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March 10, 2022

Jon Hartman-Brown
Economic Development Director
Town of Carrboro
301 W. Main Street
Carrboro, NC 27510

Re: Downtown Carrboro Parking Study
Walker Project No. 19-001201.00

Dear Eric:

Walker Consultants is pleased to release to you our report for the Downtown Carrboro Parking Study.

We appreciate the opportunity to be of service to you on this project. If you have any questions or comments, please do not hesitate to call.

Sincerely,

WALKER CONSULTANTS

A handwritten signature in black ink, appearing to read "JRM", with a long horizontal stroke extending to the right.

Jon R. Martens, AICP, CAPP
Project Manager

A handwritten signature in black ink, appearing to read "David M. Garza", with a long horizontal stroke extending to the right.

David M. Garza
Analyst

Enclosure



Parking Study Downtown Carrboro

Town of Carrboro, North Carolina

March 10, 2022 **Final Report**

Prepared for: Jon Hartman-Brown
Economic Development Director
Town of Carrboro



WALKER
CONSULTANTS

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Executive Summary

Walker Consultants (“Walker”) was engaged by the Town of Carrboro (“Carrboro” and/or “Town”) to perform a parking study (“Study”) for the downtown in Carrboro, North Carolina in late 2019. The study was put on hold due to Covid. The Town listed the purpose of the Study specifically to assist with planning and possible implementation of a paid parking system.

“The purpose of this request is to obtain professional consulting services to assist the Town of Carrboro with planning and possible implementation of a paid parking system for Town operated parking spaces within downtown business district.”

The focus of the work includes:

1. Stakeholder Engagement – to gauge the perceived impacts on businesses and customers from implementing paid parking.
2. Data Review and Analysis – collect and review parking supply and occupancy.
3. Parking Technology, Payment Systems and Scalability – Review options for managing paid parking, including multiple payment methods and scalability of solutions that might benefit the private sector.
4. Parking Enforcement and Operations – Review best practices for parking enforcement, operations, and maintenance procedures and provide examples from other cities.
5. Parking Costs and Revenue – provide an opinion of costs and potential revenue from implementing paid parking.
6. Analysis of Equity Impacts – consider the impact of the current free parking and move to paid parking as it relates to the cost of providing parking.

The delays caused by Covid resulted in on-site visits being delayed to the third quarter of 2021.

Key Study Findings

In our field surveys, Walker observed and documented the following conditions, which form the basis of our supply/demand analysis:

- Overall, there is ample existing space availability across the downtown with approximately **3,604 ± private and public spaces serving existing downtown businesses.**
- Approximately **81 percent of the total inventory is privately held off-street parking** for business users and employees with some facilities offering public accommodation after-hours. The remaining **19 percent of the space inventory is provided as public parking, primarily in small off-street lots and the Hampton Inn Garage, with limited on-street parking.**
- Occupancy space counts were performed, a Thursday and Saturday in late September with follow-up checks in mid-October. Occupancy counts were recorded between 9:00 a.m. and 9:00 pm to capture the typical weekday and weekend conditions. The **overall peak activity was recorded during the weekday around 11:00 am, with 41% of the spaces occupied.** Weekend activity also peaked during the 11:00 am observation, with 34% of the spaces occupied.

- The **peak occupancy time was similarly recorded around the 11:00 am hour during the 2017 study**, although the 2017 study recorded a slightly higher overall occupancy of 53% on a Thursday in April. This small variance may be partially due to seasonality changes, the impact of Covid, which is something that we have noted in other parts of the country, as well as not including areas devoted to vehicle maintenance and care, which are not reflective of actual parking demand.
- Parking turnover within the public parking spaces indicates that **50% of the users exceed the posted 2-hour limit**.
- Enforcement of the time limit is not being done on a regular basis and was not observed. In addition, the signage lacks the days of the week the time limits are enforced, adding to potential confusion.
- Finding public parking is difficult to locate unless users are familiar with where to find it.

Key Recommendations

Based on the field data collected, parking program details reviewed, and our extensive experience with parking policies across downtown districts nationwide, the following summary of recommendations are provided.

- Enforce parking on a routine and consistent basis with a minimum of one dedicated FTE parking enforcement officer enforcing across all hours of enforcement.
- Paid parking should be considered as a viable option to cover the costs of enforcement, management, and providing public parking assets. Our detailed analysis provides conceptual revenue and expenses to implement, with the goal of being a self-funding system.
- Create public parking brochures, maps, and other parking program details available to users on a dedicated parking webpage.
- Create a parking advisory committee made up of business owners and downtown stakeholders to advise the Town on parking issues to meet on a semi-frequent basis.
- Implement uniform parking wayfinding and directional signage to direct users to publicly available parking areas.
- Explore shared parking opportunities between public and private lot owners across evening and weekend hours.
- Set aside any parking revenues into a separate parking auxiliary enterprise to fund enforcement costs and basic maintenance of the parking system.



01 Introduction

Study Overview

The Town of Carrboro, North Carolina (“Town”) issued an RFP for Planning Services in August 2019 and selected Walker Consultants (“Walker”) for the assignment in late 2019. Covid effectively paused the effort in 2020 before re-engaging the process in 2021. Public parking remains a priority for the Town, especially given the planned developments and growing interest in the area.

Study Purpose

The Town listed the purpose of the parking study (“Study”) specifically to assist with planning and possible implementation of a paid parking system.

“The purpose of this request is to obtain professional consulting services to assist the Town of Carrboro with planning and possible implementation of a paid parking system for Town operated parking spaces within downtown business district.”

Study Objectives

The Town listed the following key areas of focus for the study effort:

1. Stakeholder Engagement – to gauge the perceived impacts on businesses and customers from implementing paid parking.
2. Data Review and Analysis – collect and review parking supply and occupancy.
3. Parking Technology, Payment Systems and Scalability – Review options for managing paid parking, including multiple payment methods and scalability of solutions that might benefit the private sector.
4. Parking Enforcement and Operations – Review best practices for parking enforcement, operations, and maintenance procedures and provide examples from other cities.
5. Parking Costs and Revenue – provide an opinion of costs and potential revenue from implementing paid parking.
6. Analysis of Equity Impacts – consider the impact of the current free parking and move to paid parking as it relates to the cost of providing parking.

Study Process

To meet the needs of the Town and address downtown parking issues, Walker reviewed the previous parking study, conducted observations to understand parking activities, supply, and demand, and provided recommendations on parking technology and operations to manage the public parking. Outreach with staff, the local business community and council members was done to gain an understanding and gauge how parking is viewed in Carrboro. The previous study focused on public input, which was also considered as part of the overall study effort.

The following Figure depicts the general process of the parking study, with some delay in the overall effort due to the impacts of the Pandemic.

Figure 1: Parking Study Flow



Source: Walker Consultants, 2021

Study Area

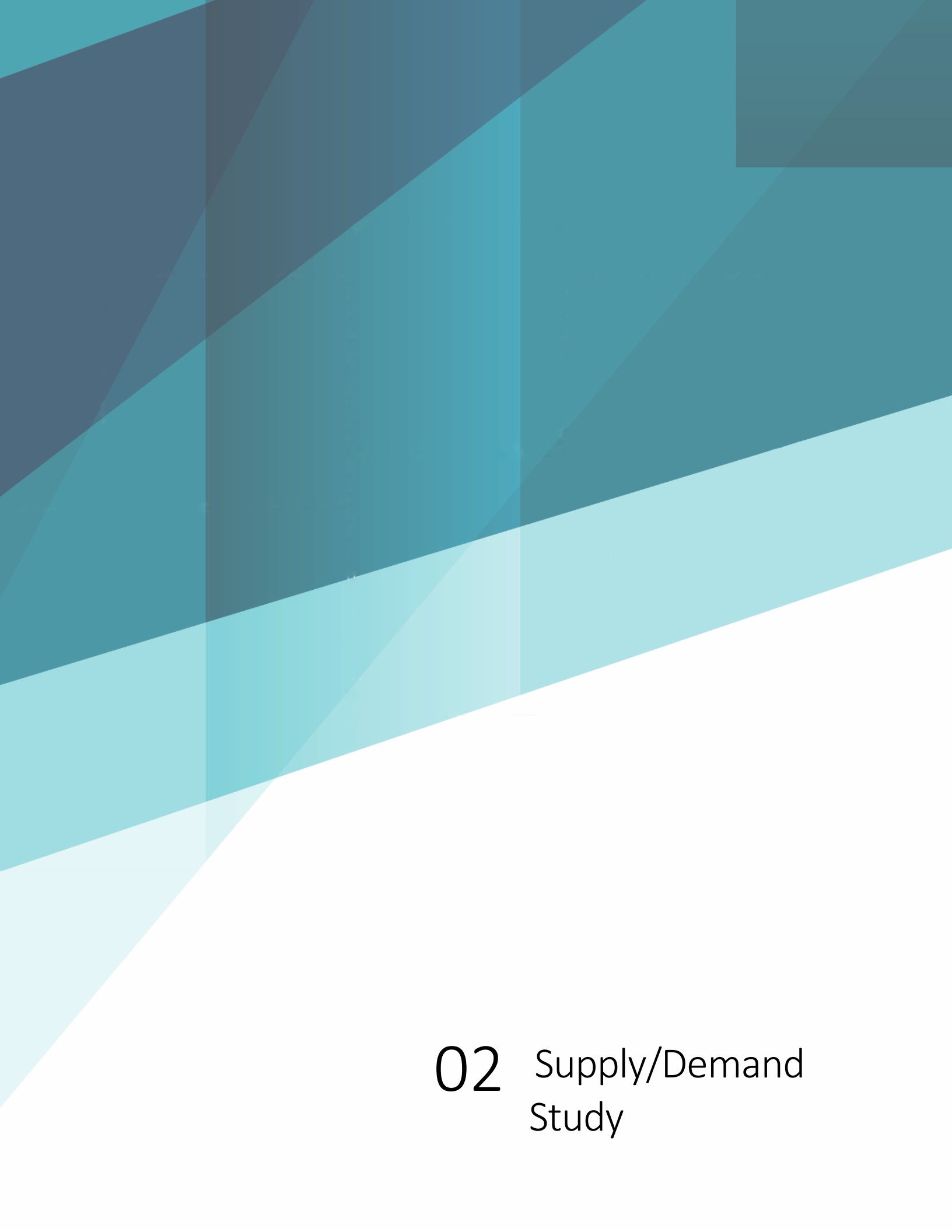
The study area is focused on downtown Carrboro using the same general focus area from the 2017 parking study. For analysis purposes, the area is further divided into 29 sub-areas to allow for analysis of the data in smaller localized areas. Parking areas that provide vehicle storage or service as part of their normal business activity are not included in our survey. This includes vehicle repair, car wash, gas stations, and similar businesses.

The following figure depicts our study area for the downtown with each of the 29 sub-areas identified. Public parking is provided by the Town within several small surface lots as well as a portion of the parking structure that serves the Hampton Inn and Suites. The public surface parking lots are depicted in black with hashed lines while the public parking garage area is depicted in white with hashed lines. On-street parking is identified with a solid line along the street where it is available. Private parking areas surveyed are depicted within dotted areas.

Figure 2: Study Area



Source: Walker Consultants, 2021



02 Supply/Demand Study

Supply/Demand Study

The following section of our Study provides an overview of existing parking conditions in downtown Carrboro, including:

- Parking inventory
- Parking occupancies
- Parking space turnover and duration survey

The findings of the supply and demand component of the project are the foundation of an effective parking plan. Before we can identify opportunities to develop or improve parking or recommend changes to existing parking policies, we must first have a solid understanding of existing conditions within the Study Area. This analysis provides a framework for recommendations that result from the study process.

Field Survey

The project team conducted field observations to confirm inventory, record occupancy counts, and conduct a turnover observation from Thursday September 23rd through Saturday September 25th as well as an additional confirming observation on Thursday, October 14th. The goal of this exercise was to observe typical parking conditions in the downtown Study Area. The objective of our field work was to answer the following questions:

- What is the parking supply?
- What is the parking demand?
- Is there a surplus or deficit?
- Is additional parking required? If so, how much?
- Who needs additional parking?
- How do these observations compare with the original study completed in 2017?

How Many Parking Spaces are in the CBD?

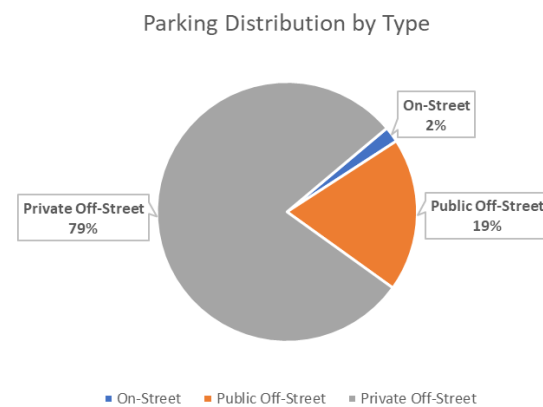
The Walker identified approximately 3,604 ± spaces across the Study Area supporting commercial use.

Excluded from this space inventory are vehicles parked for the primary use of the business, such as a gas station, car wash, car repair or other similar business. Also excluded were privately-owned parking located in driveways and attached and detached-garages associated with townhouses and single-family homes as well as access-controlled/ gated properties.

The following figure provides a detail of the parking inventoried and considered in our analysis.

Figure 3: Parking Space Inventory

Block	On-Street	Public	Private	Total
1	23	-	188	211
2	13	83	6	102
3	-	-	47	47
4	-	-	47	47
5	-	-	87	87
6	-	17	93	110
7	-	32	120	152
8	-	39	113	152
9	9	-	19	28
10	-	-	88	88
11	-	-	78	78
12	-	-	220	220
13	-	-	315	315
14	-	-	217	217
15	-	20	-	20
16	-	-	38	38
17	-	11	63	74
18	-	-	158	158
19	-	-	27	27
20	-	35	114	149
21	-	36	-	36
22	10	89	22	121
23	-	-	250	250
24	10	-	98	108
25	-	337	317	654
26	-	-	12	12
27	7	-	34	41
28	-	-	82	82
29	-	-	42	42
Totals:	72	699	2,895	3,666



The table reflects the following changes to the supply from the initial data collection in September 2021 to include changes at the time of this report in March 2022:

- Added 62 public spaces behind the Arts Center in Block 25
- Changed 20 spaces in Block 15 from private to public (new lease)
- Note 52 spaces in Block 5 are available as public parking during non-business hours (Finch Lumber)

Parking Type	Spaces	Percent
On-Street	72	2%
Public Off-Street	699	19%
Private Off-Street	2,895	79%
Total Parking Supply	3,666	100%

Source: Walker Consultants, 2021- 2022

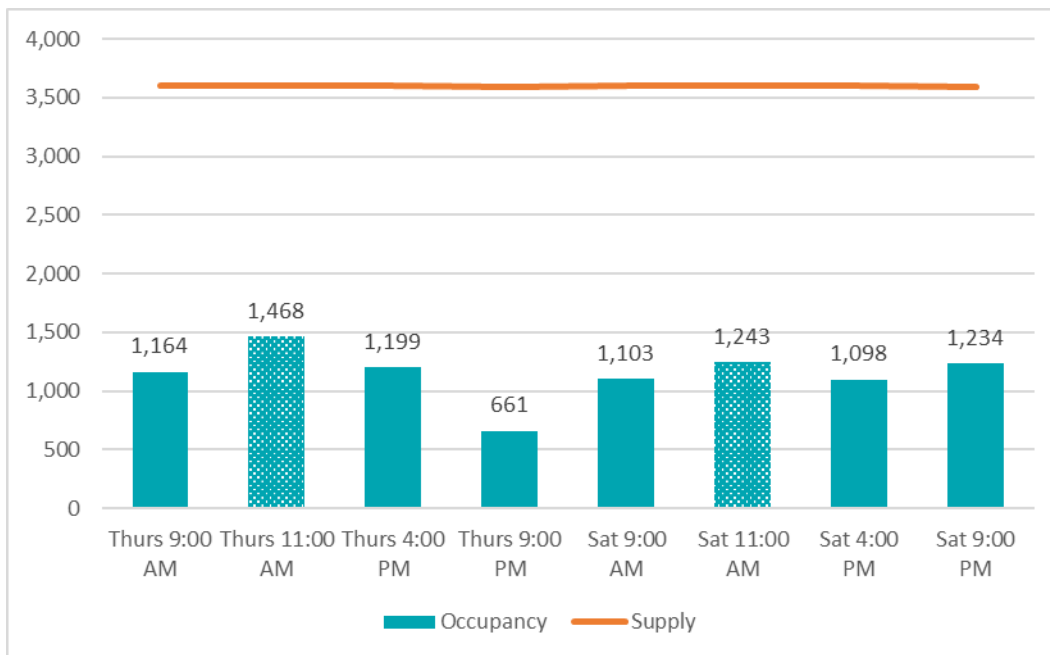
Approximately 79 percent of the parking inventory is privately held off-street parking, providing on-site access for business customers and employees. Public parking is allowed within 19 percent of the survey area, while the remaining 2 percent is provided as on-street parking. A few of the off-street private parking areas allow public use during non-business hours and some on-street parking is only available during certain periods. It is worth noting that there are 52 spaces at Fitch Lumber in block that allow public parking during non-business hours.

Parking Occupancy

Walker conducted parking space occupancy counts on a Thursday and Saturday in late September with follow-up checks in mid-October. Occupancy counts were recorded between 9:00 a.m. and 9:00 pm to capture the typical weekday and weekend conditions. The overall peak activity was recorded during the weekday around 11:00 am, with 41% of the spaces occupied. Weekend activity also peaked during the 11:00 am observation, with 34% of the spaces occupied. The peak occupancy time was similarly recorded around the 11:00 am hour during the 2017 study, although the 2017 study recorded a slightly higher overall occupancy of 53% on a Thursday in April. This small variance may be partially due to seasonality changes, the impact of Covid, which is something that we have noted in other parts of the country, as well as not including areas devoted to vehicle maintenance and care, which are not reflective of actual parking demand.

