

TRANSIT-FRIENDLY CONCEPT PLAN **Garwood, New Jersey**

**Borough of Garwood &
New Jersey Transit**

November 2010



ACKNOWLEDGEMENTS

Technical Advisory Committee

Borough of Garwood



Mayor Dennis McCarthy
Christina Ariemma
Michael Ferrara
Terry Gunning
Bill Nierstedt
Kathy Villaggio
Victor Vinegra

New Jersey Transit



Rich Roberts
Vivian Baker
Chuck Latini
Sallie Morris

Union County



Al Faella
Liza Betz

North Jersey Transportation Planning Authority



Lois Goldman
Mary Murphy
Jeffery Perlman

NJ Department of Environmental Protection



David Dumont
Stephen Kehayes
Liz Semple

New Jersey Transit Consultant Team

LRK Inc.

Lead Planners, Urban Design, Community Visioning



Jim Constantine
Chris Cosenza
Mike DiGeronimo

4Ward Planning

Market and Real Estate Analysis

Jay Gillespie
Todd Poole

Eng-Wong Taub

Pedestrian and Transportation Planning

Janet Jenkins
Susan O'Donnell

TimHaahs Associates

Parking Strategies and Design

Ed Rahme
Jim Zullo

VHB

Civil and Environmental Engineering, Community Visioning

Mike Junghans
Geoffrey Morrison-Logan

4WARD PLANNING

Eng-Wong, Taub & Associates





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INTRODUCTION

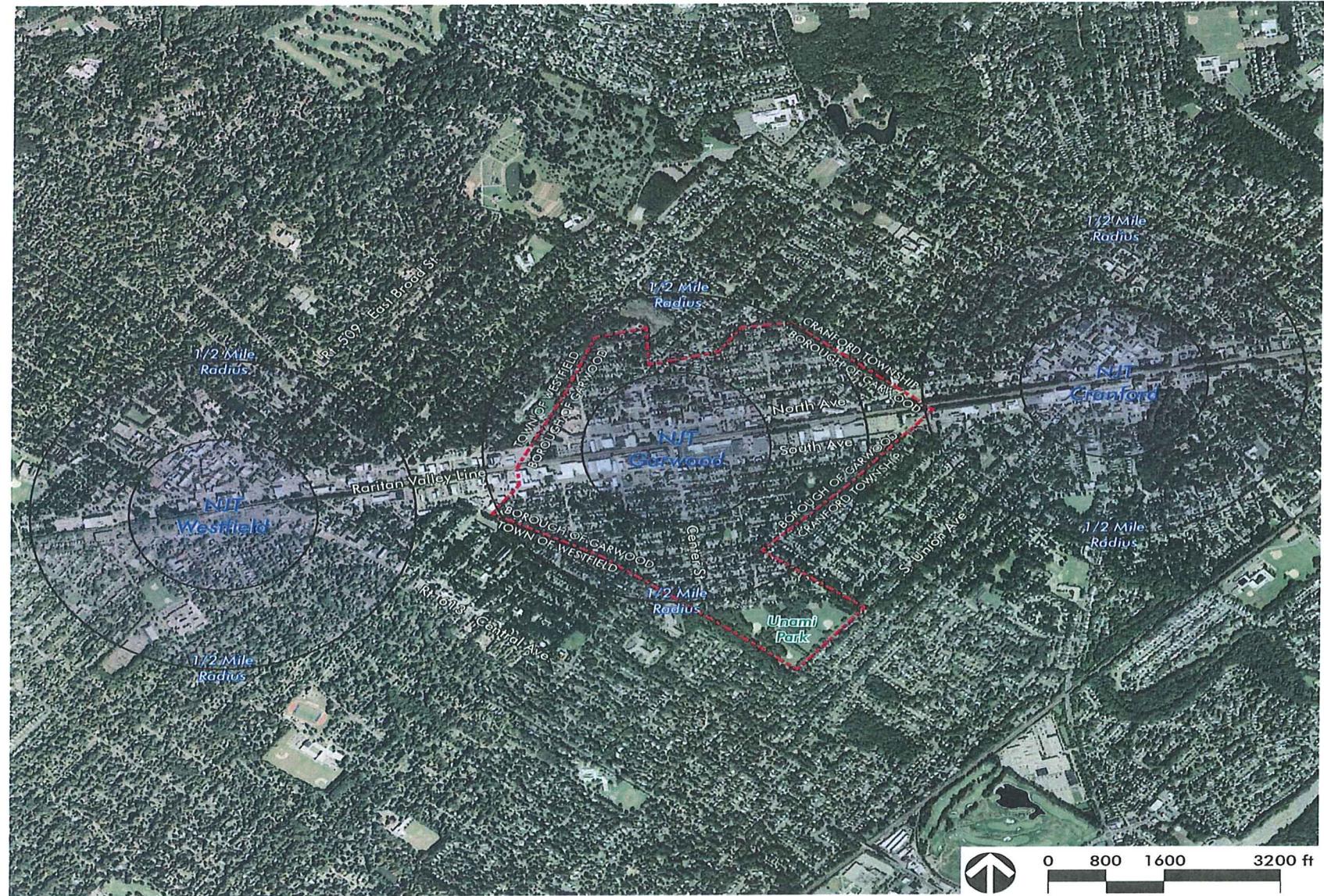
The Transit-Friendly Concept Plan evolved from a joint effort centered around the tremendous market-feasible opportunities the Borough has to implement Transit-Oriented Development (TOD) around the Garwood Station.

Subject to a detailed Memorandum of Understanding (MOU) between the Borough of Garwood, Union County, NJTPA and NJ TRANSIT, the project utilized NJ TRANSIT'S on-call consultants to provide insight as to how the Borough could work to improve and implement TOD in the Downtown. The MOU was specific: NJT would use its on-call Transit Friendly Planning consultant team, at no cost to the Borough of Garwood, in order to assist in the identification of several key items;

- 1) Identifying physical opportunities for Transit-Oriented development (TOD) in the downtown;
- 2) analyzing the market potential and feasibility for TOD;
- 3) identifying potential commuter parking locations proximate to the station that could start to support and justify additional transit service;
- 4) identify longer term zoning changes and development opportunities that exist that can actually make TOD work for long term transit services.

TOD is defined as higher density mixed use development located within the Station Area of transit facilities and routes. A Station Area is generally understood to be a 5 to 15 minute walk from the station, which corresponds to approximately ¼ mile to ½ mile. Such development allows sites to realize maximum benefits because of their proximity to public transit. In good TOD, streetscapes are designed for pedestrian and bicycles, not autos only; industrial and commercial sites are retrofitted or reoriented to the street; infill buildings are used to help fill in the gaps; parking is shared and systematized; and proper design codes are put into place within the land development regulations.

This report summarizes the process of public input and community visioning that occurred as the basis for the design ideas. Residents, business owners, property owners, and other stakeholders all had a role developing ideas and reality-checking various concepts.



GARWOOD STATION AREA

“IT’S TIME TO DO SOMETHING WITH THE CORRIDOR!”

BY WORKSHOP ATTENDEE

GOAL #1:

SPURRING
ECONOMIC DEVELOPMENT
AROUND TRANSIT
INFRASTRUCTURE

Leverage Garwood’s strategic location in Union County and along major transportation routes to support the Borough’s tax base and the local economy



GOAL #2:

TRANSITIONING TO
TRANSIT-FRIENDLY LAND
USES & INFILL

Retrofit and transform vacant and underutilized industrial and commercial sites into mixed-use places with buildings framing pedestrian-oriented streets and public spaces



GOAL #3:

IDENTIFYING
PARKING &
CIRCULATION SOLUTIONS

Secure parking for commuters and downtown business through a strategy of shared parking, leasing arrangements, and new parking facilities



GOAL #4:

DESIGNING
CONTEXT-SENSITIVE &
FEASIBLE REDEVELOPMENT

Add and retrofit buildings, streetscapes, parking, and public spaces appropriate to the scale and character of Garwood and following the market analysis and targeted land use needs



DEMOGRAPHICS & MARKET ASSESSMENT

The half-mile area immediately surrounding the Garwood rail station is densely populated, stable and representative of middle and upper-middle class income households – strongly favorable for TOD activity. In general, the immediate area surrounding the Garwood rail station exhibits strong demographic fundamentals necessary for TOD project activities to be successful.

The identified change in industry employment (e.g., a decline in the number of persons employed within the manufacturing and distribution/warehousing industries and significant employment increases within the broad professional services industry) bodes favorably for TOD activity as these types of workers are most likely to use commuter rail service to access employment opportunities. Further, many area residents are employed in industry related occupations which have exhibited relatively strong growth over the past few years and, with few exceptions, this growth trend should carry forward. Accordingly, local area industry labor trends should only enhance Garwood’s prospective TOD efforts.

The full findings can be found in the *Preliminary Demographic and Real Estate Market Analysis* in the Technical Appendix. Some of the demographic highlights include:

Aging Population

The Garwood PMA, along with Union County and the Newark MSA, saw a large percentage increase in population between the ages 55 and 74 of 21.62% for the period 2000-2010.

Vacancy

The percentage of vacant housing units rose significantly between 2000-2010 by 96.08% in the Garwood PMA.

Labor Categories

The largest declines in Garwood between 2004 and 2008 were seen in the Construction & Manufacturing sector (-29.0%) and the Professional, Scientific, & Technical services sector (-10.34%).

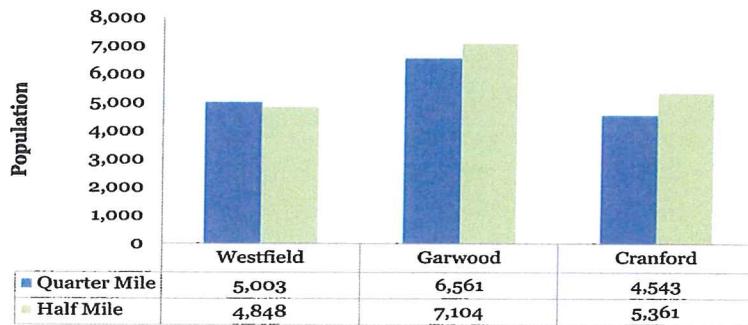
Where do you **Live** in Garwood?

Where do you **Work** in Garwood?



GARWOOD STATION AREA

**Station Area Populations Along
New Jersey Transit's Raritan Valley Rail Line**



Source: U.S. Census Bureau; ScanUS; 4ward Planning, 2010

**Local Demographics in Garwood
and Surrounding Communities**

Garwood Market Area (10 Min Drive)				Percentage Change	
	2000	2010	2015	2000-10	2010-15
Population	481,235	479,549	480,007	-0.35%	0.10%
In Households	474,454	472,755	473,197	-0.36%	0.09%
In Families	400,693	408,482	409,305	1.94%	0.20%
In Non-family Households	73,761	64,273	63,893	-12.86%	-0.59%

Union County				Percentage Change	
	2000	2010	2015	2000-10	2010-15
Population	522,541	523,974	526,371	0.27%	0.46%
In Households	514,733	516,167	518,568	0.28%	0.47%
In Families	436,806	448,869	451,896	2.76%	0.67%
In Non-family Households	77,927	67,298	66,672	-13.64%	-0.93%

Newark-Union MSA				Percentage Change	
	2000	2010	2015	2000-10	2010-15
Population	2,098,843	2,121,746	2,124,022	1.09%	0.11%
In Households	2,052,635	2,076,545	2,079,154	1.16%	0.13%
In Families	1,741,485	1,797,414	1,804,399	3.21%	0.39%
In Non-family Households	311,150	279,131	274,755	-10.29%	-1.57%

Source: US Census Bureau; ScanUS; 4ward Planning, 2010

2.4 Percent per Annum

The rate of growth for the 55 to 74-year old cohort in the Garwood PMA, which generally has a high degree of discretionary income, based on this age cohort's consumer expenditure profile. A **high degree of discretionary income** bodes favorably for certain service businesses such as restaurants, specialty retailers and entertainment venues.

One-Third or More

The share of projected 2010 households in the Garwood PMA, Union County and the Newark-Union MSA that achieved annual household incomes of **\$75,000 or greater**. By 2010, the share of these upper income households increased by an average of 23.3-, 21.6- and 27.2 percent within the Garwood PMA, Union County and the Newark-Union MSA, respectively. These significant increases in upper household income reflect **robust in-migration by highly educated and professionally employed households** – target consumers for TOD projects.

\$264 Million vs. \$120 Million

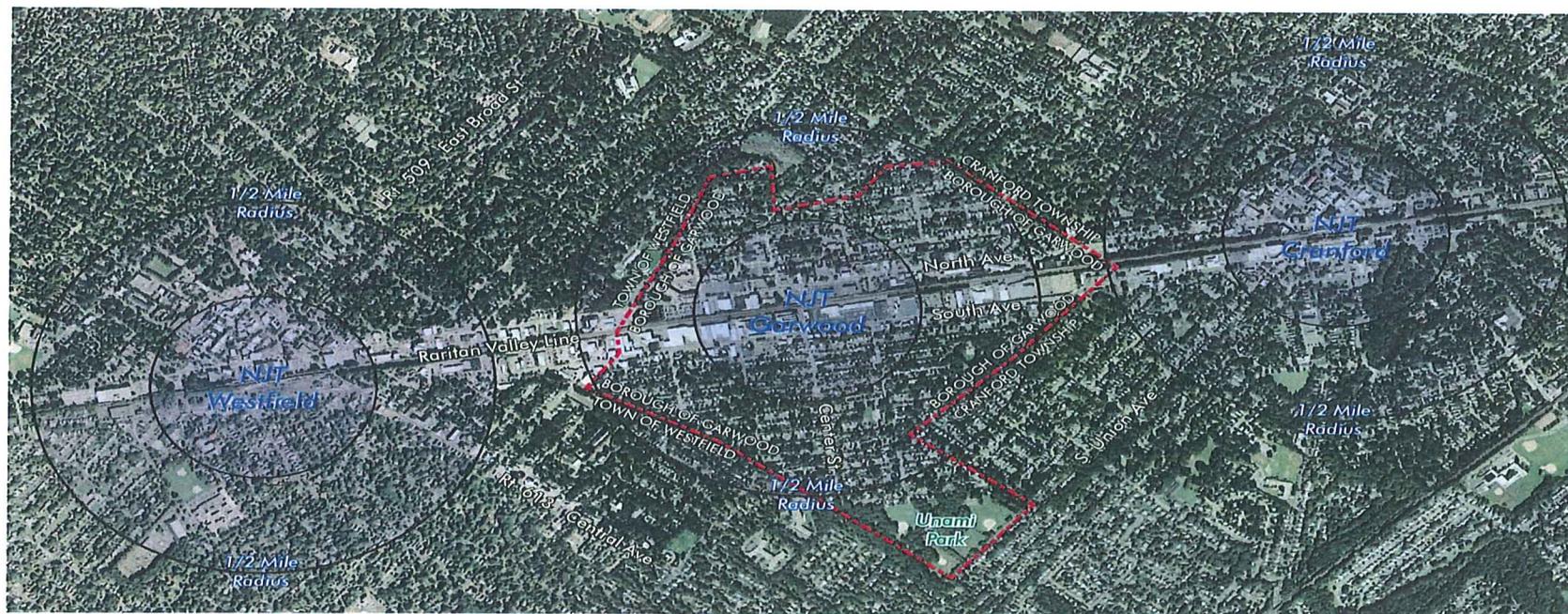
The 2010 **estimated per square mile aggregate household expenditures** within the Garwood PMA versus aggregate household expenditures within Union County. The approximately 2.2 times greater spending power concentrated within close proximity to the Garwood rail station is particularly favorable for prospective TOD retail related uses.

