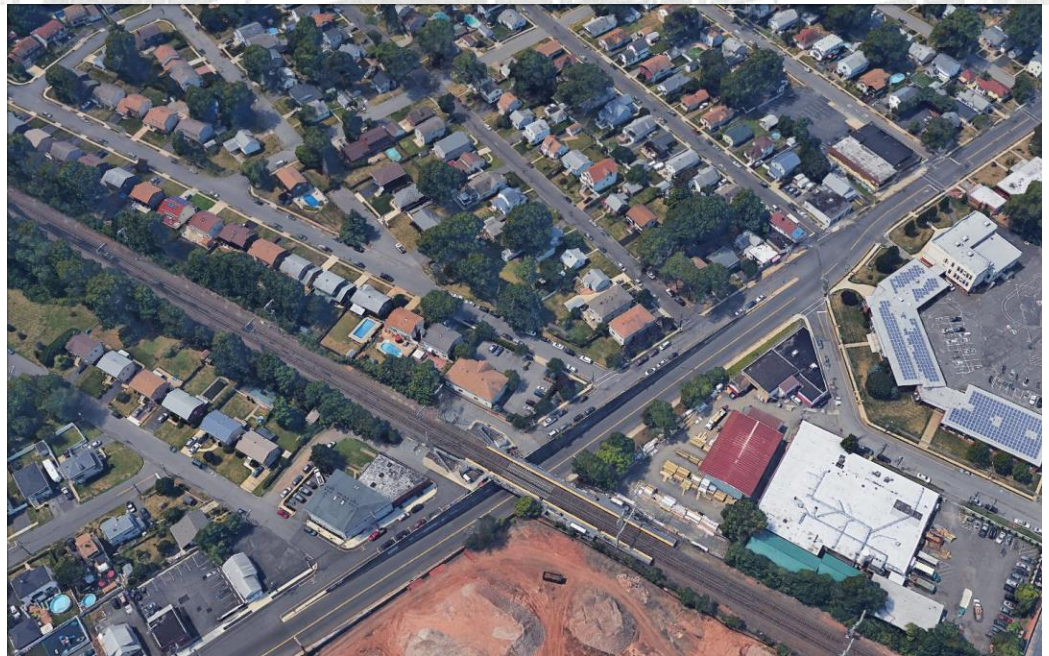


Woodbridge Township,
New Jersey

Avenel Station Commuter Parking Adequacy Study Woodbridge Township

December 8, 2017



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Avenel Station – Commuter Parking Adequacy Study

Introduction

Timothy Haahs & Associates Inc. (TimHaahs) was engaged by the Woodbridge Township (Woodbridge) to conduct a **Commuter Parking Adequacy Study** for the Avenel Train Station area. The focus of this report is to identify existing parking conditions and commuter parking utilization, project future commuter parking needs based anticipated ridership growth at the Avenel Station (“Station”). (See the full proposal and scope of services in the appendix to this report). Through this Commuter Parking Adequacy Study, Woodbridge seeks to understand the present parking demand at the station, the anticipated parking demand that will likely result from projected ridership growth at the station, and finally the parking impacts should additional service be added by NJ Transit. With this information it is the intent of Woodbridge to identify strategies to appropriately accommodate the parking demand in the Avenel Station area to ensure convenient access to mass transit for all Woodbridge residents while maintaining the safety, parking availability, and the quality of life for residents living within the station area.



Avenel Train Station Platform

The Avenel Station is located on NJ Transit’s the North Jersey Coast Line between the Rahway and Woodbridge stations and it is one of three stations in Woodbridge. On weekdays there are nine (9) northbound trains and fourteen (14) southbound trains that stop at the station. On weekends and major holidays there is no train service at the station. Formal commuter parking at the station consists of 37 spaces as designated by NJ Transit on the municipally owned Old Avenel Street. Neither NJ Transit nor Woodbridge own or operate any off street parking in the station area.

Transit oriented development is underway at the Avenel Station area with the Avenel Arts Village Redevelopment which takes advantage of its proximity to the Station. The area’s redevelopment plan provides for development of up to 500 housing units, a 10,000 square foot arts center and an additional 25,000 square feet of retail/arts village support space. The plan recognizes the importance of the station as a focal point and catalyst for redevelopment and encourages retail/arts opportunities in close proximity. Increased economic development in the Avenel Station area has increased train ridership over the past three years and the demand for commuter parking to access to the station. Presently there are approximately 222 weekday boarding’s at the riders with the limited service.



Station Village Development Project

NJ Transit encourages transit oriented development in the communities they serve, and as a matter of course, NJ Transit routinely measures ridership at rail stations. Historically, the agency has made adjustments to the level of service provided at stations that have exhibited ridership growth that warranted additional service and/or other service changes. Given Woodbridge's proactive support of smart growth and transit oriented development in the Avenel Station area with projects such as Station Village, it is likely that ridership will increase beyond its historical growth. Should the increase in ridership continue at the station, NJ Transit has indicated that it may reevaluate future service planning to modify their level of service for this station.

Present ridership at the station has generated parking demand that far exceeds the existing NJ Transit designated commuter supply and commuters are parking in adjacent residential neighborhoods. As a result of our parking counts and field observations of the study area, we estimate that approximately 80 spaces are being used by commuters to access the station. Based on historical ridership growth over the last eleven (11) years at the station (2007- 2017), we project that ridership will increase by approximately 60 riders in the next five years (2018- 2022). Based on existing commuter parking demand at the stations we estimate that the referenced ridership growth will result in increased parking demand of **22** parking spaces. This increased parking demand will further impact the adjacent residential neighborhoods. If additional train service is added at the station, the commuter parking demand will increase well beyond these estimates, further exasperating the parking impacts in adjacent residential and commercial areas.