The following figure depicts the results of all occupancy periods recorded compared with the available parking supply at the time of the observations. The variation in the supply accounts for a small number of on-street spaces that are only available during certain days/hours around the Town Hall as well as a small number of private spaces that are closed off to parking in the evenings.

Figure 4: Total Parking Space Occupancy



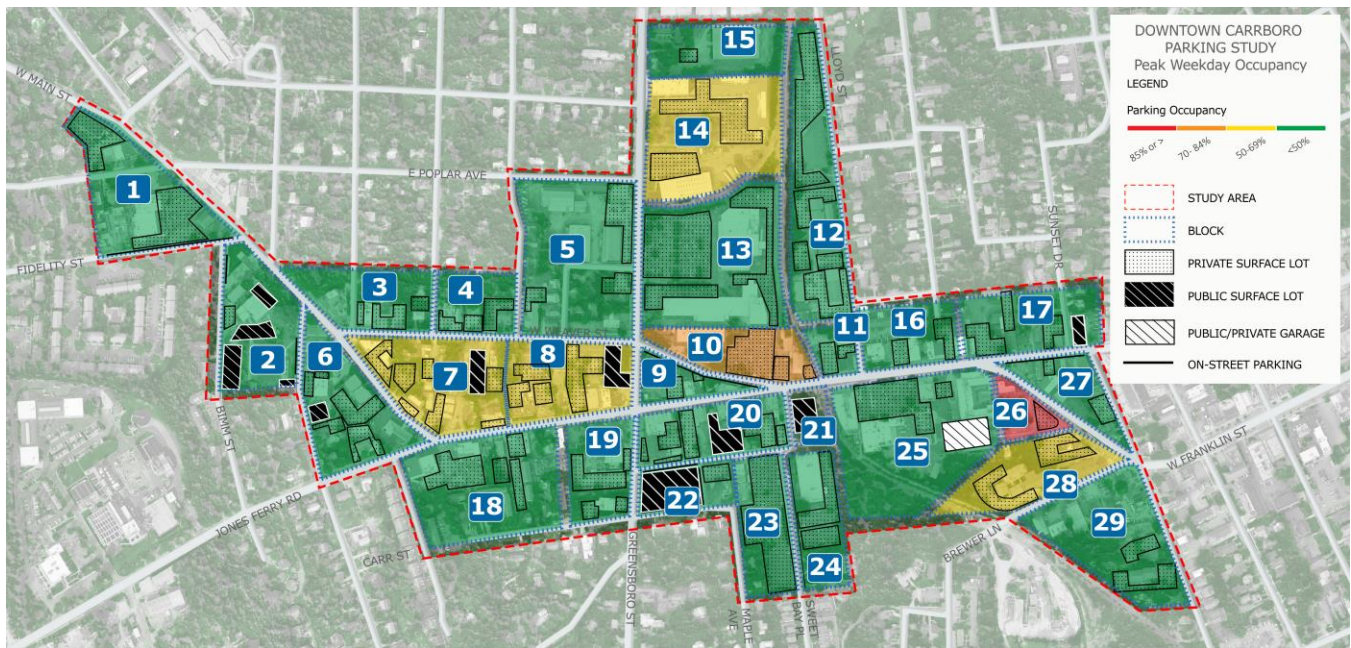
Source: Walker Consultants, 2021

When considering parking occupancy, it is important to understand how the occupancy varies by type. This helps shape the understanding of how parking is used, parking availability may vary by type.

Parking Occupancy Visualized

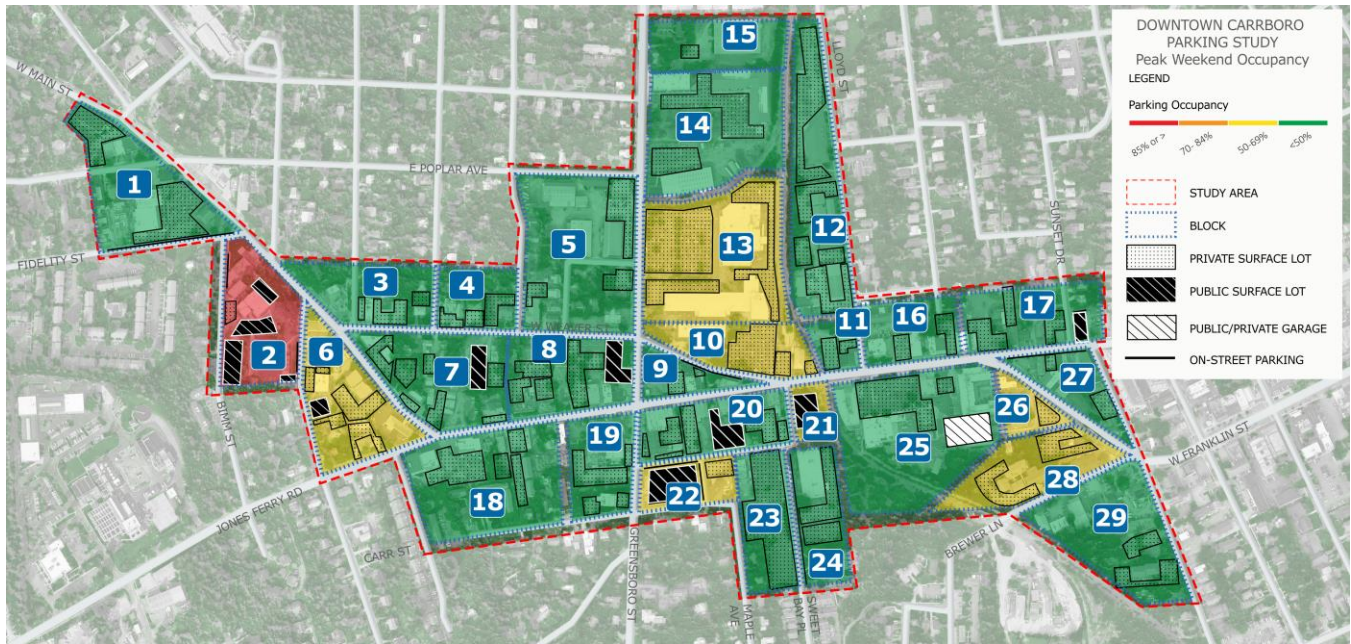
The following series of “heat maps” visualize parking occupancy for the peak periods over a Weekday and Saturday. The colors associated with the occupancy percentages are meant to provide a general guide to current parking occupancy levels. Areas with limited parking are shown in red, with occupancy at 85 percent or higher; orange blocks are approaching this level, with occupancy at 70-84 percent; occupancy within yellow blocks had 50-69 percent occupancy; and green blocks had the lowest occupancy at lower than 50 percent.

Figure 5: Thursday – Observed Peak Parking Occupancy (11:00 am) – Heat Map



Source: Walker Consultants, 2021

Figure 6: Saturday – Observed Peak Parking Occupancy (11:00 am) - Heat Map



Source: Walker Consultants, 2021

The overall parking occupancy of the system is helpful; however, it is important to consider smaller areas where parking may be difficult to find at different times of the day as well as the occupancy of the public parking areas.

Public Parking

Walker segmented our analysis of the parking supply/ demand to understand parking usage by parking type. The following figures depict our comparison of the total public parking supply to the total observed parking demand for a Thursday and Saturday during the Fall when the observations were made.

The overall peak public demand during a weekday remained at 11:00 am, while the peak Saturday changed to the 9:00 pm evening observation. During the Saturday observation the public parking within the garage was a driving factor of the public demand. The following page provides a heat map depicting the observed peak public parking demand periods for both a Weekday and Saturday.

Figure 7: Public Parking Weekday Peak Observed Hour (11:00 am)



Source: Walker Consultants, 2021

None of the public parking areas experienced significant demand during our observations during the weekday overall peak hour, recorded at 11:00 a.m. on a Thursday.

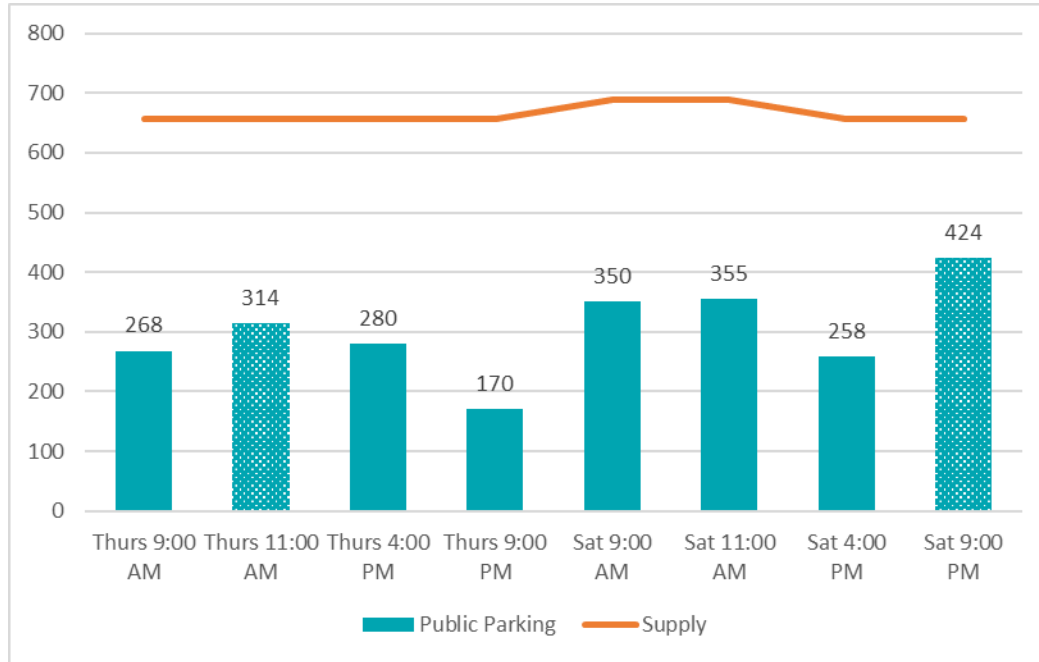
Figure 8: Public Parking Saturday Peak Observed Hour (11:00 am)



Source: Walker Consultants, 2021

The overall downtown peak hour matched the peak public parking time during the Thursday observation (11:00 am), but occurred later in the day on the Saturday (9:00 pm vs. overall peak at 11:00 am). The following figure details the observed public parking for both a Weekday and Saturday.

Figure 9: Public Parking Utilization



Source: Walker Consultants, 2021

The Saturday peak hour for public parking was in the evening, primarily due to parking in the Hampton Inn and Suites public parking areas.

A detailed summary by public parking location is provided in the following figures for both off-street and on-street parking, reflective of the available supply at the time of the observations.

Figure 10: Public Off-Street Parking Utilization – Fall Thursday and Saturday

Block	Name	Type	Total Spaces	Weekday				Saturday			
				9:00 AM	11:00 AM	4:00 PM	9:00 PM	9:00 AM	11:00 AM	4:00 PM	9:00 PM
2	Carrboro Park Lot 1	Surface Lot	32	34%	25%	19%	13%	103%	103%	22%	6%
2	Town Hall Side Lot	Surface Lot	31	65%	61%	52%	23%	87%	94%	42%	16%
2	Town Hall Front Lot	Surface Lot	15	47%	67%	20%	0%	100%	93%	33%	7%
2	Carrboro Park Lot 2	Surface Lot	5	0%	20%	20%	0%	100%	40%	40%	0%
17	Merritt Lot 2	Surface Lot	11	73%	73%	55%	36%	55%	45%	55%	100%
21	Roberson Lot 3	Surface Lot	36	69%	81%	42%	36%	78%	69%	42%	103%
20	Roberson Lot 4	Surface Lot	35	80%	77%	91%	80%	31%	40%	34%	97%
22	Roberson/Greensboro Lot 5	Surface Lot	89	24%	37%	48%	42%	31%	55%	55%	93%
8	Weaver/Greensboro Lot 6	Surface Lot	39	77%	74%	44%	10%	59%	64%	41%	41%
7	Weaver Lot 7	Surface Lot	32	59%	72%	56%	16%	31%	47%	13%	22%
6	Laurel Muni Lot 8	Surface Lot	17	24%	29%	41%	0%	100%	88%	24%	18%
25	Parking Garage Public Areas	Garage	275	29%	38%	35%	21%	32%	30%	35%	74%

Source: Walker Consultants, 2021

Figure 11: On-Street Public Parking Utilization – Fall Thursday and Saturday

Name	Type	Total Spaces	Weekday				Saturday			
			9:00 AM	11:00 AM	4:00 PM	9:00 PM	9:00 AM	11:00 AM	4:00 PM	9:00 PM
Fedality Street	On-Street	23	0%	0%	0%	0%	100%	39%	0%	0%
Bim Street	On-Street	3	67%	67%	67%	67%	100%	100%	67%	67%
Laurel Avenue	On-Street	10	0%	0%	0%	0%	110%	110%	0%	0%
Weaver Street	On-Street	9	44%	67%	56%	33%	44%	78%	67%	44%
Roberson Street	On-Street	5	0%	40%	100%	60%	100%	80%	100%	120%
Maple Avenue	On-Street	5	0%	0%	0%	0%	80%	80%	60%	0%
Sweet Bay Place	On-Street	10	0%	0%	0%	0%	20%	40%	40%	20%
Main Street	On-Street	7	114%	100%	100%	43%	100%	71%	114%	100%

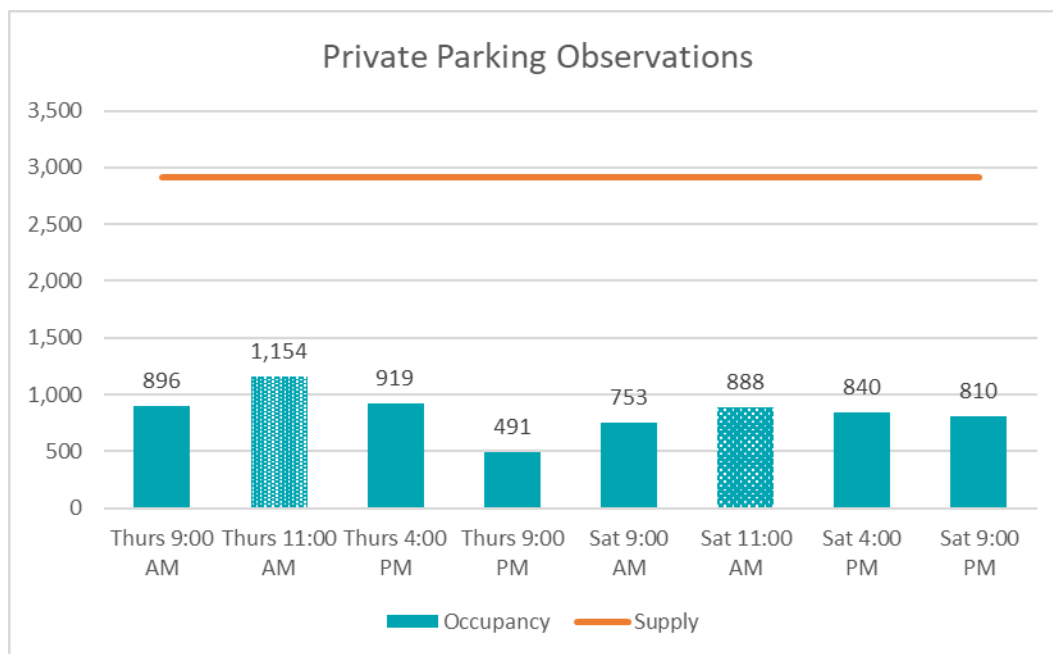
Source: Walker Consultants, 2021

Some on-street parking areas are only available during specific times for use during events at the Town Hall. This includes the parking along Fidelity Street and Laurel Avenue.

Private Off-Street

Private off-street parking accounts for just over 80 percent of the total parking space inventory across the Study Area at the time of the observations. Walker surveyed private spaces to understand current utilization patterns for private parking spaces. Private parking utilization varies by location and is generally signed by the owner or business restricting it's use. The amount of restrictive signage, some with time limits and warnings, is somewhat informative of how important parking is for the local businesses. The following summarizes the private off-street supply to the observed demand for a Weekday and Saturday.

Figure 12: Private Off-Street Parking Utilization



Source: Walker Consultants, 2021

Considering the entire area, private parking utilization was observed to peak with 40% during the Weekday and 30% during a Saturday. These occupancies are lower than the observed Public Parking occupancies. It is important to consider each area within the study area to determine if there are localized hot spots of demand. The following figure provides this comparison based on the smaller blocks within the study area by observation period.