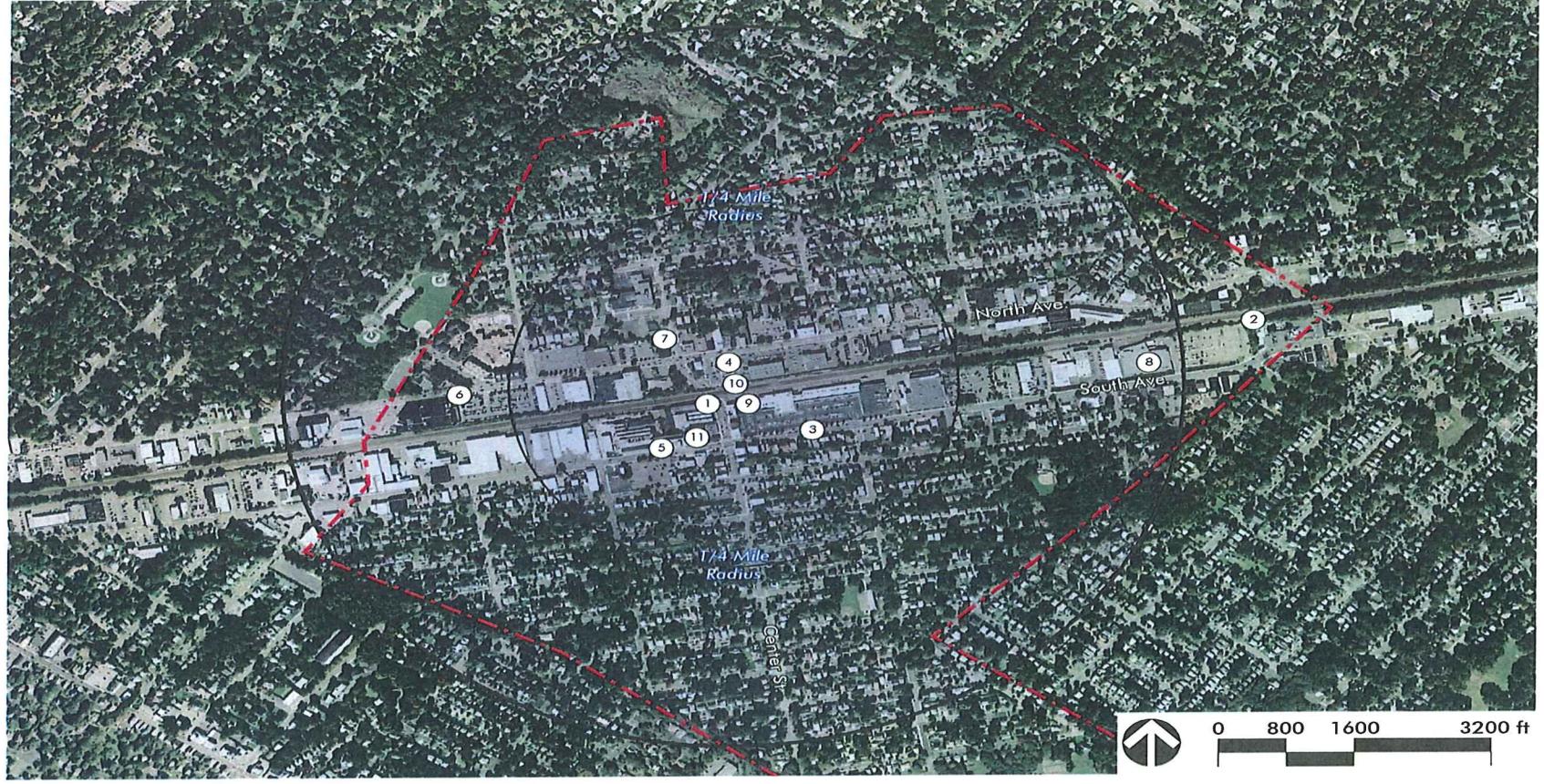
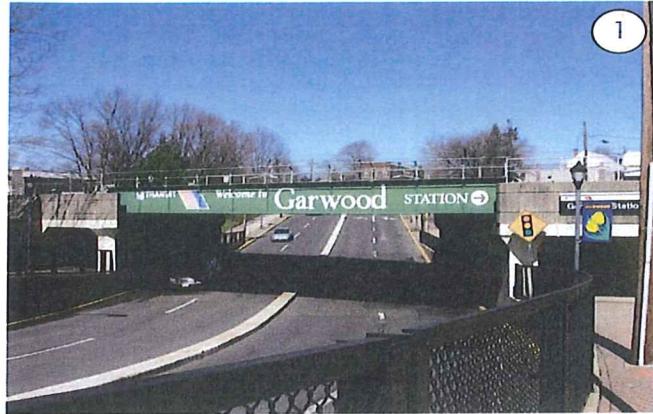
9.6 Percent

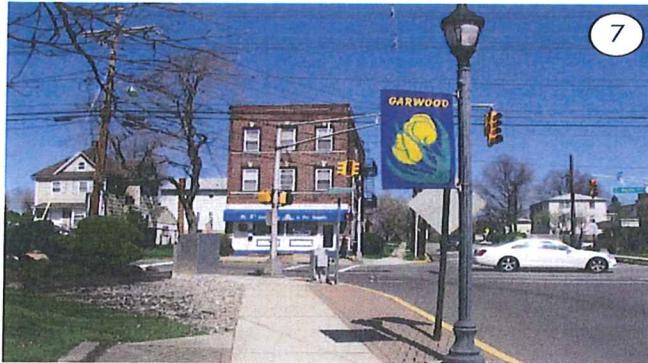
The percent increase from 2000 to 2010 in adult **persons possessing either a bachelors or graduate level degree** within the Garwood PMA. Over the ten-year period, adult persons possessing either a bachelors or graduate level degree **increased 8.7- and 11.1-percent**, respectively. Persons with four-year and advanced degrees have a **greater propensity to live within a TOD residential site** than persons with less formal education.

\$14.5 Million

The estimated 2010 **aggregate household expenditures per square mile** in the away-from home food category (prepared food purchased at full- and limited-service restaurants and intended for eating on premises). This far exceeded the aggregate per square mile household expenditures in Union County (\$6.5 million) and the Newark-Union MSA (\$1.4 million). The Garwood PMA demonstrates a **strong consumer market for restaurants and cafes**.



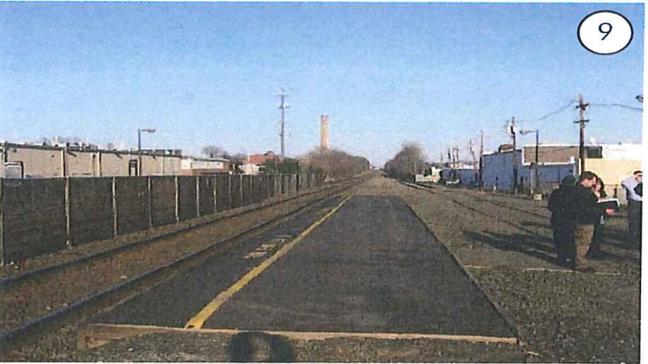




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8



9



10



11

EXISTING CONDITIONS

The Borough's compact, high-density settlement pattern provides residents and visitors the choice of walking to many destinations within the community. The Garwood train station is located at the geographic center of the community between North and South Avenues. Surrounded by fairly compact residential neighborhoods, the train station is ideally situated within reasonable walking distance of virtually every residence in town.

Access to the train occurs on low-level platforms in both the east-bound and west-bound directions. A small shelter is provided at the platforms on either side. Challenges to the station and service levels include:

- Lack of designated commuter parking
- Limited current ridership
- Close proximity to 2 major service stations in Westfield and Cranford
- Current industrial and strip commercial land use patterns that do not support transit usage
- Limited mixed use zoning in place to support future TOD

Lining the railroad right-of-way are industrial uses and new commercial uses on redeveloped former industrial sites. These sites vary in size, activity level, and character. As industry continues to decline, the Borough has more opportunities to redevelop with transit-friendly uses. Some of the key sites such as the Casale/Petro site and Garwood Paperboard are opportunity areas for larger redevelopment projects and could include selective reuse of some the more architecturally significant buildings. The Mews, a recent mixed use project on North Avenue is a great example of the type of TOD that can continue to occur in Garwood. Similarly there are a number of under-utilized properties in the Station Area that can also have potential for smaller TOD infill.

While there has been an effort to upgrade them, streetscapes in the Borough vary without a consistent sidewalk, landscape treatment, street trees, and street furniture. There are opportunities to improve the downtown core to have more consistent look and a better overall pedestrian realm. This would include examining improvements to pedestrian crossing and other circulation facilities, such as bus shelters.

CIRCULATION ASSESSMENT

The busiest roadways and most challenging pedestrian crossings in the Borough are at the intersections of South Avenue and Center Street and North Avenue and Walnut Street/Center Street. Both intersections are signalized; with dedicated left turn lanes on Center Street to North and South Avenues. There is also a significant amount through traffic on North and South Avenues between Westfield and Cranford and points beyond. Much of the truck traffic in the Borough is local in nature, making deliveries or pickups in Garwood.

The Garwood train station is located between the Cranford and Westfield train stations along the Raritan Valley Line. Weekday service in Garwood occurs on some trains. More frequent service is available in Cranford and Westfield. Service was recently increased with four additional stops being made during the week in Garwood. New Jersey Transit also operates two bus lines in Garwood - Bus Route 59 from Newark to Dunellen along South Avenue, and Bus Route 113 from New York to Dunellen on North Avenue.

Vehicular Circulation

North Avenue (NJ Route 28)

- AM & PM peak queues at Walnut St.
- Cut-through traffic on 2nd Ave.

South Avenue (County Route 610)

- Long AM & PM peak queues at Center St.
- Turning movements create difficulties for vehicles and pedestrians

Garwood Train Station

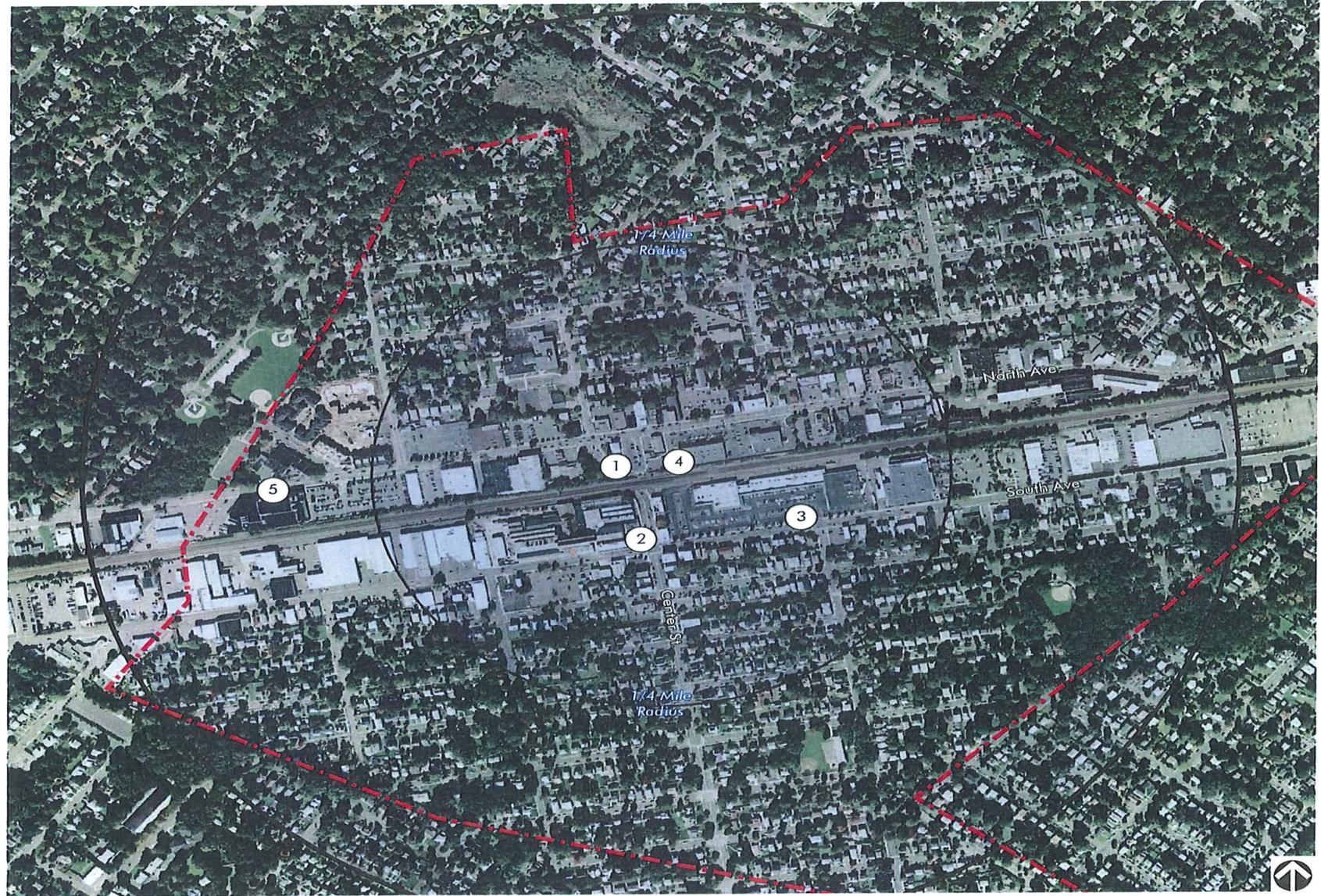
Eastbound Trains	9 per weekday
Westbound Trains	14 per weekday

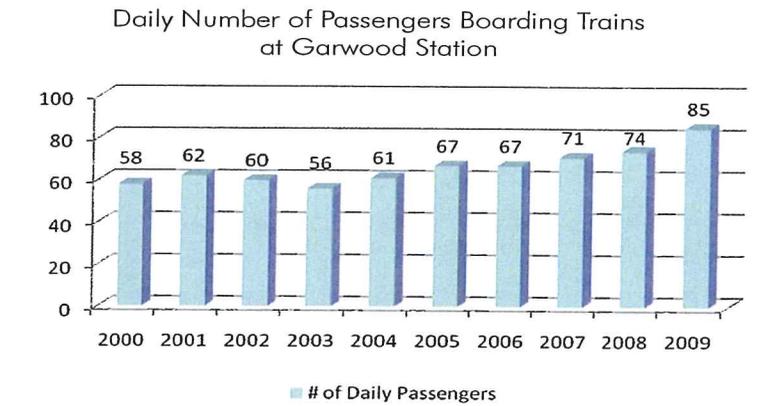
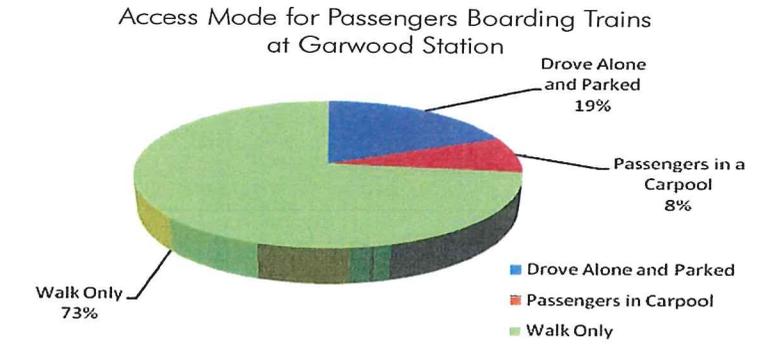
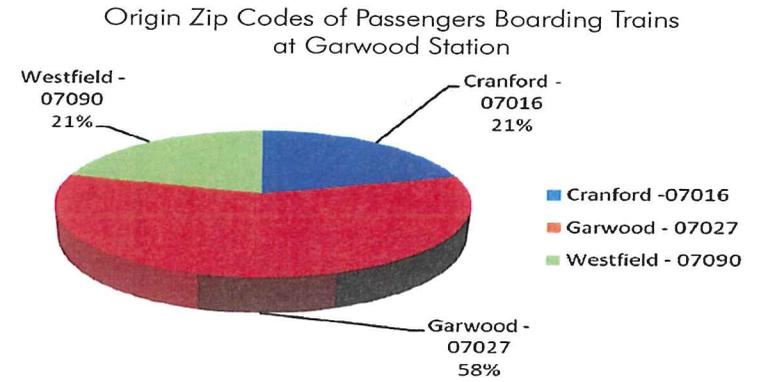
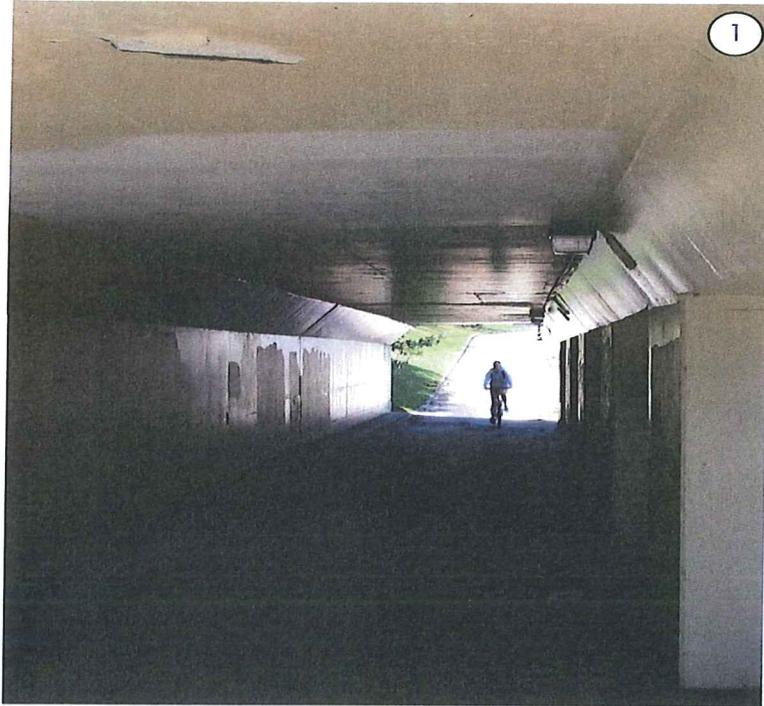
NJT Raritan Valley Line Ridership