Commuter Parking Adequacy Study Methodology

Given that there is limited designated commuter parking to support the Avenel Station, to undertake this study TimHaahs staff identified areas within the study area that we observed and concluded were being used by commuters to access the station and document the number of spaces utilized. Please note that the Station Village redevelopment site and its associated parking facilities are NOT included in the study area as these facilities are controlled and monitored to prevent utilization by commuters. On **Wednesday, October 11, 2017**, we performed occupancy counts within the study area to identify transit commuters. Parking occupancy counts were performed for on-street spaces where commuters were observed parking and walking to the station. These counts and observations determined the pattern of parking utilization throughout the morning commute.

To identify the existing ridership at the Avenel Station, we met with NJ Transit officials to obtain historical ridership data and to see if we could obtain a forecast that projected the amount of additional ridership anticipated at the station over the next five (5) years. We also requested any information related to potential increases in the level of service at the station and any analysis that would project the increase in ridership if the level of service were increased. As a result of our interactions with NJ Transit, we obtained historical ridership at the station from 2007 to 2017 but we were unable to obtain a ridership forecast. In addition, we were not able to obtain any data related to the potential ridership impacts if additional service was added. NJ Transit did indicate that the agency supports the type of Transit Oriented Development (TOD) occurring around the Avenel Station and that the associated ridership increases that are often the result of TOD periodically warrant the agency to reevaluate their service planning and make necessary adjustments to meet increased demand.

Based on our parking counts and observations, TimHaahs provides herein an assessment of the existing commuter parking inventory, its current demand and utilization, and the future parking needs based on projected ridership growth. As a result of this analysis, we determined the estimated amount of additional commuter parking needed to support the projected increase in ridership.

Study Area

The study area for the Avenel Train Station Parking Adequacy Study is generally defined as follows: Clark Place to the north; Center Street / North Smith Street to the south; Manhattan Avenue to the east; and Park Avenue / North Madison Ave to the west. Avenel Street serves as the heart of the study area. **Figure 1 delineates the study area.**



Source: Google Map formatted by Timothy Haahs & Associates, Inc. 2017

NJ Transit Avenel Station

Train Service

Currently, the Avenel Train Station has nine (9) trains that depart from the station in route to New York Penn Station on weekdays. There are also fourteen (14) trains that depart from New York Penn Station and stop at the station. There is presently no train service on the weekends or major holidays. **Table 1 lists the train weekday schedule between Avenel Station and New York Penn Station.**

Table 1: Existing Train Schedule

Avenel Departure	New York Penn Arrival	Total Travel Time
5:15 AM	5:58 AM	43 min
6:41 AM	7:38 AM	57 min
7:00 AM	7:36 AM	36 min
7:19 AM	8:08 AM	49 min
7:51 AM	8:48 AM	57 min
8:30 AM	9:18 AM	48 min
9:28 AM	10:17 AM	49 min
10:04 AM	10:53 AM	49 min
4:59 PM	5:49 PM	50 min

New York Penn Departure	Avenel Arrival	Total Travel Time
4:30 AM	5:12 AM	42 min
5:32 AM	6:17 AM	45 min
7:01 AM	7:45 AM	44 min
3:20 PM	4:05 PM	45 min
4:16 PM	5:04 PM	48 min
5:03 PM	5:49 PM	46 min
5:21 PM	6:13 PM	52 min
5:55 PM	6:47 PM	52 min
6:16 PM	7:09 PM	53 min
6:51 PM	7:37 PM	46 min
7:20 PM	8:07 PM	47 min
8:22 PM	9:02 PM	40 min
8:41 PM	9:27 PM	46 min
10:20 PM	11:06 PM	46 min

Source: NJ Transit, 2017

Ridership

Since 2007 ridership at the Avenel Station has increased by an average annual rate of five percent (5%). From 2014 through 2017 the ridership has increased by an average annual average rate of eight percent (8%). According to New Jersey Transit, Avenel Station had an average of **222 daily boarding's in 2016-2017**. Outlined in the table below is the average number of daily boarding's at the Avenel Station by year since 2007.

Table 2: Avenel Train Station - Ridership Growth

Year	Daily Boardings	+ / - %
2007	140	
2008	175	25%
2009	167	-5%
2010	166	-1%
2011	148	-11%
2012	166	12%
2013	164	-1%
2014	176	7%
2015	181	3%
2016	204	13%
2017	222	9%
Average	174	5%

Source: NJ Transit, 2017

Commuter Parking Supply

Upon review of the NJ Transit website related to station and parking information

(http://www.njtransit.com/rg/rg_servlet.srv?hdnPageAction=StationParkRide), commuter parking at the station consists of 37 on-street spaces located on Avenel Street, which is owned by the municipality. Neither NJ Transit nor Woodbridge own or operate any off street parking in the station area and given the limited supply of commuter parking at the station, commuters park on local residential streets within close proximity of the station. As evident from the table below, the amount of designated commuter parking at the station is insufficient based on overall ridership at the station.