Figure 13: Private Parking Utilization by Block

Block	Private Supply	Weekday				Saturday			
		9:00 AM	11:00 AM	4:00 PM	9:00 PM	9:00 AM	11:00 AM	4:00 PM	9:00 PM
1	188	23%	34%	35%	14%	38%	43%	29%	19%
2	6	67%	50%	67%	67%	83%	83%	67%	67%
3	47	15%	19%	6%	0%	32%	17%	4%	0%
4	47	49%	49%	38%	2%	11%	11%	4%	9%
5	87	37%	45%	20%	6%	14%	21%	10%	5%
6	93	30%	41%	22%	1%	30%	48%	18%	2%
7	120	44%	54%	43%	23%	23%	29%	38%	20%
8	113	37%	57%	19%	7%	16%	21%	18%	16%
9	19	37%	32%	63%	21%	16%	26%	32%	21%
10	88	24%	82%	77%	17%	44%	65%	55%	69%
11	78	22%	27%	15%	14%	1%	8%	12%	19%
12	220	38%	38%	17%	1%	10%	8%	1%	1%
13	315	33%	49%	48%	16%	33%	53%	56%	46%
14	217	48%	55%	40%	47%	40%	41%	45%	39%
15	20	25%	25%	0%	0%	0%	0%	0%	0%
16	38	34%	45%	66%	11%	26%	21%	47%	53%
17	63	41%	38%	35%	33%	22%	22%	33%	51%
18	158	34%	62%	47%	30%	26%	34%	41%	35%
19	27	19%	33%	41%	19%	4%	4%	11%	30%
20	114	32%	39%	32%	10%	14%	22%	25%	19%
21	0	0%	0%	0%	0%	0%	0%	0%	0%
22	22	45%	50%	45%	36%	27%	32%	36%	32%
23	250	18%	20%	8%	2%	9%	9%	10%	10%
24	98	0%	0%	0%	0%	0%	0%	0%	0%
25	317	16%	15%	29%	25%	45%	42%	38%	54%
26	12	75%	92%	83%	67%	58%	67%	58%	58%
27	34	21%	26%	24%	3%	35%	38%	35%	26%
28	82	63%	68%	48%	52%	49%	50%	48%	60%
29	42	31%	31%	5%	7%	5%	5%	5%	5%
Totals:	2,915	31%	40%	32%	17%	26%	30%	29%	28%

Source: Walker Consultants, 2021

Only Block 26 experienced Private parking occupancy above the level it is considered difficult to find parking. The area surveyed within that block consisted of a small gravel lot with 12 spaces, with a peak recorded occupancy of 92-percent. All other block experienced occupancy below the level at which it is considered hard to find parking. Private parking during the Saturday observation was considerably lower than the Weekday.

Walking Distance to Parking Factor

While Carrboro is a walkable and bikeable community, the straight-line distance of the study area from east to west is about 3,600 feet and the north south distance is roughly 2,300 feet. Industry research indicates that the parking supply must be within a reasonable walking distance to be considered useful. Walker has research reasonable walking distances and developed a Level of Service (“LOS”) rating system for evaluating appropriate walking distances based on specific criteria. LOS “A” is considered the best or ideal, LOS “B” is good, LOS “C” is average and LOS “D” is below average but minimally acceptable. A breakdown of the LOS conditions for each type of walking environment is provided in the following figure, along with a typical guide to the appropriate User Experience by LOS. Given the conditions in Carrboro, the uncovered outdoor environment is appropriate to represent the conditions patrons would experience and is highlighted.

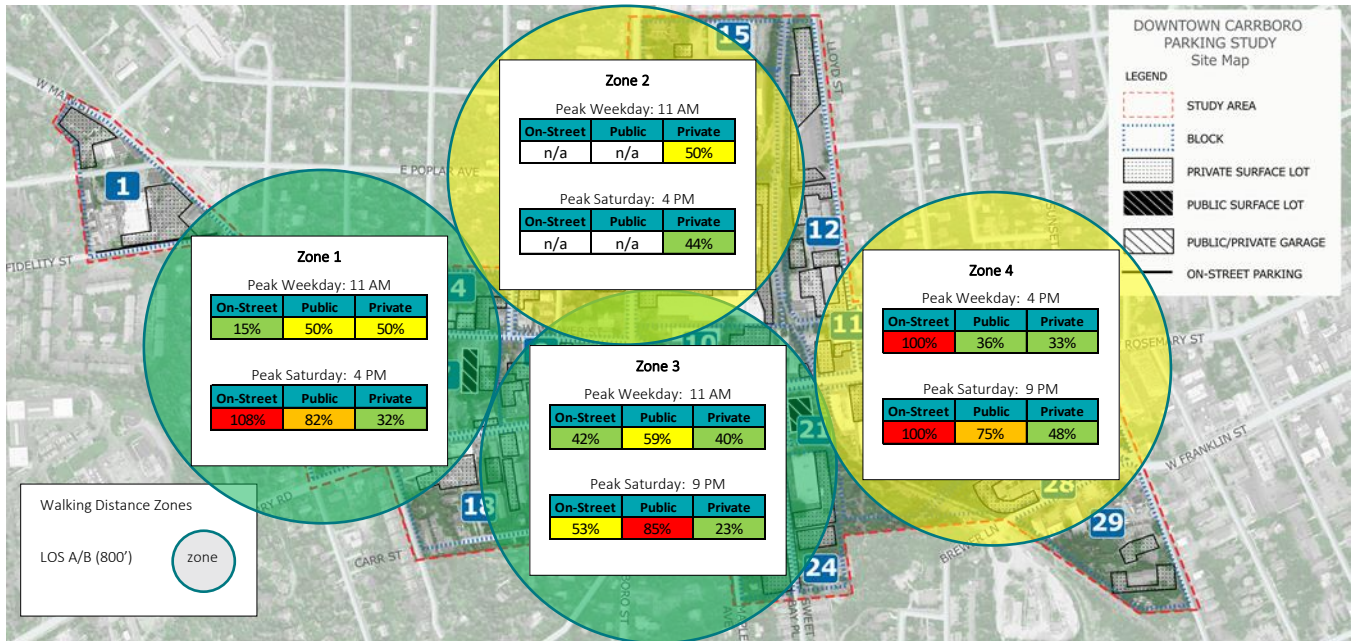
Figure 14: Walking Distance Level of Service Conditions

Level of Service Conditions	A	B	C	D
Climate Controlled	1,000 ft	2,400 ft	3,800 ft	5,200 ft
Outdoor/Covered	500	1,000	1,500	2,000
Outdoor/Uncovered	400	800	1,200	1,600
Through a Surface Lot	350	700	1,050	1,400
Inside a Parking Facility	300	600	900	1,200
User Experience				
Visitor/Customer	X	X		
Special Event	X	X	X	X
Employee		X	X	X

Source: “How Far Should Parkers Have to Walk?”, by Mary S. Smith and Thomas A. Butcher, *Parking*, May 2008

Ideally, visitors and customers to the area will experience LOS A or B walking distance, with a maximum distance of 800 feet. This distance can increase significantly during events or for employees, which may be influenced by availability and cost factors. The LOS for these users can decrease to a LOS D, or 1,600 feet. This information is helpful when considering the study area. While taken as a whole parking is more than adequate, variations in adequacy start to form when considering areas that fall within a reasonable walking distance. Considering a reasonable walking distance of 800 feet (LOS A and B) within the study area we provide the following map showing how parking adequacy within four zones based on a general 800-foot radius. This is helpful in considering the overall needs withing each area by type of parking.

Figure 15: Zones / Overall Occupancy Based on Walking Distance



Source: Walker Consultants, 2021

Considering parking within each of the four zones, there are some peak hour time variations for Weekday and Saturday. All have a surplus of parking based on the observed demand during the overall peak hour observation. The limited on-street supply and public off-street supply are the only areas that result in occupancy levels at or above 85% - the level at which parking will be difficult to locate or considered as inadequate. When each Zone is considered in its entirety, only Zone 2 during a Weekday at 11:00 am and Zone 4 during a Saturday night, reach occupancies that exceed 50% but are less than 70%.

Ideally, additional parking would be considered for areas with occupancies that reach or exceed 85 percent. It is at this level that users start to experience parking as problematic. While there are times within each of the zones that experience this condition with on-street parking, it is important to note that there are relatively few on-street spaces in the study area. Overall, Zone 3 experiences the highest use of public parking, which reached 85 percent on a Saturday. Since this data was collected, an additional 62 public spaces were added to the supply behind the Arts Center.

Public Parking by Zone

Considering only Public Parking (both on-street and off-street combined) within each of the Walkable Zones, demand issues begin to show during certain high demand periods. This is especially true during the Saturday observations. During our observations the weather was nice, the Farmers Market was active, UNC at Chapel Hill had an afternoon football game, and the restaurants and bars had high activity.

When considering Public Parking by Zone, All Zones (except Zone 2 which does not have public parking) experienced the highest occupancy during Saturday Occupancy counts.

- Zone 1 occupancy reached 84 percent during the 11:00 am observation when the Farmers Market was driving demand;
- Zone 3 occupancy reached 83 percent during the 9:00 pm count due largely to activity at restaurants and bars, and;
- Zone 4 reached 76 percent during the 9:00 pm count due to surrounding activity (the Hampton Inn Garage).

The public occupancy is depicted in the following figure to provide a visualization of this finding.

Figure 16: Public Parking Peak Occupancy (Saturday)



Source: Walker Consultants, 2021

Parking demand observed on Saturday had the biggest impact on the public parking assets. Zone 1 public assets were just below the level at which users typically see parking as problematic during the Farmers Market. It is likely that there are times demand exceeds this level given Covid and seasonal variations. Zone 3 and 4 peaked in the evening on Saturday, with demand driven by restaurant and bar activity in the surrounding area. Zone 3 was just below the level that parking would be considered problematic at 83 percent. Again, it is likely that there are times when demand exceeds this level. While not considered problematic, Zone 2 as inventoried, did not include dedicated public parking assets at the time of the occupancy counts. There are some areas that provided limited public parking during off hours through shared parking agreements (Fitch Lumber Company).

Turnover and Duration Analysis

Walker performed parking occupancy observations within the signed and time-limited sections of the public parking areas. The posted restriction indicates two-hour parking, although no specific time periods or days are noted. The parking areas are not uniquely named, rather, named as “Carrboro Municipal Lot” in both English and Spanish. For convenience and reference purposes of our study, we assigned a number to each lot as well as referencing a main street or crossroads.

The turnover and duration study were completed by identifying each vehicle and space in the lot each hour of the observation day. Vehicles were identified by the last four digits of the plate or make/model/color when the plate was not visible. The data was used to determine the length of stay of the recorded vehicles and was collected during the typical business hours on Thursday, September 16, 2021. Overall, 525 spaces were included in our sample with 544 recorded observations made over an eight-hour period. Of these, 50% parked for two hours or less while 50% or 272 vehicles were parked more than the maximum 2-hour posted time limit. Of the vehicles recorded, 14% or 74 vehicles remained parked during the entire observation period.

The following figures provide details of our findings related to Parking Duration and Length of Parking in the public lots.

Figure 17: Overall Parking Duration

LPI Length of Stay Results			Length of Stay								Average
Block	Name	Sample	1 hr	2 hr	3 hr	4 hr	5 hr	6 hr	7 hr	8 hr	
25	PG B & LV1	100	34	14	11	15	11	7	6	21	4.0
25	PG LV2	77	14	9	2	4	0	1	2	5	3.1
25	PG LV3	91	4	1	5	1	1	1	2	4	4.3
17	MERRITT LOT 2	11	8	3	4	1	0	1	0	3	3.0
21	ROBERSON LOT 3	31	31	10	5	1	6	2	4	3	2.7
20	ROBERSON LOT 4	34	32	12	11	6	4	3	0	3	2.5
22	ROBERSON GREENSBORO LOT 5	78	39	22	16	4	1	2	2	10	2.7
8	WEAVER LOT 6	39	12	10	12	4	6	3	4	7	3.8
7	WEAVER LOT 7	32	3	3	8	4	5	2	0	16	5.3
2	CITY HALL LOT	15	5	1	0	2	1	0	4	2	4.6
6	LAUREL MUNI LOT 8	17	4	1	0	0	0	0	1	0	2.2
Totals:											3.6
Totals:		525	186	86	74	42	35	22	25	74	
Total Hours:			186	172	222	168	175	132	175	592	
Percent of Vehicles			34%	16%	14%	8%	6%	4%	5%	14%	

Dashed line represents the posted time limit of 2-hours.

Source: Walker Consultants, 2021

Figure 18: Time Limit Finding Summary

Block	Name	Total Observed	Under 2 Hours	Over 2 Hours	Percent Violators
25	PG B & LV1	119	48	71	60%
25	PG LV2	37	23	14	38%
25	PG LV3	19	5	14	74%
17	MERRITT MUNNI LOT 2	20	11	9	45%
21	ROBERSON MUNI LOT 3	62	41	21	34%
20	ROBERSON 4	71	44	27	38%
22	ROBERSON GREENSBORO MUNI LOT 5	96	61	35	36%
8	WEAVER MUNI LOT 6	58	22	36	62%
7	WEAVER LIND LOT 7	41	6	35	85%
2	CITY HALL LOT	15	6	9	60%
6	LAUREL MUNI LOT 8	6	5	1	17%
Totals:		544	272	272	50%

Source: Walker Consultants, 2021

The data indicates the two-hour time limit is not being followed across the board in downtown Carrboro. Based on our discussions with the Town and observations, enforcement is currently not being done. All day parking most likely from downtown employees, potential parkers from the neighboring Chapel Hill (which charges for parking) or residents.

Time Limit Signage

Time Limit signage provided for off-street parking lots does not generally follow typical industry standards. The message provided indicates a two-hour limit from 7:00 am to 5:30 pm, but generally does not include the days that it applies. Only one off-street lot was noted with a sign stating the days of the week that the time limits applied (Monday – Friday). Typical signage includes the days, such as Monday – Friday. Neighboring Chapel Hill signage states that parking time limits apply Monday – Saturday.



Photos of time limit signage in Carrboro, Walker Consultants, 2021

Key Supply/ Demand Findings:

- A total of 3,604 spaces were inventoried in the study area. Of these, 17% are in Town off-street locations and 2% are located on-street. Most (81 percent) is provided in Private off-street locations.
- Overall, there is ample space availability with more than 2,136 ± private and public spaces vacant during peak daytime hours based on observed conditions.
- System wide, observed peak occupancies totaled 41 percent during a Weekday and 34 percent during a Saturday, indicating a large surplus of parking throughout the downtown.
- There is likely some demand generated from Chapel Hill, which requires payment for public parking
- Publicly available spaces had a peak occupancy of 65 percent during a Saturday night and 48 percent during a Weekday around 11:00 am. Again, indications of ample public space availability across the Study Area.
- On-street parking is very limited and experienced high occupancy where and when it is available. Parking on Main Street and near the Town Park during the Saturday Farmers Market experienced high occupancy (at 100 percent during some observations).
- When considering the parking within Walkable Zones, two Zones (2 and 4) with the overall highest occupancy were still less than 70 percent occupied.
- When considering Public Parking by Zone, All Zones (except Zone 2 which does not have public parking) experienced the highest occupancy during Saturday Occupancy counts.
 - Zone 1 occupancy reached 84 percent during the 11:00 am observation (Farmers Market);
 - Zone 3 occupancy reached 83 percent during the 9:00 pm count, and;
 - Zone 4 reached 76 percent during the 9:00 pm count.
- In our turnover and duration analysis, approximately 50 percent of vehicles surveyed exceeded the two-hour posted time limit. Of those surveyed, 14 percent were parked for the entire day.
- Signage and wayfinding should be improved to educate and guide users to these spaces and parking restrictions should be enforced.



03 Future Parking Analysis

Future Parking Conditions

Walker evaluated the impacts that anticipated future developments will place on the existing parking system and modeled parking supply and demand resulting from land use development scenarios provided by the Town. The purpose of this analysis is to provide Town officials with a planning tool to assess future parking options and ensure that the community is sufficiently balancing existing and future user needs.

Walker requested a list of known future developments within a ten-year planning horizon across the Study Area. Parking demand is modeled by applying a base parking demand ratio to each of the land use quantities provided, specifically developed for the land use. In addition to understanding new demand generation, a review of potential impacts to the parking supply is included. This includes both displaced and added parking supply. Based on the outcome of the analysis, the future parking conditions are projected.

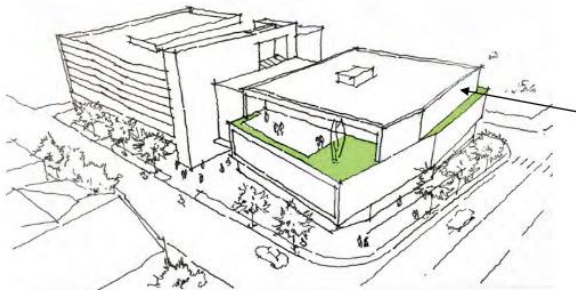
Future Development Projects

The biggest impact to future parking is by far the 203 Project. This is a new development located on the site of the existing Roberson/Greensboro Lot (as identified in Walker's analysis) with 89 public spaces in the primary parking areas. This project includes services from both the Town of Carrboro and Orange County, including:

- 24,750 sf – Combined Office
- 8,210 sf – Library
- 7,879 sf – Community Center
- 3,378 sf – Community Classroom
- 6,358 sf – Storage
- 171 space multi-level parking structure

The following figure is taken from the Design Update presentation dated 11/10/2020.

Figure 19: The 203 Project Conceptual Plan



Source: Perkins & Will, The 203 Design Update Presentation, 11/10/2020

The Community Center includes flexible event and a performance space, which can be used for small event gatherings with different room configurations as well as performances. A previous presentation provided several layouts for use of the flexible space as a multi-purpose room or large room space, in addition to the performance space, with seating ranging for up to 126. These spaces will likely be used for many events to benefit the community in the coming years. For planning purposes, we include event demand as a separate calculation, assuming larger events would occur during non-peak demand periods, such as evenings and weekend. Demand ratios are based on research from the Urban Land Institute (ULI) latest Parking Generation Manual (5th Edition), as well as adjustment factors applied to account for drive ratio adjustments to account for how staff and visitors will arrive to the development.

Figure 20: Parking Demand Impact

Land Use	Size	Demand Ratio	Base Demand	Drive Ratio Adjustment	Demand
Office	24,750 GSF	3.80 /k GSF	94	0.90	85
Library	8,210 GSF	2.3 /k GSF	18	0.90	16
Community Center	7,879 GSF	5.00 /k GSF	39	0.90	35
Community College	3,378 GSF	6.67 /k GSF	23	0.90	21
Storage	6,358 GSF	0.20 /k GSF	1	0.90	1
Total	50,575 GSF		175		158
Event Condition ¹	124 seats	1 /2.5 seats	50	0.90	45

Source: Walker Consultants, 2021

Current plans indicate 171 parking spaces will be provided as part of the 203 Project. This is more than adequate to meet the projected demand of 158 when all land uses are in use. It is also adequate during an afterhours event scenario.

