footprints
- Train Station

- CBD-1 - Central Business District
- CBD-2 - Central Business District
- CC - Community Commercial
- OSGU - Open Space/Government Use
- P - Professional Office/Residential
- R-1 - Single-Family Residential
- R-2 - Single-Family Residential
- R-3 - Single-Family Residential
- R-4 - Two-Family Residential
- R-5 - Multi-Family Residential
- R-SH - Senior Citizen Housing

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Morris County NJ 124
Transit Access Study

Zoning Designations
Madison Station

FIGURE **3-4**

In December 2010, the Borough adopted regulations for the Green Village Road Special Use (GVRSU) District and mapped it on a former school site located adjacent to the downtown. The purpose of the zone is "to encourage development of the area, consistent with transit-oriented design and sustainable design principles…" The District includes two sub-zones. In Sub-Zone 1, townhouse and multi-family developments are permitted uses and a boutique hotel is a permitted conditional use. With bonuses, residential densities can go as high as 28 units per acre with maximum heights governed by ordinances regarding the sky exposure plain and topographic elevations. Sub-Zone 2's permitted uses include a boutique hotel along with ground floor retail, restaurants, and cultural facilities. Upper levels can accommodate commercial, offices, apartments, live/ work artist lofts, and institutional/ educational uses subject to various regulations.

Madison allows for denser (higher) buildings under certain circumstances. In the Green Village Road District, up to five story structures are allowed if certain incentive measures are provided.[16] Senior Citizen housing is permitted up to four stories, and businesses in CBD and office/ research uses are permitted up to three stories.

The Borough prepared their Master Plan in 1992, two Re-examination Reports prepared in accordance with State Law in 2004 and 2011, and a *Master Plan Land Use Amendment* in 2009. The following is a summary of key points in the 2011 Re-Examination report, which built on the earlier work, suggesting revisions where appropriate.

[16] (8) Maximum density: 20 units per base acre with the option for the reviewing board to grant density/ height bonuses based on the following, provided that the applicant meets at least two of the following standards:
(a) Incorporation of green building/ design techniques to achieve at least a LEED certified project under the LEED-ND Program or provision of an engineered green roof occupying at least 50 percent of rooftop area or 6,000 square feet, whichever is greater: bonus of 20 percent density over base density and 1/ 2 story of additional height.
(b) Inclusion of an amenity or site design feature that clearly benefits the public and/ or the environment to an extent reasonably related to the density incentive offered: up to 20 percent bonus.
(c) Provision of all parking below grade: bonus of 20 percent of the base density and 1/ 2 story of additional height.
(d) Maximum cumulative incentives shall not exceed 40 percent over the base density nor shall additional heights exceed one story.

Relevant goals and objectives for Madison that appear to have remained consistent from 1992 through the recent updates include:

- "To permit multi-family residential use at appropriate densities in locations accessible to major highways, commercial services, and public facilities."
- "Encourage the use of mass transportation."

The 2004 report noted several problems that would require planning efforts in order to address them, including, "Addressing parking demand in the downtown." In looking at those problems in 2011, the update on issues noted that the Borough had already reduced maximum downtown building heights to three stories, consistent with the existing scale, and lowered non-residential parking requirements in the downtown to reflect its "mixed-use, transit accessible nature." The update also reiterated the 2009 report's objectives, including:

- "To encourage development opportunities that incorporate transit-oriented design principles in locations within a quarter mile of the NJ TRANSIT train station with densities, amenities and uses reflective of the specific neighborhood context and site-related features and opportunities."

3.2.3 Convent Station Area

Convent Station is near the boundaries of four towns. The parcels in the analysis area are located in the Boroughs of Madison and Florham Park, and the Townships of Morris and Harding. There are currently no developments or redevelopment projects proposed within the half mile analysis area around the station. Just outside the analysis area at the intersection of Columbia Road (CR 510) and Park Avenue (CR 623), Honeywell was beginning the approval process for a redevelopment of its headquarters site at the start of this study. The proposed redevelopment would be a mixed-use combination of office space, residential, and open green space on the 147-acre property.

Zoning categories represented in the analysis area are listed by municipality below:

- Borough of Madison
  - R-1/ R-2/ R-3 Single-Family Residence Zones.
  - U - University Zone: reserved for Drew University and Fairleigh Dickinson University.

- Township of Morris
  - OL-5/ OL-40 Office and Research Laboratory Zones.
  - OSGU Open Space/ Government Use Zone: intended to recognize and preserve open space and government uses, including the train station.
  - RA-11/ RA-15/ RA-35 Single Family Residential Zones.
  - RH-5 Multiple Family Zone: permits a density of five units per acre.
  - TH-8 Town House Residential Zone: permits a density of eight units per acre.

- Borough of Florham Park
  - R-44 One-Family Residence Residential Zone: the College of St. Elizabeth and Fairleigh Dickinson University properties reside in this zone.

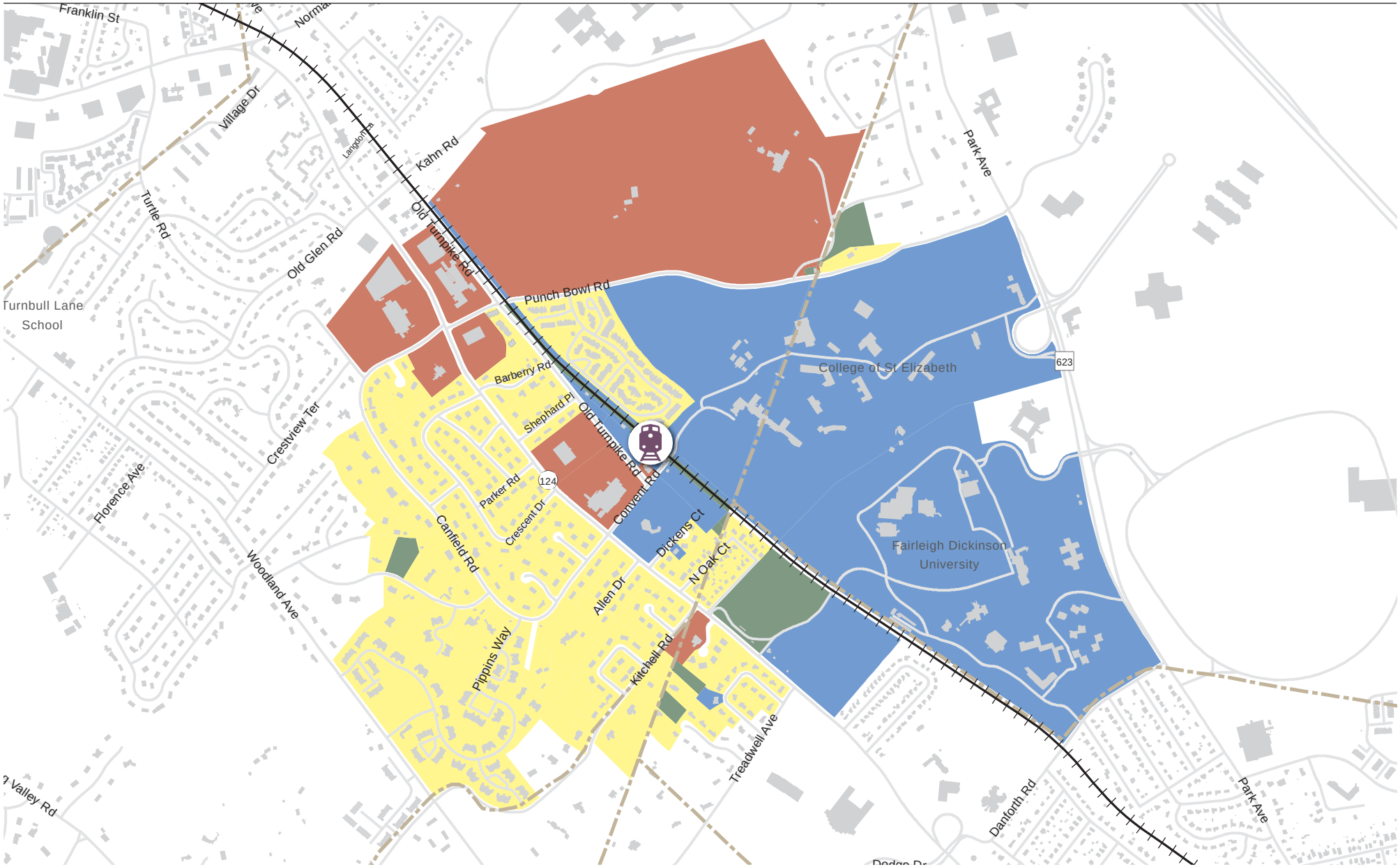
- Township of Harding
  - R-1 Single-Family Residence Residential Zone.

Table 3-3 summarizes the number of parcels and proportion of overall area within the analysis area by zone. Figures 3-5 and 3-6 show the general land uses and zoning designations for the Convent Station area.

Table 3-3: Parcels & Land Area by Zone, Convent Station Area

Zone	Zone Description	Total Area (Acres)	Total Parcels	Pct. of Total Area
R-44	One-Family Residence	239.4	4	31.7%
OS/GU	Open Space - Gov. Use	211.9	10	28.0%
RA-15	Single Family Residential	100.5	176	13.3%
RH-5	Multiple Family	52.2	12	6.9%
OL-5	Office and Research Lab.	43.8	19	5.8%
U	University Zone	29.9	2	3.9%
TH-8	Town House Residential	23.4	197	3.1%
RA-35	Single Family Residential	19.0	12	2.5%
R-1	Single-Family Residence Zone	18.5	32	2.4%
R-2	Single-Family Residence Zone	6.1	1	0.8%
R-3	Single-Family Residence Zone	5.6	25	0.7%
RA-11	Single Family Residential	5.0	17	0.7%
OL-40	Office and Research Lab.	1.0	1	0.1%

Source: Morris County, NJ, GIS; 2012



Parcels within one-half mile of Convent Station, Morris Township, NJ

- Town Line
- Railroad Line
- Building Footprints
- Train Station
- Residential
- Public/Religious/Schools
- Commercial/Industrial
- Vacant Land

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Morris County NJ 124
Transit Access Study

General Land Use
Convent Station

FIGURE **3-5**

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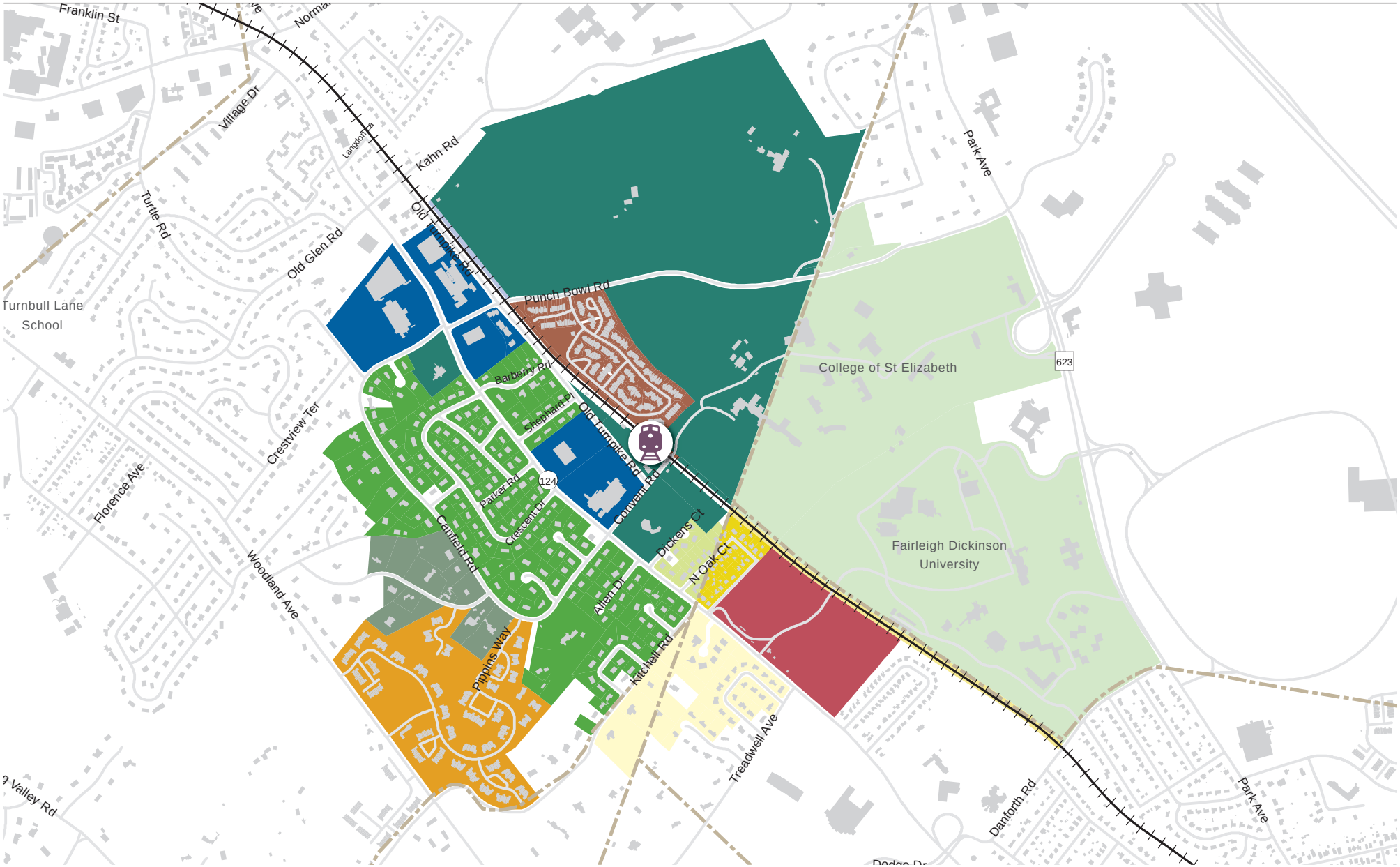

Parcels within one-half mile of Convent Station, Morris Township, NJ

Town Line
Railroad Line
Building Footprints
Train Station

R-1 - Single-Family Residential
R-2 - Single-Family Residential
R-3 - Single-Family Residential
U - University
OL-5 - Office and Research Laboratory
OL-40 - Office and Research Laboratory
OS/GU - Open Space - Government Use

RA-11 - Single Family Residential
RA-15 - Single Family Residential
RA-35 - Single Family Residential
RH-5 - Multi-Family Residential
TH-8 - Town House Residential
R-44 - One-Family Residential

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Morris County NJ 124
Transit Access Study

Zoning Destinations
Convent Station

FIGURE **3-6**

densities of 5, 16, and 20 units per acre. Zoning of areas in the Township around Convent Station is a mix of Open Space/ Government Use (OS/ GU), Office and Research Laboratory (OL-5), University (U), various single-family residential zones, and an area of Town House Residential (TH-8) with a maximum density of eight units per acre.

The Township most recently updated its master plan with a Reexamination in 2007. While the report does not specifically address the Convent Station area or transit service, it does contain policies that are relevant to this study, including the following goals:

- "Maintain established patterns of density both for single-family and multi-family uses…"
- "Maintenance of existing commercial areas and restriction of new commercial development"

The report also noted that the Township participated in the 2010 Exxon regional traffic study that included the intersections of Madison Avenue (NJ 124) with Punch Bowl Road, just west of Convent Station, and with Normandy Parkway further to the west. The Township suggested that the Madison/ Punch Bowl intersection be considered for signalization and that the signal at Normandy Parkway should be reviewed to reduce congestion on Madison Avenue. Madison Avenue was also listed as a priority for sidewalk construction.

3.3 Improvement to Land Value Analysis

An economic analysis of existing land improvements and their relationship to the land values was undertaken for each station area. The improvement-to-land value ratio is one metric used for identifying redevelopment opportunities since it provides an indication of general economic viability of an area. The indicator provides a snapshot based on the current valuation of properties in an area and then uses that valuation as a means of identifying underutilized properties.

For the purposes of calculating the improvement-to-land value ratio, the improvement value is equivalent to the assessed value of the structures on a property, and the land value reflects the assessed value of the land alone. Both values are determined by the tax assessor of the local municipality.

Developed properties located in economically viable areas typically have improvement-to-land-value ratios of at least 0.5 or higher; that is, the value of the buildings on the property is at least as high as one half the value of the land itself. Parcels with an improvement-to-land value ratio of less than 0.5 (that is, where the built structure was valued at less than half the value of the assessed

land) are considered to be underdeveloped. These properties are prospective opportunities for redevelopment in the sense that they present an opportunity to increase the overall value by renovating or replacing structures.

The following improvement-to-land value analysis was conducted using assessed land values and improvement value data that were obtained from the Morris County Division of GIS. The ratios of improvement-to-land value were calculated and each parcel was categorized based on its ratio. Redeveloping low-value land parcels close to a rail station could prove fiscally beneficial to the local community, based on the likelihood of generating net positive tax revenues. While the analysis may indicate the *potential* for redevelopment, other factors discussed in this chapter, such as market analysis and TOD analysis, as well as the zoning, community character, and historic nature of the community's properties will contribute to whether underutilized properties can or will redevelop.

3.3.1 Chatham Station Area

Figure 3-7 depicts the improvement-to-land value ratios in the areas surrounding Chatham Station. As shown in Figures 3-1 and 3-2, a linear business district is located along Main Street (NJ 124) just north of the rail line, surrounded by established residential neighborhoods interspersed with educational facilities. Table 3-4 summarizes the improvement to land value ratios by parcel count and percentage. Most properties have a ratio of less than 0.5, which is consistent with older housing stock (small homes built on large parcels) that exist in the area and the municipality's predominantly low density zoning, which may not capture the property's full development value. These parcels have high land values but relatively low improvement values. These properties could be considered to be underutilized or as having potential for redevelopment.

Table 3-4: Improvement-to-Land Value Ratios, Chatham Station Area

Improvement to Land Value Ratio	Parcel Count	Pct. of Total Parcels
0-0.5	1,014	67%
0.5-1.0	434	28%
1.0-1.5	32	2%
1.5-2.0	14	1%
2.0+	25	2%
Total	1,519	100%

Source: Morris County, NJ, GIS; 2012

Based on the improvement-to-land value analysis, re-development or infill development in the Chatham Central Business District is likely the best opportunity to improve property densities and built assessments consistent with

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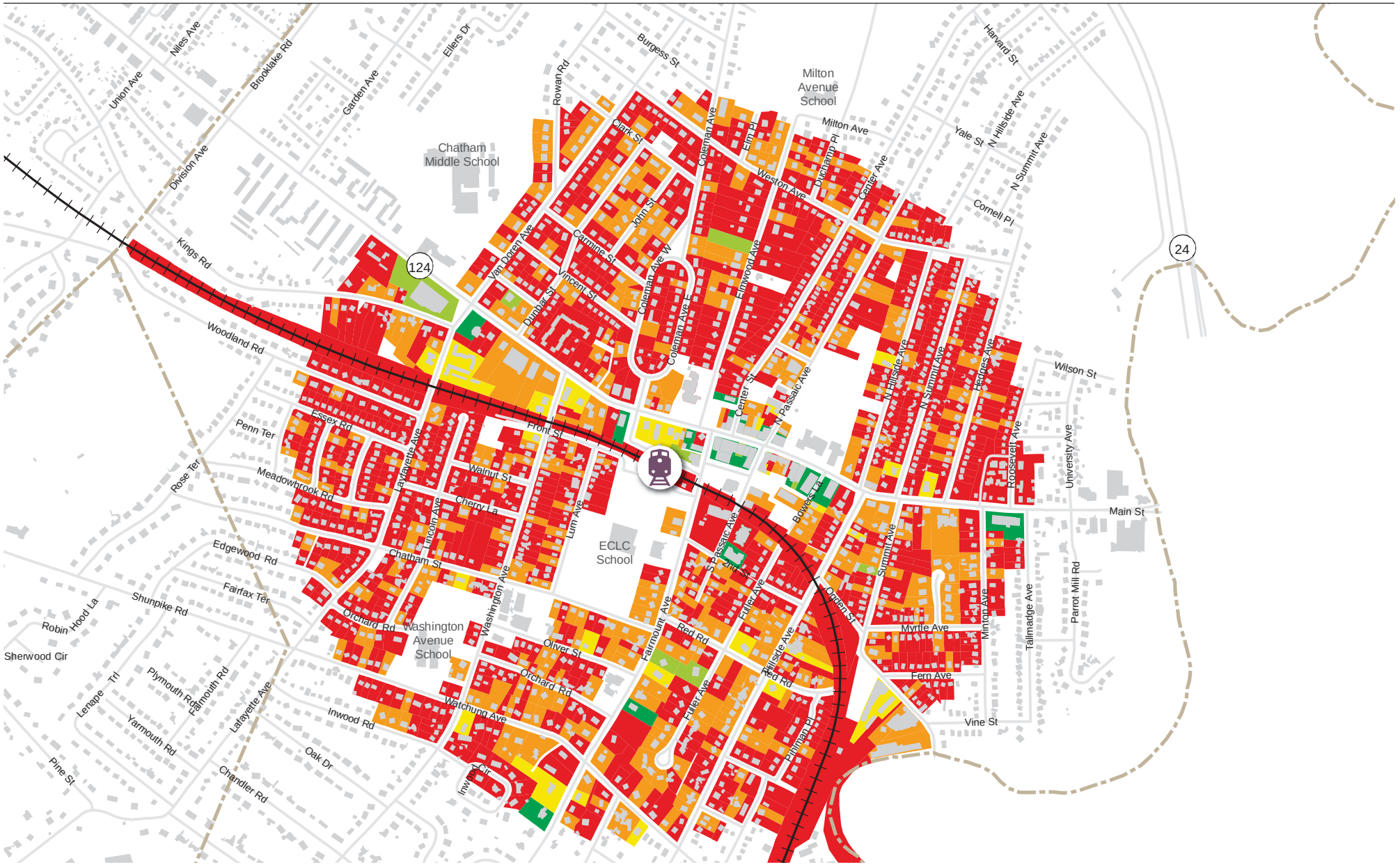

0 1,000 2,000 Feet

Parcels within one-half mile of Chatham Station, Chatham Borough, NJ

Town Line
Railroad Line
Building Footprints
Train Station

Improvement to Land Value Ratio
- below 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- above 2.0

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Morris County NJ 124
Transit Access Study

Property Improvement Value To Land Value Ratio Chatham Station

FIGURE **3-7**

the TOD characteristics of the area. Again, based upon this analysis, the majority (67 percent) of the properties in the study area are underdeveloped. However, since there are no substantial vacant parcels in the Borough or large groupings of underutilized properties, there appears to be little to no opportunity to develop a large-scale master planned TOD amongst the existing properties and established residential neighborhoods in the area. As noted in the review of Chatham Borough's planning documentation, Chatham is focused on preserving the scale and density of their town. Therefore, efforts to assemble properties for a larger-scale redevelopment would likely encounter economic, political, and physical challenges, and would not be consistent with local planning objectives.