Table 3 : Ridership via Commuter Parking

Train Station	Ridership	Parking Spaces	% of Parking to Wkday Boardings
Avenel	222	37	17%
Aberdeen and Matawan	2,460	1,334	54%
South Amboy	1,058	557	53%
Metuchen	3,533	1,569	44%
Red Bank	1,155	484	42%
Woodbridge	1,813	609	34%
Linden	2,999	676	23%
Rahway	3,374	697	21%
Perth Amboy	840	152	18%

Source: NJ Transit 2016-2017

Based on field observations and parking counts conducted by TimHaahs on **Wednesday, September 27, 2017** and **Wednesday, October 11, 2017**, we identified the parking supply in the study area as follows:

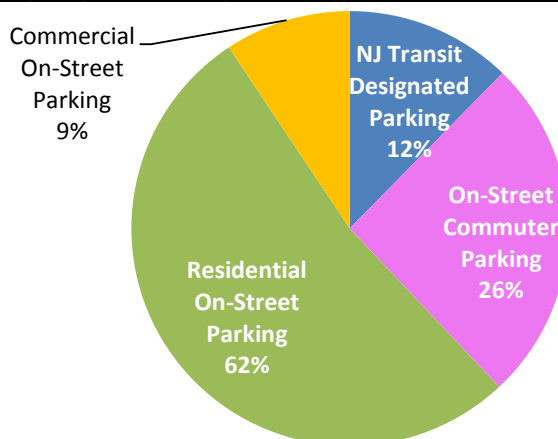
- **Area One - 37** NJ Transit designated commuter parking space on Old Avenel Street. These space are used almost exclusively by commuters;
- **Area Two - 77** unrestricted on street spaces in residential areas within a 500-600 foot distance from the station that are highly convenient parking for commuters. Based on our observations, these residential parking areas were inundated with commuter parkers; and
- **Area Three - 186** on-street spaces within the study on residential and commercial streets. These parking areas are not impacted by commuters.

Table 4 lists the number of on-street parking spaces and regulations by street in the study area.

Table 4: Study Area Parking Supply Breakdown

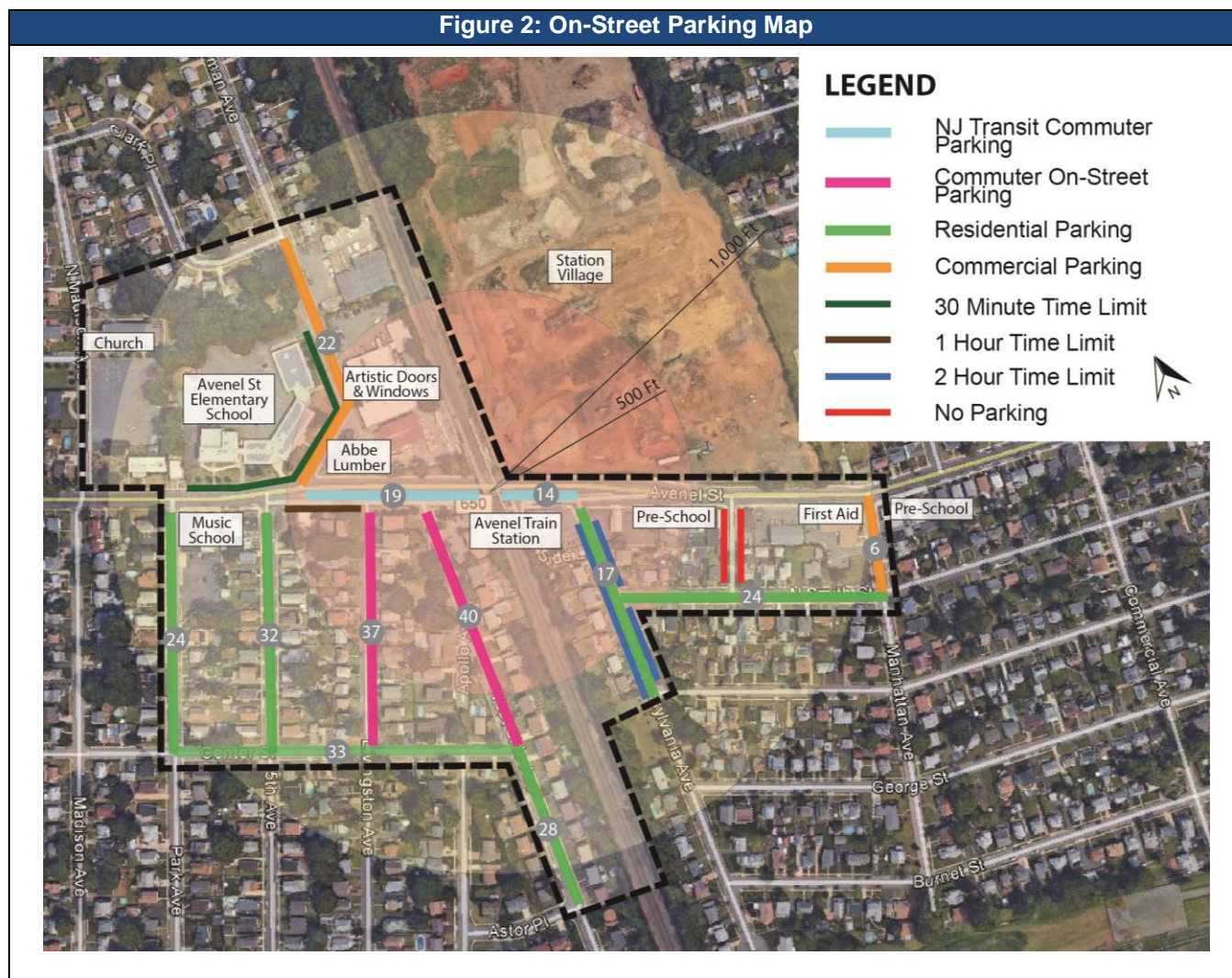
Location		Between			Supply	Regulations
Area One- NJ Transit Designated Commuter Parking	E. Avenel St	5th Ave	&	Rail Road	19	No Time Limit
	W. Avenel St	Rail Road	&	Penn Ave	14	No Time Limit
	ADA Parking				4	No Time Limit
Sub Total					37	
Area Two- On-Street Commuter Parking	West Side Ave	Avenel St	&	Center St	40	No Time Limit
	Livingston Ave	Avenel St	&	Center St	37	No Time Limit
Sub Total					77	
Area Three- Residential On- Street Parking	West Side Ave	Center St	&	Astor Pl	28	No Time Limit
	5th Ave	Avenel St	&	Center St	32	No Time Limit
	Park Ave	Avenel St	&	Center St	24	No Time Limit
	Penn Ave	Avenel St	&	Meinzer St	17	2 Hour
	N Smith St	Manhattan Ave	&	Penn Ave	24	No Time Limit
	Center Ave	West Side Ave	&	Park Ave	33	No Time Limit
Sub Total					158	
Area Three- Commercial On- Street Parking	S Inman Ave	Avenel St	&	Clark Pl	22	30 Min (west side)
	Manhattan Ave	Avenel St	&	N Smith St	6	No Time Limit
Sub Total					28	
TOTAL					300	