Westfield	2,261 passengers/day
Garwood	85 passengers/day
Cranford	1,123 passengers/day

Pedestrian & Bicycle Circulation

- Dark, unattractive passageway under tracks
- No bicycle lanes on surrounding roadways
- No access to Train for disabled
- Crosswalks and some sidewalks could be upgraded
- Some shelters at bus stops - could be upgraded to be more attractive and to include bus information





ENVIRONMENTAL ASSESSMENT

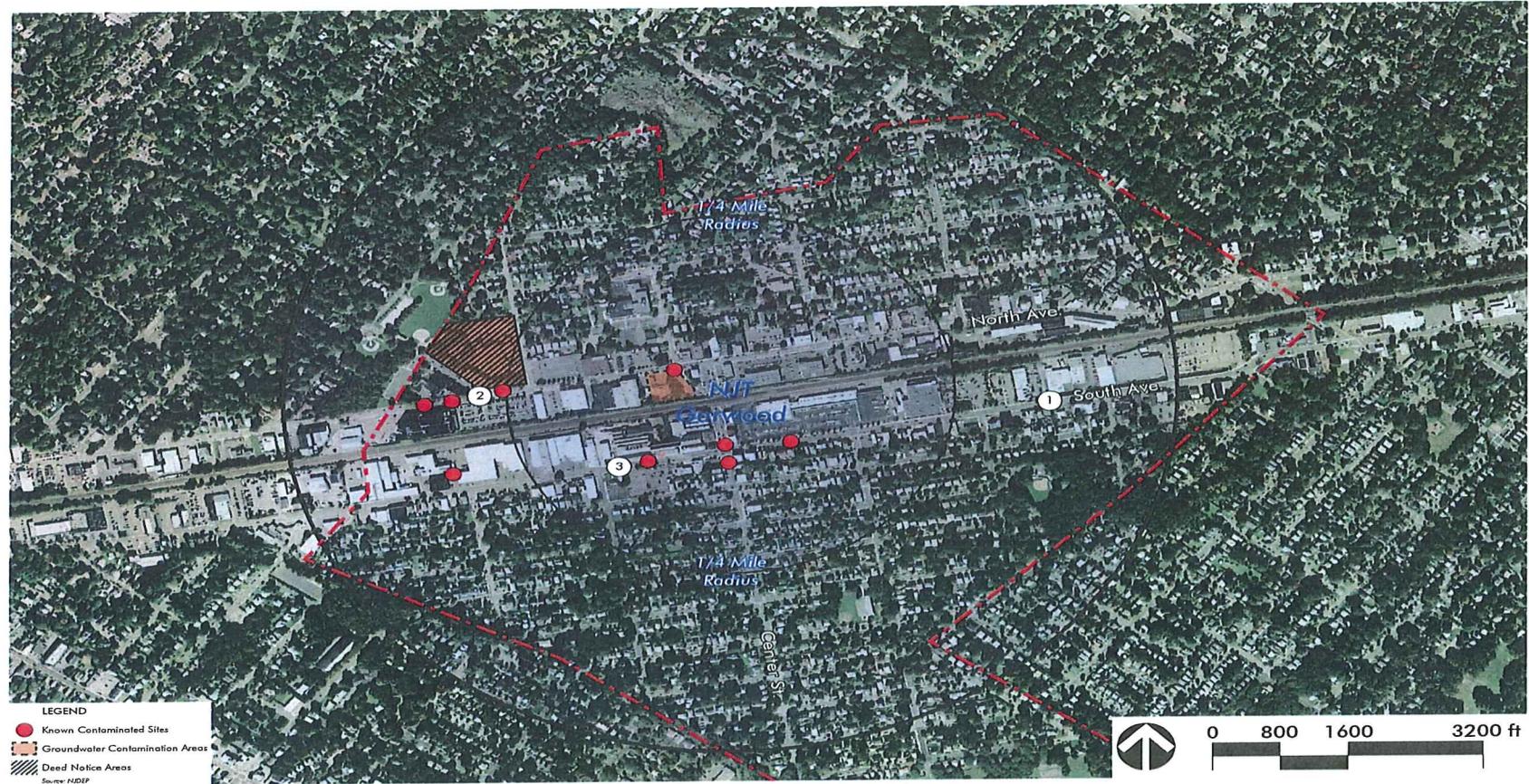
The Study Area is presently completely covered by buildings and the associated parking area resulting in an impervious coverage of 81-100%. No undisturbed areas are part of the Study Area.

All properties, part of the Study Area, appear to be currently connected to the municipal sanitary sewer and to the public water systems. No evidence of domestic water wells or septic systems were observed. Therefore, there is limited potential exposure to existing contamination from subsurface sources. Our research found several abandoned or removed underground oil tanks indicating that at least some of the buildings on the Site were heated by fuel oil. No extensive fuel tank issues were found.

The largest question is the status of the Casale Industries/Petro Plastics site for which no significant environmental information was available. The previous use of the aforementioned site would indicate potential environmental issues that need to be investigated to confirm presence or absence of contamination.

The location of proposed project was reviewed on i-Map NJ to identify any environmental constraints. The following constraints were identified on site:

- Some parcels were identified as Known Contaminated Sites. These may include sites where remediation is either currently under way, required but not yet initiated or has been completed.
- Some parcels were identified as as Groundwater Contamination Areas (CEA): These identify those Known Contaminated Sites or sites on the Site Remediation Program (SRP) Comprehensive Site List where groundwater contamination has been identified and, where appropriate, the NJDEP has established a Classification Exception Area (CEA).
- The area to be redeveloped is in no proximity to a Category One Waters Streams or Body Waters.
- Some parcels were identified as NJEMS Sites representing sites regulated by NJDEP under one or more regulatory permitting or enforcement programs, or sites that are otherwise of some interest to a NJDEP program.



GARWOOD STATION AREA

PARKING ASSESSMENT

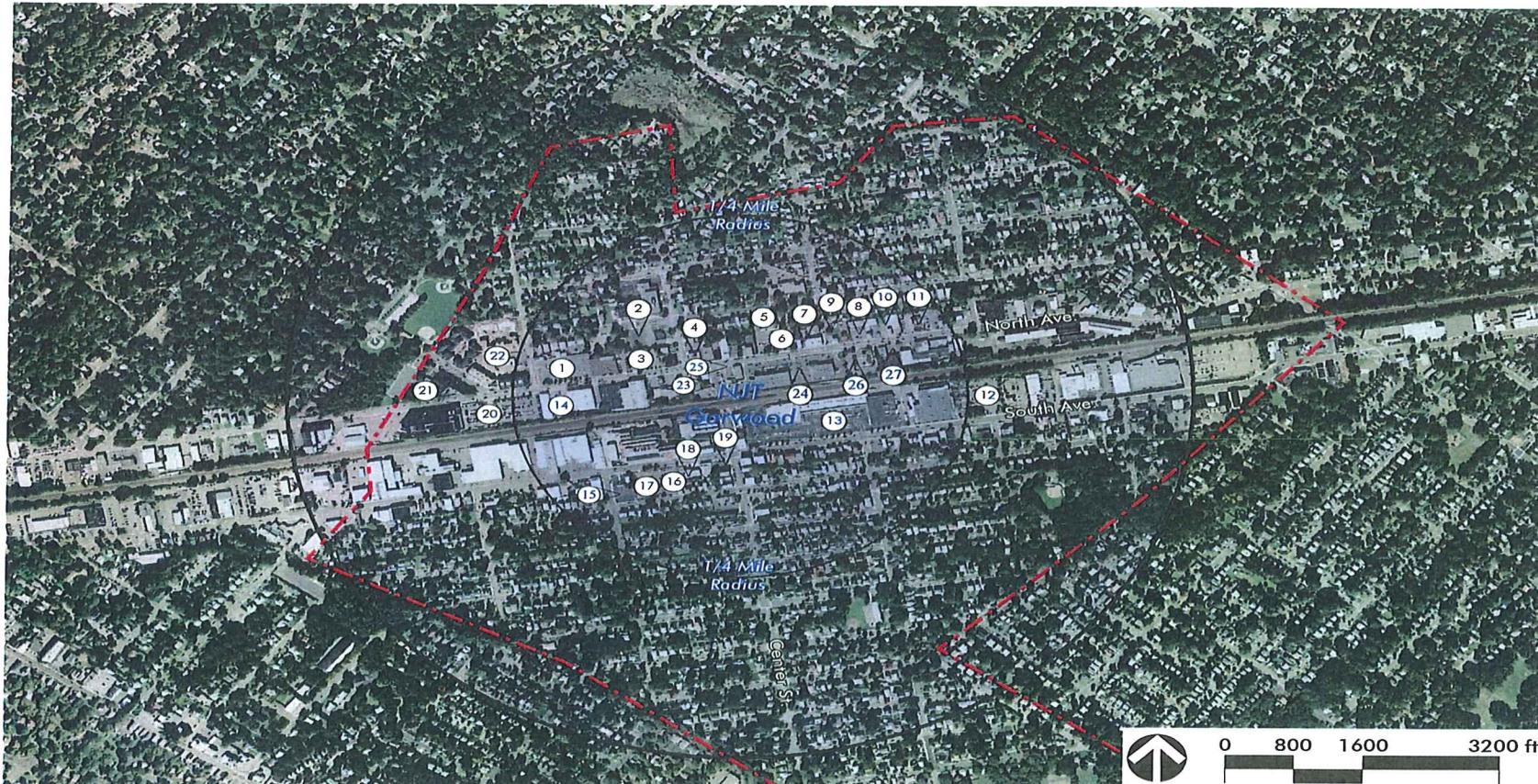
Garwood is located on the Raritan Valley Line and is four stops away from Newark Penn Station. At the current time, there are no NJ Transit Commuter parking lots. Some commuter parking is provided at St. Anne's Church and the ShopRite. There is evidence of unauthorized commuter parking at some of the surrounding shopping centers and residential streets. There is not a residential parking permit program for Borough residents currently.

Cranford, the station immediately east of Garwood, has several parking areas ranging in price from \$90 to \$120/quarter for on-street/surface lots, and \$800/year for the parking garage. Meters are available at a rate of \$1 per hour.

Westfield, the station immediately west of Garwood, also has several parking areas ranging in price from \$360 to \$702/year for surface parking permits. Short-term parking is available for \$5 per day. At this time, Westfield only offers parking to residents and there is currently a waitlist for all facilities.

Fanwood, the station immediately west after Westfield, has over 350 parking spaces located in various lots around the station. Residential permits are available for \$240/year and non-resident permits are available for \$504/year. Short-term parking is available for \$5 per day. At this time, no resident or non-resident permits are available.

The numbers on the map and photos correspond to the table below.

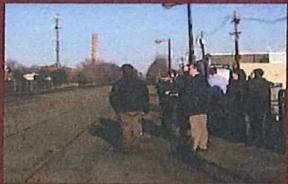


Lot #	Spaces	Lot #	Spaces
1	Westwood 172	15	Wachovia 24
2	Community Park	16	"Restricted" 86
3	Westwood 95	17	"Restricted" 80
4	Sovereign Bank 14	18	Garwood Fire Dept. 8
5	Retail 9	19	Borough of Garwood 18
6	St. Anne Church 77	20	Shoprite 229
7	Retail 12	21	Retail/Residential 69
8	Quick Chek 20	22	Retail/Residential 133
9	Hair Salon 9	23	Kennedy Plaza/Station 35
10	Dance Studio 9	24	Garwood Plaza 158
11	McDonald's 37	25	Garwood Jewler 9
12	Home Depot 162	26	Burger King 41
13	Garwood Mall 364	27	Garwood Metal 18
14	Gold Medal Fitness 70		

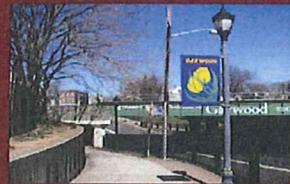
B THE PROCESS

Our Process to Engage and Involve the Garwood Community

Phase I: Process of Discovery



Kickoff Meeting/
"Walk & Talk" Tour



Site Documentation
and Analysis

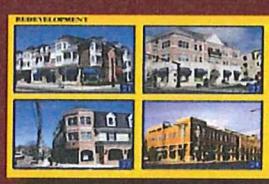
Phase II: Community Design Charette



Redevelopment Plan
Alternatives



Community Input
and Feedback



Community
Vision Survey



Transforming
"Big Ideas"
in Realistic Plans

Phase III: Vision Plan Report



TOD Vision Plan Report

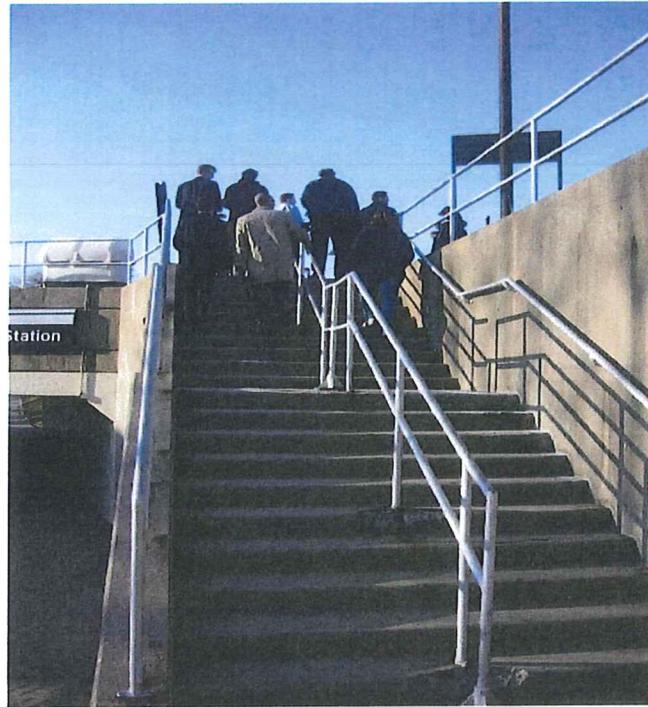
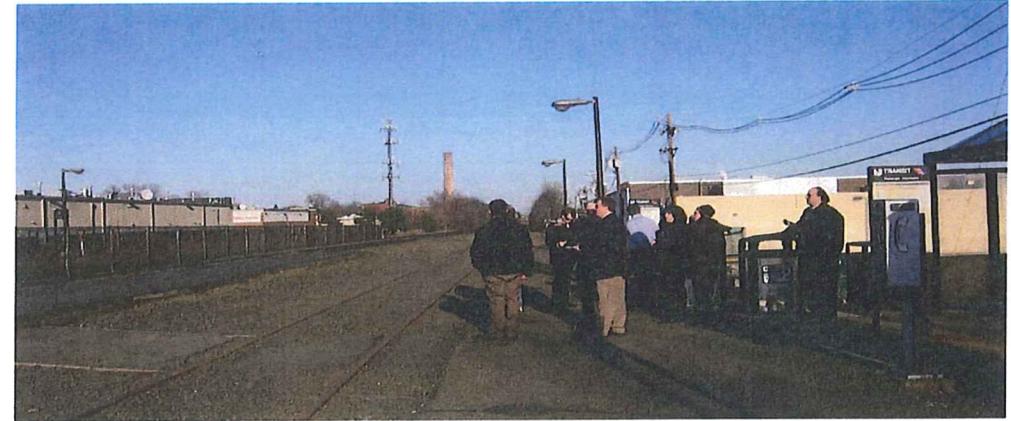
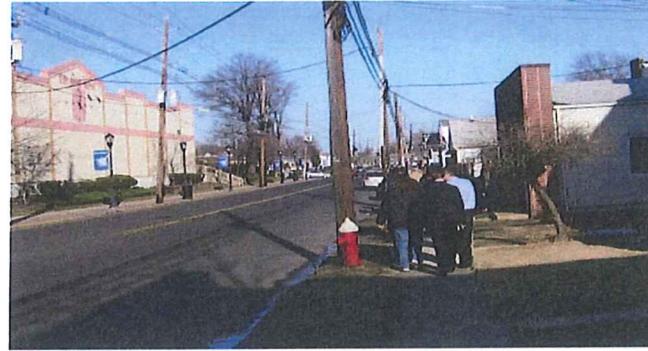
The Garwood Transit-Friendly Concept Plan was developed using a public participatory process involving a "Walk and Talk" tour, a series of meetings with the Technical Advisory Committee (TAC), a two-day Community Design Workshop and a Community Vision Survey. The TAC include members of Garwood's Council, Planning Board, and citizen volunteers, as well as representatives from New Jersey Transit, the North Jersey Transportation Planning Authority, Union County, and the New Jersey Department of Environment Protection's Office of Sustainability.

