Downtown Cranford
Comprehensive Parking Study

Final Report

May 2024

ENOVATE™

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Executive Summary

Background

In 1985, the Township of Cranford became the first community in New Jersey to create a Special Improvement District (SID), also referred to as "Downtown Cranford". The density of businesses, restaurants, and retail in the Downtown area promotes a bustling environment that attracts many residents and visitors.

Parking has been a concern for the Downtown District Management Corporation (DMC) Board, which aims to foster an active, self-sustaining and compact downtown community of residents and businesses. and residents. Part of fulfilling the DMC's goals is effectively managing parking supply and responding to the current and future parking needs of the town.

Study Goals

Parking is a key component in economic development. Cranford may preserve and improve its businesses, retail activity, restaurant diversity, and residential property values by managing parking demand and supply smartly. This Comprehensive Downtown Parking Study was charged with:

- Understanding existing on- and off-street parking conditions
- Evaluating parking supply and demand based on expected land use changes/development
- Best managing existing parking supply and availability
- Considering strategies to improve and mange parking conditions and operations for all users of the downtown

Study Process

From May 2023 to July 2023, a collaborative and inclusive planning process worked to better understand existing parking conditions and develop forward-thinking parking recommendations for downtown. The study included:

- Over 40 hours on foot in the Downtown area, including parking counts
- Field observations of parking
- Meetings with DMC Board representatives, local business owners, and town officials
- Incorporation and review of town planning and related documents

Key Findings

Utilizing a data-driven and collaborative process, several key discoveries were found:

- The Township of Cranford provides approximately 1,353 parking spaces in the downtown area, but parking utilization is not evenly distributed throughout the downtown area.
- The overall peak parking observed was during the weekday midday at noon, where overall parking utilization was only 62%

Strategies and Recommendations

Possible solutions were developed for a range of identified problems from navigating the downtown area, to parking signage, to best management practices. These ideas have been refined and documented in this report.

The main strategies and recommendations are grouped into the following categories:

- Adding parking availability in key areas
- Adding information and clarity to parking wayfinding, signing, and regulations
- Improving communication between the Town, employers, residents, and business owners
- Leveraging technology
- Municipal improvements

The recommendations are summarized in **Section V: Parking Recommendations.**

I. Introduction

The Town of Cranford is a historic community located in Union County, New Jersey less than an hour from New York City. Cranford boasts a pedestrian-friendly downtown with brick-lined sidewalks, tree canopies, historic architecture, streetlamps, and access to the regional East Coast Greenway. An important factor in maintaining the lively character of the downtown area is ensuring a safe and well operated flow of traffic and parking throughout the downtown area.

Parking has been a concern for the Downtown District Management Corporation (DMC) Board, which aims to foster an active, self-sustaining, and compact downtown community of residents and businesses. and residents. To address parking challenges, it is essential to understand the relationship between existing and expected land uses and parking supply and demand. This Downtown Cranford Comprehensive Parking Study paints a comprehensive picture of parking activity and challenges in downtown, while also considering the need to accommodate future downtown growth in a sustainable and fiscally responsible manner. The goal of this study is to develop parking management recommendations that enable a vibrant and thriving downtown for visitors, tourists, and residents, while maintaining access for merchants, their employees, residents, and their visitors. A smart parking management program considers all user needs, while maximizing available resources, before investing in new ones. This can only be addressed through a comprehensive parking program.

Study Purpose

This study establishes a broad, yet detailed benchmark of current parking conditions in downtown Cranford and identifies strategies to support an improved parking experience for all residents and visitors to the downtown. Recommendations have been developed based on qualitative observations and quantitative data collected during the study period, with a focus on realistic and workable solutions to parking challenges.

The downtown parking study is intended to address the following specific goals:

- Understand existing on- and off-street parking conditions
- Evaluate parking supply and demand based on expected land use changes/development
- Best manage existing parking supply and availability
- Consider strategies to improve and mange parking conditions and operations for all users of the downtown

Study Area

The study area utilized for this parking analysis consists of the Downtown Cranford area, as defined by the Township and shown in **Figure 1.** It encompasses an area with an approximate 5-minute walk radius. Only public parking spaces were considered for the purpose of this analysis, although it is understood that visitors to the downtown sometimes utilize private parking affiliated with the business they are patronizing.

The study area has significant on- and off-street parking assets, with 9 public and several private off-street parking lots downtown. On-street parking is also available throughout the study area. The majority of the on-street parking spaces are generally regulated as either 1.5-hour metered parking, 2-hour free parking, or permit parking.

Overall, the downtown Cranford study area includes approximately 1,353 total parking spaces, with 847 off-street and 506 on-street parking spaces.

Figure 1: Project Study Area

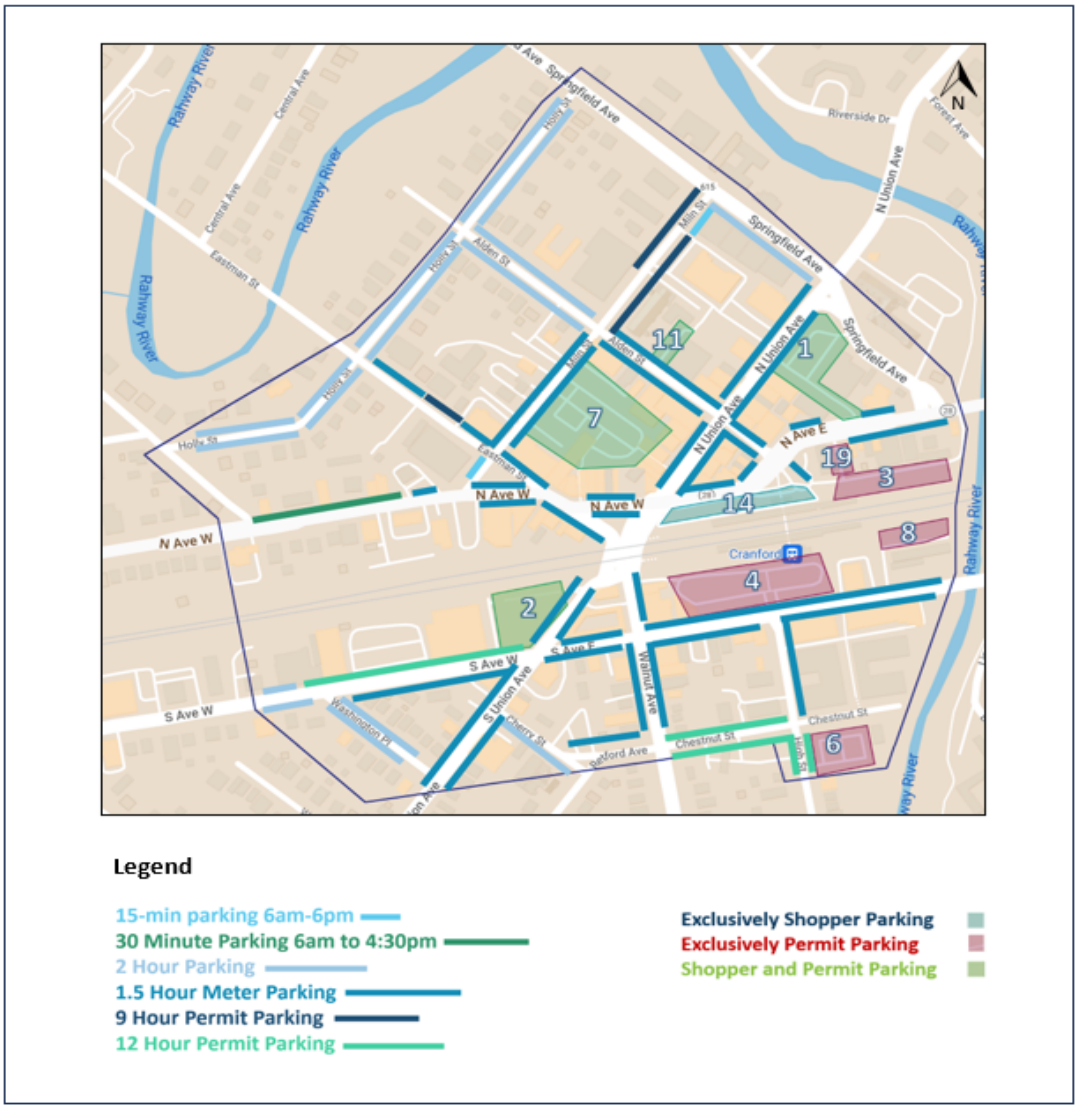
II. Parking Inventory

The existing parking inventory in the Downtown core of Cranford was inventoried and counted as part of this study. Overall, parking in downtown Cranford consists of a mix of parking uses. Visitors to the downtown can park in metered hourly parking spaces both on- and off-street. Residents, commuters, and employees can pay for permitted parking spaces and utilize any on- or off-street parking stalls with the matching regulation. For the purposes of this report, these types of parking regulations will be broadly lumped in to either "Shopper" parking or "Permit" parking. Generally, overnight parking is not permitted except for in 12-hour permitted spots. Drivers utilizing shopper parking spaces may park for free before 9:00am and after 6:00pm Monday through Saturday, on Sundays, and holidays.

Parking Regulations

Regulations for all parking spaces within the study area were catalogued. **Figure 2** summarizes parking regulations within the study area, including all public parking assets and on-street spaces within the defined study area.

Figure 2: Downtown Cranford Parking Regulations



On-Street Parking

All on-street parking in downtown Cranford is available for public use utilizing parking meters/pay stations or yearly permits. The majority of on-street parking spaces are designated for 1.5-hour metered parking, as shown in **Table 1** below.

Table 1: **On-Street Parking Regulations**

Regulation	Total	%
Unrestricted	11	2%
15-minute free parking	5	1%
30-minute free parking	9	2%
1.5-hour metered parking	270	53%
2-hour free parking	137	27%
9-hour permit parking	25	5%
12-hour permit parking	49	10%
Total	**506**	

Off-Street Parking

The off-street parking spaces inventoried and analyzed in this study include parking that is available for public use. Almost half of all public off-street parking lots are allotted to 12-hour permit parkers. All public lots are time restricted according to the following regulations, as shown in below **Table 2**.

Table 2: **Off-Street Parking Regulations**

Regulation	Total	%
3-hour metered parking	190	23%
4-hour metered parking	34	4%
9-hour metered parking	53	6%
12-hour metered parking	75	9%
9-hour permit parking	123	15%
12-hour permit parking	354	43%
Total*	**823**	

**An additional 24 ADA regulated spots are incorporated into the above lots, for a total of 847 off-street parking spaces.*

Overnight parking permits are also available for residents in Lots 1, 2, and 7 between 6pm and 9am. It is noted that off-street parking counts included all handicapped spaces in the off-street lots. Additionally, spaces in the parking garage reserved for residents of the Cranford Crossing Apartment Homes were not included in this study.

Please refer to **Table 3** and **Table 4** for the complete on-street and off-street parking inventory, respectively.

Table 3: On-Street Parking Inventory

Street	Curb	Regulation	Supply
South Ave W	North Curb	1.5 Hour Parking	32
		2 Hour Parking	6
		12 Hour Permit Parking	26
	South Curb	Unrestricted	11
		1.5 Hour Parking	26
Washington Place	East Curb	2 Hour Parking	13
	West Curb	2 Hour Parking	13
Cherry Street	South Curb	2 Hour Parking	8
South Union Ave	East Curb	1.5 Hour Parking	7
	West Curb	1.5 Hour Parking	13
Walnut Ave	East Curb	1.5 Hour Parking	15
	West Curb	1.5 Hour Parking	7
Chestnut Street	North Curb	12 Hour Permit Parking	9
	South Curb	12 Hour Permit Parking	9
High Street	East Curb	1.5 Hour Parking	7
		12 Hour Permit Parking	4
	West Curb	12 Hour Permit Parking	1
North Union Ave	East Curb	1.5 Hour Parking	10
	West Curb	1.5 Hour Parking	18
Springfield Ave	South Curb	2 Hour Parking	14
Miln Street	East Curb	15-min Parking	3
		1.5 Hour Parking	11
		9 Hour Permit Parking	11
	West Curb	1.5 Hour Parking	9
		9 Hour Permit Parking	9
	Post Office	15-min Parking	2
Alden St	North Curb	1.5 Hour Parking	15
		2 Hour Parking	11
	South Curb	1.5 Hour Parking	16
		2 Hour Parking	16
North Ave Post Office Plaza		1.5 Hour Parking	10
Eastman St	North Curb	1.5 Hour Parking	11
		9 Hour Permit Parking	5
	South Curb	1.5 Hour Parking	10
Eastman Plaza		1.5 Hour Parking	10
Warner Plaza		1.5 Hour Parking	10
North Ave W	North Curb	30-min parking	9
		1.5 Hour Parking	20
	South Curb	1.5 Hour Parking	10
Holly Street	East Curb	2 Hour Parking	29
	West Curb	2 Hour Parking	27
Retford Avenue	North Curb	1.5 Hour Parking	3
		Total	506

Table 4: Off-Street Parking Inventory

Number	Description	Meter				Permit			Total Number of Spaces
		3-Hour	4-Hour	9-Hour	12-Hour	9-Hour	12-Hour	ADA	
1	Union Ave Lot	56				25		3	84
2	Parking Garage		34	53	15	4	123	9	238
3	Train Station Plaza Ext					42			42
4	Train Station Lot South Ave						162	2	164
6	Chestnut Street Lot				60		17	1	78
7	Miln Street Lot	89				46		3	138
8	PSEG South Ave Lot						31	2	33
11	Alden Street Lot	20				6		1	27
14	North Ave Warner Plaza	19						2	21
19	North Ave Lot						21	1	22
								Total	**847**

III. Parking Utilization Trends

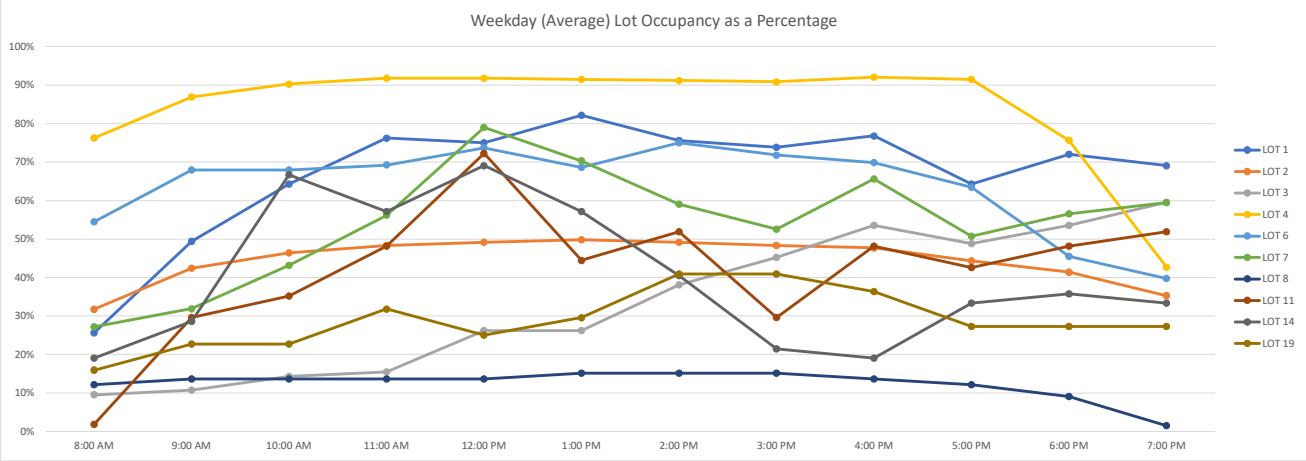
A full analysis of parking utilization trends is provided within **Appendix A: Count Utilization Memo**. Highlights from peak hours are provided in the key findings and figures below.

Weekday Key Findings

The peak hour for weekday parking conditions is from 12pm-1pm, where off-street parking has a peak of 65% utilization, and on-street parking peaks at 57% utilization. Overall utilization during this peak is 62%.

Parking in the morning period peaks around 10am, and at 4pm in the evening peak. On- and off-street parking generally peak around the same times. See **Figure 3** below for lot occupancy throughout the day.