Category	Supply	%
NJ Transit Designated Commuter Parking	37	12%
On-Street Commuter Parking	77	26%
Residential On-Street Parking	158	53%
Commercial On-Street Parking	28	9%
Total	300	100%



Source: Timothy Haahs & Associates, Inc. 2017

Figure 2 illustrates the locations of on-street commuter parking supply in the study area.



Source: Timothy Haahs & Associates, Inc. 2017

Commuter Parking Demand

As indicated, the Avenel Station area has limited parking available to commuters and as a result commuters are parking on streets and areas adjacent to or in close proximity to the Station. While Woodbridge encourages smart growth and the values of the station as a mass transit asset to regional residents, there is concern amongst municipal officials that existing commuter parking demand is inundating on-street parking in close proximity to the station and that this condition will intensify as ridership increases.

Parking Demand refers to the amount of vehicles parked in parking spaces at a particular time of day. To undertake this parking adequacy study TimHaahs conducted parking counts and observations on **Wednesday, September 27, 2017, from 7AM through 11AM** and **Wednesday, October 11, 2017, from 4PM through 7PM** to document the amount of commuters parking in the study are and to understand how this parking demand was

impacting the area. During these counts and observations the weather was temperate for the time of year and there was no precipitation or conditions that would negatively impact parking demand or utilization. During the time in the field, in addition to counting the vehicles, we identified where commuters were parking, the paths of travel to the station, user's parking habits, and occupancy levels of parking in the study area. Based on these parking counts and observations, we identified the peak parking occupancy / utilization within the study. Below is a summary of parking utilization in the study area:

Area One - NJ Transit Designated Commuter Parking On-Street (East Avenel Street and West Avenel Street)

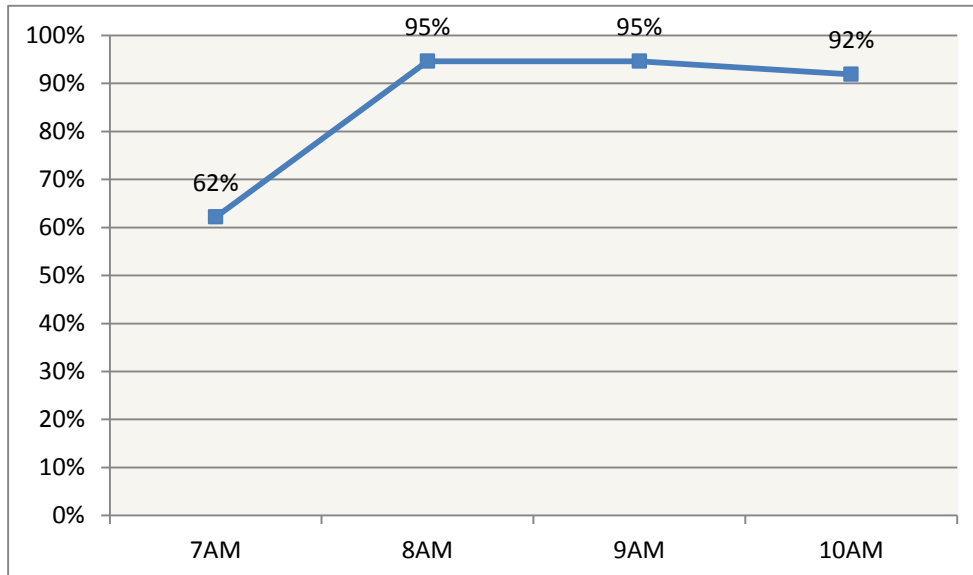
The peak parking demand during the survey day for the NJ Transit designated Commuter parking was **35 spaces or 95% occupancy, which occurred from 8AM to 9AM**. Table 5 lists the parking demand and occupancy from 7AM to 10AM of the NJ Transit Designated Commuter Parking. The yellow highlighted cells indicate the highest occupancy time period for each street.