3.3.2 Madison Station Area

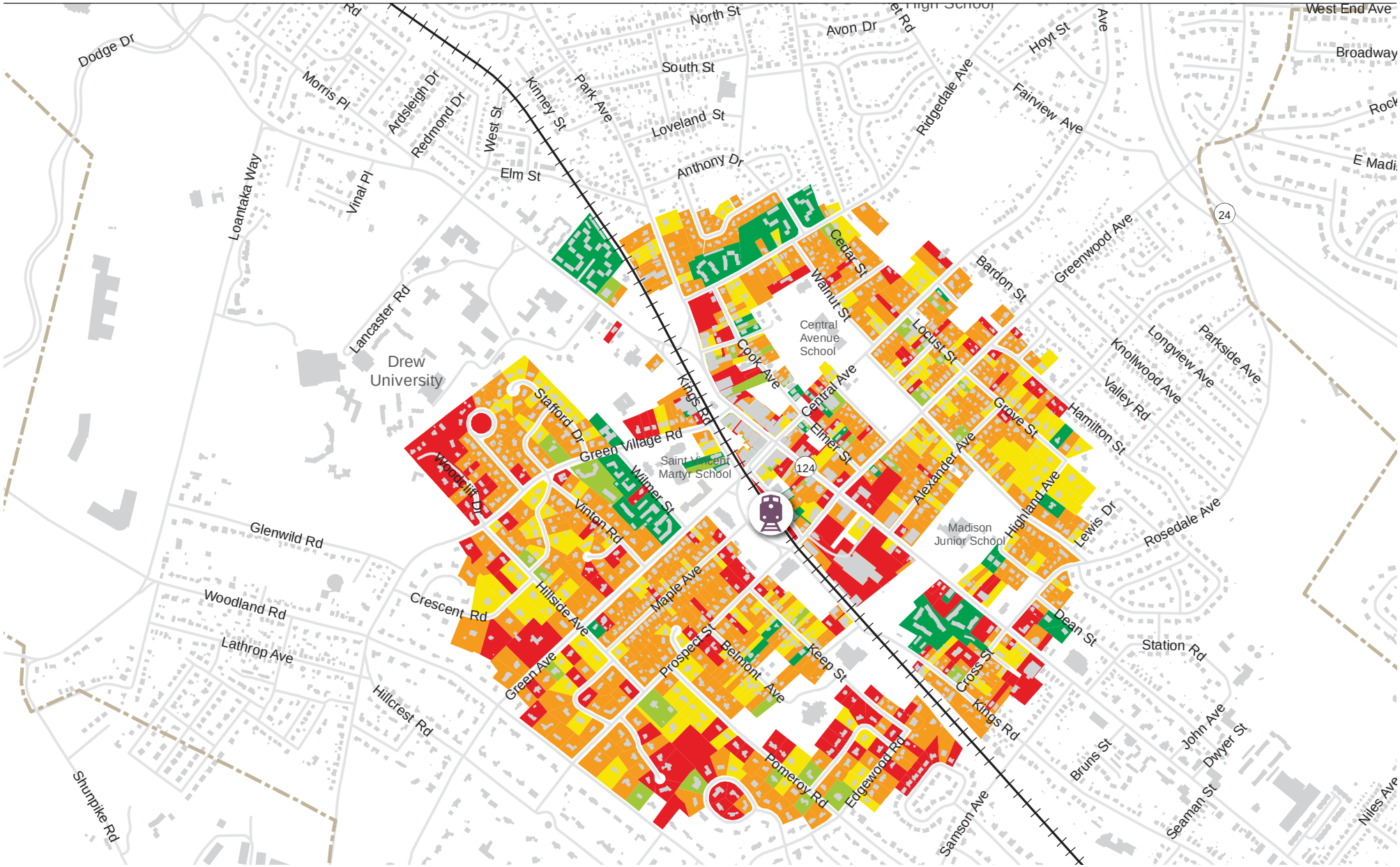
Figure 3-8 depicts the improvement-to-land value ratios in the area surrounding Madison Station. As shown in Figures 3-3 and 3-4, a number of public educational facilities are located in the area surrounding the station, with the business district running along Main Street (NJ 124) north and east of the rail line. Established and relatively dense residential neighborhoods surround the business district. Table 3-5 summarizes the improvement-to-land value ratios by parcel count and percentage. The ratio for most properties falls from 0.5 to 1.0, largely reflecting developed neighborhoods where properties are appropriately developed to capture land and improvement value, and contain few developable parcels.

Table 3-5: Improvement-to-Land Value Ratios, Madison Station Area

Improvement to Land Value Ratio	Parcel Count	Pct. of Total Parcels
0-0.5	165	17%
0.5-1.0	556	55%
1.0-1.5	199	20%
1.5-2.0	42	4%
2.0+	42	4%
Total	1,004	100%

Source: Morris County, NJ, GIS; 2012

Per this analysis and field observations, within a half mile of the Madison Station there are relatively few opportunities such as sizable vacant or underdeveloped properties for large-scale master-planned TOD initiatives, other than those already selected for redevelopment of this type as noted in the previous section of this report. Similar to Chatham Borough, efforts to assemble large enough parcels from these underutilized properties to create economically viable TODs would likely be difficult, although Madison is more supportive of this type of development around the station according to their planning documents. Fewer underutilized properties exist in the Madison study area as the improvement-to-



Parcels within one-half mile of Madison Station, Madison, NJ

Town Line
Railroad Line
Building Footprints
Train Station

Improvement to Land Value Ratio
- below 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- above 2.0

VHB

Morris County NJ 124
Transit Access Study

Property Improvement Value To Land Value Ratio Madison Station

FIGURE **3-8**

land value analysis indicates that the majority (84 percent) of properties in this area are currently developed appropriately and consistent with the existing TOD characteristics of the station area.

3.3.3 Convent Station Area

Figure 3-9 depicts the improvement-to-land value ratios in the Convent Station area. As shown in Figures 3-5 and 3-6, a number of educational facilities are located near the station, with office uses in the northwest corner of the analysis area and an established residential neighborhood located southwest from the rail line. Table 3-6 summarizes the ratios by parcel count and percentage. The improvement-to-land value ratios for the residential properties range from 0.5 to greater than 2.0, with the exception of the multi-family development in the southwest corner of the analysis area. As a general rule, improvement-to-land-value ratios for multi-family residential developments are subject to fluctuation as influenced by local market conditions and rental rates.

Table 3-6: Improvement-to-Land Value Ratios, Convent Station Area

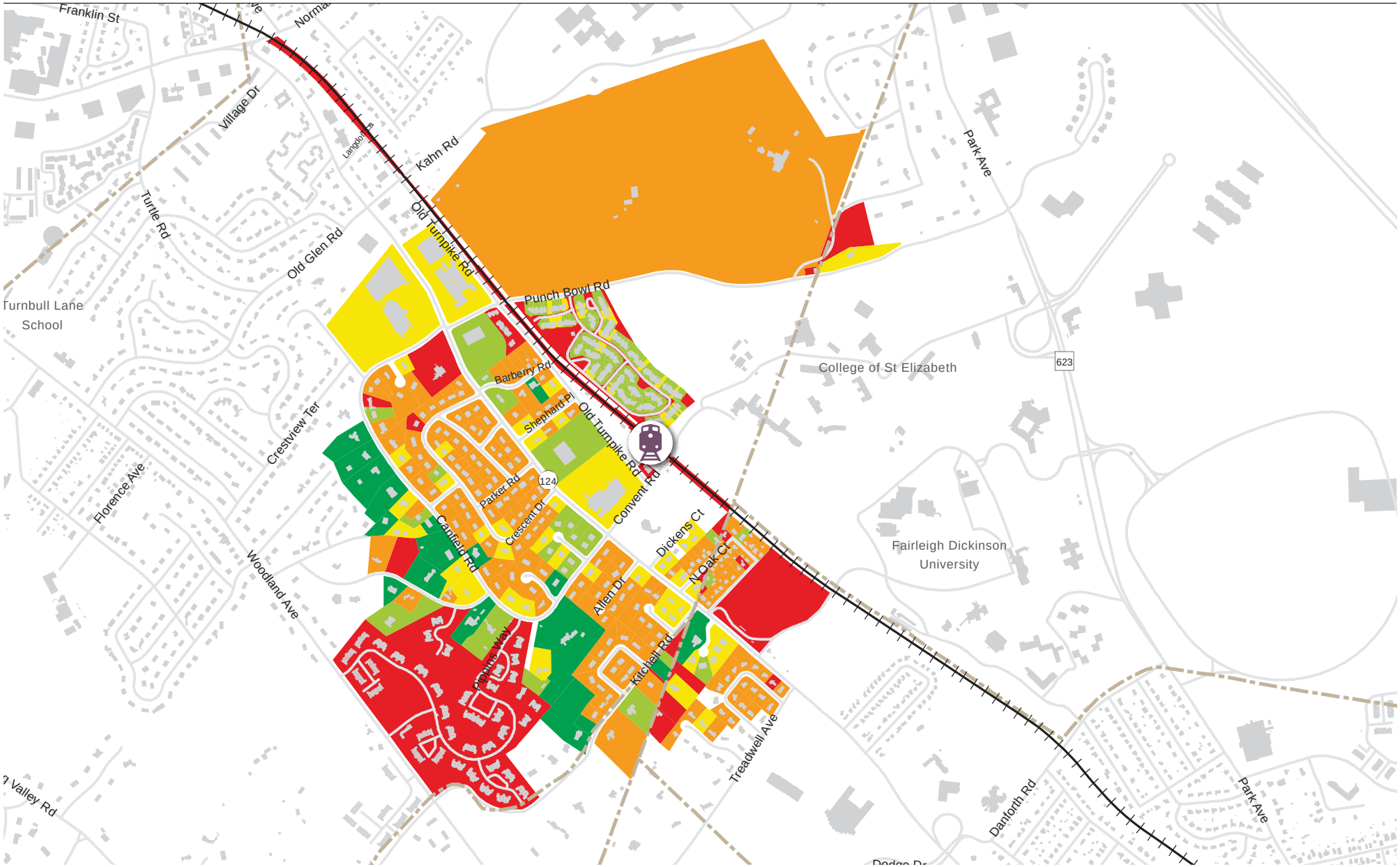
Improvement to Land Value Ratio	Parcel Count	Pct. of Total Parcels
0.0-0.5	32	6%
0.5-1.0	176	36%
1.0-1.5	78	16%
1.5-2.0	182	36%
2.0+	29	6%
Total	497	

Source: Morris County, NJ, GIS; 2012

The improvement-to-land value analysis for properties within a half mile of Convent Station indicates that the majority (94 percent) are appropriately developed and that a small number of land parcels are redevelopment candidates.

3.3.4 Summary

The improvement-to-land value analysis supports the local knowledge that the areas surrounding three stations range from under-developed (Chatham Station) to appropriately developed (Madison and Convent Stations). This analysis indicates that aside from the substantial parking fields at each station area, and already planned development, there is little opportunity for significant development in the station areas. Infill development, re-development, and higher development, with support of revised zoning codes, all offer the potential to increase densities around the stations with land uses that would support non-automobile-dependent lifestyles. However, the general sense from planning



Parcels within one-half mile of Convent Station, Morris Township, NJ

Town Line
Railroad Line
Building Footprints
Train Station

Improvement to Land Value Ratio
- below 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- above 2.0

VHB

Morris County NJ 124
Transit Access Study

Property Improvement Value To Land Value Ratio Convent Station

FIGURE **3-9**

documents, zoning codes, and discussions with community representatives is that Chatham Borough are unwilling to embrace denser and mixed-use development that may result in a departure from the existing community character.

3.4 Regional Market Analysis

The potential success of any TOD is tied to the characteristics of the surrounding real estate market. For each of the three station areas, market analyses were performed to identify the extent and characteristics of demand that could be expected to be captured by residential development within a TOD. Estimated and projected socio-economic trends that were examined include: population, household size and growth, family and non-family households,[17] household income (data unavailable for year 2010), educational attainment, and age cohort characteristics. A glossary of terms is provided in Appendix D of this report.

Each of these metrics gives some indication of the viability of a TOD in each community:

- Positive population and household growth trends increase demand for housing, which is critical to the success of a TOD.
- Housing tenure, or a comparison of the percentage of residences that are owned versus rented, can indicate the type of housing that will be in demand in the coming years.
- The current and projected age distribution of the population of a community will indicate the types of housing that will be in future demand. Growth in the young professionals' age group (25-34 years old) indicates an increased demand for smaller housing units in compact, urban settings with good access to transit. Growth in the empty-nesters demographic (ages 55-74) projects an increased demand for higher-end housing in compact settings with amenities such as transit and shopping nearby.
- High levels of household income indicate a propensity for upper-scale housing as well as high levels of disposable income. Both of these metrics are favorable for TOD that includes high-end housing combined with specialty retail.

The regional market analysis for the NJ 124 Corridor Transit Access Improvement Study included analysis years 2010, 2012 (estimated), and 2017 (projected). Quantitative demographic trend analyses were underpinned by a combination of public and proprietary data sources, including U.S. Census-based data and ESRI Community Analyst Online (CAO) software. Three market areas

[17] Does not include students living in college dormitories.

were analyzed at each station: a Base Area, a Primary Market Area, and a Secondary Market Area. These market areas represent the full market area that would be attracted to each individual station and the surrounding development.

3.4.1 Chatham Station Area

This section discusses the market analysis performed for the Chatham Station area.

3.4.1.1 Geographies Analyzed

The designated market areas that were assessed include a one-half mile radius Base Area, a 7.5 mile radius Primary Market Area (PMA), approximating a 15-minute drive contour, and a 7.5- to 15-mile radius Secondary Market Area (SMA) surrounding Chatham Station. Collectively, the Base Area, PMA, and SMA are referred as "geographies." Figures 3-10 and 3-11 depict these areas. The base area is the geography from which the most TOD activity would be generated should market conditions in Chatham Borough bring about a favorable change in housing or mixed development around the train station. The PMA is the next area that would generate activity and be affected by a change in Chatham's development mix. Together with the Base Area, the PMA encompasses 70 percent of likely commuter rail patrons for Chatham Station. The SMA is an area further from the train station and the outer limits from which residents may be attracted to the station and to possibly relocate to Chatham for housing should the market conditions be favorable. The SMA is assumed to approximate nearly 30 percent of likely patrons for Chatham Station. Residents from the SMA may also be attracted to travel to Chatham Borough for goods and services if market conditions in Chatham were favorable and those goods and services were available. Transit Oriented Developments are successful when robust demographics exist in all three market analysis zones.

3.4.1.2 Population and Households

Although the half mile Chatham Station Base Area experienced weak positive population growth over the 2010 to 2012 period, household population growth is projected to remain effectively, flat, across all three geographies, with relatively minor gains in household population by 2017. While estimated and projected population change across all geographies examined is relatively small, the greatest change is concentrated among persons living in non-family households—a demographic group consistently identified with TOD residential profiles.

Table 3-7 summarizes the population data for the Chatham geographies.

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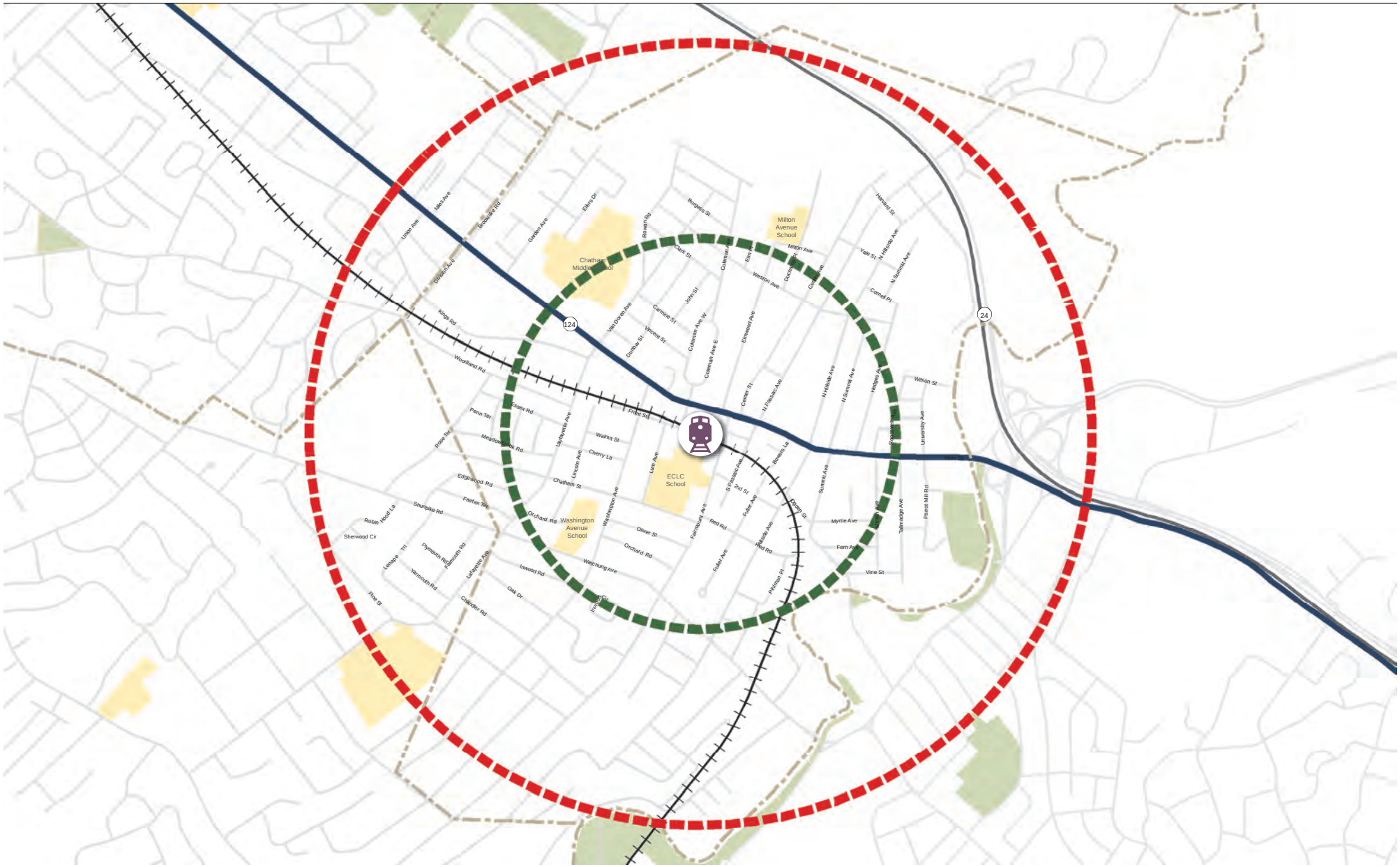

Town Line
Railroad Line
Train Station
Base Area (0.5-mile radius)
Base Area (1-mile radius)