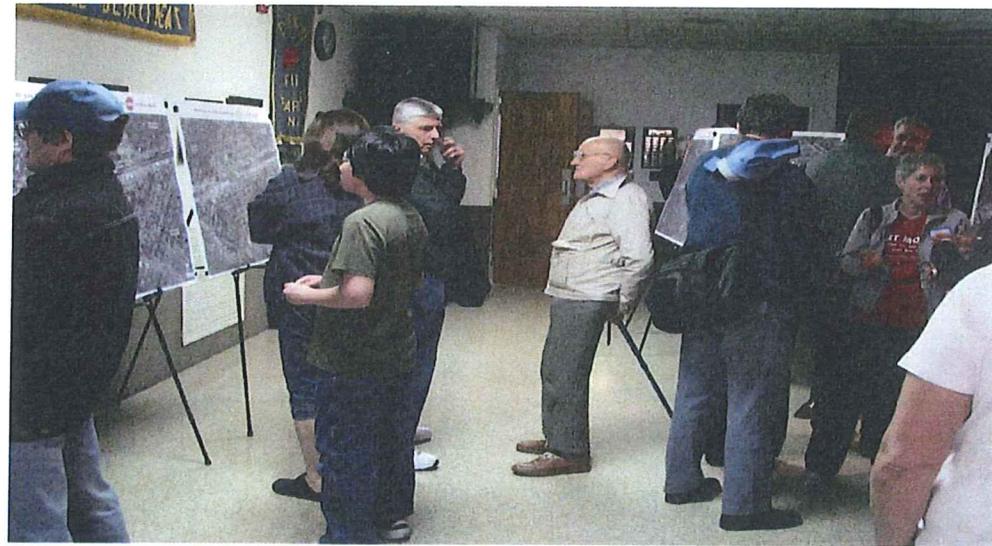
Residents and stakeholders offered their perceptions of existing conditions and the possibilities for the Garwood Station area. Business owners and property owners in the Station Area were interviewed to determine their perceptions of existing conditions. They identified opportunities and challenges and the potential improvements that would enhance the function, liveability, safety and economic viability of the Borough. The public workshop that was held provided an opportunity to involve the "local experts" - the citizens, property owners, and businesses who live, work, and use the community on a day to day basis - in the formulation of the plan.

WALK & TALK TOUR

A walking tour with the TAC was conducted to identify elements of Study Area that the planning team needed to understand through the eyes and experience of the “local experts” who live in Garwood. This “walk and talk” tour was conducted in on March 8, 2010 and included walking the streetscapes of North and South Avenues and the Garwood Station platform and current facilities.

The project team was able to gain insight on the successful redevelopment projects built in the Borough over the last decade, explore some of the opportunity sites, hear and see the concerns regarding the current rail access, and understand the existing commuter access and parking conditions. The tour spent time at the Mews project which is a local TOD success story and model for future infill and redevelopment possibilities. Other topics discussed included the challenges of redeveloping industrial and brownfield sites, the challenging traffic intersections and pedestrian circulation, and the balancing of uses given the extensive amount of retail that has already exists in Garwood.





COMMUNITY DESIGN WORKSHOP

A two-day public Community Design Workshop was held to provide an opportunity to involve the “local experts” in the formulation of the plan. Garwood citizens also acted as a sounding board for feedback on some key issues, ranging from bicycle and pedestrian safety and access, environmental concerns, public space needs, and transportation issues. The format of the workshops allowed the team to listen to the issues and concerns of the community, including both areas of consensus and conflict, and to more clearly understand the community’s vision for its future.

In order to facilitate community input, workshop participants were asked to identify issues affecting the study area. Each participant was asked to identify traffic and pedestrian “hot spots” on large aerial photographs using colored dots. This “Dotmocracy” exercise to help identify key locations to prioritize planning and implementation efforts. Participants also were encouraged to take the Community Vision Survey and rate specific images and design ideas. The results of the public input can be found on the following pages and the Community Vision Survey is described in detail in the next section.

PLACES MOST & LEAST LIKED

As part of the "Dot-mocracy" exercise, attendees were asked to place color dots on aerial photos of the Station Area: blue for where they lived and worked, green for places they like, red for places they do not like, and yellow for places with traffic and pedestrian "hot spots".

The "Most and Least Liked Places" map indicated a variety of responses. Popular choices were the greener parts of town including the schools and parks. The larger industrial sites received both green and red dots indicating that there was a desire to change, but that these were key locations and had some buildings with architectural character that should be preserved.

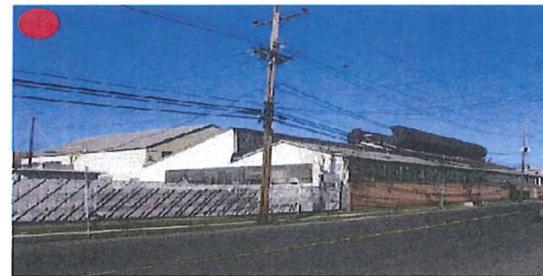
● Most Liked Places

- Washington School
- Lincoln School
- Unami Park
- Casale office building on South Ave.
- The "castle" office at the Garwood Paperboard

● Least Liked Places

- Casale and Petro factory buildings
- Garwood Paperboard
- Various North Ave. and South Ave. industrial properties
- Intersection of North Ave. and Walnut St.

What do you like **Most** in this Area? What do you like **Least** in this Area?



Where are the traffic & pedestrian Hot Spots in Garwood?



TRAFFIC & PEDESTRIAN HOT SPOTS

Attendees were asked to place their yellow dots on the study area map in locations where they felt were issues with traffic and pedestrian and bicycle safety. Participants identified the following Traffic and Pedestrian Hot Spots:

- South Avenue and Center Street
- North Avenue and Walnut Street
- North Avenue at the Garwood ShopRite
- North Avenue at Oak Street
- Cut-through traffic on 2nd Avenue and other north side streets



WORKSHOP COMMENTARY

Workshop participants were able to write specific comments and suggestions on Post-It Notes and place them on a large aerial map at the location where they had concerns. The following is a list of the participants' Post-It Notes feedback.

Station Area

- Protect the pedestrian light phase for north-south crossing of North Ave.
- Need walking bridge over intersection of Center St. with North and South Aves.
- Acquire lots (at Kennedy Plaza and Garwood Mall) to create covered parking platform with overpass
- More attractive crossover – underpass is very unappealing
- Try again for murals on the underpass walls – install surveillance systems to thwart vandalism
- Create more of a transit feel with more of a real station
- More train stops

Casale Site

- Add borough center and park
- Make ½ parking and ½ business
- Good transit village site

North Avenue

- Change striping/turnlanes at Walnut (right/straight and left/straight)
- Outdoor dining options
- Improve storefronts along North Ave. corridor

Garwood Paper Board

- Old Aeolian (Garwood Paper Board) – develop area incorporating main building façade into the design
- Paperboard site needs redevelopment as a 'gateway' into Garwood from Cranford
- Commercial center

Misc. Comments

- Need library and senior center
- Need sport center for seniors and youth
- More parking at ShopRite
- Make 2nd Ave two-way again
- One way on 2nd Ave. is better for schools



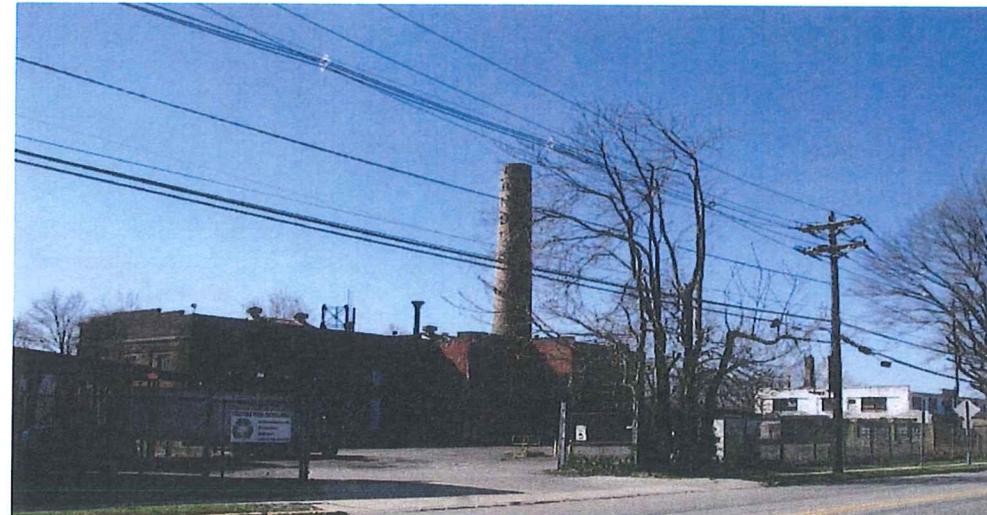
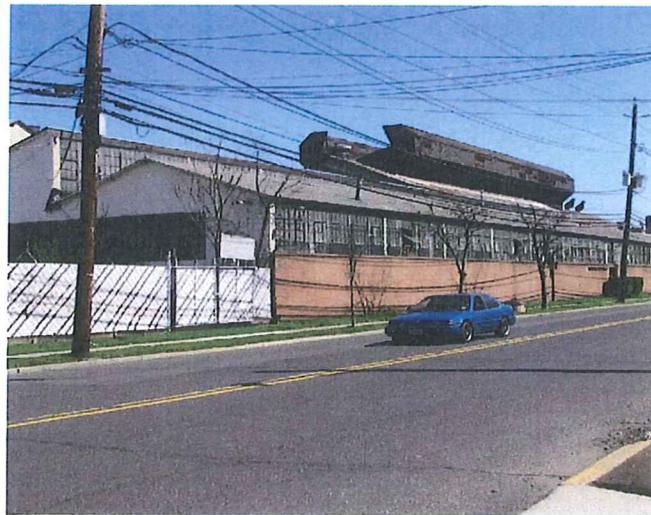
STAKEHOLDER INTERVIEWS



The project team conducted several interviews with property owners and users within the study area. Interviewees were asked a series of questions, concerning their knowledge of the study area and surroundings, their opinions on redevelopment opportunities and challenges within the study area, and, plans for additional investment and what additional uses they would encourage for the study area.

Following are key findings from the interviews:

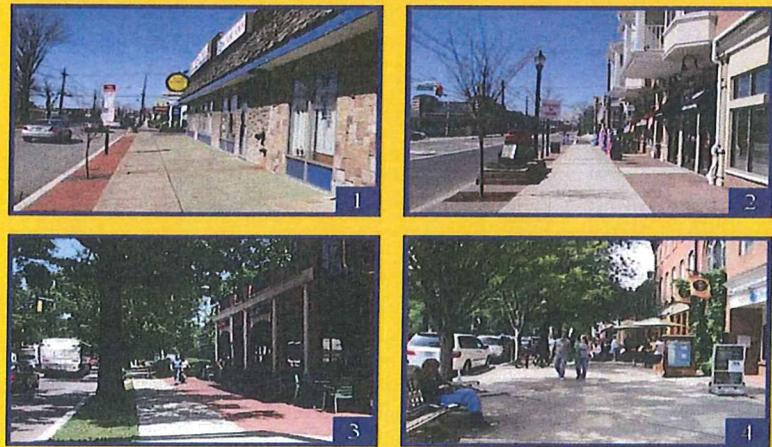
- Existing owners value the accessibility to the NJ Transit train and bus routes, and have interest in capitalizing on this asset. The infrequency of service and limited parking were seen as inhibitors.
- The success of The Mews has bolstered interest in redeveloping near the train station.
- Several owners cited restrictive zoning as a barrier to redevelopment. Owners would like to see higher FARs, higher building heights and more flexibility within commercial zones.
- There is great interest in redeveloping major parcels near the train station for mixed-use residential and commercial. It is generally felt, however, that greater densities need to be allowed to make redevelopment financially feasible.
- The owners feel that proximity to transit and the overall character of Garwood are most conducive to housing and small-scale, convenience commercial opportunities as opposed to larger format regional commercial.



 *VISION SURVEY*

SURVEY APPROACH & METHOD

STREETSCAPE



INFILL HOUSING



A visually-based Community Vision Survey was prepared to identify community preferences for streetscape character, infill and redevelopment, and facilities appropriate for Garwood. This graphic-based effort supplemented the public input gathered through more public feedback, Post-It and index card comments, and the “Dot-mocracy” exercises.

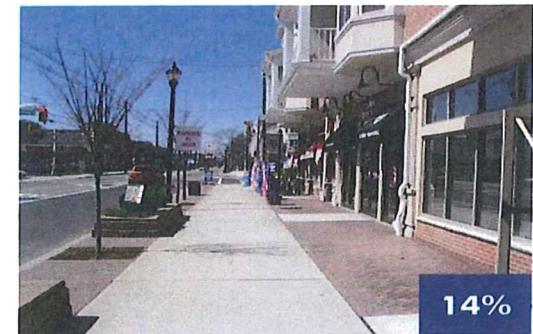
The Community Vision Survey was conducted during the two-day public Vision Workshop sessions held at the Garwood Fire Department. Using a series of four images at a time on a large projection screen, survey participants rated and gave feedback on images. Forty eight images in sets of four were arranged covering several topics including: streetscape character, development and redevelopment, parking, transit facilities and public spaces.

Each set of four images was carefully selected to present a full spectrum of choices including images in the study area, in the region, and precedents from other transit-oriented communities in other parts of New Jersey and the around the country. Respondents were then asked to choose the most appropriate image or “none” for what they feel is most appropriate for Garwood. The images were presented on a large screen without discussion during the first round; then the same sets of images were presented for discussion. The facilitator sought comments from respondents while these comments were recorded. A summary of these findings follows on the next series of pages.

STREETSCAPES

The first series of images in the Community Vision Survey examined the desired streetscape character for Garwood. Participants were asked to choose from a range of images including existing sections of North and South Avenues, the newer infill at the Mews, as well as, images of other places in the region. The results are illustrated on these two pages. Discussions included topics such as sidewalk width, building setbacks, street trees, landscaping and greenery, and ground floor uses.

The large images indicate the most popular choices from the streetscape images. Participants want safe sidewalks and streetscape detailing that make for an interesting and inviting pedestrian atmosphere. In general, a wider sidewalk and building setback was desired, especially as compared to the newer infill on South Avenue in Cranford, which participants indicated was too tight to the street. Parallel parking on the street accommodates customer parking and helps buffer pedestrians along the sidewalks from passing vehicles resulting in a greater sense of safety and convenience. Survey respondents felt the historical building details also creative character to fit Main Street. Compared to this image, many felt that portions of North and South Avenues currently lack the elements necessary to define a space that produces an active and safe pedestrian realm.