Figure 3: Average Weekday Off-Street Parking Utilization

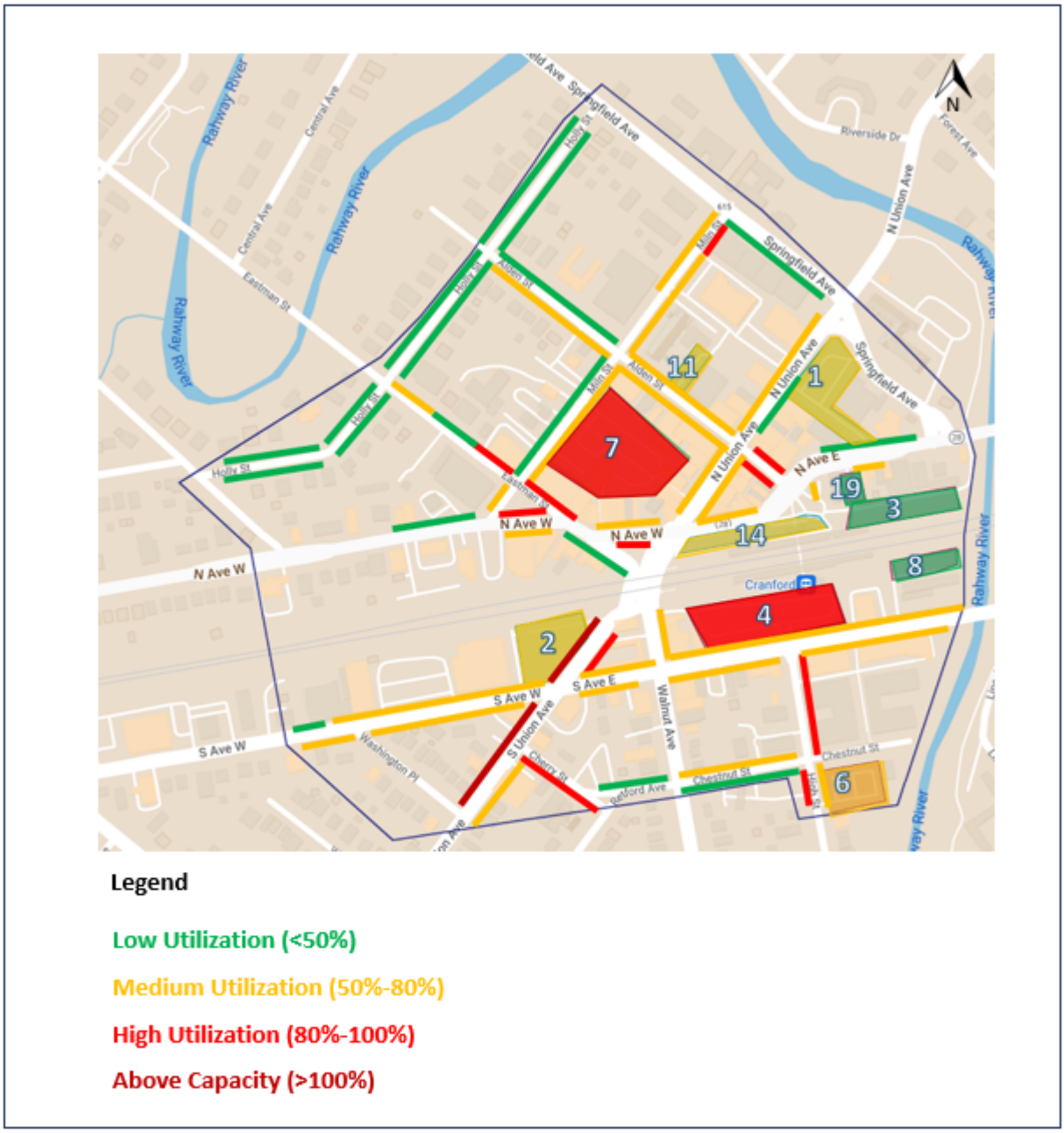


Key Takeaways

Please reference **Figure 4** below for a snapshot of peak parking conditions during the weekday.

- Lot 4, the main NJ Transit permit-parking lot, experiences high utilization throughout the day
- Lot 7, which provides parking to shoppers and permit-parkers, peaks at noon
- Lot 1, which also provides parking to shopper and permit-parkers, is heavily utilized from 11am to 5pm
- Apart from Lot 4, 12-hour permit parking lots experience low utilization throughout the day
- On-street parking is medium-to-highly utilized at almost all 1.5 hour street parking spaces.
- Lot 8 experiences low utilization throughout the day

Figure 4: Weekday Peak Hour Parking (Noon)

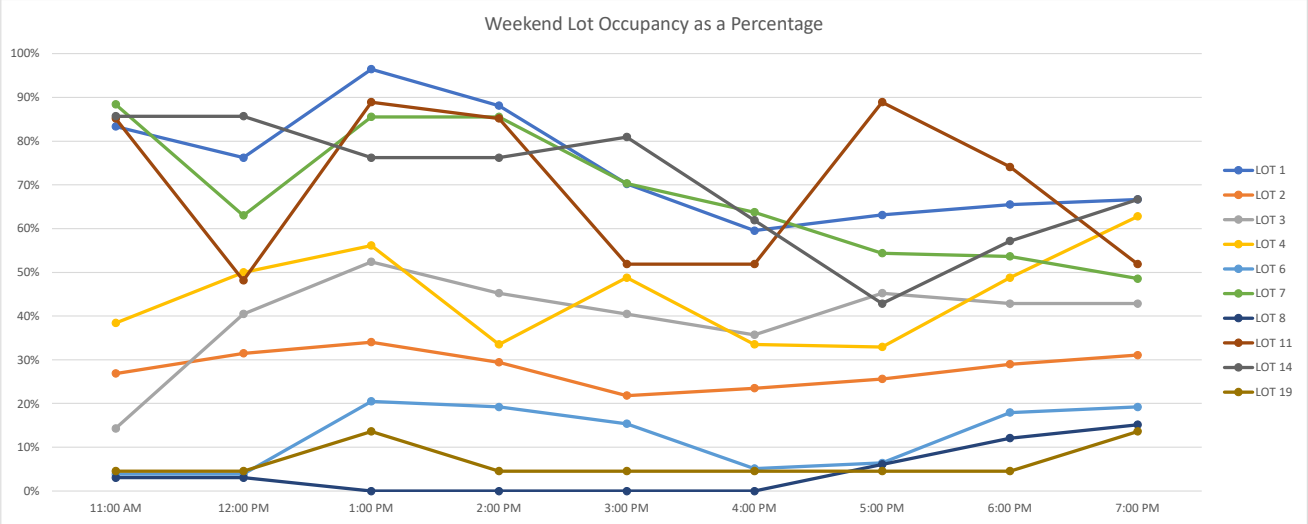


Weekend Key Findings

The peak hour for weekend parking conditions is from 1pm-2pm, where off-street parking has a peak of 53% utilization, and on-street parking peaks at 69% utilization. Overall utilization during this peak is 59%.

After the midday peak, parking begins to peak again after 5pm. On- and off-street parking follow similar utilization patterns. See **Figure 5** below for lot occupancy throughout the day.

Figure 5: Weekend Off-Street Parking Utilization

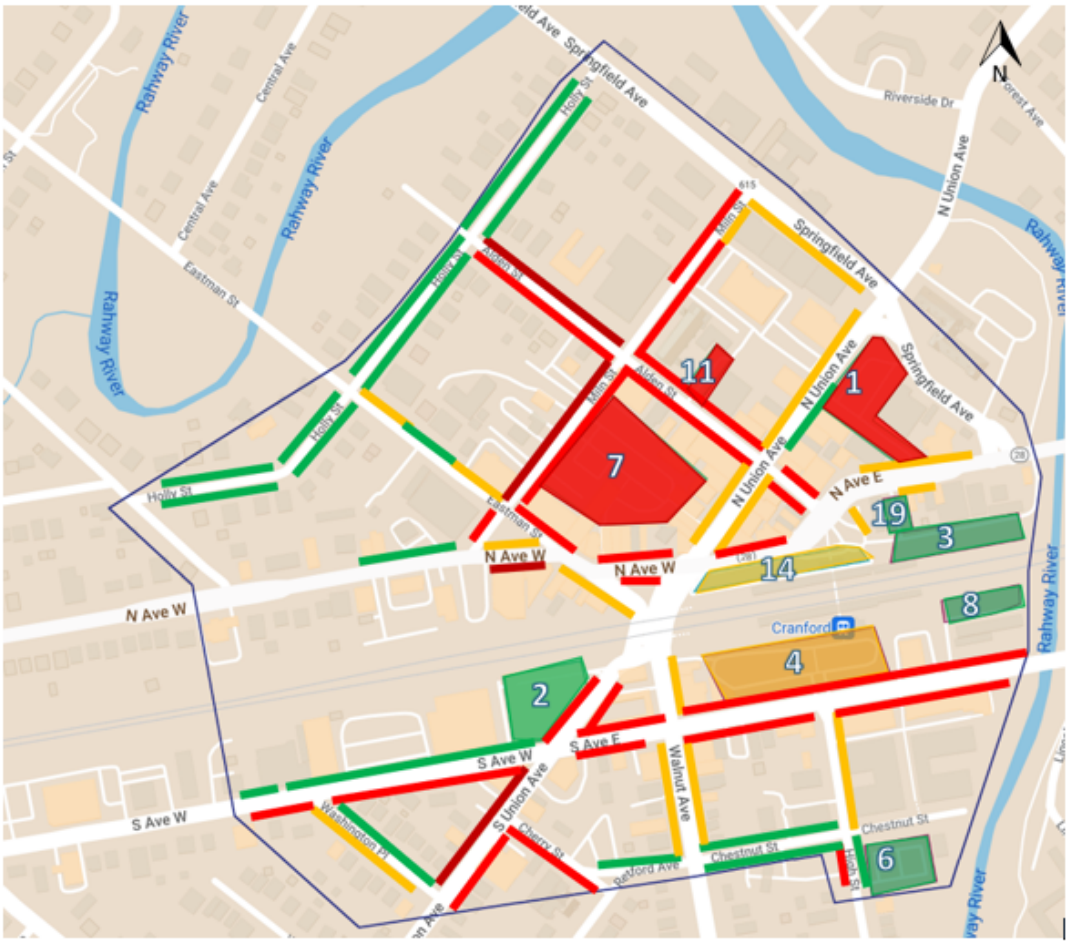


Key Takeaways

Please reference **Figure 6** below for a snapshot of peak parking conditions during the weekend.

- Lots 1, 7 and 11, which provide a large number of shopper parking spaces, are highly utilized during the peak hour
- Most permit parking spaces operate at low utilization during the entirety of the weekend study periods
- On-street parking is in higher demand on the weekends than during the weekday, especially at 1.5 hour street parking spaces.
- Lots 6, 8, and 19 have low utilization throughout the day

Figure 6: Weekend Peak Hour Parking (1pm)



Legend

Low Utilization (<50%)

Medium Utilization (50%-80%)

High Utilization (80%-100%)

Above Capacity (>100%)

IV. Land Use and Future Development

Future parking demand has been projected using typical background growth rates and by analyzing specific redevelopment plans in the vicinity of downtown Cranford.

Background Growth

Cranford continues to improve its downtown area to attract new residents and visitors. As the town grows and develops, it is of paramount importance to understand the impact of new development on parking supply and ensure that the town is able to meet future parking demand.

To project future parking demand and ensure the availability of parking in the downtown area, a growth analysis has been conducted. Existing parking conditions have been projected from 2023 to 2026 and 2030 to account for the development in the Cranford area, including neighboring towns. A background growth rate of 1% was utilized in accordance with NJDOT standards for Union County to the worst peak hour identified in this study – the weekday afternoon. **Table 5** through **Table 7** summarize future on- and off-street parking demand in the study area.

Table 5: Existing Condition – Worst Peak Hour

Existing Demand			Supply			Surplus		
On-Street	Off-Street	Total	On-Street	Off-Street	Total	On-Street	Off-Street	Total
288	552	840	506	847	1353	218	295	513

Table 6: 2026 Future Condition – Worst Peak Hour

Future Demand I			Supply			Surplus		
On-Street	Off-Street	Total	On-Street	Off-Street	Total	On-Street	Off-Street	Total
297	569	866	506	847	1353	209	278	487

Table 7: 2030 Future Condition – Worst Peak Hour

Future Demand II			Supply			Surplus		
On-Street	Off-Street	Total	On-Street	Off-Street	Total	On-Street	Off-Street	Total
309	592	901	506	847	1353	197	255	452

As shown in the tables above, excess parking capacity is available both on- and off-street during the worst peak hour studied in the existing and projected conditions. It is noted that while some individual lots and on-street parking locations are near capacity in the existing condition, it is expected that those lots/locations will continue to be near capacity in the future. Implementing some of the recommendations as detailed in Section 5 below could lessen some of those parking constraints in the future.

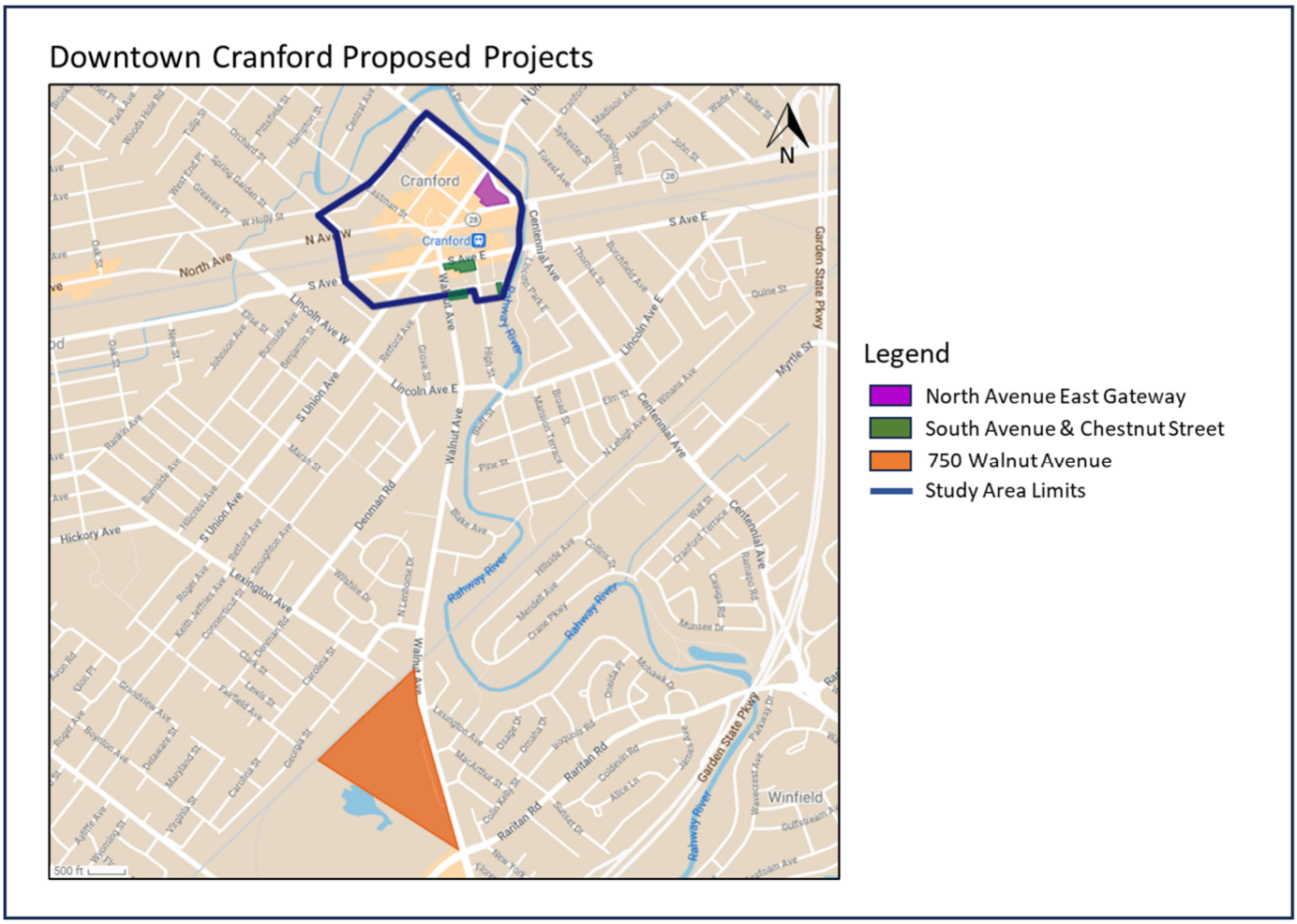
Redevelopment Projects

In addition to the natural background growth that the downtown area will experience, there are a number of development programs being pursued by the town. Currently, Cranford's website outlines three potential projects within or near the downtown area. These three projects, as listed below and shown in **Figure 7**, have been identified by the town due to their potential impacts on existing parking supply.

1. 750 Walnut Avenue – located in Cranford on Walnut Avenue between Chester Lang Place and Raritan Road. The *Traffic Impact Study* by Stonefield Engineering and Design dated February 2, 2022 has been reviewed to determine the impacts of this development on parking in the downtown. The proposed project is a mixed-use development program consisting of 250 residential dwellings and two flex buildings. While sufficient parking has been provided for this development on-site, this project is not located directly in the downtown area. It is anticipated that a portion of residents may drive in to the downtown area to patronize restaurants, shops, offices, and the NJ Transit station. This added parking demand is assumed to be accounted for in the background growth rate projections.
2. North Avenue East Gateway – located in the northeast portion of the downtown area, west of Springfield Avenue between North Union Avenue and North Avenue East. This project would redevelop the area where Lot 1 is presently located, thus potentially removing 81 total parking spaces from the public inventory. It is noted in the development plan that the developer is required to maintain or increase existing parking. No existing on-street parking spaces will count towards meeting minimum parking requirements laid out in this plan. However, newly created on-street parking spaces shall count towards meeting the minimum parking requirements laid out in this plan. Providing the required parking off-site through existing parking resources or new parking spaces within 300 feet of the proposed structure may be proposed as an alternative to provision of required parking on-site.
3. South Avenue and Chestnut Street – located in Cranford's downtown area on South Avenue East and Chestnut Street, between Walnut Avenue and High Street. The following traffic studies affiliated with this development were reviewed for their impacts to parking:
    a. *Traffic Impact Study* by Dynamic Traffic dated November 8, 2022 – a mixed-use development at 2 Chestnut Street with 55 apartments and 5,700 SF of retail space. Parking requirements for both residential and retail uses in this study are exceeded by 18 spaces for this study, as 95 off-street parking spaces will be provided directly on-site.
    b. *Traffic Impact and Parking Assessment* by Dynamic Traffic dated March 21, 2022 – a residential development containing 39 units along 201 Walnut Avenue. Sufficient parking is proposed as a part of this project, as 62 parking spaces have been proposed.