Parking Impact

The 203 Project as planned will displace the existing 89 existing public spaces and replace them with 171 spaces within a new multi-level parking structure. When the displaced spaces are factored into the development, a net increase of 82 spaces will be added to the area, as shown in the following figure.

Figure 21: 203 Project - Net Change to Parking

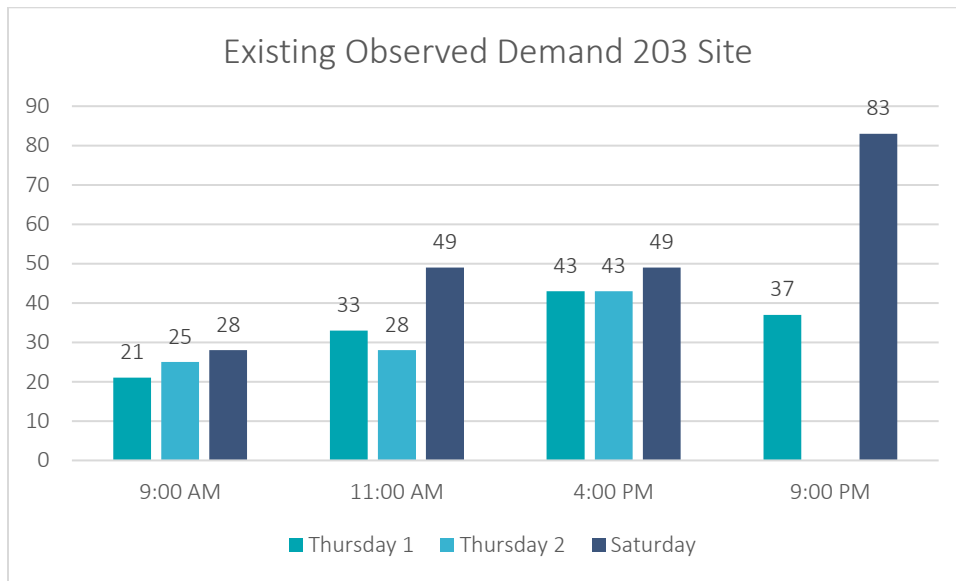
Parking Factor	Spaces
Added Parking	171
Displaced Parking	89
Net Parking Increase	82

Source: Walker Consultants, 2021

While the planned parking is more than adequate to meet the needs of the 203 Project, the existing demand from the site will require parking. Walker conducted observations of the existing lot on three different days. This includes a detailed Weekday hourly observation to quantify the turnover as well as the general observations on a Thursday and Saturday.

The hourly observation on a Thursday in September indicated a peak occupancy of 43 spaces during the 4:00 pm observation. That the during the last count of the day for the turnover study. The occupancy counts completed at set times during a Thursday and Saturday indicate higher demand on a Saturday, with overall peak activity on Saturday evening. This existing demand will remain in the area and require parking in addition to the new demand. The following figure details the various data points for both a Thursday and Saturday.

Figure 22: Observed Existing Demand on the 203 Site



Source: Walker Consultants, 2021

The observations indicated Weekday demand during the day at around 30 - 45 spaces, with a Weekend Evening reaching near capacity. (over 80)

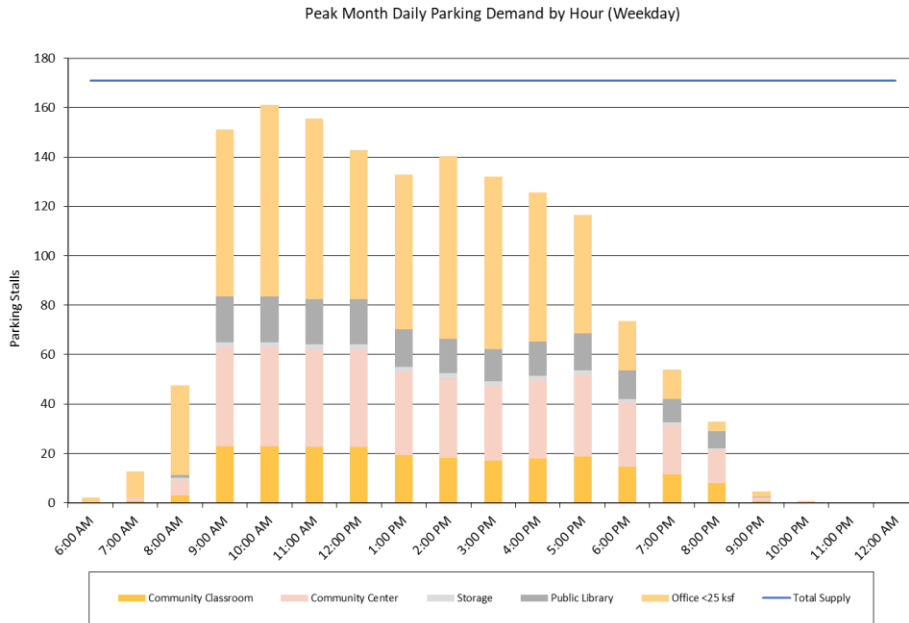
To understand the time-of-day demand for the proposed mix of uses within the 203 Project, a shared parking analysis was completed using the methodologies outlined in the Third Edition of the Urban Land Institute (ULI) / National Parking Association's (NPA) *Shared Parking* publication. This includes time of day adjustments based on research for each land use as well as adjustments for drive ratio, captive ratio, and seasonality adjustments.

The data indicates a majority of demand (non-event) to occur during a Weekday, between 9:00 am and 5:00 pm, with demand peaking around 10:00 am and slowly decreasing throughout the day. It is during this period that the projected 158 spaces are needed, leaving about 13 spaces to meet the existing demand.

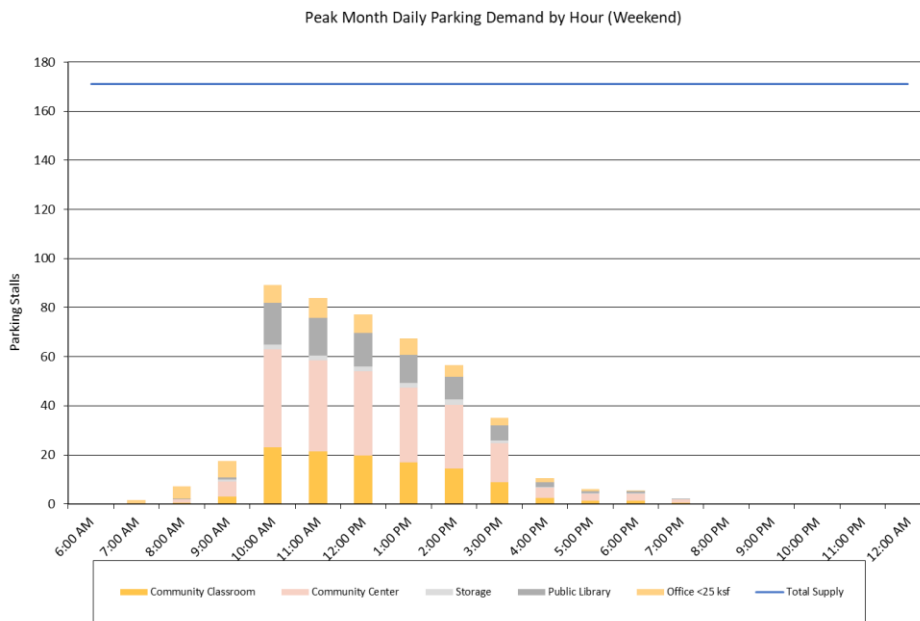
Weekend demand (non-event) is projected to be lower, with demand peaking around 10:00 am and dropping throughout the day until about 7:00 pm. The overall peak demand is under 100 spaces during non-events, the office space assumed to have little to no demand over a weekend period. Again, this assumes no events in the performance spaces, which would generate additional demand, but most likely during evenings and weekends.

The findings of this analysis are provided in the following figures for both a Weekday and Weekend.

Figure 23: Shared Parking Demand for Weekday and Weekend



Weekday parking on the 203 Site will be challenged as existing demand remains in the area. A deficit of 25-30 spaces is projected during a Weekday. If there are events during this time, parking will have a higher deficit.



Weekend parking on the 203 Site is projected to offer a surplus of parking, which can be used to off-set demand when there are events in the area, as well as a source for Weekend evenings, which was observed to have the highest demand.

Source: Walker Consultants, 2021

Given the observed demand – Weekday’s are projected to experience a deficit of about 25 – 30 spaces when the existing demand is added to the area. Weekend periods are projected to have a small surplus when the existing observed demand is added back, assuming the office space is not typically used and there is not an event.



04 Enforcement Operations and Maintenance

Parking Policies

The Town of Carrboro (“Town”) provides complimentary free parking throughout downtown at several off-street surface lots and the Hampton Inn and Suites parking structure. Free parking on the surface lots is limited to two-hours from 7:00 am to 5:30 pm with unlimited parking after 5:30 pm. Generally, signage does not indicate which days the time limits apply or enforced. Free parking is available in the East/Main (hotel) parking structure for up to 3-hours in designated spaces, from 7:00 am to 7:00 pm with no parking between 3:00 am to 5:00 am. Signage indicates violators will be towed.

Parking enforcement is reported as falling under the Police Department for time limits and general parking ordinances. It is worth noting that complimentary parking with enforced time limits was a recommendation in the finalized parking plan dated May 2017. Enforcement of the time limit is rare according to a presentation and discussion of downtown parking strategies at a public meeting with the Town Council in June 2019. Towing in the East/Main parking structure for overnight parking violators is also reported as a rare occurrence. Citations may be appealed through the Carrboro website using an electronic appeal form.

Parking restrictions are detailed in the Town code, Article IV, Section 6 as follows:

ADA Parking – (Section 6-18, a, 13):

In any parking space clearly marked as reserved for the handicapped, whether on public or private property unless the driver of or a passenger in such vehicle is handicapped.

*Note – The code does not include any requirement for the driver to display a valid ADA placard or license plate on the vehicle to identify the vehicle.

Two Hour Parking – (Section 6-19, 4):

Parking for Not More Than Two Hours, between 7:00 a.m. and 5:30 p.m.: (Amend. 5/4/2004)

*Note – The code does not include any specific days of the week that the restrictions are in place, thus the intention is assumed to be seven days a week with no exceptions, although one sign was noted stating it applied Monday - Friday.

Fines for violated the restrictions are outlined in Section 6-41, Penalties and Remedies. Per the code, a civil penalty can be assessed for the following offences and amounts, which includes a fine escalation:

Figure 24: Parking Fines

Parking Over the Time Limit

Offence	Fine		
First	\$ 35.00		
Second	\$ 50.00	ADA Parking Violation	\$50.00
Subsequent*	\$ 100.00		

**within a 365 day period*

Source: Town of Carrboro

The established parking fines are set-up to discourage habitual abuse by increasing the fine after the first violation within a 365-day period. This requires software to track citations to charge the appropriate fee. The escalation clause is aggressive given should the time limits be enforced. While this is generally a good practice, it should not be too aggressive as the intent should be to discourage frequent violators and not an occasional error.

The violation for ADA parking is low at \$50.00. Many municipalities charge \$200 - \$250 for an ADA parking violation, as these spaces are limited and not intended for the general public.

Time-Limit Enforcement

In keeping with the current complementary two-hour parking, with no option for parking beyond hour two (except for the East/Main Parking Structure), enforcement of the regulation is a key activity for the Town's parking strategy. Two-hour time-limited parking is designed to provide convenient parking spaces for short-term parking, most likely for visitors shopping, dining, or attending a meeting. It is not intended for employees parking for the day. Enforcement of the time limit requires monitoring each individual vehicle to determine when they exceed the time-limit.

Tracking each vehicle's length of stay had traditionally been done by physical chalking a tire to determine whether a vehicle is parked beyond the posted time limit. Technology to track via the license plate and GPS coordinates is now the preferred method. The change is also encouraged based on a 2019 unanimous decision by a three-judge panel of the U.S. Court of Appeals for the 6th Circuit ruling that chalking tires for purposes of parking enforcement – without warrant - violated the Fourth Amendment's bar against unreasonable searches. Although the 6th Circuit U.S. Court of appeals does not cover the State of North Carolina, this court decision should be carefully monitored as it could impact physically chalking vehicles to determine the length of time a vehicle is parked. In addition to this potential legal argument, chalking alone is not sufficient to enforce parking on the same block throughout the day, as the chalk mark rubs off after the vehicle moves.

The process of electronic tire-chalking to monitor parked time can be implemented with either manual entry hand-held devices, or with License Plate Recognition Technology. These methods record the plate number and location of the parked vehicle.

Handheld Electronic Citation Issuance

Electronic handheld ticketing solutions offer a software package to issue and track citations that enforcement officers generate in the field. The typical components include a cloud-based software solution, software application on either a smart-phone or standalone handheld unit, and a Bluetooth[®] connected printer to print citations. Features include options to accept payments for citations, license plate look up through the DMV by the officer, providing an on-line appeals process, tracking permits, tracking wheel stem location, and utilizing camera based license plate recognition to populate the database.

When an enforcement officer enters the vehicle information the system checks for a previous parking record. If the vehicle is past the programmed time limit, a notification of the violation is sent to the handheld unit. At this point the officer can verify the information, print, and issue the citation. Both the phone app or handheld unit can capture photos, verbal comments, GPS coordinates, wheel stem tracking, and connect this data to the citation. The app is communicating in real-time to the server so repeat violators or "hot list" vehicles will be

immediately identified for further action. This is manual real-time electronic “Tire Chalking” for time zone enforcement.

The enforcement software package will track the life of the violation from issuance to payment or adjudication. It is held on the manufacturer’s server and accessed through a web portal. The Town can configure location names, fee structures, rate escalation rules, late fees, and access statistical reports. The enforcement software package also hosts a customer web portal which is a self-service ecommerce module that allows customers to make online payments and appeals. Monthly customers can access their account, apply for a permit, post payments, join wait lists, and view historical payments.

Mobile License Plate Recognition (MLPR)

The use of Mobile License Plate Recognition (MLPR) for enforcement can be implemented to enforce not only the time-limited parking, but also check for permit holders, stolen vehicles, or vehicles of interest. License Plate Recognition Cameras are mounted on a vehicle and as the vehicle drives around the on-street or off-street parking area, it scans the license plates. The license plate image is converted to a text file and is entered into a time-based database which is updated in real-time. If a license plate is scanned in the same space, or block zone after the time-limited session has expired, the enforcement officer is alerted by the MLPR software, and a citation can be issued. These systems can be mounted on an automobile for on-street enforcement, or an electric cart (golf cart) for ease of maneuverability in off-street parking lots and garages.

Tracking license plates may add some concerns for how the data is used, stored, or shared. A written policy outlining the use of the data, sharing, and retention should be set in place prior to deploying. The systems allow a set retention period to be set to automatically erase any old data as well as to limit how the data is shared.

Figure 25: Mobile License Plate Recognition Cameras and Software



Source: Walker Consultants

Given the size and complexity of the current system, a handheld system utilizing mobile phones is sufficient for beginning regular time limit enforcement. The cost for this type of system ranges from an initial investment of \$5,000 to \$45,000 when providing the mobile phone, with on-going annual fees of \$3,000 to \$8,000 for software updates and reporting. In addition to the annual software costs, a cellular data plan is required. Vendors that provide this type of equipment include but are not limited to:

- AIMS
- BallPark
- Cardinal Tracking
- Civic Smart
- Gtechna
- IPS Group
- Passport
- Tannery Creek
- T2 Systems

Parking Ambassador Approach

The “Ambassador Approach” model for the enforcement of the parking regulations puts a positive light on active enforcement of the current regulations. The mission of the Ambassador Program is to provide hospitality, tourism and public safety services to local citizens, businesses and visitors, in addition to enforcing parking regulations. Ambassadors would be required to complete a multi-faceted training in hospitality and customer service, emergency response and first aid, public transportation, and Town services. They should work directly with transportation and parking departments of the Town, local businesses, and professional agencies.



Downtown Wichita, KS

The primary goals of an Ambassador program are to promote the area, resolve concerns, deter criminal activity, and help make the downtown area a better, safer and friendlier place to live, visit, shop and conduct business. Ambassadors should initiate personal contacts with the parking public, have the ability to issue warnings, and interact with visitors and citizens in a positive manner.

The vision of the program is to help promote a progressive, dynamic downtown experience. The Ambassadors may accomplish these goals while providing parking management by monitoring public safety, extending a helping hand in emergency situations, and calling on area merchants on a regular basis.

Beyond enforcing parking regulations, the following are examples of appropriate behaviors and duties of Ambassadors:

- To greet visitors and offer customer service;
- To be a friendly face in response to many people’s initial interaction with the Town;
- To give accurate directions to visitors and direct visitors to destinations;
- To provide information and explain local traffic and parking regulations to seek voluntary compliance;
- To distribute Town brochures and maps;
- Identify and relay pertinent information on public area conditions needing action; and
- To deter criminal activity by their presence.

Ambassadors may utilize a less formal uniform than that of the police, with some cities using a branded polo shirt, unique hat, or shorts.

Parking Duties

Providing public parking involves multiple responsibilities and duties beyond enforcing the posted time limits and collecting parking payments. These duties may encompass providing on-going maintenance, cleaning, landscaping, revenue collection, and staffing during events. The following list is intended to present typical activities that could be part of a parking agreement with a parking operator or for assigned duties to a Town employee or department.

