



Appendix

A – Online Survey

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Appendix A

Online Survey



To: Bergen Watterson, Town of Carrboro

Date: September 23, 2016

Memorandum

Project #: 38539.00

From: Timothy Tresohlavy, VHB

Re: Carrboro Parking –Survey Summary

Purpose and Background

The purpose of this memo is to provide a very high level summary of the Carrboro NC Downtown Parking Survey. Full results including tables and charts are available as a PDF attachment.

The survey launched on February 4th, 2016, and remained open until August 26th, 2016. A total of 602 respondents completed the survey over the six (6) month period. Nearly all respondents provided a zipcode within Carrboro (57%) or Chapel Hill (31%).

Visiting Downtown

Half of respondents indicated that they visit downtown Carrboro daily. The most common trip purposes were dining/shopping (84%), socializing (68%), Farmers' Market (54%), or personal business (48%).

A small percentage of respondents (13%) visit less than once per week.

A very small number of survey respondents (18 total, 3%) indicated that they do not regularly visit downtown Carrboro. Parking availability was an issue for four (4) of these individuals. The most common reasons for not visiting included: working elsewhere (7 individuals), shopping elsewhere (5), limited parking (3), inconvenient parking (3), and/or lack of transportation options (1).

Half of respondents typically drive alone, and one-quarter choose to carpool. This leaves 25% who arrive via alternative modes of transportation, which is a very good overall percentage.

Fewer than one-in-five respondents indicated that overall availability and ease of parking has affected their decision to visit downtown (17%). Personal security within public parking lots is an issue for twenty respondents (4%) who indicated that they felt "sometimes unsafe." This is a small percentage, however a significant and sensitive topic.

Duration of Stay

Most respondents indicate that they typically stay in downtown for less than 4-hours (81%), and more than half stay for less than 2-hours (56%). This relates well to the current 2-hour time limit for public parking, which was found to be appropriate for most respondents (62%), while an additional one-quarter would like the limit to be 4-hour (26%).

Parking Location and Walk time

Respondents indicated that the last time they chose to drive to downtown, they parked in a public lot (72%) more frequently than a private lot (26%), which is interesting since more than 80% of total parking is private.

A 5-minute walking time from their parking lot to their destination was the majority response (93%), and a 2-minute walk was indicated by most respondents (72%). As anticipated most respondents found this walk-time convenient (86%), and a small proportion were "neutral" (11%).

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Possible Barriers

Possible barriers that are preventing more frequent visits to downtown include: cannot easily find parking (30%), sidewalks are not connected or maintained (23%), convenient parking spaces are occupied (21%), other/open-ended response (18%), the 2-hour parking limit is inconvenient (13%), reserved parking signs are confusing (12%), gravel parking lots (9%), poor lighting (7%), and walking too far to final destination (4%).

Improve Parking

Respondents were asked "To improve parking the Town should..." and the more common choices were: encourage alternative modes of transportation (55%), construct a parking deck (34%), lease additional parking from private property owners (33%), other/open-ended response (23%), allow on-street parking (22%), enforce the 2-hour time limit for public lots (19%), build surface parking (18%), and do nothing (10%).

Paid Parking

Two-thirds of respondents would prefer not to pay an hourly fee (64%), and one-third responded "No way!" (29%). An equal percentage (29%) indicated "Maybe", or "Yes" to hourly paid parking.

Respondent Demographics

Survey respondents were asked seven (7) demographics questions at the end of the survey. Most respondents (61%) lived in 1 or 2 person households. One third (33%) of respondents had children under the age of 18 living at home.

Mobility Options

Seven (7) respondents indicated that they did not own a vehicle (1%); most owned two or more vehicles (70%).

For comparison with bicycles, many respondents indicated that they did not own a bicycle (19%); an equal share owned one bicycle (18%); most owned two or more bicycles (63%). Half of respondents were willing to ride a bicycle to Downtown Carrboro, and a slightly smaller half of respondents were unlikely (41%) to ride.

Half of respondents currently ride Chapel Hill Transit or GoTriangle buses to varying destinations, however a much smaller portion (16%) ride a bus to downtown Carrboro. This gap suggests that the current routes, stops or service frequency may not be convenient for downtown trip purposes.

Respondents were also asked if riding transit was an option from their home. Half of respondents indicated yes (46%), and half indicated no (47%), with the remainder unsure. One-third of total respondents were unlikely to ride transit if the routes were more convenient from their home, while nearly half were likely to ride (44%).

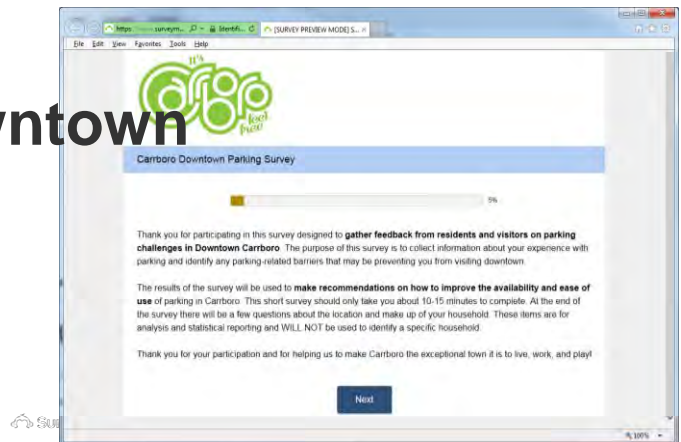
Carrboro NC Downtown Parking Survey

Opened Friday, February 5, 2016

Closed Friday, August 26, 2016

602 respondents

530 completed surveys

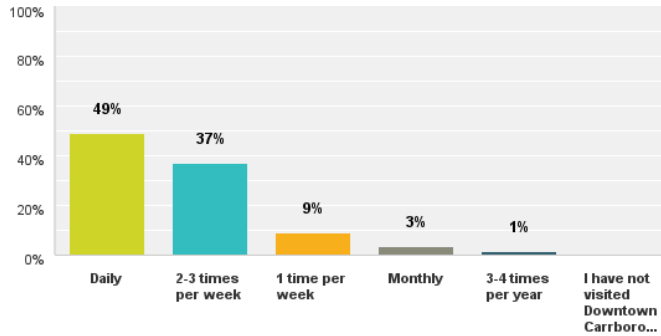


Q1: What is your residential zip code?

Zip Codes	Town	# of Responses	% of Responses
27510	Carrboro	344	57%
27516	Chapel Hill	147	24%
27514	Chapel Hill	28	5%
27517	Chapel Hill	22	4%
27278	Hillsborough	10	2%
<i>all others</i>	<i>other</i>	51	8%

Q2: How often do you visit Downtown Carrboro?

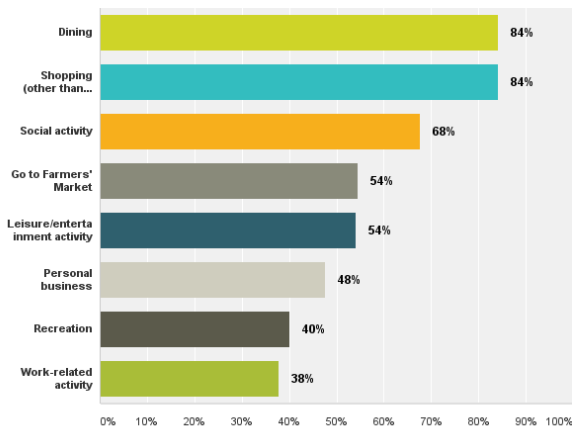
Answered: 602 Skipped: 0



Answer Choices	Responses
Daily	49% 295
2-3 times per week	37% 223
1 time per week	9% 55
Monthly	3% 21
3-4 times per year	1% 8
I have not visited Downtown Carrboro in the last year	0% 0
Total	602

Q3: What is the purpose of your visits? (check all that apply)

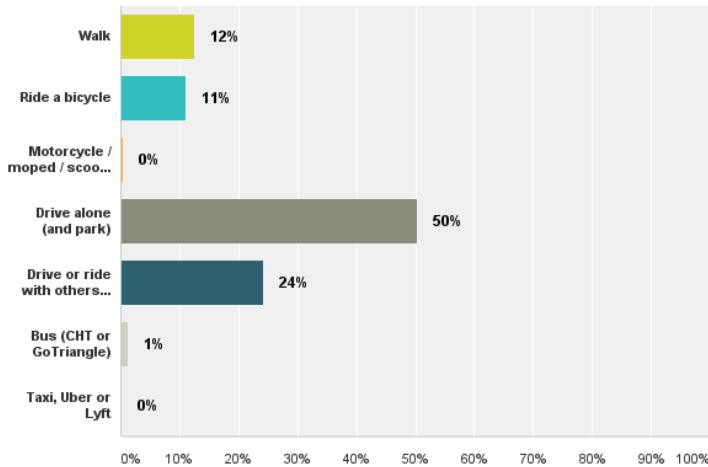
Answered: 592 Skipped: 10



Answer Choices	Responses
Dining	84% 499
Shopping (other than Farmers' Market)	84% 499
Social activity	68% 400
Go to Farmers' Market	54% 322
Leisure/entertainment activity	54% 320
Personal business	48% 282
Recreation	40% 237
Work-related activity	38% 224
Total Respondents: 592	

Q4: How do you typically travel to Downtown Carrboro?

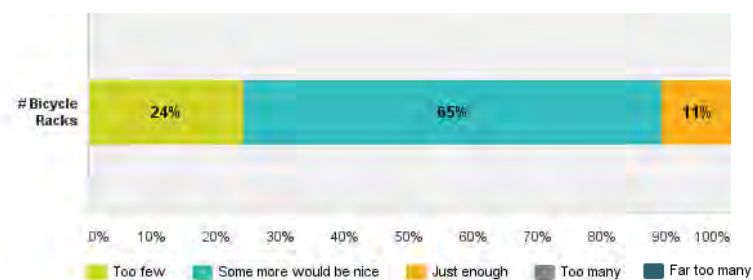
Answered: 593 Skipped: 9



Answer Choices	Responses
Walk	12% 74
Ride a bicycle	11% 66
Motorcycle/moped/scooter (and park)	0% 2
Drive alone (and park)	50% 298
Drive/ride with others (and park)	24% 144
Bus (CHT or GoTriangle)	1% 8
Taxi, Uber or Lyft	0% 1
Total	593

Q5: Please rate the TOTAL NUMBER of bicycle rack parking locations in Downtown Carrboro

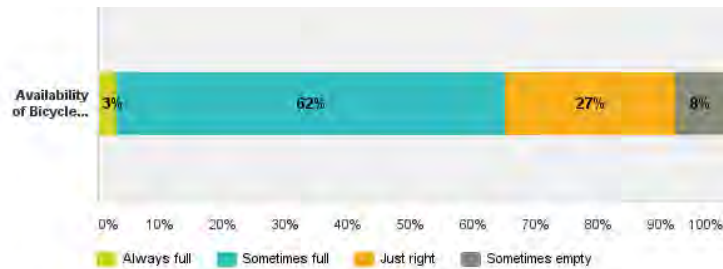
Answered: 66 Skipped: 536



	Too few	Some more would be nice	Just enough	Too many	Far too many	Total	Weighted Average
# Bicycle Racks	24% 16	65% 43	11% 7	0% 0	0% 0	66	1.86

Q6: Please rate the AVAILABILITY of bicycle rack parking in Downtown Carrboro

Answered: 66 Skipped: 536



	Always full	Sometimes full	Just right	Sometimes empty	Always empty	Total	Weighted Average
Availability of Bicycle Racks	3%	62%	27%	8%	0%	66	2.39

Q7: How long do you typically stay when you visit Downtown Carrboro?

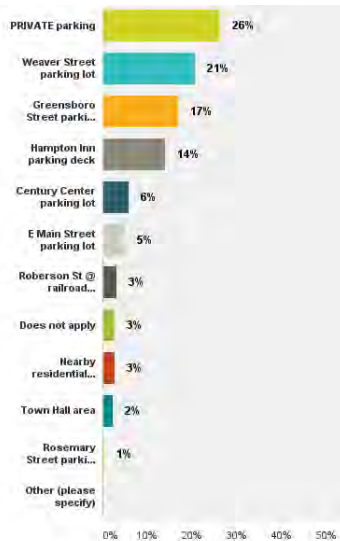
Answered: 592 Skipped: 10



Answer Choices	Responses
Less than 1 hour	11% 64
1-2 hours	45% 266
2-4 hours	25% 147
4-6 hours	7% 39
6-8 hours	6% 33
8+ hours	7% 43
Total	592

Q8: Thinking back to the last time you chose to drive to Downtown Carrboro, where did you park?

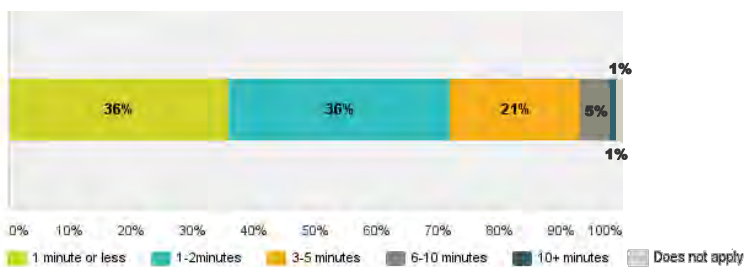
Answered: 591 Skipped: 11



Answer Choices	Responses
PRIVATE parking	26% 158
C Weaver Street parking lot	21% 123
E Greensboro Street parking lot	17% 100
H Hampton Inn parking deck	14% 81
D Century Center parking lot	6% 34
F E Main Street parking lot	5% 29
G Roberson St @ railroad parking lot	3% 18
Does not apply	3% 16
B Nearby residential street (on-street parking)	3% 16
A Town Hall area	2% 13
I Rosemary Street parking lot	1% 8
Other (please specify)	1% 6
Total	591

Q9: Thinking back to the last time you chose to drive to Downtown Carrboro, once you parked how long was your walk to your final destination?

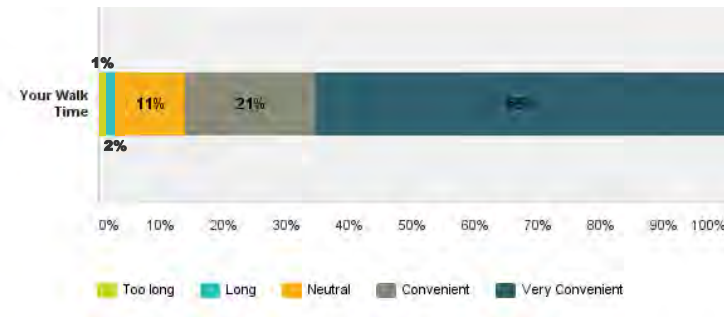
Answered: 570 Skipped: 32



Answer Choices	Responses
1 minute or less	36% 204
1-2minutes	36% 206
3-5 minutes	21% 121
6-10 minutes	5% 29
10+ minutes	1% 6
Does not apply	1% 4
Total	570

Q10: Please rate your ACCEPTANCE for this walking time (from previous question)

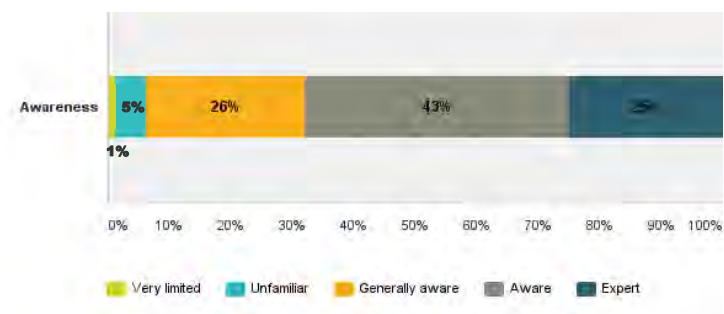
Answered: 559 Skipped: 43



	Too long	Long	Neutral	Convenient	Very Convenient	Total	Weighted Average
Your Walk Time	1%	2%	11%	21%	65%	559	4.48
	6	10	61	117	365		

Q11: Please rate your AWARENESS of available public parking in Downtown Carrboro

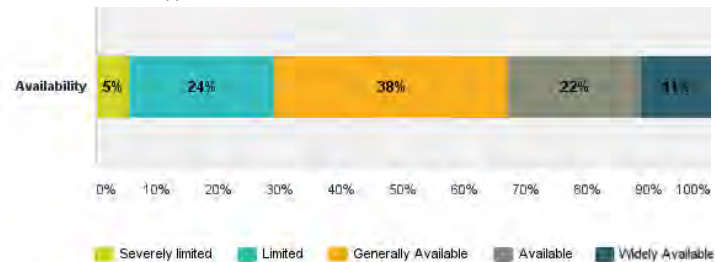
Answered: 559 Skipped: 43



	Very limited	Unfamiliar	Generally aware	Aware	Expert	Total	Weighted Average
Awareness	1%	5%	26%	43%	25%	559	3.85
	7	26	144	241	139		

Q12: Please rate the AVAILABILITY of parking lot options in Downtown Carrboro

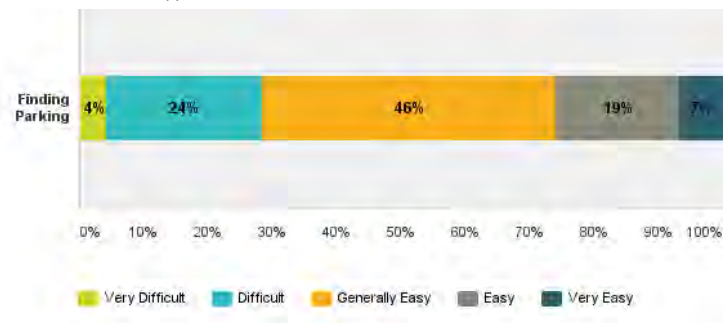
Answered: 556 Skipped: 46



	Severely limited	Limited	Generally Available	Available	Widely Available	Total	Weighted Average
Availability	5%	24%	38%	22%	11%	556	3.10
	30	132	211	121	62		

Q13: Please rate the RELATIVE EASE of finding parking in Downtown Carrboro

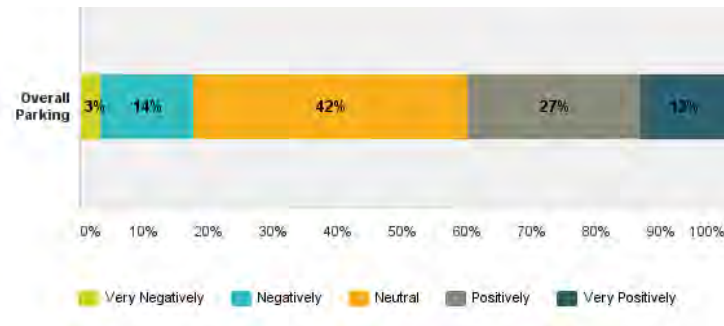
Answered: 559 Skipped: 43



	Very Difficult	Difficult	Generally Easy	Easy	Very Easy	Total	Weighted Average
Finding Parking	4%	24%	46%	19%	7%	559	3.00
	23	136	256	108	37		

Q14: How has the overall AVAILABILITY and EASE of parking in Downtown Carrboro affected your decision to visit Downtown Carrboro?