Per the present development associated with the above plans, it is not anticipated that significant parking demand will be added to public on- and off-street parking locations analyzed as part of this study. As noted above, an estimated surplus of over 450 parking spaces is anticipated in the 2030 growth scenario. If capacity constraints are experienced at particular lots and on-street locations, the implementation of parking recommendations provided in this report may help to manage any parking challenges.

Figure 7: Map of Proposed Developments



V. Parking Recommendations

This section outlines the proposed parking strategies and recommendations developed based on findings in the previous sections. It is noted that these recommendations are best utilized in aggregate to yield optimal results.

These recommendations are intended to accomplish the following goals:

- Promote a thriving Downtown area
- Optimize the existing supply of parking
- Provide equitable solutions to parking challenges highlighted through our qualitative and quantitative findings
- Leverage technology to improve parking conditions

The parking and parking-related strategies are designed to support overall economic development and community goals. These strategies are designed to help alleviate the identified problems, inefficiencies, and negative perceptions as heard by the community and seen through the data. These comprehensive parking recommendations are intended to provide solutions beyond just parking – they set the stage to have a strong transportation backbone to support a growing downtown. The parking recommendations detailed below are derived from the qualitative observations and quantitative data collected as part of this study.

A. Adding Availability in Key Areas

Per the results of our parking study, additional parking capacity exists in the Downtown area. Modifying existing parking regulations to meet the needs of parkers on weekdays and weekends can help lessen strain on parking lots and streets in the Downtown core areas. The following strategies are recommended to optimize existing parking supply –

1. **Create a new special permit for employees of the Downtown area by converting the existing 2-hour free on-street parking along Holly Street to permit parking and at underutilized lots during the weekdays (e.g. consider Lots 2, 3, 8, and 19).**

   Permit parking options currently available to employees of Downtown Cranford provide access to park for 9- or 12-hours Monday through Saturday for $510 or $610 annually, respectively. There are several types of workers in downtown who do not have the need for such parking regulations, as they work part-time or under a hybrid model. Therefore, these workers are forced to utilize parking spaces in the downtown core area that could better serve potential customers to the shops and restaurants downtown. By incentivizing employees to park on the outskirts of the Downtown area, such as on Holly Street, additional spots closer to business frontages will open to those making shorter-term visits to Cranford. Additionally, several permit-only parking lots experience low utilization throughout the weekday such as Lots 3, 8, and 19 at a peak utilization rate of 26%, 14%, and 25%, respectively. The top two levels of the parking garage (Lot 2), which are reserved for 12 Hour Permit Parkers, are consistently empty. As such, these lots have capacity for additional types of parkers.

   Therefore, a Special Permit is recommended for Downtown employees as mentioned above. Proof of Downtown employment must be provided with the permit application. The permit should be provided at a nominal cost (i.e. $50 bi-annually) to allow some flexibility for those working part-time, hybrid throughout the week, and seasonally. The lower cost for this permit is to encourage people to park farther away from the downtown area. It is recommended that Holly Street be used to pilot this effort, and additional "flexible" permit parking may be allocated to the 2-hour free parking along Alden Street and South Avenue West as the need grows. For the off-street parking, it is recommended to completely convert Lot 8, as it hovers around 10% utilization during the weekday, and the top two levels of Lot 2 to accommodate this special permit. This conversion could return a number of on- and off-street shopper parking spaces, which are currently being utilized by Downtown employees, during the weekday peak. If

necessary, additional capacity can be added for the Special Permit, or displaced permit parkers, by reallocating a portion of the permit parking spaces in Lots 3 or 19. Refer to "**Appendix C: Proposed Parking Inventory**" for specific details of the proposed re-allocation of spaces for on- and off-street parking.

2. **Modify weekend regulations at Lot 6 and Lot 8 (12-hour permit parking lots) to allow for overflow shopper parking.**

   Parking permits, which are predominantly utilized by those visiting the Downtown area Monday-Friday, are generally required to park in permit spaces on Saturday. Therefore, permit parking is underutilized on the weekend, while shopper parking is in high demand. Creating weekend-specific parking regulations at permit parking spaces to allow for shopper parking can alleviate some of the demand on the shopper parking lots and metered on-street parking. Refer to "**Appendix C: Proposed Parking Inventory**" for specific details of the proposed re-allocation of spaces.

3. **Convert existing 1.5 hour metered on-street parking spaces to designated pick-up spaces for customers – one space along North Avenue West, one space along South Union Avenue, one space along South Avenue West, one space along North Union Avenue, and two spaces along Eastman Plaza.**

   Visitors to the downtown area may make short trips (15 minutes or less) to downtown shops and restaurants (e.g. take-away food, item pick-up at retail destinations). The addition of 15-minute free parking will allow for more turnover of the parking space and a better chance of a space being available in a high-demand area. Creating short-term pick-up spaces for visitors or delivery drivers can improve customer experience while performing these pick-ups, as well as limit the potential for double-parking or illegal parking. To implement these new regulations at the above designated spots, new signing is recommended to denote 15-minute parking. It is recommended that these "Express" pick-up spaces be expanded or modified on an as-needed basis. Refer to "**Appendix C: Proposed Parking Inventory**" for specific details of the proposed re-allocation of spaces.

   Figure 8 displays the parking demand along the south curb of North Ave W, which had additional parking spaces added during the duration of our study.

Figure 8: Parking Demand along the south curb of North Ave W – between Subology and movie theater

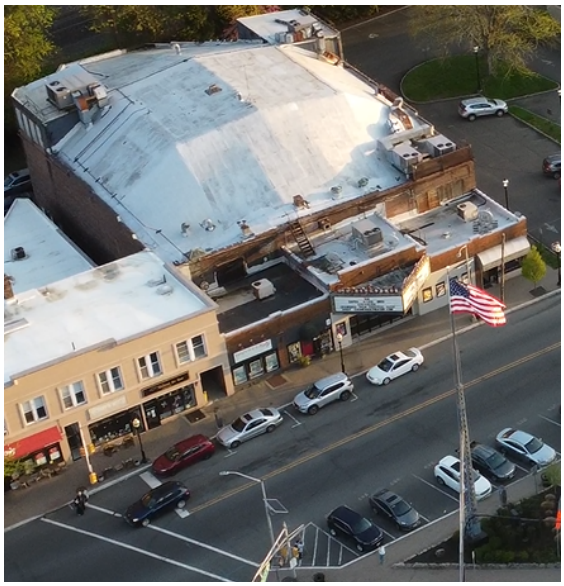


Image captured on April 19, 2023 prior to formal addition of on-street parking spaces

Image captured on June 3, 2023 following addition two on-street parking spaces

These changes will also improve the operations associated with delivery driver pick-ups.

B. Wayfinding

Signage and wayfinding are critical elements in creating a consistent visual identity that provides parking patrons with easy-to-identify visual cues about where public parking is available upon arrival in downtown. The development and application of a consistent signage and wayfinding policy should be prioritized to ensure the town's overall brand identity matches any newly designed wayfinding signage. The following suggestions relating to wayfinding have been developed:

1. **Create a signage and wayfinding plan to better serve residents and visitors.**

   Wayfinding is particularly important when implementing paid parking to clearly identify the range of options for parking (paid on-street parking, nearby time-limited parking, permit parking, and free parking options). Some wayfinding exists in Cranford, particularly to find police stations, the parking garage (Lot 2), and public library. Upon our review, we've noted that the wayfinding for drivers can be confusing between "Parking" and "Police" signing. While "Police" signs typically use blue text and "Parking" signs typically use green text, the signs look similar to a quick passerby, as shown in **Figure 9** below.

Figure 9: Existing Wayfinding Examples

Wayfinding along eastbound Springfield Street directing drivers to police station

Wayfinding along eastbound South Ave West directing drivers to parking garage

Additionally, there is some wayfinding signing that is inconsistent with either pattern, as displayed in the below **Figure 10**. Most drivers will probably be confused as to whether or not this particular sign is advising them to turn left to approach a police station or parking lot.

Figure 10: Unclear Wayfinding Signing

Wayfinding along eastbound Eastman Street adjacent to Post Office

It is recommended to add parking lot wayfinding signs along corridors through downtown and where parking utilization is high, such as along North and South Avenue and along Walnut and North Union Avenues.

2. **Perform inventory study of parking signing to upgrade and/or refresh signing where possible to improve parker compliance with regulations.**

Signing needs to be direct and easy-to-read for drivers to properly utilize and engage with parking regulations. While a full inventory of signing in Downtown Cranford is recommended, a select example is highlighted in **Figure 11** below.

3. Create clearer distinction between permitted and metered parking in mixed parking lots through striping and signing improvements.

In lots where there is a mix of permit and shopper parking, drivers would benefit from improved guidance as to which areas of the lot they may park. For example, currently, the best way to assume that, as a permit parker, you are parking in a permit space rather than a shopper parking space, is to either search for the closest regulating sign or to confirm your space does not have a number affiliated with it (i.e. numbers are used for metered parking). **Figure 12** on the next page shows a relatively clear example of stalls that permit parkers may use in Cranford.

Figure 11: Signing to be updated

Parking regulation on the south curb of Alden Street; sign is faded making the text difficult to read, especially for passersby.

Figure 12: Permit & Shopper Parking Space Example

Permit parkers know to utilize these spaces in Lot 7 due to "9 Hour" permit parker signing and stalls with no number associated

Shoppers to the Downtown areas would know to utilize these spaces due to the numbered spaces. However, signing is not quite as obvious.

There are cases in these mixed parking lots where the parking delineation is not quite as clear, as shown in **Figure 13**.

To improve clarity of parking spaces, we recommend creating a larger distinction between permitted and shopper parking. For instance, utilizing different colored striping can help to catch a driver's eye and help them park in the appropriate space more quickly. An example of this tactic is shown in **Figure 14** below.

Figure 13: Mixed parking space regulation

These parking spaces in Lot 7 are meant for permit parkers, but have faded numbering and require more clear signing nearby

Figure 14: Mixed Permit and Shopper Parking Lot

Example of lot that utilizes multicolored striping well in Westfield, NJ

C. Improving Communication and Coordination

Improving overall communication efforts regarding parking regulations can have a great impact on the overall utilization of parking in Cranford. The following suggestions may be considered as the Town looks to improve parking operations and customer experience:

1. **Revise the website to incorporate the following improvements:**

    a. A contact form for feedback purposes. Residents and business owners will be able to submit their suggestions and observations through an organized and parking-focused channel.

    b. An audit of the online permitting process was conducted, where it was noted that waitlist search function was not working properly; the drop-down menu providing information regarding permitted lots would not populate. This makes it difficult for an applicant to know which permits have waitlists, adding difficult to the permit application process. Potential permit owners may be deterred from pursuing permits if the process is not as smooth as possible.

    c. In addition to listing the parking regulations at on-street parking locations and lots, provide information regarding specifically "Where to Park" for residents and visitors. This may include suggesting relevant permits and lots for those who commute via NJ Transit train or bus, or suggesting 9-hour metered parking in Lot 2 for those looking to spend only the occasional day in NYC, for example.

    d. Add a section to the parking website providing recent announcements regarding information that will impact parking in the downtown area such as events, permit availability, construction, relevant news, and any temporary or permanent changes to regulations.

2. **Utilize QR codes on fliers throughout the downtown area.**

    For those not actively looking at Cranford's webpage and social media, receiving information through fliers in local shops and along the street can be a helpful way to stay up to date on changes to parking. They could also be helpful to remind people about free parking on weekend/after hours or to provide permit availability for people like workers that otherwise feed the meters all day. These QR codes would direct users to the educational resources mentioned above to improve their future parking experiences.

    It is also suggested to provide QR codes on fliers for Downtown events. These can encourage residents to walk and bike to events, therefore alleviating some of the demand on parking.

3. **Utilizing an email list with businesses and owners in the downtown area to:**

    a. **Send targeted information to landlords/tenants to inform them of availability of permits on a quarterly basis**. It seems some landlords have the perception that permits are not available or that there are not many options for downtown residents, but they do exist (e.g. 24 hour permits). If in the future these permits are fully utilized, consider adding more permits and/or adding more availability of these spaces as there is capacity.

    b. **Facilitate connections between businesses, owners, and residents** so that they may explore parking arrangements as needed for their own use. This connection can start the conversation about who has a surplus of private parking, and who has the need for it. Leveraging these connections will help alleviate some of the constraints on parking downtown, including employees who may utilizing short-term parking spaces in prime shopper parking spots.

4. **Rebrand lots with naming conventions that are more intuitive to the lot location and/or purpose.**

    This will help to further improve parking lot recognition. See the Lot 7 entry sign in **Figure 15** below. If a new visitor to the town was advised by the town's website or a friend to park in "Lot 7", it might be difficult to find the correct lot based on that information alone. By rebranding the lot to something like "Miln Street Lot (#7)", the visitor would be able to better navigate their way to the intended lot. Additionally, convert the 4-hour metered parking in the parking garage (Lot 2) to 3-hour metered parking to be consistent with other shopper parking regulations.

Figure 15: Lot 7 Entry Sign

5. **Provide first 10-mins of parking free in all off-street lots and communicate through signing.**

   Free parking is provided at all metered on-street parking spaces and in the Parking Garage (Lot #2), but this information is not communicated directly or clearly through signing. As such, people visiting the downtown area may double park or park illegally to complete a short errand. It is recommended to provide free parking duration at all lots and to communicate this regulation through signing. Although this may reduce parking revenue slightly, we think it would be offset by an enhanced customer experience and potentially increased economic gains to downtown businesses. We recommend inquiring if it is possible to offer the first 10 minutes of parking free in the mPay2Park app.

D. Leveraging Technology

Smart Parking Systems are constantly being developed and adapted into the parking management of downtown areas – from smart meters, wireless sensors, web-based parking availability data, GPS/GIS geo-fencing technologies, and online parking reservation systems. While Cranford already utilizes a mix of smart meters and web-based parking data from the mPay2Park app, there is room to make the following upgrades:

1. **Upgrade all parking meters to smart meters.**

   Per our discussions with town officials, parking kiosks in the downtown can be difficult to use and operate slowly. Therefore we recommend upgrading existing parking kiosks to newer models for better operations. To begin the process, bring in various vendors to showcase capabilities of proposed kiosks.

If parking operations worsen from the existing conditions studied, we recommend exploring some of the additional technological advancements listed above (such as wireless sensors and geo-fencing technology) to provide improved operations. Specifically, utilizing smart meters to –

2. **Extend all on-street meter payment times past 6pm and until 8pm.**

   By extending payment for on-street parking space until 8pm, longer-term parkers may utilize the lots (where parking is free) and additional on-street parking may become available.

3. **Raise the price of parking in designated areas.**

   This will create necessary availability and alleviate parking constraints at prime on- and off-street parking locations such as along North and South Avenue or at Eastman Plaza.

4. **Implement tiered parking pricing.**

Typically, parking meters charge users at a linear rate (e.g. $0.50 per hour). Tiered pricing works by making parking more expensive the longer it is utilized **(e.g. $0.25 for ½ hour, $1 for 1 hour, $2.50 for 2 hours)**. This helps to encourage short-term parking at spots where turnover is most beneficial, such as areas where customers are only stopping by for a short amount of time.

E. Municipal Improvements

Improvements to parking and the downtown area may be introduced through policy changes as well. It is recommended for the Town of Cranford to consider the following –

1. **Create a position (Parking Manager) within the Township dedicated to managing the operations and maintenance of parking, as well as a dedicated parking bank to fund improvements to parking infrastructure in the downtown.**

   Work associated with parking is split between various Township employees and cannot always be prioritized due to existing workloads. A dedicated parking manager would be able to see to the operations and improvements of parking as outlined in this report. This Parking Manager will oversee improvements to parking infrastructure, operations, and maintenance, which can be expensive and therefore difficult to execute. Therefore, we recommend instituting a dedicated parking district as well. The funds generated by the cost of shopper and permit parking can be re-invested into overall parking improvements.

2. **Revise parking ticket penalties in municipal code to increase fines for repeat offenders.**

   If parking conditions worsen and it is determined that additional mitigation measures should be explored, we recommend increasing the cost of parking fines for repeat offenders. This will promote legal parking, which increases supply, and ensures that residents and employees are utilizing their designated lots and on-street spaces.

3. **Provide additional capacity for electric vehicle (EV) charging at on- and off-street locations.**

   According to the International Energy Agency, electric vehicles (EVs) are anticipated to occupy up to 36% of the global vehicle market by 2030. This surge will coincide with an increase in EVs parking in the Cranford area. There are currently two charging stations on the second floor of Lot 2 (parking garage). We recommend pledging to incorporate more EV charging into existing public parking facilities. This will lessen the demand on the existing garage spaces and attract those with EVs to enjoy the downtown area while their vehicles charge.

