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DEPARTMENT OF URBAN STUDIES

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Usage Study of McGrath Parking Lot Worcester, Massachusetts January – April, 2013

Final Report
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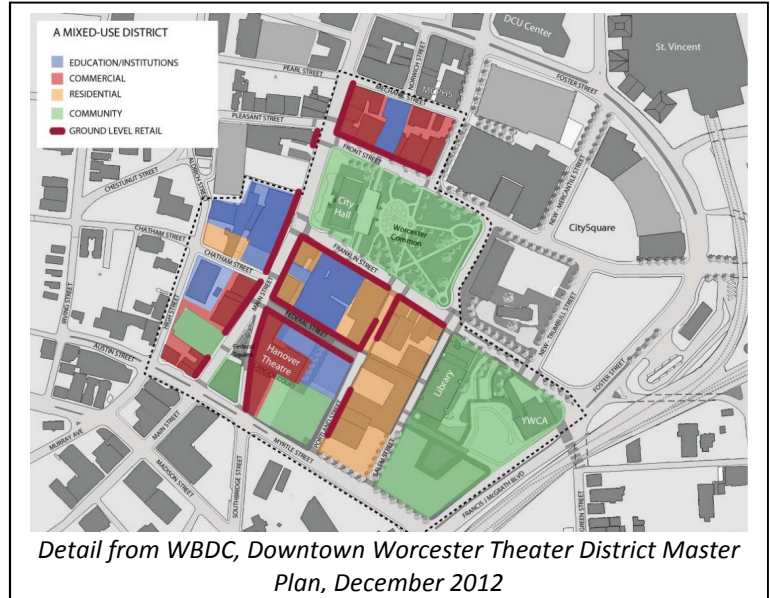
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Executive Summary

This study was undertaken following a suggestion by the Worcester Business Development Corporation (WBDC). Working with the City of Worcester, the WBDC created a draft redevelopment plan in late-2012, for 30 acres of downtown land. This parcel included the Francis J. McGrath Municipal Parking Lot, known locally as the “Library Lot” because of its proximity to Worcester Public Library. From the first public appearance of the plan, the disposition of this lot prompted spirited debate. For some, the lot lay mostly empty; for others, it is frequently full. The WBDC asked if Worcester State University would conduct a study assessing actual lot usage.



Faculty and students in the Department of Urban Studies at the university undertook this study primarily to inform the debate with accurate, reliable, and unbiased numbers. Accordingly, the research team gathered raw data by counting cars between January and April, 2013, and analyzed that data in May. Study times were determined based on the length of the workday (9-5) and the open hours of Worcester Public Library (WPL). The team collected data about where cars were parked, in which states cars were registered, and if cars displayed parking passes issued by the city parking authority.

The major findings of the study are:

- On average, the 281-space McGrath Parking Lot is never more than one-half full on weekdays and no more than one-third full on Saturdays.
- On average, vehicles bearing a municipally-issued parking tag account for between one-third and two-thirds of the total cars parked on weekdays but fewer than one-third on Saturdays.
- There were only negligible changes in the counts over time – January usage and April usage was by and large similar.
- Occasionally, special circumstances – major snowstorms, popular Hanover Theater matinées, and even the filming of a Hollywood movie downtown – affected the regular usage of the lot, but these moments were infrequent.

The findings are presented here without prejudice toward either side of the debate. Study investigators have received no compensation or funding from any party outside the university; students received academic credit under an internship; the faculty member received no additional compensation for undertaking this project; and the Vincent “Jake” Powers CityLab received no additional funds as a result of its completion. Importantly, while the WBDC first suggested the study, it left the research team to conduct its work with no intervention whatsoever.

Parking Lot Background

The Francis J. McGrath Municipal Parking Lot in Worcester, MA, is a 281-space municipally-owned surface parking area. Bounded by Myrtle Street, Salem Street, and McGrath Blvd., the lot is also adjacent to Worcester Public Library. Fees for parking are \$0.70 per hour, payable through a meter system though not all the meters display the same parking schedule.