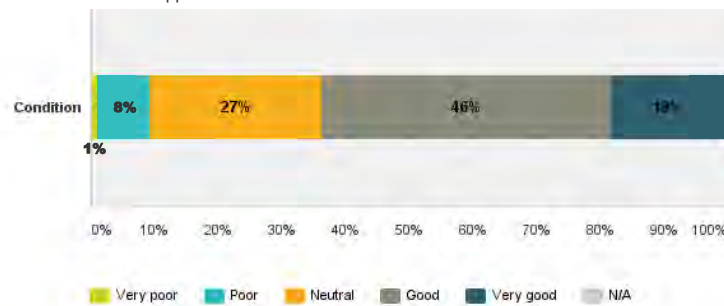
Answered: 558 Skipped: 44



	Very Negatively	Negatively	Neutral	Positively	Very Positively	Total	Weighted Average
Overall Parking	3% 18	14% 80	42% 237	27% 150	13% 73	558	3.32

Q15: Please rate the CONDITION of public parking lots in Downtown Carrboro

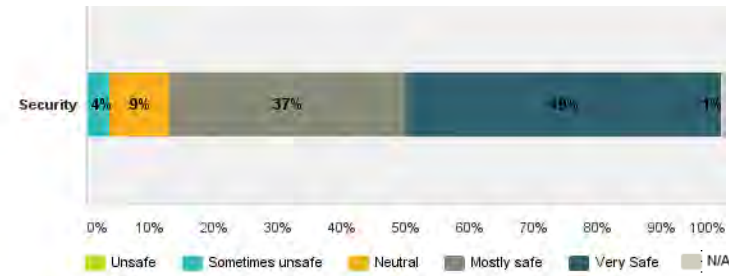
Answered: 551 Skipped: 51



	Very poor	Poor	Neutral	Good	Very good	N/A	Total	Weighted Average
Condition	1% 6	8% 45	27% 149	46% 251	18% 98	0% 2	551	3.71

Q16: Please rate your feeling of PERSONAL SECURITY within public parking lots in Downtown Carrboro

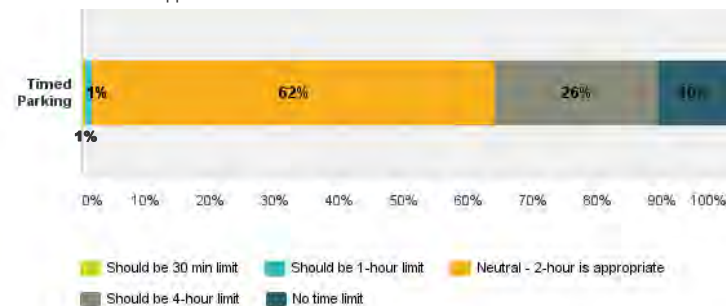
Answered: 551 Skipped: 51



	Unsafe	Sometimes unsafe	Neutral	Mostly safe	Very Safe	N/A	Total	Weighted Average
Security	4%	9%	37%	49%	1%		551	4.33
	0	20	52	204	272	3		

Q17: Please rate the current 2-hour TIMED PARKING LIMIT for public parking lots in Downtown Carrboro

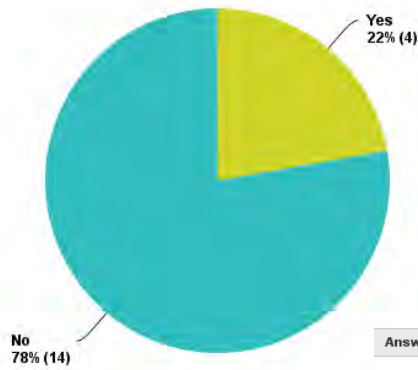
Answered: 549 Skipped: 53



	Should be 30 min limit	Should be 1-hour limit	Neutral - 2-hour is appropriate	Should be 4-hour limit	No time limit	Total	Weighted Average
Timed Parking	1%	1%	62%	26%	10%	549	3.44
	3	6	343	140	57		

Q18: If you do not regularly visit Downtown Carrboro, has the expected AVAILABILITY of parking ever factored into your decision to not visit?

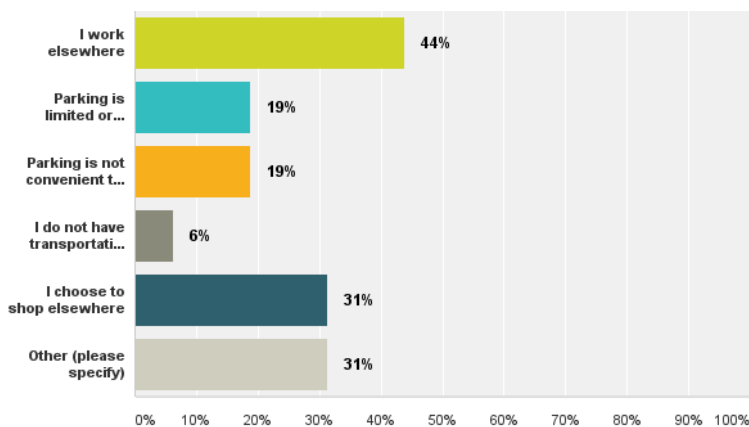
Answered: 18 Skipped: 584



Answer Choices	Responses	
Yes	22%	4
No	78%	14
Total		18

Q19: Please list the reasons that you DO NOT typically visit Downtown Carrboro? (check all that apply)

Answered: 16 Skipped: 586



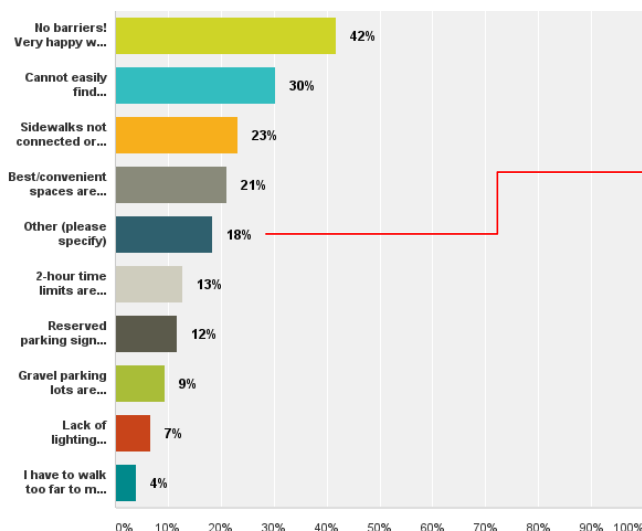
Answer Choices	Responses	
I work elsewhere	44%	7
Parking is limited or difficult to find	19%	3
Parking is not convenient to my destination	19%	3
I do not have transportation options	6%	1
I choose to shop elsewhere	31%	5
Other (please specify)	31%	5
Total Respondents: 16		

Q19: Please list the reasons that you DO NOT typically visit Downtown Carrboro? (other)

Free-responses
<ul style="list-style-type: none"> I always visit downtown Carrboro, via walking, bike, or bus. I visit BECAUSE of the lack of parking, I see people outside and the scenery isn't ruined by disgusting parking lots! I typically attend yoga at Carrboro yoga; occasionally visit the Farmer's Market. I do visit downtown, and park either in the Carr Mill Mall lot, the Farmer's Market lots, or the hotel garage. Sometimes overflow to the Harris Teeter lot makes grocery shopping and picking up prescriptions difficult. Chapel Hill Transit runs infrequently from my home to downtown Carrboro during weekdays, and even less so during weekends, when I'm more likely to have free time to visit Downtown Carrboro.

Q20: In your opinion, what are the barriers that are preventing you from visiting Downtown Carrboro more frequently? (check all that apply)

Answered: 555 Skipped: 47



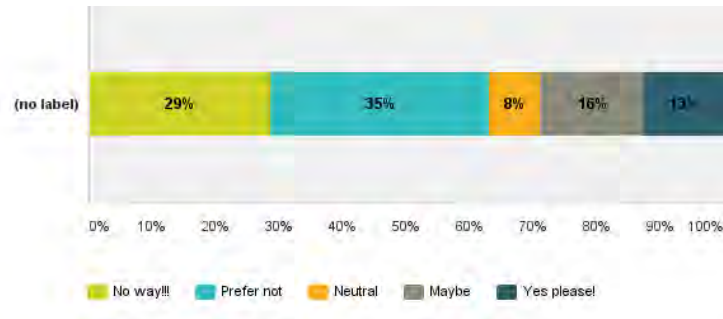
Answer Choices	Responses
No barriers! Very happy with Downtown Carrboro	42% 232
Cannot easily find any/convenient parking	30% 168
Sidewalks not connected or poorly maintained	23% 129
Best/convenient spaces are typically occupied	21% 117
Other (please specify)	18% 102
2-hour time limits are inconvenient	13% 71
Reserved parking signs are confusing	12% 65
Gravel parking lots are undesirable	9% 52
Lack of lighting (safety)	7% 37
I have to walk too far to my final destination	4% 22
Total Respondents: 555	

"Other" responses

- 33% of "Other" responses relate to alternative transportation (bicycle/pedestrian/transit)
- An additional 33% is related to convenient parking and anxiety over time limits

Q21: Please rate your willingness to PAY AN HOURLY FEE to ensure that parking is available when you need it

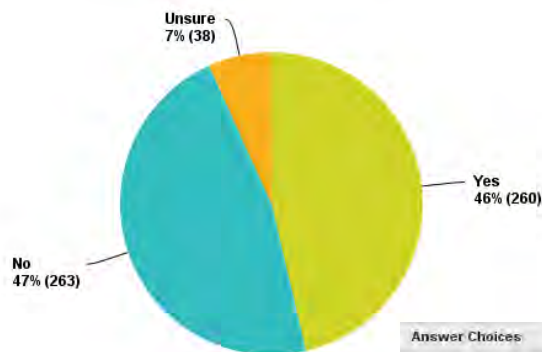
Answered: 559 Skipped: 43



	No way!!!	Prefer not	Neutral	Maybe	Yes please!	Total	Weighted Average
(no label)	29% 160	35% 193	8% 45	16% 91	13% 70	559	2.50

Q22: Is riding the Chapel Hill Transit or GoTriangle bus from your home to Downtown Carrboro an option for you?

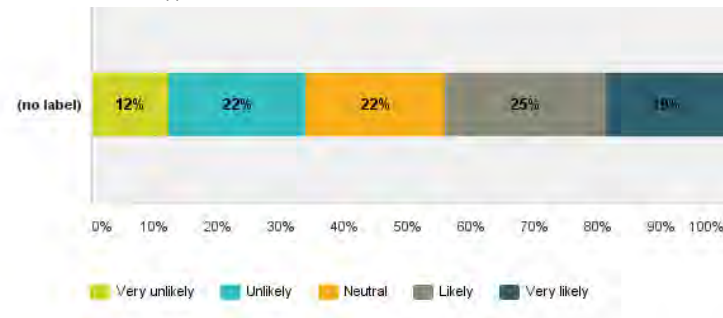
Answered: 561 Skipped: 41



Answer Choices	Responses
Yes	46% 260
No	47% 263
Unsure	7% 38
Total	561

Q23: If riding the Chapel Hill Transit or GoTriangle bus were (more) convenient from your home, please rate your willingness to ride transit rather than drive to Downtown Carrboro

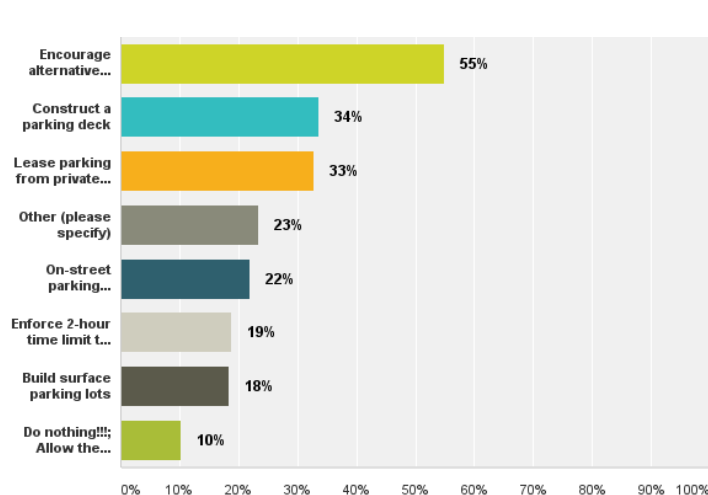
Answered: 541 Skipped: 61



	Very unlikely	Unlikely	Neutral	Likely	Very likely	Total	Weighted Average
(no label)	12%	22%	22%	25%	19%	541	3.17
	65	117	120	137	101		

Q24: In your opinion, "To improve parking in Downtown Carrboro the Town should..." (check all that apply)

Answered: 552 Skipped: 50



Answer Choices	Responses
Encourage alternative transportation modes (bus, bike, walk)	55% 303
Construct a parking deck	34% 186
Lease parking from private property owners	33% 181
Other (please specify)	23% 129
On-street parking opportunities within residential neighborhoods	22% 121
Enforce 2-hour time limit to encourage turnover	19% 104
Build surface parking lots	18% 101
Do nothing!!!; Allow the private sector to build (and charge) for parking	10% 56
Total Respondents: 552	

"Other" responses

- 33% of "Other" responses relate to alternative transportation (bicycle/pedestrian/transit)
- A further quarter are related to improved signage/wayfinding and shared parking
- 10% encourage a pay for parking scheme in the future

Q25 If you do NOT choose to use public parking, please tell us about your experience visiting Downtown Carrboro

Open-Ended Response **119 responses**



Q26 If you have any observations or thoughts you would like to share about parking in Carrboro (not specifically in downtown)

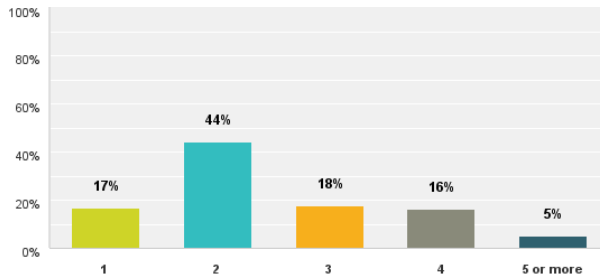
Open-Ended Response **239 responses**



Demographics Questions 27-33

Q27: How many persons live in your household?

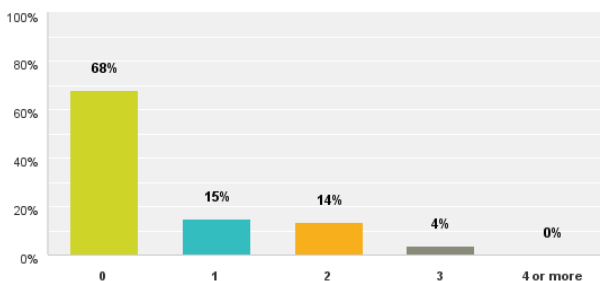
Answered: 555 Skipped: 47



Answer Choices	Responses
1	17% .93
2	44% 245
3	18% .98
4	16% .91
5 or more	5% .23
Total	555

Q28: Of the total number of persons in your household, how many are under the age of 18?

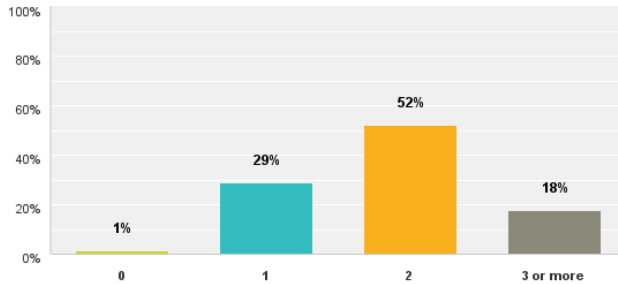
Answered: 555 Skipped: 47



Answer Choices	Responses
0	68% 376
1	15% .82
2	14% .76
3	4% .20
4 or more	0% 1
Total	555

Q29: How many vehicles (cars, pickup trucks, SUVs) are AVAILABLE to members of your household?

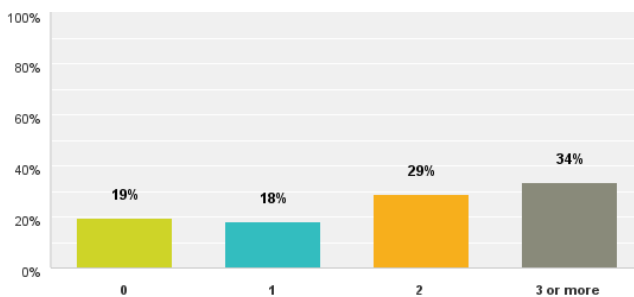
Answered: 553 Skipped: 49



Answer Choices	Responses
0	1% 1
1	29% 159
2	52% 288
3 or more	18% 99
Total	553

Q30: For comparison, how many bicycles are available to members of your household?

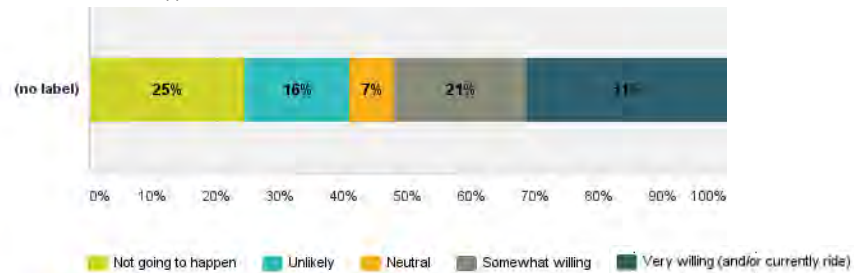
Answered: 551 Skipped: 51



Answer Choices	Responses
0	19% 107
1	18% 101
2	29% 158
3 or more	34% 185
Total	551

Q31: Please rate your willingness to RIDE A BICYCLE from home to Downtown Carrboro

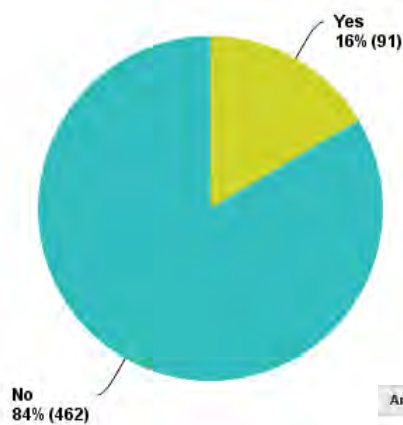
Answered: 555 Skipped: 47



	Not going to happen	Unlikely	Neutral	Somewhat willing	Very willing (and/or currently ride)	Total	Weighted Average
(no label)	25% 136	16% 91	7% 39	21% 116	31% 173	555	3.18

Q32: Do you or members of your household regularly use Chapel Hill Transit or GoTriangle to visit Downtown Carrboro?

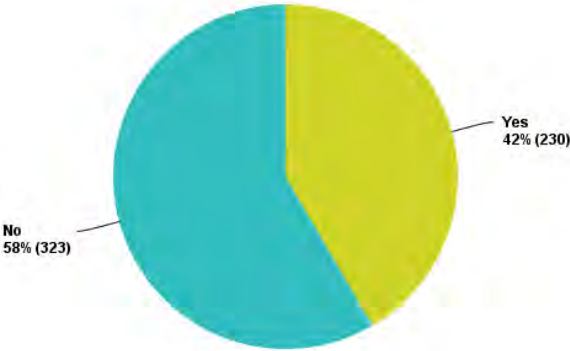
Answered: 553 Skipped: 49



Answer Choices	Responses	
Yes	16%	91
No	84%	462
Total		553

Q33: Do you or members of your household regularly use Chapel Hill Transit or GoTriangle for any trip purpose?

Answered: 553 Skipped: 49



Answer Choices	Responses	
Yes	42%	230
No	58%	323
Total		553



Appendix B

Public Outreach Notes



To: Bergen Watterson

Date: April 30, 2016

Memorandum

Project #: 38539.00

From: Timothy Tresohlavy, VHB

Re: Carrboro Parking - Farmers Market Outreach

This memo describes the public comments received during a Saturday Farmers Market outreach event, held on Saturday April 30, 2016 from 9 AM to 12 PM. VHB attended the event and provided a table with the intent of promoting the online parking survey link, and generating feedback on the existing parking utilization during a typical weekday.

General Observations

The Carrboro Farmers Market operates between 7 AM and 12 PM on Saturdays between April and November, with limited hours for November to March. The Town places signs along Main Street and Weaver Street indicating that the Farmers Market is open today. Traffic will queue along westbound Weaver Street to enter the Town Hall parking lot. There are a limited number of parking spaces within the Town Hall lot (83 spaces), and often these vehicles are observed waiting for parked vehicles to leave, or pushed through the lot and out onto BIM Street to seek an alternative space.

On-street parking is allowed during the Farmers Market along Laurel Ave, BIM Street, and Fidelity Street. During the work week, however, on-street parking is not allowed along these roadways.

A large number of attendees were observed parking at the Citgo Gas Station at the corner of Main Street and Elm Street, or parking along Elm Street. Some attendees were observed parking and walking from the O2 Fitness/Oddities & Such parking lot (105 spaces) near the intersection of Main Street and Fidelity Street.

Overflow parking is available at the Carrboro Elementary School, however only 10-12 vehicles were observed parking here. Vendors were directed to park here, however attendees may not be fully aware of this nearby parking lot.

Adding a traffic control officer would help to control vehicle access to Town Hall, and direct some vehicles to alternative parking lots rather than circling through the Town Hall lot first. This would be especially important for first-time visitors to the Farmers Market.

Public Comments

Attendees were asked to describe their parking experience in downtown Carrboro. This prompted many to approach the table to discuss parking, walking, bicycling or riding Chapel Hill Transit. Most arrived at the Farmers Market by driving, and parked within the Town Hall lot or across the street. Some indicated that they walked from as far away as the Harris Teeter parking lot or Carr Mill Mall parking lot. A small number indicated that they walked from home, north of Weaver Street.