Commuters walking to station

Table 5: On-Street Parking Demand (Sep 27, 2017, Wednesday)

Street Name	Between		Supply	7AM		8AM		9AM		10AM	
E. Avenel St	5th Ave	& Rail Road	19	13	68%	19	100%	19	100%	19	100%
W. Avenel St	Rail Road	& Penn Ave	14	9	64%	14	100%	14	100%	13	93%
ADA Parking			4	1	25%	2	50%	2	50%	2	50%
Total			37	23	62%	35	95%	35	95%	34	92%



Source: Timothy Haahs & Associates, Inc. 2017

Area Two – On-Street Residential Parking (West Side Ave and Livingston Ave)

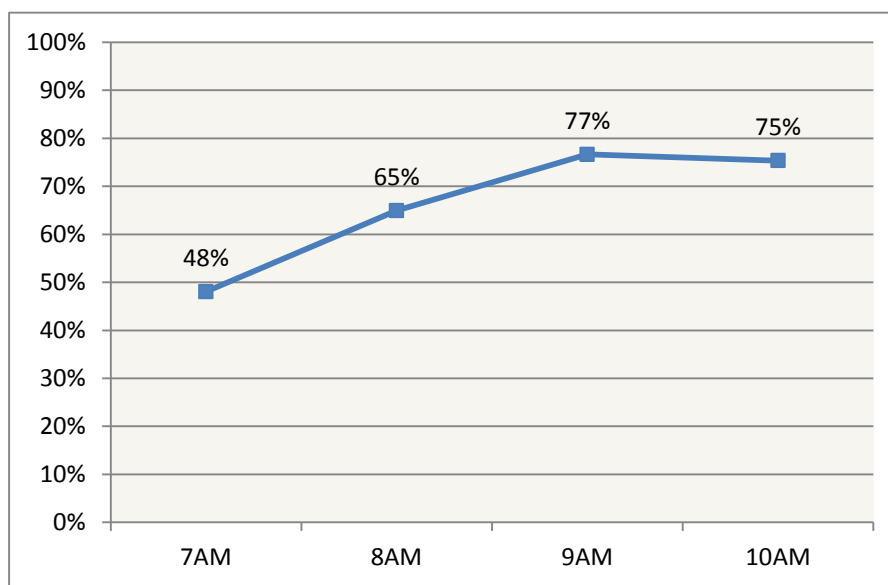
As previously referenced, given the limited designated commuter parking at the station, commuters are parking on-street in residential areas with unrestricted parking and in close proximity to the station. During our counts and observations we identified portions of West Side Avenue and Livingston Avenue as the streets within a convenient 500-600 foot walk to the station, and the area most impacted by commuters. The peak on-street parking demand during the surveys in this area which includes both residents and commuters was **59 spaces or 77% occupancy, which occurred at 9AM**. Table 6 lists the on-street parking demand and occupancy for this area from 7AM to 10AM.



Vehicles Parked on West Side Ave

Table 6: Commuter On-Street Parking Demand (Sep 27, 2017, Wednesday)

Street Name	Between			Supply	7AM		8AM		9AM		10AM	
West Side Ave	Avenel St	&	Center St	40	19	48%	29	73%	33	83%	31	78%
Livingston Ave	Avenel St	&	Center St	37	18	49%	21	57%	26	70%	27	73%
Total				77	37	48%	50	65%	59	77%	58	75%



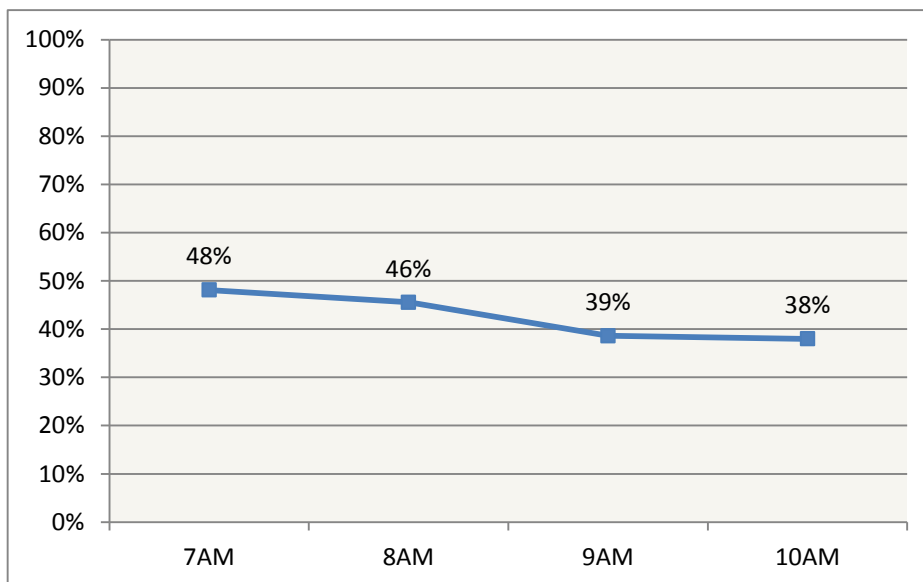
Source: Timothy Haahs & Associates, Inc. 2017