That the Worcester Public Library and the McGrath Parking Lot are linked in people's minds owes more to proximity and convenience than to history because the two were not created together. In the mid-20th century, the increasing prevalence of cars made getting in and around Worcester's then-bustling downtown extremely difficult. In 1950, the city's population was 203,486, more than 20,000 greater than today. That year, the City Council favorably entertained a plan for a municipal parking authority that could "establish off-street parking lots with meters, to handle short-term parkers." By the end of the 1950s, an Off-Street Parking Board in the city government had begun to carve out downtown lots for surface parking. Not the first in the city, the parking lot at Salem Square was opened in 1959 on land once occupied by residences and places of business, some of which became designated as "blighted" under the urban renewal definitions of the day.

Early in 1965, the President of the Library Board of Directors noted in a letter to the City Manager that the last year was an "exciting year for all of us with the formal opening of our new central library building" at Salem Street. In 1963, Reverend Raymond J. Swords, wrote to the City Manager of the "the ground breaking and continued construction of the new library building" and planning for the building went back a couple more years still. However, there was no indication that plans to move the library to Salem Square go as far back as the surface parking developments a decade earlier. In other words, while they were certainly not executed together, there is also no indication that the two were conceived as inextricably linked projects.

By the early-1980s, as the city's population declined (it was 161,799 in 1980), and as commercial outfits relocated to suburban sites, there was a growing concern about a "parking surplus for downtown." One study ordered by the City Council and conducted by the City's Department of Traffic Engineering predicted "there will be a surplus of 1,350 parking spaces in the central business district during the day and a surplus of 3,800 spaces at night *after* the civic center [Centrum] and the Marriott Hotel are in operation." Interestingly, the report claimed, "drivers' unwillingness to walk any distance from their parking place to their destination is a prime contributing factor to the belief that there is a lack of parking."*



Detail from a 1953 map showing spaces the City hoped to acquire for surface parking lots. Labeled "AA," the McGrath Lot was originally called the Salem Street Municipal Lot and is coded "for immediate acquisition." Telegram, March 6, 1953.

* For all quotes on this page, see annual reports of the Public Library, 1958-1965; and *Telegram*, January 19, 1980.

Question One: How Is The McGrath Parking Lot Used?

Weekdays

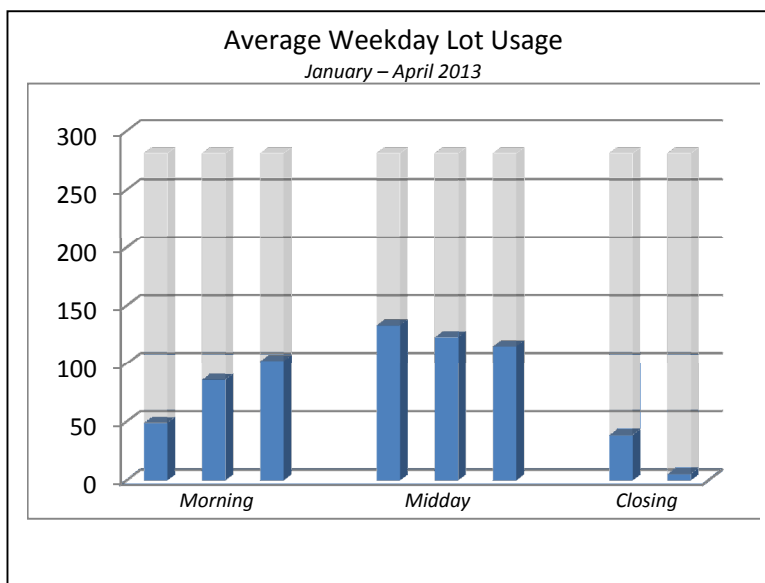
The research team determined a schedule by which it was able to survey the McGrath Parking Lot up to 8 times per day on weekdays (Monday – Friday). Morning counts were taken at 8:30, 9:00, and 9:30 am to coincide with the 9:00 library opening; the midday counts were taken at 11:45 am, 12:30 and 1:15 pm to coincide with lunch-time; and the closing counts were taken at either 5:15 and 5:45 (to coincide with a 5:30 library closing) or 8:45 and 9:15 pm (to coincide with a 9:00 closing).

The team made 72 separate counts of the parking lot on weekdays between January and April, 2013. The chart at the right shows the largest (max) and smallest (min) number of cars parked in each respective time block. These numbers are not necessarily typical because they constitute the extremes for each block; when combined they provide the range of total cars parked in the lot. At the point when the most cars were parked in this 281-space lot, it was only 58% full; at the point when the fewest cars were parked it was entirely empty.