4. **Increase cost of 12-hour permit parking for those who live out of town.**

   Many of those who purchase 12-hour parking permits do so to utilize NJ Transit for their commute. Lot 4 is for these commuters, and experiences high utilization rates throughout the weekday. It is noted that a portion of these commuter parkers do not live in Cranford, but purchase Cranford's 12-hour permit because it is less expensive than the rates for commuter parking in other nearby towns. If capacity at these lots becomes a problem, prioritizing parking for local residents is recommended by increasing the cost of 12-hour permit parking for those who do not live in town.

5. **Increase parking enforcement.**

   To ensure that parking regulations are being adhered to during parking peaks, it is recommended to increase enforcement. This will help to maximize parking availability and maintain appropriate parking revenue.

6. **Encourage non-vehicular modes of transport into the downtown area, such as bikes through streetscape improvements**

   Developing downtown Cranford's streetscape to invite more pedestrians and cyclists may alleviate parking demand. We recommend that the town investigate the following improvements associated with creating a more bike-friendly downtown:

a. Determine the feasibility of adding bike lanes along prime entry points into Cranford, such as Walnut Avenue and Springfield Avenue. Presently there is a signed bike route along Retford Avenue – this and similar bike routes could be improved by providing on-street markings for the bike lanes.

b. Provide additional bike parking. The existing bike parking at the NJ Transit Station is highly utilized. We recommend adding more bike parking such as bollards or u-racks to existing plazas (e.g. Eastman Plaza) or in place of on-street parking spots along Alden Street or South Union Avenue, or in Lot 1 and Lot 7.

Details regarding the implementation of the above parking recommendations are provided in "**Appendix B: Implementation Matrix**". A summary of proposed changes to parking has been provided as part of "**Appendix C: Proposed Parking Inventory"**.

VI.APPENDICES:

- **A. Count Utilization Memo**
- **B. Implementation Matrix**
- **C. Proposed Parking Inventory**

Appendix A: Count Utilization Memo

Downtown Cranford Parking Count Utilization Memorandum

August 1, 2023

Downtown Cranford
Caren Demyen
8 Springfield Avenue
Cranford, NJ 07016

Re: Parking Count Utilization Memorandum

This memorandum summarizes the data collection efforts conducted by Enovate Engineering from April 2023 to June 2023. This parking count data has been utilized for analysis in the Comprehensive Parking Study for the Town of Cranford.

Data Collection

On- and off-street parking count data was collected on two weekdays and two Saturdays to understand residential, employee, and commercial parking demand in Downtown Cranford for the purpose of the Comprehensive Parking Study. This data provides insight on the availability of resident parking, and employees and visitors of local businesses at different times of day.

Dates were selected to best represent typical parking patterns, avoiding time when schools were on vacation and there was inclement weather in the study area. To obtain a representative sample of parking demand, the dates and time periods listed in **Table 1** were selected for on-street and off-street parking counts.

Table 1: Data Collection Periods

Date	Times
Wednesday, April 19, 2023	8AM – 8 PM
Thursday, April 20, 2023	8AM – 8 PM
Saturday, May 13, 2023	11AM – 8PM
Saturday, June 3, 2023	11AM – 8PM

Occupancy for each parking space was recorded in increments of 1-hour throughout the observation periods. The parking data collected during these data collection periods is attached to this memorandum.

For the purposes of our study, data collected on the two weekdays was averaged to create a "typical" weekday scenario. The counts performed on Saturday, June 3 occurred during Cranford's Pride Event, where Eastman Street was closed between Miln Street and Union Avenue for activities affiliated with this event until approximately 5pm. As such, the two Saturday dates were not averaged together. Additional information about the data collected on the study dates is included in the **Parking Utilization Results** section below.

Parking Inventory

The existing parking inventory in the Downtown core of Cranford was inventoried and counted as part of this study. Please refer to **Table 2** and **Table 3** for the on-street and off-street parking inventory, respectively.

Overall, parking in downtown Cranford consists of a mix of parking uses. Visitors to the downtown can park in metered hourly parking spaces both on- and off-street. Residents, commuters, and employees can pay for permitted parking spaces and utilize any on- or off-street parking stalls with the matching regulation. Generally, overnight parking is not permitted except for in 12-hour permitted spots. Drivers utilizing shopper parking spaces may park for free before 9:00am and after 6:00pm, on Sundays, and holidays.

The team catalogued the regulations for all parking spaces within the study area.

On-Street Parking

All on-street parking in downtown Cranford is available for public use utilizing parking meters/pay stations or yearly permits. The majority of on-street parking spaces are designated for 1.5-hour metered parking, as shown in **Table 2** below.

Table 2: **On-Street Parking Regulations**

Regulation	Total	%
Unrestricted	11	2%
15-minute free parking	5	1%
30-minute free parking	9	2%
1.5-hour metered parking	270	53%
2-hour free parking	137	27%
9-hour permit parking	25	5%
12-hour permit parking	49	10%

Off-Street Parking

The off-street parking spaces inventoried and analyzed in this study include parking that is available for public use. Almost half of all public off-street parking lots are allotted to 12-hour permit parkers. All public lots are time restricted according to the following regulations, as shown in below **Table 3**.

Table 3: **Off-Street Parking Regulations**

Regulation	Total	%
3-hour metered parking	190	23%
4-hour metered parking	34	4%
9-hour metered parking	53	6%
12-hour metered parking	75	9%
9-hour permit parking	123	15%
12-hour permit parking	354	43%
Total*	**823**	

**An additional 24 ADA regulated spots are incorporated into the above lots, for a total of 847 off-street parking spaces.*

Overnight parking permits are also available for residents in Lots 1, 2, and 7 between 6pm and 9am. It is noted that off-street parking counts included all handicapped spaces in the off-street lots. Additionally, spaces in the parking garage reserved for residents of the Cranford Crossing Apartment Homes were not included in this study.

Please refer to **Table 4** and **Table 5**Error! Reference source not found. for the complete on-street and off-street parking inventory, respectively.

Table 4: On-Street Parking Inventory

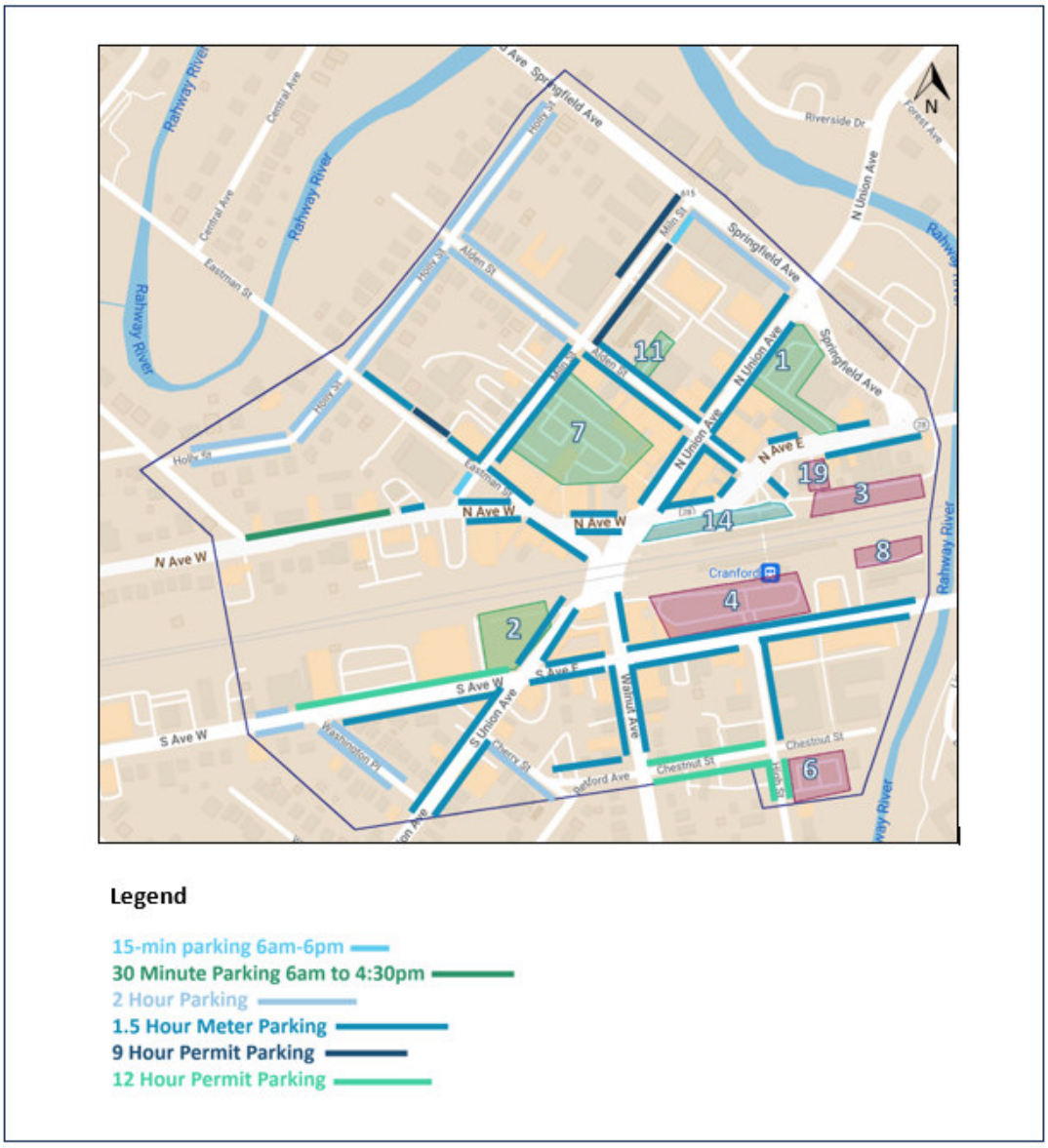
Street	Curb	Regulation	Supply
South Ave W	North Curb	1.5 Hour Parking	32
		2 Hour Parking	6
		12 Hour Permit Parking	26
	South Curb	Unrestricted	11
		1.5 Hour Parking	26
Washington Place	East Curb	2 Hour Parking	13
	West Curb	2 Hour Parking	13
Cherry Street	South Curb	2 Hour Parking	8
South Union Ave	East Curb	1.5 Hour Parking	7
	West Curb	1.5 Hour Parking	13
Walnut Ave	East Curb	1.5 Hour Parking	15
	West Curb	1.5 Hour Parking	7
Chestnut Street	North Curb	12 Hour Permit Parking	9
	South Curb	12 Hour Permit Parking	9
High Street	East Curb	1.5 Hour Parking	7
		12 Hour Permit Parking	4
	West Curb	12 Hour Permit Parking	1
North Union Ave	East Curb	1.5 Hour Parking	10
	West Curb	1.5 Hour Parking	18
Springfield Ave	South Curb	2 Hour Parking	14
Miln Street	East Curb	15-min Parking	3
		1.5 Hour Parking	11
		9 Hour Permit Parking	11
	West Curb	1.5 Hour Parking	9
		9 Hour Permit Parking	9
	Post Office	15-min Parking	2
Alden St	North Curb	1.5 Hour Parking	15
		2 Hour Parking	11
	South Curb	1.5 Hour Parking	16
		2 Hour Parking	16
North Ave Post Office Plaza		1.5 Hour Parking	10
Eastman St	North Curb	1.5 Hour Parking	11
		9 Hour Permit Parking	5
	South Curb	1.5 Hour Parking	10
Eastman Plaza		1.5 Hour Parking	10
Warner Plaza		1.5 Hour Parking	10
North Ave W	North Curb	30-min parking	9
		1.5 Hour Parking	20
	South Curb	1.5 Hour Parking	10
Holly Street	East Curb	2 Hour Parking	29
	West Curb	2 Hour Parking	27
Retford Avenue	North Curb	1.5 Hour Parking	3
		Total	506

Table 5: Off-Street Parking Inventory

Number	Description	Meter				Permit			Total Number of Spaces
		3-Hour	4-Hour	9-Hour	12-Hour	9-Hour	12-Hour	ADA	
1	Union Ave Lot	56				25		3	84
2	Parking Garage		34	53	15	4	123	9	238
3	Train Station Plaza Ext					42			42
4	Train Station Lot South Ave						162	2	164
6	Chestnut Street Lot				60		17	1	78
7	Miln Street Lot	89				46		3	138
8	PSEG South Ave Lot						31	2	33
11	Alden Street Lot	20				6		1	27
14	North Ave Warner Plaza	19						2	21
19	North Ave Lot						21	1	22
								Total	**847**

Figure 1 summarizes parking regulations within the study area, including all public parking assets and on-street spaces within the defined study area.

Figure 1: Downtown Cranford Parking Regulations



Parking Utilization Results

A summary of results from our study is provided below:

Weekday Parking Count Results

The two weekday counts sampled for this study were averaged to represent typical weekday parking conditions in the downtown study area. The two days were found to produce similar results.

Figure 2 below details parking utilization rates for all parking in the downtown area during an average weekday. On weekdays, both permit and shopper parking are utilized around 50%-70% throughout the day. Parking peaks in the afternoon.

Figure 2

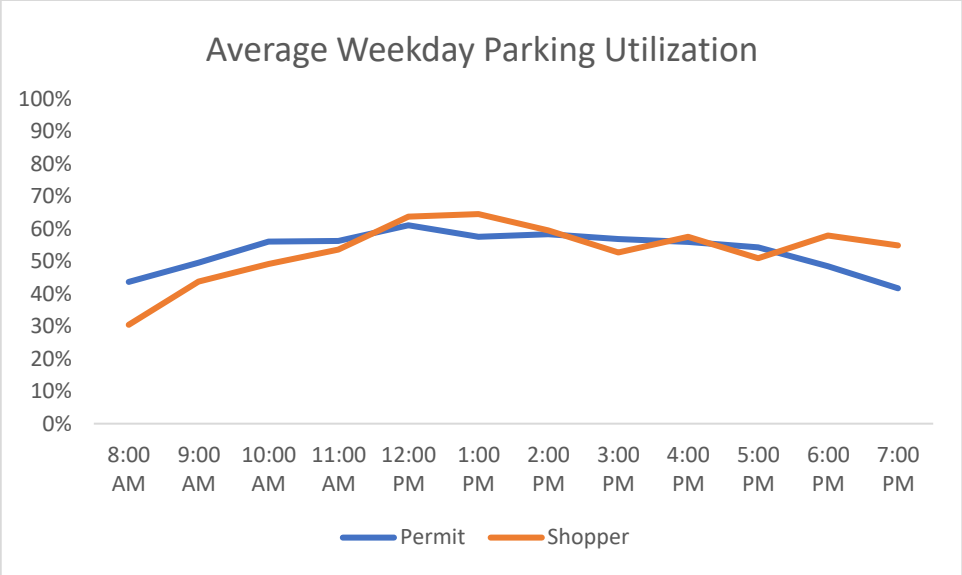
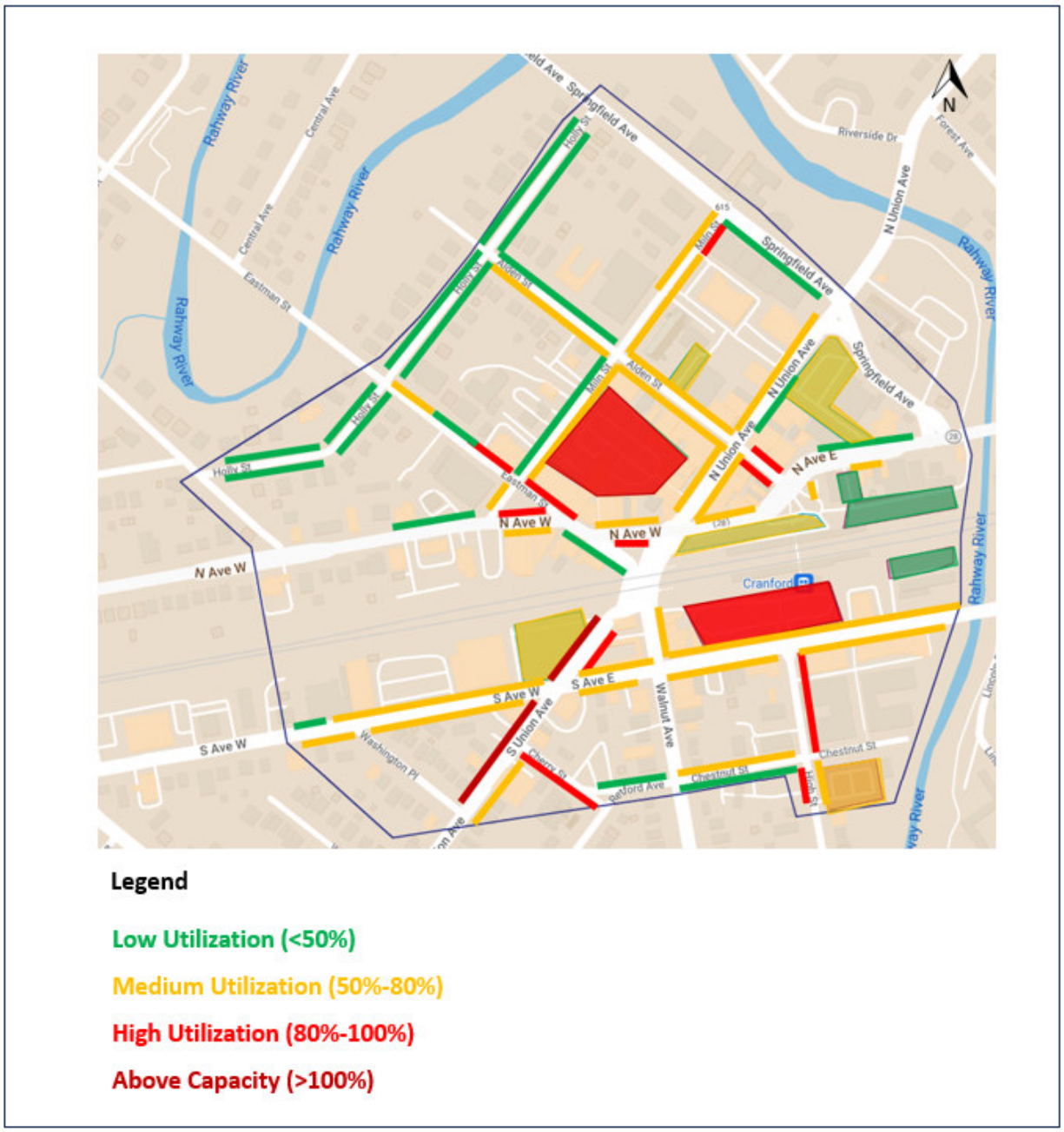


Figure 3 below details which lots are most heavily utilized during the peak weekday hour (around noon). Lots 4 and 6 are busy with commuter parking, while Lots 1, 2, 4, and 7 are occupied by a mix of permit parkers and shoppers. Demand for on-street parking is greatest closest to the Downtown Core area.