Morris County NJ 124
Transit Access Study

Geographies
Chatham Station

FIGURE **3-10**

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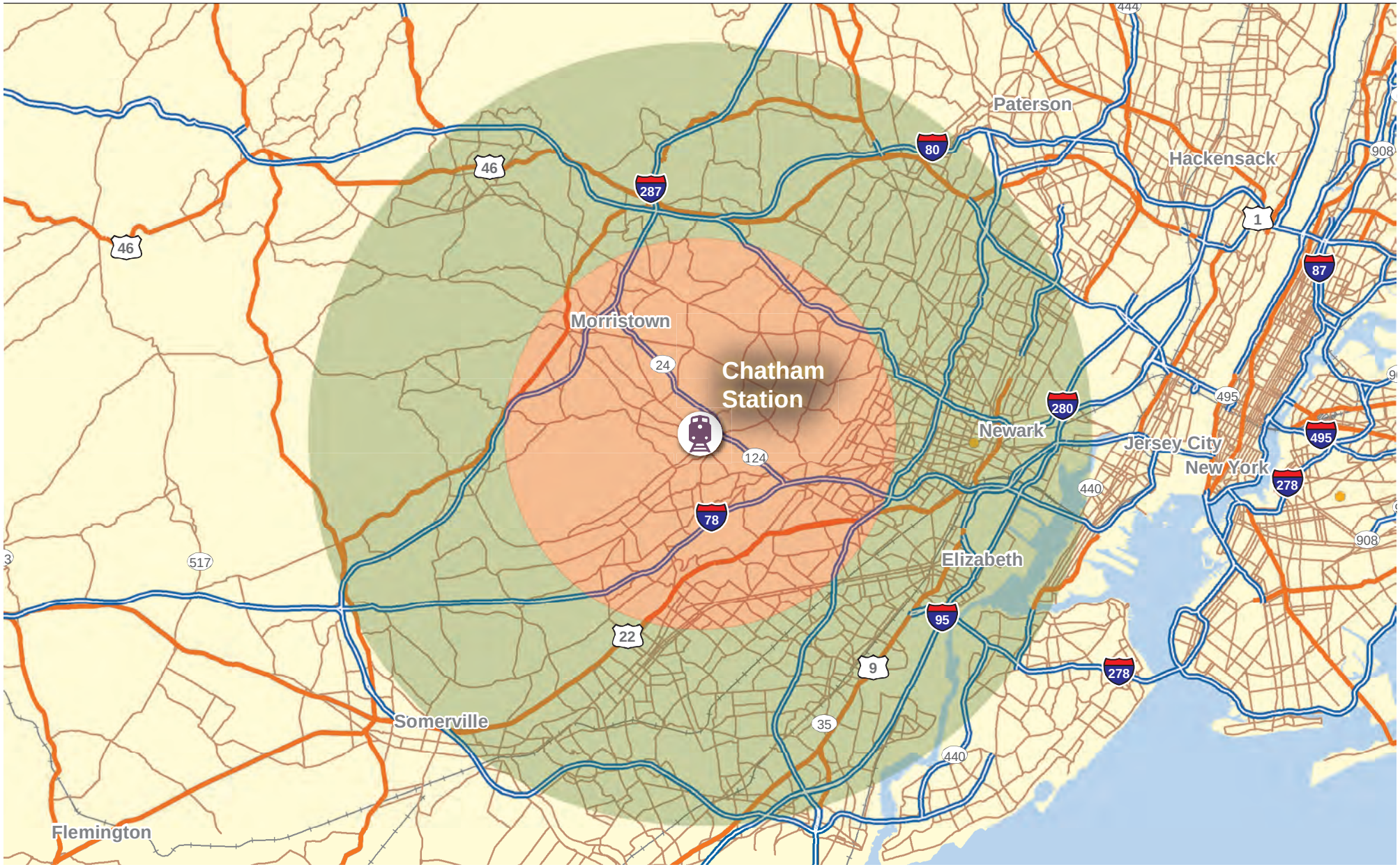

Train Station

Primary Market Area (0-7.5 mile radius)

Secondary Market Area (7.5-15 mile radius)

Morris County NJ 124
Transit Access Study

Geographies
Chatham Station

FIGURE **3-11**

Table 3-7: Population Trends

Chatham Station Base Area								**Percentage Change**
	2010		**2012**		**2017**		**2010-2012**	**2012-2017**
Total Population	3,985	100.0%	4,047	100.0%	4,121	100.0%	**1.6%**	**1.8%**
In Households	3,959	99.3%	4,021	99.4%	4,100	99.5%	**1.6%**	**2.0%**
In Families	3,599	90.3%	3,648	90.1%	3,712	90.1%	**1.4%**	**1.8%**
In Non-family Households	386	9.7%	399	9.9%	409	9.9%	**3.3%**	**2.4%**
Chatham Station PMA								**Percentage Change**
	2010		**2012**		**2017**		**2010-2012**	**2012-2017**
Total Population	452,165	100.0%	453,977	100.0%	459,311	100.0%	**0.4%**	**1.2%**
In Households	443,746	98.1%	445,656	98.2%	450,628	98.1%	**0.4%**	**1.1%**
In Families	381,812	84.4%	382,319	84.2%	386,934	84.2%	**0.1%**	**1.2%**
In Non-family Households	70,353	15.6%	71,658	15.8%	72,377	15.8%	**1.9%**	**1.0%**
Chatham Station SMA								**Percentage Change**
	2010		**2012**		**2017**		**2010-2012**	**2012-2017**
Total Population	1,906,051	100.0%	1,911,034	100.0%	1,925,139	100.0%	**0.3%**	**0.7%**
In Households	1,859,968	97.6%	1,864,497	97.6%	1,884,720	97.9%	**0.2%**	**1.1%**
In Families	1,557,364	81.7%	1,556,657	81.5%	1,565,027	81.3%	**-0.1%**	**0.5%**
In Non-family Households	348,687	18.3%	354,377	18.5%	360,112	18.7%	**1.6%**	**1.6%**

Source: US Census Bureau, ESRI Community Analyst; 2013

Household formation trends closely followed the flat population trend patterns in all three geographies examined—that is, over the 2010 to 2012 period, relatively small changes in the total number of households within the Station Base Area, PMA, and SMA were observed. Consistent with regional and national trends, non-family household formation grew (albeit slowly) at a rate faster than family households across all three geographies examined (this was particularly the case for the Station Base Area). Household size across geographies, from 2010 to 2012, was fairly typical, ranging from 2.72 to 2.92.

Overall household formation trends through 2017 for all three geographies are projected to remain relatively flat, with non-family households continuing to grow at a slightly faster rate. This cohort is likely to be seeking housing in downtown settings with transit accessibility and thus reflects positively for potential TOD in Chatham Borough.

Table 3-8 summarizes the household formation data.

Table 3-8: Household Formation Trends

Chatham Station Base Area							**Percentage Change**		
	2010		**2012**		**2017**		**2010-2012**		**2010-2017**
Total Households	1,365	100.0%	1,377	100.0%	1,404	100.0%	**0.9%**		**2.0%**
Families	1,071	78.5%	1,076	78.1%	1,095	78.0%	**0.5%**		**1.8%**
Non-Families	294	21.5%	301	21.9%	309	22.0%	**2.4%**		**2.7%**
Average Household Size	2.90		2.92		2.92		**0.7%**		**0.0%**
Chatham Station PMA							**Percentage Change**		
	2010		**2012**		**2017**		**2010-2012**		**2012-2017**
Total Households	163,142	100.0%	163,844	100.0%	165,672	100.0%	**0.4%**		**1.1%**
Families	118,208	72.5%	118,365	72.2%	119,424	72.1%	**0.1%**		**0.9%**
Non-Families	44,934	27.5%	45,479	27.8%	46,248	27.9%	**1.2%**		**1.7%**
Average Household Size	2.72		2.72		2.72		**0.0%**		**0.0%**
Chatham Station SMA							**Percentage Change**		
	2010		**2012**		**2017**		**2010-2012**		**2012-2017**
Total Households	681,307	100.0%	682,966	100.0%	687,854	100.0%	**0.2%**		**0.7%**
Families	473,363	69.5%	473,148	69.3%	475,692	69.2%	**-0.1%**		**0.5%**
Non-Families	207,944	30.5%	209,818	30.7%	212,162	30.8%	**0.9%**		**1.1%**
Average Household Size	2.73		2.73		2.74		**0.0%**		**0.4%**

Source: US Census Bureau, ESRI Community Analyst; 2013

3.4.1.3 Age

2012 US Census data was used to assess age characteristics in the three Chatham geographies. Data is presented for the following age ranges:

- Pre-School-Age Children (<5 years)
- Grade School-Age Children (5-14 years)
- High School and College-Age (15-24 years)
- Young Workforce and Grads (25-34 years)
- Early Stage Families (35-44 years)
- Late Stage Families (45-54 years)
- Young Empty Nesters (55-64 years)
- Older Empty Nesters (65-74 years)
- Mostly Retired (>74 years)

The 2012 median age in the Station Base Area and SMA was approximately 38 years, as compared to 41 in the PMA. Notable percentage changes occurred within the young workforce and grad population group (a gain of 4.1 percent in the Station Base Area), the late stage families population group (a loss of three percent within the SMA), the young empty nesters population group (gains of 5.7, 5.4, and 4.6 percent in the Station Base Area, PMA and SMA, respectively), and older empty nesters population group (gains of 7.4, 7.7, and 8.2 percent in the Station Base Area, PMA and SMA, respectively).

The greatest projected percentage changes among age cohorts through 2017 will, principally, occur within the older empty nesters population group age 65 to 75 years. Research suggests that persons within the young workforce and grad and older age groups represent growing demand for the types of small housing units typically found within TODs. These age demographics show that there would be a market for this type of housing in the Chatham geographies.

Table 3-9 summarizes the Chatham Station area age demographics.

Table 3-9: Population Age Trends

Chatham Station Base Area							Percentage Change	
	2010		2012		2017		2010-2012	2012-2017
Total Population	3,985	100.0%	4,047	100.0%	4,121	100.0%	**1.6%**	**1.8%**
Pre-School-Age Children	410	10.3%	417	10.3%	424	10.3%	**1.6%**	**1.8%**
Grade School-Age Children	769	19.3%	777	19.2%	795	19.3%	**1.0%**	**2.4%**
High School and College-Age	311	7.8%	312	7.7%	297	7.2%	**0.3%**	**-4.8%**
Young Workforce and Grads	323	8.1%	336	8.3%	346	8.4%	**4.1%**	**3.1%**
Early Stage Families	733	18.4%	733	18.1%	725	17.6%	**-0.1%**	**-1.0%**
Late Stage Families	658	16.5%	648	16.0%	614	14.9%	**-1.5%**	**-5.2%**
Young Empty Nesters	391	9.8%	413	10.2%	441	10.7%	**5.7%**	**6.8%**
Older Empty Nesters	207	5.2%	223	5.5%	272	6.6%	**7.4%**	**22.2%**
Mostly Retired	187	4.7%	190	4.7%	206	5.0%	**1.6%**	**8.3%**
Median age	38 years		38 years		38 years		**0.3%**	**-0.3%**
Chatham Station PMA							**Percentage Change**	
	2010		**2012**		**2017**		**2010-2012**	**2012-2017**
Total Population	452,165	100.0%	453,977	100.0%	459,311	100.0%	**0.4%**	**1.2%**
Pre-School-Age Children	28,034	6.2%	28,147	6.2%	28,477	6.2%	**0.4%**	**1.2%**
Grade School-Age Children	65,564	14.5%	64,919	14.3%	66,141	14.4%	**-1.0%**	**1.9%**
High School and College-Age	51,999	11.5%	50,845	11.2%	48,687	10.6%	**-2.2%**	**-4.3%**
Young Workforce and Grads	45,217	10.0%	45,852	10.1%	46,850	10.2%	**1.4%**	**2.2%**
Early Stage Families	67,373	14.9%	65,827	14.5%	64,763	14.1%	**-2.3%**	**-1.6%**
Late Stage Families	74,607	16.5%	72,636	16.0%	67,978	14.8%	**-2.6%**	**-6.4%**
Young Empty Nesters	54,712	12.1%	57,655	12.7%	60,629	13.2%	**5.4%**	**5.2%**
Older Empty Nesters	31,199	6.9%	33,594	7.4%	40,419	8.8%	**7.7%**	**20.3%**
Mostly Retired	33,912	7.5%	34,048	7.5%	35,826	7.8%	**0.4%**	**5.2%**
Median age	41 years		41 years		41 years		**1.0%**	**0.7%**
Chatham Station SMA							**Percentage Change**	
	2010		**2012**		**2017**		**2010-2012**	**2012-2017**
Total Population	1,906,051	100.0%	1,911,034	100.0%	1,925,139	100.0%	**0.3%**	**0.7%**
Pre-School-Age Children	121,987	6.4%	122,306	6.4%	123,209	6.4%	**0.3%**	**0.7%**
Grade School-Age Children	249,693	13.1%	246,523	12.9%	248,343	12.9%	**-1.3%**	**0.7%**
High School and College-Age	251,599	13.2%	248,434	13.0%	234,867	12.2%	**-1.3%**	**-5.5%**
Young Workforce and Grads	263,035	13.8%	269,456	14.1%	273,370	14.2%	**2.4%**	**1.5%**
Early Stage Families	278,283	14.6%	271,367	14.2%	267,594	13.9%	**-2.5%**	**-1.4%**
Late Stage Families	291,626	15.3%	282,833	14.8%	263,744	13.7%	**-3.0%**	**-6.8%**
Young Empty Nesters	219,196	11.5%	229,324	12.0%	240,642	12.5%	**4.6%**	**4.9%**
Older Empty Nesters	120,081	6.3%	129,950	6.8%	155,936	8.1%	**8.2%**	**20.0%**
Mostly Retired	110,551	5.8%	110,840	5.8%	115,508	6.0%	**0.3%**	**4.2%**
Median age	37 years		38 years		38 years		**0.5%**	**0.8%**

Source: US Census Bureau, ESRICommunity Analyst; 2013

3.4.1.4 Housing Tenure

Housing tenure trends within the Chatham Base Station Area, over the 2010 to 2012 period, show that approximately 80 percent of all occupied housing stock was owner-occupied, as compared to approximately 70 percent in the PMA and approximately 50 percent in the SMA. This relatively high ownership rate within the Base Station Area indicates a likely pent-up demand for rental units – a housing type which is prominently featured in successful TODs, which are attractive to young professionals and empty nesters.

Figure 3-12 depicts the rented housing units in the Chatham Station geographies. Table 3-10 presents housing tenure statistics.

Figure 3-12: Rented Housing Unit Comparison

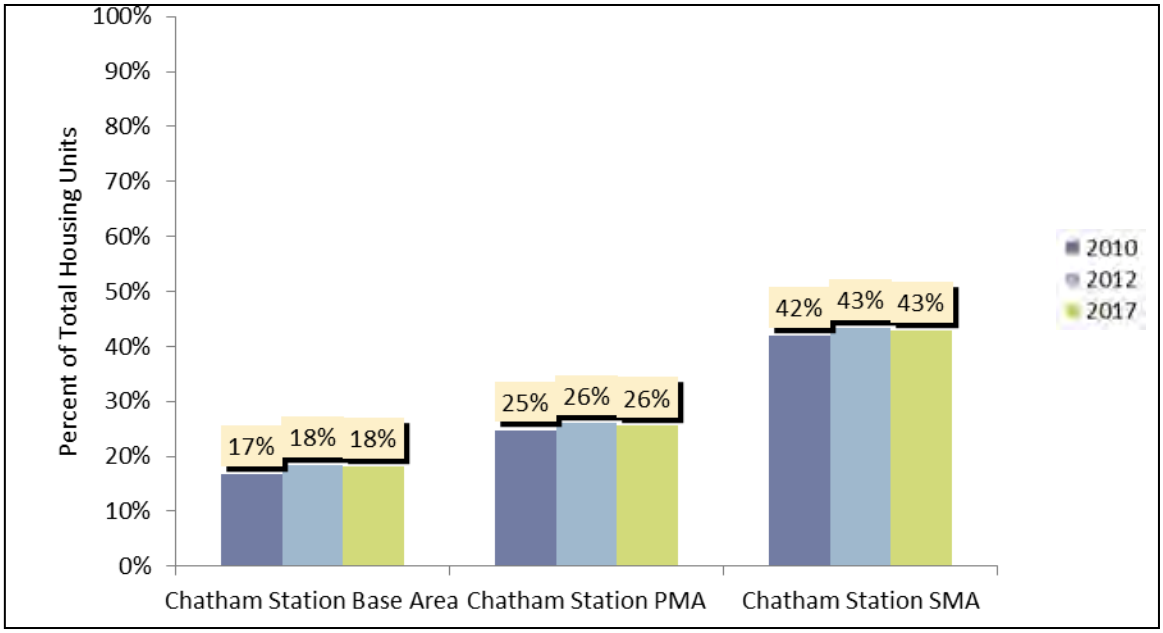

Table 3-10: Housing Tenure Trends

Chatham Station Base Area											**Percentage Change**		
		2010			**2012**			**2017**			**2010-2012**		**2012-2017**
Total Housing Units		1,429	100.0%		1,432	100.0%		1,449	100.0%		**0.2%**		**1.2%**
Vacant Housing Units		64	4.5%		55	3.8%		45	3.1%		**-14.1%**		**-18.2%**
Owned Housing Units		1,126	78.8%		1,114	77.8%		1,142	78.8%		**-1.1%**		**2.5%**
Rented Housing Units		239	16.7%		263	18.4%		262	18.1%		**10.0%**		**-0.4%**
Chatham Station PMA											**Percentage Change**		
		2010			**2012**			**2017**			**2010-2012**		**2012-2017**
Total Housing Units		171,298	100.0%		172,318	100.0%		174,515	100.0%		**0.6%**		**1.3%**
Vacant Housing Units		8,156	4.8%		8,474	4.9%		8,843	5.1%		**3.9%**		**4.4%**
Owned Housing Units		120,759	70.5%		119,100	69.1%		121,129	69.4%		**-1.4%**		**1.7%**
Rented Housing Units		42,383	24.7%		44,745	26.0%		44,543	25.5%		**5.6%**		**-0.5%**
Chatham Station SMA											**Percentage Change**		
		2010			**2012**			**2017**			**2010-2012**		**2012-2017**
Total Housing Units		731,643	100.0%		733,897	100.0%		740,226	100.0%		**0.3%**		**0.9%**
Vacant Housing Units		50,336	6.9%		50,931	6.9%		52,372	7.1%		**1.2%**		**2.8%**
Owned Housing Units		374,152	51.1%		364,704	49.7%		370,602	50.1%		**-2.5%**		**1.6%**
Rented Housing Units		307,155	42.0%		318,262	43.4%		317,252	42.9%		**3.6%**		**-0.3%**

Source: US Census Bureau, ESRI Community Analyst; 2013

3.4.1.5 Household Income

Households within the Chatham Base Station Area are relatively affluent, exhibiting a 2012 median household income of nearly $151,200—compared to approximately $98,300 in the PMA and $60,200 in the SMA. Indeed, more than 80 percent of households within the Chatham Base Station Area in 2012 had annual incomes greater than $75,000. By comparison, the share of households earning more than $75,000 annually was 61 percent in the PMA and 42 percent in the SMA– substantially lower than the share identified in the Station Base Area.

However, the percentage growth in households earning more than $75,000 per annum, over the 2010 to 2012 period is projected to be greater within the PMA and SMA. For example, the number of households earning more than $75,000 per annum within the Station Base Area is estimated to grow at a rate of 1.73 percent per year from 2012 to 2017, compared to 2.71 and 3.81 percent in the PMA and SMA, respectively, over the same period. These upper income household trends are favorable for prospective TOD activity.

Table 3-11 summarizes the Household Income trends across the analyzed Chatham geographies.

Table 3-11: Household Income Trends

Chatham Station Base Area						**% Change**
	2012		**2017**			**2012-2017**
Total Households	1,377	100.0%	1,404	100.0%		**2.0%**
< $35,000	85	6.2%	63	4.5%		**-25.9%**
$35K to $74.9K	185	13.4%	137	9.8%		**-26.0%**
$75K to $99.9K	127	9.2%	148	10.5%		**16.5%**
$100K to $149.9K	283	20.6%	292	20.8%		**3.2%**
>$149.9K	699	50.8%	765	54.5%		**9.4%**
Median household income	$151,175		$157,155			**4.0%**
Chatham Station PMA						**% Change**
	2012		**2017**			**2012-2017**
Total Households	163,844	100.0%	165,672	100.0%		**1.1%**
< $35,000	25,270	15.4%	20,464	12.4%		**-19.0%**
$35K to $74.9K	37,653	23.0%	30,595	18.5%		**-18.7%**
$75K to $99.9K	20,074	12.3%	24,695	14.9%		**23.0%**
$100K to $149.9K	32,342	19.7%	34,718	21.0%		**7.4%**
>$149.9K	48,504	29.6%	55,198	33.3%		**13.8%**
Median household income	$98,300		$107,054			**8.9%**
Chatham Station SMA						**% Change**
	2012		**2017**			**2012-2017**
Total Households	682,966	100.0%	687,854	100.0%		**0.7%**
< $35,000	200,248	29.3%	178,283	25.9%		**-11.0%**
$35K to $74.9K	198,616	29.1%	171,390	24.9%		**-13.7%**
$75K to $99.9K	81,888	12.0%	105,669	15.4%		**29.0%**
$100K to $149.9K	105,037	15.4%	118,785	17.3%		**13.1%**
>$149.9K	97,160	14.2%	113,710	16.5%		**17.0%**
Median household income	$60,207		$73,048			**21.3%**

Source: US Census Bureau, ESRI Community Analyst; 2013

3.4.2 Madison Station Area

This section discusses the market analysis performed for the Madison Station area.