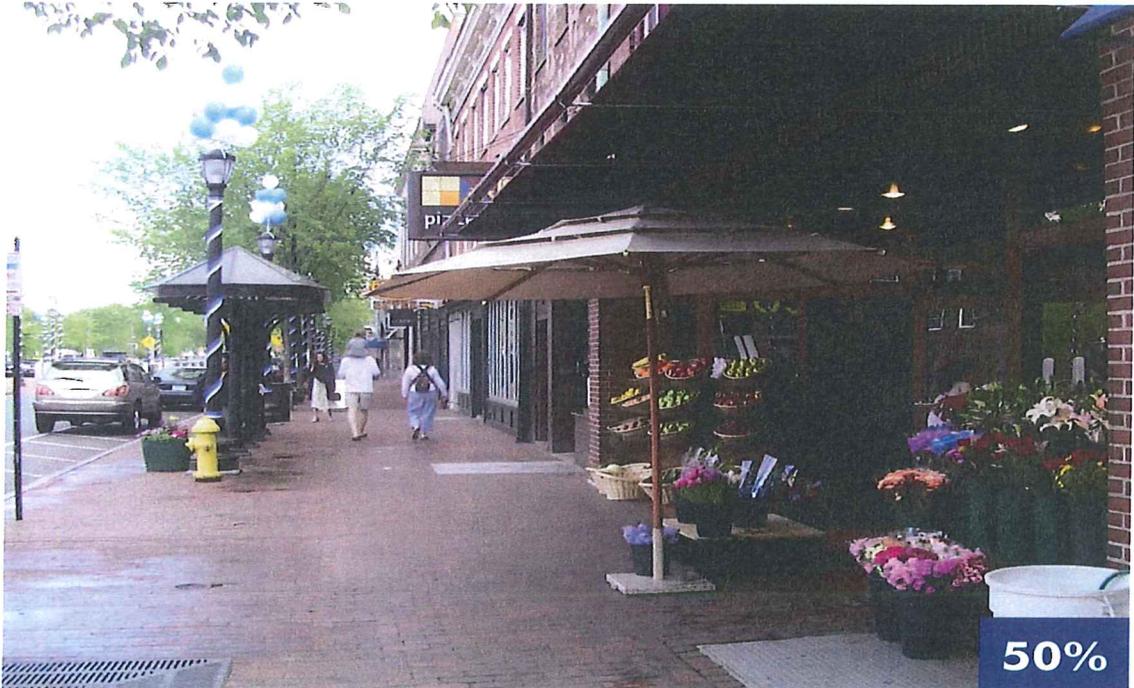


None 0%

STREETSCAPES



None 2%



“GOOD TO HAVE VARIATION IN THE STREETSCAPE – NOT ALL THE SAME”

APRIL 14TH WORKSHOP ATTENDEE

Half of respondents chose the image of the market (right) for a desired streetscape. Participants noted the activity and variety of storefronts, interesting signage, and spaces for outdoor seating. Other popular choices included two streetscapes from Princeton (opposite page left and bottom right) because of the wider sidewalks, mature trees, and greener landscaping. Most felt the setback is more in keeping with Garwood and has a less urban feel.

Participants were generally pleased with the new streetscape at the Mews (opposite page, center right) and many commented that once the landscape matures they felt that it would have a character that compliments some of the other preferred images. Only 8% of respondents selected the existing conditions on North Avenue (opposite page, upper right) and 2% selected existing conditions on South Avenue (upper left) as their choice. This indicates an overwhelming desire to upgrade these corridors as infill and redevelopment occur.

REDEVELOPMENT

A series of image sets were used to examine preferences for redevelopment and architectural character. In general, participants favored mixed use redevelopment with a variety of architectural styles and elements. There were varying opinions on appropriate heights, setbacks, and densities, but general consensus that infill development should be mixed use. Participants felt that the concentration of new mixed use redevelopment should be located only on North Avenue and South Avenue and away from the residential blocks of town.

The set of images shown on this page examined how retail can be incorporated into redevelopment. The overwhelming choice was the mixed use building (left) with participants citing the variety of the façade and the true mixed use nature of the building as positives. Single story strip commercial and faux upper floors were not preferred for the redevelopment character in Garwood, as indicated by the ratings of some of the other images, as well as, stated by participants in the discussions.



None 16%

**“KEEP DEVELOPMENT ON ‘MAIN DRAG’ –
DO NOT IMPEDE INTO RESIDENTIAL AREAS”**

APRIL 14TH WORKSHOP ATTENDEE



None **33%**



REDEVELOPMENT

The Mews (right) was highly-rated in all the image sets in which it was used, indicating that newer infill in Garwood can serve as a model for future TOD redevelopment. Participants who selected the image cited its change in massing, architectural details, storefronts, and sidewalk treatments as reasons they liked it. Mixing of uses seemed a desirable alternative to single-use strip center development. People indicated that the ground floor commercial encourages people to come to town and walk more.

On the contrary, the new Cranford infill project (top left) did not test well in each of the slide series in which it appeared in. Participants expressed concerns that it was too dense and too close to the street. They did in many cases select buildings that were as tall and dense, but because they had wider sidewalks and front setbacks and architectural variety they did not appear as massive. In general, the redevelopment preference from participants was to stay away from monolithic uniform buildings and see more variety and changes in massing.

INFILL HOUSING

Participants chose infill housing types that would serve as good scale transitions from mixed use corridors to nearby residential neighborhoods. The townhouse portion of the Mews (upper right) was noted as a successful example, as was an example from Metuchen (left). Survey comments included a preference for varied building types, roof lines, and styles. Brick as a primary material with greater color and variety with bay windows and balconies was noted as an attractive design solution. Larger formal uniform facades were not preferred. The Metuchen image was also noted by participants for its larger front setback and extensive front yard landscape.

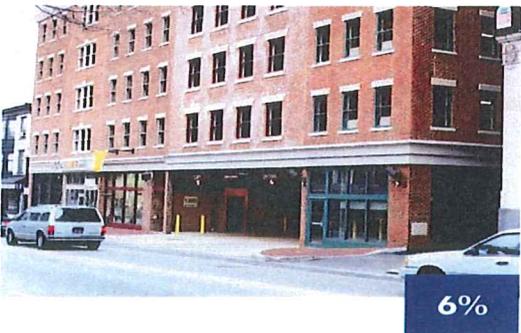


None 20%

PARKING



10%



6%



20%

None 24%



40%

“EXPANSION OF OUR DOWNTOWN NEEDS A PARKING GARAGE”

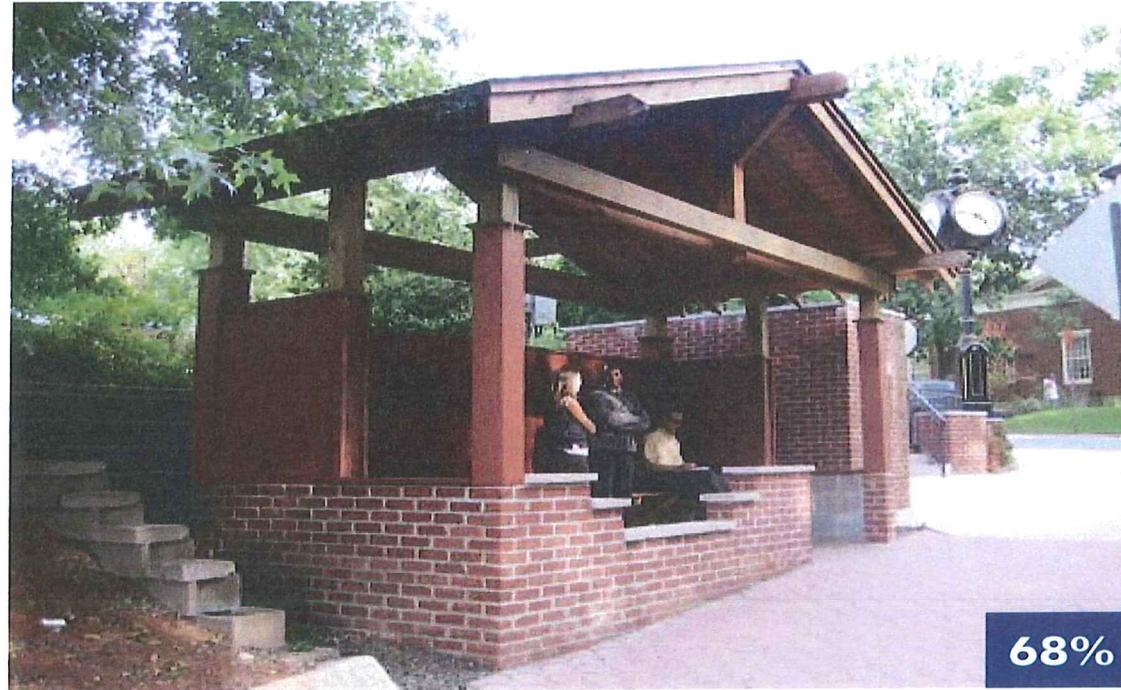
APRIL 14TH WORKSHOP ATTENDEE

The results from the two sets of parking slides were very mixed. Some felt that parking structures were too urban for Garwood, while others saw the need for a nice facility that would support increased ridership and upgrade to the transit facilities in town. Among the concerns for additional parking was the fear that they could become dangerous at night and might become an unsafe hangout for kids requiring additional policing. Others raised concerns that a parking structure is a too intense form of development for the scale of Garwood.

Those in favor of a parking structure liked the idea hiding the structure behind buildings or creating some architectural detailing that will give a structure the look of a building. The most popular choice in the survey was the Hullfish deck in Princeton (right) where small shops and upper floor apartments mask the parking deck from the street. It is worth noting that the character of the streetscape bears some resemblance to the Mews. Transit riders like the idea of having covered access from the deck directly to the platform.

TRANSIT FACILITIES

Many participants are concerned about the transit facilities for both rail and bus in Garwood and would like to see upgrades. This is particularly true among train users who do not feel the low-level platforms and small shelters are sufficient. The overwhelming choice was the transit shelter from Metuchen. Participants liked the unique architecture, the mix of materials and solid feel to the structure. The glass enclosures were seen as being too urban for Garwood.



None **6%**

PUBLIC SPACES



None 8%



There was a consensus among the Vision Survey participants that they would like to see more public space in Garwood. Several people commented that there are not really places in the Borough for community events presently. In general, whether in public space images or in streetscape and building images, there was a strong preference in more green space and landscaped areas since so much of the core area of Garwood is impervious surface.

Participants liked the idea of a flexible and expandable public space with a combination of plaza treatments and lawn areas. The most popular choices were a new village square in Michigan (right) and a new plaza next to a lined parking deck in downtown Princeton (upper left). Pocket parks were seen as desirable places, particularly if there were sitting areas and places to accommodate pets. Other people noted the “European feel” that some public spaces have with residential units facing directly onto them as something that might be desirable and unique for future housing in Garwood.

 *TRANSIT-FRIENDLY
CONCEPT PLAN*



PHASING THE PLAN

Phase I: Securing Parking

An early phase in building the basis for TOD and improving the ridership at the Garwood Station is to find some short-term parking solutions. Currently in the Station Area there are a number of underutilized parking lots within walking distance to the train platform. Some places like St. Anne's and Shop-Rite already have some designated commuter spaces. There are opportunities to establish leasing arrangements with other properties utilizing shared parking concepts to allow for daily and commuter spaces in the short-term while other parking facilities and redevelopment which will later replace them is being developed.

Phase II: Landmarking the Station Area

As an early phase, a new mixed use building with a transit plaza at the current east-bound train platform is a great opportunity to landmark Garwood Station and to give some public space amenities to the downtown core. By bringing pedestrian improvements and a consistent set of streetscape elements along North and South Avenues, the sense of place in the station area can be reinforced.

Phase III: Filling the Gaps

North and South Avenues have segments of pedestrian-friendly streetscapes, but have some gaps and sections that can be infilled. By bringing a consistent set of streetscape elements and introducing small-scale mixed use TOD, filling in these "missing teeth" can reinforce the sense of place in the Station Area. These smaller sites are often easier and quicker to implement given less phasing and environmental issues and can help to set the architectural character for larger redevelopment projects that will follow.

A third phase would also include beginning to develop some of the larger industrial sites with TOD uses and public spaces. Emphasis can also be placed on some of the surface parking areas and looking at ways to increase their development potential with pedestrian-oriented pad buildings closer to the street.





PHASE IV: COMPLETING THE CORE

The final phase of the Transit-Friendly Concept Plan for Garwood would include the build-out of the larger redevelopment parcels and would complete the core at the time when access is increased along the Raritan Valley Corridor. This scheme includes a potential parking garage location on the Casale/Petro site with good access and the ability to intercut commuters from the west who can be kept out of the Center Street intersection. A new public space would be included in the program and would give the Garwood Station a new front door address at the head of a new town green.

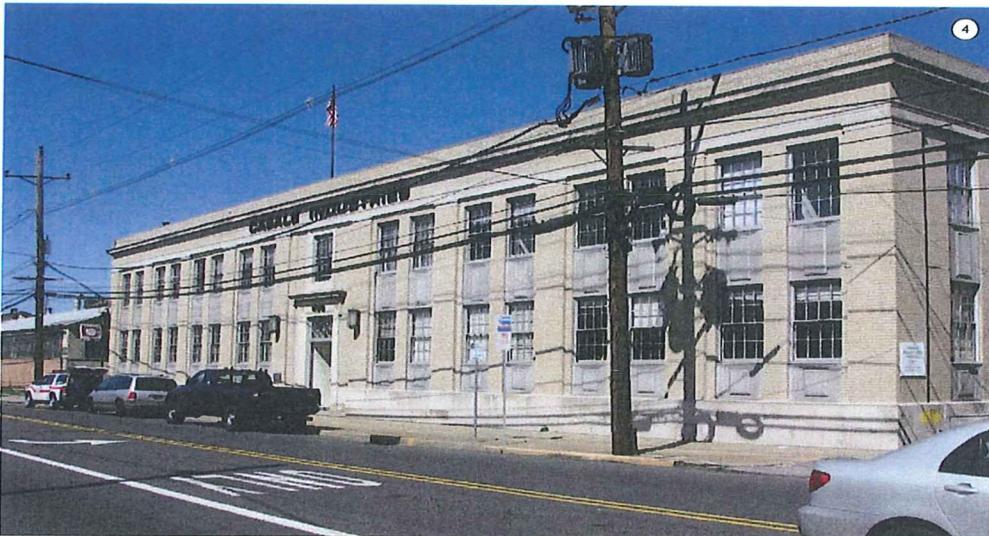
This plan at full implementation envisions an overall development program with the following ranges:

Retail	50,000 to 60,000 square feet
Office	35,000 to 40,000 square feet (professional and/or medical)
Assisted Living	50-60 beds
Apartments	450 to 475 units
Commuter Parking	450 to 500 dedicated spaces