Area Three - On-Street Residential Parking

To assess the commuter parking impact on residential areas further from the station, we inventoried and counted on-street residential parking beyond Area Two, approximately 600 feet to 1100 feet from the station. Based on our counts and observations, we do not believe that Area Three is impacted by commuter parking. The peak on-street parking demand during our surveys in these areas was 76 spaces or 48% occupancy, which occurred at 7AM. **Table 7 lists the on-street parking demand and occupancy for this area from 7AM to 10AM. The parking demand and on-street parking during the survey day was 76 spaces or 48% occupancy, which occurred at 7AM.**

Table 7: Residential On-Street Parking Demand (Sep 27, 2017, Wednesday)

Street Name	Between		Supply	7AM		8AM		9AM		10AM	
West Side Ave	Center St	& Astor Pl	28	18	64%	17	61%	10	36%	8	29%
5th Ave	Avenel St	& Center St	32	18	56%	17	53%	16	50%	16	50%
Park Ave	Avenel St	& Center St	24	13	54%	14	58%	14	58%	12	50%
Penn Ave	Avenel St	& Meinzer St	17	4	24%	6	35%	4	24%	6	35%
N Smith St	Manhattan Ave	& Penn Ave	24	15	63%	11	46%	8	33%	8	33%
Center Ave	West Side Ave	& Park Ave	33	8	24%	7	21%	9	27%	10	30%
Total			158	76	48%	72	46%	61	39%	60	38%



Source: Timothy Haahs & Associates, Inc. 2017

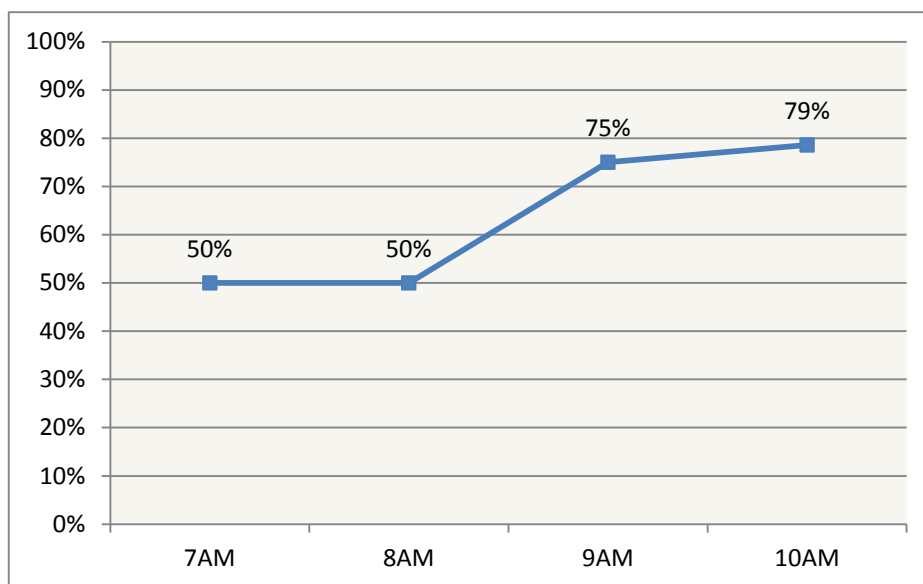
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Area Three - Commercial Parking

To assess the potential impact of commuter parking on commercial parking in the study area, we inventoried and counted on-street parking utilization during the survey day on commercial streets. Based on our counts and observations, we do not believe that commuters are impacting this area. **The peak on-street parking demand during our surveys in these areas was 22 spaces or 79% occupancy, which occurred at 10AM.** Table 8 lists the on-street parking demand and occupancy for this area from 7AM to 10AM.

Table 8: Residential On-Street Parking Demand (Sep 27, 2017, Wednesday)

Street Name	Between	Supply	7AM		8AM		9AM		10AM	
S Inman Ave	Avenel St & Clark Pl	22	8	36%	8	36%	15	68%	16	73%
Manhattan Ave	Avenel St & N Smith St	6	6	100%	6	100%	6	100%	6	100%
Total		28	14	50%	14	50%	21	75%	22	79%



Source: Timothy Haahs & Associates, Inc. 2017

Study Area Parking Demand Summary

The overall weekday parking demand peak within the study area was **176** spaces equaling **59%** occupancy which occurred at 9AM.

Table 9: Parking Demand at 9AM

Type	Supply	Parking Demand at 9AM	%
Area One- NJ Transit	37	35	95%
Area Two- Commuter	77	59	77%
Area Three- Residential	158	61	39%
Area Three- Commercial	28	21	75%
Total	300	176	59%

Source: Timothy Haahs & Associates, Inc. 2017

Commuter Parking Demand Summary

Based on our parking counts and field observations, we estimate that of the 176 cars parked in the study area, a total of **80 cars were parked by commuters**. These spaces are primarily allocated in the study area as follows:

Area One - NJ Transit designated commuter parking – **37 spaces**

Area Two - West Side Avenue, between Avenel Street and Apollo Avenue - **18 spaces**

Area Two - West Side Avenue, between Apollo Ave and Center Avenue – **10 spaces**

Area Two - Livingston Ave, between Avenel Ave and Center Avenue – **15 spaces**

Figure 3 illustrates the percentage of on-street parking in the study area that is occupied by commuter parking occupancy in the study area at peak demand at 9AM.