Parking Duty List:

- Daily policing of trash
- Light landscaping, such as trimming small trees, cutting grass, etc.
- Checking for potholes or trip-fall hazards
- Checking signage and replacing or updating as necessary
- For paid parking, checking for payments, collecting revenue, and reporting
- Tracking events and potential flat parking fees
- After hours operation or monitoring
- Enforcement of existing time-limits
- Tracking and reporting occupancy levels
- Monitoring for abandoned vehicles
- Checking lighting and addressing any outages
- Checking condition of stripping and surface
- Acting as an Ambassador of the Town to assist visitors with information on the Town
- Maintaining or being the liaison for a public facing webpage on the Towns website related to parking
- Participating in stakeholder meetings related to parking
- Providing insight to the daily use of the public parking
- Providing education as to where parking is available and the options

Managing the public parking assets for the Town is more than providing parking lots and enforcing the time limits. Parking is typically the first and last impression visitors have to the Town, and it is important to make it a positive experience.

Survey of Other Cities

A survey of how other cities manage and provide public parking done to provide some context and understanding of various strategies. The focus was on similar sized cities and cities within close proximity to a higher education element. Common threads include parking time limits and when paid parking is included, a parking app to allow for an easy method of payment.

Figure 26: Comparable Cities

City	State	Population (2019)	Paid On-Street	Paid Off-Street	Time Limits	Enforcement Hours
Carrboro	NC	21,230	No	No	Yes	Posted 2 Hour limit 7 am to 5:30 pm (not enforced)
Boone	NC	19,119	Yes	Yes	Yes	On-street: Monday-Saturday 8 am to 5 pm; lots free on weekends
Chapel Hill	NC	60,998	Yes	Yes	Yes	On-street: Monday-Saturday 8 am to 6 pm; lots Mon.-Sat. 8 am - 8 pm
Greensboro	NC	291,303	Yes	Yes	Yes	On-street: Monday- Saturday 8 am to 6 pm
Salisbury	NC	33,727	No	No	Yes	On-street: 8 am to 7 pm (limited enforcement)
Wilson	NC	49,272	Yes	Mix	Yes	All Spaces: Monday - Friday 7 am to 6 pm
Greenville	NC	91,921	Yes	Yes	Yes	On-street Spaces: Monday - Saturday 9 am to 6 pm

Source: Walker Consultants

Event Parking

Large events in downtown add pressure to the system for both public and private parking assets. Many communities include parking plans for events during the event planning stage. This may include adding portable signage advising users of where parking is available, adding a parking fee, and staffing for fee collection and traffic control. As a starting point, a list of annual events should be generated with estimated attendance and duration of each event.

Public parking assets should be provided in advance on a map with the address and capacity to give attendees the information needed to allow for prior planning for parking. In addition to public parking assets, we recommend that planning committees consider discussing the use of private parking assets in advance. In many cases a small fee for parking may be collected to offset the cost of operating the parking. Funds collected may be used to provide a benefit to the local community as well, with organizations providing labor to manage the parking. This may allow for a win-win situation for the community. Event parking considerations:


- Identify potential public and private parking assets
- Portable signage to advertise parking, including a fee, with any paid parking paid on entry
- Staffing the parking asset two to three hours before the event starts
- Include a method for identifying when a parking asset is full
- Supply staff with safety vests, traffic flags, aprons, tickets, change funds, etc.
- Monitor the parking asset throughout the event
- Provide opportunities for staffing with volunteer non-profit organizations, that can use a portion of the profits to fund their organization
- Allow for insurance and any required permits
- Provide for cleaning up the parking assets after the event and providing a summary of activity (tickets sold, revenue collected, issues reported)

Beyond providing an organized element to event participants, it allows for less time looking for parking and more time to enjoy the event. By coordinating with private owners in advance of the event based on the anticipated attendance, users are more likely to remember the fun activities as opposed to the parking.

Recommendations

Given the current operation, we recommend regular enforcement of the existing time-limits be a priority and clarifying the days of the week the clarified in both the code and signage. This should include language on how parking regulations will be addressed on major holidays. If the time limits are not going to be enforced during certain periods, this should be formalized and included on the public signage. The following provides a summary list of items recommended covering parking enforcement, operations, and maintenance:

- Enforce time limits using electronic handheld enforcement devices to track length of stay
- Add a webpage dedicated to public parking on the Town's website
- Provide an updated map with concise information on regulations and payment if required
- Develop basic daily maintenance checklists to ensure a positive parking environment
- Update existing signage that clearly displays which days the time limit regulations apply
- Adjust the code as related to the ADA requirement to clarify a valid permit or license plate is required to be displayed on the vehicle
- Review and adjust the parking violation in regard to the increasing fine schedule – this can only be done with active tracking, which is not currently being done
- Add the existing parking locations to Google Maps, Waze, and Apple Maps
- Determine how event parking will be handled in the future, especially during the weekends (flat parking fee, no parking fee, time-limit)



05 Parking Technology,
Payment Systems and
Scalability

Overview of Technology Options

Parking technology relates to public parking in a variety of applications. This includes paid parking, controlled access, parking guidance, and enforcement. Technology has greatly improved over the years, making it easier for municipalities to implement strategies to manage parking and implement impactful positive policies.

Parking Access Control

Access control is currently limited to signage with enforcement being the motivating factor for compliance. Without enforcement it is likely that users will test the system and be more likely to not follow the posted limits. The intent of a time limit is typically to generate turnover of parking spaces and encourage shorter term parking in the most convenient spaces.

Time limit parking requires consistent monitoring to be effective. In many cases the restrictions allow users to simply move their vehicle to an adjacent space to “re-start the clock”. The municipal code can be written to require moving to another zone, although this can be frustrating to users unfamiliar with the system.

Options to address this include gating parking areas (such as the parking garage) and providing a free period of parking or validations from local businesses. It is also possible to add parking fees in ungated areas with no time limits, but an escalated rate based on the length of stay.



Signage from Hampton Inn & Suites Garage

Gated controlled access is primarily used to limit access to a group of users or to limit public parking to a certain number of spaces within a larger pool of public spaces. Access may be granted to the public pool of spaces by taking a ticket to track time or providing an access credential for monthly contract parkers. Once the capacity of the public spaces has been taken, the facility is “full” except to monthly patrons with a valid credential to open the gate. The system tracks the space usage by type of user and re-opens once there are spaces available for public parking.

This type of system is common and allows variable rates based on the length of stay. Many communities allow a short period of free parking for short-term stays. This could be the first hour to the first 3 hours, depending on the goals of the system. Stays beyond this free period incur a parking fee but allow for longer-term parking.



Access credentials may include hotel key cards for hotel guests, proximity cards, or even Bluetooth access via a smart phone. To the left is an example of a gated facility serving both the public and a hotel with access via hotel key. In addition to allowing parking for overnight hotel guests the sign to the right lists several local attractions that are welcome to park in the facility, some of which provide validations for free or discounted parking based on patronage of the businesses.

Metered Parking Technology

Today's meters go well beyond coin only meters; they are *Smart Meters*. The main difference between coin-only meters and smart meters is that smart meters include a communication link to a cloud-based management system to allow live monitoring of the meters, ability to accept credit cards, and an interface to control rates. The cloud-based system allows administrators to log on to monitor revenue, receive maintenance alerts, and track historical data. The data can be used to assist in monitoring historical occupancy (based on paid spaces) and verify cash collections based on the reporting.

Rates can be set to allow a free parking period or escalating rates based on the length of stay. There are several types of smart meters including multi-space and single-space meters. As their names imply, multi-space meters cover multiple spaces while single-space meters cover one space. Off-street parking is typically covered by multi-space meters due to their efficiency. There are three main types of multi-space meter operational configurations: Pay-by-Plate, Pay-by-Space, and Pay-and-Display.



Multi-Space Meter Configurations

Pay-By-Plate

In pay-by-plate mode, the patron is not required to remember their parking space or return to their vehicle with a receipt. Instead, they enter their vehicle's license plate information and select the amount of parking time. No receipt is required for enforcement, but there can be a receipt for proof of payment. This system allows a patron to move their vehicle to another spot within the same meter zone without having to pay for parking again, provided there was time remaining on the original purchase and they were not in violation of any posted time restrictions. Many applications also allow



patrons to add parking time to the meter from another meter or by their cell phone for added convenience.

With this type of meter technology, enforcement is conducted with either a vehicle-mounted License Plate Recognition (LPR) system or handheld unit to record and track the license plate. The City of Pittsburgh was the first large scale deployment of pay-by-plate in the U.S. and uses both hand-held and mobile License Plate Reader units to enforce. The concessionaire for the City of Chicago's meter system also recently converted from pay-and-display technology to pay-by-plate.

Pay-by-Plate Benefits:

- When patron completes their transaction, there is no need to return to their vehicle;
- Unused time stays with the vehicle plate number;
- Can accept multiple forms of payment;
- Does not require individually marked spaces, therefore, a standard city block can generally accommodate at least one extra car.
- Additional time can be added at another machine or via mobile phone application, and;
- Enforcement is simplified using mobile LPR cameras and software.

Pay-by-Plate Disadvantages:

- LPR equipment is more expensive than mobile ticket writers and cannot be used in all situations;
- Additional training of enforcement personnel which is required due to the unfamiliar technology;
- Slight increase in cost for full keypad on meter versus other multi-space meters, and;
- Patrons may not know their license plate and find it frustrating on initial use.

PAY-BY-SPACE

In pay-by-space mode, each parking space is numbered with either a surface or curb number or a small pole adjacent to each space. The parking patron enters the space number and pays for the parking period. In this mode, payments can be made at any meter in the system and time can be added before time expires. Indianapolis, Indiana and Tampa, Florida use this type of on-street meter system.



Patrons have an option to print a receipt for proof of payment. Enforcement is done by viewing a web-based report of paid and/or unpaid spaces on a hand-held enforcement device, smart phone, or from any web-enabled computer.

Pay-by-Space Benefits:

- When patron completes their transaction, there is no need to return to their vehicle;
- Unused time stays at the meter, but can be hidden from the next parker;
- Can accept multiple forms of payment;
- Additional time can be added from another machine, and;
- Enforcement does not require checking each vehicle and may be directed to areas with expiring paid parking sessions.

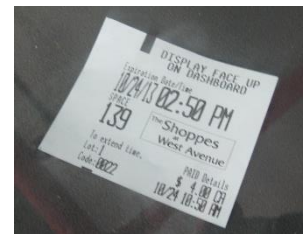


Pay-by-Space Disadvantages:

- Added expense of maintaining the marked spaces;
- There are a defined number of parking spaces, so no additional spaces are gained if all small vehicles are parked on a block face;
- Marking system may be viewed as clutter, and;
- Additional signage is needed to mark and educate patrons.

Pay-and-Display

Pay-and-display mode is the original multi-space meter configuration and is typically no longer the recommended implementation due to its limitations. Patron parks their vehicle, walks to the parking meter, pays for the desired amount of time, and receives a receipt to display on the vehicle. Patron must return to the vehicle and display it on the dashboard. The receipt indicates the duration, location, machine number, and end time for which the vehicle has paid for parking. Enforcement is encumbered, as each vehicle must be visually inspected to determine if the ticket is valid.



Pay-and-Display Benefits:

- Unused time leaves with the vehicle; (benefit to Town)
- Patrons can use a valid receipt to re-park and use parking time at multiple locations;
- Can accept multiple forms of payment, and;
- Does not require individually marked spaces, therefore, a standard city block can generally accommodate at least one extra car.

Pay-and-Display Disadvantages:

- Patron convenience is an issue, as they must walk back to vehicle after paying for parking;
- No way to add time to parking without printing a new receipt and returning to vehicle;
- Enforcement is a weak element and requires officer to visually find and inspect paper receipt;
- No tracking of specific vehicle or plate to direct enforcement;
- Potential for litter from old receipts, and;
- Issues with motorcycles, multiple receipts, and “messy” vehicles.

Single-Space Smart Meters

Single space smart meters are typically an upgrade to existing single space meters, with the existing pole and base left intact. The new meter heads include the capability to accept credit cards along with coins, wireless communication, and a small solar cell to charge the battery. The wireless software allows real-time monitoring and tracking of revenue. The first and largest single-space smart meter vendor on the market is IPS; which was chosen to be installed by the City of Bloomington, Indiana when they moved to paid parking in their downtown. Bloomington did not have existing meters and required the installation of the pole, meter housing and meter head at a cost of roughly \$1,000 per space.

Single Space Smart Meter Advantages:

- Intuitive for users, who are familiar with the concept of metered parking;
- Limited directional signage needed;
- Customers do not need to return to the vehicle after paying, and;
- LED lights provide for visual enforcement.

Single Space Smart Meter Disadvantages:

- Number of enabled devices require increased on-going maintenance;
- Higher on-going monthly costs for on-line access when compared to multi-space meters;
- Bill acceptance is not an option; and
- Receipts are not issued.



Parking Apps

Multiple parking applications (“Apps”) are available to assist with public parking at little to no cost to the location implementing the service. Parking apps allow payment of parking with a registered credit card and may include locational services to indicate where parking is available, provide driving directions, rates, and potentially allow the user to reserve their parking space. To maximize the use by patrons, it is recommended to consider using vendors already in use in surrounding communities to allow existing customers to use an app they already have on their phone. For Carrboro, ParkMobile is a good choice as it is in use in neighboring Durham and Chapel Hill. ParkMobile is by far one of the largest mobile parking apps in use today.

Patrons that do not have the app installed may call or text the posted number to start a parking session. The cost for using this convenient payment method is a fee of \$0.35 - \$0.45 per transaction, which is charged to the user. Some municipalities agree to pay this fee for all users or for registered residents of the town, although this is not common, and users typically don’t mind the small fee.

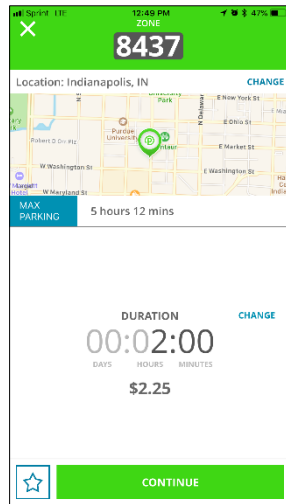
A benefit to these systems is that they typically send a text message or other alert to the parker’s cell phone to advise of time expiration and offer the option to add time if allowed per ordinance. Following the end of the parking session, a receipt is sent to the user via text, email or through the app.

Some vendors can also provide a customized branded app for an additional fee of \$15,000 to \$25,000, plus on-going fees to update and service. We do not recommend taking this approach unless there are specific reasons that would benefit the Town. It is also possible to have more than one app integrated as a payment option.

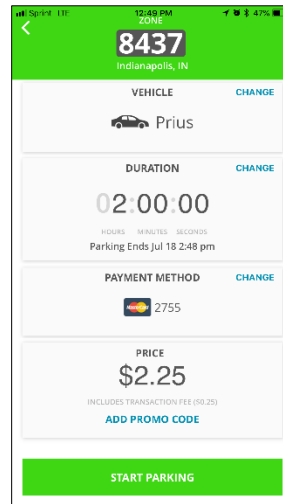
Below are samples of signage and screen shots from a typical parking experience.



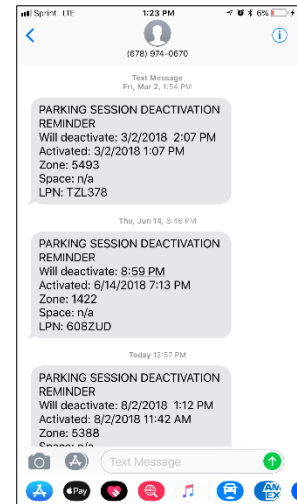
Example Process



1 Select zone and time



2 Select vehicle and pay

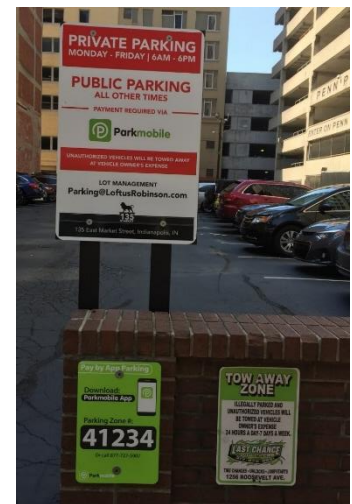


3 Deactivation

Some municipalities elect to only use an app based parking solution, skipping the meter altogether. This is especially true for smaller lots that are only available during certain times that can be enforced without staffing to collect parking fees, although it is also an option for off-street parking.

The photo on the right is from a privately owned permit only lot that offers evening and weekend parking to the public by using the app. This is an ideal solution for an owner to offer their lot during periods that it is available for public parking.

This lot is in Indianapolis, Indiana, near evening and weekend attractions. For enforcement, a private operator provides monitoring service.



Enforcement

Based on discussions with Parking Services and through observations, the posted time limits are enforced through on-foot attendants using hand-held computers to enter each parked vehicle's license plate. This method is a major upgrade from physically chalking tires to track length of stay. However, it is tedious and labor intensive to enter every license plate manually. The latest technology for tracking length of stay is with a vehicle mounted License Plate Recognition (LPR) system.

AIMS, Genetec, NuPark, REDlpr, and Tannery Creek Systems are a few examples of firms that offer a vehicle mounted LPR system that includes special vehicle mounted cameras to capture the plate, vehicle location, and wheel stem location as the enforcement vehicle drives past parked vehicles. A computer mounted inside the vehicle records the data, GPS position, and checks the data to determine the length of stay based on the previous data inputs.



Parking enforcement vehicle with cameras highlighted

The cost for one LPR camera equipped vehicle is approximately \$45,000 - \$60,000, plus the cost of the vehicle. In addition to the initial cost, there are on-going fees for cloud-based services and on-going support.

More appropriate options for tracking license plate data of parked vehicles in smaller communities are handheld LPR devices that scan the plate or allow the data to be manually entered. This method allows time stamped photos of the vehicle to be added to the database to prove the violation. Upfront costs for this type of system is roughly \$5,000 per unit, plus on-going fees for network and cellular data.

The key to the enforcement piece is to integrate with any meters and payment apps at the time of purchase and installation. While most will highlight these integrations, the best pricing is obtained when bundling as a complete system rather than as additions, when the costs are likely to be incurred. This data should include a written policy for how the data will be used, shared, and a set retention period.