Specific public comments included the following:

- Potential barriers to visiting downtown more frequently include sidewalk gaps along:
 - Main Street between Poplar Ave/Fidelity St
 - S Greensboro Street within Downtown, and further south
 - Laurel Avenue approaching from the south
 - BIM Street

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- Roberson Street near two public parking lots
 - Sweet Bay Place along the west side of the roadway
- Unsafe pedestrian crossing of NC-54 near Greensboro Street from Kingswood apartments
 - NC-54 is a 4L median divided highway with 45-mph posted speeds
- Construction fencing along 501 S Greensboro Street is blocking ped/bike access to Purple Leaf Place, which connects with Sweet Bay Place and Maple Avenue to the north. This is a convenient bicycle and pedestrian pathway towards downtown from the south.
- Desire for a Farmers Market park-&-ride (CHT route CW serving two P&R lots)
- Harris Teeter parking lot was described as “horrible” by one Farmers Market attendee
- Lack of bicycle parking was identified for a portion of S Greensboro Street, near Open Eye Café, Wendy’s, and Steel String Brewery. This is particularly interesting as one of the owners of the Steel String Brewery was present, and noted this marked on the map. He further mentioned that an underutilized and less-than-visible bicycle rack is present on the side of the building, and may require some additional signage in the future.

Attendees’ Residential Location

Attendees were asked to place a dot of their residence on a map provided by VHB. A total of 30 attendees provided dots. An additional number of attendees provided feedback, however chose not to specify their place of residence.

Lessons Learned

VHB distributed 50 business cards containing links to the project website and online survey. VHB asked for participants to share the link with neighbors and friends to help spread the word.

A total of 19 new completed surveys have been submitted in the nine (9) days since the Farmers Market table (4/30).

Many attendees had small children and/or purchased plants at the market. This limited the amount of discussion and feedback that was possible, so VHB focused on awareness of the project website and online survey, as well as distributing the cards with links to both.

The printed map displaying parking occupancy by lot for the lunch-time peak was a popular feature that drew attendees over to the table for further discussion.

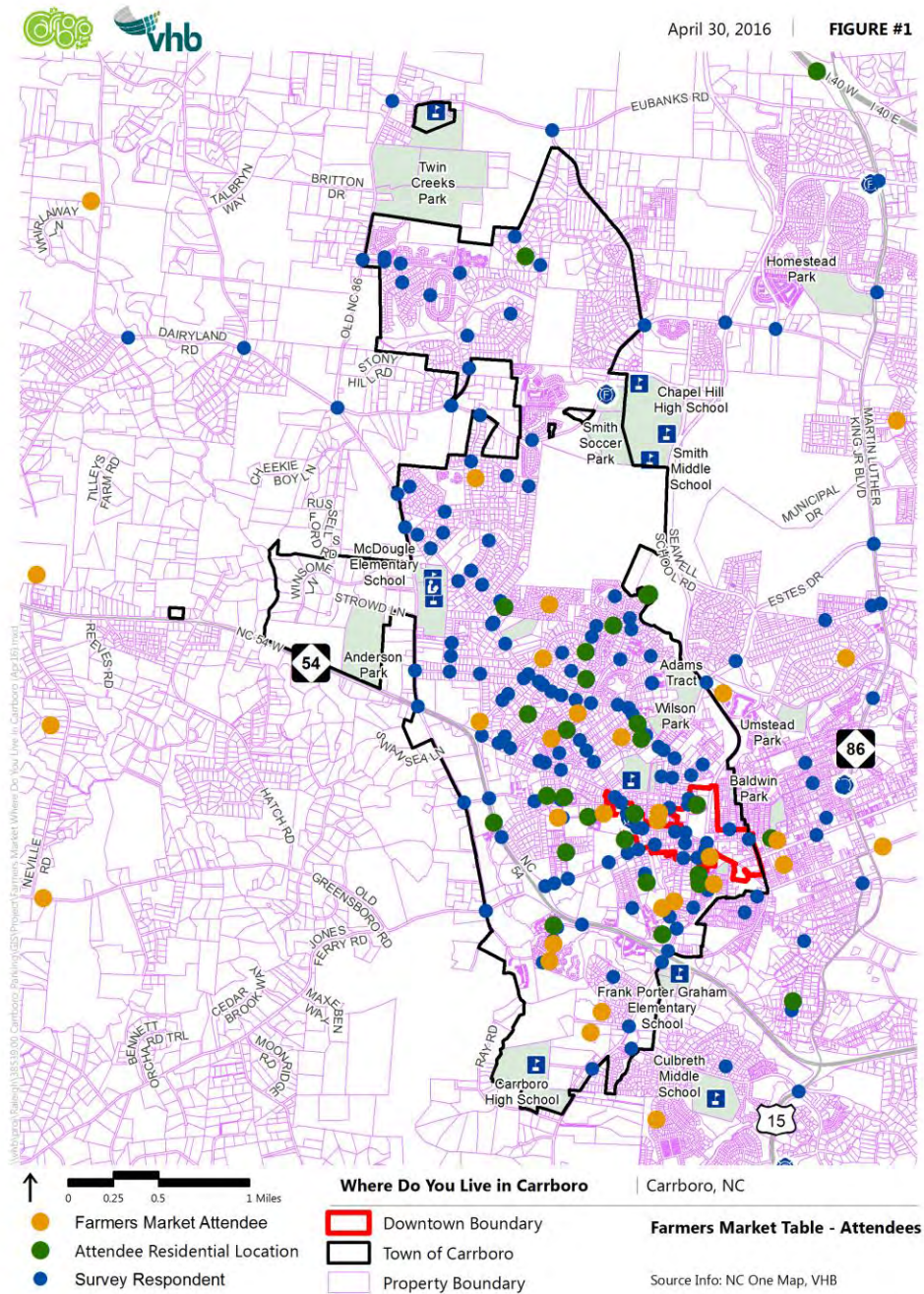
Chapel Hill Transit – Saturday Service



Ref: 38539.00

April 30, 2016

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Farmers Market Attendees Residential Location Map – See orange dots

Ref: 38539.00
April 30, 2016
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Photos of Traffic Queueing into Town Hall Parking Lot



Ref: 38539.00
April 30, 2016
Page 6





To: Bergen Watterson

Date: May 17, 2016

Memorandum

Project #: 38539.00

From: Timothy Tresohlavy, VHB

Re: Carrboro Parking - Coffee with a Cop Outreach

This memo describes the Town of **Carrboro Coffee with a Cop** event held on Friday May 13, 2016 at Johnny's Gone Fishing Coffee Shop, on West Main Street. VHB attended the event and met with Sgt. Billy Austin, Town of Carrboro Police. VHB explained the background of the parking study, and asked Sgt. Austin to help distribute cards with the project website (www.parkcarrboro.org) and link to the online survey.

VHB estimates 20-25 individuals attended the event between 8 AM and 10 PM, all of which were presented with a card and asked to help spread the word about the online survey to their friends and neighbors. This event was a valuable point of outreach because it reached individuals who live further than walking/biking distance to downtown, which is an important project directive from the Board of Alderman.

For discussion and reference VHB also provided a large-sized map of the downtown study area displaying the April 21, 2016 parking lot occupancy counts (% full). Attendees were generally unfamiliar with all nine (9) of the public parking lots, though most could find the S Greensboro lot and the (Hampton Inn) parking deck. Wayfinding signage to all public parking lots was discussed as necessary in the future.

Attendees were interested in the Carr Mill Mall employee parking lot (the large, access controlled lot south of Roberson Street). Several attendees were aware of this lot and many remarked that it was rarely observed to be full. Several remarked that this lot is the former location of the Farmers Market, prior to being gated.

In the four (4) days since the event an additional six (6) additional survey responses have been completed.

VHB will follow up with Sgt. Austin to request that he send an email with the survey link to his regular listserv addresses.

Sgt. Billy Austin

Community Services Division, Carrboro Police Department

919.918.7410

baustin@townofcarrboro.org**Johnny's Gone Fishing Coffee Shop**

901 West Main Street

Carrboro, NC 27510



4000 Westchase Boulevard
Suite 530
Raleigh, NC 27607-3945
P 919.829.0328



Meeting Notes

Place: Century Center, Carrboro, NC

Date: May 26, 2016

Notes Taken by: VHB

Project #: 38539.00

Re: Carrboro Parking Study - Business Alliance

ATTENDEES

Carrboro Business Alliance Members

Carrboro Parking Study – Timeline

- Data Collection – January 2016 & April 2016
- Kickoff Public Meeting – February 11, 2016
- Outreach/Events
 - Project website www.ParkCarrboro.org
 - Online survey www.surveymonkey.com/r/ParkCarrboro
 - Farmers Market table – Saturday April 30, 2016
 - Coffee with a Cop – Friday May 13, 2016
 - Stakeholder discussions
- Future parking supply/demand
- Mid-Point Public Meeting – targeting June/July
- Draft/Final report

Business Alliance Role – *How can you help the project?*

1. Forward the survey link and help spread the word: www.surveymonkey.com/r/ParkCarrboro
2. Provide local perspectives of typical parking conditions – see questions on next page

Timothy Tresohlavy, Transportation Planner
ttresohlavy@vhb.com
919.741.5506

4000 Westchase Boulevard
Suite 530
Raleigh, NC 27607-3945
P 919.829.0328

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 May 26, 2016
 Page 2

VHB Follow Up Discussions with Business Owners:

Customers

- Do your customers drive/park? Where? How far/long of a walk?
- Do your customers comment about their parking/walking experience?
 - Are there 'barriers' that limit or prevent your customers from visiting more frequently? - Survey
- Do they arrive via bicycle? Where do they park their bike? Is there enough bike parking?
- Do your customers arrive from home or other downtown destination (employees)?
- How long to they remain in your store? Downtown?
- When they leave, where are they heading? Is your business their first, last, or one of many errands?

Employees

- Where do your employees park? How far/long of a walk?
- Do they comment about their parking/walking experience?
- Do your employees bike or ride transit to work? Do they comment about their experience?

Business/Operations

- When is your busiest time of day? Day of the week?
- Do you own a private parking lot? Is it adequately signed for your business?
 - How full is your parking lot in the AM? Lunchtime? PM? Evening?
 - Do you regularly have empty parking spaces in your parking lot? When? Where?
- Is parking (a) minor inconvenience or (b) actual barrier to your business?
- Do you receive regular deliveries? When? Where do they park to unload?
- How long do the deliveries last?

Parking Management

- What are your perspectives on the 2-hour and 3-hour timed parking limits?
 - What do your customers or employees say about timed parking?
 - Do your customers regularly leave to relocate their vehicle? Do they ignore the time limits?
- What are your perspectives on the potential for hourly paid-parking options?
- Would your business benefit from:
 - more frequent parking enforcement?
 - shorter time limits (to encourage vehicle turnover)?
 - additional bicycle parking?
 - free park-&-ride lot with service to downtown?
 - more consistent public parking signage?
 - removal of inconsistent (private) parking signage?
- Are you willing to help fund/sponsor/organize some of these improvements?
- Do you help direct customers towards public parking lots (deck or leased parking lots)?
- Are you willing to share/sign a portion of your parking lot for unreserved public parking?

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SUMMARY OF COMMENTS/DISCUSSION

The following topics were brought up by members (VHB response in blue)

- Will the final report identify the total parking spaces and occupancy surrounding the Century Center (middle of Carrboro)? - Yes, the parking inventory spreadsheet and GIS data include this information, and make it possible to sum parking by individual lots for any portion of town. VHB will need the client to define the distance or boundary of this area, and which lots to include/exclude.
- How many vehicles are towed from downtown parking lots? Chief of Police indicated that in a typical week they receive 2-3 calls for towing, and mostly from apartment complexes, where non-residents have parked to visit downtown.
- Will the final report include wayfinding recommendations? – generally yes, there will be separate sections for Education, and Encourage programs that will present the need for wayfinding improvements, however an extensive section involving a wayfinding program is beyond the scope of this study. This may be covered by a follow up project/task order.
- Downtown employee parking is perceived as a greater problem than customer parking. – The parking occupancy data suggests this, as a large portion of vehicles are not present past 5 PM.
- Will the final report separate public parking that is controlled by the Town, from leased parking areas? Will this include the years/duration of the lease agreement? – Yes, leased parking lots have been identified and separated within the summary parking inventory spreadsheets. The Town will provide VHB with more details on the individual lease agreements, which may or may not be suitable for the final report due to its sensitivity.
- Please be sure to explain the difference between the lunchtime parking peak, which involves public and private parking areas, from the perceived evening peak for public-only parking areas. – VHB will clarify that the peak period is referencing the total number of parked cars, and will investigate the peak period for public parking lots only (which appears to be the 6 PM to 9 PM period).
- The Town of Chapel Hill has performed similar parking occupancy studies. Will this project include some of the data/information from Chapel Hill? – Yes, VHB has been provided with these data by a representative of the Town of Chapel Hill. VHB identified that the lunchtime was also the peak period for their public parking lots, similar to the Carrboro occupancy counts.



Appendix C

Public Meeting Notes



Memorandum

To: Bergen Watterson, Town of Carrboro

Date: February 19, 2016

Project #: 38539.00

From: Timothy Tresohlavy, VHB

Re: Carrboro Parking - Kickoff Meeting #1 Public Comments

Attached are the public comments received during the project Kickoff Meeting, which was held on **Thursday February 11, 2016** at the Carrboro Elementary School.

VHB presented attendees with the following display boards and sought input and feedback:

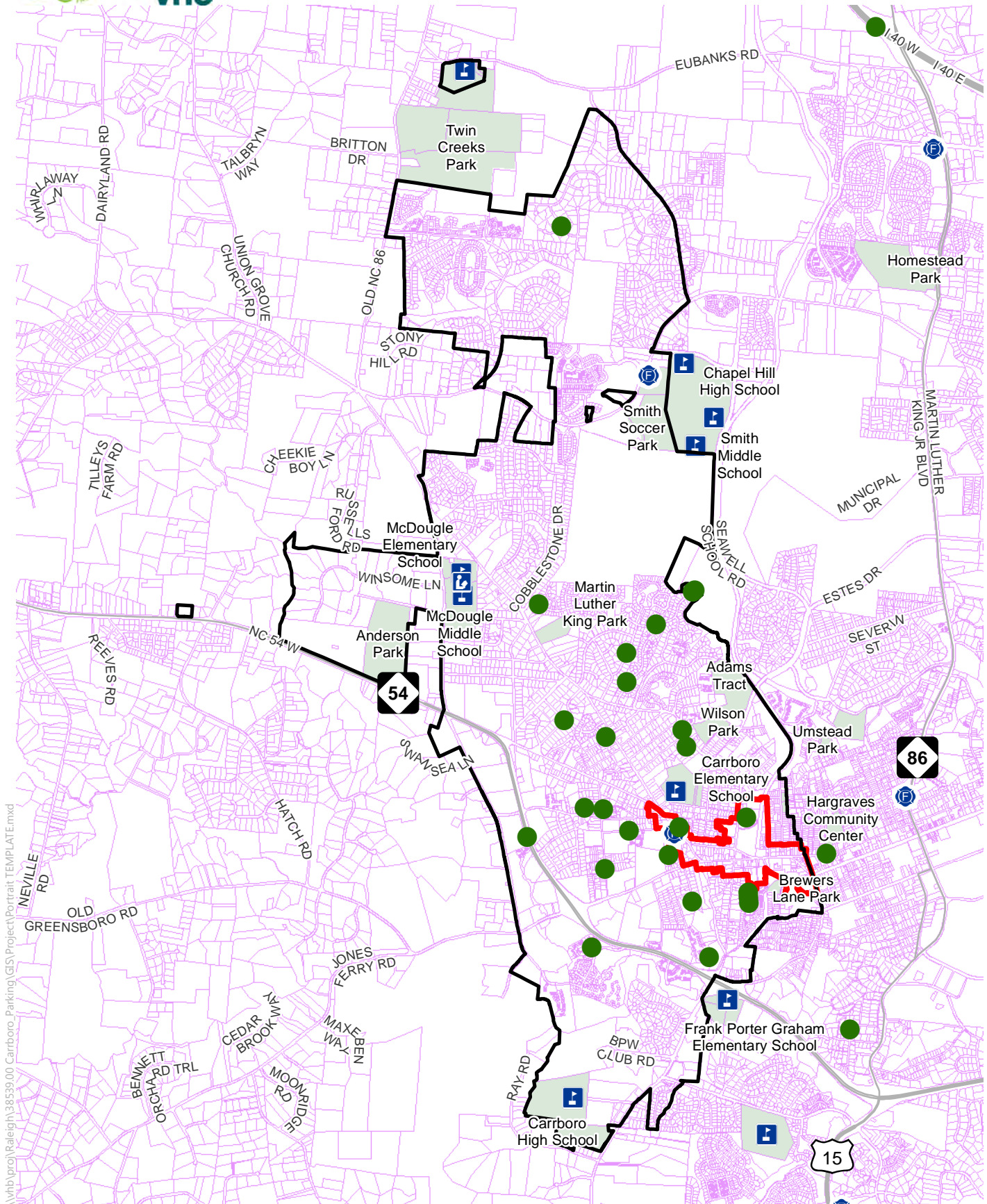
- Where do you live in Carrboro? (map)
- What are some barriers to visiting &/or parking? (dot; entry)
- Feedback /comment forms:
 - Tell us about you experience visiting Downtown Carrboro
 - Do you have any observations or thoughts relating to parking?
 - What are we missing?
- Peak Period Parking Utilization 11 am to 1 pm (map)
- Downtown Parking areas over aerial imagery (map)

Public comments have been listed in the attached PDF document, and presented in the same order.

The meeting attended sign in sheet is included.

[Attachments]

4000 Westchase Boulevard
Suite 530
Raleigh, NC 27607-3945
P 919.829.0328



0 0.25 0.5 1 Miles

Where Do You Live in Carrboro

Carrboro, NC

- Attendee Residential Location
- Town of Carrboro
- Downtown Boundary
- Property Boundary

Kickoff Meeting #1 Attendees



Carrboro, NC

Kickoff Meeting #1

Source Info: NC One Map, VHB

Display Board - What are the Barriers to Visiting &/or Parking?