Source: Timothy Haahs & Associates, Inc. 2017

Commuter Parking Adequacy

Effective Commuter Parking Supply

When evaluating the parking supply in a study area, the “Effective Supply” is a common term used in the parking industry. The effective supply is essentially a “cushion” applied to the actual supply to account for parking spaces lost due to improperly parked vehicles, snow, construction, and the natural ebb and flow of vehicles. Simply stated, it considers that a parking supply operates at peak efficiency when parking occupancy is no more than 85 to 95 percent of the supply. When occupancy exceeds this level, patrons experience difficulty finding a space and the delays and frustration while searching for the few remaining spaces creates the perception that the supply is inadequate and is at full occupancy even when there are actually some spaces still available.

To determine the current commuter parking adequacy for the study area most impacted by commuter parking, we compared the existing commuter parking demand as outlined herein against the **effective parking supply**. For this study area we applied a 95% effective parking supply ratio to the parking in Areas One and Two. **The overall parking adequacy for commuter parking in the Area One and Two based on the 95% effective parking supply ratio (104 parking spaces) and our count of the peak on-street parking totaled 94 spaces, results in a surplus of 10 spaces during peak utilization at 9 AM. (104 spaces - 94 spaces= 10 spaces).**

Parking Adequacy Summary

Table 10 lists the Woodbridge Avenel Train Station parking adequacy at 9AM.

Table 10: Avenel Train Station Parking Adequacy				
	Type	Effective Supply	Demand	Adequacy
	Area One- NJ Transit	35	35	0
	Area Two- Commuter	69	59	10
	Total	104	94	10

Source: Timothy Haahs & Associates, Inc. 2017

In summary, the areas impacted by commuter parking, **Area One had a 0 space parking surplus and Area Two had a 10 space surplus during the peak time at 9AM.**

Future Parking Conditions

To assess future commuter parking conditions in the Avenel Station area, we projected future ridership at the station and then applied the present ratio of commuters that park in the station area to access the train service. Based on the historical ridership growth over the past 10 years at the Avenel Station, and assuming no increases in the level of transit service at the station, we estimate that ridership will increase by an annual growth rate of **5%** per year over the next 5 years or approximately 61 riders. Through our counts and observations of the study area we estimate that 36% of riders presently park to access the station (80 spaces used by commuters / 222 average boarding's = 36%). With a projected ridership increase of 61 average daily riders, we anticipate an increase in commuter parking demand of approximately **22** vehicles (61 new riders x 36% = 22 parkers) by 2022.

Table 11 illustrates the parking supply/deficit for commuter parking from 2018 to 2022.

Table 11: Transit Ridership and Parking Demand/Supply						
Commuter Growth	2017	2018	2019	2020	2021	2022
Ridership	222	233	245	257	270	283
Commuter Parking Demand	80	84	88	93	97	102
Commuter Parking Supply	37	37	37	37	37	37
Parking Suplus/Deficit	(43)	(47)	(51)	(56)	(60)	(65)

Source: NJ Transit and Timothy Haahs & Associates, Inc. 2017

Conclusion and Recommendations

Increased Parking Demand

The overall parking deficit identified in **Table 11** is based on the fact that the only commuter parking designated by NJ Transit for the Avenel Station is the 37 municipally owned spaces located along Avenel Street. Accordingly, commuters who can't park in these spaces are parking on-street in adjacent residential areas that do not restrict on-street parking. **Specifically, commuters are parking on West Side Avenue, between Avenel Street and Apollo Avenue, West Side Avenue, between Apollo Ave and Center Avenue, and Livingston Ave, between Avenel Ave and Center Avenue.**

As ridership grows over the next five years, the existing commuter parking deficit of approximately 43 spaces will increase to approximately 65 spaces. Given the lack of off street commuter parking, commuters will continue to park in the nearby residential area of West Side Avenue and Livingston Avenue. With these streets presently at approximately 77% occupancy, as referenced in **Table 6**, the additional projected parking demand of **22** spaces will exceed the capacity of this area creating parking challenges and conflict for local residents and pushing commuters further into residential and commercial areas not yet impacted by commuters. This condition will potentially be further exasperated when one of the existing commuter parking lots in Downtown Woodbridge, the Rifi's Lot, is lost to pending redevelopment. As indicated in the ***Downtown Woodbridge Parking Assessment dated, June 30, 2017***, this lot presently accommodates approximately 70 commuters parkers using the Downtown train station and given that parking serving the downtown NJ Transit Train Station is effectively at capacity with a present waiting list (November 2017) of over 130 people, when this lot is closed, these commuter parkers will seek other parking and transit alternatives some of which will chose the Avenel Station. In addition, should NJ Transit modify and increase the train service at this station due to the recent, strong ridership growth of 8% per annum over the past three years, parking demand will increase beyond the projections outlined herein I further exasperating the existing parking conditions in the residential areas already impacted by commuter parkers.

Woodbridge Township supports the utilization, ridership and growth of the Avenel Station and has supported transit oriented development in the area. However, as indicated, as ridership increases so will the demand for parking. The existing demand is already impacting adjacent residential streets and causing traffic congestion during peak morning commute times. During our field observations many cars near the station were parked illegally and discussions with the local crossing guard revealed that during the peak morning times there are a

significant amount of vehicles dropping off transit riders on local streets throughout the station area due to the lack of a designated drop off area. According to the local crossing guard, this condition creates on-going pedestrian safety challenges and traffic congestion.