Figure 3: Weekday Peak Hour Parking Conditions



Weekend Parking Count Results

Parking counts were also conducted on two separate Saturday dates, May 13, 2023 and June 3, 2023. The Town of Cranford hosted a Pride event on June 3. During our observations on this Saturday, we did observe a wedding at St. Michael's Church until about 2pm, creating parking conditions in the morning on par with those observed during the event day on June 3.

As shown in **Figures 4** and **5** below, weekend parking utilization differs greatly from the weekday parking utilization trends. During the weekend, shopper utilization in lots and on-street is utilized much more frequently than the

permit parking lots. This is largely due to commuter lots such as the NJ Transit Commuter Lot (Lot 4) and Chestnut Street Lot (Lot 6) experiencing lower utilization, and 1.5-hour shopper parking on-street being more heavily utilized. **Figure 6** below provides a snapshot of the peak hour conditions in the Downtown area for both Saturdays studied, which was experienced from 1pm-2pm on Saturday, May 13. Similar to the weekday, weekend parking consistently peaks close to the afternoon.

Figure 4

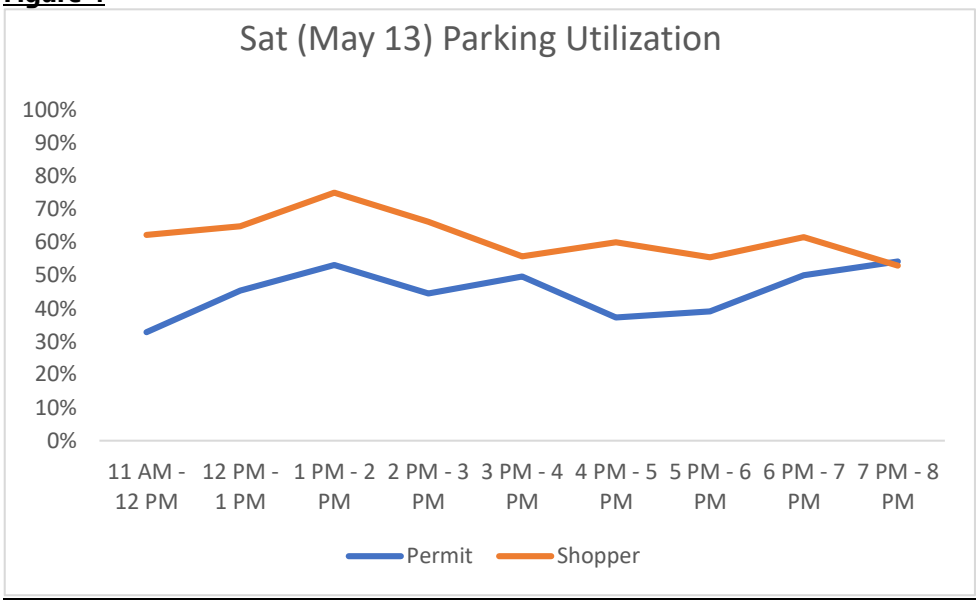
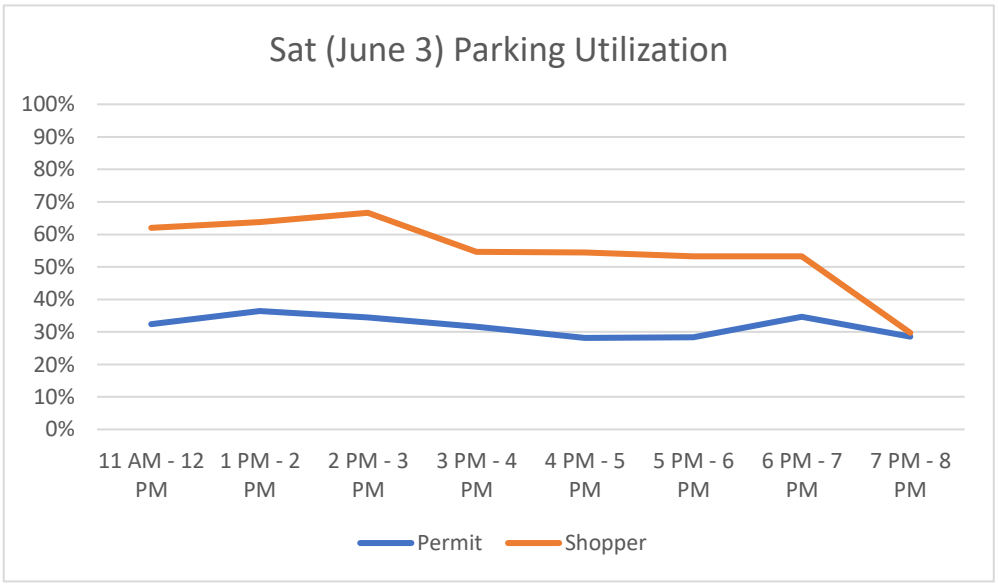
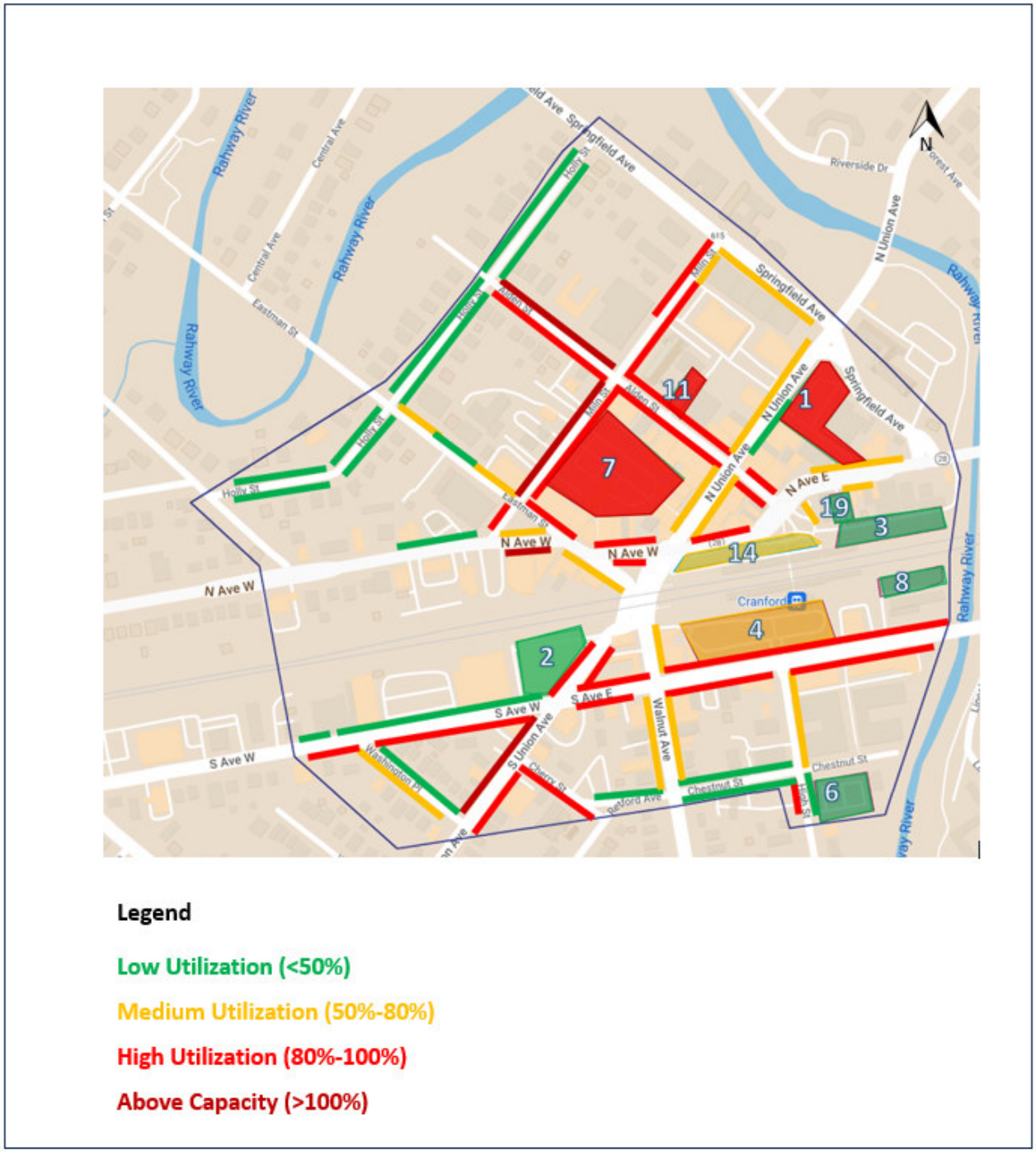


Figure 5



As shown in **Figure 6**, there is a much greater demand for on-street parking during the weekend than the weekday. Most of the permit lots are operating at low utilization, while shopper parking lots 1, 7, and 11 are heavily utilized.

Figure 6: Weekend Peak Hour Parking Conditions



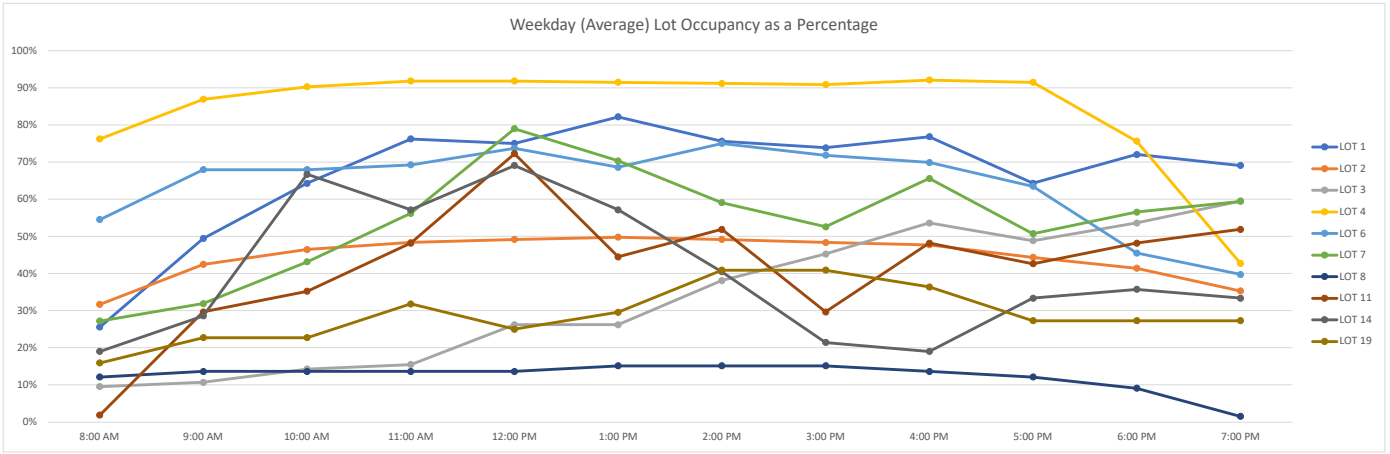
The following pages detail parking data as collected during the study periods.

Off-Street Parking Demand

Date Average Weekday

Field Engineer: MS

Time	Lot Number																				Total Utilization Rate
	LOT 1		LOT 2		LOT 3		LOT 4		LOT 6		LOT 7		LOT 8		LOT 11		LOT 14		LOT 19		
	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	
8 AM - 9 AM	22	84	76	238	4	42	125	164	43	78	38	138	4	33	1	27	4	21	4	22	38%
9 AM - 10 AM	42	84	101	238	5	42	143	164	53	78	44	138	5	33	8	27	6	21	5	22	48%
10 AM - 11 AM	54	84	111	238	6	42	148	164	53	78	60	138	5	33	10	27	14	21	5	22	55%
11 AM - 12 PM	64	84	115	238	7	42	151	164	54	78	78	138	5	33	13	27	12	21	7	22	60%
12 PM - 1 PM	63	84	117	238	11	42	151	164	58	78	109	138	5	33	20	27	15	21	6	22	65%
1 PM - 2 PM	69	84	119	238	11	42	150	164	54	78	97	138	5	33	12	27	12	21	7	22	63%
2 PM - 3 PM	64	84	117	238	16	42	150	164	59	78	82	138	5	33	14	27	9	21	9	22	62%
3 PM - 4 PM	62	84	115	238	19	42	149	164	56	78	73	138	5	33	8	27	5	21	9	22	59%
4 PM - 5 PM	65	84	114	238	23	42	151	164	55	78	91	138	5	33	13	27	4	21	8	22	62%
5 PM - 6 PM	54	84	106	238	21	42	150	164	50	78	70	138	4	33	12	27	7	21	6	22	56%
6 PM - 7 PM	61	84	99	238	23	42	124	164	36	78	78	138	3	33	13	27	8	21	6	22	53%
7 PM - 8 PM	58	84	84	238	25	42	70	164	31	78	82	138	1	33	14	27	7	21	6	22	45%
Peak Hour Utilization Rate	**75%**		**49%**		**26%**		**92%**		**74%**		**79%**		**14%**		**72%**		**69%**		**25%**		



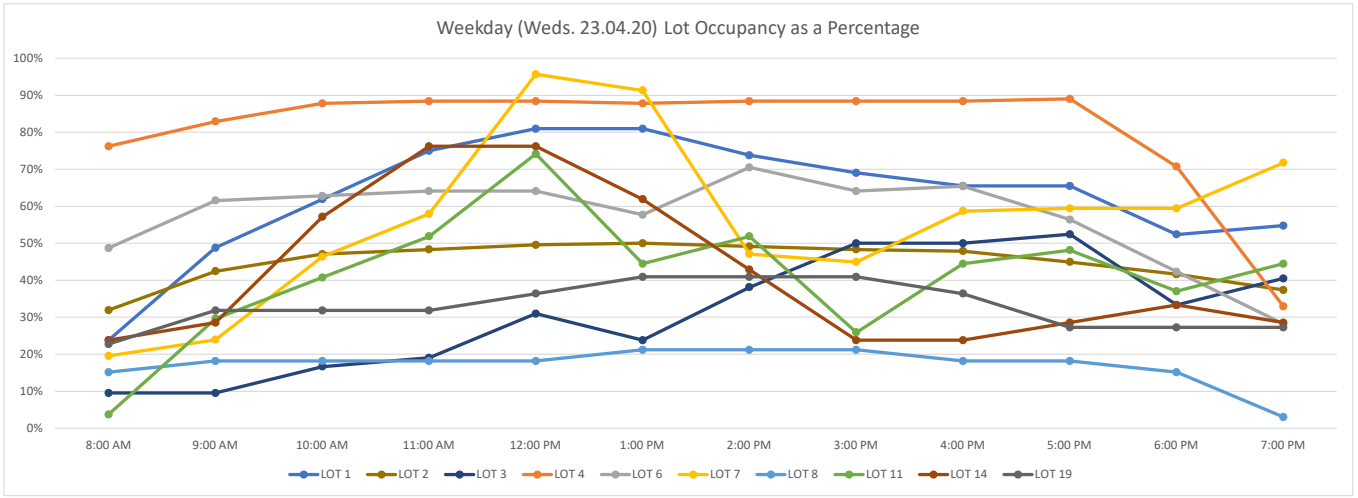
ENOVATE®

Off-Street Parking Demand

Field Engineer: MS

Date 23.04.19 (Wednesday)