CATEGORY	COMMENT
Cannot easily find convenient parking	Is there free, public work day parking?
	Parking not always concentrated at locations where it's most in demand
	More directional signs needed
Best/convenient spaces are typically occupied	Need all-day employee options
I have to walk too far to my final destination	
Lack of connected sidewalks	Walking by W. Main = Very little crossings and are unsafe
	Needs improvement throughout (repairs), more connections & crosswalks
Condition of sidewalks (width, ramps, surface, etc.)	Narrow sidewalks entering downtown from CH. Too close to car traffic. <i>(seconded by another commenter)</i>
	Utility pole and box near Roberson/Main intersection makes wheelchair passage impossible
2-Hour time limits are inconvenient	I would rather pay \$1-\$2 an hour for convenient spot than worry about being towed. <i>(seconded by another commenter)</i>
	Make 2-4 hour time limits and enforce. <i>(seconded by another commenter)</i>
Reserved parking signs are confusing	
Gravel parking lots are undesirable	
Other	Perceived danger with connecting between parking and community
	Need for clearer ped crossings especially at Carr Mill. Difficult even with light
	Some lots fill early>park and ride bus to campus
	Remote parking to alleviate supply & encourage non-auto use
	Many who drive to downtown do not live close enough to bike
	Please, please, PLEASE talk to Chapel Hill about parking data & potential solutions
	Important to identify how employees park. Employees as an issue
	Also the Future Islands concert was awesome. Can we optimize special event parking to encourage visitors without being headache to neighbors?
Bike Parking	Lack of trailer spaces

Feedback Forms - If you do not choose to use public parking, tell us about your experience visitng Downtown Carrboro

CATEGORY	COMMENT
Access	Walking and buses are options for close living residents like myself, but not as general rule for visitors.
Endorsement	I always find a space when I park at a private parking lot in my car and with my bicycle
Supply	Drive everywhere, not enough parking
Supply	The level of municipal public parking seems adequate right now but I don't think it should be reduced by removing free parking. This would put incredible pressure on the private spaces.
Supply	We park at a private lot but will need more spaces > (<i>sic moving forward</i>) . Unsure of where to park that is walkable, free & open. Would love a map of street parking.
Supply	Lack of bike parking appropriate for long trail bikes or bikes with trailers. Families will bike together to Weaver Street Market, for example, and the cluster of green racks at southwest corner of Weaver Street Market (near crosswalk to the Century Center) will fill up. This is a frequent occurrence on Sunday at 11 am. The best racks downtown are between CVS and Carr Mill. They're grey and offset each bike so handlebars don't get stuck with other bikes.
Supply	Plenty-after 6 and on weekends Sat. after for W. Weaver St. lot
Supply	Minimal parking-during rush hour weekday in the 8-830 am and 445-630/7ish at Lot near open eye usually. Though the W. Weaver St. lot is open.
Supply	It seems like no parking is available but W. Weaver St. lot is often open. But if you are unable to walk or don't want to walk in your universe, it (<i>sic there</i>) may be no parking...Usually only during those highest peak times during minimal parking noted above

Feedback Forms - Do you have any observations or thoughts you would like to share (not specifically in Downtown)	
CATEGORY	COMMENT
Access	Many folks come from outside of Carrboro-convenient parking is a must. Customers are not going to walk 2-3 blocks on a regular basis. Weather and time to eat or shop is a reality. People want to be able to park as close as they can 98% of the time.
Lighting & Safety	Safe biking and pedestrian friendly and roads as well as bike lanes and ped crossing well-lit and marked. For example, reflectors along bike lane to mark boundary and lines and lighting of roads better.
Lighting & Safety	NO (very little) safe crossings on W Main by the fire dept. and Carrboro town hall.
Long-term Parking	S. Edwards owner of Midway Barbershop: 2 concerns. Students parking all in the Rosemary parking lot. Sticker to identify owners and employees so police can enforce parking limits.
Price	It needs to stay free. Downtown CH businesses and guests hate paid parking there.
Price	It is a good use of taxpayer money to support parking. If there is no free parking shoppers, diners, etc. will choose to go elsewhere. Bus service in evenings and on weekends is not adequate to be an alternative mode of transportation to downtown Carrboro from home. Biking is not a feasible way to shop.
Price	Survey should ask where people park and then where they go (eg. CH restaurants? Carrboro restaurants, Cat's Cradle, UNC, etc.) Also, if the buses ran until the bars closed, would they ride the bus rather than park? If people are parking, but going out of town, Carrboro should not be subsidizing them (at the very least).
Signage & Wayfinding	The parking signs can be confusing, although the solution to that, I think, is to brand Carrboro parking signs. So for example, maybe all signs should be the shape of the new Carrboro town logo and standardize the signs so that parking is easier to find. I think that's a problem. Like the parking behind Orange County Social Club, it's not clear that you can park on both sides of that lot. I think the hot spots taken are concentrated because not all parking systems are known.
Signage & Wayfinding	The parking garage at the Arts Center is hard to get to and not very inviting. If there was an entrance more accessible and friendly to the parking garage and then well-marked paths to the businesses maybe with signs with how many minutes. Like thanks for keeping Carrboro ped friendly and these are the businesses that are close by...1 min-Weaver St. Market, 3 min-...
Signage & Wayfinding	Never EVER install signs declaring "Free Parking." Parking is never free.
Supply	We should have smaller lots with 2-3 spaces, and if we had more of these smaller lots it would add some more parking on the streets should be well-marked and safe.
Supply	With 2,000 spaces free during the peak park period, that is a significant amount of space to use for commercial, mixed-use developments. 330 ft ² per space = 15+ spaces.
Supply	Another garage is needed, current lot on Greensboro St. would be an excellent spot, depending on length of construction
Supply	During the presentation this evening, I learned that in aggregate, 50% of parking spaces in downtown were unused. And evidently, this was during "peak demand!" I wonder about the opportunity costs associated with "wasting" 2000+ spaces downtown. This is valuable land which should be put to its highest and best use-Parkland? Community gardens? Retail? Other commercial uses? Restoring habitat? Failure to price parking according to demand and subsequently invest in community-oriented infrastructure is to fall short of what Carrboro could and should be.
Supply	This town needs to build a parking deck that would allow development of all the piecemeal lots.

Feedback Forms - What are we missing?

CATEGORY	COMMENT
Data	Data needs to be collected on Friday and Saturday nights
Lighting & Safety	Fix the crossings issue! Am happy to walk 5 mins if safe crossing.
Long-term Parking	More parking enforcement on existing lots, tags in window for long time property owner and employee of old buildings without parking.
Long-term Parking	UNC students/employees using free town lots and taking the bus to campus.
Price	If there are certain uber popular lots at popular destinations that are full, a \$0.50/hour fee is a good step to guarantee parking availability and ensure turnover to support nearby business.
Signage & Wayfinding	Use Matt Tomasula's "Walk Your City" signs. (seconded via Twitter)
Supply	Certainly should not lose any parking lots that exist now- privately owned or town owned. For example, if Roberson St lot were ever lost...This would be devastating to the businesses in that section of main street. Additional convenient parking would need to be replaced in that area. That is a very strategically located lot in the center of Carrboro.
Supply	Why isn't one of your goals recommendations on ways to reduce parking??? 1. Increased transit 2. Enforcement of 2-hour limit 3. Performance parking payments 4. Increase bike parking.
Supply	Parking (the public parking anyway) is hardest to find on weekend nights, not weekday afternoons.

Display Map - Peak Period Parking Utilization 11 am to 1 pm

LOCATION	COMMENT
Rosemary Lot	Overparked Fri/Sat evenings because Carruritos is delicious

Display Map - Parking Lots on Aerial Image

LOCATION	COMMENT
Fidelity & Main	Need crosswalk
Town Hall	Bike parking
Weaver & Laurel	No ped signal buttons
404 W Weaver St	Country Kitchen (sic Junction) parking only used in AM
Jones Ferry @ Bim & Laurel	Need crosswalk
Jones Ferry between Main & Bim	No sidewalk
110 W Main St	Need crosswalk
S Greensboro & Carr	Need crosswalk
CVS @ Weaver & Greensboro	Fenced! Evil!
N Greensboro & Shelton	Impact of Shelton St. development
CVS/Harris Teeter	Bike parking
Carr Mill Mall	Bike parking
N Greensboro & Short	Bike parking
Greensboro & Main	Bike parking
108 E Main St	Bike parking
S Greensboro & Roberson	No sidewalk
Police Station	Bike parking
On street parking @ Carr Mill Mall (Weaver St)	Some cars park here all day. Most valuable spaces in town, perhaps? Need to charge a price
E Main & Lloyd	No ped signal buttons
300 E Main	Bike parking
Boyd Street	No sidewalk
Rosemary Lot	Students park here all day
W Rosemary & N Merrit Mill	Residential

Email from Jon Gant, Northern Transition Area Advisory Committee

If I may offer comments to you for delivery, rather than attending the meeting - then I'd greatly appreciate it. I believe the greater issue for Carrboro, which must be addressed within this study due to its interdependence, is **the improvement of traffic flow and connectedness**. There are **bottlenecks and access risks for emergency vehicles**, and in case of traffic disruptions. It's well understood that the **Main Street railroad crossing** is the single east-west connector between two sections of the study area, as well as between tens of thousands of citizens who live and work on each side. The traffic problems are high, and the volumes are undesirable to the Carr Mill community which has changed from a transportation hub to a social hub over the long, long term. When Main Street is overloaded, the **alternate routes** to the other side are **several miles long**, and not thoroughfares themselves. Our **emergency services** must be terribly hindered during those times. This is a safety issue. I ask with seriousness that the Town initiate plans to build connectors. These could include:

- An extension of Brewer Lane to Eugene to Maple to Greensboro St.
- An extension of Craig Street to Shelton Street

Please be certain that any **parking consideration include existing or new plans for connectors**.

Carrboro Parking Study

Public Meeting #1

February 11, 2016

	Name	Email	How did you hear about the meeting?				
			Flyer	Website	Business Card	Word of Mouth	Other
1	Sumner Handy	sumnerh@live.unc.edu		x		x	
2	Seth LaJeunesse	seth.lajeunesse@gmail.com		x		x	
3	Tom Barta	tebarta@gmail.com				x	
4	Adrienne Jimenez	adrienneandvic@gmail.com				x	Neighborhood listserv
5	Laura Van Sant	laura@300eastmain.com				x	
6	Ryan Byars	ryan.j.byars@gmail.com				x	
7	Cristobal Palmer	cmp@cmpalmer.org				x	Twitter
8	Bobby Funk	bobby@downtownchapelhill.com		x			
9	Ken Reiter	kreiter@belmontsayre.com		x			
10	Patrick McDonough	patrick@citybeautiful21.com		x		x	Twitter
11	Martha Arnold	msarnold@email.unc.edu		x			
12	Nathan Mills	n_mills007@mac.com				x	
13	Mo Devlin			x		x	
14	Katy Lee	katylee67@hotmail.com					
15	Ray Lovinggood	raylovinggood@gmail.com		x			
16	Kristen Vitro	kvitro@unc.edu	x	x		x	
17	Jean Bolduc	jean.bolduc@gmail.com				x	
18	John Jaquiss	john@acmecarrboro.com				x	
19	Kurt Stolka	kurt.stolka@gmail.com		x		x	
20	Vicki Boyer	viva.boyer@gmail.com				x	Facebook
21	Bruce Sinclair	bsinclair@nc.rr.com				x	
22	Diana McDuffee	diana.mcduffee@yahoo.com	x	x		x	
23	Nathan Millian	nrmillian@aol.com	x	x			
24	Kyle Reeves	kyle.reeves@gmail.com				x	Town Meeting
25	Natalia Siegel	natalia.siegel@miraclefeet.org				x	CBA
26	Charlie Hileman	Carrbonate@gmail.com				x	email
27	Heidi Perry	heidiperry@gmail.com					
28	Creed Spriggs	armadillo@armadillogrill.com				x	email
29	Kelley Hamill	kelleyhamill@gmail.com		x			
30	Lindsey Hoover	lhoover.communications@gmail.com				x	



To: Bergen Watterson, Town of Carrboro

Date: June 16, 2016

Memorandum

Project #: 38539.00

From: Timothy Tresohlavy, VHB

Re: Carrboro Parking - Mid-Point Public Meeting Comments

Attached are the public comments received during the Mid-Point Public Meeting, which was held on **Thursday June 16, 2016** at the Town Hall. Fifteen attendees signed in, with an additional 3-5 who did not sign in.

VHB presented slides relating to public outreach opportunities to date, existing parking data collected in April, and some potential parking management strategies. Following the presentation, VHB **asked attendees to vote for the management strategy category that they believed would have the most significant, beneficial impact on parking.**

- Education received 8 votes
- Encouragement received 4 votes
- Enforcement received 7 votes
- Evaluation received 1 vote
- Engineering received 8 votes
- Other category:
 - "Charge a fee for public parking, when/where appropriate" received 3 votes
 - "Create a park-once downtown" received 1 vote
 - "Businesses release regularly unused parking spaces for public use" received 1 vote

Attendees were provided with feedback forms for additional comment regarding their votes, below are the comments received:

- I think that enforcement is key. I've never heard of people getting citations and seem to always hear about people getting them in Chapel Hill.
- All [potential strategies] are necessary, but more parking within 2-3 minute walk of 100 block of E. Main St.
- Downtown Chapel Hill has a program to identify private lots where you can park after 5 pm. It's marked with clear signs indicating [that] nighttime parking is OK.
- Education and Encouragement [would have the most significant and beneficial impact]
- I am not sure [that] much, if anything, needs to change. I've never struggled to park downtown and have lived here 4+ years
- If there is ever another study include business owners/stakeholders in development [stage] of the study criteria and survey questions
- Build pay parking area on Rosemary lot and Greensboro lots. Town could lose much of its parking someday because its leased
- Surveying the business owners using the same survey format
- Poll business owners for demand for employee and customers [and the] number of hours needed.

The meeting attendee sign in sheet is included.

[Attachments]

4000 Westchase Boulevard
Suite 530
Raleigh, NC 27607-3945
P 919.829.0328

Carrboro Parking Study

Public Meeting #2 - Thursday June 16, 2016

	Name	Email	How did you hear about the meeting?			
			Flyer	Website	Facebook/Twitter	Word of Mouth
	John Doe	JohnDoe@Carrboro.com	X			X
1	TIM TURNER	TIMTURNERB12@GMAIL.COM				✓
2	Jackie Carden	jcarden@townofchapelhill.org				✓
3	Barbara Jessie - Black	execdirector@ptathriftshop.org				✓
4	Molly DeMarco	mollydemarco@gmail.com			✓	
5	Jeff Miles	jdmiles312@gmail.com				✓
6	Brian Beatty	bbeatty@balancedmovement.com		-		-
7	Seth LaJeunesse	seth.lajeunesse@gmail.com				✓
8	Patrick McDonough	patrick@citybeautiful21.com			✓	
9						
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Carrboro Parking Study

Public Meeting #2 - Thursday June 16, 2016

	Name	Email	How did you hear about the meeting?			
			Flyer	Website	Facebook/Twitter	Word of Mouth
	John Doe	JohnDoe@Carrboro.com	X			X
1	Bobby Funk	bobby@DowntownChapelHill.com				
2	Blake Rosser	blake.rosser@yahoo.com				✓
3	Nathan Milian	NEMilian@DOL.com		✓		
4	LAURE VAN SANT	LAURE300EASTMAIN.COM		✓		✓
5	RAY LOVINGGOOD	raylovinggood@gmail.com			✓	
6	Fresh Mr. Gure					
7	cmooor@townofcarrboro.org					
8						
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Appendix D

Technical Memos



To: Bergen Watterson, Town of Carrboro

Date: April 13, 2016

Memorandum

Project #: 38539.00

From: Timothy Tresohlavy, VHB

Re: Carrboro Parking - Walkability Micro-Audit Task

April 13, 2016, 1:00 pm – 4:00 pm**Carrboro Century Center**

VHB conducted a walkability micro-audit on Wednesday, April 13, 2016 from 1:00 pm until 4:00 pm at the Carrboro Century Center. Eight (8) individuals chosen to represent various perspectives attended the event, including the following:

- Chris Atack, Police Department
- Kevin Benedict, 300 East Main Street Properties
- Patti Benedict, 300 East Main Street Properties
- Eric Nesmith, Public Works-Streets Division
- John Nicopoulous, Carrboro Transportation Advisory Board
- Wendell Rodgers, Recreation and Parks Department
- Tina Moon, Carrboro Planning Department
- Trish McGuire, Carrboro Planning Department

VHB began with a 15 minute presentation providing an overview of the project background, an introduction to walkability audits and Road Safety Audits (RSA), and a review of the meeting's objectives and process. VHB also reviewed the walkability micro-audit developed for the project and presented the two parking lots the team would visit: S Greensboro Street and 300 East Main. The project team provided participants with printed aerials of the two parking lots, two (2) copies of the walkability audit handout, and safety vests to wear in the field.

Walking Route #1: S Greensboro Street

After the presentation, the meeting participants walked to the public parking lot along S Greensboro Street to perform an audit on Route 1. First, the group discussed the environmental conditions of the lot, including lighting, maintenance, and crosswalks. Participants noted that the biggest challenge for this lot is exiting in a safe place. While there is a mid-block crossing, it is not easily accessible from the parking lot—especially for persons with disabilities—and drivers typically approach the crossing at high speeds.

VHB asked the meeting participants where people would walk to from this lot, and the most common destinations were destinations north and east of the lot. The group then walked north on S Greensboro Street to the Carr Mill Mall, east on Weaver Street, crossed E Main Street to head back to the parking lot via Roberson Street, and then finally exited the area via the Libba Cotton Bikeway.

Walking Route #2: 300 E Main Street

The group exited the Libba Cotton Bikeway at Brewer Lane and approached the 300 E Main Street parking lot from the east on Main Street. While inside the parking garage, meeting participants noted this lot is underused, which may be due to signing or the misconception that it is for hotel visitors only. The group walked outside the garage along the hotel and then spent some time watching traffic patterns along E Main Street at the entrance.

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The group noted that this would not be an ideal location to park if people wanted to visit restaurants on the north side of E Main Street due to the speed and volume of traffic and lack of safe crossing. Therefore, the most common destinations for those using this parking garage would be those within 300 E Main Street. The group walked west along E Main Street back to the Carrboro Century Center.

Discussion and Summary

The group reconvened at Carrboro Century Center and spent some time completing the walkability micro-audit forms, which provided the participants a way to rank different aspects of the audit on a scale of 1 to 5. Then VHB led a discussion on Walking Route 1 where participants reported their scores for sidewalks, street crossings, way finding signs, and bicycle parking on a scale of 1 to 5. VHB thanked the participants for their comments and collected the completed walkability micro-audits.

Table 1 details the mean score for Walking Routes #1 (S Greensboro St) and #2 (300 E Main St).

Table 1. Mean Scores

	Greensboro St	300 E Main St
Sidewalks	3.5	4.0
Street Crossings	3.7	4.0
Wayfinding	3.5	3.8
Bicycle Parking Facilities	3.3	4.2

The walkability micro-audits resulted in the following findings:

- 300 E Main St lot scored higher in all categories. This may be in part to the newer construction and being placed in a more visible location with wider sidewalks.
- Participants discussed the importance of wayfinding signs at both locations.
- The accessibility subcategory of sidewalks and street crossings for both walking routes had the lowest average score.

The walkability micro-audit resulted in the following general recommendations:

- Bicycle parking should be centralized and located with vehicular parking. This would minimize potential conflict points between bicyclists and pedestrians.
- Parking signage should have a consistent look and placement to educate drivers where the lots are and help visitors return to the parking lots.
- Parking lots should have clear, well-marked entrance/exit points for pedestrians that are free from obstacles, including vehicles, utilities, fencing or other impediments.
- Sidewalks are narrow, built to minimum standard widths and congested with sign posts, fire hydrants, utility poles and the like. Additional signage should be consolidated to existing posts and messages should be concise and clear for both pedestrians and drivers.



To: Bergen Watterson, Town of Carrboro

Date: August 1, 2016

Memorandum

Project #: 38539.00

From: Timothy Tresohlavy, VHB

Re: Park and Ride Analysis

Purpose and Background

The purpose of this memo is to identify potential locations for a future park-and-ride facility along an existing Chapel Hill Transit route that could provide service downtown Carrboro as an alternative to driving and parking.

Existing Chapel Hill Transit Service

Chapel Hill Transit (CHT) is a fare-free system with fixed-route service along 31 weekday and weekend routes, and providing more than seven (7) million rides per year. A large portion of total ridership comes from students attending the University of North Carolina at Chapel Hill. CHT operates between 5 AM and 1 AM during the weekdays, 8 AM to 6:30 PM on Saturdays, and 10:30 AM to 11:30 PM on Sundays.

Existing CHT Routes

Existing routes and schedules are posted to their website, <http://www.townofchapelhill.org/town-hall/departments-services/transit/routes-schedules>, as well as a trip planner available through www.GoTriangle.org. The System Map displays all CHT routes at once, which is a valuable resource for first-time riders. CHT also provides a "How to Ride Guide" that provides additional basic information: <http://www.townofchapelhill.org/home/showdocument?id=10067>

Routes serving Downtown Carrboro

There are three (3) CHT routes that provide service through downtown Carrboro:

CW Route

The CW route provides service from the Jones Ferry and Carrboro Plaza Park-and-Ride lots towards downtown along Weaver Street, with headways every 30 minutes for most of the weekday, beginning at 7:20 AM and continuing until 9:00 PM.

Weekend service frequency is roughly every hour, beginning at 8:30 AM and continuing until 5:45 PM.

F Route

The F route provides weekday service through downtown Carrboro along N. Greensboro Street (eastern half of downtown) passing the Weaver Street Market. This route does not service either of the park-and-ride lots.

Weekday service begins at 6:50 AM and continues until 8:45 PM, with frequency once per hour.

There is no weekend service for the F route.

J Route

The J Route provides weekday service through downtown Carrboro along Jones Ferry Road (Main Street) in the eastbound direction, and Main Street to S. Greensboro Street in the westbound direction. Frequency of service

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through downtown Carrboro is every 20 minutes during peak times, and every hour during off-peak times. This route does not service either of the park-and-ride lots. Weekday service begins at 6:30 AM and continues until 11:30 PM.

There is no weekend service for the J route.

It is important to note that the J route travels through Chapel Hill before heading westbound to Carrboro. Therefore any potential riders who board the J route near Smith Level Road will have a 30-min ride before reaching downtown Carrboro. As a result this route has a low potential for a future park-and-ride option.

Park-and-Ride Service

There are two park-and-ride facilities located in Carrboro with CHT service (Jones Ferry and Carrboro Plaza). Previously CHT park-and-ride lots were free to users, however in recent years they have transitioned to a permit-based system to balance the high ridership by UNC students. The permit fee is \$2 per day, \$21 per month, or \$250 annually. This adjustment has dramatically reduced the number of parked vehicles at these facilities, and the number of riders. With this new parking capacity, it may be reasonable to encourage downtown Carrboro employees to use these parking facilities and ride to downtown Carrboro on a CHT route, without the need to occupy a downtown parking space.