3.4.2.1 Geographies Analyzed

The designated market areas that were assessed include a one-half mile radius Base Area, a 7.5 mile radius Primary Market Area (PMA) approximating a 15-minute drive contour, and a 7.5- to 15-mile radius Secondary Market Area (SMA) surrounding Madison Station. Collectively, the Base Area, PMA, and SMA are referred as "geographies." Figures 3-13 and 3-14 depict these areas. The base area is the geography from which the most TOD activity would be generated should market conditions in Madison bring about a favorable change in housing or mixed development around the train station. Together with the Base Area, the PMA encompasses 70 percent of likely commuter rail patrons for Madison Station. The PMA is the next area that would generate activity and be affected by a change in Madison's development mix. The SMA is an area further from the train station and the outer limits from which residents may be attracted to relocate to Madison for housing should the market conditions be favorable. The SMA is assumed to approximate nearly 30 percent of likely patrons for Madison Station. Residents from the SMA may also be attracted to travel to Madison for goods and services if market conditions were favorable. TODs are successful when robust demographics exist in all three market analysis zones.

3.4.2.2 Population and Households

The rate of household population growth from 2010 to 2012 within the Madison Station Base Area (1.97 percent per year) was the strongest for all geographies examined. In contrast with the Chatham and Convent Station geographies, population increase within the Madison Station Base Area over the same period was, principally, concentrated among persons living in family households. Although the rate of household growth is projected to decline slightly, it is expected to continue growing at a rate of 1.20 percent per year through 2017. Similarly, and consistent with population trends, household formation (especially among family households) experienced strong positive growth within the Station Base Area but flat growth within the PMA and SMA, over the 2010 to 2012 period. The rate of household formation is projected to decline slightly, but to continue growing at a rate of 1.02 percent per year through 2017. Average household size increases with distance from the station area – consistent with patterns observed for more established TODs.

Tables 3-12 and 3-13 depict population and household trends for the Madison Station geographies.

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0 0.25 0.5 Miles

Town Line
Railroad Line
Train Station
Base Area (0.5-mile radius)
Base Area (1-mile radius)

Morris County NJ 124
Transit Access Study

Geographies
Madison Station

FIGURE **3-13**

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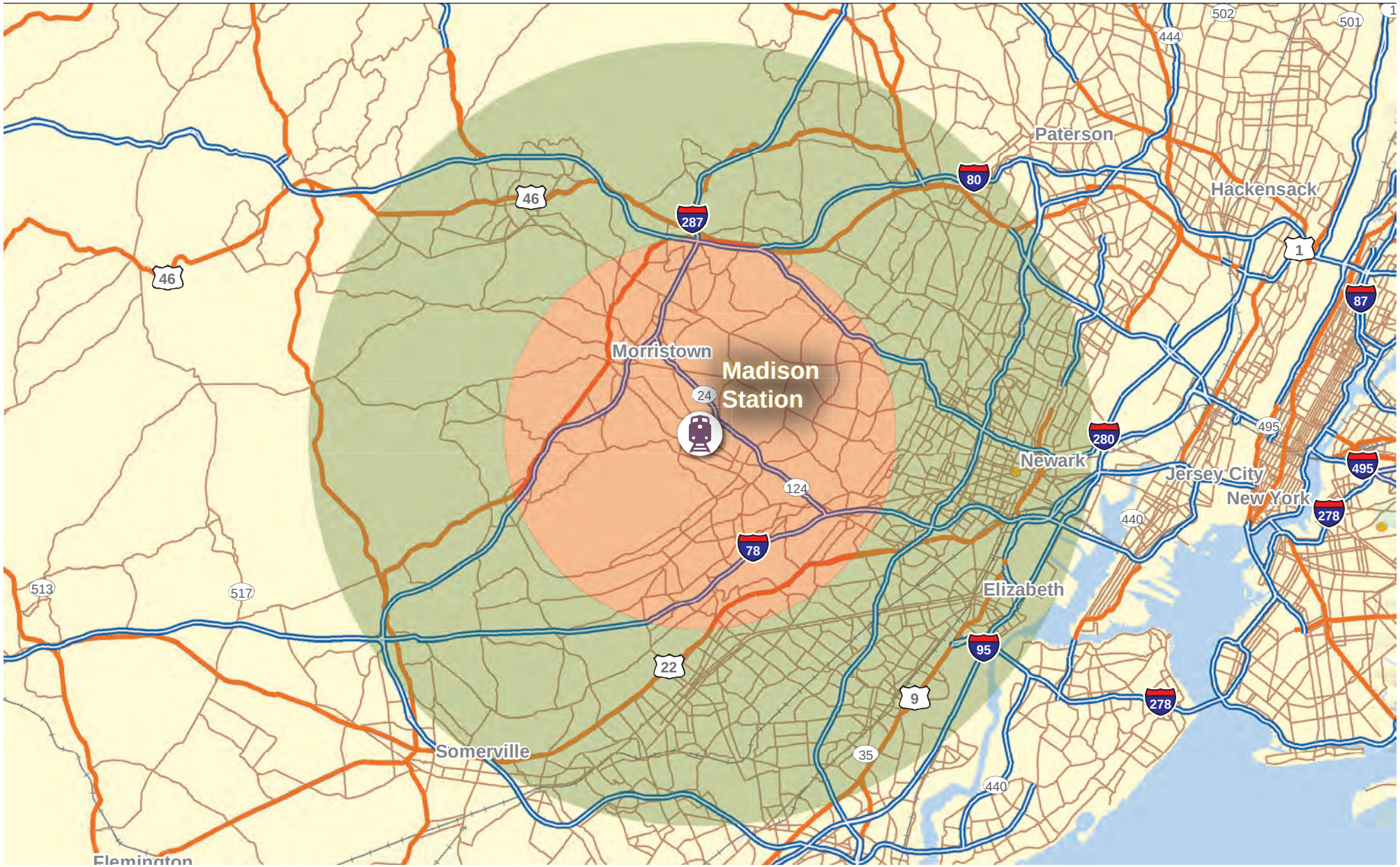

Train Station

Primary Market Area (0-7.5 mile radius)

Secondary Market Area (7.5-15 mile radius)

Morris County NJ 124
Transit Access Study

Geographies
Madison Station

FIGURE **3-14**

Table 3-12: Population Trends

Madison Station Base Area											**Percentage Change**		
		2010			**2012**			**2017**			**2010-2012**		**2012-2017**
Total Population		3,403	100.0%		3,536	100.0%		3,740	100.0%		**3.9%**		**5.8%**
Household Population		3,306	97.1%		3,436	97.2%		3,641	97.3%		**3.9%**		**6.0%**
Family Population		2,672	78.5%		2,788	78.8%		2,959	79.1%		**4.3%**		**6.2%**
Non-Family Population		731	21.5%		748	21.2%		781	20.9%		**2.4%**		**4.3%**
Madison Station PMA											**Percentage Change**		
		2010			**2012**			**2017**			**2010-2012**		**2012-2017**
Total Population		307,321	100.0%		309,559	100.0%		314,661	100.0%		**0.7%**		**1.7%**
Household Population		299,201	97.4%		301,283	97.3%		306,632	97.4%		**0.7%**		**1.8%**
Family Population		258,508	84.1%		259,510	83.8%		263,516	83.7%		**0.4%**		**1.5%**
Non-Family Population		48,813	15.9%		50,049	16.2%		51,145	16.3%		**2.5%**		**2.2%**
Madison Station SMA											**Percentage Change**		
		2010			**2012**			**2017**			**2010-2012**		**2012-2017**
Total Population		1,820,717	100.0%		1,825,826	100.0%		1,838,323	100.0%		**0.3%**		**0.7%**
Household Population		1,783,384	97.9%		1,788,160	97.9%		1,800,268	97.9%		**0.3%**		**0.7%**
Family Population		1,488,310	81.7%		1,488,084	81.5%		1,500,276	81.6%		**0.0%**		**0.8%**
Non-Family Population		332,407	18.3%		337,742	18.5%		338,047	18.4%		**1.6%**		**0.1%**

Source: US Census Bureau, ESRI Community Analyst; 2013

Table 3-13: Household Formation Trends

Madison Station Base Area											**Percentage Change**		
		2010			**2012**			**2017**			**2010-2012**		**2012-2017**
Total Households		1,366	100.0%		1,408	100.0%		1,480	100.0%		**3.1%**		**5.1%**
Family Households		882	64.6%		911	64.7%		964	65.1%		**3.3%**		**5.8%**
Non-Family Households		484	35.4%		497	35.3%		516	34.9%		**2.7%**		**3.8%**
Average households size		2.42			2.44			2.46			**0.8%**		**0.8%**
Madison Station PMA											**Percentage Change**		
		2010			**2012**			**2017**			**2010-2012**		**2012-2017**
Total Households		111,642	100.0%		112,419	100.0%		114,415	100.0%		**0.7%**		**1.8%**
Family Households		81,037	72.6%		81,351	72.4%		82,607	72.2%		**0.4%**		**1.5%**
Non-Family Households		30,605	27.4%		31,068	27.6%		31,808	27.8%		**1.5%**		**2.4%**
Average households size		2.68			2.68			2.68			**0.0%**		**0.0%**
Madison Station SMA											**Percentage Change**		
		2010			**2012**			**2017**			**2010-2012**		**2012-2017**
Total Households		650,870	100.0%		652,613	100.0%		657,032	100.0%		**0.3%**		**0.7%**
Family Households		453,753	69.7%		453,684	69.5%		456,011	69.4%		**0.0%**		**0.5%**
Non-Family Households		197,117	30.3%		198,929	30.5%		201,021	30.6%		**0.9%**		**1.1%**
Average households size		2.74			2.74			2.74			**0.0%**		**0.0%**

Source: US Census Bureau, ESRI Community Analyst; 2013

3.4.2.3 Age

The 2012 median age in the Madison Station geographies ranged from 38 to 42 years, with the median age projected to remain relatively stable through 2017. Growth is fairly concentrated within age groups 55 and older, across all three geographies examined. Indeed, by 2017, more than 25 percent of all geographies will be 55 or older. Notwithstanding the relatively flat population growth in the PMA and SMA, growth has been particularly robust for persons between the ages of 55 and 74 for all three geographies, which is consistent with regional trends. This age cohort is also strongly correlated with empty nesters – a demographic group often identified within TOD projects.

Table 3-14 summarizes age demographics across the three geographies.

3.4.2.4 Housing Tenure

The 2010 to 2012 annual growth in total housing units within the Madison Station Base Area (0.82 percent) fell below the growth in household formation in the same geography over the same period. As a consequence, the Station Base Area experienced a strong decline (8.34 percent) in the number of available vacant units. Although this trend is expected to slow, markedly, through 2017, it will remain strong as the household population continues to grow along with housing demand.
Figure 3-15 depicts the comparison and projection of rented units in the Madison Station geographies. Table 3-15 presents housing tenure statistics.

Table 3-14: Population Age Trends

Madison Station Base Area							Percentage Change	
	2010		2012		2017		2010-2012	2012-2017
Total Population	3,403	100.0%	3,536	100.0%	3,740	100.0%	**3.9%**	**5.8%**
Pre-School-Age Children	228	6.7%	233	6.6%	251	6.7%	**2.4%**	**7.4%**
Grade School-Age Children	524	15.4%	548	15.5%	591	15.8%	**4.6%**	**7.8%**
High School and College-Age	415	12.2%	424	12.0%	423	11.3%	**2.2%**	**-0.4%**
Young Workers and Grads	361	10.6%	378	10.7%	396	10.6%	**4.9%**	**4.8%**
Early Stage Families	544	16.0%	552	15.6%	565	15.1%	**1.3%**	**2.4%**
Late Stage Families	558	16.4%	562	15.9%	554	14.8%	**0.7%**	**-1.6%**
Young Empty Nesters	330	9.7%	361	10.2%	400	10.7%	**9.3%**	**11.0%**
Older Empty Nesters	201	5.9%	223	6.3%	284	7.6%	**11.0%**	**27.6%**
Mostly Retired	242	7.1%	251	7.1%	277	7.4%	**3.9%**	**10.2%**
Median age	38.7 years		39.0 years		39.1 years		**0.8%**	**0.3%**
Madison Station 7.5 Mile Radius							**Percentage Change**	
	2010		**2012**		**2017**		**2010-2012**	**2012-2017**
Total Population	307,321	100.0%	309,559	100.0%	314,661	100.0%	**0.7%**	**1.7%**
Pre-School-Age Children	18,439	6.0%	18,574	6.0%	18,565	5.9%	**0.7%**	**-0.1%**
Grade School-Age Children	45,176	14.7%	44,576	14.4%	45,626	14.5%	**-1.3%**	**2.4%**
High School and College-Age	32,883	10.7%	32,504	10.5%	31,151	9.9%	**-1.2%**	**-4.2%**
Young Workers and Grads	28,888	9.4%	29,718	9.6%	30,522	9.7%	**2.9%**	**2.7%**
Early Stage Families	45,176	14.7%	44,267	14.3%	43,738	13.9%	**-2.0%**	**-1.2%**
Late Stage Families	51,323	16.7%	50,149	16.2%	46,884	14.9%	**-2.3%**	**-6.5%**
Young Empty Nesters	38,108	12.4%	39,933	12.9%	42,165	13.4%	**4.8%**	**5.6%**
Older Empty Nesters	23,049	7.5%	24,765	8.0%	29,893	9.5%	**7.4%**	**20.7%**
Mostly Retired	24,586	8.0%	25,074	8.1%	26,117	8.3%	**2.0%**	**4.2%**
Median age	41.6 years		42.0 years		42.4 years		**1.0%**	**1.0%**
Madison Station 7.5-15 Mile Donut							**Percentage Change**	
	2010		**2012**		**2017**		**2010-2012**	**2012-2017**
Total Population	1,820,717	100.0%	1,825,826	100.0%	1,838,323	100.0%	**0.3%**	**0.7%**
Pre-School-Age Children	116,526	6.4%	116,853	6.4%	117,653	6.4%	**0.3%**	**0.7%**
Grade School-Age Children	242,155	13.3%	239,183	13.1%	240,820	13.1%	**-1.2%**	**0.7%**
High School and College-Age	240,335	13.2%	237,357	13.0%	224,275	12.2%	**-1.2%**	**-5.5%**
Young Workers and Grads	243,976	13.4%	248,312	13.6%	251,850	13.7%	**1.8%**	**1.4%**
Early Stage Families	267,645	14.7%	261,093	14.3%	255,527	13.9%	**-2.5%**	**-2.1%**
Late Stage Families	282,211	15.5%	275,700	15.1%	255,527	13.9%	**-2.3%**	**-7.3%**
Young Empty Nesters	209,382	11.5%	219,099	12.0%	229,790	12.5%	**4.6%**	**4.9%**
Older Empty Nesters	116,526	6.4%	124,156	6.8%	148,904	8.1%	**6.6%**	**19.9%**
Mostly Retired	105,602	5.8%	105,898	5.8%	112,138	6.1%	**0.3%**	**5.9%**
Median age	38 years		38 years		38 years		**0.5%**	**0.8%**

Source: US Census Bureau, ESRI Community Analyst; 2013

Figure 3-15: Rented Housing Unit Comparison

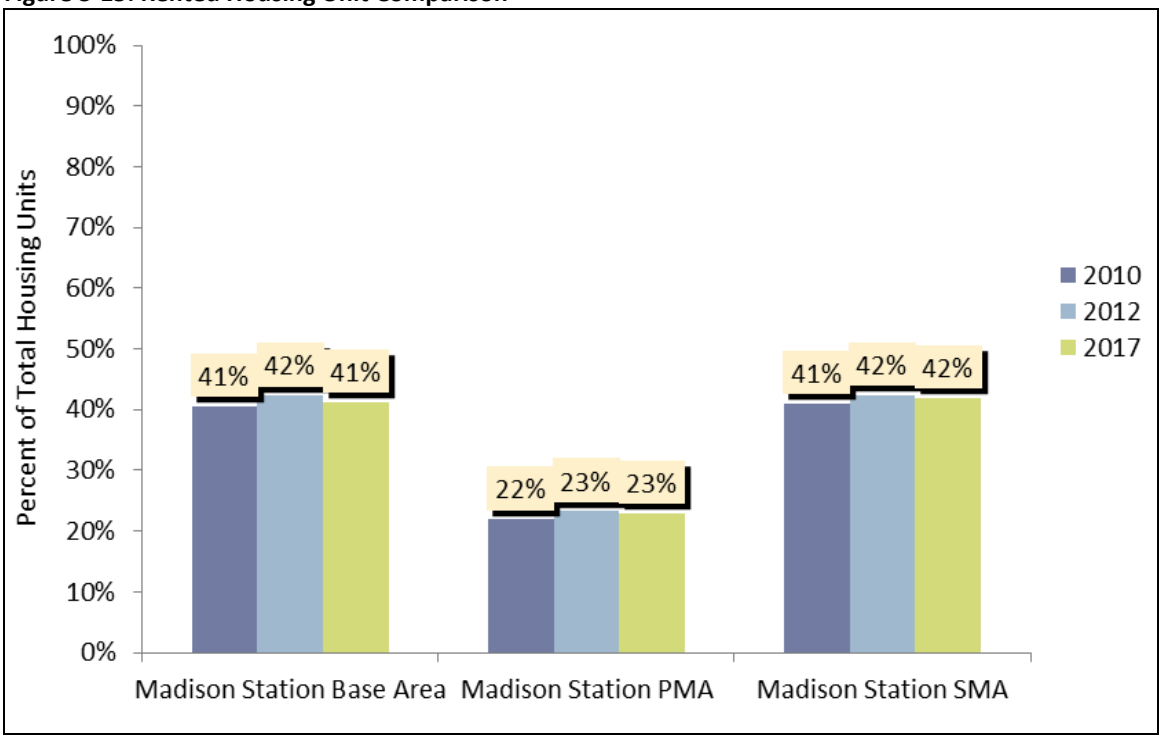

Table 3-15: Housing Tenure Trends

Madison Station Base Area											**Percentage Change**		
		2010			**2012**			**2017**			**2010-2012**		**2012-2017**
Total Housing Units		1,474	100.0%		1,498	100.0%		1,555	100.0%		**1.6%**		**3.8%**
Vacant Housing Units		108	7.3%		90	6.0%		75	4.8%		**-16.7%**		**-16.7%**
Owned Housing Units		768	52.1%		773	51.6%		838	53.9%		**0.7%**		**8.4%**
Rented Housing Units		598	40.6%		635	42.4%		642	41.3%		**6.2%**		**1.1%**
Madison Station PMA											**Percentage Change**		
		2010			**2012**			**2017**			**2010-2012**		**2012-2017**
Total Housing Units		116,871	100.0%		117,656	100.0%		119,574	100.0%		**0.7%**		**1.6%**
Vacant Housing Units		5,229	4.5%		5,237	4.5%		5,159	4.3%		**0.2%**		**-1.5%**
Owned Housing Units		85,978	73.6%		85,027	72.3%		86,936	72.7%		**-1.1%**		**2.3%**
Rented Housing Units		25,664	22.0%		27,392	23.3%		27,478	23.0%		**6.7%**		**0.3%**
Madison Station SMA											**Percentage Change**		
		2010			**2012**			**2017**			**2010-2012**		**2012-2017**
Total Housing Units		699,350	100.0%		701,601	100.0%		707,485	100.0%		**0.3%**		**0.8%**
Vacant Housing Units		48,480	6.9%		48,988	7.0%		50,453	7.1%		**1.1%**		**3.0%**
Owned Housing Units		363,563	52.0%		354,899	50.6%		360,081	50.9%		**-2.4%**		**1.5%**
Rented Housing Units		287,307	41.1%		297,714	42.4%		296,951	42.0%		**3.6%**		**-0.3%**

Source: US Census Bureau, ESRI Community Analyst; 2013

3.4.2.1 Household Income

Median household income is significantly higher in the Station Base Area than in the PMA or SMA ($124,000 in the Station Base Area in 2012, as compared to $111,600 in the PMA and $61,000 in the SMA for the same year). Nonetheless, from 2010 to 2012 the percentage increase in median household income was dramatic, across all three geographies: Station Base Area (9.2 percent); PMA (8.4 percent); and SMA (22.0 percent). While high income households are concentrated near the Madison Station, the fastest growth among upper income households is occurring within the SMA, where households earning more than $75,000 annually are projected to increase by 3.72 percent per year from 2012 through 2017.

Table 3-16 depicts the Household Incomes in the Madison Station geographies.