	Lot Number																			
	LOT 1		LOT 2		LOT 3		LOT 4		LOT 6		LOT 7		LOT 8		LOT 11		LOT 14		LOT 19	
Time	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply
8 AM - 9 AM	20	84	76	238	4	42	125	164	38	78	27	138	5	33	1	27	5	21	5	22
9 AM - 10 AM	41	84	101	238	4	42	136	164	48	78	33	138	6	33	8	27	6	21	7	22
10 AM - 11 AM	52	84	112	238	7	42	144	164	49	78	64	138	6	33	11	27	12	21	7	22
11 AM - 12 PM	63	84	115	238	8	42	145	164	50	78	80	138	6	33	14	27	16	21	7	22
12 PM - 1 PM	68	84	118	238	13	42	145	164	50	78	132	138	6	33	20	27	16	21	8	22
1 PM - 2 PM	68	84	119	238	10	42	144	164	45	78	126	138	7	33	12	27	13	21	9	22
2 PM - 3 PM	62	84	117	238	16	42	145	164	55	78	65	138	7	33	14	27	9	21	9	22
3 PM - 4 PM	58	84	115	238	21	42	145	164	50	78	62	138	7	33	7	27	5	21	9	22
4 PM - 5 PM	55	84	114	238	21	42	145	164	51	78	81	138	6	33	12	27	5	21	8	22
5 PM - 6 PM	55	84	107	238	22	42	146	164	44	78	82	138	6	33	13	27	6	21	6	22
6 PM - 7 PM	44	84	99	238	14	42	116	164	33	78	82	138	5	33	10	27	7	21	6	22
7 PM - 8 PM	46	84	89	238	17	42	54	164	22	78	99	138	1	33	12	27	6	21	6	22



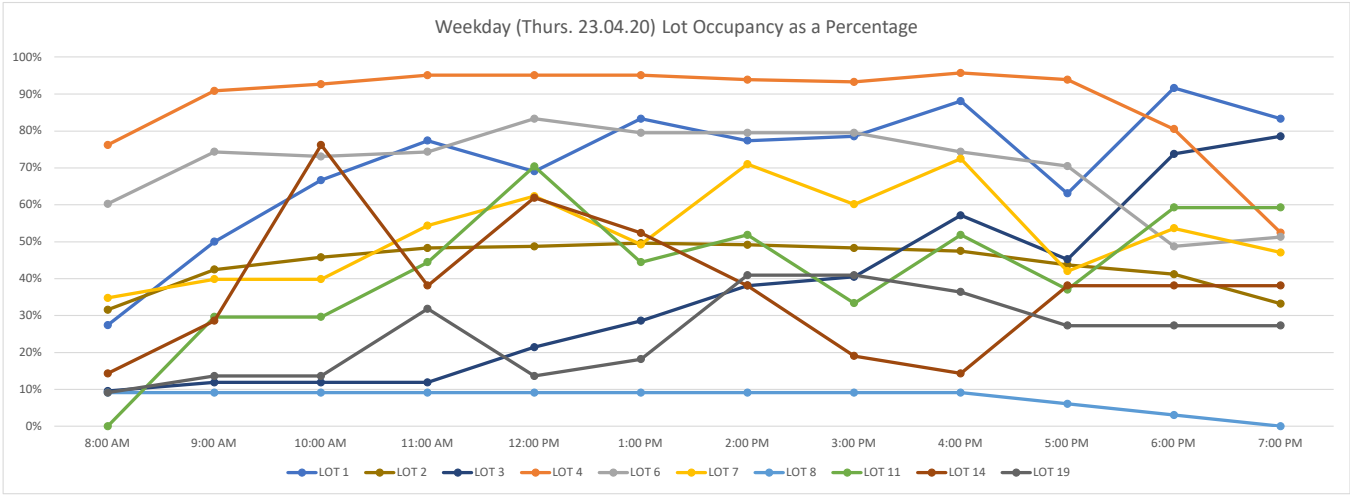
ENOVATE®

Off-Street Parking Demand

Field Engineer: MS

Date 23.04.20 (Thursday)

Time	Lot Number																			
	LOT 1		LOT 2		LOT 3		LOT 4		LOT 6		LOT 7		LOT 8		LOT 11		LOT 14		LOT 19	
	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply
8 AM - 9 AM	23	84	75	238	4	42	125	164	47	78	48	138	3	33	0	27	3	21	2	22
9 AM - 10 AM	42	84	101	238	5	42	149	164	58	78	55	138	3	33	8	27	6	21	3	22
10 AM - 11 AM	56	84	109	238	5	42	152	164	57	78	55	138	3	33	8	27	16	21	3	22
11 AM - 12 PM	65	84	115	238	5	42	156	164	58	78	75	138	3	33	12	27	8	21	7	22
12 PM - 1 PM	58	84	116	238	9	42	156	164	65	78	86	138	3	33	19	27	13	21	3	22
1 PM - 2 PM	70	84	118	238	12	42	156	164	62	78	68	138	3	33	12	27	11	21	4	22
2 PM - 3 PM	65	84	117	238	16	42	154	164	62	78	98	138	3	33	14	27	8	21	9	22
3 PM - 4 PM	66	84	115	238	17	42	153	164	62	78	83	138	3	33	9	27	4	21	9	22
4 PM - 5 PM	74	84	113	238	24	42	157	164	58	78	100	138	3	33	14	27	3	21	8	22
5 PM - 6 PM	53	84	104	238	19	42	154	164	55	78	58	138	2	33	10	27	8	21	6	22
6 PM - 7 PM	77	84	98	238	31	42	132	164	38	78	74	138	1	33	16	27	8	21	6	22
7 PM - 8 PM	70	84	79	238	33	42	86	164	40	78	65	138	0	33	16	27	8	21	6	22



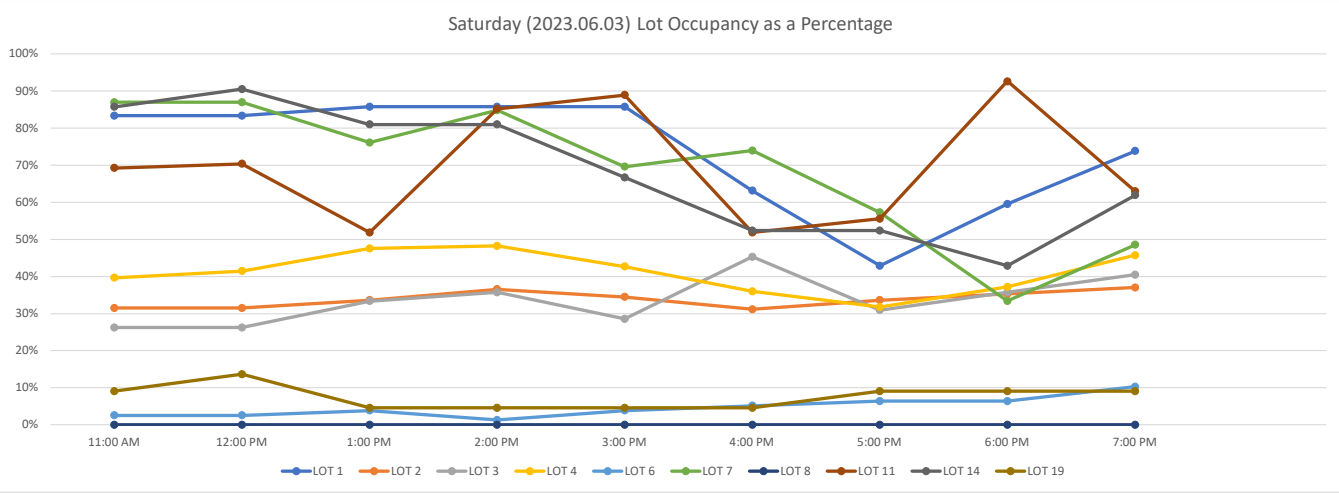
ENOVATE®

Off-Street Parking Demand

Field Engineer: MS

Date 23.06.03 (Saturday)

	Lot Number																			
	LOT 1		LOT 2		LOT 3		LOT 4		LOT 6		LOT 7		LOT 8		LOT 11		LOT 14		LOT 19	
Time	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply
11 AM - 12 PM	70	84	75	238	11	42	65	164	2	78	120	138	0	33	18	26	18	21	2	22
12 PM - 1 PM	70	84	75	238	11	42	68	164	2	78	120	138	0	33	19	27	19	21	3	22
1 PM - 2 PM	72	84	80	238	14	42	78	164	3	78	105	138	0	33	14	27	17	21	1	22
2 PM - 3 PM	72	84	87	238	15	42	79	164	1	78	117	138	0	33	23	27	17	21	1	22
3 PM - 4 PM	72	84	82	238	12	42	70	164	3	78	96	138	0	33	24	27	14	21	1	22
4 PM - 5 PM	53	84	74	238	19	42	59	164	4	78	102	138	0	33	14	27	11	21	1	22
5 PM - 6 PM	36	84	80	238	13	42	52	164	5	78	79	138	0	33	15	27	11	21	2	22
6 PM - 7 PM	50	84	84	238	15	42	61	164	5	78	46	138	0	33	25	27	9	21	2	22
7 PM - 8 PM	62	84	88	238	17	42	75	164	8	78	67	138	0	33	17	27	13	21	2	22

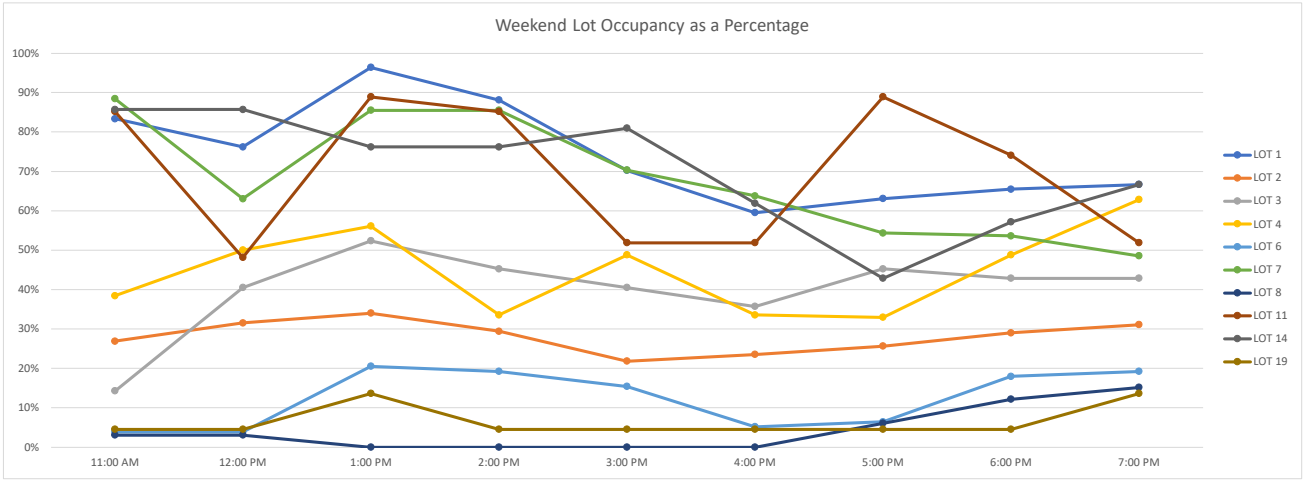


ENOVATE®

Off-Street Parking Demand **Field Engineer: MS**

Date 23.05.13 (Saturday)

Time	Lot Number																				Total Utilization Rate
	LOT 1		LOT 2		LOT 3		LOT 4		LOT 6		LOT 7		LOT 8		LOT 11		LOT 14		LOT 19		
	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	
11 AM - 12 PM	70	84	64	238	6	42	63	164	3	78	122	138	1	33	23	27	18	21	1	22	44%
12 PM - 1 PM	64	84	75	238	17	42	82	164	3	78	87	138	1	33	13	27	18	21	1	22	43%
1 PM - 2 PM	81	84	81	238	22	42	92	164	16	78	118	138	0	33	24	27	16	21	3	22	53%
2 PM - 3 PM	74	84	70	238	19	42	55	164	15	78	118	138	0	33	23	27	16	21	1	22	46%
3 PM - 4 PM	59	84	52	238	17	42	80	164	12	78	97	138	0	33	14	27	17	21	1	22	41%
4 PM - 5 PM	50	84	56	238	15	42	55	164	4	78	88	138	0	33	14	27	13	21	1	22	35%
5 PM - 6 PM	53	84	61	238	19	42	54	164	5	78	75	138	2	33	24	27	9	21	1	22	36%
6 PM - 7 PM	55	84	69	238	18	42	80	164	14	78	74	138	4	33	20	27	12	21	1	22	41%
7 PM - 8 PM	56	84	74	238	18	42	103	164	15	78	67	138	5	33	14	27	14	21	3	22	44%
Peak Hour Utilization Rate	**96%**		**34%**		**52%**		**56%**		**21%**		**86%**		**0%**		**89%**		**76%**		**14%**		



On-Street Parking Demand **Field Engineer: MS**

Date: Average Weekday

Street	Curb	Regulation	Supply	8am	9am	10am	11am	12pm	1pm	2pm	3pm	4pm	5pm	6pm	7pm
South Ave W	North Curb	1.5 Hour Parking	32	14	14	21	19	18	22	19	12	15	16	25	26
		2 Hour Parking	6	2	0	0	1	1	3	0	0	0	0	0	1
		12 Hour Permit Parking	26	5	3	7	7	7	7	8	9	6	6	4	4
	South Curb	Unrestricted	11	3	4	5	7	7	6	5	6	7	6	4	3
		1.5 Hour Parking	26	10	14	8	8	17	19	15	9	15	14	24	24
Washington Place	East Curb	2 Hour Parking	13	4	6	7	7	7	6	7	8	6	6	6	6
	West Curb	2 Hour Parking	13	11	10	11	12	10	10	11	11	11	10	9	8
Cherry Street	South Curb	2 Hour Parking	8	6	6	6	6	6	7	5	4	5	7	3	0
South Union Ave	East Curb	1.5 Hour Parking	7	5	10	8	7	7	7	6	7	6	5	3	1
	West Curb	1.5 Hour Parking	13	8	10	14	12	15	15	14	11	11	8	9	10
Walnut Ave	East Curb	1.5 Hour Parking	15	3	6	6	8	13	12	12	10	13	12	12	10
	West Curb	1.5 Hour Parking	7	0	3	2	3	4	4	5	7	6	4	9	7
Chestnut Street	North Curb	12 Hour Permit Parking	9	0	2	6	1	2	4	2	3	1	1	3	5
	South Curb	12 Hour Permit Parking	9	2	1	2	1	0	2	0	1	2	1	4	6
High Street	East Curb	1.5 Hour Parking	7	3	5	3	2	2	4	3	4	3	2	5	5
		12 Hour Permit Parking	4	2	1	1	0	0	1	0	0	0	0	1	2
	West Curb	12 Hour Permit Parking	1	2	1	3	2	2	1	1	0	1	1	0	1
North Union Ave	East Curb	1.5 Hour Parking	10	2	6	4	3	8	4	10	5	6	8	6	5
	West Curb	1.5 Hour Parking	18	2	6	4	5	6	9	10	7	7	8	10	10
Springfield Ave	South Curb	2 Hour Parking	14	5	9	12	13	13	5	7	12	11	10	7	7
Miln Street	East Curb	15-min Parking	3	2	3	3	3	2	3	3	3	4	4	1	1
		1.5 Hour Parking	11	3	5	3	4	9	7	7	2	3	4	5	6
		9 Hour Permit Parking	11	3	6	4	6	10	6	7	5	4	4	5	6
	West Curb	1.5 Hour Parking	9	1	2	2	2	5	4	4	1	3	3	6	5
		9 Hour Permit Parking	9	3	6	6	7	8	7	7	7	6	7	6	8
	Post Office	15-min Parking	2	0	2	2	2	0	1	2	1	1	1	1	2
Alden St	North Curb	1.5 Hour Parking	15	2	4	3	1	9	12	13	9	10	11	12	12
		2 Hour Parking	11	5	5	7	6	7	5	6	5	4	5	5	3
	South Curb	1.5 Hour Parking	16	4	6	6	9	8	10	8	10	11	9	12	10
		2 Hour Parking	16	6	5	7	10	11	11	12	9	9	8	8	7
North Ave Post Office Plaza		1.5 Hour Parking	10	1	3	8	7	8	6	6	4	7	7	7	8
Eastman St	North Curb	1.5 Hour Parking	11	5	6	5	7	7	9	7	6	5	6	6	6
		9 Hour Permit Parking	5	1	1	1	3	3	1	1	2	1	1	1	3
	South Curb	1.5 Hour Parking	10	7	8	6	8	8	4	7	7	7	5	8	7
Eastman Plaza		1.5 Hour Parking	10	4	10	9	6	8	9	5	5	7	3	7	9
Warner Plaza		1.5 Hour Parking	10	2	0	3	4	5	5	4	3	5	5	4	4
North Ave W	North Curb	30-min parking	9	0	2	1	2	1	3	2	1	2	2	3	3
		1.5 Hour Parking	20	7	9	13	14	14	16	12	12	9	7	9	5
	South Curb	1.5 Hour Parking	10	3	3	4	4	3	6	3	3	2	5	4	4
Holly Street	East Curb	2 Hour Parking	29	7	7	7	9	9	8	8	8	10	4	6	8
	West Curb	2 Hour Parking	27	8	7	6	4	5	5	6	7	7	5	5	3
Retford Avenue	North Curb	1.5 Hour Parking	3	2	3	3	2	3	3	3	2	1	1	3	3
		Total	506	165	220	239	244	288	289	273	238	250	232	268	264
		Utilization Rate		**33%**	**43%**	**47%**	**48%**	**57%**	**57%**	**54%**	**47%**	**49%**	**46%**	**53%**	**52%**