<http://www.townofchapelhill.org/town-hall/departments-services/transit/park-ride>

Jones Ferry Park-and-Ride

Located on Berryhill Drive, south of Jones Ferry Road. This park-and-ride is served by the CW route, with frequency every 30-60 minutes on weekdays.

Carrboro Plaza Park-and-Ride

Located on Old Fayetteville Road, and occupying a portion of the Carrboro Plaza shopping center. This park-and-ride is served by the CW route, with frequency every 30-60 minutes on weekdays.

Proposed GoTriangle Service

GoTriangle is a regional transit service provider between Chapel Hill, Durham, and Raleigh, NC. Recently, GoTriangle has revised its existing Route 405 from Chapel Hill to Durham so that will now extend to the west and begin in Carrboro.

Proposed Route 405 (Peak-only service 6-9 AM; 3-7 PM; Carrboro to Durham)

Route 405 will provide service through downtown Carrboro along Jones Ferry Road (Main Street). This service will run during the 6-9 AM and 3-7 PM peak periods only. This route will not service either of the existing park-and-ride lots.

This service will begin at Collins Crossing apartments, at 501 W. Jones Ferry Road. This location is 0.5 miles from downtown and not ideal for a park-and-ride due to its walkable proximity to downtown. This route will not operate between 9 AM and 3 PM, or after 7 PM in the evening which is a further disadvantage for use as a park-and-ride option.

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Town of Carrboro Property Inventory

VHB examined property boundaries and existing CHT routes to identify potential properties that could serve as a future park-and-ride for downtown Carrboro. The first set of properties are owned by the Town of Carrboro. The second set are private property owners. Refer to figures at the end of this memo for references to each location (e.g. T3 refers to a Town-owned property on Jones Ferry Road).

Potential locations were not evaluated for hydrology, wetland, soils, or other environmental considerations.

Town Property along CW Route

- (T3) Town of Carrboro Property along Jones Ferry Road in front of Willow Creek Shopping Center
- (T4) Town of Carrboro Property along Jones Ferry Road adjacent to Poplar Place Apartments
- (T5) Town of Carrboro Property along Berry Hill Drive adjacent to existing park-and-ride

Town Property along F Route

- (T1) Martin Luther King Park along Hillsborough Road near Dove Street; this location includes a Community Garden.
- (T2) Charles Herman Wilson Park along N Greensboro Street near Williams Street; this location has an existing sidewalk connection to N Greensboro Street, however may need a crosswalk for inbound service.

Town Property along J Route

- (T6) Town of Carrboro Property at the end of Abbey Road

Private Property Inventory

Private Property along CW Route

- (P5) Carrboro Plaza Shopping Center – NE corner of lot nearest Ferguson plumbing
- (P6) Willow Creek Shopping Center – nearest Food Lion (602 Jones Ferry Road);
 - Town of Carrboro also owns land along creek at entrance-driveway
- (P7) FJC Trust property along Jones Ferry Road adjacent to Ashbrook Apartments
- (P8) Parsons Property along Jones Ferry Road at Berry Hill Drive; this location is currently undeveloped and located very close to the existing Jones Ferry park-and-ride lot.

Private Property along F Route

- (P1) Collection of properties at the intersection of Old Fayetteville Road and Hillsborough Road
- (P2) Property along Hillsborough Road across from the entrance to McDougale Elementary School
- (P3) Collection of properties along Old Fayetteville Road adjacent to Anderson Park
- (P4) Property Adjacent to Martin Luther King Park along Hillsborough Road; this property is constrained by overhead electric utility lines.

Private Property along J Route

- (P9) PEP Holding property along NC 54 adjacent to Chambers Ridge Apartments

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Recommendations

Locations

It is unlikely that an existing CHT route will deviate its fixed route to provide service to a Town of Carrboro park-and-ride facility. Therefore potential locations should be located along an existing CHT route, and easily accessed by CHT buses, with adequate turning capabilities for these large vehicles. Ideally these properties are located adjacent to an existing CHT bus stop with the potential for retrofitting the stop by adding a shelter, bench, and other stop amenities. The GIS analysis identified a total of 15 potential locations, six (6) are Town property, and nine (9) are private property (see attached figures). Of these 15 potential locations, five (5) are adjacent to an existing stop:

1. T1/P4 location, 1120 Hillsborough Road, CHT route F, stop ID 3596 (sign only)
2. T2 location, near 101 Williams Street, CHT route F, stop ID 3535 (sign only)
3. P1 location, Hillsborough Rd @ Old Fayetteville Rd, CHT route F, stop ID 3548 (sign only)
4. P3 property, near 735 Old Fayetteville Rd, CHT route F, stop ID 3545 (sign and bench)
5. P7/T4 property, 603 Jones Ferry Road, CHT route CW with existing stops in both directions (sign only for inbound direction)

Partnering with an existing shopping center with periphery parking available along an existing CHT route is another option for the Town. The GIS analysis identified two (2) additional locations that satisfy this condition.

6. P5 property, 106 NC Highway 54, CHT route CW, stop ID 3131 (sign only; no sidewalk)
7. P6/T3 property, 600 Jones Ferry Road, CHT route CW, bus shelter for Jones Ferry Rd @ Willow Creek Professional Center (outbound direction); sign only for inbound direction

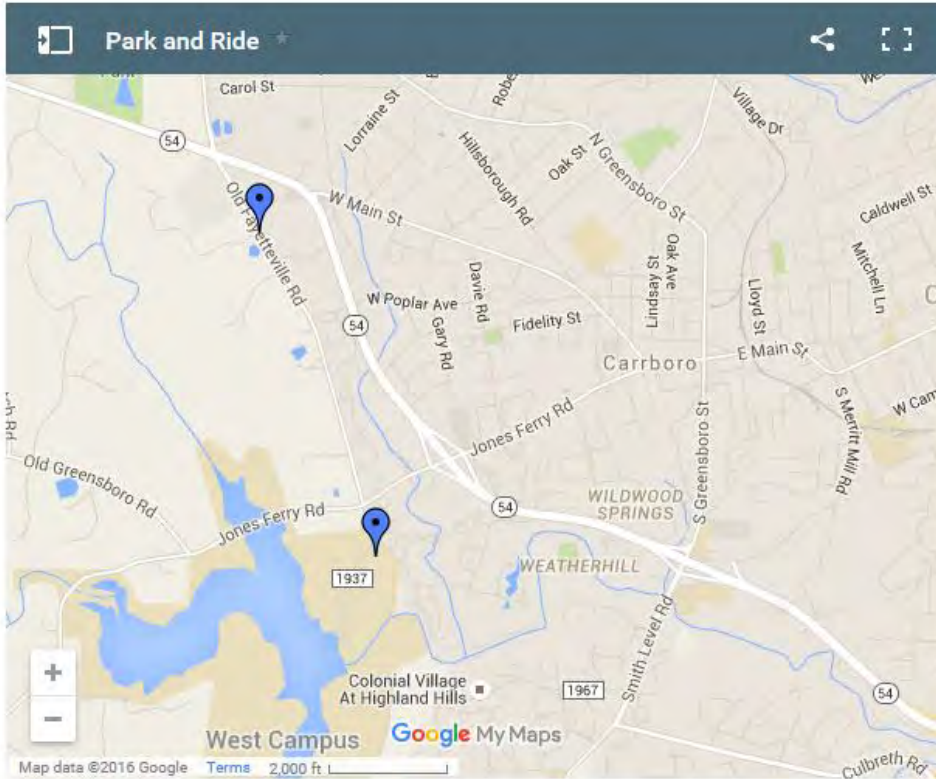
Use of parks, school property for park and ride

Existing parks or public school property are potential candidates because they have existing surface parking. The challenge will be coordinating with school administrators for allowing access, and managing the designated parking area. Wilson Park (T2) and Martin Luther King Park are two examples of such a location. McDougle Middle School has an existing stop located on the campus that is located within a parking lot. This may be a challenging location to convert to a public park-and-ride lot however because the property is owned by the Orange County School System.

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CHT Park & Ride Lots in Carrboro

<http://www.townofchapelhill.org/town-hall/departments-services/transit/park-ride>



LOT	LOCATION	SERVED BY
Carrboro Plaza	Behind Carrboro Plaza at Hwy 54 and W Main St	CPX Route , CW Route
Jones Ferry	Just south of Old Fayetteville Rd and Jones Ferry Rd	CM Route , CW Route , JFX Route

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Chapel Hill Transit Routes near Carrboro

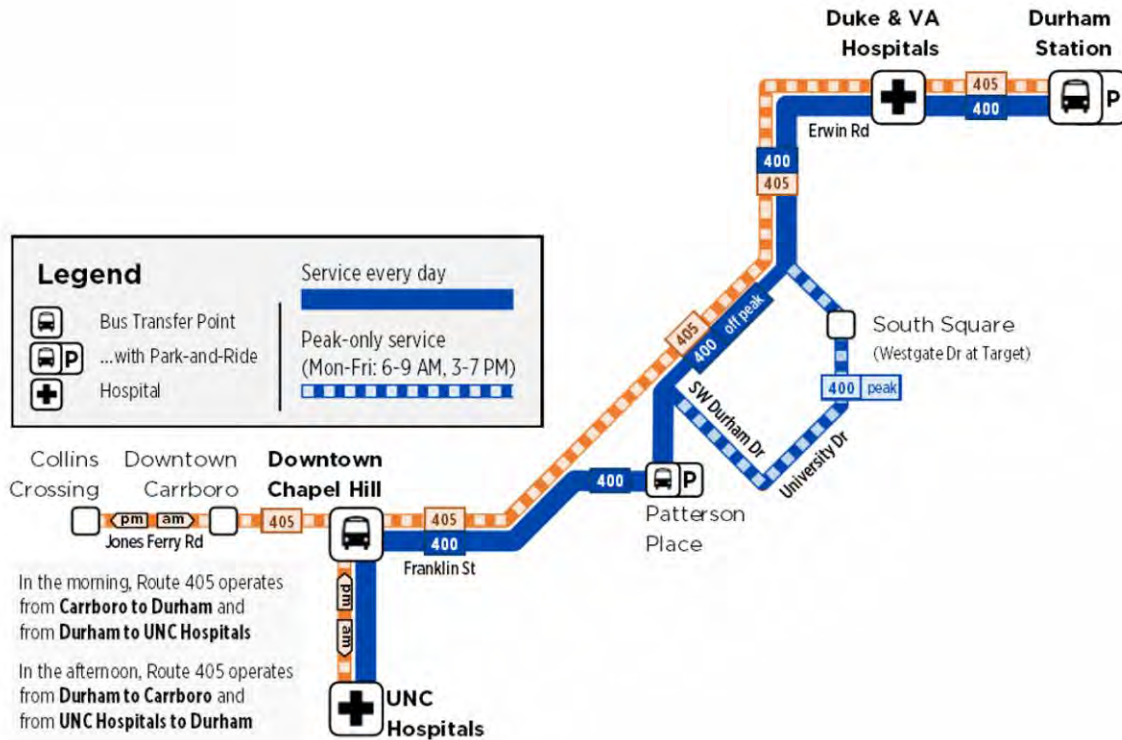
- CW – Weekday and Weekend service to Downtown
- F – Weekday service only
- J – Weekday service only
- CM – Does not serve Downtown Carrboro
- CPX – Does not serve Downtown Carrboro
- JFX – Does not serve Downtown Carrboro



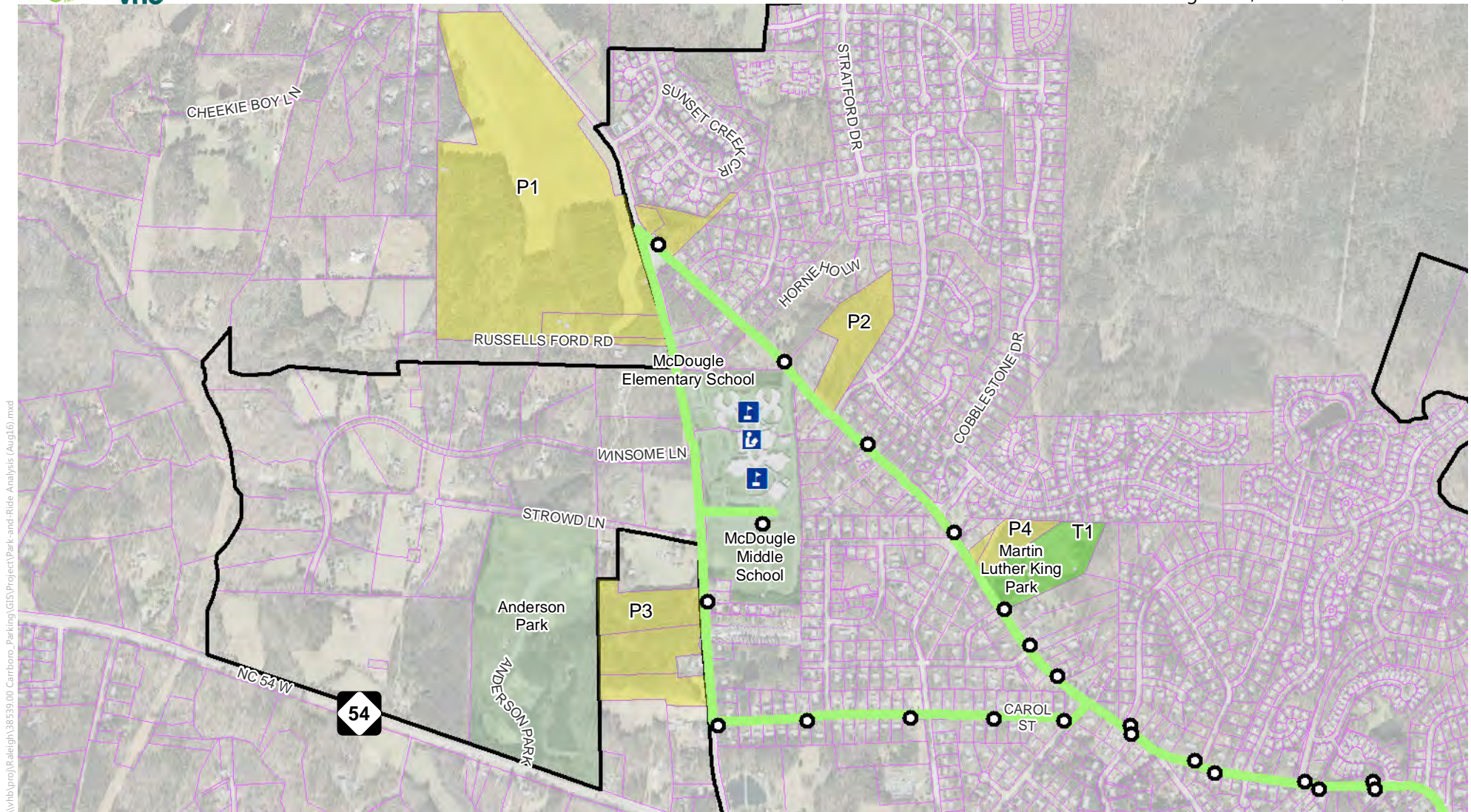
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GoTriangle service change to Route 405

<http://gotriangle.org/service-change>



Attachment – Park & Ride Locations Map



0 300 600 1200 Feet

Existing CHT Bus Stop

Existing CHT Route

F

Property Ownership

Carrboro

Private

Property Boundary

Building Footprint

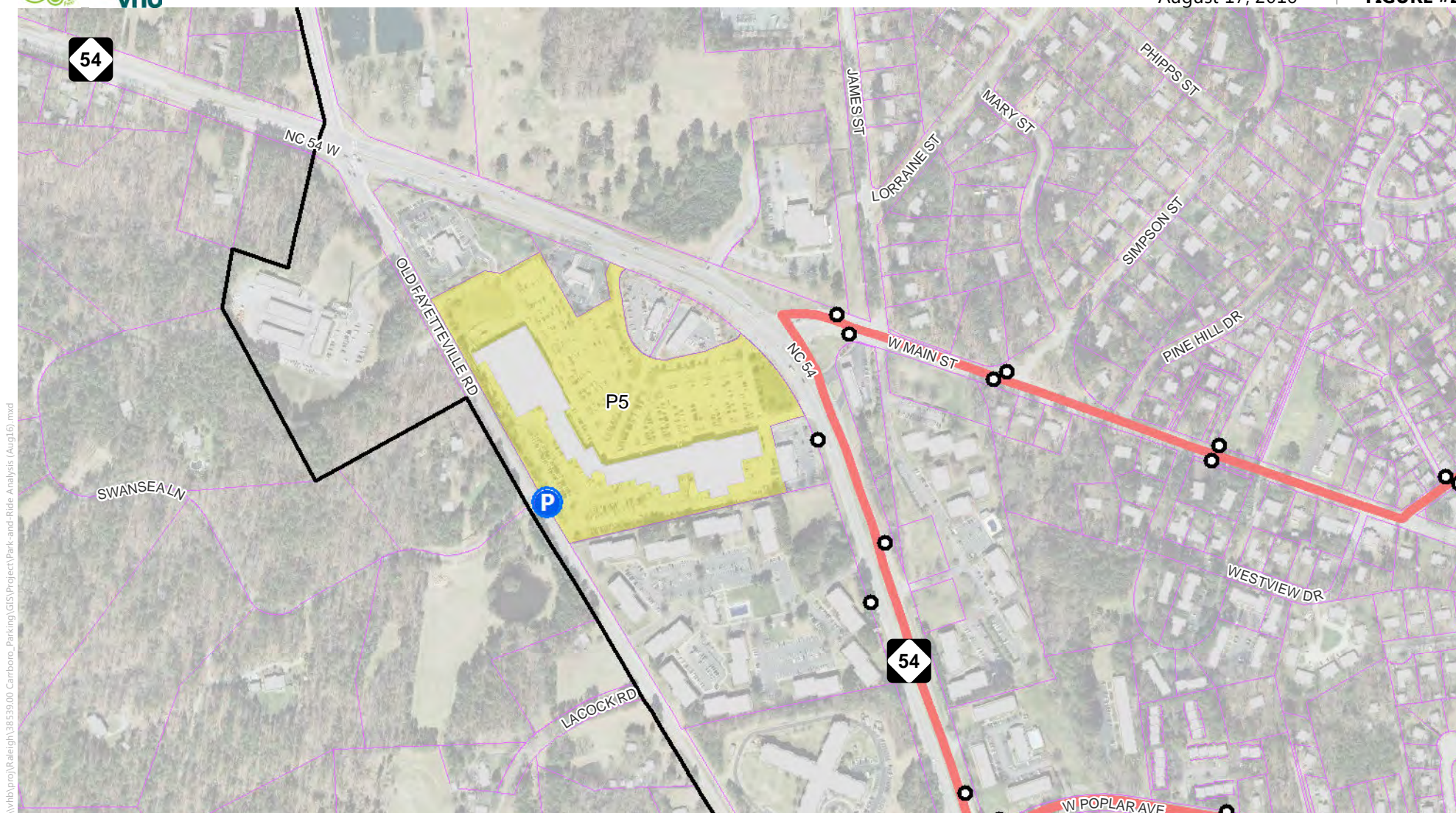
Town of Carrboro

Potential Park-and-Ride Locations

Carrboro, NC

Parking Study

Source Info: NOneMap, Town of Carrboro, Chapel Hill Transit, VHB



Potential Park-and-Ride Locations | Carrboro, NC

- | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>↑</p> <p>0 300 600 1200 Feet</p> <p>Existing CHT Route</p> <p>— CW</p> | <p>Property Ownership</p> <p> Private</p> | <p> Property Boundary</p> <p> Building Footprint</p> <p> Town of Carrboro</p> |
| <p>P Existing CHT Park-and-Ride Lot</p> <p>● Existing CHT Bus Stop</p> | | |