Time of Day	Cars Parked—Weekdays				% of lot filled on Average
	Max	Min	Median	Average	
8:30 am	61	39	48	48.9	17%
9:00 am	94	74	86	85.8	31%
9:30 am	110	92	105	102.3	36%
11:45 am	163	110	129	133.1	47%
12:30 pm	148	106	119	122.9	44%
1:15 pm	136	94	112	115.0	41%
5:15/8:45 pm	54	22	41	38.6	14%
5:45/9:15 pm	11	0	6	5.6	2%

This report has opted to use the average number of cars parked in looking at lot usage largely because the research team found this to be the more accurate reflection of cars parked. Importantly, the median and average only differ by a few cars.

Observation: The lot of 281 spaces is less than half-full during weekdays on average though there are occasionally days when usage may slightly surpass the halfway mark.



Weekends

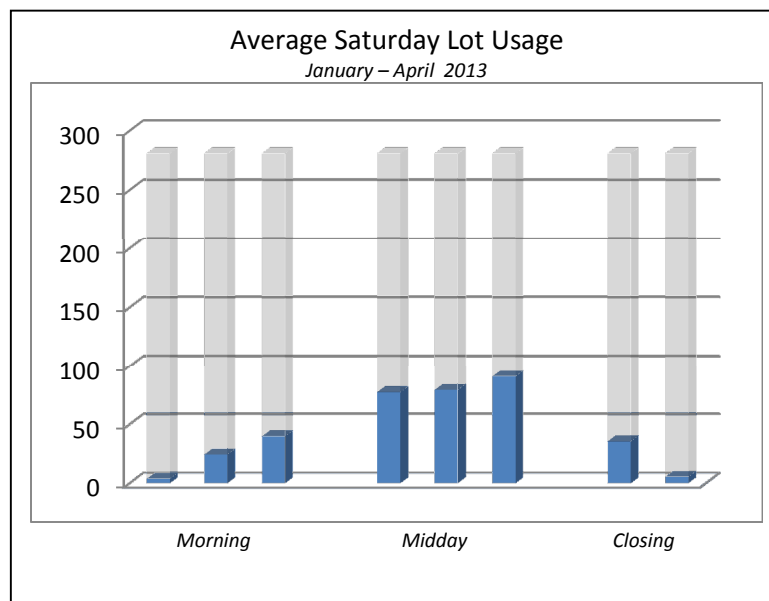
The research team focused weekend counts on Saturdays. Although the Worcester Public Library was open Sundays during the study period, this has not always been the case. (Indeed, as of this writing in June 2013, the library is closed on Sundays.) Moreover, even when WPL opens on Sundays, it does so for reduced hours. Accordingly, Saturday counts provided more observation times throughout the day.

The team made 38 separate counts of the parking lot on Saturdays between January and April, 2013. As with the weekday numbers, the highest (max) and lowest (min) represent the range of the number of cars parked over the length of the study.

Importantly, Saturday data was occasionally anomalous. For example, the max of 130 in the 1:15 pm time block reflects the count on February 2, 2013. Usage that day was considerably higher than on other Saturdays because of car and bus parking related to the matinee show of *American Idiot* at the Hanover Theater. (This information was acquired through brief interviews of people parking in the lot.) Such a high number for one count made a wider and atypical range that also skewed the median a little. The average remains the most accurate and consistent figure.

Time of Day	Cars Parked—Weekends				% of lot filled on Average
	Max	Min	Median	Average	
8:30 am	6	2	4	4	1%
9:00 am	33	16	25	24	9%
9:30 pm	46	20	44	40	14%
11:45 am	90	61	79.5	78	28%
12:30 pm	91	69	79	80	28%
1:15 pm	130	75	79.5	91	32%
5:15/8:45 pm	57	23	27	36	13%
5:45/9:15 pm	11	1	5	6	2%

Observation: At all times, fewer cars park on Saturdays than on weekdays either by average or by raw data, and parking lot usage never rises above 32%.



Question Two: How Many Cars Display Parking Tags?