Table 3-16: Household Income Trends

Madison Station Base Area							**Percentage Change**
	2012			**2017**			**2012-2017**
Total Households	1,408	99.9%		1,480	99.9%		**5.1%**
< $35,000	184	13.1%		147	9.9%		**-20.1%**
$35K to $74.9K	248	17.6%		208	14.1%		**-16.1%**
$75K to $99.9K	111	7.9%		155	10.5%		**39.6%**
$100K to $149.9K	277	19.7%		294	19.9%		**6.1%**
>$149.9K	587	41.7%		675	45.6%		**15.0%**
Median household income	$124,056			$135,408			**9.2%**
Madison Station PMA							**Percentage Change**
	2012			**2017**			**2012-2017**
Total Households	112,419	100.0%		114,415	100.0%		**1.8%**
< $35,000	13,411	11.9%		10,528	9.2%		**-21.5%**
$35K to $74.9K	22,114	19.7%		17,456	15.3%		**-21.1%**
$75K to $99.9K	13,070	11.6%		15,879	13.9%		**21.5%**
$100K to $149.9K	23,931	21.3%		25,455	22.2%		**6.4%**
>$149.9K	39,893	35.5%		45,096	39.4%		**13.0%**
Median household income	$111,585			$120,919			**8.4%**
Madison Station SMA							**Percentage Change**
	2012			**2017**			**2012-2017**
Total Households	652,613	100.0%		657,032	100.0%		**0.7%**
< $35,000	188,524	28.9%		167,914	25.6%		**-10.9%**
$35K to $74.9K	188,432	28.9%		162,131	24.7%		**-14.0%**
$75K to $99.9K	76,633	11.7%		98,866	15.0%		**29.0%**
$100K to $149.9K	99,623	15.3%		112,322	17.1%		**12.8%**
>$149.9K	99,387	15.2%		115,785	17.6%		**16.5%**
Median household income	$61,013			$74,439			**22.0%**

Source: US Census Bureau, ESRI Community Analyst; 2013

3.4.3 Convent Station Area

This section discusses the market analysis performed for the Convent Station area.

3.4.3.1 Geographies Analyzed

The designated market areas that were assessed include a one-half mile radius Base Area, a 7.5 mile radius Primary Market Area (PMA) approximating a 15-minute drive contour, and a 7.5- to 15-mile radius Secondary Market Area (SMA) surrounding Convent Station. Collectively, the Base Area, PMA, and SMA are referred as "geographies." Figures 3-16 and 3-17 depict these areas. The base area is the geography from which the most activity would be generated should market conditions in Morris Township bring about a favorable change in housing or mixed development around Convent Station. The PMA is the next area that would generate activity and be affected by a change in Morris Township's development mix. Together with the Base Area, the PMA encompasses 70 percent of likely commuter rail patrons for Convent Station. The SMA is an area further from the train station and the outer limits from which residents may be attracted to relocate to Morris Township for housing should the market conditions be favorable. The SMA is assumed to approximate nearly 30 percent of likely patrons for Convent Station. Residents from the SMA may also be attracted to travel to Morris Township for goods and services if market conditions were favorable and those goods and services were available. Transit Oriented Developments (TODs) are successful when robust demographics exist in all three market analysis zones.

3.4.3.2 Population and Households

Like the Chatham Station geographies examined, while the half mile Convent Station Base Area experienced weak positive population growth over the 2010 to 2012 period, household population growth within the PMA and SMA remain effectively, flat. It should be noted that the 2010 to 2012 annualized household population growth rate within the Station Base Area (0.96 percent) was more than twice the annual population growth rate in the PMA (0.40 percent) and eight times the annual population growth rate in the SMA (0.12 percent), over the same period. Given Convent Station's proximity to three institutions of higher education, it is likely that a substantial portion of the Station Base Area's larger rate of growth was influenced by persons moving into the half mile area who have some affiliation with one or more of the schools (e.g., off-campus students, faculty, and staff).

Similarly, and consistent with population trends, household formation experienced weak positive growth within the Station Base Area but flat growth within the PMA and SMA, over the 2010 to 2012 period. Annualized population and household growth is projected to slow slightly through 2017 across all three geographies.

Tables 3-17 and 3-18 summarize the population and household demographics for the Convent Station geographies.

VHB

Morris County NJ 124
Transit Access Study

Geographies
Convent Station

FIGURE **3-16**

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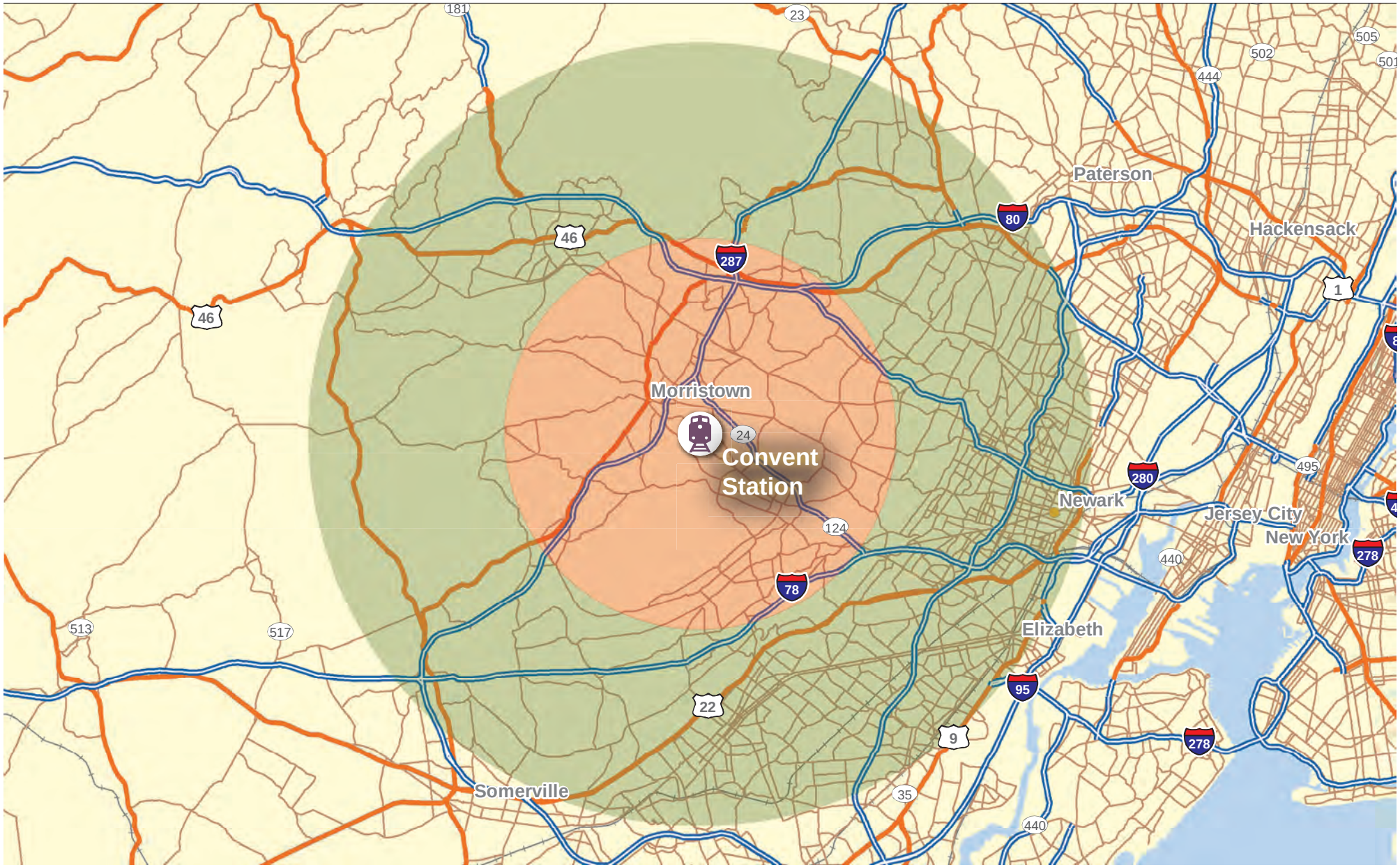


Morris County NJ 124
Transit Access Study

Geographies
Convent Station

FIGURE **3-17**

Table 3-17: Population Trends

Convent Station Base Area						Percentage Change
	2010	2012	2017	2010-2012	2012-2017
Total Population	1,552 100.0%	1,579 100.0%	1,615 100.0%	**1.7%**	**2.3%**
Household Population	1,318 84.9%	1,343 85.1%	1,381 85.5%	**1.9%**	**2.8%**
Family Population	1,097 70.7%	1,117 70.8%	1,146 70.9%	**1.9%**	**2.5%**
Non-Family Population	455 29.3%	462 29.2%	469 29.1%	**1.4%**	**1.7%**
Convent Station PMA					**Percentage Change**
	2010	**2012**	**2017**	**2010-2012**	**2012-2017**
Total Population	276,621 100.0%	279,173 100.0%	283,984 100.0%	**0.9%**	**1.7%**
Household Population	269,152 97.3%	271,278 97.2%	276,579 97.4%	**0.8%**	**2.0%**
Family Population	231,702 83.8%	232,841 83.4%	236,921 83.4%	**0.5%**	**1.8%**
Non-Family Population	44,919 16.2%	46,332 16.6%	47,063 16.6%	**3.2%**	**1.6%**
Convent Station SMA					**Percentage Change**
	2010	**2012**	**2017**	**2010-2012**	**2012-2017**
Total Population	1,606,164 100.0%	1,609,946 100.0%	1,620,055 100.0%	**0.2%**	**0.6%**
Household Population	1,574,320 98.0%	1,578,082 98.0%	1,588,246 98.0%	**0.2%**	**0.6%**
Family Population	1,314,644 81.8%	1,313,919 81.6%	1,324,028 81.7%	**-0.1%**	**0.8%**
Non-Family Population	291,520 18.2%	296,027 18.4%	296,027 18.3%	**1.6%**	**0.0%**

Source: US Census Bureau, ESRI Community Analyst; 2013

Table 3-18: Household Formation Trends

Convent Station Base Area											**Percentage Change**		
		2010			**2012**			**2017**			**2010-2012**		**2012-2017**
Total Households		469	100.0%		478	100.0%		495	100.0%		**1.9%**		**3.6%**
Family Households		317	67.6%		322	67.4%		333	67.3%		**1.6%**		**3.4%**
Non-Family Households		152	32.4%		156	32.6%		162	32.7%		**2.6%**		**3.9%**
Average households size		2.81			2.81			2.79			**0.0%**		**-0.7%**
Convent Station PMA											**Percentage Change**		
		2010			**2012**			**2017**			**2010-2012**		**2012-2017**
Total Households		100,430	100.0%		101,223	100.0%		103,201	100.0%		**0.8%**		**2.0%**
Family Households		72,634	72.3%		72,991	72.1%		74,270	72.0%		**0.5%**		**1.8%**
Non-Family Households		27,796	27.7%		28,232	27.9%		28,931	28.0%		**1.6%**		**2.5%**
Average households size		2.68			2.68			2.68			**0.0%**		**0.0%**
Convent Station SMA											**Percentage Change**		
		2010			**2012**			**2017**			**2010-2012**		**2012-2017**
Total Households		576,674	100.0%		578,052	100.0%		581,775	100.0%		**0.2%**		**0.6%**
Family Households		400,806	69.5%		400,585	69.3%		402,440	69.2%		**-0.1%**		**0.5%**
Non-Family Households		175,868	30.5%		177,467	30.7%		179,335	30.8%		**0.9%**		**1.1%**
Average households size		2.73			2.73			2.73			**0.0%**		**0.0%**

Source: US Census Bureau, ESRI Community Analyst; 2013

3.4.3.3 Age

The 2010 median age in the Convent Station geographies ranged from 38 to 43 years, and is anticipated to increase slightly by 2017. Similar to the Chatham Station geographies examined, there is aging trend across all three geographies with the older empty nester population cohort (65 to 75 years of age) anticipated to see strongest positive growth between 2012 and 2017. The 55-64 and 65-74 age cohorts exhibited the greatest percentage growth of all age groups in all Convent Station Geographies, by far exceeding all others. The population between 55 and 74 years of age is expected to continue this trend between 2012 and 2017. Specifically, within the Station Base Area and PMA, the number of persons between 65 and 75 years of age is projected to increase by approximately 21 percent by 2017. These trends suggest likely burgeoning demand for small residential dwelling units within proximity to one or more modes of public transit.

Table 3-19 summarizes age demographics across the three geographies.

3.4.3.4 Housing Tenure

The percentage of rented units within the Convent Station Base Area is much lower than that of the PMA or SMA; 12 percent of all units in the Station Base Area are renter occupied, compared to approximately 25 percent in the PMA and 40 percent in the SMA. The presence of nearby colleges and universities (St. Elizabeth College, Fairleigh Dickinson University, and Drew University), where students and some faculty have a higher propensity to rent than own their dwelling unit suggests demand for more rental units than are available in the Base Area.

Figure 3-18 depicts the rented units for the Convent Station geographies. Table 3-20 presents housing tenure data.

Table 3-19: Population Age Trends

Convent Station Base Area						Percentage Change	
	2010		2012		2017	2010-2012	2012-2017
Total Population	1,552	100.0%	1,579	100.0%	1,615	100.0%	1.7%	2.3%
Pre-School-Age Children	85	5.5%	87	5.5%	87	5.4%	1.7%	0.4%
Grade School-Age Children	166	10.7%	167	10.6%	168	10.4%	0.8%	0.4%
High School and College-Age	289	18.6%	287	18.2%	283	17.5%	-0.5%	-1.7%
Young Workers and Grads	104	6.7%	106	6.7%	108	6.7%	1.7%	2.3%
Early Stage Families	188	12.1%	185	11.7%	181	11.2%	-1.6%	-2.1%
Late Stage Families	213	13.7%	210	13.3%	197	12.2%	-1.2%	-6.2%
Young Empty Nesters	192	12.4%	204	12.9%	215	13.3%	5.8%	5.5%
Older Empty Nesters	151	9.7%	164	10.4%	199	12.3%	9.1%	21.0%
Mostly Retired	166	10.7%	169	10.7%	176	10.9%	1.7%	4.2%
Median age	42.5 years		43.1 years		44.0 years		1.4%	2.1%
Convent Station PMA						Percentage Change	
	2010		2012		2017	2010-2012	2012-2017
Total Population	276,621	100.0%	279,173	100.0%	283,984	100.0%	0.9%	1.7%
Pre-School-Age Children	16,044	5.8%	16,192	5.8%	16,471	5.8%	0.9%	1.7%
Grade School-Age Children	40,663	14.7%	40,759	14.6%	41,178	14.5%	0.2%	1.0%
High School and College-Age	30,152	10.9%	29,872	10.7%	28,682	10.1%	-0.9%	-4.0%
Young Workers and Grads	27,109	9.8%	27,638	9.9%	28,398	10.0%	2.0%	2.8%
Early Stage Families	40,940	14.8%	40,201	14.4%	39,758	14.0%	-1.8%	-1.1%
Late Stage Families	46,472	16.8%	45,505	16.3%	42,598	15.0%	-2.1%	-6.4%
Young Empty Nesters	34,301	12.4%	36,013	12.9%	38,054	13.4%	5.0%	5.7%
Older Empty Nesters	20,747	7.5%	22,334	8.0%	26,978	9.5%	7.7%	20.8%
Mostly Retired	20,470	7.4%	20,938	7.5%	21,867	7.7%	2.3%	4.4%
Median age	41.4 years		41.7 years		42.0 years		0.7%	0.7%
Convent Station SMA						Percentage Change	
	2010		2012		2017	2010-2012	2012-2017
Total Population	1,606,164	100.0%	1,609,946	100.0%	1,620,055	100.0%	0.2%	0.6%
Pre-School-Age Children	102,794	6.4%	101,427	6.3%	102,063	6.3%	-1.3%	0.6%
Grade School-Age Children	218,438	13.6%	215,733	13.4%	217,087	13.4%	-1.2%	0.6%
High School and College-Age	212,014	13.2%	207,683	12.9%	197,647	12.2%	-2.0%	-4.8%
Young Workers and Grads	200,771	12.5%	204,463	12.7%	207,367	12.8%	1.8%	1.4%
Early Stage Families	232,894	14.5%	227,002	14.1%	223,568	13.8%	-2.5%	-1.5%
Late Stage Families	253,774	15.8%	246,322	15.3%	228,428	14.1%	-2.9%	-7.3%
Young Empty Nesters	186,315	11.6%	194,803	12.1%	205,747	12.7%	4.6%	5.6%
Older Empty Nesters	104,401	6.5%	111,086	6.9%	132,845	8.2%	6.4%	19.6%
Mostly Retired	96,370	6.0%	98,207	6.1%	103,684	6.4%	1.9%	5.6%
Median age	38 years		39 years		39 years		0.8%	0.8%

Source: US Census Bureau, ESRICommunity Analyst; 2013

Figure 3-18: Rented Housing Unit Comparison

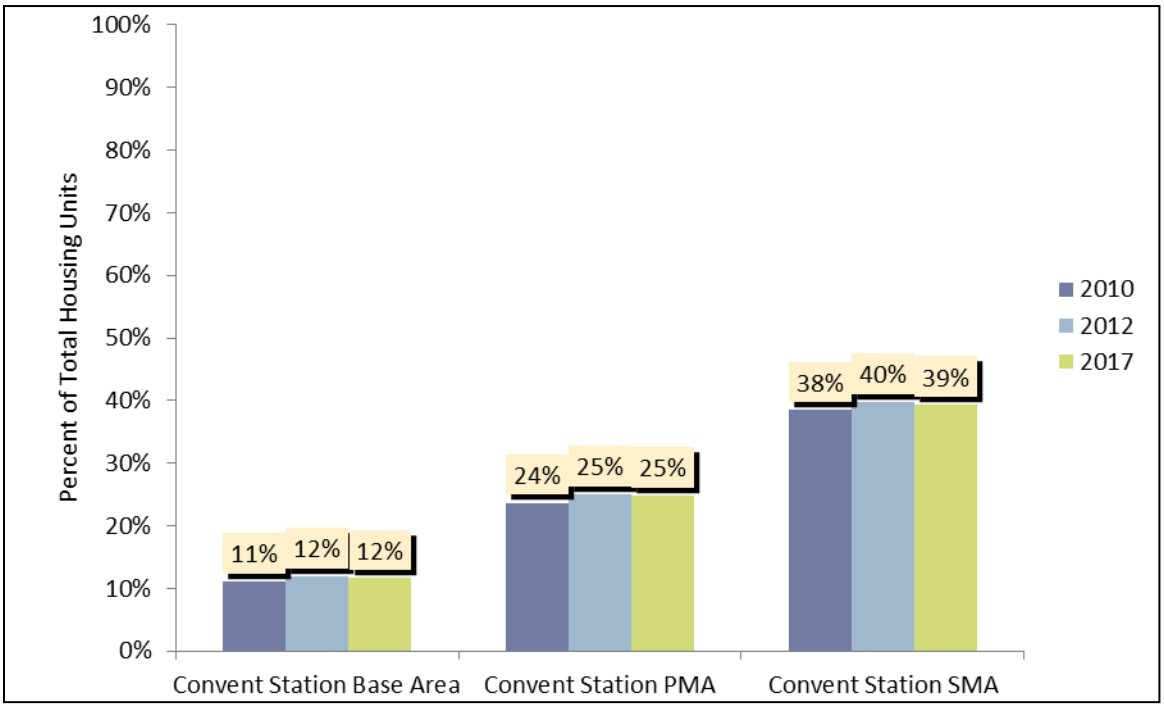


Table 3-20: Housing Tenure Trends

Convent Station Base Area											Percentage Change		
		2010			2012			2017			2010-2012		2012-2017
Total Housing Units		513	100.0%		519	100.0%		534	100.0%		**1.2%**		**2.9%**
Vacant Housing Units		44	8.6%		41	7.9%		39	7.3%		**-6.8%**		**-4.9%**
Owned Housing Units		412	80.3%		416	80.2%		434	81.3%		**1.0%**		**4.3%**
Rented Housing Units		57	11.1%		62	11.9%		62	11.6%		**8.8%**		**0.0%**
Convent Station SMA											**Percentage Change**		
		2010			**2012**			**2017**			**2010-2012**		**2012-2017**
Total Housing Units		105,203	100.0%		105,886	100.0%		107,681	100.0%		**0.7%**		**1.7%**
Vacant Housing Units		4,773	4.5%		4,663	4.4%		4,480	4.2%		**-2.3%**		**-3.9%**
Owned Housing Units		75,552	71.8%		74,752	70.6%		76,540	71.1%		**-1.1%**		**2.4%**
Rented Housing Units		24,877	23.6%		26,471	25.0%		26,661	24.8%		**6.4%**		**0.7%**
Convent Station PMA											**Percentage Change**		
		2010			**2012**			**2017**			**2010-2012**		**2012-2017**
Total Housing Units		618,680	100.0%		620,658	100.0%		625,734	100.0%		**0.3%**		**0.8%**
Vacant Housing Units		43,373	7.0%		43,993	7.1%		45,368	7.3%		**1.4%**		**3.1%**
Owned Housing Units		337,450	54.5%		329,914	53.2%		334,501	53.5%		**-2.2%**		**1.4%**
Rented Housing Units		237,857	38.4%		246,751	39.8%		245,865	39.3%		**3.7%**		**-0.4%**

Source: US Census Bureau, ESRI Community Analyst; 2013

3.4.3.5 Household Income

Households within the Convent Base Station Area are relatively affluent, exhibiting a 2012 median household income of nearly $134,900—compared to approximately $113,400 in the PMA and $63,200 in the SMA. Like Chatham, the majority of households (80 percent) within the Convent Base Station Area had annual incomes greater than $75,000 in 2012—compared to 70 percent within the PMA and 43 percent within the SMA. Table 3-21 presents the Household Income data for the Convent Station geographies.