Parking Guidance

Parking guidance may be as simple as posting standard wayfinding signage to guide patrons to public parking. Effective signage should have a prominent "P" to help patrons identify the lot as being available for public parking. Technology comes into play when integrated into a count system to add the number of spaces available for public parking. Technology has greatly improved in this area to include cameras and analytics to obtain the count data. This same data can be used to determine length of stay and alert enforcement to violators. The cost for a solar powered overhead camera-based system can be roughly \$5,000 for a camera and installation kit. (self-installed) plus an ongoing service fee of about \$1.00 - \$2.00 per space per month.

There are also sensors that can be placed in the drive lanes to capture vehicles moving in and out of spaces, although accuracy is not as good as observing each individual space.

Examples of space availability signage is provided in the following photos. This level of detail is typically at the high end of service and may be a long-term goal once the parking plan has been established.



Sample photos of facility counts: *Miami Design District, FL (left), Lincoln, NE (middle), Asheville, NC (right).*

It is Walker's opinion that for Carrboro, collecting this data in the various small surface lots and displaying, either on a dynamic signage, website, or app, is not practical or dependable. While possible, the required infrastructure and accuracy is not a sustainable solution. Our experience indicates this is typically for large pools of parking within structured facilities. In many cases the systems are installed but on-going costs and efforts to maintain the software and calibrate for accuracy lead to abandoned systems. In some cases where payment by app data is collected over a long period of time, data analytics can be used to provide the most likely areas where spaces are available at any given time during typical non-event periods, but not necessarily an actual count of available spaces.



06 Capital Costs and Revenue Potential

Paid Parking Implementation

An overriding original goal of the RFP is to understand the costs and potential revenue for implementing a paid parking program in the Downtown. Paid parking should be viewed as a management tool and method for providing a shared asset to the community. The current system provides limited public parking at no direct cost to the user. While there are time limits posted, abuse is high and there are no funds to make improvements to the system or cover the costs to effectively enforce.

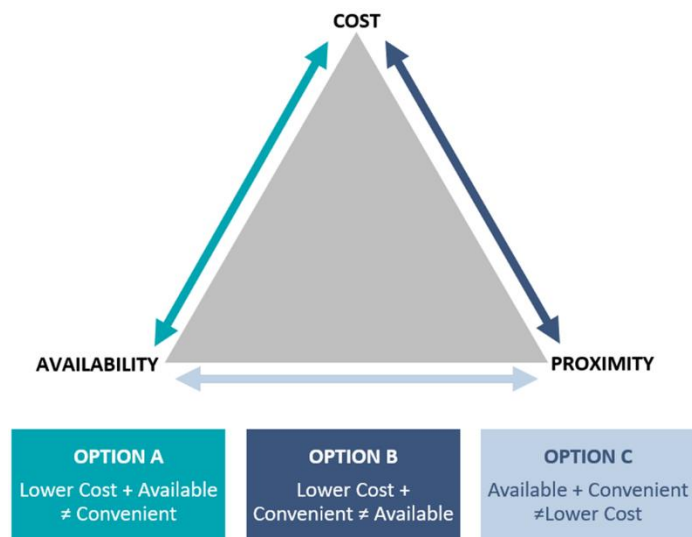
Why do cities adopt parking rates?

A general overview of parking is first needed to establish a context for decision-making regarding the parking system. **Fundamentally, there is no such thing as a free parking space. At the end of the day, someone is paying both directly and/or indirectly the true costs of “free” parking.** If parkers are not paying directly than who is?

- Developers pay for parking when they are required to meet off-street parking zoning requirements which raises project costs which are passed along to end consumers of their product.
- Employers pay through higher office rents.
- Consumers pay in the sales price of goods and services; retailers pass along costs to consumers.
- Residents of a community pays through taxes levied for the delivery of services including downtown parking.

In providing parking to the downtown community, the Town is administering a scarce resource that has intrinsic value and associated costs. Thus, parking should be viewed as an asset that requires continual stewardship to serve the goals of the downtown community.

There are two primary reasons why communities decide to adopt parking rates. **The first is to induce human behavior using economics.** Users of the parking system will quickly modify their parking behaviors if they incur costs in the form of user fees. For instance, if rates are charged for the most convenient spaces, employees will be motivated to find long-term parking areas that are either less expensive or free, keeping prime spots available for business patrons. Most users will see the convenience of nearby parking and opt to pay the rates, while a small percentage might not be willing to pay and will go out of the way to find free parking farther away. This balances parking utilization to address the supply and demand challenges. (Enforced time limits also often influence the behavior of parking patrons.)



The second reason a municipality chooses to adopt rates is to create a self-sustaining parking enforcement program. The intention is not to create a profit center from parking revenues, but to pool revenues into a self-sustaining parking auxiliary fund that resources parking administration to include the debt service and maintenance requirements of all existing public parking facilities. Parking fees, for on-street, surface lot and parking structures, all comprise potential parking revenue sources. The revenues of one source alone are often insufficient to cover total parking system costs. One strategy Walker has seen employed in numerous municipal parking programs across the country is for revenues to be pooled together from multiple parking assets within the public parking portfolio.

Based upon our interviews with Staff and select stakeholders, it is our understanding that one reason enforcement is not fully implemented is the cost. Paid parking should be sufficient to cover the costs to deploy and enforce.

Implementing Paid Parking

A clear and effective communications plan is imperative to the successful implementation of a new paid parking program. The communications plan would include information on public parking areas (paid and unpaid zones), zonal rates, time limits (if applicable), and instructional resources on “how-to” use the technology. Typically, this information is housed on a parking page located on a municipal website.

In addition to online resources, physical signage should also be added to direct motorists to convenient parking and inform parkers regarding rates, time limits, and ‘how’ to pay for parking.

A comprehensive and effective public awareness campaign will play a key role in a successful implementation program. The focus should be on the added convenience of payment options and explain why paid parking can enhance existing downtown parking management.

Why Paid Parking:

- Place a value on limited resource to influence user behavior and abuse of a shared asset;
- Ensures the most convenient spaces are available to more users by creating necessary turnover and space availability;
- Addresses “parking hot-spots” and stress areas in the existing parking system;
- Directs employees and long-term parkers to remote parking areas;
- Improves the public perception of lack of parking space availability;
- Removes “poaching” of free parking by employees and visitors with paid parking, and;
- Balances the supply and demand for existing public spaces across the parking system.

Paid Parking Technology

Walker recommends adding paid parking using a combination of pay-by-plate multi-space meters that accept payment by coin or credit card, along with offering a parking app for payment to limit the required hardware and signage requirements. The limited on-street parking spaces can easily be served with one multi-space meter and signage and each small surface lot can similarly be provided with a solar powered multi-space meter. A potential option to consider when adding paid parking is to eliminate the time-limits and allow the parking rate to generate

turnover on the lots. Paid parking puts the cost of parking on the end user and eliminates the frustration of getting a citation if the time is exceeded (assuming payment is made, and time limits are removed).

In conjunction with the paid parking program for short-term parking, there may be opportunities to offer monthly parking passes for employees or to encourage private lot owners to offer permit parking. Permit parking at lots that are underutilized is a helpful way to maximize the overall parking program.

At a minimum, paid parking should be in place during the current hours posted for the time limits, although the days of the week should be stated. Our observations indicate the highest demand for public parking was during a Saturday, with variations in the time of day by Zone. Zone 1 peaked during the 11:00 am observation when the Farmers Market was active; Zones 3 and 4 peaked in the evening when restaurant and bar demand was high. For this reason, we recommend paid parking include Saturday's with consideration to extend paid hours to include higher demand periods.

Based on the current system, we estimate 11 payment kiosks would be needed to add paid parking to most of the public parking assets. This assumes most of the surface lots and the Hampton Inn garage are included. A scenario where the Hampton Inn garage is not metered is also included.

Figure 27: Potential Payment Kiosk Location Assumptions

Location	Zone	Payment Kiosks	Spaces
Hampton Inn Parking Garage	4	4	200
Merritt Lot 2	3	1	11
Roberson Lot 3	3	2	31
Roberson Lot 4	3	2	34
203 Project Site	3	n/a	-
Weaver Lot 6	3	1	39
Weaver Lot 7	1	1	32
City Hall Lot	1	n/a	-
Laurel Muni Lot 8	1	n/a	-
On-Street Locations	3 and 4	3	17
Total Payment Kiosks		14	364

Source: Walker Consultants

Our assumptions on the number and location of the payment kiosks are to avoid low demand areas (such as the Laurel Muni Lot) and lots with public access to the Town Hall. The 203 Project site could be added, but given the pending construction and loss of the lot, we are not including. Three on-street areas are considered, including Main Street, Weaver Street, and Maple Street.

The new parking garage could be left ungated with payment kiosks as an alternative to gated access with tickets; however, this option may not align with the operational goals of the system and which users should be charged for parking.

The figure on the following page depicts our preliminary costs analysis to install 10 multi-space meter kiosks within a majority of the public parking locations along with a reduced coverage assuming no payment kiosks in the Hampton Inn garage.

Figure 28: Conceptual Multi-Space Meter Costs (Estimated)

Conceptual Costs (based on assumptions)	Full Coverage		Reduced Coverage	
Estimated multi-space meter costs (per unit installed)	\$	10,000	\$	10,000
# of units assumed		14		10
Meter Hardware Costs subtotal	\$	140,000	\$	100,000
One Time Costs				
Handheld enforcement devices (2 units)	\$	20,000	\$	20,000
Estimated MSM Signage, installed (2@\$150 per MSM)	\$	4,200	\$	3,000
Estimated Marketing Costs for MSM Program	\$	15,000	\$	15,000
Program Costs subtotal	\$	39,200	\$	38,000
Total Capital Costs	\$	179,200	\$	138,000
Annualized Costs (financed at 5% APR over 3-year term)	\$	(65,800)	\$	(50,700)

1. Note, multi-space meter kiosks cost assumes pay by plate configuration, machine costs, shipping, and installation. MSM hardware assumes solar powered (for outdoor locations) with wireless communications, coin and credit-card accepting. Assumes compatibility with mobile payment “parking app” technologies.
2. Walker applied a conceptual finance assumption of 5 percent APR over a three-year term for all meter hardware, handheld enforcement equipment, and marketing costs estimated.
3. Figures are rounded to nearest 100.

Source: Walker Consultants

To install all 14 multi-space meter kiosks, assuming meters are financed over a three-year term (at an APR of 5% applied), an annualized cost of \$65,800 (rounded) is projected in 2021 dollars at Year One.

If the Hampton Inn is excluded from the system, the total is reduced to 10 multi-space meter kiosks, with a three-year annualized cost of \$50,700.

This conceptual cost estimate assumes the Town will install uniform parking signage and market meters under a public communications campaign to introduce paid parking (\$15,000 assumed for all initial marketing efforts).

The following section of the report details Walker’s revenue and expense assumptions for a conceptual paid parking program.

Revenue Projections

The following section of our analysis details meter revenue assumptions and projections made for the conceptual paid parking system. For purposes of this model, we have assumed that the Town implements paid parking for the selected parking areas including the selected on-street locations.

Revenue Assumptions

Walker evaluated revenue projections based on rate, utilization, and hours of enforcement. Setting the initial rate is expressed on an hourly basis, although smaller increments may be paid. Given the cost of implementing and accepting credit cards, we recommend a minimum rate of \$1.00 per hour for parking. It is also possible and acceptable to provide some level of free parking time with the initial payment or increase the rate if extended past a given period, such as 2-hours. The parking rate between the on-street and off-street locations may vary to account for on-street parking typically being more convenient to the destination. For our analysis, we assume a flat rate for all parking.

Key factors in modeling potential parking revenue:

- **Number of spaces to be charged**
- **Rate assumptions**
- **Hours of operation**
- **Days of operation**
- **Days per year payment is required**
- **Average occupancy over the course of the paid parking period**
- **Non-compliance adjustment factor (not everyone will pay)**

Each of the assumptions stands to impact preliminary revenue projections. Preliminary revenue projections are based on the average daily occupancy with adjustments for non-compliance. As user acceptance of paid parking increases beyond Year One implementation, the non-compliance adjustment factor can be reduced as parking behavior normalizes. We assumed that the Town maintains current hours of operations (7:00 am to 5:30 pm – 10.5 hours per day), but clarifies the days being Monday thru Saturday. If it is decided to extend hours of operation beyond exiting hours, meter revenues could be greater with potential event revenue capture.

The following details each of our assumptions and provides our projection of revenues based on two hourly rate scenarios. The scenarios include an hourly rate of \$1.00 and \$1.50 per hour modeled with the \$1.00 per hour highlighted as a recommended starting point.

The following program assumptions were made regarding a conceptual meter system:

- **# of Paid Parking Spaces:** 364 spaces (200 spaces in the Hampton Inn garage)
- **Rate Scenarios:** \$1.00 and \$1.50 per hour (recommend starting at \$1.50 per hour)
- **Hours of Operation:** 7:00 AM - 5:30 PM; Monday thru Saturday – 10.5 hours of paid parking per day
- **# Days of Paid Parking:** 298 paid days (14 holidays excluded per year)
- **Average Occupancy:** 35% (for all days/hours paid)
- **Non-compliance Adjustment Factor:** less 25%

Figure 29: Meter Revenue Analysis

PAID PARKING REVENUE ANALYSIS	364 spaces		164 spaces	
	Hourly Rate	Hourly Rate	Hourly Rate	Hourly Rate
	\$1.00	\$1.50	\$1.00	\$1.50
Potential Average Daily Revenue per Parking Space	\$3.68	\$5.51	\$3.68	\$5.51
Potential Annual Revenue per Parking Space (unadjusted)	\$1,095	\$1,643	\$1,095	\$1,643
Annual per Space Non-Compliance Adjustment	(\$274)	(\$411)	(\$274)	(\$411)
Potential Annual per Space On-Street Revenue	\$821	\$1,232	\$821	\$1,232
Total Annual On-Street Meter Revenue	\$299,000	\$448,500	\$134,700	\$202,100

- Note: For modeling purposes, an average daily occupancy of 35 percent was assumed. This adjustment is to reflect all hours of the day when paid parking is required.
- 364 spaces reflects all the recommended areas; 164 spaces removes the Hampton Inn spaces from the analysis (200)
- Total is rounded

Source: Walker Consultants

If the above assumptions are met, a potential **\$448,500 (rounded)** from paid parking revenue for Year One parking fee is modeled assuming the \$1.50 per hour rate. This does not include revenue from other sources such as citations, event parking, or permit parking.

In order to achieve user compliance, the Town will need to enforce paid parking, which we consider as coinciding with the recommendation to enforce the *current* time-limits. Citation revenue is assumed to consist of capturing a portion of the non-compliant parkers that are modeled. We assume an average of 12 citations a day are issued for parking violations, utilizing 2 FTE positions to cover the 10.5 hours per day/6 days per week service time.

The following table depicts a Four-Year Conceptual Budget based upon the assumptions reviewed above. **We have assumed that the Town finances capital costs over a three-year period at 5% APR considering the full implementation of the meter system (not reduced) at the \$1.50 per hour rate.**

Figure 30: Four Year Conceptual Budget

	Year One	Year Two	Year Three	Year Four
Revenue (Conceptual based on assumptions)				
Paid Parking Program (1.5% annual growth)	\$ 448,500	\$ 455,200	\$ 462,000	\$ 468,900
Citation Revenue (1.5% growth per annum approx.)	\$ 89,400	\$ 90,700	\$ 92,100	\$ 93,500
<i>Total Revenue</i>	<i>\$ 537,900</i>	<i>\$ 545,900</i>	<i>\$ 554,100</i>	<i>\$ 562,400</i>
Expenses (Conceptual based on assumptions)				
14 MSM meters (annualized over 3-year term)	\$ 65,800	\$ 65,800	\$ 65,800	\$ -
Annual Meter Management Service Fee - \$60/month/meter	\$ 10,100	\$ 10,100	\$ 10,100	\$ 10,100
Credit Card Fees - 60% of payments x 5%	\$ 13,500	\$ 13,700	\$ 13,900	\$ 14,100
Employee Wages & Benefits (2% annual growth)	\$ 245,700	\$ 250,600	\$ 255,600	\$ 260,700
<i>Total Expenses</i>	<i>\$ 335,100</i>	<i>\$ 340,200</i>	<i>\$ 345,400</i>	<i>\$ 284,900</i>
<i>Revenue less Expenses (Conceptual based on assumptions)</i>	<i>\$ 202,800</i>	<i>\$ 205,700</i>	<i>\$ 208,700</i>	<i>\$ 277,500</i>

Notes:

1. For modeling purposes, an annual growth rate of 1.5% was applied to meter revenues and citations revenue categories.
2. All revenues and expenses were rounded to the nearest hundredth.
3. Credit card fees assume 60% of payments are by credit card with fees of 5% applied to cover fees charged to process these payments.
4. Wages and Benefits estimate are based on 2 FTE's to cover the 10.5 hour per day, 6 days per week, with a 2% annual growth applied for modeling purposes.

Source: Walker Consultants

Transitioning to a paid parking environment for all 364 spaces has the potential to net a gain of just over \$200,000 during the first full year of operation. This assumes an in-house operation to enforce the spaces and financing the equipment over three years. **At Year Four, we estimate a positive net operating income of \$277,500 (rounded), assuming conditions as modeled.**

Other operating options may be considered to manage the parking system, such as hiring a parking management firm to staff and provide a turn-key solution. This option may be worth exploring as these firms have experienced assisting municipalities from free to paid parking. Costs to transition using a professional services firm would likely increase the operating costs by 50 percent or more to account for additional oversight and overhead costs.