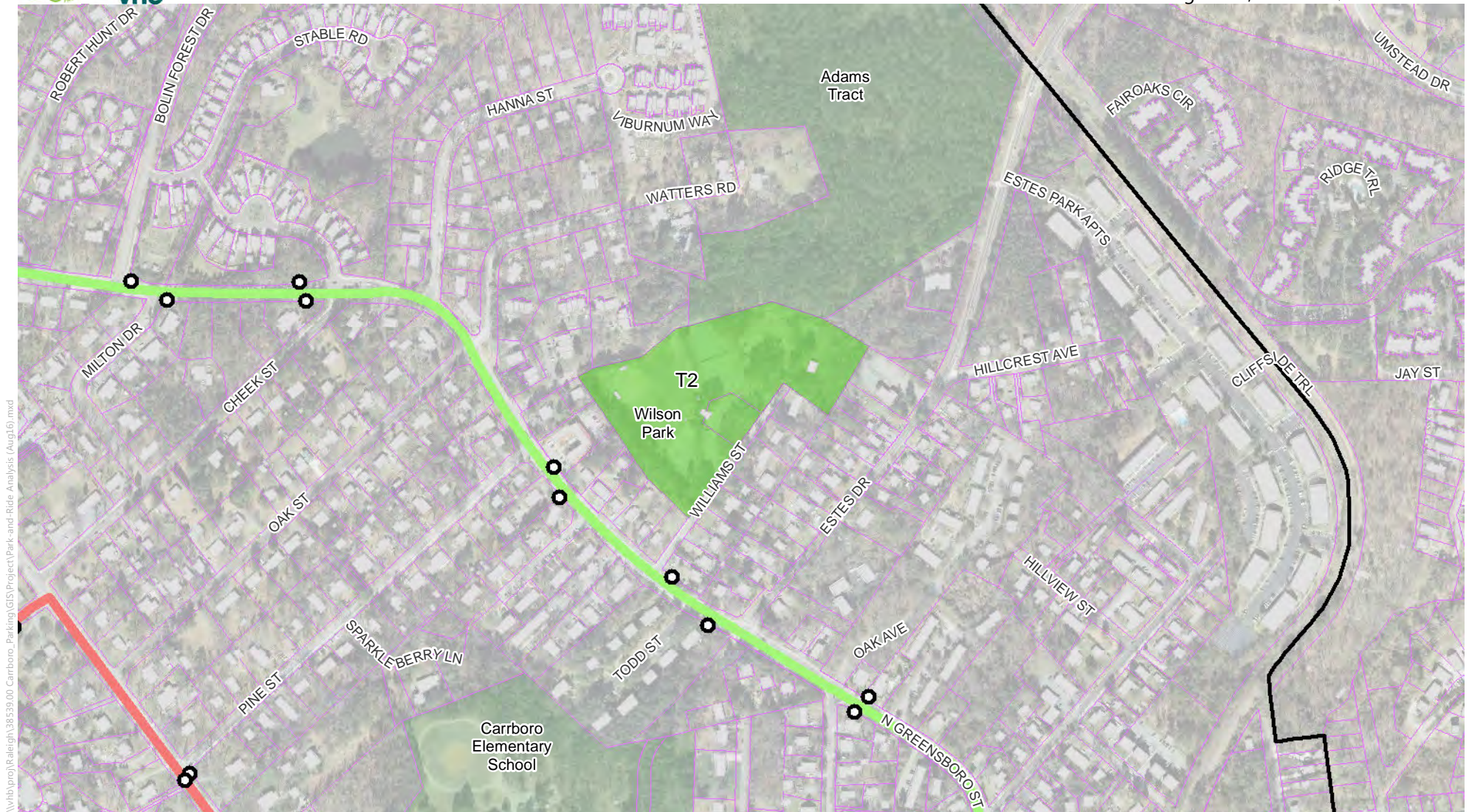
Parking Study

Source Info: NOneMap, Town of Carrboro, Chapel Hill Transit, VHB



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FIGURE #3



0 300 600 1200 Feet

Existing CHT Bus Stop

Existing CHT Route

CW

F

Property Ownership

Carrboro

Property Boundary

Building Footprint

Town of Carrboro

Potential Park-and-Ride Locations

Carrboro, NC

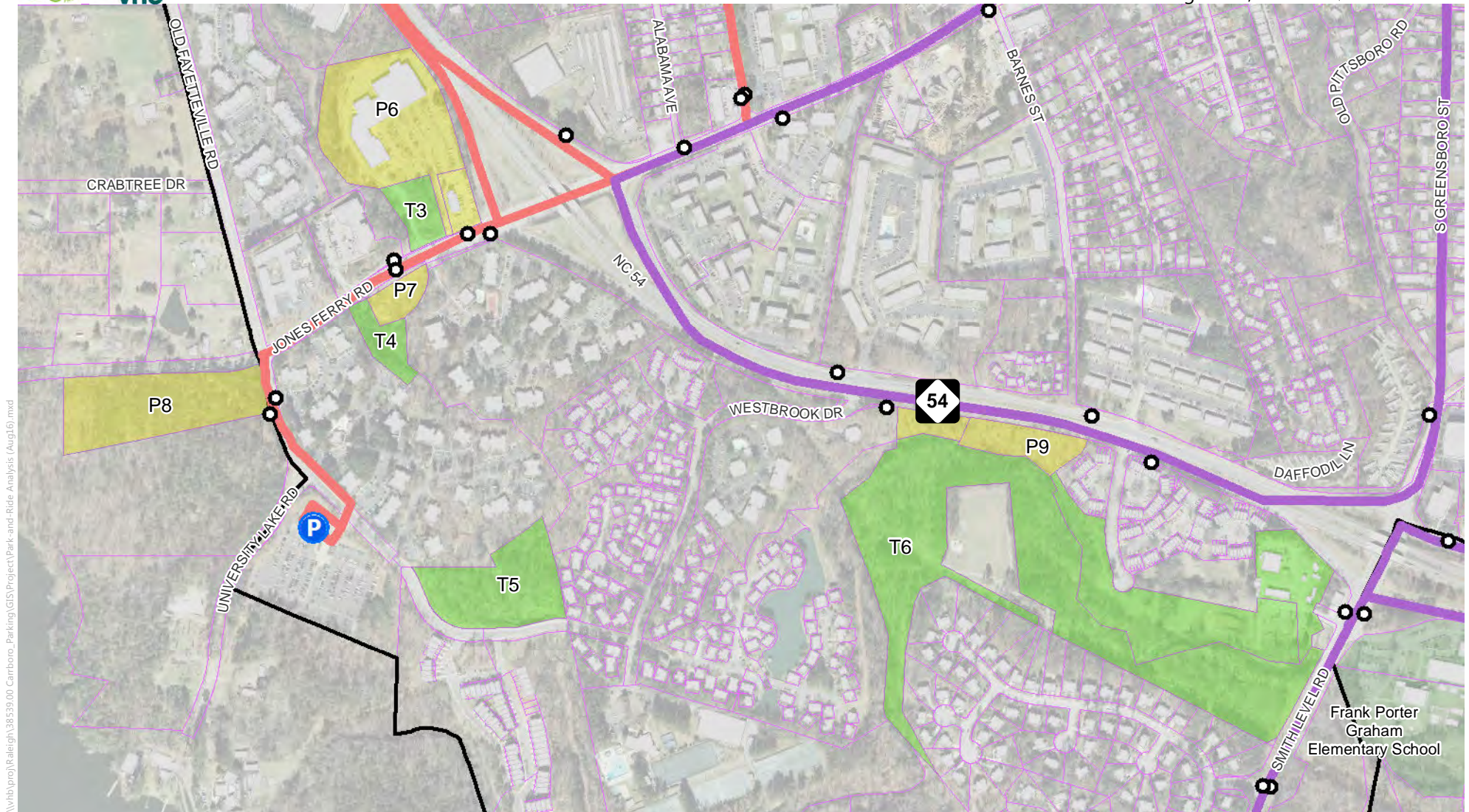
Parking Study

Source Info: NOneMap, Town of Carrboro, Chapel Hill Transit, VHB



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FIGURE #4



0 300 600 1200 Feet



Existing CHT Park-and-Ride Lot



Existing CHT Bus Stop

Existing CHT Route

CW

J

Property Ownership

Carrboro

Private

Property Boundary

Building Footprint

Town of Carrboro

Potential Park-and-Ride Locations

Carrboro, NC

Parking Study

Source Info: NOneMap, Town of Carrboro,
Chapel Hill Transit, VHB



To: Bergen Watterson, Town of Carrboro

Date: August 19, 2016

Memorandum

Project #: 38539.00

From: Timothy Tresohlavy, VHB

Re: Carrboro Parking - Loading Zone Utilization

Purpose and Background

The purpose of this memo is to describe the existing loading zones within downtown Carrboro, their observed use, and discuss planning-level improvements from the perspective of this parking study. This is not a traffic engineering level of analysis.

Existing Loading Zone Spaces/Areas

There are four (4) signed locations for loading (see attached), described below. See map and photos at the very end of this memo for further detail.

101 S Greensboro Street

This loading zone is signed as "No Parking Loading Zone" and is adjacent to Neal's Deli and near Open Eye Café. The intersection is controlled by a traffic signal at Main Street. This roadway shoulder area has been striped to prevent vehicles from using as a right-turn lane for northbound traffic along S. Greensboro Street.

102 E. Weaver Street

This loading zone is signed as "No Parking Loading Zone 7:30 AM to 5:30 PM Mon-Fri", and is located immediately in front of Market Street (coffee and ice cream) as well as The Beehive (salon). The loading zone is the length of two on-street parking spaces, and striped to prevent vehicles from inadvertently parking here. The signage clearly states that this is for loading between certain weekday hours, but does not specify whether non-loading parking is allowed after these hours. VHB observed many vehicles parking here after 5:30 PM to visit the Weaver Street market or other shops. Discussions with stakeholders suggest that these are very desirable parking spaces.

104 E. Weaver Street

This loading zone is separated from the 102 E Weaver Street location, however with identical signage. The rear entrance to the Jade Palace restaurant is the reason for the separation between these loading zones. This zone is long enough for two parking spaces, and striped in the same manner as other loading zones. These two spaces are highly desirable after 5:30 PM.

102 Cobb Street

This loading zone is located near Rice's Glass Company and KNS Automotive, and is signed as "No Parking Loading Zone 7-6 PM Mon-Sun". This location is isolated from the other three (3) loading zones. It is likely this was initially installed to prevent on-street parking that would block access to the rear of KNS Automotive. VHB did not observe delivery vehicles parking here. The zone is two parking spaces in length, and striped the same as the other zones.

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Hours of Restriction

The S. Greensboro Street loading zone is a permanent no parking area, therefore no hours are provided on the sign. The remaining three locations are all signed as loading zones on weekdays (Mon-Fri), however the time restrictions are different. The Weaver Street loading zone time is 7:30 AM to 5:30 PM. Cobb Street begins earlier (7 AM) and ends later (6 PM). For comparison the public parking lots are signed as 2-hour parking between 7 AM and 5:30 PM.

VHB Observations

Restrictive Signage

The restrictive signage is consistent with the Manual on Uniform Traffic Control Devices (MUTCD), for signage within the public right-of-way, specifically the Loading Zone plaque (R7-6), with hours displayed.

One potential improvement would be to add a plaque to identify that public parking is allowed after 5:30 PM, consistent with the R7-200 sign (green font). This may not be necessary as locals regularly park in these four (4) spaces along Weaver Street beginning at 5:30 PM.

Observed Utilization

VHB performed parking occupancy counts on three (3) days during this parking study, and observed vehicles utilizing all locations except for the Cobb Street area. VHB did not record the length of stay for these vehicles, however it was reported that they did not remain parked for very long.

Visibility Considerations

From a traffic perspective, the loading zone along S. Greensboro Street poses a visibility concern for pedestrians crossing the street because a large truck will screen them from northbound vehicles. This condition is also possible for the mid-block crossing of E. Weaver Street with large delivery trucks posing a potential issue for westbound vehicles. A yield to pedestrians sign is present at this mid-block crossing of E. Weaver Street.

Informal Loading Areas

There are a number of informal (unsigned) loading areas where VHB observed large trucks parked. These locations pose visibility and access impacts for pedestrians, bicyclists, and vehicles because there are inadequate facilities in place (signage, striping, curb cuts, and crosswalks). These locations are not be used on a regular basis, however they were observed on one or more occasions by VHB staff. Photos of these locations are included at the end of this memo, and identified below:

- A. 405 E. Main Street near PCS Pets (sidewalk impact)
- B. 107 E. Main Street near Jade Palace (roadway travel lane impact)
- C. 300 E. Main Street near Cat's Cradle (private property)
- D. E. Main St/Acme parking lot (parking access impact)
- E. 101 Center Street sidewalk (sidewalk impact)
- F. 100 Roberson Street (parking and pedestrian impact)

None of these informal loading areas are candidates to be considered as a formal loading zone.

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Recommendations

Delivery Hours

The Weaver Street loading zone times are inconsistent with the public parking lots, and could be revised to begin at 7 AM for consistency. This is a minor adjustment with low significance, however it would reinforce signage consistency for the public.

The Cobb Street loading zone sign includes restrictions for Saturday and Sunday, which is inconsistent with other loading and public parking signs (enforced Mon-Fri). Unless there is a significant reason for this, this sign should be revised for consistency.

Large deliveries involve box trucks or tractor trailers can significantly disrupt the existing transportation system (vehicles, transit, bicycles and pedestrians), unless they are coordinated to occur during off-peak hours.

Outreach to Businesses

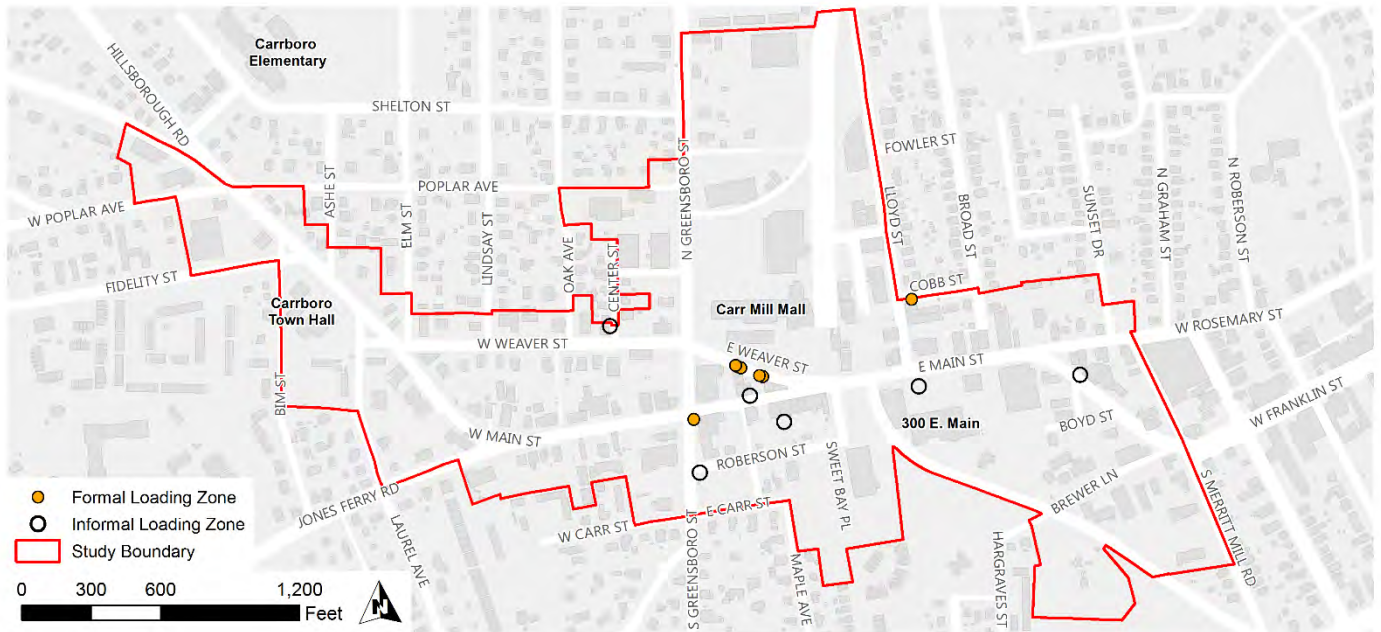
VHB discussed loading areas with several business owners during stakeholder meetings. Some businesses schedule deliveries specifically during hours that their business is closed, or on off-peak days/hours so that they may utilize existing parking areas. Other businesses have a dedicated loading dock at the rear of their property. A discussion between adjacent businesses could benefit both parties by coordinating delivery times and locations. These discussions could take place in conjunction with regularly scheduled Business Alliance meetings where a large group of merchants are present.

Visibility and Safety Considerations

Large delivery trucks unloading on-street may pose visibility concerns for pedestrians. These locations should be evaluated individually by a licensed traffic engineer. Topics to be considered include unobstructed sight triangles at intersections, loading zone distance from intersection and crosswalks, intersection geometry, crosswalk styles, and traffic signal timing.

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Formal and Informal Loading Zones



Formal Loading Zone Locations 1-4

Location 1 – 101 S. Greensboro Street



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Location 2 – 102 E. Weaver Street



Source: VHB

Location 3 – 104 E. Weaver Street



Source: VHB and Google StreetView

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Location 4 – 102 Cobb Street



Source: VHB and Google StreetView

Informal Loading Zone Locations A-F

Location A – 405 E. Main Street near PCS Pets



Source: VHB

Location B – 107 E. Main Street near Jade Palace Restaurant and existing CHT transit stop



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Location C – 300 E. Main Street near Cat's Cradle



Source: VHB

Location D – E. Main St/Acme parking lot



Location E – 101 Center Street sidewalk



Source: VHB

Location F – 100 Roberson Street





To: Bergen Watterson, Town of Carrboro

Date: February 2, 2017

Memorandum

Project #: 38539.00

From: Timothy Tresohlavy, VHB

Re: Carrboro Parking - Land Use Ordinance Review - Parking

Purpose and Background

The purpose of this memo is to outline VHB's recommendations regarding parking requirements in downtown Carrboro as described in the Carrboro Land Use Ordinance. After a review of similar North Carolina municipal land use ordinances, VHB has identified potential regulatory suggestions for Carrboro's downtown parking environment.

Land Use Ordinance

VHB referenced Article XVIII (Parking) of the Town's Land Use Ordinance, available on its website:

<http://townofcarrboro.org/298/Land-Use-Ordinance>

Land Use categories and requirements

Carrboro has a comprehensive list of land uses in its parking guidelines (Article XVIII) within the Land Use Ordinance. With the exception of downtown overlay zones, Part I of the regulations imposes parking minimums on the various land uses within the town limits. Part II describes special regulations for some downtown zoning (B-1(C), B-1(G), and B-2) that outline lower parking minimums and apply parking maximums for downtown residential, retail, and office locations. Most of the project study area is subject to Part II of the regulations.

The general parking requirements for downtown Carrboro are listed below. Also included is a comparison from other NC cities (low to high range).

Land Use	Code	Parking Required	For Every	Other NC Cities*
Residential	1.1 – 1.3	1 (max of 2)	Bedroom	1 to 3
Hotel	1.5	0.75	Hotel room	0.5 to 1
Retail	2.0	1	300 GSF	150 to 500
Office	3.0	1	400 GSF	250 to 400
Restaurant	8.1	1	100 GSF	75 to 220

*Other NC Cities include: Asheville, Charlotte, Concord, Davidson, Durham, Fayetteville, Raleigh, and Wilmington

Residential parking requirements from other NC municipalities range from 1 to 3 per bedroom, with the median being near 1.33 and 2 per bedroom, suggesting that Carrboro is low to mid-range. Hotel land uses range between 0.5 to 1 parking spaces per room (Asheville and Raleigh), suggesting that Carrboro's requirement is mid-range. Retail parking requirements range from 1 parking space for every 200 to 350 GSF, suggesting that Carrboro is on the low end of this parking required. Office land uses range between 1 parking space for every 250 to 400 GSF, suggesting that Carrboro is on the low end for office as well as retail.

The Part I parking requires apply for all other land uses. There are far too many to list within this memo, and most uses do not apply to downtown because they are not present.

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Flexibility of parking requirements

Similar to its North Carolina peers, the Town of Carrboro allows flexibility within its parking requirements. Developments that are either (a) oriented toward the elderly population, or (b) demonstrate access to alternative modes of transportation, such as proximity to transit stops or bicycle parking, may request a deviation from their total parking requirements. The reduction is made at the discretion of the permit-issuing authority (Town of Carrboro Board of Aldermen or Board of Adjustment).

A reduction of up to 25% of required parking is provided by Section 15-291(f) for Mixed Use or Office/Assembly Conditional Use permit requests.