Table 3-21: Household Income Trends

Convent Station Base Area					**Percentage Change**
	2012		**2017**		**2012-2017**
Total Households	478	100.0%	495	100.0%	**3.6%**
< $35,000	43	9.0%	33	6.7%	**-23.3%**
$35K to $74.9K	56	11.7%	41	8.3%	**-26.8%**
$75K to $99.9K	53	11.1%	62	12.5%	**17.0%**
$100K to $149.9K	112	23.4%	116	23.4%	**3.6%**
>$149.9K	214	44.8%	243	49.1%	**13.6%**
Median household income	$134,856		$147,167		**9.1%**
Convent Station PMA					**Percentage Change**
	2012		**2017**		**2012-2017**
Total Households	101,223	100.0%	103,201	100.0%	**2.0%**
< $35,000	11,813	11.7%	9,335	9.0%	**-21.0%**
$35K to $74.9K	19,384	19.1%	15,293	14.8%	**-21.1%**
$75K to $99.9K	11,428	11.3%	13,907	13.5%	**21.7%**
$100K to $149.9K	22,064	21.8%	23,526	22.8%	**6.6%**
>$149.9K	36,534	36.1%	41,141	39.9%	**12.6%**
Median household income	$113,399		$122,429		**8.0%**
Convent Station SMA					**Percentage Change**
	2012		**2017**		**2012-2017**
Total Households	578,052	99.8%	581,775	99.8%	**0.6%**
< $35,000	161,549	27.9%	143,489	24.7%	**-11.2%**
$35K to $74.9K	162,879	28.2%	139,400	24.0%	**-14.4%**
$75K to $99.9K	67,242	11.6%	86,353	14.8%	**28.4%**
$100K to $149.9K	90,085	15.6%	100,855	17.3%	**12.0%**
>$149.9K	94,904	16.4%	110,263	19.0%	**16.2%**
Median household income	$63,204		$76,578		**21.2%**

Source: US Census Bureau, Esri Community Analyst; 2013

3.4.4 Summary

The above findings suggests each rail station's surrounding areas – to greater and lesser extents – have key attributes most often associated with successful TOD projects: large and growing percentage of upper income households; a growing population base at or near retirement; relatively strong growth in non-family households.

Population age and household trend findings also suggest that there will be growing demand for greater housing choice (smaller units conducive to one- and two-person households and designed for persons of retirement age). Field observations suggest such housing is in relative short supply in the areas immediately surrounding each of the three rail stations.

3.5 Labor and Industry Analysis

The location of employment concentrations relative to a Transit-Oriented Development (TOD) is an important contributor to demand for both commercial and residential space within such developments. Demand for housing will be higher when easily-accessible transit systems provide convenient service to employment centers, giving residents multiple options for their daily commute. In addition, positive trends in employment levels in and around TOD developments bodes well for the retail and service businesses in the vicinity. In particular, professional workers near TOD developments can be expected to patronize restaurants and retail stores nearby both during and after the workday. Finally, higher employment levels near a TOD development will also lead to higher local housing demand as some workers will desire to live closer to their place of employment.

An analysis of Labor and Industry was conducted for the areas around Chatham, Madison, and Convent Stations using the U.S. Census Bureau 'On the Map' program, which analyzes the employment profile within given geographic areas, as well as top industries and worker commutation patterns (inflow/ outflow analysis). The Labor and Industry analysis was applied to the Base Area, PMA, and SMA for each station as described in the Market Analysis section of this report. This data was analyzed to determine if positive economic trends exist in the study area, if there is a strong inflow of jobs (with some outflow), and the level of income growth in the study area. These components are all necessary to support the existing TODs (Chatham and Madison) as well as any new potential development (infill in Chatham Borough and Madison, and new TOD in Morris Township).

Labor and industry data were collected for data years 2005, 2007, and 2009, the most recently available years. Labor shed data (work destinations for residents and sources of commuting workers) is not consistent over time and therefore, only referenced for year 2009. This data is the most recently available for these topic areas and is therefore a bit older than the demographic data provided in the preceding sections of this report. The following sections detail notable labor market trends in the station areas.

3.5.1 Chatham Station Area

Table 3-22 presents a summary of the Chatham Station geographies worker flow demographics and Table 3-23 presents details. The Chatham Station area has seen a net worker inflow in the Work Area, PMA, and SMA (though less than 30 percent of residents and workers both live and work in the same geography). This indicates that workers are attracted to the Chatham area for jobs. New York City and Newark are the largest single sources of incoming workers which indicates the importance of the rail line and the fact that Chatham could continue to grow in and around the train station. New York and Newark are also among the most common work destinations for residents in the Chatham Station area.

Table 3-22: Chatham Station Area Worker Inflow-Outflow, 2009

	% Live *and* Work	Net Job Inflow/ Outflow	Primary Outflow Destination	Primary Inflow Source
Chatham Station Work Area	**2.6%**	**2,143**	New York, NY	Chatham Borough, NJ
Chatham Station PMA	**15.2%**	**78,360**	New York, NY	Newark, NJ
Chatham Station SMA	**27.8%**	**10,264**	New York, NY	Newark, NJ

Table 3-24 presents a summary of the Chatham Station geographies' labor and industry demographics. Given the economic environment, the Chatham Station geographies exhibited a decline in primary jobs between 2007 and 2009 – the three geographies saw annualized declines in primary jobs ranging from -1.6 to -5.7 percent. However, prior to the national recession, these geographies were exhibiting overall growth and especially growth in the service sectors while manufacturing sectors were declining. Figure 3-19 depicts the Chatham Station Area labor by industry trends. It is expected that once the economy recovers, the Chatham geographies would be positioned for growth. High incomes were more stable than lower incomes in the 2005 to 2009 period.

Table 3-23: Chatham Station Area Worker Flow

Top 10 Places of Worker Residence		
For workers within Chatham Station Work Area		
	2009	
Chatham Borough, NJ	230	3.8%
Newark City, NJ	210	3.4%
New York City, NY	176	2.9%
Summit City, NJ	165	2.7%
Madison Borough, NJ	157	2.6%
Elizabeth City, NJ	99	1.6%
Florham Park Borough, NJ	88	1.4%
New Providence Borough, NJ	83	1.4%
East Orange City, NJ	59	1.0%
Morristown Town, NJ	56	0.9%
All Other Locations	4,805	78.4%
For workers within Chatham Station PMA		
	2009	
Newark City, NJ	8,639	3.3%
New York City, NY	6,463	2.4%
Elizabeth City, NJ	4,733	1.8%
Westfield Town, NJ	3,517	1.3%
East Orange City, NJ	3,254	1.2%
Jersey City, NJ	3,075	1.2%
Morristown Town, NJ	3,075	1.2%
Madison Borough, NJ	2,767	1.0%
Summit City, NJ	2,759	1.0%
Linden City, NJ	2,404	0.9%
All Other Locations	223,743	84.6%
For workers within Chatham Station SMA		
	2009	
Newark City, NJ	46,871	5.9%
New York City, NY	34,202	4.3%
Elizabeth City, NJ	22,516	2.9%
Jersey City, NJ	15,731	2.0%
Paterson City, NJ	11,663	1.5%
East Orange City, NJ	11,394	1.4%
Clifton City, NJ	10,776	1.4%
Linden City, NJ	9,559	1.2%
Kearny Town, NJ	7,840	1.0%
Bayonne City, NJ	7,758	1.0%
All Other Locations	609,604	77.4%

Top 10 Work Destinations for Residents		
For residents within Chatham Station Work Area		
	2009	
New York City, NY	449	11.3%
Chatham Borough, NJ	230	5.8%
Summit City, NJ	174	4.4%
Morristown Town, NJ	159	4.0%
Newark City, NJ	146	3.7%
Madison Borough, NJ	126	3.2%
Florham Park Borough, NJ	110	2.8%
Jersey City , NJ	75	1.9%
Short Hills CDP, NJ	59	1.5%
New Providence Borough, NJ	45	1.1%
All Other Locations	2,412	60.5%
For residents within Chatham Station PMA		
	2009	
New York City, NY	22,318	12.0%
Newark City, NJ	11,867	6.4%
Morristown Town, NJ	5,365	2.9%
Summit City, NJ	4,386	2.4%
Jersey City, NJ	3,600	1.9%
Florham Park Borough, NJ	3,294	1.8%
Elizabeth City, NJ	3,039	1.6%
Westfield Town, NJ	2,725	1.5%
Madison Borough, NJ	2,104	1.1%
Kenilworth Borough, NJ	2,060	1.1%
All Other Locations	125,311	67.3%
For residents within Chatham Station SMA		
	2009	
New York City, NY	88,226	11.3%
Newark City, NJ	69,830	9.0%
Elizabeth City, NJ	20,575	2.6%
Jersey City, NJ	17,177	2.2%
Morristown Town, NJ	8,672	1.1%
Linden City, NJ	8,599	1.1%
Clifton City, NJ	8,567	1.1%
South Plainfield Borough, NJ	8,181	1.1%
Secaucus Town, NJ	8,028	1.0%
East Orange City, NJ	7,637	1.0%
All Other Locations	532,158	68.4%

Source: US Census Bureau, OnTheMap

Table 3-24: Chatham Station Geographies Annualized Percent Change in Labor and Industry Demographics

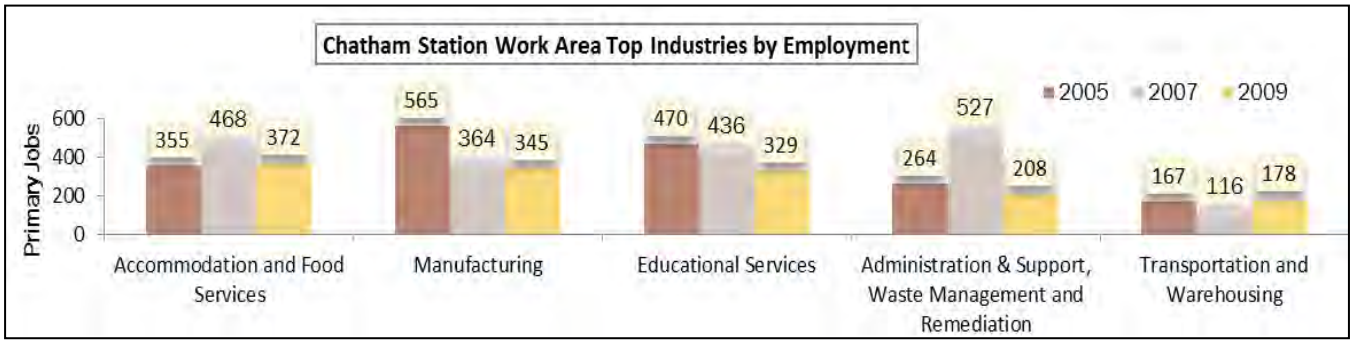
Table Key						
Strong Positive Growth	Greater than	1.50%			annually	
Weak Positive Growth	Between	1.50%	and	0.75%	annually	
Flat Growth	Between	0.75%	and	-0.75%	annually	
Weak Negative Growth	Between	-0.75%	and	-1.50%	annually	
Strong Negative Growth	Less than	-1.50%			annually	

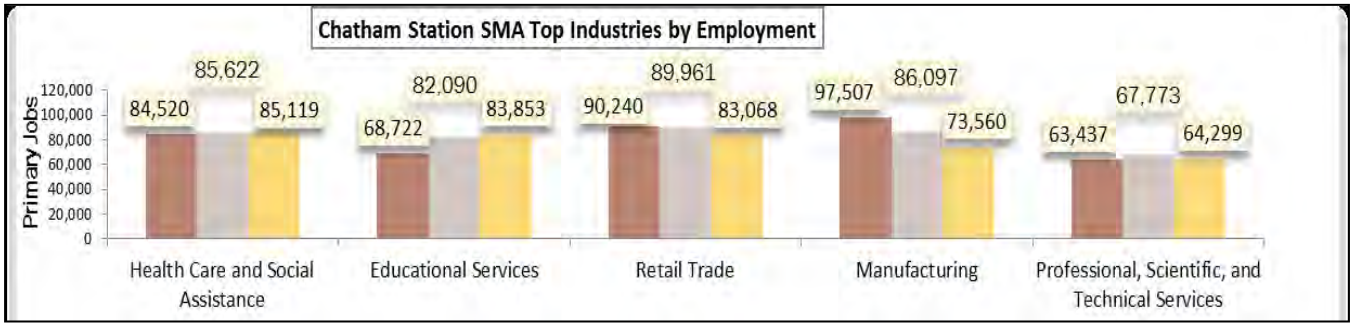
Total Primary Jobs	2005-2007	2007-2009
Chatham Station Work Area	3.32%	-5.74%
Chatham Station PMA	0.83%	-1.57%
Chatham Station SMA	0.84%	-2.31%

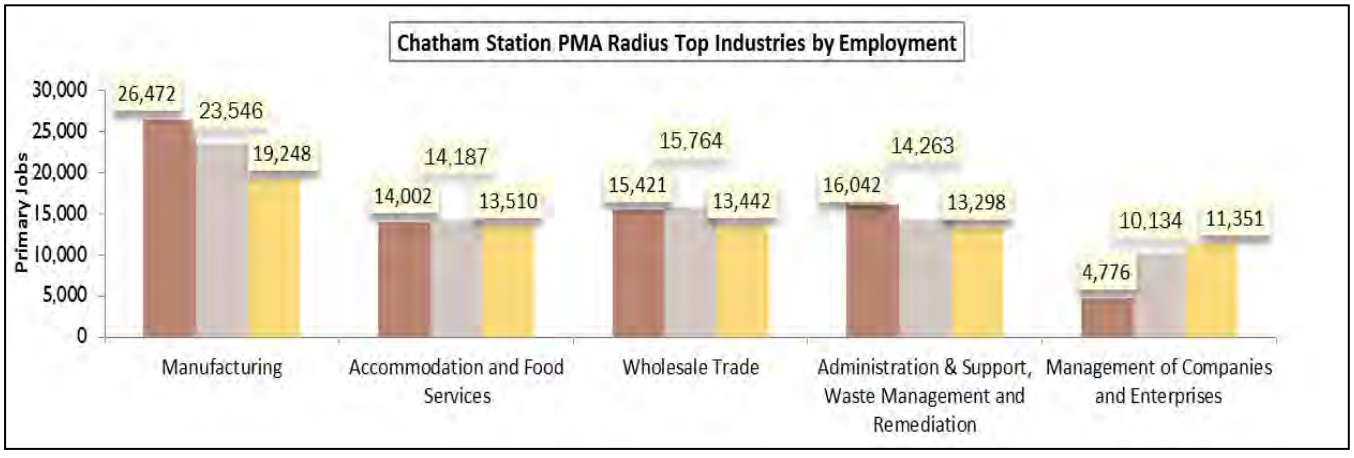
Jobs by Worker Age	2005-2007	2007-2009
Chatham Station Work Area		
Age 29 or younger	8.05%	-9.25%
Age 30 to 54	1.76%	-4.57%
Age 55 or older	0.46%	-2.97%
Chatham Station PMA		
Age 29 or younger	0.51%	-4.01%
Age 30 to 54	-0.20%	-1.55%
Age 55 or older	4.70%	1.07%
Chatham Station SMA		
Age 29 or younger	1.06%	-5.40%
Age 30 to 54	-0.30%	-1.79%
Age 55 or older	4.37%	-0.42%

Jobs By Worker Earnings	2005-2007	2007-2009
Chatham Station Work Area		
$1,250 per month or less	7.41%	-12.23%
$1,251 to $3,333 per month	1.06%	-5.94%
More than $3,333 per month	2.38%	-0.86%
Chatham Station PMA		
$1,250 per month or less	-4.00%	-3.05%
$1,251 to $3,333 per month	-3.42%	-4.69%
More than $3,333 per month	4.98%	0.38%
Chatham Station SMA		
$1,250 per month or less	-3.45%	-4.92%
$1,251 to $3,333 per month	-1.84%	-4.17%
More than $3,333 per month	4.46%	-0.25%

Figure 3-19: Chatham Station Geographies' Employment by Industry Trends







3.5.2 Madison Station Area

Table 3-25 presents a summary of the Madison Station geographies' worker flow demographics, and Table 3-26 presents details. Madison Station also has a large commuting population with less than 30 percent of workers both living and working in the same given geography. Both the Work Area and SMA show net worker outflow, primarily to New York City, Newark, and Morristown. However, high worker inflow in the PMA suggests a market of commuters in need of more local housing opportunities, who may be well served by a TOD, particularly in an attractive, mixed-use area such as downtown Madison.

Table 3-25: Madison Station Area Worker Inflow-Outflow, 2009

	% Live *and* Work	Net Job Inflow/ Outflow	Primary Outflow Destination	Primary Inflow Source
Madison Station Work Area	**4.6%**	**-1,324**	New York, NY	Madison, NJ
Madison Station PMA	**13.3%**	**109,737**	New York, NY	Newark, NJ
Madison Station SMA	**29.3%**	**-27,443**	Newark, NJ	Newark, NJ

Table 3-27 presents a summary of the Madison Station geographies labor and industry demographics. Strong negative growth in employment (-2.0 to -6.7 percent annually) in the Madison Station area between 2007 and 2009 defines much of the labor and industry trends in the area. Figure 3-20 depicts the Madison Station Area labor by industry trends. Most of the top ten industries in the Work Area, PMA, and SMA saw employment declines over the 2005-2009 time period, with only the Educational Services, Health Care, and to a degree, Professional, Scientific, and Technical Services sectors maintaining or increasing employment, similar to the Chatham Station area. However, the Madison Station area was exhibiting job growth before the recession, especially in higher income jobs. Should the economy recover to resume that growth, there would be strong demand for jobs and residences in and around Madison.

Table 3-26: Madison Station Area Worker Flow

Top 10 Places of Worker Residence		
For workers within Madison Station Work Area		
	2009	
Madison Borough, NJ	520	**12.8%**
Florham Park Borough, NJ	118	**2.9%**
New York City, NY	105	**2.6%**
Newark City, NJ	92	**2.3%**
Morristown Town, NJ	74	**1.8%**
Chatham Borough, NJ	69	**1.7%**
East Orange City, NJ	43	**1.1%**
New Providence Borough, NJ	41	**1.0%**
Jersey City, NJ	38	**0.9%**
Elizabeth City, NJ	31	**0.8%**
All Other Locations	2,926	**72.1%**
For workers within Madison Station PMA		
	2009	
Newark City, NJ	6,355	**2.7%**
New York City, NY	5,342	**2.3%**
Morristown Town, NJ	3,315	**1.4%**
Elizabeth City, NJ	2,817	**1.2%**
Madison Borough, NJ	2,789	**1.2%**
Jersey City, NJ	2,640	**1.1%**
Summit City, NJ	2,634	**1.1%**
East Orange City, NJ	2,591	**1.1%**
Florham Park Borough, NJ	2,000	**0.8%**
Paterson City, NJ	1,991	**0.8%**
All Other Locations	204,335	**86.3%**
For workers within Madison Station SMA		
	2009	
Newark City, NJ	46,395	**6.5%**
New York City, NY	22,710	**3.2%**
Elizabeth City, NJ	22,616	**3.2%**
Jersey City, NJ	13,481	**1.9%**
East Orange City, NJ	11,593	**1.6%**
Paterson City, NJ	10,589	**1.5%**
Linden City, NJ	9,674	**1.3%**
Clifton City, NJ	8,583	**1.2%**
Plainfield City, NJ	7,413	**1.0%**
Kearny Town, NJ	7,207	**1.0%**
All Other Locations	556,867	**77.7%**

Top 10 Work Destinations for Residents		
For residents within Madison Station Work Area		
	2009	
New York City, NY	595	**11.1%**
Madison Borough, NJ	548	**10.2%**
Morristown Town, NJ	264	**4.9%**
Florham Park Borough, NJ	223	**4.1%**
Newark City, NJ	164	**3.0%**
Chatham Borough, NJ	97	**1.8%**
Summit City, NJ	91	**1.7%**
Jersey City, NJ	64	**1.2%**
New Providence Borough, NJ	53	**1.0%**
Roseland Borough, NJ	52	**1.0%**
All Other Locations	3,230	**60.0%**
For residents within Madison Station PMA		
	2009	
New York City, NY	15,119	**11.9%**
Morristown Town, NJ	5,422	**4.3%**
Newark City, NJ	5,066	**4.0%**
Summit City, NJ	3,483	**2.7%**
Florham Park Borough, NJ	2,967	**2.3%**
Jersey City, NJ	2,215	**1.7%**
Madison Borough, NJ	1,941	**1.5%**
New Providence Borough, NJ	1,643	**1.3%**
Roseland Borough, NJ	1,444	**1.1%**
Short Hills CDP, NJ	1,366	**1.1%**
All Other Locations	86,406	**68.0%**
For residents within Madison Station SMA		
	2009	
Newark City, NJ	73,087	**9.8%**
New York City, NY	67,594	**9.1%**
Elizabeth City, NJ	21,189	**2.8%**
Jersey City, NJ	14,434	**1.9%**
Morristown Town, NJ	8,992	**1.2%**
Linden City, NJ	8,500	**1.1%**
East Orange City, NJ	8,302	**1.1%**
So. Plainfield Borough, NJ	7,802	**1.0%**
Clifton City, NJ	7,336	**1.0%**
Secaucus Town, NJ	7,317	**1.0%**
All Other Locations	520,018	**69.8%**