Conceptual Structured Parking Costs

A component of our Study is to evaluate the potential costs to construct a parking structure in the downtown to provide some context to the idea that more parking would be beneficial. While parking can be viewed as an economic development incentive, it is not without fixed capital and variable annual maintenance costs. In the current free parking rate market environment, a facility will not be self-sustaining. Even facilities that charge for parking are likely not charging a sufficient rate to cover the costs to build and operate.

To provide the reader a sense of the true cost of “free” parking, Walker offers the following break-even analysis for a conceptual parking structure.

New Facility Costs

Parking costs include land, construction, and ongoing operations and maintenance costs which will vary depending upon the local market. For an above-grade parking structure, Walker estimates construction costs to be \$20,000 to \$22,000 per space, assuming a parking structure efficiency of 325 square feet per space (representing an efficient site) with modest architectural treatments. This does not include the cost of the land, below grade construction, or soft costs. Soft costs include design, soil testing, financing, construction administration, and contingency costs. **Assuming soft costs to be 20 percent of construction costs estimated, total project costs per space would total nearly \$26,000 (rounded).**

Walker also assumes an annual operating cost per space of \$400 per space which includes cleaning, lighting, facility maintenance, insurance, equipment, seasonal clean up, and administration. **Walker is providing this conceptual cost statement for informational purposes only.**

As a point of reference, it can be helpful to parse out the true cost of parking, including both capital and maintenance costs.

The following figure presents the monthly revenue from parking needed on a per space to break even (assuming amortization over 25 years at 5.0 percent interest), given the capital cost per space and annualized operating cost per space.

Figure 31: Monthly Breakeven Costs per Space

Project Cost Per Space	Annual Operating Cost Per Space				
	\$300	\$400	\$500	\$600	\$700
\$ 19,000	\$137	\$146	\$154	\$162	\$171
\$ 20,000	\$143	\$152	\$160	\$168	\$177
\$ 21,000	\$149	\$158	\$166	\$174	\$183
\$ 22,000	\$155	\$163	\$172	\$180	\$188
\$ 23,000	\$161	\$169	\$178	\$186	\$194
\$ 24,000	\$167	\$175	\$184	\$192	\$200
\$ 25,000	\$173	\$181	\$189	\$198	\$206
\$ 26,000	\$179	\$187	\$195	\$204	\$212
\$ 27,000	\$185	\$193	\$201	\$210	\$218

Monthly Revenue Per Space Needed

Rate: 5.00% Amortized Period: 25 Years

Source: Walker Consultants

The monthly “break-even” revenue needed per space is approximately \$187 for every parking space. Currently the Town does not charge monthly, daily, or hourly parking rates. In the absence of user rates, a parking facility cannot be self-sustaining requiring some form of public subsidy or alternative funding source.

Parking Operations and Maintenance Expenses

For purposes of this expense opinion, Walker reviewed a proprietary expense database to estimate typical expenses for a small to medium sized facility.

The following represents a list of typical monthly expenses for operating a parking structure:

- Staffing wages and benefits
- Utilities
- Routine Maintenance and Repairs
- Materials and supplies
- Liability Insurance and claims
- Professional fees
- Security
- Miscellaneous/Other

Sinking Fund for Capital Repairs

Walker highly recommends that funds be set-aside on an annual basis to cover structural maintenance costs. We suggest no less than 1% of initial project costs be set aside and adjusted to account for inflation. Note that Walker considers the recommended repair and maintenance fund as a capital expense and is therefore not included as an operating expense for this parking facility. This recommended set-aside sinking fund was calculated at 1% of probable construction costs per space. These funds are held in a special reserve fund to cover larger periodic expenses to maintain the structure.

The following report section evaluates how the Town can maximize the use of existing resources, enhance the usage and performance of the current public parking program, and implement policy and management improvements to enhance the downtown parking service.



07 Analysis of Equity
Impacts

Equity Impacts

Carrboro is operating public parking as a service, with no direct cost to users. On one hand, this can be viewed as equitable—everyone pays the same amount to park: nothing. On the other hand, if nobody pays for parking, then everybody is paying for parking. Those who don't drive for economic reasons (e.g., can't afford a vehicle), for social or environmental reasons, or for reasons of age, health, or disability are, in some measure, subsidizing those who do park.

Available U.S. Census data provides some context to the demographics in Carrboro that may potentially be impacted by charging users for parking. The data set referenced is from the 2019 American Community Survey, 5-year Estimate. The findings indicate that roughly 70 percent of workers drive in a personal vehicle or carpool to get to work, which will need to be parked. The median income was \$58,702 annually but varies considerably by census tract. The total population is estimated at 21,200 (rounded).

Figure 32: Carrboro Demographics

Population	21.2	(1000's)	
Race			
White	14.5	68.4%	
Black or African American	2.3	10.8%	
Asian (Non-Hispanic)	2.01	9.5%	
Hispanic	1.5	7.1%	
Other	0.89	4.2%	
Census Tract Median Income			Median Household Income \$ 58,702
107.01 (North)	\$	109,485	
107.03 (East)	\$	37,154	
107.04 (South)	\$	59,217	
Commuter Transportation			
Drove Alone	62.30%		
Car Pool	7.20%		
Public Transit	12.70%		
Walked	3.00%		
Worked at Home	8.71%		
Car Ownership			
None	3.85%		
One	33.00%		
Two	41.70%		
Three	17.70%		
Four	3.50%		

Drive to work data indicates acceptance of alternative options for driving to work, which conversely requires parking.

Source: U.S. Census ACS 5-year Estimate (2019)

“Free Parking” is a False Narrative

While direct users of the parking don't pay directly for parking now, there is a cost to providing this amenity. Parking takes up valuable land that could be used for other purposes, such as parks, public gather places, or other shared amenities. A majority of the lots in use now are gravel to allow for drainage and reduce heat islands, but in many cases were likely at some time in the past, home to another use. Concentrating parking assets through structured parking is expensive but maximizes the land use. This is shown in the previous section when exploring the conceptual costs to design and build a structure, along with on-going maintenance costs.

The cost of providing and maintaining parking by businesses is already factored into the cost of goods and services sold. Adding a layer of paid parking to the public assets may have some impact as employees either pay for parking or find alternative parking options, but this cost is likely not impactful. Rather, when the public parking moves to paid parking, private owners may see a potential to offer similar arrangements on lower use parking assets. This could bring additional value to otherwise under used parking lots. It may also encourage shared parking arrangements between owners as the parking assets gain value. While we are aware of some limited shared parking arrangements in downtown, for the most part, each owner is staking a claim on their own parking or making limited arrangements with a neighboring property. Shared parking benefits all aspects of parking in downtown.

Another side effect of free parking is the potential that demand may outstrip the supply, making parking difficult—if not impossible—to find during peak hours. On one hand, this is equitable because everyone gets to vie for the spaces, but these conditions can be experienced unequally among parkers (e.g., certain shifts may be advantaged over others).

Good and Bad aspects of Paid Parking

No one likes to pay for parking, but everyone like to be able to find a parking space, especially a space that is near their destination and maintained. Adding paid parking helps to ensure a space will be available not occupied for expended periods of time. Paid parking also encourages users to consider alternative means, such as biking, walking, public transportation, or carpooling. This results in a reduction to carbon emissions, which in turn improves the overall quality of life and helps with the overall goal of having a positive impact on the planet.

Unbundling parking is an example of how paying for parking separately from the main business is reducing car ownership. In this case, it is taken from multi-family residential leases. Prior to unbundling parking costs from the monthly lease payment, all users were charge the same lease rate that included parking, in effect, the costs for parking are factored into the lease payment regardless of use or need.

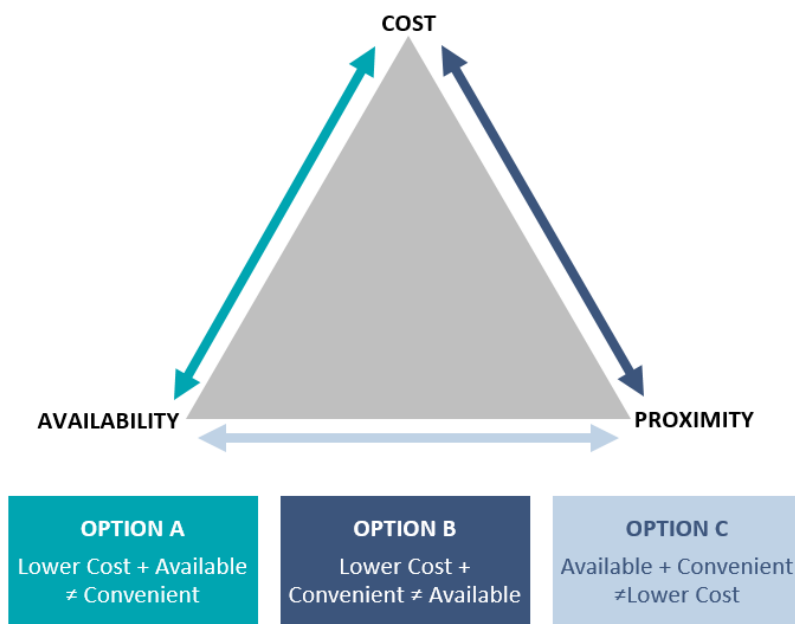
With unbundled parking, users are offered a lower monthly lease payment with a separate cost for each parking space needed. By unbundling the cost, residents can fully appreciate the cost of vehicle ownership and evaluate the need for multiple vehicles or even having a vehicle. This type of unbundling was introduced in high-cost areas but has grown in popularity as it reduces the need to provide spaces that go unused while giving the users power in paying only for what the need. Looking beyond residential leases, it may also apply to commercial leases that come with a pre-determined number of parking spaces.

Cost Versus Value

As we put Walker’s findings into perspective, we want to draw particular attention to the difference between cost and value. A common argument is that creating a cost for parking for patrons, visitors, and those who are employed may be enough for them to decide not to visit the downtown as frequently. However, the parking supply and demand analysis indicates that users are already placing a value on particular spaces over others. While there may not be a cost associated with these parking spaces, they are choosing to park in particular locations as they are perceived as the most desirable—they value them. In the recommendations section Walker will discuss how the cost of parking should be commensurate with perceived value.

Correlating cost to demand is a common pricing strategy (but not the *only* strategy) used by parking providers. This practice entails recognizing the three desired characteristics related to a user’s parking experience: cost, proximity, and availability. Using the following figure, Walker is illustrating not every user is able to have all three desired parking characteristics concurrently. A user may weigh their options and choose which two characteristics they value most. It is important to note these are not Walker’s rules; they are a reflection of how the market works.

Figure 33: Pricing Strategy Outcomes



These principles suggest:

- If parking is inexpensive and available, it is not likely to be convenient
- Inexpensive, convenient parking is unlikely to remain available
- In order to offer parking that is available and convenient, it cannot be cheap

Source: Walker Consultants

What Walker is recommending correlates the cost of parking with the locations of *where* the user parks their vehicle. In doing so, those parking downtown will have the *option* of paying more to have a more desirable parking location. This puts the selection of the two priority choices, illustrated in the triangle above, in the hands of the users.

If all parking spaces are the same price (or have no costs to the end users), the system will naturally prioritize certain locations over others. As described above, there is truly no such thing as “free” parking—these costs are being paid for by someone. In a “free” parking system (one where parking is no cost to the end user), as is the case with Carrboro, all users are technically being subsidized. Their parking is being paid for by someone other than themselves directly. In doing so, users may be more inclined to commute via personal vehicle than if the system were passing along the fee to the end users. If any fees are implemented, it is important for the town to ensure that all visitors and employees of the downtown have access to options. These options allow users to select the best mode. Visitors and employees of the downtown don’t want *parking*, what they want is *access* to the downtown and mobility options. Providing these options will increase the opportunities to those unable to afford parking.

In promoting and marketing paid parking, if desired, it is important to explain the true costs of commuting. The costs of car-ownership and maintenance far exceed the costs of parking. Websites such as [GO Triangle](#) provide cost of commuting calculators that are excellent tools for users to better understand where their money is going.

Reducing Friction

There are options to reduce potential paid parking friction points in the system. Some municipalities offer a short-term no cost parking period to parkers to allow quick trips without adding a cost. This allows users to engage the meter to activate a short period of no charge parking.

- City of Cincinnati provides the first 10-minutes of parking at their on-street meters, activated by the parker to start the clock.
- City of Aspen Colorado offers everyone a 15-minute free period to use at its pay-and-display meters once a day.
- Miami Beach offers residents that are part of the residential parking permit program to pay a lower rate at the meters than non-registered users.

There are also ways to offer discounts to residents or validations to business owners who want to offer an incentive for making a purchase. For residents to receive a discount on parking, they would need to register in advance and set-up an account on the mobile payment app. When parking, they would receive the discount applied for residents.

Validated parking may be offered by selling parking in advance at a discounted rate. Typically, this is provided as a one-time use code to be used at the meter, but could also be a “token” that adds time to the parking session. Parking would be purchased in advance in bulk or provided as an incentive to generate interest in the program. While this does add some complexity to the system, it is a tool that could be explored to off-set potential concerns to implementing paid parking.

Private Owner Participation

Adding paid parking to downtown Carrboro may benefit private owners of parking assets that may have spaces available during off-hours that could be used for public parking. Revenue collection through either a payment kiosk or mobile app can be configured so that it only allows payment during certain time periods. The only requirement is signage and enforcement. This is a common way to share parking assets for a fixed business and the public during hours when the business does not need to the parking but demand for parking is high, such as during events. Revenue generated by paid parking could be shared between the property owner and the parking management services company providing the enforcement.



08 Key
Recommendations

Key Recommendations

Walker has prepared the following summary of the key recommendations for the Town to consider implementing to address the public parking system.

Dedicated Downtown Parking Enforcement

Enforce parking on a routine and consistent basis with a minimum of one dedicated FTE parking enforcement officer enforcing across all hours of enforcement.

In discussions with stakeholders and observations, Walker learned that time limit parking enforcement is not occurring on a routine or consistent basis. Our turnover analysis indicates that 50% of vehicles parked in the public lots exceed the 2-hour time limit.

Recommendation: We recommend a more robust parking enforcement program with a dedicated parking enforcement resource to ensure parking regulations and user compliance applying an ambassador approach to enforcement. We recommend the Town consider adding dedicated staff or contracting enforcement duties to a private parking operator; greater enforcement needs to occur to promote desired short-term and long-term parking behaviors and enhance the management of the existing supply.

Paid Parking Option

Understanding the costs to enforce, manage, and provide public parking, paid parking should be considered as a viable option.

The previous study recommended enforcing the time limits but not charging for parking, primarily due to public input that paid parking was not preferred. There are options to add paid parking to offset the cost of parking for short-term users. By providing free parking as is the current state, users are encouraged to drive, burdening the environment, and costing the Town resources. Parking is never free but can be charged directly to those that use this valuable and costly asset. Carrboro is adjacent to a community that is charging for parking, which increases demand on the limited assets provided at no charge by the Town. This will increase as the new 203 Project is built and additional parking demand is generated in the surrounding area.

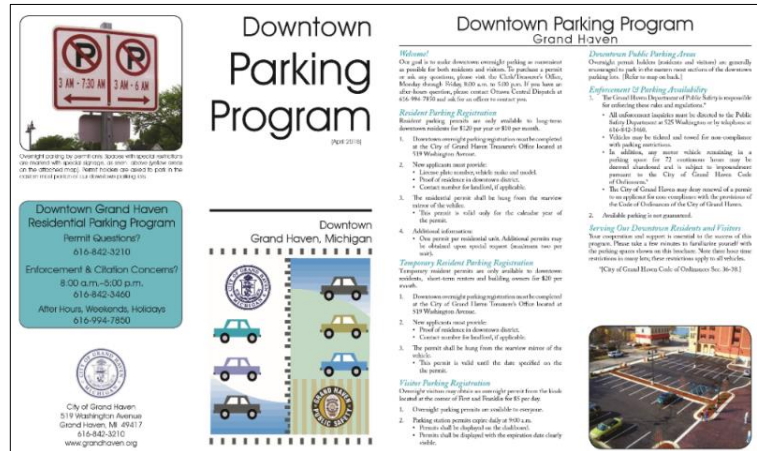
Recommendation: Prior to Covid, adding paid parking was the focus of this study effort. Enforcing the existing regulations comes at an additional cost. Adding a paid parking element in certain areas would help cover these costs, which will only increase as the 203 Project is built with structured parking that must be maintained. Adding paid parking strategically and offering some short-term free period would be appealing as it provides a revenue source and encourages biking and walking in the community. Visitors to downtown are coming to enjoy the unique experience and are not coming solely because parking is free. A small fee to park that is easy to pay is not a detriment. Funds from the parking can be used to make improvements to the community as well, which adds value to the community.

Enhanced Public Parking Communications

Create public parking brochures, maps, and other parking program details available to users on a dedicated parking webpage.

The Town does not have a website or webpage dedicated solely to downtown parking. The information we discovered on parking was dated and of limited value.

Recommendation: Carrboro’s downtown parking system public relations and communications need to be prominent and user-friendly. The Town has an opportunity to collaborate with local downtown partners to make a downtown parking website or webpage more prominent, customer-friendly, and integrative with other social media tools.



Example Brochure – Town of Grand Haven, Michigan

A website or dedicated downtown parking page should at a minimum offer the following:

- **A comprehensive downtown parking inventory;**
- **A means to respond to questions and requests** from the public for locations of parking facilities and public availability;
- **Resources** including but not limited to parking maps, business development packets, and brochures;
- **Marketing of all publicly-available parking** in downtown, regardless of public or private ownership;
- **Provide day-to-day media relations** and generate press releases as needed;
- **Include Event Parking** information with both public and private parking locations identified; and
- **Provide public relations** assistance to other downtown events as needed.

Local businesses are often willing to provide parking information and links to additional parking resources from their business websites or social media pages. This can be very helpful in providing specific location data to customers, while also providing a free portal to market parking services to potential patrons. If patrons are armed with parking availability and location information prior to arriving at their destination, their overall downtown experience can be greatly improved.

