



PRELIMINARY ECONOMIC ANALYSIS OF E. ROSEMARY STREET GARAGE

March 12, 2020

The Town of Chapel Hill is considering a parking development project that involves the exchange and purchase of land and the construction of a large parking garage that will be rented on an hourly and monthly basis. This memo provides preliminary answers to the following questions:

1. What is the likely demand for the garage, expressed in occupied parking spaces, at the anticipated hourly and monthly parking rates?
2. At the planned rates and expected levels of demand, will the income from the property cover the expected debt service?

Much of this analysis is based on data from the 12/28/18 "Town of Chapel Hill Parking Study" (the "Walker Report") or provided by the Town of Chapel Hill (the "Town").

Sources of Demand

Downtown Chapel Hill is a mixed-use urban center where people live, work, learn, shop and dine. People can park once and carry out several activities, but many trips downtown are for a single purpose. The different types of demand for parking include:

1. Store and restaurant customers. There are over 70 restaurants and bars in central Chapel Hill, with much of their business coming between 12 and 1:30 p.m. and after 6 p.m. The block of Franklin St. between Henderson and Columbia St. is the historic heart of the "village" and has a mix of clothing stores, bars and restaurants. This area is anchored by two drugstores, four banks, the post office, and McCorkle Place, the "front door" of the university.
2. Business owners, employees and customers. Besides customers, business owners and employees are an appreciable source of demand. As new office developments nearby fill up, employees in those buildings will need parking as well.
3. University visitors. Although the university has its own parking garages, a number of visitors park on the street or in Town-owned lots and then walk to the campus.
4. Students and downtown residents. Some downtown residents lease monthly spaces in Town-managed lots. The Town also rents parking by the semester, indicating that students pay to park long-term.

5. Special event parking. This includes things like basketball and football games, but it is probably a relatively minor source of income.

Current Conditions

According to the Walker Report, there were 4843 spaces downtown in 2018. Only about 200 spaces, or five percent of the total, are on the street, metered and available for general use. That is an average of about one metered on-street space for every every 80 feet of curb, a low density of on-street parking.

About 60 percent of downtown parking (about 2920 spaces) is in surface lots, many of which are small, privately-managed, and not available for general use public use. Slightly more than one third of the downtown parking inventory (36%) is in public and private garages and available for public use. The Town manages a total of 754 spaces in the 140 West garage, the Wallace deck and the Rosemary deck. The rates and hours for Town-managed parking downtown are as follows:

	On-Street Metered	Off-Street Lots	Off-Street Garages
Hourly Rate	\$1.75	\$1.50	\$1.00
Hours of Operation	8-6 M-Sat	8-8 M-Sat	8-8 M-Sat
Length of Stay	3 hours	10 hours	12 hours
Monthly Rate	N.A.	\$115	\$115

Sub-Area Conditions

According to the Walker Report, there are about 1200 spaces in the eastern sub-area of downtown that includes E. Rosemary St. and E. Franklin St. The Town controls almost all of these spaces. According to the Walker Report, the overall parking occupancy rate for this area was about 83% in 2018, compared to 70% for the downtown as a whole.

The anticipated transaction would involve replacing the Wallace deck, the Rosemary decks, part of the Rosemary/ Columbia lot, and the Fine Lot or other adjacent properties with a single, 1100-space garage. Here is the current number of occupied spaces in the affected portions of these properties.

Lot/ Location	Occupied Monthly	Occupied Hourly ¹	Vacant	Total
Wallace Deck	65	146	98	309
Rosemary Deck	68	167	50	285
Rosemary/ Columbia Lot	0	27	0	27
Fine Lot ²	80	0	0	80
Total	213	340	148	701

1 This data was provided by the Town. The figures for occupied spaces are for the equivalent of one space rented for the entire billable period of the day.
 2 The Fine Lot is not available for hourly parking.

Elasticity of Demand

One law of supply and demand is that people buy less of something when the price goes up. The question is how much, and "elasticity" measures this. Demand is relatively elastic and very responsive to changes in price for things like foreign travel, which is relatively expensive, not essential, and easily replaced with other recreation. Demand is relatively fixed and inelastic for things like running water, which is almost essential, relatively inexpensive, and for which there are few substitutes.

For calculating the market response to changes in parking rates in downtown Chapel Hill, the Walker Report recommends using elasticity figures of -.16 to -.20. These figures are from the Victoria Transportation Policy Institute, an international authority on transportation research.³ These figures mean that for every one percent increase in parking rates, hourly occupancies would fall by .16 to .20 percent. For the proposed increase of \$.50 per hour, these figures imply that demand, as measured by the number of fully occupied hourly spaces, would fall from the current level of 340 spaces to a lower level of about 310 spaces⁴. For monthly parking, the impact on occupancies of the proposed \$10 rate increase would probably be very small, on the order of one to two percent, a reduction of fewer than four spaces⁵.

New or Additional Sources of Demand

Because there is so little new retail development in the eastern sub-area of downtown, demand for hourly parking is not likely to significantly increase over the next five years. Increased demand for hourly parking from visitors to the Grubb Properties will probably be met by new parking beneath the new Grubb Properties' building.

For monthly parking, there will likely be an increase in demand, particularly from office tenants in the new building and the newly-leased UNC Innovation Center. Those two buildings would likely generate demand for about 760 monthly spaces over and above what Grubb Properties will provide onsite⁶. UNC would also like to lease 100 spaces for its admissions office, and there is a waiting list for at least 100 monthly spaces, of which a substantial share could be converted to actual leases.