On-Street Parking Demand **Field Engineer: MS**

Date: 23.04.19 (Wednesday)

Street	Curb	Regulation	Supply	8am	9am	10am	11am	12pm	1pm	2pm	3pm	4pm	5pm	6pm	7pm
South Ave W	North Curb	1.5 Hour Parking	32	10	13	27	19	14	23	20	9	10	20	21	23
		2 Hour Parking	6	4	0	0	1	1	5	0	0	0	0	0	1
		12 Hour Permit Parking	26	5	3	8	8	8	11	10	12	7	9	5	6
	South Curb	Unrestricted	11	2	3	6	8	7	5	4	7	7	7	5	4
		1.5 Hour Parking	26	10	13	6	7	17	24	15	9	9	14	22	21
Washington Place	East Curb	2 Hour Parking	13	5	7	7	7	7	5	6	6	5	4	5	4
	West Curb	2 Hour Parking	13	11	10	12	12	10	9	11	10	10	8	8	6
Cherry Street	South Curb	2 Hour Parking	8	6	6	6	6	6	5	5	4	5	7	3	0
South Union Ave	East Curb	1.5 Hour Parking	7	7	9	12	10	11	9	8	8	9	6	2	1
	West Curb	1.5 Hour Parking	13	11	16	16	11	18	17	13	10	12	10	10	9
Walnut Ave	East Curb	1.5 Hour Parking	15	4	5	6	9	12	11	14	8	14	8	10	9
	West Curb	1.5 Hour Parking	7	0	1	1	3	4	5	3	5	6	1	10	8
Chestnut Street	North Curb	12 Hour Permit Parking	9	0	2	7	1	1	3	1	2	1	0	3	2
	South Curb	12 Hour Permit Parking	9	1	1	4	0	0	1	0	0	0	0	3	2
High Street	East Curb	1.5 Hour Parking	7	4	6	1	1	1	3	4	3	2	0	3	2
		12 Hour Permit Parking	4	2	2	2	0	0	1	0	0	0	0	1	0
	West Curb	12 Hour Permit Parking	1	3	2	5	3	3	2	1	0	1	1	0	0
North Union Ave	East Curb	1.5 Hour Parking	10	1	8	5	4	10	5	10	6	6	7	7	6
	West Curb	1.5 Hour Parking	18	2	6	6	6	6	9	10	6	6	9	9	8
Springfield Ave	South Curb	2 Hour Parking	14	5	6	13	13	13	3	7	11	11	10	4	3
Miln Street	East Curb	15-min Parking	3	1	3	4	3	2	3	2	2	4	4	1	0
		1.5 Hour Parking	11	3	6	1	3	6	5	4	3	2	6	4	4
		9 Hour Permit Parking	11	3	4	2	5	9	6	6	6	4	4	5	7
	West Curb	1.5 Hour Parking	9	1	1	1	0	3	4	2	2	2	4	7	4
		9 Hour Permit Parking	9	3	5	6	9	8	7	7	7	6	6	5	7
	Post Office	15-min parking	2	0	2	1	2	0	2	2	0	1	0	1	2
Alden St	North Curb	1.5 Hour Parking	15	1	4	4	1	13	9	11	10	11	12	11	10
		2 Hour Parking	11	4	6	6	6	7	5	6	6	4	4	3	2
	South Curb	1.5 Hour Parking	16	5	7	4	7	7	10	8	7	9	9	8	7
		2 Hour Parking	16	5	6	5	10	10	11	12	9	7	6	7	6
North Ave Post Office Plaza		1.5 Hour Parking	10	0	2	6	7	7	4	5	3	6	7	8	7
Eastman St	North Curb	1.5 Hour Parking	11	5	6	6	6	7	9	5	6	4	5	5	5
		9 Hour Permit Parking	5	1	1	1	3	3	1	1	2	1	1	0	3
	South Curb	1.5 Hour Parking	10	6	7	7	8	8	7	7	8	7	4	7	6
Eastman Plaza		1.5 Hour Parking	10	5	10	9	6	6	10	5	3	7	3	9	8
Warner Plaza		1.5 Hour Parking	10	0	0	2	7	9	4	4	3	7	6	5	3
North Ave W	North Curb	30-min parking	9	0	3	0	2	0	1	1	0	0	0	0	0
		1.5 Hour Parking	20	10	8	14	14	11	15	14	13	7	6	9	7
	South Curb	1.5 Hour Parking	10	2	3	3	4	3	7	3	2	1	5	4	3
Holly Street	East Curb	2 Hour Parking	29	7	7	7	9	9	8	8	10	12	4	6	8
	West Curb	2 Hour Parking	27	8	7	5	4	4	5	6	7	7	5	5	3
Retford Avenue	North Curb	1.5 Hour Parking	3	2	3	3	2	3	3	3	2	1	1	3	3
		Total	506	165	220	247	247	284	292	264	227	231	223	244	220
			Utilization Rate	33%	43%	49%	49%	56%	58%	52%	45%	46%	44%	48%	43%
				8am	**9am**	**10am**	**11am**	**12pm**	**1pm**	**2pm**	**3pm**	**4pm**	**5pm**	**6pm**	**7pm**

ENOVATE®

On-Street Parking Demand **Field Engineer: MS**

Date: 23.04.20 (Thursday)

Street	Curb	Regulation	Supply	8am	9am	10am	11am	12pm	1pm	2pm	3pm	4pm	5pm	6pm	7pm
South Ave W	North Curb	1.5 Hour Parking	32	18	15	14	18	22	21	17	14	19	12	28	29
		2 Hour Parking	6	0	0	0	0	0	0	0	0	0	0	0	0
		12 Hour Permit Parking	26	5	2	6	6	5	2	6	6	5	2	2	2
	South Curb	Unrestricted	11	3	5	4	6	7	7	6	5	6	5	2	2
		1.5 Hour Parking	26	10	14	9	8	17	14	14	8	20	13	25	26
Washington Place	East Curb	2 Hour Parking	13	3	5	6	6	7	7	8	9	6	8	7	7
	West Curb	2 Hour Parking	13	10	10	10	11	10	10	10	11	11	11	9	9
Cherry Street	South Curb	2 Hour Parking	8	5	6	5	6	6	8	5	4	5	7	3	0
South Union Ave	East Curb	1.5 Hour Parking	7	3	10	3	3	2	4	3	6	3	4	4	1
	West Curb	1.5 Hour Parking	13	4	3	11	12	11	13	15	11	9	5	8	11
Walnut Ave	East Curb	1.5 Hour Parking	15	1	7	5	7	14	13	9	11	11	15	14	11
	West Curb	1.5 Hour Parking	7	0	5	3	3	4	2	7	9	5	7	7	5
Chestnut Street	North Curb	12 Hour Permit Parking	9	0	1	4	1	3	4	2	4	1	1	3	8
	South Curb	12 Hour Permit Parking	9	2	1	0	1	0	3	0	1	3	2	5	9
High Street	East Curb	1.5 Hour Parking	7	2	4	4	3	2	4	2	5	4	4	6	7
		12 Hour Permit Parking	4	1	0	0	0	0	0	0	0	0	0	0	4
	West Curb	12 Hour Permit Parking	1	0	0	1	0	1	0	0	0	0	0	0	1
North Union Ave	East Curb	1.5 Hour Parking	10	2	3	2	2	6	3	10	3	5	8	4	3
	West Curb	1.5 Hour Parking	18	2	5	2	4	6	9	10	7	7	7	10	11
Springfield Ave	South Curb	2 Hour Parking	14	4	12	10	13	12	6	7	13	10	10	9	10
Miln Street	East Curb	15-min Parking	3	2	2	2	2	2	2	3	3	3	3	1	1
		1.5 Hour Parking	11	3	3	5	4	11	8	10	1	4	2	6	7
		9 Hour Permit Parking	11	3	7	6	7	11	6	7	3	3	4	4	5
	West Curb	1.5 Hour Parking	9	1	3	2	4	7	4	6	0	4	1	4	6
		9 Hour Permit Parking	9	3	7	5	5	7	6	6	7	5	7	7	8
	Post Office	15-min parking	2	0	1	2	2	0	0	2	2	1	1	0	2
Alden St	North Curb	1.5 Hour Parking	15	2	4	1	1	5	15	15	8	8	10	12	13
		2 Hour Parking	11	5	3	7	6	6	4	6	4	3	5	6	4
	South Curb	1.5 Hour Parking	16	2	4	7	10	9	10	8	12	12	8	15	12
		2 Hour Parking	16	7	4	9	9	12	10	11	8	10	9	8	8
North Ave Post Office Plaza		1.5 Hour Parking	10	2	4	10	7	9	7	7	4	8	7	6	8
Eastman St	North Curb	1.5 Hour Parking	11	5	6	3	7	7	8	8	6	6	6	6	6
		9 Hour Permit Parking	5	0	0	1	2	2	1	1	2	1	1	2	2
	South Curb	1.5 Hour Parking	10	7	8	5	8	7	0	6	5	6	5	8	7
Eastman Plaza		1.5 Hour Parking	10	2	9	9	6	10	8	5	6	7	2	5	9
Warner Plaza		1.5 Hour Parking	10	3	0	3	1	1	5	3	3	3	3	3	4
North Ave W	North Curb	30-min parking	9	0	1	2	2	1	4	3	1	3	4	6	5
		1.5 Hour Parking	20	4	9	12	14	16	16	10	11	10	8	9	3
	South Curb	1.5 Hour Parking	10	3	2	4	4	3	4	2	3	3	4	3	4
Holly Street	East Curb	2 Hour Parking	29	7	7	7	9	9	8	8	6	8	4	6	8
	West Curb	2 Hour Parking	27	8	7	6	3	5	5	6	7	7	5	4	3
Retford Avenue	North Curb	1.5 Hour Parking	3	2	3	3	2	3	3	3	2	1	1	3	3
		Total	506	146	202	210	225	278	264	267	231	246	221	270	284
			Utilization Rate	29%	40%	42%	44%	55%	52%	53%	46%	49%	44%	53%	56%
				8am	**9am**	**10am**	**11am**	**12pm**	**1pm**	**2pm**	**3pm**	**4pm**	**5pm**	**6pm**	**7pm**

ENOVATE®

On-Street Parking Demand **Field Engineer: MS**

Date: 23.05.13 (Saturday)

Street	Curb	Regulation	Supply	11am	12pm	1pm	2pm	3pm	4pm	5pm	6pm	7pm
South Ave W	North Curb	1.5 Hour Parking	32	20	26	28	23	22	29	24	27	26
		2 Hour Parking	6	1	1	1	0	0	0	0	0	0
		12 Hour Permit Parking	26	9	14	5	3	9	7	9	10	12
	South Curb	Unrestricted	11	2	2	2	2	1	2	2	2	2
		1.5 Hour Parking	26	20	19	24	23	26	20	29	25	6
Washington Place	East Curb	2 Hour Parking	13	5	5	6	7	7	8	5	6	8
	West Curb	2 Hour Parking	13	6	9	9	9	9	7	8	7	6
Cherry Street	South Curb	2 Hour Parking	8	7	5	5	5	5	6	6	7	3
South Union Ave	East Curb	1.5 Hour Parking	7	5	5	5	4	4	4	6	3	5
	West Curb	1.5 Hour Parking	13	10	11	14	13	12	14	12	14	16
Walnut Ave	East Curb	1.5 Hour Parking	15	11	11	13	13	12	14	11	11	11
	West Curb	1.5 Hour Parking	7	5	6	6	5	6	5	5	5	4
Chestnut Street	North Curb	12 Hour Permit Parking	9	2	2	5	6	4	6	4	8	6
	South Curb	12 Hour Permit Parking	9	2	3	3	8	5	4	9	7	9
High Street	East Curb	1.5 Hour Parking	7	7	5	7	7	6	6	6	7	7
		12 Hour Permit Parking	4	1	1	3	3	3	4	3	4	3
	West Curb	12 Hour Permit Parking	1	0	1	1	1	1	1	0	1	1
North Union Ave	East Curb	1.5 Hour Parking	10	6	4	6	4	7	8	4	2	3
	West Curb	1.5 Hour Parking	18	13	9	11	9	3	10	9	9	11
Springfield Ave	South Curb	2 Hour Parking	14	11	5	10	12	7	8	3	2	0
Miln Street	East Curb	15-min Parking	3	3	2	2	3	1	1	1	2	1
		1.5 Hour Parking	11	11	7	10	9	5	8	10	8	9
		9 Hour Permit Parking	11	10	7	11	11	7	5	10	3	2
	West Curb	1.5 Hour Parking	9	10	8	10	9	4	6	8	7	8
		9 Hour Permit Parking	9	9	4	9	9	5	6	5	4	5
	Post Office	15-min parking	2	2	3	2	1	0	1	0	0	2
Alden St	North Curb	1.5 Hour Parking	15	12	15	14	4	10	13	4	11	4
		2 Hour Parking	11	16	8	12	14	6	5	10	8	4
	South Curb	1.5 Hour Parking	16	15	7	13	10	9	12	7	11	6
		2 Hour Parking	16	17	7	15	14	8	7	11	10	6
North Ave Post Office Plaza		1.5 Hour Parking	10	10	10	10	10	9	10	9	10	10
Eastman St	North Curb	1.5 Hour Parking	11	6	10	11	10	7	10	5	7	11
		9 Hour Permit Parking	5	4	4	1	3	1	0	1	2	3
	South Curb	1.5 Hour Parking	10	8	7	7	6	7	7	8	10	6
Eastman Plaza		1.5 Hour Parking	10	10	10	10	10	10	10	9	8	9
Warner Plaza		1.5 Hour Parking	10	9	9	5	7	5	5	4	6	3
North Ave W	North Curb	30-min parking	9	2	4	4	5	3	2	2	4	4
		1.5 Hour Parking	20	1	20	20	15	6	6	7	18	2
	South Curb	1.5 Hour Parking	10	6	10	8	8	3	3	3	7	6
Holly Street	East Curb	2 Hour Parking	29	7	8	4	6	5	7	4	5	6
	West Curb	2 Hour Parking	27	7	7	5	4	8	5	4	8	6
Retford Avenue	North Curb	1.5 Hour Parking	3	3	2	3	1	2	3	3	3	3
		Total	506	321	313	350	326	270	295	280	309	255
			Utilization Rate	**63%**	**62%**	**69%**	**64%**	**53%**	**58%**	**55%**	**61%**	**50%**

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On-Street Parking Demand **Field Engineer: MS**

Date: 23.06.03 (Saturday)

Street	Curb	Regulation	Supply	12pm	1pm	2pm	3pm	4pm	5pm	6pm	7pm
South Ave W	North Curb	1.5 Hour Parking	32	23	23	26	26	19	19	27	25
		2 Hour Parking	6	0	2	0	0	0	0	0	0
		12 Hour Permit Parking	26	13	15	13	9	8	6	10	18
	South Curb	Unrestricted	11	3	4	4	4	3	5	2	2
		1.5 Hour Parking	26	4	20	23	24	1	16	17	24
Washington Place	East Curb	2 Hour Parking	13	3	5	5	4	6	5	3	2
	West Curb	2 Hour Parking	13	6	7	7	7	8	6	7	9
Cherry Street	South Curb	2 Hour Parking	8	6	7	7	7	9	6	5	3
South Union Ave	East Curb	1.5 Hour Parking	7	3	3	2	2	2	4	3	7
	West Curb	1.5 Hour Parking	13	12	10	7	10	9	9	14	13
Walnut Ave	East Curb	1.5 Hour Parking	15	11	12	13	13	11	11	15	12
	West Curb	1.5 Hour Parking	7	5	6	4	5	5	5	6	7
Chestnut Street	North Curb	12 Hour Permit Parking	9	3	5	8	1	3	2	2	6
	South Curb	12 Hour Permit Parking	9	2	4	6	2	2	2	3	6
High Street	East Curb	1.5 Hour Parking	7	6	5	7	6	1	3	3	4
		12 Hour Permit Parking	4	4	3	3	3	1	1	1	3
	West Curb	12 Hour Permit Parking	1	0	1	1	0	0	0	0	0
North Union Ave	East Curb	1.5 Hour Parking	10	6	7	7	6	8	9	6	8
	West Curb	1.5 Hour Parking	18	10	12	10	12	11	8	15	11
Springfield Ave	South Curb	2 Hour Parking	14	8	7	6	7	9	3	4	2
Miln Street	East Curb	15-min Parking	3	1	1	0	0	1	0	0	0
		1.5 Hour Parking	11	8	9	11	8	5	6	8	7
		9 Hour Permit Parking	11	2	2	2	2	3	6	9	1
	West Curb	1.5 Hour Parking	9	7	8	10	7	6	4	9	8
		9 Hour Permit Parking	9	4	4	3	2	2	3	6	5
	Post Office	15-min parking	2	2	2	2	1	0	0	0	2
Alden St	North Curb	1.5 Hour Parking	15	12	4	12	13	12	11	5	14
		2 Hour Parking	11	6	6	4	4	2	5	9	5
	South Curb	1.5 Hour Parking	16	12	4	11	10	8	14	4	11
		2 Hour Parking	16	11	11	10	9	9	7	13	12
North Ave Post Office Plaza		1.5 Hour Parking	10	10	10	10	10	10	8	9	10
Eastman St	North Curb	1.5 Hour Parking	11	3	6	8	7	7	7	5	9
		9 Hour Permit Parking	5	5	4	5	4	3	2	2	4
	South Curb	1.5 Hour Parking	10	6	6	6	6	7	6	8	2
Eastman Plaza		1.5 Hour Parking	10	10	10	10	10	9	4	8	9
Warner Plaza		1.5 Hour Parking	10	8	6	6	6	4	4	2	3
North Ave W	North Curb	30-min parking	9	5	3	3	1	6	3	6	5
		1.5 Hour Parking	20	20	18	16	17	3	15	18	15
	South Curb	1.5 Hour Parking	10	9	2	8	11	8	3	9	8
Holly Street	East Curb	2 Hour Parking	29	8	8	6	8	4	6	5	8
	West Curb	2 Hour Parking	27	5	6	7	7	5	4	8	8
Retford Avenue	North Curb	1.5 Hour Parking	3	3	3	2	2	3	3	3	2
		Total	506	285	291	311	293	233	241	289	310
			Utilization Rate	**56%**	**58%**	**61%**	**58%**	**46%**	**48%**	**57%**	**61%**