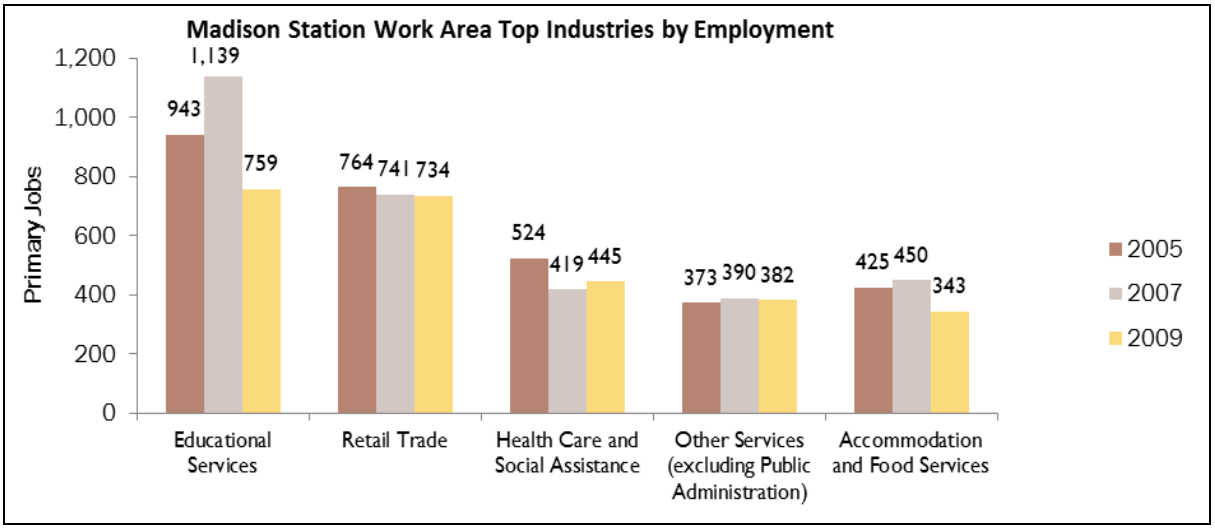
Source: US Census Bureau, OnTheMap

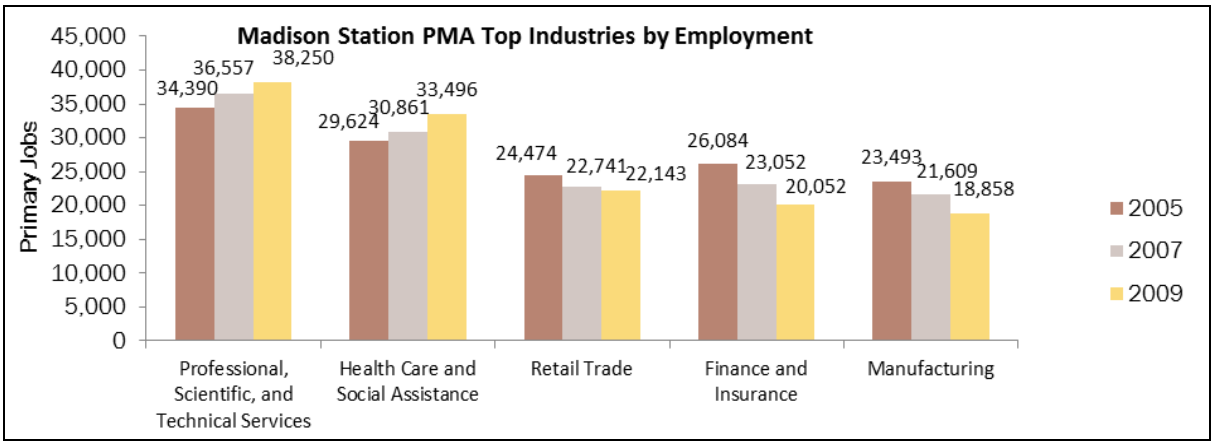
Table 3-27: Madison Station Area Annualized Percent Change in Labor and Industry Demographics

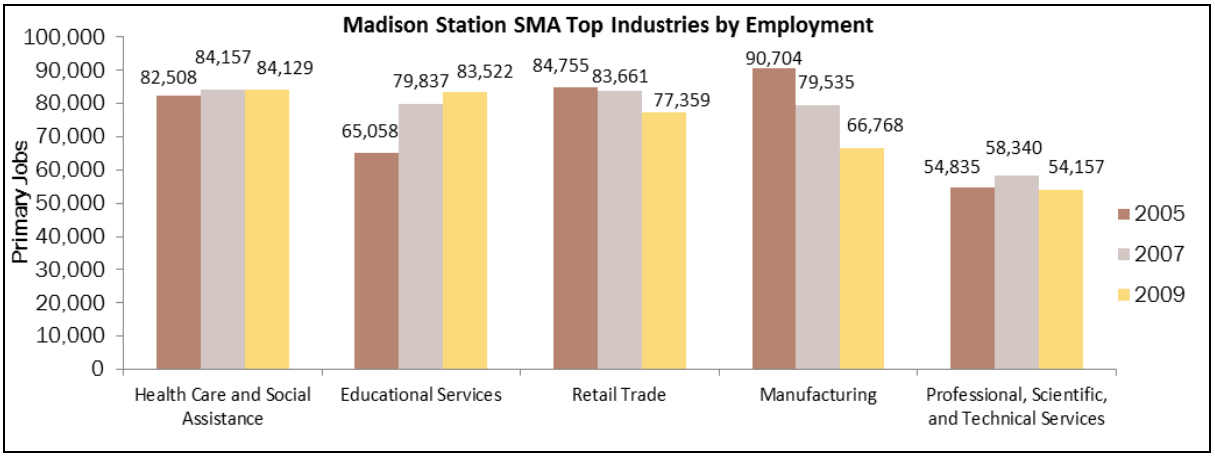
Table Key								
			Strong Positive Growth	Greater than	1.50%			annually
			Weak Positive Growth	Between	1.50%	and	0.75%	annually
			Flat Growth	Between	0.75%	and	-0.75%	annually
			Weak Negative Growth	Between	-0.75%	and	-1.50%	annually
			Strong Negative Growth	Less than	-1.50%			annually

Total Primary Jobs	**2005-2007**	**2007-2009**						
Madison Station Work Area	2.11%	-6.60%						
Madison Station PMA	0.08%	-1.92%						
Madison Station SMA	1.31%	-1.98%						
Jobs by Worker Age	**2005-2007**	**2007-2009**		**Jobs By Worker Earnings**			**2005-2007**	**2007-2009**
Madison Station Work Area				**Madison Station Work Area**				
Age 29 or younger	0.22%	-6.07%		$1,250 per month or less			-3.31%	-4.23%
Age 30 to 54	0.83%	-7.59%		$1,251 to $3,333 per month			-4.23%	-6.29%
Age 55 or older	8.13%	-4.79%		More than $3,333 per month			11.54%	-8.11%
Madison Station PMA				**Madison Station PMA**				
Age 29 or younger	-0.25%	-4.43%		$1,250 per month or less			-4.27%	-4.57%
Age 30 to 54	-0.90%	-1.81%		$1,251 to $3,333 per month			-4.53%	-5.91%
Age 55 or older	4.08%	0.49%		More than $3,333 per month			3.58%	0.39%
Madison Station SMA				**Madison Station SMA**				
Age 29 or younger	1.36%	-4.93%		$1,250 per month or less			-3.24%	-3.97%
Age 30 to 54	0.16%	-1.52%		$1,251 to $3,333 per month			-1.53%	-3.62%
Age 55 or older	5.00%	-0.07%		More than $3,333 per month			5.35%	-0.20%

Figure 3-20: Madison Station Geographies' Employment by Industry Trends







3.5.3 Convent Station Area

Table 3-28 presents a summary of the Madison Station geographies worker flow demographics and Table 3-29 presents details. The Convent Station area has a large commuting population but less than thirty percent of workers both live and work within the same given geography. Net worker inflow in the Work Area favors TOD development, as it indicates the possibility for pent-up demand for housing. Conversely, a net worker outflow in the SMA suggests demand for an attractive, central transportation option for commuters traveling to Newark and New York City, two destinations likely to be favored by commuters utilizing rail transit.

Table 3-28: Convent Station Area Worker Inflow-Outflow, 2009

	% Live *and* Work	Net Job Inflow/ Outflow	Primary Outflow Destination	Primary Inflow Source
Convent Station Work Area	**0.7%**	**5,683**	New York, NY	New York, NY
Convent Station PMA	**13.9%**	**96,296**	New York, NY	Newark, NJ
Convent Station SMA	**26.8%**	**-51,673**	Newark, NJ	Newark, NJ

Table 3-30 presents a summary of the Chatham Station geographies' labor and industry demographics. The Convent Station analysis areas generally displayed negative growth in total primary jobs over the 2005-2009 time period, with decreases in total primary jobs in the Work Area and PMA around three percent per year. Figure 3-21 depicts the Convent Station Area labor by industry trends. Negative growth in employment in several of the top ten industries has contributed to this trend, though modest increases in employment within the Professional, Technical, and Scientific Services, Health Care and Social Services, and Educational Services sectors slightly offset a generally downward trend in employment. Of the three station areas, Convent Station is the only area that showed a positive employment growth during the 2007-2009 period which could indicate that this station area is a strong attraction for jobs and most likely to emerge from the recession on stronger economic ground than the surrounding stations with respect to jobs. This is an indicator that the Convent Station area could be viable for future development.

Table 3-29: Convent Station Area Worker Flow

Top 10 Work Destinations for Residents			
For residents within Convent Station Work Area			
		2009	
New York City, NY		254	**12.9%**
Morristown Town, NJ		141	**7.1%**
Florham Park Borough, NJ		95	**4.8%**
Madison Borough, NJ		90	**4.6%**
Newark City, NJ		40	**2.0%**
Jersey City, NJ		34	**1.7%**
Summit City, NJ		31	**1.6%**
Secaucus Town, NJ		20	**1.0%**
Roseland Borough, NJ		19	**1.0%**
Morris Plains Borough, NJ		17	**0.9%**
All Other Locations		1,232	**62.4%**
For residents within Convent Station PMA			
		2009	
New York City, NY		12,263	**10.5%**
Morristown Town, NJ		5,937	**5.1%**
Newark City, NJ		3,754	**3.2%**
Summit City, NJ		3,015	**2.6%**
Florham Park Borough, NJ		2,953	**2.5%**
Madison Borough, NJ		1,939	**1.7%**
Jersey City, NJ		1,832	**1.6%**
New Providence Borough, NJ		1,540	**1.3%**
Roseland Borough, NJ		1,410	**1.2%**
Short Hills CDP, NJ		1,059	**0.9%**
All Other Locations		81,283	**69.5%**
For residents within Convent Station SMA			
		2009	
Newark City, NJ		64,074	**9.7%**
New York City, NY		58,801	**8.9%**
Elizabeth City, NJ		17,711	**2.7%**
Jersey City, NJ		12,271	**1.9%**
Morristown Town, NJ		8,703	**1.3%**
East Orange City, NJ		8,086	**1.2%**
Linden City, NJ		7,369	**1.1%**
So. Plainfield Borough, NJ		6,739	**1.0%**
Secaucus Town, NJ		6,031	**0.9%**
Summit City, NJ		5,810	**0.9%**
All Other Locations		462,303	**70.3%**

Top 10 Places of Worker Residence			
For workers within Convent Station Work Area			
		2009	
New York City, NY		289	3.8%
Madison Borough, NJ		188	2.5%
Morristown Town, NJ		157	2.0%
Florham Park Borough, NJ		125	1.6%
Jersey City, NJ		121	1.6%
Newark City, NJ		97	1.3%
Summit City, NJ		72	0.9%
New Providence Borough, NJ		54	0.7%
Succasunna CDP, NJ		54	0.7%
East Orange City, NJ		53	0.7%
All Other Locations		6,457	84.2%
For workers within Convent Station PMA			
		2009	
Newark City, NJ		4,917	2.3%
New York City, NY		4,839	2.3%
Morristown Town, NJ		3,368	1.6%
Madison Borough, NJ		2,697	1.3%
Summit City, NJ		2,370	1.1%
Jersey City, NJ		2,346	1.1%
East Orange City, NJ		2,101	1.0%
Paterson City, NJ		1,968	0.9%
Florham Park Borough, NJ		1,905	0.9%
Elizabeth City, NJ		1,811	0.8%
All Other Locations		185,135	86.7%
For workers within Convent Station SMA			
		2009	
Newark City, NJ		40,183	6.6%
Elizabeth City, NJ		17,796	2.9%
New York City, NY		17,329	2.9%
East Orange City, NJ		10,910	1.8%
Jersey City, NJ		10,303	1.7%
Paterson City, NJ		9,511	1.6%
Linden City, NJ		8,018	1.3%
Clifton City, NJ		6,846	1.1%
Plainfield City, NJ		6,448	1.1%
Rahway City, NJ		4,953	0.8%
All Other Locations		473,204	78.2%

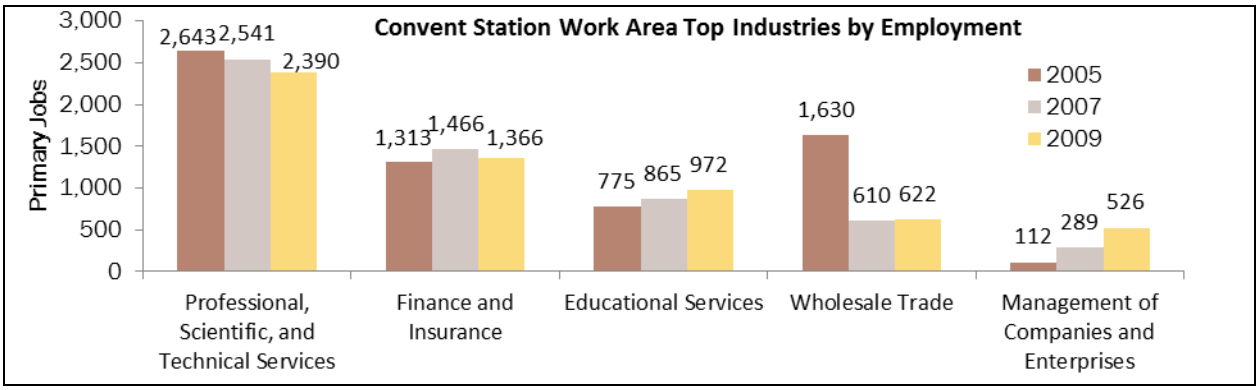
Source: US Census Bureau On the Map

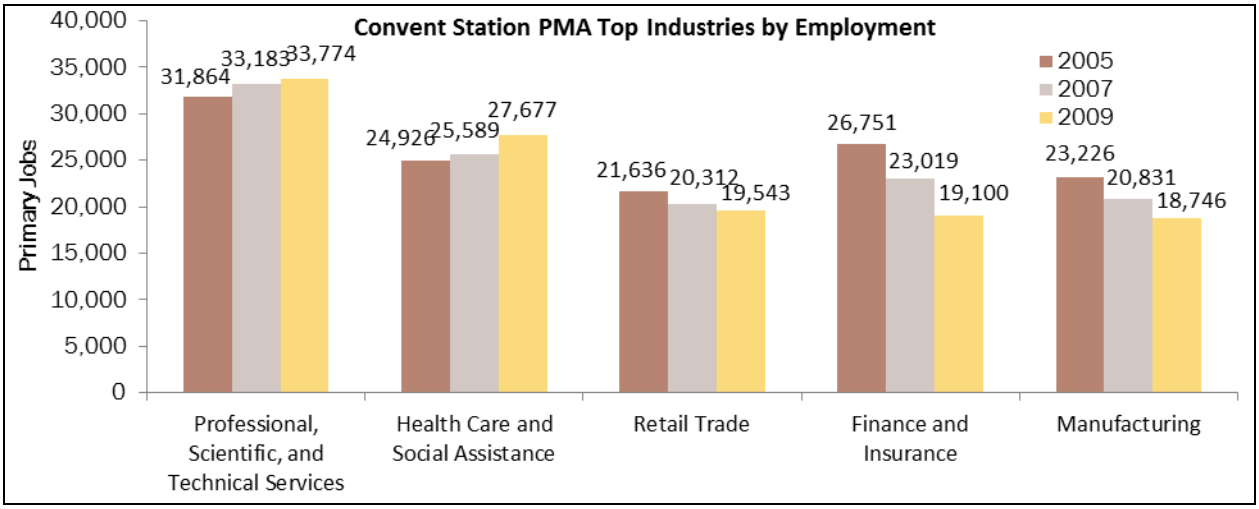
Table 3-30: Convent Station Geographies Annualized Percent Change in Labor and Industry Demographics

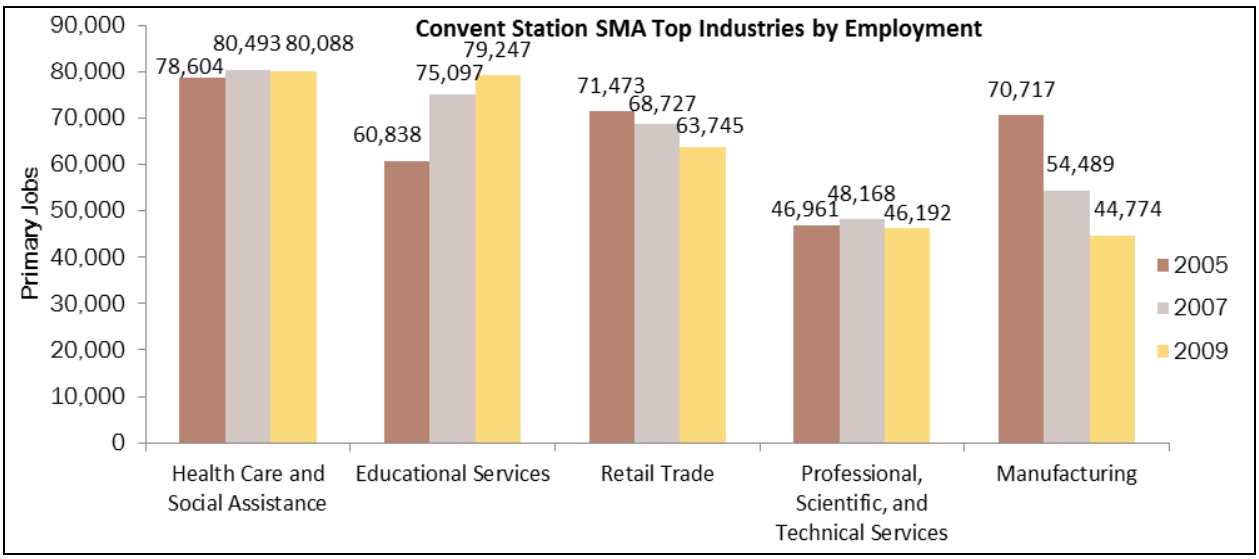
Table Key									
			Strong Positive Growth	Greater than	1.50%			annually	
			Weak Positive Growth	Between	1.50%	and	0.75%	annually	
			Flat Growth	Between	0.75%	and	-0.75%	annually	
			Weak Negative Growth	Between	-0.75%	and	-1.50%	annually	
			Strong Negative Growth	Less than	-1.50%			annually	

Total Primary Jobs	2005-2007	2007-2009						
Convent Station Work Area	-3.36%	0.99%						
Convent Station PMA	-0.71%	-2.58%						
Convent Station SMA	0.98%	-1.19%						
Jobs by Worker Age	**2005-2007**	**2007-2009**		**Jobs By Worker Earnings**			**2005-2007**	**2007-2009**
Convent Station Work Area				**Convent Station Work Area**				
Age 29 or younger	-2.12%	-2.75%		$1,250 per month or less			-9.13%	13.44%
Age 30 to 54	-4.64%	0.92%		$1,251 to $3,333 per month			-12.53%	-8.30%
Age 55 or older	0.24%	5.83%		More than $3,333 per month			0.04%	1.54%
Convent Station PMA				**Convent Station PMA**				
Age 29 or younger	-1.59%	-5.04%		$1,250 per month or less			-4.55%	-4.99%
Age 30 to 54	-1.47%	-2.56%		$1,251 to $3,333 per month			-4.95%	-7.23%
Age 55 or older	3.16%	0.10%		More than $3,333 per month			2.25%	-0.16%
Convent Station SMA				**Convent Station SMA**				
Age 29 or younger	1.09%	-3.94%		$1,250 per month or less			-3.26%	-3.42%
Age 30 to 54	-0.29%	-0.68%		$1,251 to $3,333 per month			-1.49%	-3.02%
Age 55 or older	4.88%	0.28%		More than $3,333 per month			4.75%	0.88%

Figure 3-21: Convent Station Geographies' Employment by Industry Trends







3.5.4 Summary

Well-designed TODs can benefit both incoming commuters, as well as outgoing residents, while serving to catalyze the conversion of some of the workers from commuters to new residents. Despite general decreases in employment in each of the Chatham, Madison, and Convent Station areas, growth industries, such as Health Care, Education, and Professional Services, are likely to continue to offer opportunities for employment. The nearby colleges also provide ongoing employment opportunities.