3 Nationally, there has been relatively little research on the elasticity of parking under different conditions, and most municipal parking studies have looked at "demand" irrespective of pricing. At this point in the transaction, the VTPI reasonable figures are a reasonable starting point for calculating the response to a rate increase, but as noted in the conclusions to this memo, the elasticity estimates should be refined in future due diligence investigations.

4 The proposed hourly rate increase would be 50% increase on the existing base (\$.50 per hour on a base of \$1.00 per hour). Multiplying this by an elasticity ratio of -.16 to -.20 yields an 8-10% drop in demand for hourly parking, or about 27 to 34 spaces on a base of 340. The mid-point of the reduction is 30 spaces, reducing demand to 310 hourly spaces.

5 A \$10 per month increase on the existing base of \$115 per month is about 9%. Multiplying that percentage by the elasticity range of -.16 to -.20 yields a drop in monthly occupancies of 1.4-1.8%. On an existing base of about 200 monthly contracts, that is a drop of fewer than four spaces.

6 This assumes 300,000 square feet of office space in the new building and the UNC Innovation Center, occupancy rates of one employee per 250 square feet of office space, single car commuting rates of 80 percent per employee, and an offset of 200 parking spaces provided beneath the new building.

The following table shows that after the rate increase and with new development, there would probably be total demand for 1,150 spaces of monthly parking:

Current demand for monthly spaces	~210 spaces
Increases in monthly demand	
Net office demand	760
UNC master leasing	100
<u>Waiting lists⁷</u>	<u>80</u>
Total	940 spaces
 New monthly demand:	 1,150 spaces

Financial Coverage

The following table shows the cash flow per space for hourly and monthly spaces on a per space basis:

	<u>Per hourly space</u>	<u>Per monthly space</u>
Revenues	\$5,616 ⁸	\$1500 ⁹
Operating and capital expenses ¹⁰	(625)	(625)
<u>Debt Service¹¹</u>	<u>(1,715)</u>	<u>(1,715)</u>
Cash Flow	\$3,276	(\$1,240)

These calculations shows that the cash flow from each hourly space would support the losses on 2.6 monthly spaces.

7 After 20% allowance for names that are out-of-date.

8 312 days, 12 hours per day, \$1.50 per hour. Normally it is recommended that there be a buffer of about 10% for circulation losses and to avoid frustration that might prevent parkers from trying to park in the garage, but in this case the monthly parking could be oversold to provide this buffer.

9 12 months at \$125 per month.

10 Based on figures from the Walker Report. This includes \$100 for labor, \$300 for other operating expense, and \$250 for capital replacement. The latter is about a 1% replacement rate.

11 Estimate provided by Town.

If there is demand for 310 hourly spaces in an 1100-space garage, this leaves 790 spaces for monthly. That number of monthly spaces would be considerably below demand if the accompanying office buildings are constructed and leased up¹². The following table shows the annual cash flows for this mix of hourly and monthly spaces:

<u>Revenues</u>	<u>No.</u>	<u>Unit</u>	<u>Total</u>
Hourly parking	310	\$5,616	\$1,740,960
Monthly parking	790	1,500	1,185,000
Total/ Average	1100	2,660	2,925,960
<u>Operating Expenses</u>	<u>1100</u>	<u>625</u>	<u>687,500</u>
Net Operating Income	1100	2,035	2,238,460
<u>Debt Service</u>	<u>1100</u>	<u>1,715</u>	<u>1,886,500</u>
Cash Flow	1100	\$320	\$351,960
Coverage ratio (NOI/debt service)			1.19

Conclusions

This preliminary analysis indicates that this project could have relatively healthy debt service coverage. Debt service could also be increased by reducing bond amortization in the early years of the project.

There are a number of benefits to this project and the Town should pursue this transaction, subject to additional due diligence investigations. As the Town enters into more definite agreements, those investigations should include the following tasks:

1. Confirm or modify the figures for current hourly demand.¹³
2. Calculate a more local estimate of elasticity for this particular facility. This figure should reflect the type of facility, location, hours of operation, sources of demand, and substitutes.¹⁴
3. Quantify the impact of better pedestrian links and way-finding between E. Franklin St. and the new garage. This could boost demand for hourly parking.
4. Quantify how overselling the monthly parking spaces for hourly parking could increase revenues.
5. Confirm or modify the figures for operating expense and capital costs.

12 The office lease-up is a risk. That risk could be mitigated by having the developer master-lease the monthly parking for some period of time.

13 Because of the way the parking system is currently managed, and the resulting information systems, there is some uncertainty in the data on the mix of hourly and monthly occupied spaces and resulting revenues. These figures should be checked with additional analysis of the financial data and new field surveys carried out multiple times of the day on multiple days of the week, including Saturdays.

14 There is a wealth of data available in Seattle and San Francisco for the calculation of a more local elasticity figure in Chapel Hill. While those cities are much different from Chapel Hill, they have sub-areas from which useful inferences can be drawn about the elasticity at different times of the day and for different sources of demand.

6. Create a "sources and uses" pro forma that shows cash flows for the project from planning through construction, opening, lease-up and stabilized operation. This pro forma would be useful in testing different bond payment schedules.
7. Identify changes in the parking system necessary to synchronize the operation of this new garage with existing properties. That may include changes in rates, hours of operation, and length of stay either in the system as a whole or in individual lots.