Legend



Leased Commuter Parking



Casale and Petro Opportunity Sites

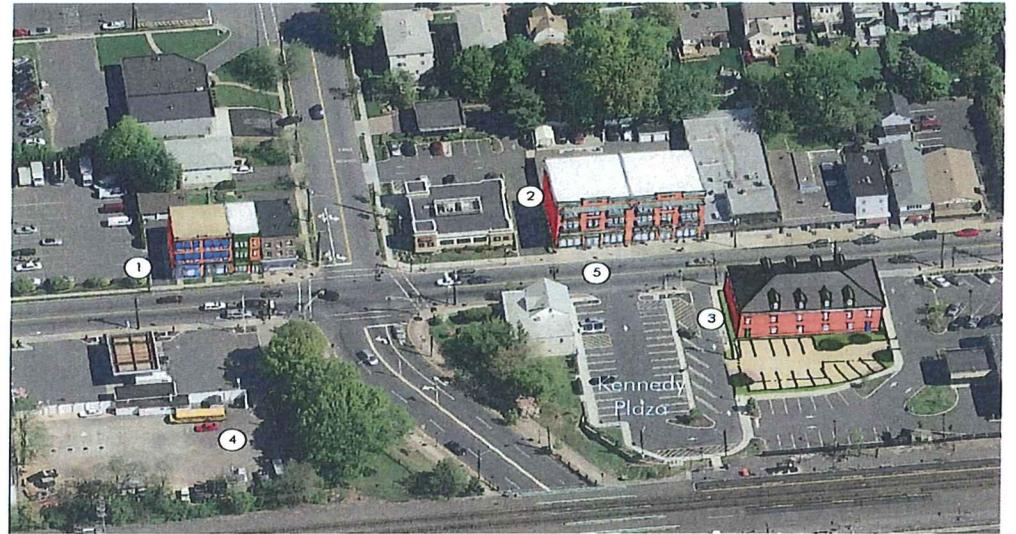
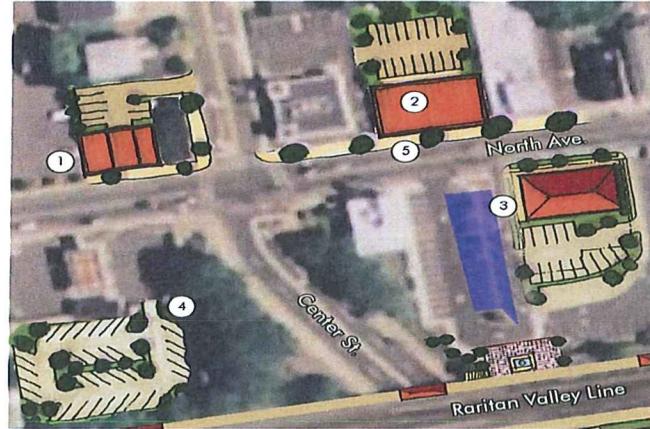
- ① 2 ½ to 3 story stacked apartments which transition nicely to the scale of the surrounding residential neighborhood
- ② Mixed-use buildings with limited ground floor commercial and residential above
- ③ New apartment buildings
- ④ Existing office and former bank building to remain
- ⑤ A new parking structure would primarily be for commuters
- ⑥ Apartments arranged around courtyards.
- ⑦ A new town green
- ⑧ Roads would be designed with a plaza treatment so the public space can be expandable
- ⑨ A transit plaza for improved access and facilities



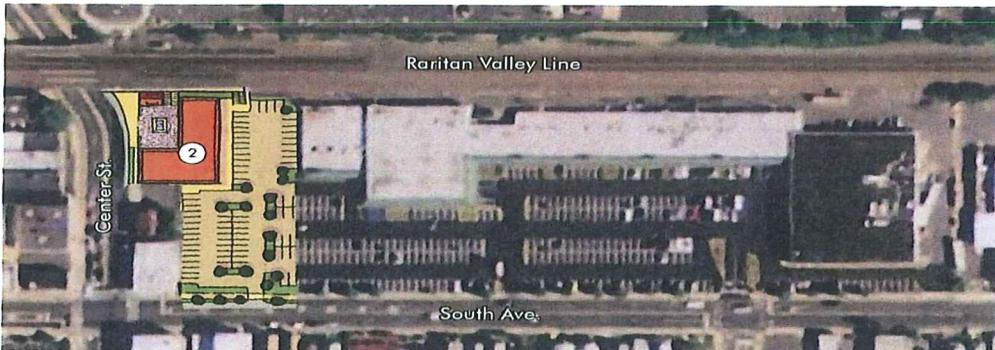
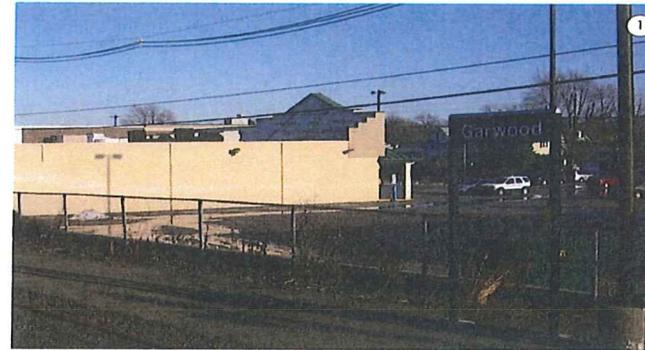
OPPORTUNITY SITE: NORTH AVENUE

North Avenue has potential to absorb part of the incremental infill of the Garwood Station Area. It already has some good mixed-use buildings with a pedestrian streetscape. One of the earlier phases of implementation could involve working with willing property owners and businesses to identify a few locations where a higher value building type could be infilled. These buildings should be 2-3 stories with ground floor office or small-scale retail/restaurants and upper floor apartments. The building on the northwest corner of Walnut and North is a great example of an historic mixed use building that could serve as a precedent. The image on the bottom left is an TOD infill building on Long Island that picks up that same character.

- ① 3-story mixed use buildings to compliment existing corner building with ground floor office and upper floor apartments
- ② 3-story mixed use building to anchor the end of Kennedy Plaza with ground floor retail/restaurant and upper floor apartments
- ③ 2 ½ story mixed-use building to replace existing building with better pedestrian-orientation
- ④ Possible location for small commuter surface lot
- ⑤ Streetscape enhancements with street trees, more greenery, and street furniture



OPPORTUNITY SITE: GARWOOD MALL



The Garwood Mall Located adjacent to the train platform is another location that could take advantage of some excess parking and selective infill and mix of uses over time. Currently the lot is being used for commuter parking and is not being enforced. The property owners have expressed a willingness to work with the Borough and New Jersey Transit on some short-term parking solutions, as well as, looking at some TOD opportunities. As an early phase a new mixed use building with a transit plaza at the current eastbound train platform is a great opportunity to landmark Garwood Station and add public space amenities to the downtown core. The Robert Wood Johnson Emerg-Care facility is thriving and there could also be an opportunity to expand medical care and related uses, such as senior housing and assisted living in the future.

- ① Short-term lease arrangement for commuter parking
- ② Redevelopment of the northwest outbuilding into a more intense mixed use building with a transit plaza, ground floor retail, and upper floor apartments.
- ③ New mixed use building with pedestrian-orientation featuring medical uses on the ground-floor and upper floor senior housing or assisted living.

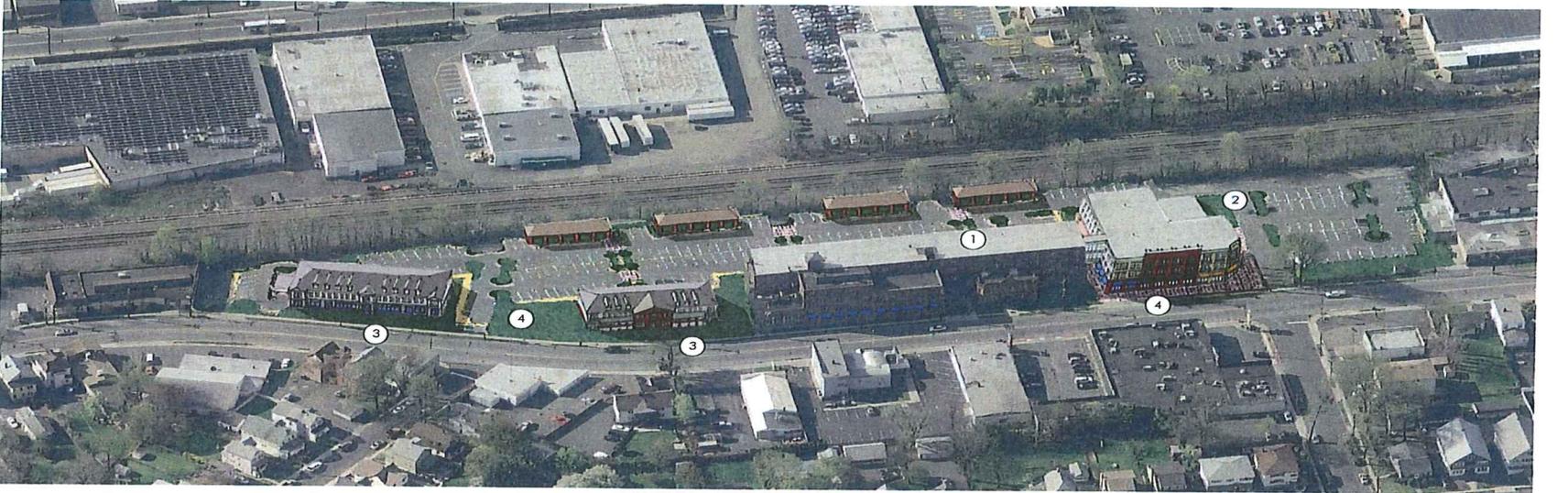
OPPORTUNITY SITE: PAPERBOARD SITE

The Garwood Paperboard site offers another redevelopment opportunity to bring a mix of uses to the core area of Garwood. The original office (opposite page, upper left) is a building that was identified in the community input as something that should be preserved. After meeting with the property owners, a potential redevelopment concept was prepared that will preserve the main office building, as well as, the large brick warehouse structure directly behind it. The plan for the existing buildings would be to convert them into loft-style apartments with the former front office serving as the main entrance and amenity area. A new mixed use building would be located to the west of the preserved buildings and could be connected on the upper floors with additional residential. The ground floor would be available for retail or office.

The dimensions of the property are not conducive for structured parking, so all parking for residents and businesses would be on-street and in surface lots to the sides and rear of the property utilizing shared parking concepts. Small detached garages could be included along the rail right-of-way for residents to rent and to provide some buffering from the tracks. Future 2-story mixed-use buildings (like the ones in the image on the opposite page, lower left) on the eastern side of the parcel could be included in a later phase.

- ① Existing office and brick warehouse building to be preserved as loft-style apartments
- ② A new 3-story mixed use building with ground floor commercial and upper floor apartments connected to the renovated buildings
- ③ New 2-story mixed use buildings in a later phase
- ④ Streetscape enhancements with street trees, more greenery, and street furniture





IMPLEMENTATION



This is a collaborative effort between the Borough, New Jersey Transit, and other partners. The Transit-Friendly Concept Plan confirms and builds upon the great work of the Borough's most recent Master Plan with an eye toward redevelopment as it relates to transit in particular. The market study has reinforced the overarching ideas in the Master Plan and this plan will help to shape design concepts more specifically.

By working together to build a better Garwood holistically, the plan will help set the stage for economic development opportunities, improved access, streetscape and public space improvements, and future facility and service upgrades. All the planning in this effort is conducted with an eye toward increasing access in the region along NJ Transit's Raritan Valley Line.

In order to implement the vision of this plan, a series of short and long-range actions must be undertaken by the Borough, Union County, the State of New Jersey, as well as many of the residential and commercial stakeholders in Garwood.

The Borough Planning Board should consider adopting this plan as an amendment to its Master Plan. The following Implementation Section indicates many of the most critical actions, but not all, required to implement this plan. It also indicates the stakeholder(s) who will be most responsible for implementing each broad action and identifies funding sources.

TRAFFIC & CIRCULATION STRATEGIES

Pedestrian Access

In general, pedestrian access to the Garwood Train Station and in the Study Area is good. Most residents live within walking distance of the Station and Study Area. Most sidewalks are five feet wide or wider and in reasonably good condition. The key intersections at North Avenue and South Avenue all have pedestrian buttons with adequate signage regarding how to use the pedestrian activation. The traffic signals also have countdown timers to alert pedestrians to how much time they have to cross before the signal will change. There are, however, several areas that could use improvement.

- ① All of the crosswalks at the North and South Avenue intersections could be repainted and upgraded to the "zebra" style crosswalk.
- ② New crosswalks should be installed at Oak Street and North Avenue to provide safe access for pedestrians from any redevelopment of the Paperboard site.
- ③ Additional signage should be placed near the crosswalks to alert drivers on all the North and South Avenue intersection approaches.
- ④ Additional lighting and some façade improvements near the rail underpass could make this area more attractive and inviting.
- ⑤ The newer sidewalk heading toward Westfield just past the Mews needs to be continued to connect with the remaining sidewalk.
- ⑥ Study should be conducted on a Leading Pedestrian Interval (LPI) at the intersections of South and North Avenue with Center/Walnut Streets.

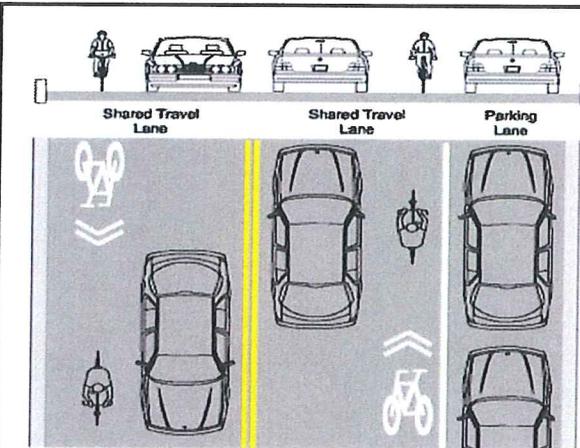




The crosswalks on North and South Avenues are in need of repainting and should be repainted in the "zebra" style



Additional "Stop for Pedestrians" signs should be added to North and South Avenue intersections similar to the one on Center Street



Sharrows are bicycle symbols carefully placed to guide bicyclists to the best place to ride on the road, avoid car doors and remind drivers to share the road with cyclists.



Bicycle Access

During visits to the Study Area, moderate bicycle activity was observed including bicycles traveling on the roadway with traffic (as is the preferred method), bicycles traveling against traffic and bicycles traveling on the sidewalk. There are several measures that could encourage additional biking and make it safer. The municipal code should be modified to require that the site plans for all new developments include:

- secure bicycle parking to equal a minimum of 10 percent of car parking
- bicycle parking located in an accessible and visible location; in proximity to or visible to building entranceways
- all streets shall be bicycle compatible or include a designated bike facility
- all drainage grates should be "bicycle-safe"

It may be challenging to install a dedicated bicycle lane in the Study Area because some of the roadways are not wide enough or have sections too narrow to accommodate a dedicated bicycle lane, but shared lane pavement markings (or "sharrows") could be considered. At a minimum "Share the Road" signs should be installed along North and South Avenues and Center Street since those roadways are already in use by bicyclists. Sharrows could also be installed along 2nd Avenue.

Complete Streets Policy

Garwood should consider adopting a Complete Streets policy similar to what was adopted by the New Jersey Department of Transportation and other communities like Montclair. A Complete Street is defined as a means of providing safe access for all users by designing and operating a comprehensive, integrated, connected multi-modal network of transportation options.

PARKING STRATEGIES

The Petro Plastics parcel would be redeveloped with a new parking structure that would serve some of the residential on-site, but would primarily be for commuters. The parking deck location would limit traffic coming through town since the parking demand is likely coming from the west.

Pricing Structure

If a paid parking facility is introduced to the Study Area, it is important to price all surrounding public parking assets appropriately. For example, on-street rates should be priced higher than off-street rates and/or controlled using time-limits appropriate for the area. This not only encourages turnover but also deters commuters and long-term motorists from occupying the most desired spaces.

Residential Permits

If paid parking is implemented in the core areas, it will then be necessary to implement a residential parking permit program. These types of programs restrict who can and cannot park along residential roadways to those people who live adjacent to a particular street. Again, this preserves the character of the neighborhoods and limits the use of those streets to nearby homeowners only.

Enforcement

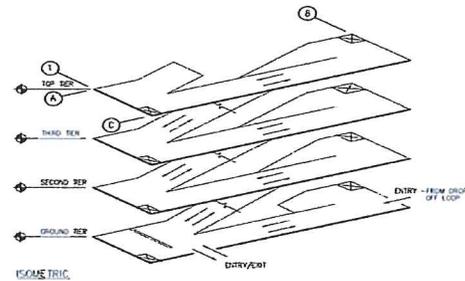
All public parking facilities (on- and off-street) should be controlled and regularly enforced. Appropriate warnings and fines should be issued to all offenders. A parking system is only as effective as its enforcement.