Payment in lieu of parking

Payment (or fee) in lieu of parking is allowed, and contingent on the permit-issuing authority finding that there is sufficient public parking within a reasonable proximity of the development. The fee assessed is the estimated cost of providing one (1) paved parking space (both land and improvement costs). These fees are only allowed to be used by the Town for the provision of parking, meaning that funds may not be used for facility improvements relating to existing parking, such as lighting, security, sidewalks, streetscaping or roadway crosswalks. Should this flexibility be desirable, the Town should consider revisions to Section 15-292.1(c), which states these fees "...shall be reserved and used exclusively to meet the purposes for which they have been obtained...",

The ordinance does not state what the current fee amount is, however it does state in Section 15-292.1(b) that the amount is to be reviewed annually and included in the Miscellaneous Fees and Charges Schedule adopted by the Board of Alderman. The Town has not begun collecting payment in lieu of parking from previous developments, as of the date of this memo. Payment in lieu provisions are challenging for smaller business districts because they rarely generate enough significant capital to fund the design, construction and operation of a public parking deck. This appears to be the case for Carrboro.

We suggest the Town consider eliminating the payment in lieu option, and offer in its place an option to pay an annual per-space fee to lease parking within the municipal parking lots. The town of Freeport, Maine has successfully implemented this. Properties that are physically constrained in their ability to provide parking onsite pay a fee into the parking fund to support the town public parking. The payment does not guarantee access to a specific space, or even a specific lot, but instead allows the town to operate a parking system that supports all properties in the business district. In the case of Carrboro, the payment fee could be set at the average amount that the Town pays to lease parking for public use. This approach would allow the funds to be used for facility improvements relating to parking, referenced above.

Joint use of required parking spaces

The downtown zoning parking regulations allow for parking requirements to be relaxed for adjacent land uses that have two or more distinct peak parking usage periods (e.g. mixed use development with offices and apartments). A *Reduction Ratio* is applied to the original combined requirements of all uses to create a joint use parking requirement. The table of reduction ratios is summarized below.

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Shared Parking Reduction Ratios

Land Use 1	Land Use 2	Reduction Ratio
Office	Temporary Residences	1.7
Office	Residential (Single/Multi)	1.4
Retail/Sales	Temporary Residences	1.3
Retail/Sales	Office	1.2
Retail/Sales	Residential (Single/Multi)	1.2
Temporary Residences	Residential (Single/Multi)	1.1

Source: Section 15-297 of Article XVIII, Land Use Ordinance

Satellite parking requirement

Satellite parking is allowed under Section 15-298 of Article XVIII. Parking must be provided within 400 feet of the public entrance of the principal building. However, satellite parking for employee use is not subject to this requirement and may be provided at any "reasonable distance." The City of Asheville (NC) has a similar provision with a 500-foot distance. The 400-foot distance threshold represents less than a 2-minute walk-time (assuming 3 mph is the average walking speed). The Town may choose to revise this distance to a larger threshold distance (600-800 feet) to increase the flexibility of this provision.

The satellite parking requirement allows for the possibility of leasing individual spaces for employee parking from nearby businesses. This provision is one potential source of revenue for private parking lots that can demonstrate a surplus of parking within an existing lot. The Town might consider further developing this provision in order to maximize parking space efficiency in the downtown.

Special provisions for lots with existing buildings

Section 15-299 includes a special provision for existing developments seeking to expand, but are physically constrained by their parcel size or shape. This is a standard provision in North Carolina and other states. For a downtown such as Carrboro, with relatively small parcels and residents in support of alternative transportation, this provision is necessary and valuable. The decision to wholly or partially waive these parking requirements is made at the discretion of the permit-issuing authority on a case-by-case basis, meaning that the Town is empowered to act upon the best interest of the entire parking system and not an individual property.

Comparison with Occupancy Data

Estimated parking supply per land use requirements

Analysis block #11, the block bounded by E. Weaver Street, N. Greensboro Street, and two railroads, has a mixture of destination retail land uses including Car Mill Mall, Weaver Street Market, and Harris Teeter. Since all uses fall under the 2.000 land use classification (sales and rental of goods, merchandise and equipment), the developments are ineligible for joint use reductions in minimum requirements. This block contains 162,000 square feet of retail (high and low) and office, the Land Use Ordinance requires that at least 540 parking spaces be provided under Part II of the *Table of Parking Requirements* (1 space for every 300 GSF).

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Actual parking supply (2016)

Currently, 400 spaces are provided within this block on-site with an additional 250 spaces provided off-site for Carr Mill Mall employees at the corner of Roberson Street and Sweet Bay Place. This parking supply exceeds the estimated parking requirement under the current Land Use Ordinance by 110 spaces (+20%).

Estimated peak period parking demand

VHB collected parking occupancy counts for these parking lots on three (3) occasions in 2016. The peak period for parking demand for both of these on- and off-site locations is during the lunch period, between 11 AM and 1 PM. During this time a total of 440 cars were counted, indicating that 81% of required parking spaces (540) and 67% (650) of the actual spaces are utilized during the busiest time of a typical day. It should also be noted that Carr Mill Mall is a centrally-located, high demand location for downtown parking, and conducts active enforcement of its parking lots

These parking counts suggest that the current pattern of parking occupancy is between 14% and 33% below the current land use-based parking requirements, dependent upon whether the employee satellite parking lot was originally factored into the original Carr Mill Mall parking requirement.

Observed Parking for Carr Mill Mall Property

Location	Spaces	Required	Observed Cars (Occupancy %)			
			9-11 AM	11-1 PM	2-5 PM	6-9 PM
Carr Mill Mall	400	540	237 (59%)	294 (74%)	277 (69%)	320 (80%)
Employee Parking	250	0	138 (55%)	146 (58%)	31 (12%)	0 (0%)
Subtotal	650	540	375 (57%)	440 (67%)	308 (47%)	320 (49%)

Source: VHB parking counts collected April 21, 2017

Note that 320 cars (80%) were observed parking within the Carr Mill Mall area during the 6-9 PM period, however no cars were observed within the employee satellite parking lot during this time.

Recommendations

General Best practices from similar jurisdictions

- Downtown districts should have lower required minimums (and lower maximums) than the Town at-large. Carrboro allows for this within the Part II parking requirements.
- Developments should be allowed to reduce their parking requirement through access to alternative modes of transportation. A range of expectations and quantifiable goals may help streamline the planning process. Carrboro allows this, but may benefit from additional guidelines necessary to make this mechanism continue to be successful.
- "First 1,000 GSF free" for redevelopment of existing building stock. Many downtowns allow for a waiver of parking requirements applied only to the first 1,000 GSF, and typically for restaurant use that redevelops an existing building stock. Carrboro should consider this provision for future redevelopment, and how this may encourage shared parking agreements between private businesses.

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- Joint use parking should be available for adjacent uses with non-conflicting peak periods for parking demand. Facilitating this arrangement between business owners is challenging, however beneficial for the Town. Carrboro supports this, however these arrangements are not actively sought.
- Developments with a high amount of required parking may be ideal candidates for employee park and ride locations. This is particularly true of communities like Carrboro with a high level of transit access.

Ordinance requirements

By applying separate parking regulations for the downtown area, Carrboro is taking a progressive view of urban parking that is consistent with many other municipalities that also employ lower parking minimums and maximums for their downtowns. Carrboro's minimum requirements per dwelling unit or gross square footage are consistent with many local communities, such as Raleigh and Durham, if not somewhat lower (producing fewer required parking spaces). Square footage, however, is not necessarily the only way to assess potential parking demand. For instance, Asheville and Durham assess some of their parking requirements for restaurant and lounge establishments by number of patron seats and employees rather than solely on square footage.

Additionally, the Town does not quantify the range of flexibility allowed within its plan in every contingency. While this vagueness is intended to assess projects on a case-by-case basis, other municipalities have a defined latitude of flexibility that developers may expect. For example, Raleigh and Durham provide 5-10% reductions of parking minimums for demonstrating alternative transportation access. While this exact range may not be suitable for Carrboro, a consistent strategy may be useful in the future.

Non-ordinance considerations

Large-scale retail developments with a high amount of required parking and somewhat low demand, are ideal locations for either transit park-and-ride facilities, or leased (employee) parking. Grocery stores or big-box retail shopping centers are two examples of potential park-and-ride facilities. The Carrboro Plaza shopping center on Old Fayetteville Road currently operates as a park-and-ride for Chapel Hill Transit. The Food Lion shopping center on Jones Ferry Road is a potential site as well. Two additional examples for potential leased (employee) parking would be the O2 Fitness property along W Main Street, or Fitch's Lumber on N Greensboro Street. The number of leased spaces would be much more limited than the first two examples.

This is a practical way to shift demand from high to low occupancy lots. This provision has been implemented in other cities, such as Durham, but it does not necessarily have to be accomplished through regulatory means, allowing the private market to respond to parking demand. Provisions can be made on a case-by-case basis as the need arises.

If the Town is successful in establishing a park-and-ride facility along an existing Chapel Hill Transit route, then the available parking within the park-and-ride lot should be treated as a pool of off-site parking for downtown businesses. This would allow for a limited number of existing businesses to expand, or new businesses to utilize the off-site parking requirement reduction. The utilization of this park-and-ride lot should be evaluated multiple times per year to assess the peak period and available capacity during these times.



To: Bergen Watterson, Town of Carrboro

Date: August 1, 2016

Memorandum

Project #: 38539.00

From: Timothy Tresohlavy, VHB

Re: Carrboro Parking - Bike Parking Recommendations

Purpose and Background

The purpose of this memo is to outline VHB's recommendations regarding bicycle parking conditions in downtown Carrboro. As a "Silver"-level bicycle friendly community by the League of American Bicyclists, Carrboro has displayed a commitment to providing access and facilities for cyclists. Using a combination of walkability audit field notes, community input, geographic information systems (GIS), and the existing Town bicycle plan, VHB has identified both short term and long term improvements in bicycle parking.

Walkability Micro-Audit Notes

The Carrboro walkability micro-audit was performed by five (5) volunteers, and guided by VHB staff, for the purpose of observing walking and accessibility conditions along two (2) routes in downtown Carrboro. The first route (One) followed Roberson Street and along S. Greensboro Street toward Weaver Street. The second route (Two) began at the 300 E. Main parking deck and continued west along E. Main Street toward Weaver Street and east along Boyd Street toward the eastern town limit. The presence of available facilities (total supply), the availability of existing bicycle parking (unused supply), and location of facilities (convenience) were all rated on a scale of 1 through 5, with 5 being the highest possible rating.

Route Two (300 E. Main) was rated higher in all three categories by participants, between 0.8 and 1.2 points higher specifically. The presence of available facilities was the lowest performing metric for both routes, earning an average rating of 3.0 for Route One and 3.8 for Route Two. In general terms, the audit discovered that bicycle parking should be more visible, and located adjacent to vehicular parking or within public lots. More detailed results of the walkability micro-audit are available in the Carrboro Parking – Walkability Micro-Audit Task memo (April 13, 2016).

Public Outreach Tools

The Carrboro Bike and Ped Comment Map is an excellent online resource for gathering public comments on active transportation issues (<http://townofcarrboro.org/1073/Comment>). Comments and locations are displayed for ninety (90) days, but all comments are retained by the Town for future reference. This prevents older comments from cluttering the map, and potentially discouraging new input. The comment map provides a forum for both bicycling and pedestrian issues, and bicycle rack placement suggestions are a frequent contribution.

In the future, this public outreach tool has the potential to be educational as well as a medium between the Town and the public. If existing parking facilities were also prominently displayed on the map in addition to being a canvas for comment, the map could serve to answer questions and issues regarding parking facility availability as they arise, and respond to citizens that are eager to engage with the Town. This resource could also be used for prioritizing potential bicycle improvements, allowing for the public to vote, and tabulating the results.

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Land Use Ordinance

Bicycle parking requirement

The Parking section of the Carrboro Land Use ordinance (Article XVIII) outlines the required parking rates for each particular land use (<https://nc-carrboro.civicplus.com/298/Land-Use-Ordinance>). Often these requirements are tied to the number of vehicular parking spaces required by a given land use. For downtown Carrboro, bicycle parking for retail uses is a priority to maintain the balance of transportation modes. There simply is a limited amount of available land for parking lots and driveway access, however there is sufficient land for bicycle racks.

Design standards for bicycle parking

Design standards have been approved for construction within the public roadway, and therefore projects that meet these standards may be eligible for federal funding. The American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities 4th Edition (2012) is the appropriate standard to use for bicycle parking.

Design guidelines, for comparison, have not been approved for construction, and therefore local funding must be utilized. The Association of Pedestrian and Bicycle Professionals (APBP) is one such organization that provides bicycle parking guidelines, which are very user friendly and informative, however not considered standards.

The placement and design requirements within Article XVIII Section 15-295.1 of the Town Land Use Ordinance are largely in compliance with AASHTO standards. Minor improvements are possible. For instance, while the Town requires that bicycle parking be visible from the entrance of a structure, this radius could be clearly defined (50' is the APBP recommended distance). Likewise, the Town requires that 50 percent of bicycle parking shall be sheltered (covered), which is an admirable goal, however a large majority of existing bicycle racks are not covered.

For locations where wayfinding signage is needed, such as indoor bicycle parking, this signage should be standardized with other municipal branded signage that is compliant with the Manual on Uniform Traffic Control Devices (MUTCD). The preferred bicycle rack is identified as the "inverted U", "A", and "post-and-loop" types, however many non-standard racks are present on private property.

Parking space reduction in lieu of bicycle parking

According to Article XVIII, Section 15-291(d) of Carrboro's Land Use Ordinance, developers are allowed to reduce the burden of providing vehicular parking by one (1) space if the developer creates a secure parking area for at least five (5) bicycles. This is an excellent method to promote alternative modes of transportation in Carrboro, offer a cost-saving option to developers, and indirectly reduce vehicular traffic in downtown.

The City of Asheville requires bicycle parking shall be equal to 5% of the total number of vehicle parking spaces, and does not allow for a vehicle parking space reduction in lieu of bicycle parking (UDO Article XI, subsection 7-11-2(c)(3)).

The City of Durham allows for a reduction of one vehicle space for every six (6) bicycle parking spaces. The City's Unified Development Ordinance (UDO Article 10 Section 10.3.1) requires the following bicycle parking space minimums, though these are exempted for the Downtown and Compact Neighborhood Tiers:

- Office: One per 5,000 GSF; minimum of two (2) total;

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- Retail: 5% of total required vehicle parking; 1 per 5,000 GSF, minimum of four (4) total;
- Multi-Unit Residential: One per 10 units
- Industrial: Two total; One per 20,000 GSF; 2% of required vehicle parking

The City of Raleigh does not specify a vehicle space reduction in lieu of bicycle parking (Section 7.1.3.A.2). The City of Raleigh Unified Development Ordinance (Section 7.1.2) specifies the following bicycle parking space minimums for land uses:

- Office: One short-term, and one long-term space for every 10,000 GSF; minimum of four (4) total;
- Retail: One short-term space for every 5,00 GSF; minimum of four (4) total;
- Multi-Unit Residential: One short-term space for every 20 units; minimum of four (4) total; Minimum of one long-term space for first 20 units, and 1 space per unit for additional units;
- Industrial: One long-term space for every 40,000 GFA; minimum of four (4) total;

The AASHTO Guide of Bicycle Facilities suggests the ratio of bicycle parking to vehicle parking could begin at 1:10 (10% of vehicle parking), and then increase for areas with a goal to reduce motor vehicle parking. For Carrboro this would mean five (5) bicycle parking spaces for every 50 vehicle spaces should be the absolute minimum requirement, and developers should be encouraged or incentivized to provide additional bicycle racks.

Carrboro Bike Plan (2009)

The Carrboro Comprehensive Bicycle Transportation Plan (2009) is the guiding document for all bicycle improvement projects within the town limits of Carrboro. This plan is the basis for long term parking considerations, as planned improvements come into effect in the future. The primary corridors identified in the plan to consider for future downtown Carrboro parking are N. and S. Greensboro Street, as well as E. Weaver Street.

Recommendations

In addition to the discussion above, VHB offers the following general recommendations for bicycle parking, grouped into three categories: Locations, Policy, and Strategies.

Locations

- Separate bicycle parking locations into two categories, based on user needs:

Short-term locations:

- Emphasis on being publicly accessible and convenient for users
- Prioritize locations that are highly visible, and well lit
- Proximate to sidewalks and businesses (front doors)
- Prioritize the two primary corridors identified by the 2009 Bike Plan (Greensboro Street and Weaver Street)

Long-term locations:

- Covered locations, clear of potential conflicts with pedestrian sidewalks
- May be 100-400 feet from building entrance, or (ideally) inside of building
- Concrete or paved surface, with connecting pathway/sidewalk

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- Located near Public Parking lots or Chapel Hill Transit stops
 - Preferred standard rack types
 - Vertical racks attached to buildings/walls, where practical
- Refer to Bike Ped Comment Map suggested locations (user demand).

Policy Implications

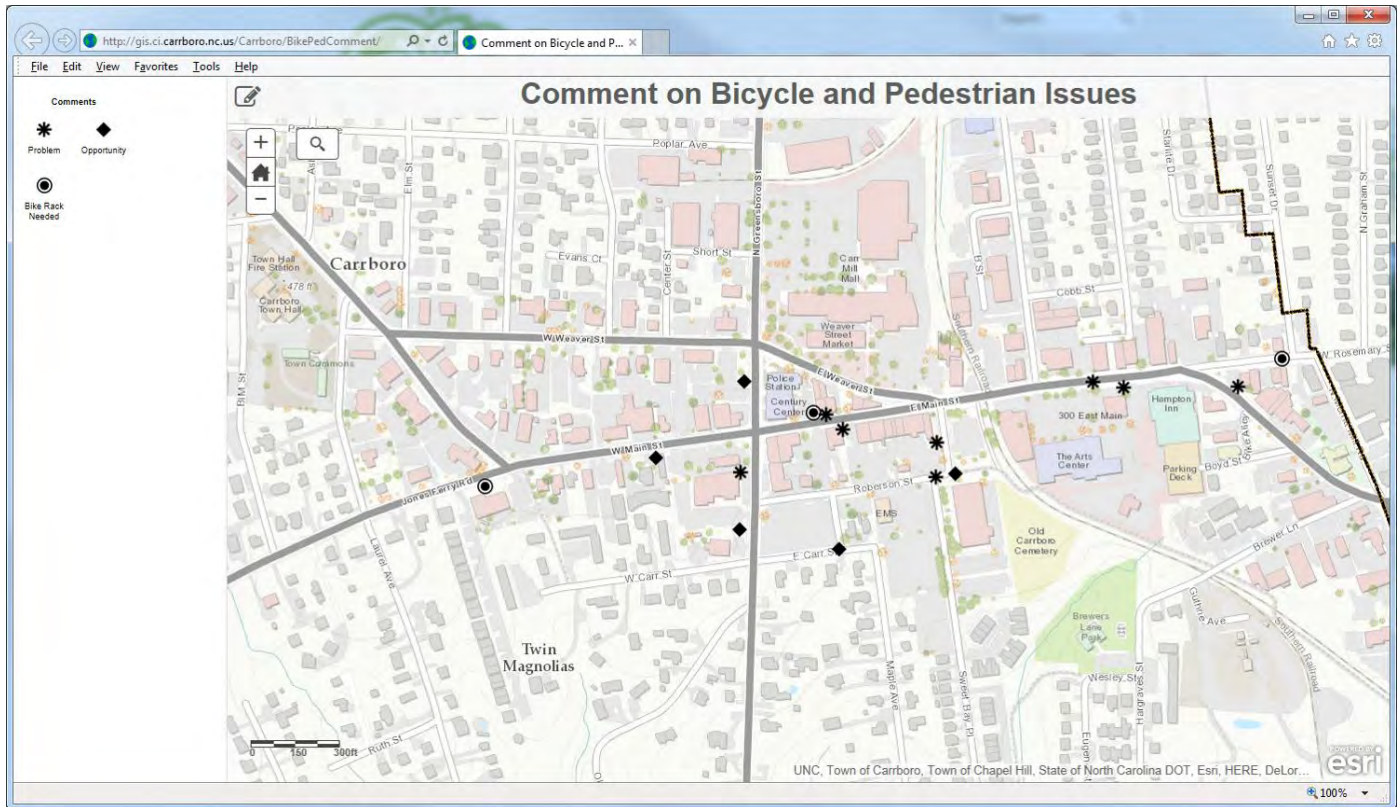
- Encourage the one (1) parking space reduction in lieu of five (5) bicycle parking allowance for new developments; add a minimum ratio of 1 bicycle space (or higher) for every 10 vehicle spaces;
- Identify a standard bicycle parking wayfinding sign type that is MUTCD-compliant.
 - Part 9; Figure 9B-4; sign D4-3.
 - Specify that the developer provides these signs as a part of their project