Parking Advisory Committee

Create a parking advisory committee made up of business owners and downtown stakeholders to advise the Town on parking issues to meet on a semi-frequent basis.

Recommendation: Walker recommends that the Town consider forming a downtown parking advisory committee with broad representation of interests including members of the downtown business community and downtown stakeholders. The Town should chair and oversee this committee process.

Walker recommends meeting on a quarterly basis to discuss parking trends and issues in downtown, as well as upcoming events that will generate high parking demand. The committee would not have any official government capacity or policy-setting role but could serve as a clearinghouse for the exchange of information and ideas.

The meetings would serve as an opportunity to help the Town deliver on its commitment to provide parking turnover and space availability to support downtown businesses and to assist the Town roll out public relations campaigns for downtown parking program improvements. The Advisory Committee can help educate their patrons and members on the benefits of any coordinated policy actions and provide the Town direct feedback on implementation.

The goal is to forge a valuable public-private partnership that advises, improves public communications, and balances the needs of the downtown parking system for the benefit of all users.

Uniform Parking Wayfinding and Directional Signage

Implement uniform parking wayfinding and directional signage to direct users to publicly available parking areas.

Branding and marketing the location of public parking across the downtown is important to communicate to users public parking availability. The off-street facilities are all signed, but none are named, making it difficult to identify which lot they are parked or being directed. The sign location is also important to allow passing traffic visibility to the parking.

Vehicular directional signage and facility identification sign packages should be installed to direct motorists to available public parking assets. During large events, portable “Event Parking” signage can be added to direct attendees to available public parking.

Parking Management Wayfinding Recommendations:

- Creation and modification of vehicle directional signage as part of the Downtown Wayfinding Master Plan. This should include a common “P” for parking, the universal symbol for informing motorists where to park.
- Clearly defining the hours of enforcement by time and day of the week.
- Creation of a uniform signage system for public parking facilities with the potential for a public- private partnership to promote signage consistency.

Public-Private Shared Parking Agreements

Explore shared parking opportunities between public and private lot owners across evening and weekend hours.

Approximately 81 percent of the parking inventory is privately held off-street parking. Walker found high-space vacancy across the downtown system, with over 2,100 ± vacant spaces at the peak hour. In a municipal setting, it is the towns responsibility to ensure that municipal land uses and taxpayer dollars are utilized appropriately. In parking, this often means working with private entities so that parking facilities are made available to all users and are not limited to the type of user. This can be accomplished as new developments come on-line with shared parking being encouraged to eliminate protective private parking assets.

Recommendation: We recommend that the Town continue to explore opportunities for the public and private to team together to address parking “hot-spot” challenges, promote greater user walkability, and better distribute parking demand across the study area **investigating if shared parking is feasible between parties in Downtown Carrboro.**

Shared parking is a lower-cost opportunity for the Town to lease or acquire access to additional spaces on a monthly basis, while, providing an owner with a guaranteed monthly income stream for surplus spaces (if a financial arrangement is determined).

There are reasons why this is a beneficial approach:

- From a land use and environmental perspective, it is always preferable to make good use of existing parking resources before building additional ones.
- From a financial perspective, owners may be relieved of some insurance and other operating costs while the Town gets parking without incurring upfront capital costs to build additional parking resources.

Many municipalities across the country utilize shared parking. In addition to the concern about ensuring that tenants still have spaces, there is a concern about the liability associated with having the general public parking on private lots. Some cities lease the lots from the private owners, which makes the leaseholder liable; the leaseholder carries the insurance for public parking in the lot, as well as paying other expenses such as lighting, cleaning, snow removal etc. A limitation of liability is important.

Parking Auxiliary Fund

Set aside any parking revenues into a separate parking auxiliary enterprise to fund enforcement costs and basic maintenance of the parking system.

Recommendation: Revenues collected related to parking should be set aside and tracked the operational costs of the parking system. An operational policy to create a parking auxiliary fund for the public parking system should be explored to ensure that funds are available to maintain assets and to provide quality parking services.

Conclusion

The Town of Carrboro is at decision-point in the management of downtown public parking. The current system of providing free parking with limited to no enforcement of posted time limits is not sustainable and requires funding to make improvements to ensure the public parking assets can easily be identified and used by visitors. Implementing the changes, including paid parking, can produce positive results in the community by covering operational costs while encouraging walking and biking to reduce congestion and environmental impacts.



09 APPENDIX –
Stakeholder
Meetings



DATE: September 21, 2021
 TO: Jon Hartman-Brown, Economic Development Director
 COMPANY: Town of Carrboro
 ADDRESS:
 CITY/STATE: Carrboro, NC
 COPY TO: Jon Martens
 FROM: David Garza
 PROJECT NAME: Town of Carrboro Downtown Parking Study
 PROJECT NUMBER: 19-001201.00

Title: Stakeholder Input Session with Carrboro Business Alliance

Meeting Date: Friday September 17, 2021

Meeting Platform: Zoom

Meeting Time: 9:15 a.m. EST

Participants:

Katie Loois, [The Chamber For a Greater Chapel Hill-Carrboro](#)

Rae Mosher, [Carrburritos Taqueria](#)

Josh Moorhead, [Weaver Street Market](#)

David Jessee, J&J Futures, photographer, and local commercial property owner ([106 S. Greensboro Street](#))

Scott Conary, [Open Eye Cafe](#) and [Carrboro Coffee Roasters](#)

Miles Fitch, [Fitch Lumber Co.](#)

Nathan Milian, [Carr Mill Mall](#)

Jon Hartman-Brown, Economic Development Director, [Town of Carrboro](#)

David Garza, Walker Consultants

Issue Summary:

- Parking is an issue, and it is urgent getting a study and a process in place that is correct.
- Rae Mosher: limited onsite parking spaces at restaurant and needs turnover for pick-up operations.
- Only insiders know where the hidden parking is, it is not clear where public parking is or how to find it.
- Lack of a centralized public parking location.
- Would like to see a “park-once” concept in place for the downtown.
- Example of Hillsboro, NC parking deck supporting a park once concept.
- Philosophical debate as to who should own and manage public parking.
- David Jessee: tried shared parking and encountered challenges, had to hire someone to direct parking users.
- David Jessee: vision is for a centralized parking deck.
- Would like to see more patio spaces.
- Parking to support a multi-point shopping experience and minimize having to move vehicle.
- Currently no parking enforcement and parking is not well managed.
- All day free parking is putting a strain on the turnover of the parking supply.
- We want a balance between welcoming visitors and shoppers while not straining current resources.
- Parking minimums are in place that most businesses cannot currently meet.
- Business owners have had to find informal solutions e.g., leasing employee spaces from neighboring owners.



- Miles Fitch: lumber retail business has a surplus of spaces for public consumption after-hours.
- Scott Conary: want's parkers to come into store.
- Nathan Milian: Mall has sufficient parking. Concerned that private lots should not be included in public inventory study and is concerned about future parking adequacy should public spaces go away with new developments.
- "Fragility" or impermanence of the public parking supply with leased spaces not guaranteed in perpetuity as part of the public parking space inventory.
- Question as to what the appropriate ratio of public parking spaces to total parking space inventory should be in a downtown.
- Town owns only one parking lot; remaining facilities are leases between private owners and Town.
- Carrboro has a compact and walkable urban form.
- Covid-19 is a concern regarding stability of businesses and parking utilization results while some restaurants are busy again.
- Some businesses support environmental sustainability approaches of the Town but want to be pragmatic about parking access for businesses and do not want to discourage users
- Important to show parking utilization by "sub-areas" or zones.
- Chapel Hill Parking Study was well received.
- No clarity on the number of downtown employees, no one has detailed records to share.
- High-level employee figures: as many as 4,000 downtown employees (with perhaps 2,000 outside non-resident commuters)
- UNC Park-and-Ride students utilizing Town of Carrboro free parking and no enforcement is occurring.
- Sidewalks are insufficient in some areas to support greater parking and walkability.
- Rae Mosher: would like to see a "holistic" approach that is comprehensive and thoughtful.
- David Jessee: would like to see a centrally located and visible parking resource.
- Need greater bike parking areas.
- Miles: there is an economic impact if private spaces disappeared.
- Case Study: Chapel Hill, NC that made a concerted effort to address and manage their parking.
- Katie: references a zonal analysis performed for Chapel Hill that shows adequacy by zone or district, would like to see the study area divided by sub-areas and analyzed as such.
- Need to display walking distance radius from parking areas in sub-district maps.



DATE: September 23, 2021, updated November 11, 2021
 TO: Jon Hartman-Brown, Economic Development Director
 COMPANY: Town of Carrboro
 ADDRESS:
 CITY/STATE: Carrboro, NC
 COPY TO: Jon Martens
 FROM: David Garza
 PROJECT NAME: Town of Carrboro Downtown Parking Study
 PROJECT NUMBER: 19-001201.00

Title: Stakeholder Input with Town of Carrboro Staff and Elected Officials
Meeting Date: Friday September 17, 2021
Meeting Platform: In-person, Zoom
Meeting Time: 11 a.m., 1:15 p.m., 2:15 a.m., 3:15 p.m., 4:15 p.m. (Zoom)

Participants:

Staff

Richard White, Town Manager
 Trish McGuire, Zachary Hallock, Carrboro Planning Department

Elected Officials

Lydia Lavelle, Town Mayor
 Barbara Foushee, Mayor Pro Tempore
 Randee Haven-O'Donnell, Town Councilmember
 Susan Romaine, Town Councilmember
 Sammy Slade, Town Councilmember
 Damon Seils, Town Councilmember
 Jacquie Gist, Town Councilmember
 David Garza, Walker Consultants
 Jon Martens, Walker Consultants

Walker interviewed elected officials and Town of Carrboro Staff as part of the stakeholder input process. The following content summarizes key issues, insights, and ideas discussed by participants interviewed by Walker Consultants representatives.

Issue Summary:

Interview with Sammy Slade, Town of Carrboro Council

- Sammy Slade: Goal should be to tap into private spaces thru shared parking agreements.
- Shared resources with Walker Consultants from a Nelson Nygaard parking study.
- Sammy: revenue and cost sharing for a public-private solution should be explored.
- Sammy: would like to see a presentation of options including parking rates and parking delivery models e.g., BID districts and parking improvement districts.
- Sammy: case studies would be helpful to see to educate the public on trade-offs.
- Transit is currently free for users.
- Public dollars have been spent on wayfinding signage, need to follow-up on that item.

- Sammy: provided background on the Hampton Inn garage; 5-year lease as a tool for economic development.
- Sammy: would like to see a park once model.
- Sammy: believes other non-fossil fuel motorized modes should be promoted by the Town.

Interview with Damon Seils, Town of Carrboro Council

- The Town does have a parking plan that was adopted by the Council.
- Damon thought it was a good study, a lot of the recommendations have not been implemented.
- Some in the business/merchant community do not recognize the previous study report.
- Would like to see the current study address: 1) the management of existing resources 2) options for paid parking.
- Issues are that the supply is piecemeal, and we have long-term parkers, some UNC students are using Carrboro parking resources because parking is free and conveniently located along a bus corridor.
- Public lots should be there to support turnover and short-term parking.
- Downtown access is fixated around parking.
- The Town would be willing to be a centralized parking solution provider if they had the participation of private owners for a joint public-private solution.
- Currently underutilized parking areas.
- Enforcement is not occurring.
- Employee parking permit program.
- Would be interested in an ambassador approach to enforcement that is not overly punitive.
- Will the new library public parking garage charge rates or not?
- Validation programs discussed for library users.

Interview with Jacquelyn Gist, Town of Carrboro Council

- Shared parking with Car Mill Mall will not work as a solution, owner representative not interested in selling or leasing spaces.
- Frustrating that nobody knows how many employees need parking downtown.
- Walking and biking is good, but we must have parking for the businesses.
- 302 Library project will remove 86 existing spaces and rebuild 173 spaces (net 87 spaces).
- Believes this project will alleviate some of the parking needs and prevent residential spill over.
- Need to consider residential parking program at some point.
- Parking lots need to enforce time limits.
- Ambivalent about paid parking and that potentially negatively impacting businesses who are just recovering from the pandemic, however, would be supportive if some free options are maintained for disadvantaged communities.
- Shuttles and transit are good, however personally has not taken busses since Covid-19 pandemic.
- Transit ridership was strong pre-pandemic.
- Bus service routes have been reduced due to the pandemic.
- We do not want to be a free parking resource for UNC and Chapel Hill.

Interview with Town of Carrboro Planning Department

- Property values are high in the Town which influences redevelopment opportunities.
- Cost to redevelop small parcels are high and land assemblage is an issue.
- Lack of available parcels that offer greater infill density opportunities.
- Currently engaged with a Town Comprehensive Plan.
- Street widths vary throughout the Town.
- In 2019, about 13% of the commute mode share was from transit.
- Pre-pandemic there was healthy transit ridership.
- Former CVS property has a permit for development.
- Library will provide some public parking.
- There is an RFP for Chapel Hill/UNC bike share as one cohesive system.
- Might be employer surveys around Transportation Demand Management (TDM).

Richard White, Town Manager

- Asked Walker several questions about the parking study.
- New to the position so did not provide any specifics around the issues.
- Is eager to receive the study and engage the community on the issues around parking.

ADDITIONAL ZOOM INTERVIEWS – OCTOBER AND NOVEMBER 2021***Interview with Randee Haven-O'Donnell, Town of Carrboro Council***

- Business owners and immediate downtown residents voice concern about parking
 - 203 Project on South Greensboro – project with county public library
 - Carrboro doesn't have a municipal library
 - This library will be serving southwest Orange Co.
 - Who is going to go downtown will shift
 - What should parking plan look like?
 - Homeowners' associations and commuting residents are an important constituency
 - How will we engage this group? This is an issue that is not popular on Council, Randee thinks the focus is downtown centric and her district is not downtown
 - Neighborhood engagement will be important
 - Resident's input is needed with any decision on rates or no rates
 - Likes the idea of a residential tag
 - We cannot put ourselves in a situation where we are doing something regressive
 - Outbound commute 90%
 - Our goal is to reinforce the local living economy – we must be sure the very people we want to spend money do not find it burdensome to be here
 - 1 of 2 Council members live outside downtown
1. Engagement and input of neighbors
 2. Residential tag has access to free parking
- Look at sub areas of the geography
 - Parking wayfinding

- Private lots in various spots
- Electronic signs and Parking App
- Parking demand model for the next five to ten years with more density for downtown residential
- Decouple parking from residential

At least signal that if we do densify there are parking space generation requirements

- Infrastructure needs to be developed with
- Maximize shared parking
- Robust public transit

Interview with Lydia Lavelle, Town Mayor (outgoing Mayor)

- Previous study identified % of the parking not controlled by Town
- It makes sense to try to harness existing parking
- A lot of smaller lots have informal arrangements with users
- Moving forward we need to get a better handle on how things exist
- How much longer should we continue to rent spaces versus building a deck
- 203 Project
- We always knew Hampton spaces would be temporary
- We want to find parking for Library parking for patrons
- It is unreasonable to expect public parking
- We need to incentivize business to build on existing footprint
- Spaces in Hampton deck- might be needed?
- Some of the most accessible parking is in private hands
- You need to have convenient parking right outside your door
- Downtown Carrboro ½ mile radius
- We are situated in a way that we have a lot of opportunities
- Need improved wayfinding
- Need greater awareness of public parking spaces
- I feel our supply is there for the time being
- 203 – we investigated several parcels nearby which were cost prohibitive
- Validation of current study and/or real aggressive conversation with all lot owners in Town
- Fitch and Venable – we need an effort to outreach to partners
- We don't have parking enforcement currently
- People like free access
- We might have to do something like that where we must consider enforcement
- Need employees to park in less convenient spaces so they are available for customers and visitors
- Sooner or later, we may have to consider paid parking after 203 Project
- BRT service
- Transit routes are down due to pandemic
- Bike parking – covered, accessible, visible bike parking – with the advent of E-Bikes
- Signage – plan has been put on the back burner we intend to evaluate together with parking study

- 203 Project will take up 100 parking spaces that we have, we tried to recoup these spaces as much as we can onsite and offsite

Interview with Susan Romaine, Town of Carrboro Council

- Felt there was a disconnect with numbers and observations of previous study
- We are constantly looking at parking downtown
- I understand the business community, it is important that we are providing sufficient parking
- Parking needs to be in support of local economy
- I still see a lot of empty spaces, I am not feeling that urgency for additional parking resources
- Curious to get observations
- We don't have a lot of public parking; we have a lot of private parking which is pointing out the need to collaborate with businesses
- Explore more ways to lease parking
- Can private owners work together to collaborate?
- Ideas: we would do well with improved wayfinding, simpler process to find available parking
- Chapel Hill has an app and people are pleased with it
- I do think we can do more with parking enforcement
- Business owners near 203, college students parking and riding bike down to campus
- Enforcement can deal with the margins of these issues
- Address climate action goals, need of business community for access, car parking in the context of transit and sidewalks
- Susan found the businesses were split 50/50 on whether to support paid parking
- Susan: business owners are concerned about the cars sitting there hour after hour typing up a spot, is the answer paid parking or greater parking enforcement?

Interview with Barbara Foushee, Town of Carrboro Council

- Ask about previous study
- What is the current community engagement around this study?
- Breaking ground on the 203 projects
- Lost 100 spaces and seeking to provide adequate parking
- Public-private partnerships
- Wayfinding and Signage
- Barbara lives downtown
- North Carrboro districts are likely driving
- Commentary from families and ADA community needed
- Paid parking impacts for underserved populations
- We have to work and capture every sector of the community
- Bike community has a high advocacy
- Cars are still here and now– car parking still outweighs the bike
- We can educate public, but we still need car accommodation



- Paid Parking – Have you come up with anything specific
- Equitable and even distributed solution
- Put staff in other lots
- Event parking needs – music festivals