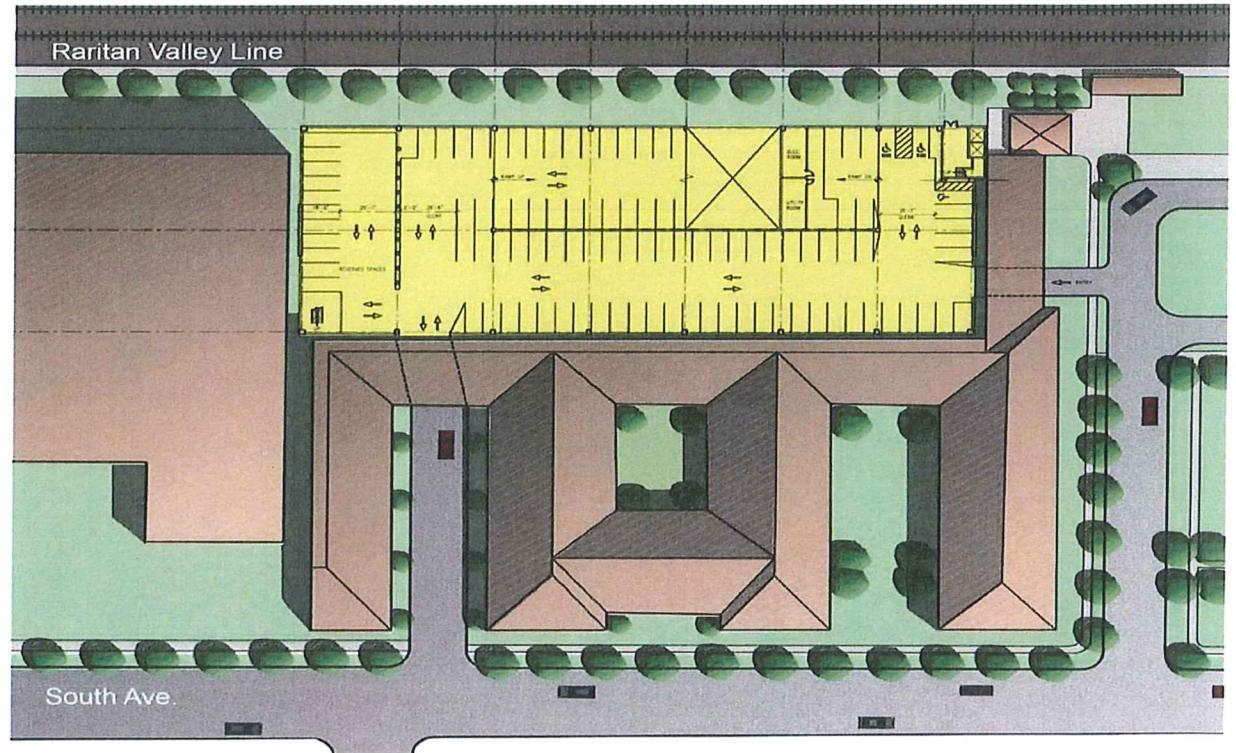
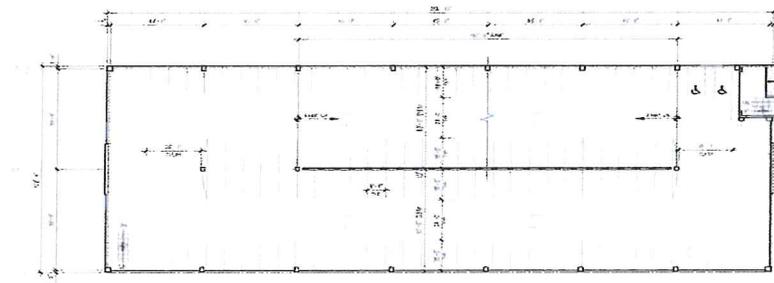
Design Parameters

- Size
316'-10" x 122'-6" (out to out)
- Structure
2 bay single thread helix system
6.3% slope on Ground Tier ramp
5.8% slope on Second and Third Tier ramps
- Height
4 levels (3 supported)
- Parking Stall
8'-6" x 18' stall, 90°, two way traffic
- Efficiency
304 s.f./ stall

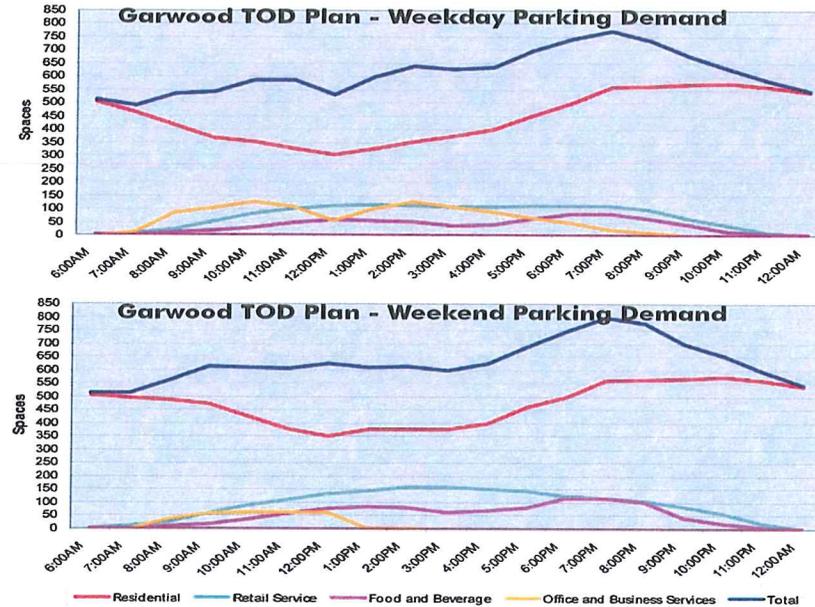
LEVEL	CAR TABULATION			TOTAL
	STANDARD	ACCESSIBLE	VAN ACCESSIBLE	
Top	117	2	-	119
3rd	130	2	-	132
2nd	130	2	-	132
Ground	91	1	2	94
TOTAL	468	7	2	477



Ground Tier Plan
Scale: N.T.S.



PARKING STRATEGIES



Shared Parking

Should additional TOD occur in Garwood, it is important to understand and utilize shared parking concepts. Shared parking principles preserve valuable land assets and minimize costly overbuilds which are detrimental to all communities. In addition, by properly creating a program mix, it is possible to significantly reduce the overall parking needs by 10 to 40 percent. Also note, by reducing the total number of parking spaces needed, higher density may be possible which can result in a higher tax roll for the area.

The program mix in this plan allows for a sizeable amount of shared parking. The assumptions made in our model which utilizes standard ULI parking demand ratios along with calibrations based on the specific program can be found in the Technical Appendix.

Without adjusting for shared parking, approximately 1,050 parking spaces would be needed during peak hours. After adjusting for the capability of these users to share the same space, the peak parking demand is estimated at 800 spaces which reflects a 23% reduction. Should the residential units require reserved parking, we would expect the overall reduction to be less and the overall peak demand to increase. Therefore, utilizing these assumptions, it is estimated that approximately 880 parking spaces (800 plus a 10% cushion) would provide enough parking for the entire implementation plan to operate at full occupancy. Based on this program mix and shared analysis, we estimate approximately 150 to 200 spaces will be available for commuter use during peak weekday commuter hours.

A cushion between 5% and 15% is typically applied in order to account for the flow of vehicles, construction, misparked vehicles, and spaces used for snow removal. Due to the mixture of users, this analysis used a cushion of 10%. A higher cushion of 15% would increase the level of service to the patrons parking in the facility.

Based on the planned parking for the development with 1,034 general spaces (1,088 total parking spaces minus 54 stacked condo spaces), we anticipate sufficient parking to accommodate the peak parking demand.

User/Demand Group	Project Units	Base Ratio	Modal ¹ Adjustment	Captive ² Adjustment	Project Based Adjusted Ratio
Residential 1-bd	277	1.0	100%	100%	1.0 per unit
Residential 2-bd	136	1.5	100%	100%	1.5 per unit
Assisted Living/Rehab	50	0.5	100%	100%	0.5 per bed
Retail Employee	46,650	3.2	95%	90%	2.7 per KSF
Retail Customer	46,650	0.8	80%	100%	0.6 per KSF
Quick/Counter Restaurant Employee	6,363	12.75	95%	40%	4.8 per KSF
Quick/Counter Restaurant Customer	6,363	3.0	80%	100%	2.4 per KSF
Full-Service Restaurant Employee	6,363	12.0	95%	90%	10.3 per KSF
Full-Service Restaurant Customer	6,363	2.0	80%	100%	1.6 per KSF
Professional Office Employee	14,980	2.6	95%	98%	2.4 per KSF
Professional Office Visitor	14,980	0.2	100%	100%	0.2 per KSF
Medical Office Employee	20,400	1.5	95%	98%	1.4 per KSF
Medical Office Visitor	20,400	3.0	95%	100%	2.9 per KSF

¹ Modal Adjustment: The percentage of users arriving by private vehicle.

² Captive Adjustment: The percentage of users arriving from off-site.

BROWNFIELD, REDEVELOPMENT & ENVIRONMENTAL STRATEGIES

Within the Study Area, as a result of research, some sites are documented Contaminated Sites as per NJDEP and some sites area identified as Groundwater Contamination Areas (CEA). It appears that the identified Sites are under NJDEP case management at different levels of completion. None of these designated sites appear to pose a significant issue to the redevelopment within the Study Area. The documented contamination is typical for a developed area of this type.

The research did indicate that some of sites in the area have or had Oil Underground Storage Tanks (UST). This finding means that other underground storage tanks may be found, in the event that more extensive redevelopment occurs. The identified tanks appear to be heating oil tanks for individual facilities.

The central area of concern is the Casale Industries/ Petro Plastics site for which little is known. Interviews with local parties and historical information regarding the Casale Industries/ Petro Plastics site indicate that the site was previously used to fabricate metal (and foundry) for ALCOA. The previous use indicates the potential for soil and groundwater contamination, but because there has not been a transfer in ownership the is no formal documentation of environmental issues or brownfield contaminants. If the full implementation redevelopment option were to be pursued, a Phase I and II assesment, will be required to determine status of these site. Considering the identified known contamination, no major impediments exist.



IMPACT OF DEVELOPMENT SCENARIOS ON POTENTIAL RIDERSHIP

Summary of Additional Rail Ridership Potential

Development Scenario	Pre-ARC		Post-ARC			
	Additional Peak Train		Additional Peak Train		2 Additional Peak Trains	
	Low	High	Low	High	Low	High
Parking Only						
Rail Riders	315		357		520	
Rail Trips	630		715		1040	
Parking Spaces Needed	240		270		395	
Scenario 1						
Rail Riders	318	320	360	360	523	525
Rail Trips	635	640	720	720	1045	1050
Parking Spaces Needed	240	240	270	270	395	395
Additional Bus Riders	2		2		2	
Additional Bus Trips	4		4		4	
Scenario 2						
Rail Riders	368	378	410	420	588	598
Rail Trips	735	755	820	840	1175	1195
Parking Spaces Needed	245	245	275	275	400	400
Additional Bus Riders	15		15		15	
Additional Bus Trips	30		30		30	
Scenario 3						
Rail Riders	420	440	463	483	625	645
Rail Trips	840	880	925	965	1250	1290
Parking Spaces Needed	245	245	275	275	405	405
Additional Bus Riders	37		37		37	
Additional Bus Trips	75		75		75	

New Jersey Transit's Forecasting Department analysed the development scenarios for their effects on transit ridership. The analysis was based on the concepts presented in this report and consisted of the following for the ridership potential:

Scenario 1
9,000sf Retail
16 Residential Units

Scenario 2
48,250sf Retail
14,980sf Office
223 Residential Units

Scenario 3
62,575sf Retail
35,380sf Office
451 Residential Units

These impacts in the table below take into account only additional development, and exclude any changes to service or parking. Estimates here do not include shift to rail mode due to ARC. Therefore, these impact estimates are valid for use with both pre- and post-ARC estimates regarding augmented service and parking. These should be considered give the current status of the ARC project on hold in November of 2010. In the most intense development scheme there would be an increase of 143 to 163 riders.

The table on the left indicates additional rail ridership potential in both non-ARC and ARC conditions. Assuming a full build Scenario 3, Garwood is projected to have similar ridership as nearby stations such as Netherwood, Bound Brook, and Bridgewater, with or without the ARC Tunnel.

Summary of Potential Ridership Created by New Development Scenarios

By Riders	Scenario 1		Scenario 2		Scenario 3	
	Low	High	Low	High	Low	High
Additional Rail Riders						
Residential	3	4	49	59	99	119
Office & Retail	0		4		7	
TOTAL	3	4	53	63	106	126
Additional Parking Spaces Needed	3	3	40	47	80	95
Additional Bus Riders						
Residential	1		8		22	
Office & Retail	1		7		15	
TOTAL	2		15		37	
TOTAL ADDT'L TRANSIT RIDERS	5	6	68	78	143	163

FISCAL IMPACTS & STRATEGIES

A community or fiscal impact analysis examines the linkage between local government revenue generated by new development and its resultant municipal service costs (e.g., police, fire, schools, sanitation, etc.). The outcome of such an analysis is to produce a project related estimate of community service costs to projected revenues, a "cost-revenue ratio", which will be positive (a revenue surplus), negative (a revenue shortfall) or neutral (break-even).

Further, these impacts were estimated over a phased, ten-year time period, in recognition of the likely schedule to plan, construct and absorb newly built residential and commercial space. The net present value of the overall fiscal impact takes into account the time value of money and therefore discounts the cumulative financial impacts back to 2010 dollars.

The key findings of the analysis include:

The annual net fiscal impact at full build-out in 2020 is projected to exceed more than \$328,000, in 2010 dollars.

Real property tax revenues, at full build-out, are projected to generate over \$596,000 for use for municipal services and nearly \$560,000 for the school district, in 2010 dollars.

Over the seven-year build-out period, cumulative net overall fiscal impact of the plan totals nearly \$1.1 million in 2010 dollars.

Total housing-generated population increase is estimated at 596 persons.

Total development-generated permanent employment, at stabilization, is projected at 39 workers. Of those, an estimated 17 will be transfer workers from existing jobs within Garwood, while the remaining 22 will be new workers.

The projected total number of development-generated public school-age children is 31 (22 allocated for elementary school, five for junior high school, and four for high school. Four of these students already would be attending Garwood schools). A net increase of 23 primary age school students (K-8) is estimated at full-build out.

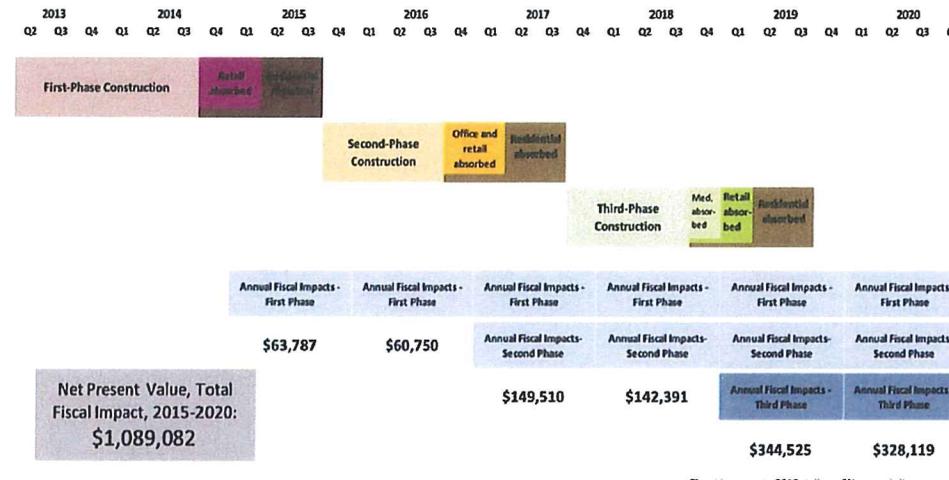


Table A-1: Garwood TOD Phased Build-Out Program

Construction Phase	Land Use	Amount	Metric
Phase 1 2013-2015	Residential	16	units
	Retail	9,000	s.f.
	Parking (Surface)	266	spaces
Phase 2 2015-2017	Parking (Garage)	36	spaces
	Residential	207	units
Phase 3 2017-2019	Retail	39,250	s.f.
	Professional Office	14,980	s.f.
	Residential	228	units
	Retail	14,325	s.f.
	Assisted Living/Rehab	20,400	s.f.
Parking (Garage)	150	beds	
		319	spaces

Source: LRK; 4ward Planning LLC, 2010

Table A-2: Garwood TOD Annual and Cumulative Fiscal Impacts

Impact Years	Net Fiscal Impact, 2010 Dollars		
	Annual	Cumulative	
(Phase 1 completed)	2015	\$63,787	\$63,787
(Phase 2 completed)	2016	\$60,750	\$124,537
	2017	\$149,510	\$274,047
(Phase 3 completed)	2018	\$142,391	\$416,438
	2019	\$344,525	\$760,963
	2020	\$328,119	\$1,089,082