Avenel Village Shuttle

To address the present increase in utilization of the Avenel Train Station and the associated parking demand, Woodbridge is implementing the Avenel Village Shuttle. The shuttle program will operate from the Avenel Knights of Columbus located at 109 Morrissey Avenue, where there are 30 parking spaces available for Avenel Train Station commuters. The number of spaces will increase to 50 in the spring of 2018 upon the completion of a paving project at the site. The shuttle will operate weekdays to coincide with the Avenel Station train station schedule, picking up commuters at the parking lot starting at approximately 6:21AM and operating through 8:30AM. In the late afternoon the shuttle will resume its operation picking up commuters at the station starting at 4:30PM and returning them to the Knights of Columbus lot on a regular schedule through 8:30PM.

Parking Lot Development

Another strategy to address the existing and future parking demand is to identify opportunities to acquire property in the station area to develop off-street commuter parking and to provide an organized drop off area for commuters. Off-street parking could help accommodate existing and future commuters thereby reducing the present parking impact on the residential and, if appropriately designed, could also serve as a pick-up and drop-off area thereby reducing safety and traffic concerns and increasing user comfort. Adequate off-street commuter parking would also free up on-street parking in residential areas intended for local residents and businesses.

Given the significant growth in ridership over the past three years at the station and that NJ Transit controls no parking to support its continued growth, The Township should approach NJ Transit regarding working together to identify appropriate properties for off street parking and identifying resources and funding to purchase and develop the lots.

Permit Parking

As indicated, multiple residential streets adjacent to the Avenel Station are presently inundated with commuters who have no other parking options to access the station. As ridership grows at the station, so will parking demand resulting in increased conflicts between commuters and residents competing for a limited amount of on-street parking. Accordingly, Woodbridge should consider implementing permit or time limit parking on streets in the study area that are presently unrestricted. Should Woodbridge wish to allow a regulated amount of commuters to park on-street in close proximity to the station, it can issue permits to a predetermined amount of commuters to ensure that that amount on-street parking in the adjacent residential areas can successfully accommodate both residents and commuters. Should Woodbridge pursue a commuter permit program in these areas, it should consider charging a fee for commuter permits to offset the cost of program administration and enforcement.

Appendix

July 18, 2017

Caroline Ehrlich
Chief of Staff, Woodbridge Township
Executive Director
Woodbridge Township Redevelopment Agency
1 Main Street
Woodbridge, NJ 07095

**RE: Township of Woodbridge, Parking Consulting Services -
Avenel Station Area**

Dear Ms. Ehrlich,

Thank you for the opportunity to submit our proposal to provide Parking Consulting Services to undertake a Parking Adequacy Study related to commuter parking in the Avenel Station Area. Timothy Haahs and Associates, Inc. (TimHaahs) has the expertise to assist Woodbridge Township (Woodbridge) to review and identify the commuter parking demand in the Avenel Station area. Outlined below please find our understanding of the project, a detailed scope of services, and the associated professional fee.

PROJECT UNDERSTANDING

The *Avenel Arts Village Redevelopment Plan* is underway and it provides development that takes advantage of its proximity to the adjacent Avenel Train Station (“Station”). The Redevelopment Plan provides for development of up to 500 housing units, a 10,000 square foot arts center and an additional 25,000 square feet of retail/arts village support space. The project recognizes the importance of the Station as a focal point and catalyst for redevelopment and encourages retail/arts opportunities in close proximity to the Station, thereby leveraging this location by encouraging high density development and critical mass adjacent to the station and encouraging transit ridership. This increase in ridership may lead to augmented train service at the station by NJ Transit and the need for additional commuter parking to support expanded transit ridership.



Woodbridge seeks to understand the parking impacts of the potential increased ridership on streets and areas adjacent to or in proximity to the Station so that it can identify strategies and opportunities to address the need for additional commuter parking. TimHaahs will provide an assessment of the existing commuter parking inventory, its current demand and utilization, and the future parking needs based on a projected expanded level of service.

As a result of this analysis, we will determine whether new parking is needed to support the prospective increase in commuters utilizing the Avenel Station.

Outlined below is our detailed scope of services:

SCOPE OF SERVICES

Parking Adequacy Study - Avenel Station Area

1. Meet with Woodbridge officials to confirm study objectives, boundaries, procedures, and concerns about parking in the study area. TimHaahs will submit a list of information / document request in advance of the meeting.
2. Obtain and review any existing reports or studies pertinent to the parking study.
3. Identify the areas, both on-street and off street, within the study area that are being utilized by commuters to access the station and document the number of spaces utilized. Analyze and inventory the current commuter parking supply including type, and location, of existing parking within the study area. *Please note that this proposal assumes that General Dynamics redevelopment site and its associated parking facilities are NOT included in the study area.*
4. Perform occupancy counts for all spaces within the study area on a typical busy commuter day to identify transit commuters. Parking occupancy counts will be performed for available on-street spaces and off-street parking lots. This will determine the pattern of parking utilization throughout the day and identify/document any unusual patterns. We will work with the Township to select data collection days and times which are appropriate to provide meaningful information as the parking demand may fluctuate.
5. Meet within NJ Transit officials to obtain a forecast of the amount of additional ridership anticipated should NJ Transit increase service at the Avenel Station.
6. Based on the forecasted additional ridership associated with augmented transit service at the Avenel Station, project future parking needs.
7. Working with the Township officials and the Township Planner, identify potential locations for parking expansion.
8. Provide a commuter parking comparison matrix of other NJ Transit Stations with similar levels of service.
9. TimHaahs will prepare a DRAFT memorandum summarizing our findings for the Township's review and comment. Upon receipt of comments, TimHaahs will prepare and submit the final report.