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Appendix B: Implementation Matrix

Implementation Matrix

Recommendation Category	#	Recommendation	Cost	Impact	Level of Difficulty	Priority
A. Adding Availability in Key Areas	1	Create a new special permit for employees of the Downtown area by converting the existing 2-hour free on-street parking along Holly Street to permit parking and at underutilized lots during the weekdays (e.g. consider Lots 2, 3, 8, and 19).	$$$	●●●	●●○	●●○
	2.	Modify weekend regulations at Lot 6 and Lot 8 (12-hour permit parking lots) to allow for overflow shopper parking.	$$$	●●●	●●○	●●○
	3.	Convert existing 1.5 hour metered on-street parking spaces to designated pick-up spaces for customers – one space along North Ave W and two spaces along Eastman Plaza.	$$$	●●●	●●○	●●●
B. Wayfinding	1.	Create a signage and wayfinding plan to better serve residents and visitors.	$$$	●○○	●○○	●●○
	2.	Perform inventory study of parking signing to upgrade and/or refresh signing where possible to improve parker compliance with regulations.	$$$	●●○	●●○	●●○
	3.	Create clearer distinction between permitted and metered parking in mixed parking lots through striping and signing improvements.	$$$	●●●	●●○	●●○
C. Improving communication and coordination	1.	Revise the website to include a contact form for feedback, easier permit applications, information regarding "Where to Park", and to provide relevant parking news and updates.	$$$	●●○	●○○	●●●
	2.	Utilize QR codes connected to the parking website landing page on fliers throughout the downtown area.	$$$	●○○	●○○	●○○
	3.	Utilize an email list with businesses and owners in the downtown area to send targeted information to landlords/tenants to inform them of availability of permits on a quarterly basis and faciliate connections between busineeses, owners, and residents.	$$$	●●○	●○○	●●○
	4.	Rebrand lots with naming conventions that are more intuitive to the lot location and/or purpose.	$$$	●●○	●○○	●●○
	5.	Provide first 10-mins of parking free in all off-street lots and communicate through signing	$$$	●○○	●●○	●●○
D. Leveraging Technology	1.	Upgrade all parking meters to smart meters.	$$$	●●○	●●○	●●○
	2.	Extend on-street meter payment times past 6pm and until 8pm.	$$$	●●○	●○○	●○○
	3.	Raise the price of parking in designated areas.	$$$	●●○	●●○	●○○
	4.	Adapt meter pricing and parking app software to reflect a tiered pricing model.	$$$	●●○	●●○	●○○
E. Municipal Improvements	1.	Create a position within the Township dedicated to managing the operations and maintenance of parking, as well as a dedicated parking bank to fund improvements to parking infrastructure in the downtown.	$$$	●●○	●●●	●○○
	2.	Revise parking ticket penalties in municipal code to increase fines for repeat offenders.	$$$	●○○	●●○	●○○
	3.	Provide additional capacity for electric vehicle (EV) charging at on- and off-street locations.	$$$	●○○	●●○	●○○
	4.	Increase the cost of 12-hour permit parking for those who live out of town.	$$$	●●○	●○○	●●●
	5.	Increase parking enforcement.	$$$	●●○	●●○	●●○
	6a.	Determine the feasibility of adding bike lanes along prime entry points into Cranford, such as Walnut Avenue and Springfield Avenue.	$$$	●●●	●●●	●●○
	6b.	Provide additional bike parking.	$$$	●●○	●●○	●○○

Appendix C: Proposed Parking Inventory

Appendix C: Proposed Parking Inventory

Proposed On-Street Parking Inventory

Street	Curb	Regulation	Existing Supply	Proposed Re-Allocation	Proposed Supply
South Ave W	North Curb	1.5 Hour Parking	32		32
		2 Hour Parking	6	3	3
		New Employee Permit			3
		12 Hour Permit Parking	26		26
	South Curb	Unrestricted	11		11
		1.5 Hour Parking	26	1	25
		Express Parking			1
Washington Place	East Curb	2 Hour Parking	13		13
	West Curb	2 Hour Parking	13		13
Cherry Street	South Curb	2 Hour Parking	8		8
South Union Ave	East Curb	1.5 Hour Parking	7		7
	West Curb	1.5 Hour Parking	13	1	12
		Express Parking			1
Walnut Ave	East Curb	1.5 Hour Parking	15		15
	West Curb	1.5 Hour Parking	7		7
Chestnut Street	North Curb	12 Hour Permit Parking	9		9
	South Curb	12 Hour Permit Parking	9		9
High Street	East Curb	1.5 Hour Parking	7		7
		12 Hour Permit Parking	4		4
	West Curb	12 Hour Permit Parking	1		1
North Union Ave	East Curb	1.5 Hour Parking	10	1	9
		Express Parking			1
	West Curb	1.5 Hour Parking	18		18
Springfield Ave	South Curb	2 Hour Parking	14		14
Miln Street	East Curb	15-min Parking	3		3
		1.5 Hour Parking	11		11
		9 Hour Permit Parking	11		11
	West Curb	1.5 Hour Parking	9		9
		9 Hour Permit Parking	9		9
	Post Office	15-min Parking	2		2
Alden St	North Curb	1.5 Hour Parking	15		15
		2 Hour Parking	11	6	5
		New Employee Permit			6
	South Curb	1.5 Hour Parking	16		16
		2 Hour Parking	16		16
North Ave Post Office Plaza		1.5 Hour Parking	10		10
Eastman St	North Curb	1.5 Hour Parking	11		11
		9 Hour Permit Parking	5		5
	South Curb	1.5 Hour Parking	10		10
Eastman Plaza		1.5 Hour Parking	10	2	8
		Express Parking			2
Warner Plaza		1.5 Hour Parking	10		10
North Ave W	North Curb	30-min parking	9		9
		1.5 Hour Parking	20		20
	South Curb	1.5 Hour Parking	10	1	9
		Express Parking			1
Holly Street	East Curb	2 Hour Parking	29	29	0
		Flex 2 hr/ Permit Parking			29
	West Curb	2 Hour Parking	27		27
Retford Avenue	North Curb	1.5 Hour Parking	3		3
		Total	506		506

Proposed Table Key

##	Parking Supply Added
##	Parking Supply Relocated

Proposed Off-Street Lot Parking Inventory - for Weekday Parking

Existing Off-Street Parking Supply - Weekday								
Lot Number	Description	Meter				Permit		
		3-Hour	4-Hour	9-Hour	12-Hour	9-Hour	12-Hour	
1	Union Ave Lot	56				25		
2	Parking Garage		34	53	15	4	123	
3	Train Station Plaza Ext					42		
4	Train Station Lot South Ave						162	
6	Chestnut Street Lot				60		17	
7	Miln Street Lot	89				46		
8	PSEG South Ave Lot						31	
11	Alden Street Lot	20				6		
14	North Ave Warner Plaza	19						
19	North Ave Lot						21	

Proposed Modifications - Weekday								
Lot Number	Description	Meter				Permit		
		3-Hour	4-Hour	9-Hour	12-Hour	9-Hour	12-Hour	Special*
1	Union Ave Lot							
2	Parking Garage	+34	-34				-40	+40
3	Train Station Plaza Ext							
4	Train Station Lot South Ave							
6	Chestnut Street Lot							
7	Miln Street Lot							
8	PSEG South Ave Lot						-31	+31
11	Alden Street Lot							
14	North Ave Warner Plaza							
19	North Ave Lot							

**Special Employee permit to be offered at reduced rate*

Proposed Off-Street Parking Program - Weekday								
Lot Number	Description	Meter				Permit		
		3-Hour	4-Hour	9-Hour	12-Hour	9-Hour	12-Hour	Special*
1	Union Ave Lot	56				25		
2	Parking Garage	34		53	15	4	83	40
3	Train Station Plaza Ext					42		
4	Train Station Lot South Ave						162	
6	Chestnut Street Lot				60		17	
7	Miln Street Lot	89				46		
8	PSEG South Ave Lot							31
11	Alden Street Lot	20				6		
14	North Ave Warner Plaza	19						
19	North Ave Lot						21	

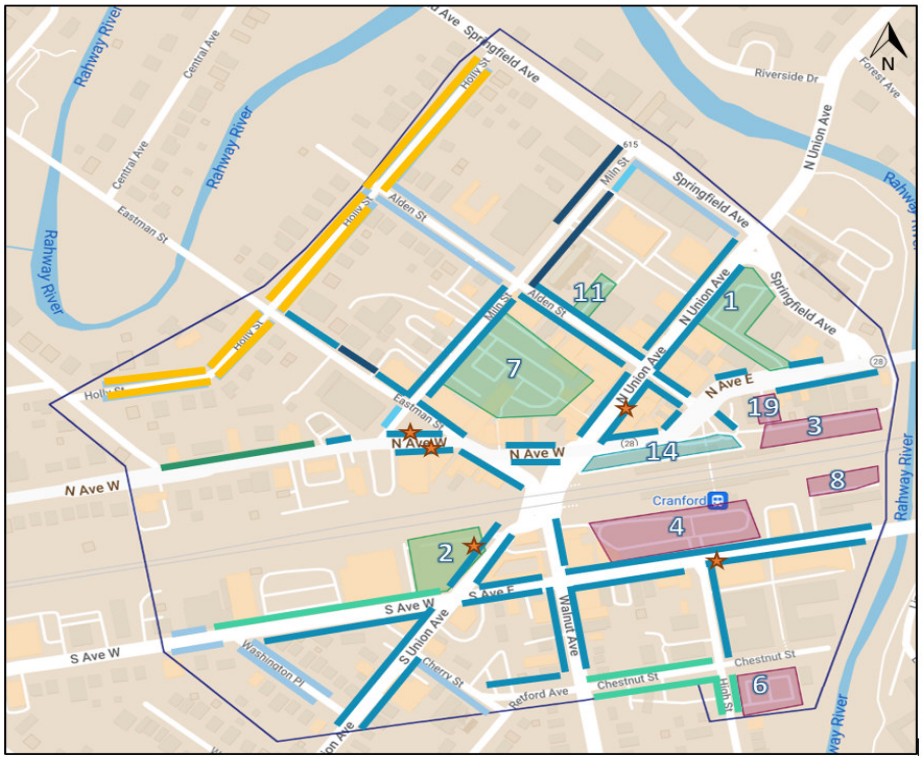
**Special Employee permit to be offered at reduced rate*

Proposed Table Key

##	Parking Supply Added
##	Parking Supply Relocated

Lot Key

Proposed Parking Map (Weekday)



Legend

15-min parking 6am-6pm
30 Minute Parking 6am to 4:30pm
2 Hour Parking
1.5 Hour Meter Parking
9 Hour Permit Parking
12 Hour Permit Parking

Exclusively Shopper Parking
Exclusively Permit Parking
Shopper and Permit Parking

New Employee Permit
Express parking locations

Proposed Off-Street Lot Parking Inventory - for Weekend Parking

Existing Off-Street Parking Supply - Weekend								
Lot Number	Description	Meter				Permit		
		3-Hour	4-Hour	9-Hour	12-Hour	9-Hour	12-Hour	
1	Union Ave Lot	56				25		
2	Parking Garage		34	53	15	4	123	
3	Train Station Plaza Ext					42		
4	Train Station Lot South Ave						162	
6	Chestnut Street Lot				60		17	
7	Miln Street Lot	89				46		
8	PSEG South Ave Lot						31	
11	Alden Street Lot	20				6		
14	North Ave Warner Plaza	19						
19	North Ave Lot						21	

Proposed Modifications - Weekend								
Lot Number	Description	Meter				Permit		
		3-Hour	4-Hour	9-Hour	12-Hour	9-Hour	12-Hour	Special*
1	Union Ave Lot							
2	Parking Garage	+34	-34				-40	+40
3	Train Station Plaza Ext							
4	Train Station Lot South Ave							
6	Chestnut Street Lot	+17					-17	
7	Miln Street Lot							
8	PSEG South Ave Lot						-31	+31
11	Alden Street Lot							
14	North Ave Warner Plaza							
19	North Ave Lot							

**Special Employee permit to be offered at reduced rate*

Proposed Off-Street Parking Program - Weekend								
Lot Number	Description	Meter				Permit		
		3-Hour	4-Hour	9-Hour	12-Hour	9-Hour	12-Hour	Special*
1	Union Ave Lot	56				25		
2	Parking Garage	34		53	15	4	83	40
3	Train Station Plaza Ext					42		
4	Train Station Lot South Ave						162	
6	Chestnut Street Lot	17			60			
7	Miln Street Lot	89				46		
8	PSEG South Ave Lot							31
11	Alden Street Lot	20				6		
14	North Ave Warner Plaza	19						
19	North Ave Lot						21	

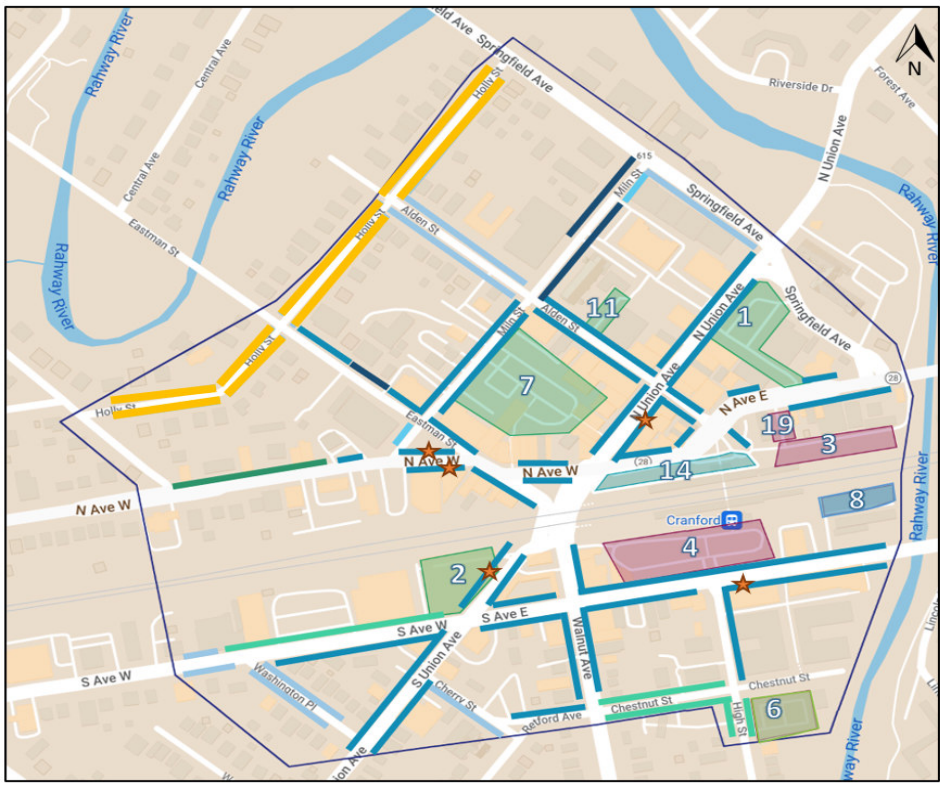
**Special Employee permit to be offered at reduced rate*

Proposed Table Key

##	Parking Supply Added
##	Parking Supply Relocated

Lot Key

Proposed Parking Map (Weekend)



Legend

15-min parking 6am-6pm
30 Minute Parking 6am to 4:30pm
2 Hour Parking
1.5 Hour Meter Parking
9 Hour Permit Parking
12 Hour Permit Parking

New Employee Permit
Express parking locations

Exclusively Shopper Parking
Exclusively Permit Parking
Shopper and Permit Parking