Source: LRK; 4ward Planning LLC, 2010

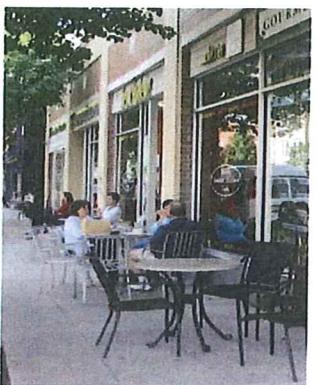
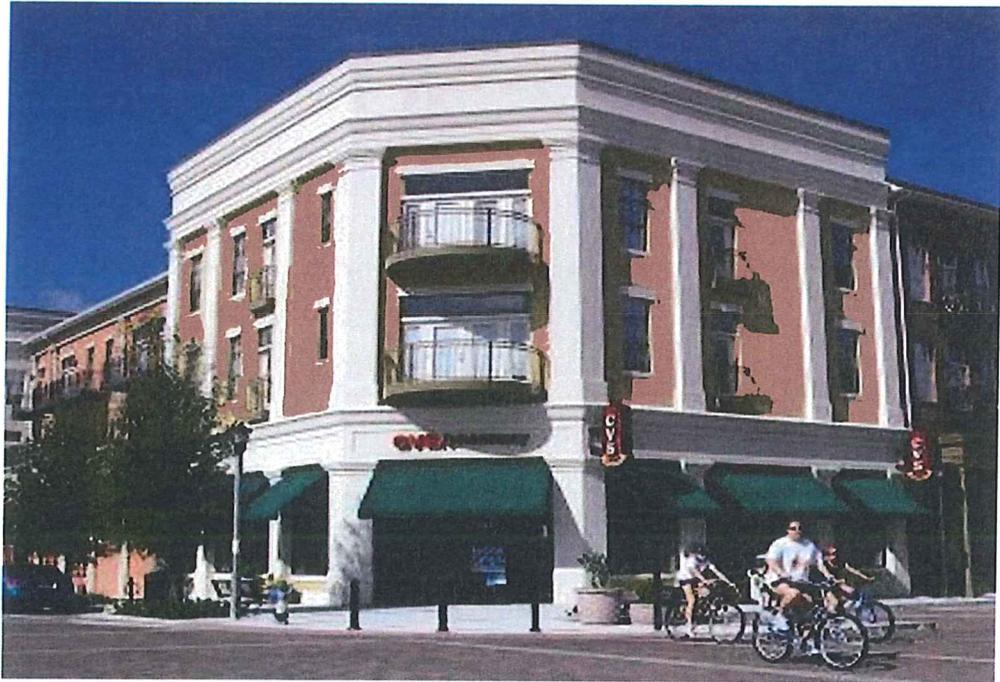
1. Impacts adjusted with respect to time using 2010 base year and 5% discount rate

LAND USE & ZONING STRATEGIES

Portions of the proposed concept plan fall in the following zoning districts: LI-Light Industrial, CC-Community Commercial Zone, CB-Central Business, and GB-General Business zones. Although the Borough's Master Plan has identified Transit-Oriented Development locations and other potential redevelop sites, it is clear that new zoning will be needed to pursue this potential outlined in the Master Plan.

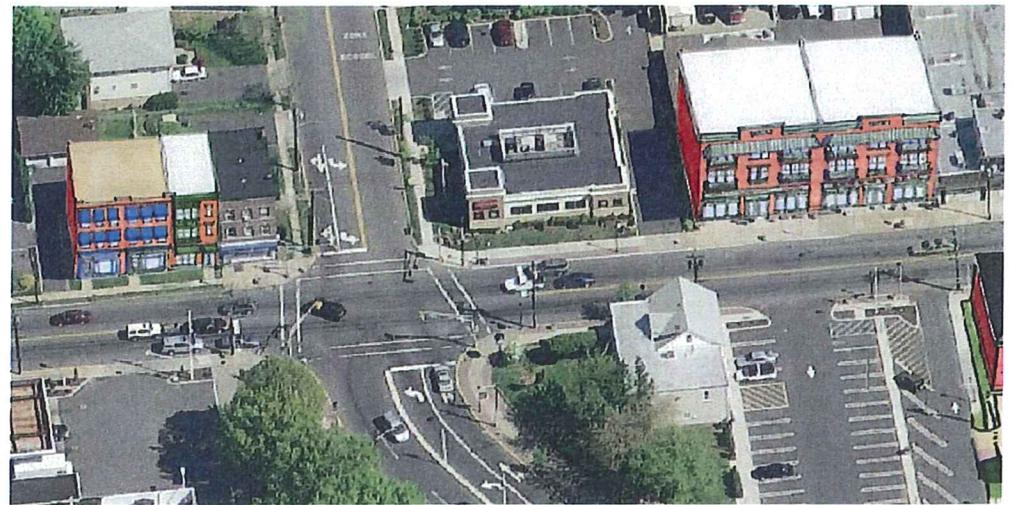
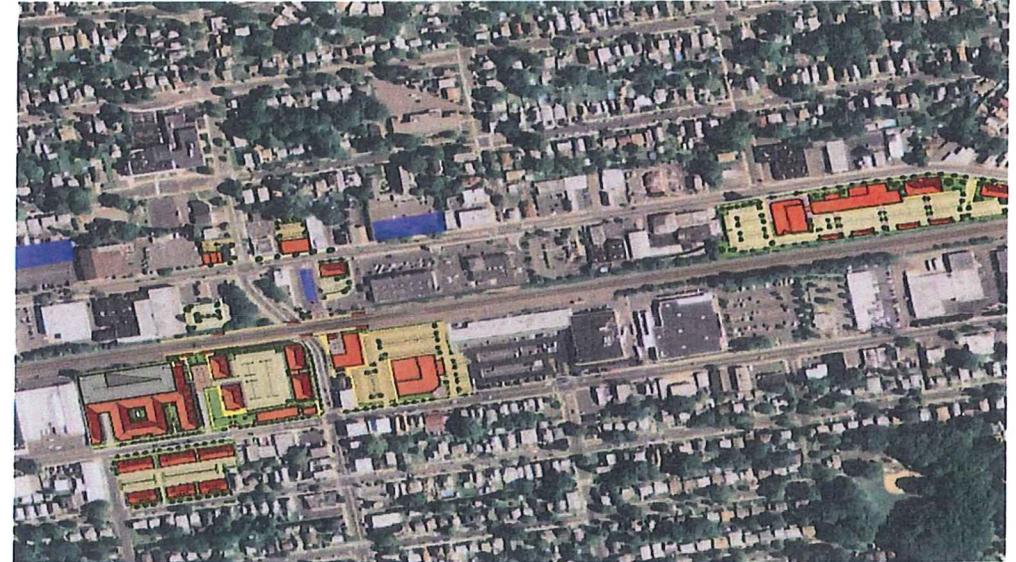
Not all the use and bulk requirements in these zones permit the Transit-Oriented Development as illustrated in this plan. In order to implement the vision, either zoning amendments will be required or the Borough will need to create a Redevelopment Plan for some of the key sites. A few key zoning considerations include additional locations for mixed use development and specific design requirements for maximum building heights; restrictions on number, locations, and types of eating establishments; and more detail on flexible and shared parking, all of which are critical for this type of development.

As was utilized with the Mews project on North Avenue, New Jersey's Redevelopment Planning allows for either areas to be declared as "Area in Need of Redevelopment" or "Area in Need of Rehabilitation". Both allow for the Borough to design flexible redevelopment plans and craft specific design standards that can dictate architectural and public space details far beyond traditional zoning standards. If a Redevelopment Plan is pursued, we recommend that the Borough consider using the "Area in Need of Rehabilitation" because it has less rigorous qualifications, less of a stigma and takes the controversial eminent domain possibility out of the equation, since the Borough has property owners that are open to redeveloping. If a choice is made to pursue this route, the Borough would need to follow the Redevelopment process by initially declaring these as Areas in Need of Rehabilitation, conducting an investigation, and adopting a redevelopment ordinance.



PLANNING IMPLEMENTATION AGENDA

In order to improve transit, redevelopment, parking, traffic circulation, encourage pedestrian and bicycle use and safety, Garwood needs to take a series of short and long-term actions. The following agenda indicates these planning and implementation actions developed during the evolution of this and other planning initiatives over the last several years. The agenda recognizes that successful implementation of plans requires strong local support and action, as well as assistance from Union County and the State of New Jersey. These actions are illustrated in the Planning and Implementation Agenda on the opposite page.



Traffic Intersection and Signal Improvements				
Activity	Local Effort & Process Steps	Target Date	Possible Funding Sources	Stakeholders & State/County Assistance
Central Ave. & North Ave.	1. Study Leading Pedestrian Interval (LPI)	Spring 2011	Municipal Aid	Borough Police Department
	2. Study signalization for East-West traffic	Spring 2013	Local Aid Infrastructure Fund	NJ State DOT
	3. Add more pedestrian crosswalk signage	Fall 2011	NJDOT's Safe Streets and Neighborhoods	Borough Public Works NJTPA
Central Ave. & South Ave.	1. Study Leading Pedestrian Interval (LPI)	Spring 2011	Municipal Aid	Borough Police Department
	2. Study signalization for East-West traffic	Spring 2013	Local Aid Infrastructure Fund	Union County DOT
	3. Add more pedestrian crosswalk signage	Fall 2011	NJDOT's Safe Streets and Neighborhoods	Borough Public Works
	4. Adjust Signalization	Fall 2010		NJTPA
Traffic Calming and Pedestrian Safety Improvements				
Activity	Local Effort & Process Steps	Target Date	Possible Funding Sources	Stakeholders & State/County Assistance
Complete Streets Policy	1. Amend Circulation Element of the Borough Master Plan	Fall 2011		Borough Council
	2. Adopt Complete Streets Policy	Winter 2012		Planning Board
Tunnel Underpass	1. Repaint Underpass	Spring 2011	Municipal Development Impact Fee Authorization Act	Borough Police Department
	2. Install new lighting	Summer 2011		Union County DOT
	3. Upgrades to railings and architectural details	Fall 2012	NJDOT Safe Routes to School NJDOT Safe Streets to Transit	Borough Public Works NJ Transit
Bicycle Access	1. Paint Sharrows and add signage	Fall 2011	NJCA Centers of Place	NJ Transit
	2. Revise Municipal Code to include bicycle requirements	Summer 2011	NHTSA Section 402 Safety Funds	Union County DOT
	3. Purchase and install additional bike racks and lockers at station and in downtown core	Fall 2011		Borough Public Works
	4. Add Bicycle Racks on Buses	Winter 2012	NJDOT's Bikeway Grant Program	NJTPA
General Maintenance	1. Extend sidewalk to Westfield on North Ave.	Spring 2011	NJDOT Safe Streets to Transit Program	Borough Police Department
	2. Borough-wide stop bar and zebra strip repainting	Summer 2011		Union County DOT
	3. Add more pedestrian crosswalk signage	Fall 2011	NHTSA Pedestrian Safety Grant NHTSA Section 402 Safety Fund	Borough Public Works NJ State DOT
Downtown Streetscape Improvements				
Activity	Local Effort & Process Steps	Target Date	Possible Funding Sources	Stakeholders & State/County Assistance
Downtown Streetscape Upgrades	1. Conduct existing conditions assessment	Fall 2011	Federal Community Development Block Grant Program	Borough Public Works
	2. Design Downtown Master Streetscape Plan	Winter 2012		Shade Tree Commission
	3. Finalize spec for a standardize sidewalk for all downtown infill and redevelopment	Winter 2012		Chamber of Commerce
	4. Install new pedestrian-scaled street lighting, benches, trash cans, etc.	Spring 2013		NJ Transit
	5. Add/Replace Street Trees	Spring 2013		
Parking and Commuter Parking Structures				
Activity	Local Effort & Process Steps	Target Date	Possible Funding Sources	Stakeholders & State/County Assistance
Short-Term Commuter Parking	1. Develop Standard Leasing/Cross-Access Easement Agreement	Spring 2011		New Jersey Transit
	2. Approach Key Property Owners & Negotiate Parking Use	Spring 2011		Key Property Owners
	3. Establish a permit and/or monitoring system	Summer 2011		Borough Police Department
	4. Phase in Residential Street permits and restrictions	Winter 2012		Chamber of Commerce
General Parking Policies	1. Revise Municipal Code to include more detailed Shared and TOD Parking Ratios	Summer 2011		Borough Council
	2. Implement Car Sharing Services	Winter 2015		Planning Board
	3. Adopt Parking Management Policy and phase in residential permits	Winter 2012		Borough Police Department Chamber of Commerce
Long-Term Commuter Parking	1. Finalize a parking plan coordinated with redevelopment plans	Spring 2011		New Jersey Transit
	2. Approach Key Property Owners	Spring 2011	Local Aid Infrastructure Fund	Borough Police Department
	3. Issue RFP for parking structure design, construction, and management and select contractor	Summer 2014-2018	Federal Community Development Block Grant Program	Chamber of Commerce
	4. Finalize pricing structure and permitting	Summer 2014-2018		Key Property Owners

Environmental and Brownfield Mitigation				
Activity	Local Effort & Process Steps	Target Date	Possible Funding Sources	Stakeholders & State/County Assistance
Environmental and Brownfield Mitigation	1. Explore redevelopment options for key parcels (Casale, Petro, Paperboard, etc.)	Summer 2011	Brownfields Redevelopment Loan Program	NJ DEP
	2. Explore funding opportunities with DEP and other State agencies	2012-2014	NJ DEP Hazardous Discharge Site Remediation Fund Fund for Community Economic Development	Designated Redevelopers Key Property Owners
	3. Submit for funding/technical applications to DEP	2012-2020		Planning Board
	2. Conduct Phase I and Phase II Assessment of Casale/Petro		NJ DEP Petroleum Underground Storage Tank Remediation and Closure Fund	Union County
	5. Environmental mitigation prior to redevelopment		NJ EDA Redevelopment Area Bond Financing	NJ BRIT
Transit Improvements				
Activity	Local Effort & Process Steps	Target Date	Possible Funding Sources	Stakeholders & State/County Assistance
Bus and Rail Service*	1. Increase in some train service	Complete 2009	NJCA Centers of Place	New Jersey Transit
	2. Explore changes to express bus service/BRT	2012	Local Aid Infrastructure Fund	NJTPA
	3. Add/replace bus shelters along North and South Avenues	2014-2016	NHTSA Section 402 Safety Fund	Borough Public Works Department
	3. Explore additional train service	2018-2022		Union County
Station Upgrade*	1. Conduct existing conditions assessment	2013-2018		New Jersey Transit
	2. Repair broken and cracked portions of platform, stairs and ramps	2015-2018	Local Aid Infrastructure Fund	Borough Public Works Department
	3. Install additional bike racks and lockers	2015-2018	Municipal Development Impact Fee Authorization Act	Chamber of Commerce
	4. Install information kiosks and wait time monitors	2015-2018		Key Property Owners
	5. Construct Station/Shelter	2018-2022		NJTPA
* All transit improvements are contingent on increased ridership through redevelopment and new parking facilities/opportunities. The current status of NJT funding and the ARC tunnel project are limiting factors in service and facilities improvements. Any redevelopment planning should include incentives for public-private partnerships to assist in improving facilities and infrastructure.				
Master Plan and Zoning				
Activity	Local Effort & Process Steps	Target Date	Possible Funding Sources	Stakeholders & State/County Assistance
Master Plan and Zoning	1. Adopt Transit-Friendly Concept Plan as an amendment to the Borough's Master Plan	Summer 2011		Borough Council
	2. Revise Municipal Code to include TOD practices and standards (increased mixed use, flexible/shared parking, bicycle accommodation, building heights, eating and drinking requirements, etc.)	Fall 2011	DCA Smart Future Grant	Planning Board Key Property Owners
	3. Develop incentives for redeveloper and public-private partnerships for infrastructure improvements	Fall 2011		NJTPA
Redevelopment	1. Designate Areas in Need of Redevelopment/Rehabilitation	Summer 2011	Fund for Community Economic Development	Borough Council
	2. Refine concept plan, program, and create design guidelines	Winter 2012	Brownfields and Contaminated Site Remediation Reimbursement Program	Planning Board
	3. Adopt Redevelopment/Rehabilitation Plan	Spring 2012		Key Property Owners
	4. Determine/create redevelopment entity	Spring 2012	New Jersey Environmental Infrastructure Financing Program	NJ BRIT