Furthermore, the large population of commuters flowing into and out of each station area, combined with the fact that the transit lines provide access to large employment centers (e.g., New York City and Newark), indicates that each station area is well-suited to TOD-style development.

3.6 Transit-Oriented Development (TOD) Comparables and Best Case Analysis

The experience of other regions and the lessons learned by other communities in attempting to shape land use patterns in transit corridors and around transit stations can provide useful guidance in considering the options for encouraging TOD. Several locations within the NJ TRANSIT rail network and elsewhere were identified and their experiences were compared with the characteristics found in Chatham, Madison, and Convent Stations. Key findings from these examples are noted in this section and will be applied in identifying appropriate locations for TOD within the study area and implementing it where desirable and feasible.

Specifically, the overall residential, population, and employment densities of existing TOD station areas in New Jersey serve as thresholds that indicate the viability of similar environments. Higher residential densities, measured as dwelling units per acre, mean more households within walking distance of transit access, creating a built-in market for both the transit service as well as the retail and service businesses in the development. Higher population densities indicate similar trends. Higher employment densities in the vicinity of a station indicate potential demands for housing as well as higher daytime expenditures in the area. In addition, jobs located in the station area can be accessed via transit, offering an alternative to driving and reducing overall parking demand. Each of these metrics indicates the potential for TOD to create an active, vibrant community which increases the availability of multiple modes of transportation between work, home, and shopping.

Utilizing the Center for Transit-Oriented Development's (CTOD) TOD Database[18] for existing transit stations within the New York region, key TOD metrics (i.e. population, median household income, and age) were benchmarked for the half mile area around the Chatham, Madison, and Convent Stations.

These stations were then compared to other New Jersey Transit system commuter rail station areas based on residential (housing units per acre), population (persons per acre), and employment (jobs per acre) densities—identifying those station areas with densities most similar to the Chatham, Madison, and Convent Stations.

TOD literature was also reviewed for best case studies of commuter rail stations within the United States, within both established historic downtowns centers like Chatham and Madison Stations, and less established settings like Convent Station, that have been successful in attracting or retaining residents. Interviews with representatives from these selected case studies were conducted, as needed, to further investigate information regarding expectations, opportunities, and strategies and tools.

As shown, the residential population and employment densities of the three subject station areas currently fall below the density averages of other stations along the Morris & Essex Lines. However, the subject station areas are comparable in at least one of the three density measures with a number of existing station areas which either function as TODs or are currently in the process of emerging as TOD environments.

3.6.1 Morristown Line

The Morris & Essex Line, comprised of the Morristown Line and the Gladstone Branch, is the second busiest rail line in the NJ TRANSIT system. In 2008, the Morris & Essex Line's nine stations within Morris County (between Chatham and Mount Arlington) served about 10,000 daily boarding passengers. The Morristown Line sees the majority of its service on the Morris & Essex system, from Summit to New York City. During peak periods, the Morristown Line is served by two to three trains per hour to New York City and one to two trains per hour to Hoboken. In the off-peak, hourly service is provided to New York City, and service every two hours is provided to Hoboken. Figure 3-22 depicts the line in relationship to the major destinations.

[18] Data from the CTOD Database is based upon U.S. Census information. However, due to differing interpretations of geographic boundaries the data in the following sections of this report differ slightly from the ESRI US Census data provided for each municipality in the previous sections of this report.

Figure 3-22: Morristown Line, NJ TRANSIT System

Source: NJ TRANSIT

3.6.1.1 Study Area Station Ridership

Chatham, Madison, and Convent Stations are similar in the service they provide and the number of riders they serve, about 1,300 to 1,600 a day. While most Morristown Line stations are located in traditional downtown areas near commercial districts and medium-density housing, Convent Station, located near the College of Saint Elizabeth and Fairleigh Dickinson University, serves a less dense residential area.

3.6.1.2 Study Area Station Characteristics

The half mile station area surrounding Chatham, Madison, and Convent Stations have unique land use patterns and socio-economic characteristics which are summarized in Table 3-31. The Chatham Station area has more than twice the population of Convent Station but a similar number of jobs. Compared to the other station areas, the Madison Station area has 1.5 times the number of jobs but the lowest median household income ($108,804). Despite being located in close proximity to two universities, the Convent Station area has the highest median age (42.5 years) of the three station areas.

Table 3-31: Station Area Socio-Economic Characteristics (0.5 Mile)[19]

Station	Total Area (acres)	Population (2010)	Households (2010)	Housing Units (2010)	Vacancy Rate (2010)	Jobs (2009)	Median Household Income (2012)	Median Age (2010)
Chatham	502	4,204	1,458	1,531	4.8%	1,769	$143,983	38
Madison	498	3,664	1,377	1,487	7.4%	2,607	$108,804	38.7
Convent	502	1,540	465	506	8.1%	1,736	$117,546	42.5

Source: Center for Transit-Oriented Development: TOD Database, NJ TRANSIT Rail, 2012

3.6.1.3 Transit 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, presented in Table 3-32, depend on the type of transit service and are applicable for the area within walking distance to the station (i.e. one-half mile walking radius). Accordingly, this literature suggests that the station areas along the Morristown Line should contain a minimum of 12 housing units and 30 persons per acre to support transit with regular service to a downtown like New York City, which currently contains approximately 200 million square feet of non-residential space. The threshold is 50 million square feet of non-residential space in a downtown.

[19] Ibid.

Table 3-32: Minimum Densities by Transit Type

	Local Bus (Intermediate Service)[1]	Local Bus (Frequent Service)[2]	Light Rail[3]	Transit[4]
Residential Density (housing units/acre)	7	15	9	12
Population Density (persons/acre)	18	38	23	30
Employment Density (jobs/acre)	20	75	125+	N.A.[5]

[1] Average density; varies as a function of downtown size and distance to downtown.
[2] Average density over a two-square-mile tributary area.
[3] Average density for a corridor of 25 to 100 square miles; transit to downtowns of 20 to 30 million square space feet of nonresidential space.
[4] Average density for a corridor of 100 to 150 square miles; transit to downtowns of more than 50 million square feet of nonresidential space.
[5] Not available.

Source: Urban Land Institute, 10 Principles for Successful Development Around Transit, 2003

3.6.1.4 Study Area Station Densities

For a sense of context, the Chatham, Madison, and Convent Station areas were compared to other station areas in the region that are generally recognized as having the characteristics of a TOD or are in the process of emerging as a TOD-type environment. Table 3-33 presents this comparison. On average, the half mile commuter rail station areas along the Morristown Line (Newark to Mt. Tabor) have a density of 5.3 housing units, 12.8 persons, and 7.3 jobs per acre—resulting in a 1.4 jobs to housing ratio. These average densities as well as those within a half-mile radius of the Chatham, Madison, and Convent Station fall significantly below those recommended to support transit ridership (as well as local bus service). Although some Morris & Essex Line station areas such as Brick Church Station (12.9 housing units per acre), East Orange Station (29.5 persons per acre), and Newark Broad Street Station (18.4 jobs per acre) have higher densities which are more supportive of commuter rail transit service, the Chatham, Madison, and Convent Station areas are comparable with other station areas along the Morris & Essex Line and NJ TRANSIT system.

Table 3-33: Minimum Densities for Supporting Transit Ridership, ½ Mile

	Madison	Chatham	Convent	Average Morristown Line
Residential Density (housing units/acre)	3.0	3.0	1.0	5.3
Population Density (persons/acre)	7.3	8.4	3.1	12.8
Employment Density (jobs/acre)	5.2	3.5	3.5	7.3

Source: TOD Database, NJ TRANSIT Rail, 2012

3.6.2 Regionally Comparable Densities

Although the residential, population, and employment densities of the three subject station areas currently fall below the density averages of stations along the Morris & Essex Line, the subject station areas are comparable in at least one measure with a number of existing station areas which either function as TODs or are currently in the process of emerging as TOD-type environments.

The Chatham Station area has a residential density of 3.0 housing units per acre, 8.4 persons per acre, and 3.5 jobs per acre. NJ TRANSIT rail station areas with similar densities include:

- Residential Density (dwelling units (du)/ acre)
  - Edison Station (3.0 du/ acre)
  - Upper Montclair (3.0 du/ acre)
  - Hillsdale (3.0 du/ acre)
- Population Density (persons/ acre)
  - Summit (8.4 persons/ acre)
  - Ridgewood (8.3 persons/ acre)
  - Little Falls (8.3 persons/ acre)
- Employment Density (jobs/ acre)
  - Oradell (3.56 jobs/ acre)
  - Hillsdale (3.46 jobs/ acre)

The Madison Station area has a residential density of 3.0 housing units per acre, 7.3 persons per acre, and 5.2 jobs per acre. NJ TRANSIT rail station areas with similar densities include:

- Residential Density
  - Edison Station (3.0 du/ acre)
  - Upper Montclair (3.0 du/ acre)
  - Hillsdale (3.0 du/ acre)
- Population Density
  - Westfield (7.3 persons/ acre)
  - Manasquan (7.3 persons/ acre)
  - Glen Rock Borough Hall (7.3 persons/ acre)
- Employment Density
  - Dover (5.2 jobs/ acre)
  - Fairlawn (5.2 jobs/ acre)

The Convent Station area has a residential density of 1.0 housing units per acre, 3.0 persons per acre, and 3.5 jobs per acre. NJ TRANSITNJ TRANSIT rail station areas with similar densities include:

- Residential Density

  - Basking Ridge (1.1 du/ acre)
  - Annandale (1.0 du/ acre)
  - Lebanon (1.0 du/ acre)
- Population Density
  - Bridgewater (3.2 persons/ acre)
  - Ramsey Rte 17 (3.1 persons/ acre)
  - High Bridge (3.0 persons/ acre)
- Employment Density (jobs/ acre)
  - Oradell (3.56 jobs/ acre)
  - Hillsdale (3.46 jobs/ acre)

This comparison shows that Chatham and Madison Stations have developed similarly to other stations in the NJ TRANSIT system and that some of those comparative stations (Summit, Morristown, Westfield, and Upper Montclair) are locally considered to be TOD environments despite not meeting the minimum densities for supporting rail ridership. Convent Station's comparatives tend to be less densely developed areas, not considered as TODs and the furthest from the minimum densities for supporting rail ridership. This comparison further confirms that both Chatham and Madison Stations are not only supportive of transit-oriented development but are considered to be TODs.

3.6.3 Local Real Estate Market

Commuter rail lines provide high-speed service to downtowns in many metropolitan areas. However, these stations are often simple platforms surrounded by parking, which limits development potential. In general, commuter rail stations are typically located in one of two types of settings, a historic town center or a more suburban, twentieth-century community, with unique real estate implications:

- Historic Town Center: A commuter rail station can provide a transportation focus in the existing fabric and can help to catalyze the revitalization forces to return the community to prosperity. Limited local market forces can be harnessed to upgrade the aging community centers. South Orange and Rahway are two examples of successful New Jersey TODs based in historic commuter rail towns. The South Orange and Rahway station areas have population densities of 10.5 and 17.2 people per acre, respectively, as compared to Chatham, Madison, and Convent's densities of 3.1 to 8.4 people per acre. The fact that the South Orange and Rahway historic downtowns were able to revitalize and achieve higher population densities indicates that even historic town centers like Madison have the potential to support further density and development.
- Suburban Community: Suburban community station areas often serve low-density bedroom communities and are not often part of an

organized or developed center/ downtown fabric as they are in Chatham and Madison. Having a vibrant real estate market is crucial to successful station area revitalization, or in the case of these stations, continued stability or growth. If there is unusual vitality in the local real estate market, new, denser transit-oriented districts that feature a concentration of residences, shops, and employment can be created around a station. Cranford, New Jersey, is an example of a successful TOD in a suburban setting.

3.6.3.1 Corridor Comparable: Cranford Crossing, NJ

Cranford, New Jersey, has been a bedroom community to New York City since the 1800s. Like many small towns and villages, the retail core that was the backbone of the economy was crippled by the exodus of shopping to malls. Starting in the 1980s, Cranford began using its train station as a catalyst for growth, focusing on streetscape improvements and promotions as a way to increase interest and cultivate private investment. The Cranford Station area has a residential density of four units per acre and a population density of 8.7 people per acre, which is comparable to the Chatham Station area with a residential density of three units per acre and a population density of 8.4 people per acre. This comparison indicates that a community like Chatham could be desirable to developers interested in TOD environments and that if desired, Chatham could use its train station as a catalyst for growth.

- Special Improvement District (SID): Special assessments on property owners generated more than $2 million in investment which fed the resurgence of the downtown business district in Cranford. That infusion of investment dollars spurred a new round of private investment throughout the downtown, creating a market for both first-floor retail and upper-floor tenancies which added strength to the local market. This funding mechanism was successfully utilized by Cranford to spur redevelopment and could be a tool for the three study corridor communities as well.
- TOD Developments: One major project that helped to jumpstart the revitalization was the award-winning Cranford Crossing, with 50 apartments (only three are currently available for rent), ground-floor retail, and a carefully placed parking garage. A second project, the Riverfront Project (currently under construction), will complement the densities around the train station, providing two levels of parking, office, and retail.

3.6.4 Sense of Place: Balancing Opposing Forces

Successful TOD projects depend on the creation of a "sense of place" in and around the station area. It is often the responsibility of local municipalities and transit authorities to guide developers to transform station areas into vibrant places. However, commuter rail station areas located within traditional town centers are often caught between two opposing forces which result from their performing two distinct functions as:

- Town Center: The desire to use the station as a *focal point* in a broader revitalization of a traditional town center, and
- Commuter Station: The desire to surround the station with *parking* and maximize the commuter patron's ease of *vehicular access*.

Accordingly, TOD planning for commuter rail stations must strike a balance between these two opposing forces. The following discusses how this has been accomplished in other regions.

3.6.4.1 Corridor Comparable: Arlington Heights, IL

The Village of Arlington Heights, west of Chicago, on Metra's Union Pacific Northwest Line, has seized upon TOD as an integral component of the city's award-winning strategy to revitalize its historic downtown. In 1980, 350 residents lived in 150 units in the downtown. By 2000, the numbers jumped to 2,200 residents and 1,500 units. This location serves as an example in which a planned effort resulted in higher densities where beforehand no TOD-type environment existed. By comparison, the densities found at this station area today are 11 people per acre and 7.4 dwelling units per acre. This station is most similar to the Morristown, NJ station area which features densities of 11.3 people per acre and 5.9 dwelling units per acre, and Chatham Station (8.4 people per acre and 3.0 dwelling units per acre) is the most comparable of the three study area stations.

Station Relocation: In 2000, this entailed a $4.7 million construction and relocation of a Metra station closer to the downtown core. While the stations in the NJ 124 study area will not be relocated, what was important in Chicago is that the community planned for higher density development to abut their station and they were able to achieve that density. They could have opted for a more auto-friendly, commuter station environment around their station.

Town Center: This includes a new station, a performing arts center, high-density housing, commercial uses (restaurant, a bakery cafe, and a newsstand), public parking decks, parks, and public art. This community chose for their new station

to adopt a Town Center environment rather than a Commuter Station environment. For the study corridor, communities that are considering the need to add parking should consider which model they would most desire.

Funding: Funds for the station refurbishment were provided by six agencies, including Metra, Illinois Department of Transportation (IDOT), and the village, which used Tax Increment Financing funds. Since 1997, public investment of $27 million has leveraged some $225 million in private investment.

3.6.5 Local Regulatory Framework

The nature and extent of the relationships between public transit and nearby land uses depends greatly on the regulatory framework, including local government zoning ordinances, subdivision regulations, and other administrative requirements. In particular, the potential for TOD land use patterns that support target station area densities can be negated by inappropriate zoning such as single-use districts or density restrictions such as maximum height or minimum parking requirements. The case studies provide examples of the types of obstacles that the study area municipalities are likely to face should they promote TOD in their station areas.

Zoning Limitations: A revision of the zoning ordinance or development of a "TOD overlay district" may be required to address limitations in the current zoning ordinances or other requirements within the study areas' municipalities. In New Jersey, this type of policy-making occurs at the municipal level. State support is available for communities in New Jersey that wish to develop in a transit-friendly manner, including the New Jersey Department of Transportation's (NJDOT) Transit Village initiative. Designation as a Transit Village is given by the Transit Village Task Force and the NJDOT Commissioner, and provides the following benefits for communities that have demonstrated a strong commitment to revitalizing and redeveloping the area around their transit facilities into compact, mixed-use neighborhoods with a strong residential component:

- State of New Jersey commitment to the municipality's vision for redevelopment.
- Coordination among the state agencies that make up the Transit Village Task Force.
- Priority funding from some state agencies.
- Technical assistance from some state agencies.
- Eligibility for grants from the New Jersey Department of Transportation (NJDOT).

None of the communities in the study area are designated transit villages. However, Madison's Green Village Road Special Use District encourages transit-oriented development in one section of the town.

Other regulatory barriers may include outdated street design standards that mandate high-speed auto-oriented streets inappropriate in urban, transit-served places.

3.6.5.1 Corridor Comparable: Canton, MA

Located in the downtown business district of this former industrial center, 18 miles southwest of Boston, the Town of Canton developed a vision for downtown revitalization centered around its commuter rail station. The zoning proved to be the catalyst for a constant stream of new housing development in the downtown, concentrated around the transit station. Since 2000, five new housing developments totaling 207 new residential units have been built within a five-minute walk of the train station. The densities found at this station area are 7.6 people and 3.8 dwelling units per acre, which is comparable to the Madison Station area with densities of 7.3 people and three dwelling units per acre.

Economic Opportunity District: The town designated an Economic Opportunity District and rezoned the area, integrating three distinct and unrelated zoning districts into a more unified TOD district. The town increased allowable densities, encouraged mixed-use development, allowed for shared parking, and developed strategies to reduce parking demand and to attract development interest. The new bylaw increased allowable densities and encouraged mixing residential and commercial uses.

Streetscape Improvements: To further attract economic investment, the town invested almost $2 million for streetscape improvements within the overlay district.

3.6.6 Summary and Best Case Analysis

Currently, the half mile areas surrounding Chatham, Madison, and Convent Stations fall significantly below minimum densities recommended to support transit ridership. Despite this fact, two of the three station areas (Chatham and Madison) are already meeting many of the characteristics of vibrant transit-oriented developments. However, most lacking is the availability of low to moderate income housing in the towns' centers which would appeal to the growing non-family and older resident demographics in these communities. Increasing residential and employment densities within the half mile of each station is likely to increase the NJ TRANSIT ridership base.

TOD planning for commuter rail stations must strike a balance between two opposing forces aimed at using the station as a focal point in a traditional town center, and maximizing the commuter patron's ease of vehicular access.

To find this balance for commuter rail stations, successful TOD planning requires strong public leadership to establish the regulatory policy, financing, incentives, programming, and partnerships designed to mold the physical shape and intensity of the station area.

Madison Borough and Chatham Borough officials have the advantage of promoting TOD elements within an existing urban fabric. In contrast, Morris Township officials have an opportunity to explore diverse regulatory approaches to leveraging market forces within a less established area.

3.6.7 Chatham Station Area

The area surrounding Chatham Station has many qualities of a TOD, including an existing stock of apartments which demonstrate the potential of achieving an overall density comparable to other station areas in the region. However, existing zoning is not conducive to higher density, and the political will to change the zoning should be assessed. There is also a strong local preference for maintaining scale and character, therefore developing design guidelines will be important to the community. The redevelopment opportunities that are available are largely limited to small infill sites, opportunities to diversify the mix of uses such as adding residential apartments over retail or conversion of parking areas to developed land uses. Overall, taking advantage of infill redevelopment could enhance the overall density and mix, adding more residents to the area who can walk to transit. However, due to cost, time, and other obstacles, including the acquisition of multiple privately-owned properties, the absence of sizable vacant or under-developed properties makes a large-scale master-planned TOD impractical.

3.6.8 Madison Station Area

The area surrounding Madison Station functions largely as a TOD today, having developed that way through historic economic and regulatory forces. The area features an attractive downtown with multiple uses. Locally, there is strong local support for TOD, as evidenced by the current pursuit of the development of a former school site. Additional redevelopment opportunities, however, are largely limited to infill or changes of use. Demographics indicate that apartment and condominium housing for growing young and senior age groups should be added to the mix of land uses, should redevelopment occur. Overall, permitted building heights might need to be increased in order to achieve the densities to

make substantial redevelopment economically viable. Demographics related to income, age, worker flows, and other studied characteristics indicate that any new development would further the economic success of Madison Borough.

3.6.9 Convent Station Area

The Convent Station area, with its existing lower-density development pattern, presents a potential opportunity to increase density with a suitable composition of uses to establish successful TOD there. In contrast to the other station areas, this area offers opportunities for more than infill development. Higher densities in the Convent Station area are not, however, currently part of Township plans. Also, the area around the station does not currently feature adequate commercial uses to achieve a mix of uses supportive of TOD. Zoning changes would be necessary to allow for the density and mix of uses to make successful TOD a possibility. A master plan that created an appealing vision for this area would be a key step toward that goal. The availability of larger tracts and a substantial existing parking lot at and in the vicinity of Convent Station functions as more of a blank slate on which a vision of a more dense mixed-use development could be realized. Demographics in the station area include the right mix of worker flows, age, population, and income to economically support a TOD vision.