Strategies

- Encourage more businesses to seek Bike Friendly Business status from the League of American Bicyclists.
 - <http://bikeleague.org/business>
- Work with Carrboro Bicycle Coalition to swap non-standard racks for preferred rack types; prioritize locations that are highly visible along Weaver Street and Main Street.
- Expand the Bike and Ped Comment Map tool:
 - Include reference to public parking lots
 - Include voting (or severity) component to new bike rack location(s)

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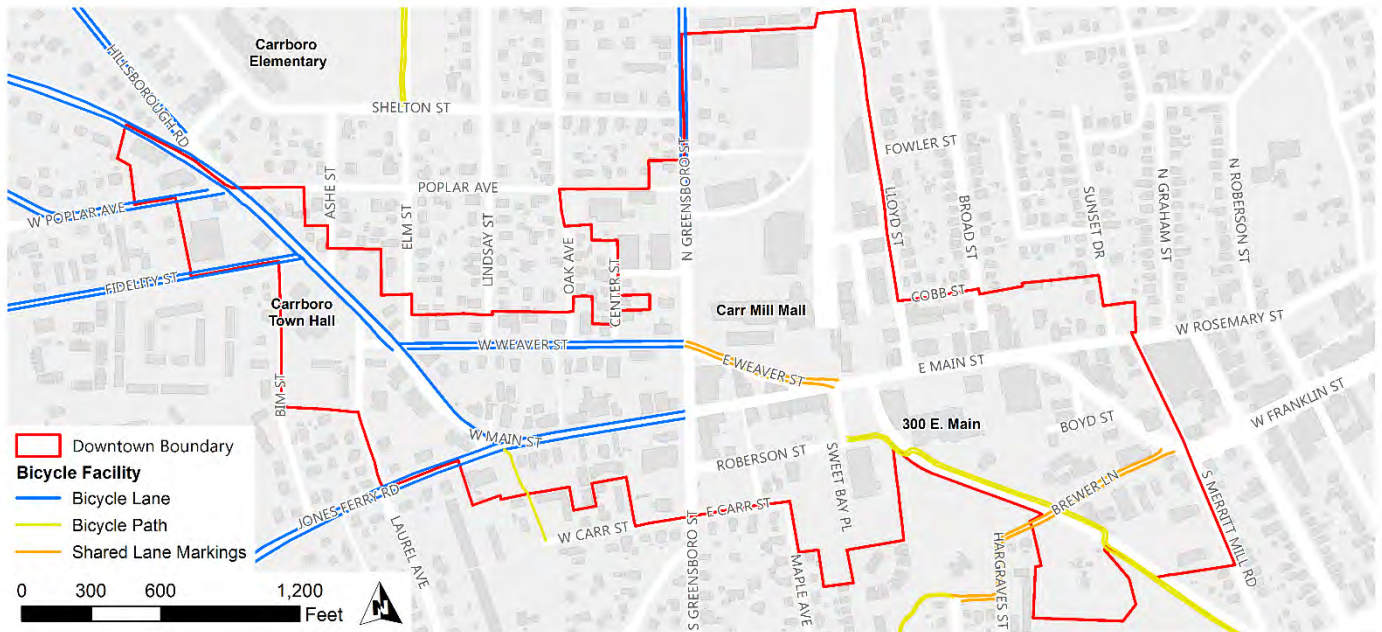
Town of Carrboro Bike and Ped Comment Map



This is a screen shot of the Bike and Ped Comment Map from July 2016, identifying locations with (a) Problems; (b) Opportunities; and (c) Bicycle Racks needed.

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Existing Bicycle Facilities in Downtown Carrboro



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Existing Bus Stop Along E Main Street (103 E. Main Street)



These two photos were taken in January and April 2016 respectively. The bicycle is the same, suggesting that the user is the same person. The bicycle is secured to a Chapel Hill Transit bus stop. One could argue that this user is seeking a highly visible bicycle parking location for added security purposes, as well as a convenient location to the bus.

There is an existing bicycle rack located across the street within the (Main Street) Public Parking lot, however it is an undesirable, non-standard rack type without additional amenities. The ideal approach would be to encourage the use of the existing rack by changing to a standard rack type, and providing cover or lighting.

Existing Sign Post (705 W. Rosemary Street)



This photo was taken near the eastern Town boundary. There is an existing bicycle rack located across the street within the (Rosemary Street) Public Parking lot, which would be a more appropriate location.

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Locations within or adjacent to Public Parking Lots (602 W. Rosemary Street; 301 W. Weaver Street)



Locating bicycle parking within public parking lots is an effective use of available land. These two locations, and additional racks not shown), are near sidewalks without impacting pedestrian flow. They are well-lit from the adjacent street lighting, and visible due to their unique blue color.

Locations with Potential for Additional Bicycle Parking (101 S. Greensboro Street; 101 W. Weaver Street)



The photos on the left displays AM period bicycle parking at the Open Eye Café. This location is partially-covered, with space for up to eight (8) bicycles. An additional three (3) racks are nearby, however not as conveniently located. The photo on the right is near the Weaver Street Market, which is another heavily utilized bike parking location for most of the AM and lunchtime periods. Both of these locations are centrally-located within downtown, and highly visible from the street, making them ideal for potential expansion (where practical).

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Rack Locations near Existing Sidewalks (291 Roberson Street; 300 E. Main Street)



These two bicycle racks are located on private property. The photo on the left poses a potential issue with pedestrians walking along the sidewalk, and would benefit from being relocated further from the sidewalk. The photo on the right poses no issue with pedestrians because it is making use of an existing 'dead space' between a parking lot and the existing sidewalk.

Locations where Bicycle Parking has Replaced Vehicle Parking (101 E. Weaver Street; 300 E. Main Street)



Very few Cities and Towns in North Carolina are willing to replace vehicular parking with bicycle racks. This demonstrates the commitment that Carrboro and its business owners have towards alternative transportation modes. Also note the Shared Lane Marking on the roadway within the photos on the left (Weaver Street).

To: Bergen Watterson, Town of Carrboro

Date: September 1, 2016

Project #: 38539.00

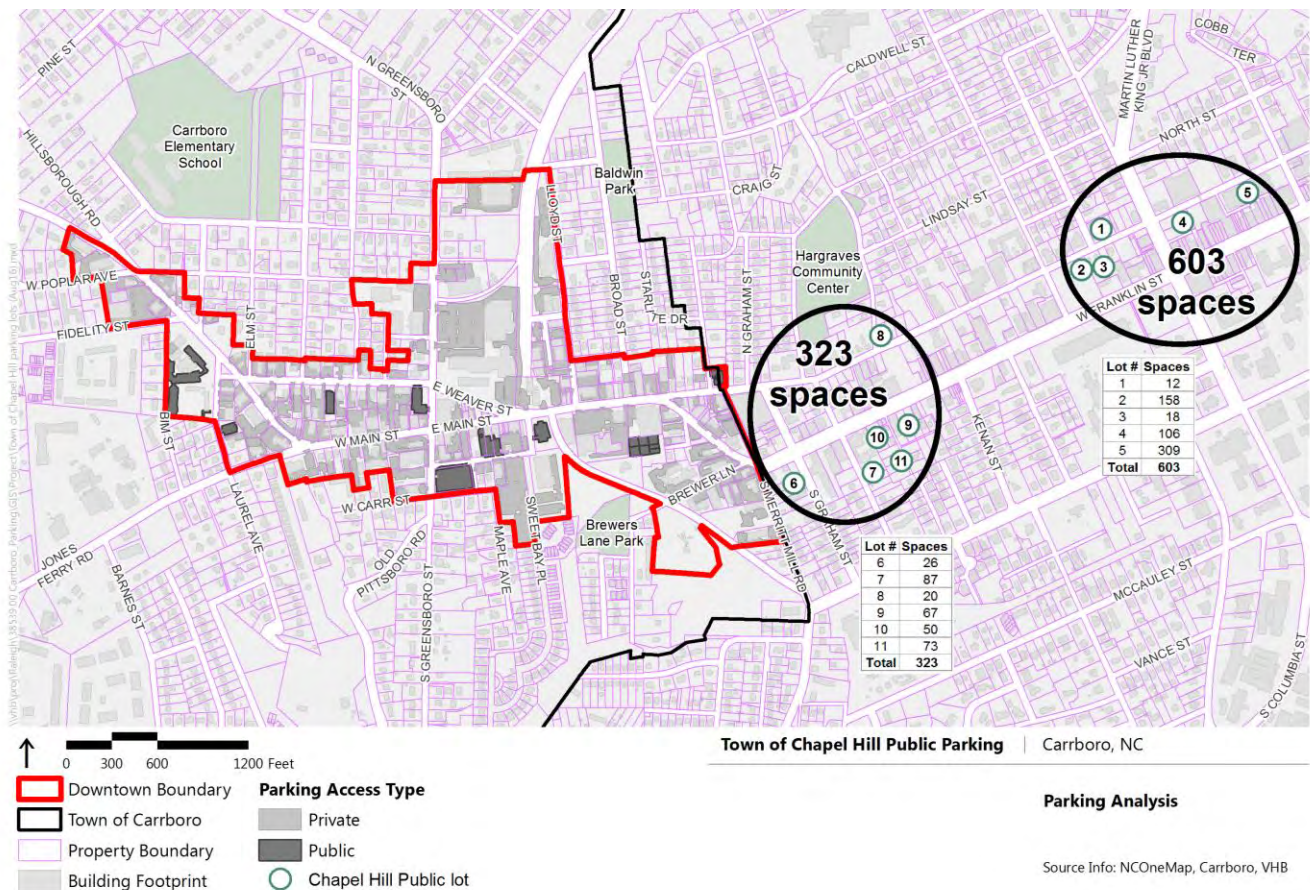
From: Timothy Tresohlavy, VHB

Re: Carrboro Parking Study

This memo described the summary data from a public parking occupancy study performed by the Town of Chapel Hill. These data were provided by the Chapel Hill Downtown Partnership.

The Town of Chapel Hill collected parking occupancy data for 11 of their public parking lots along Rosemary Street and Franklin Streets in January of 2016. These 11 public lots contain a total of 926 parking spaces. Seven (7) of these lots (representing 323 spaces) are located within a quarter-mile of the town boundary between Chapel Hill and Carrboro (Figure 1). Hourly parking in Chapel Hill varies between \$1 and \$1.50 per hour, Monday through Saturday from 8 AM to 8 PM (some locations are 24 hours per day; 7-days per week). Information on individual lots is available at this Town website <http://www.townofchapelhill.org/town-hall/departments-services/police/parking/parking-in-downtown-chapel-hill/off-street-parking>

Figure 1: Chapel Hill Parking Lots



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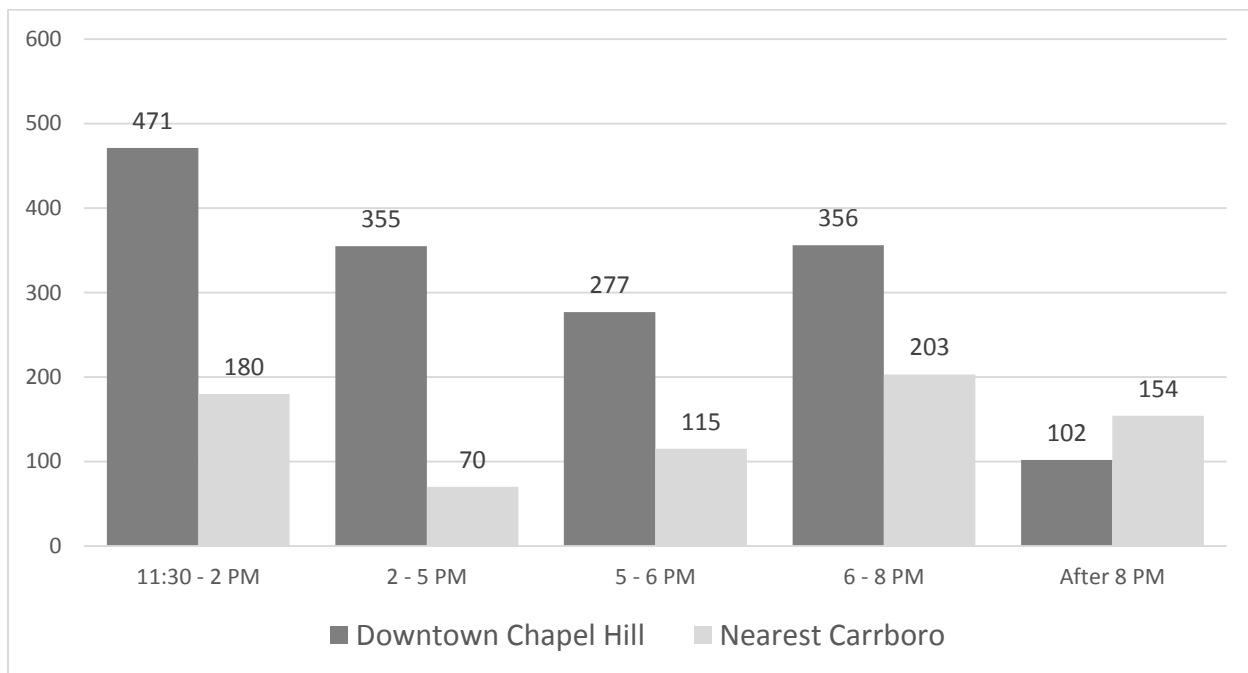
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Parking Occupancy

The Town of Chapel Hill counted cars at five (5) times throughout the day, and observed the highest occupancy during the 11:30 – 2 PM period, the same peak period as the Town of Carrboro occupancy counts. During the lunchtime period a total of 651 parked cars were observed, which represents 70% occupancy. Parking occupancy dropped during the afternoon to 46% and 42%, however rebounded to 60% occupancy during the 6-8 PM period.

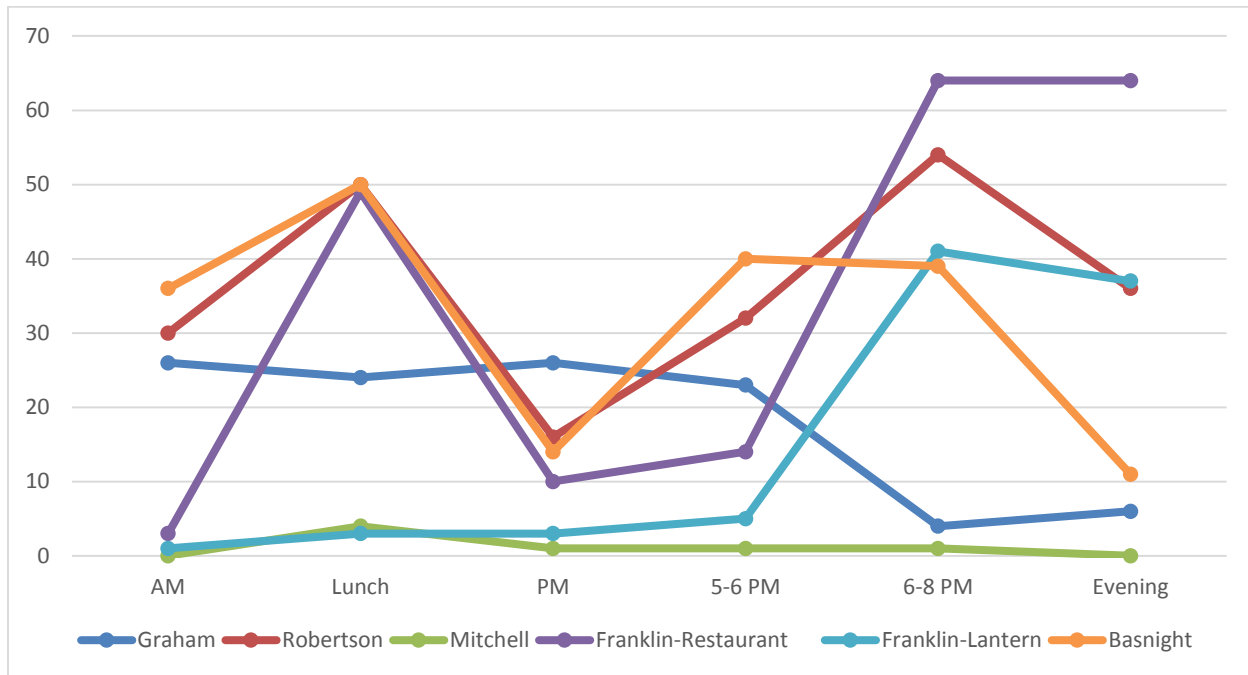
It is interesting to note that the six (6) Town of Chapel Hill public parking lots that are Nearest Carrboro were observed to support a total of 203 cars during the evening 6-8 PM period, slightly more than lunchtime (Figure 2). These lots are a mixture of hourly, visitor, employee and leased parking. These six (6) lot nearest Carrboro were observed to be 63% occupied during the evening period (6-8 PM), and closer to 35% occupied during the morning and afternoon.

Figure 2: Chapel Hill Parking Lots – Observed Cars by Time of Day



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Figure 3: Chapel Hill Parking Lots Nearest Carrboro - Observed Cars by Time of Day



Parking Occupancy by Lot

The **Graham St lot** (#6 from Figure 1) is nearest to Carrboro, near the intersection of W Franklin Street and Graham Street, behind Franklin St Automotive. This 26 space lot is reserved for employees of 3 Birds Marketing during the day, with fewer than 3 empty spaces observed until 6 PM. After 6 PM this lot becomes public parking for \$1.50 per hour until 8 PM, and only six (6) vehicles were observed parking here after 8 PM (Figure 3). It is apparent that its proximity to Carrboro does not affect the occupancy of this lot.

The **Mitchel Ln lot** (#8) is adjacent to a small playground at the rear of the Hargraves Community Center. The main parking lots for the community center are on Roberson St, one block to the west. Four (4) cars were observed during the lunch period parked in this 20 space lot. This lot was found to be virtually empty throughout the day.

The final four parking lots nearest Carrboro are clustered along W Franklin Street, near several restaurants.

Both the **Franklin-Restaurant lot** (#9) and **Franklin-Lantern lot** (#10) are located in a restaurant-heavy portion of Chapel Hill, and are highly visible. These are both hourly parking lots between 8 AM and 8 PM, at a rate of \$1.50 per hour, with a four-hour maximum. The Franklin-Restaurant lot, adjacent to the Carolina Ale House restaurant, experienced a peak during lunchtime and after 6 PM, while the Franklin-Lantern lot did not peak until 6 PM. It is unclear whether their proximity to Carrboro has an effect on the occupancy of these lots, however they are both pay-to-park during the day and therefore unlikely that Carrboro patrons are parking and walking.

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The **Robertson St lot** (#7) is located at 115 S Roberson Street, and one block east of the Graham St lot. The Robertson lot has the largest number of parking spaces (87) among these nearest-Carrboro lots. Occupancy counts identified a lunchtime and 6 PM peak, similar to others nearby. This lot includes a limited number of reserved parking spaces. A maximum of 54 vehicles were observed during the 6-8 PM peak (61% full). This lot is open to the public, however the data suggests that it is not clearly visible and drivers may be unaware of it.

The **Basnight Ln lot** (#11) is located behind the Carolina Ale House along W Franklin Street. There is no public parking within this lot, all 106 spaces are leased to individuals for monthly or semester terms. Parking occupancy shows a similar peak during lunch and evening (5-8 PM), suggesting that the permit holders are parking elsewhere during the afternoon and overnight. This lot is not affected by its proximity to Carrboro.

Summary and Applicability to Carrboro

There is little data to support the notion that these Chapel Hill parking lots are influenced by their proximity to the Town of Carrboro. It is likely that no one is choosing to park here and walk the quarter- to half-mile westward into Carrboro based on the parking occupancy counts.

Four (4) of these six (6) Chapel Hill parking lots show a pattern of lunchtime and dinnertime peak parking. These four (4) lots are all located along W Franklin Street adjacent to several restaurants. Two lots along W Franklin Street are pay-by-hour lots, which reinforces this pattern by encouraging turn-over. The Robertson lot is free public parking, however it appears to be under-utilized and perhaps unknown to drivers because this lot peaked at 61% occupancy, which is not considered high. The remaining lot is a private leased parking lot and therefore not influenced by hourly parking rates or Town of Carrboro events.

The remaining two (2) lots are actually located closest to the Town of Carrboro (#6 and #8 from Figure 1), however they both appear to be uninfluenced by their location. The Graham Street lot is reserved for employee parking during the day, and very few cars (6) were found parking here after 6 PM. The Mitchel Lane lot is a small parking lot for an adjacent park and a total of four (4) vehicles were observed parking here.

Attachments

Town of Chapel Hill Parking Usage by Time of Day

Town of Chapel Hill Parking Usage by Time of Week