The City of Worcester issues two types of monthly passes for the McGrath Municipal Parking lot. One is a general hangtag available to anyone in the city; the other is a hangtag issued to library volunteers.

In May 2013, the City leased out a total of 82 general hangtags for this lot. More than half (51% or 42 tags) were to municipal workers connected to City Hall while 41% (34 tags) were to municipal workers connected to Worcester Public Library. The remaining 7% (6 tags) were leased to people who did not work for the City.*

Use of these types of McGrath tags closely follows both the workday and work week. The number of cars bearing McGrath tags remains relatively consistent (mid- to upper-40s) from 9 am until the afternoon.

By 5:45, almost all

McGrath tags are gone. On weekends, use of these tags drops off sharply as well.

Observations:

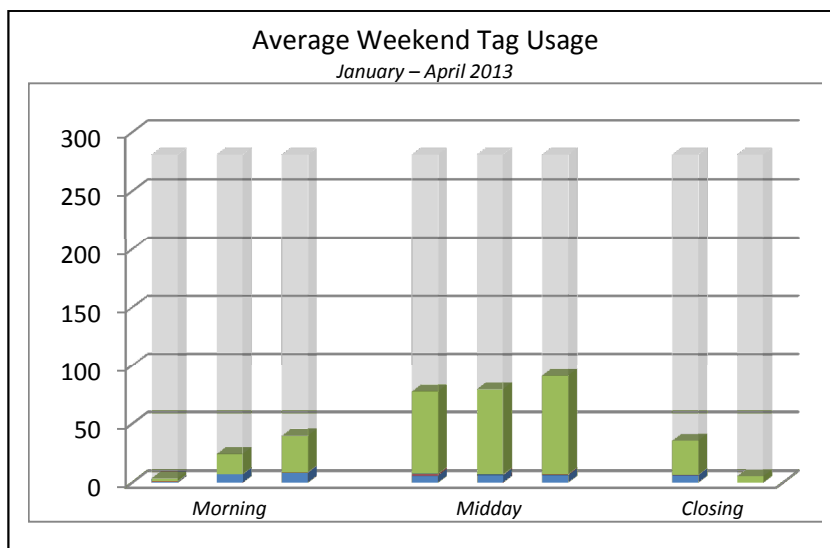
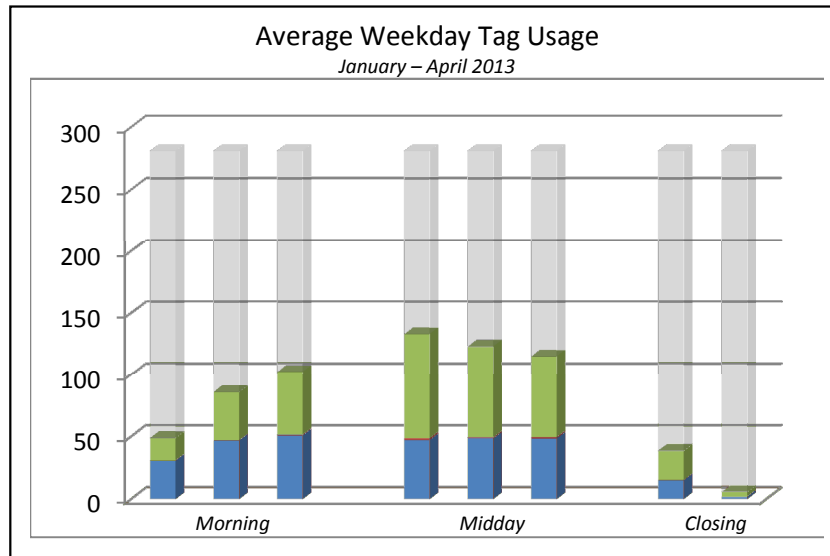
- On average for weekdays, between 37% and 59% of the cars parked display parking passes leased through the City of Worcester.
- Far fewer, 2% at the most, of the cars parked display Library Volunteer passes on weekdays.
- The number of McGrath tags displayed diminishes significantly on weekends, which correlates with the work week.

Time of Day	Averages for Weekdays (rounded off)						
	Cars Parked	McGrath Tags	% of parked	Lib. Vol.	% of parked	Visitors	% of parked
8:30 am	49	30.5	62%	0.3	1%	18.1	37%
9:00 am	86	46.6	54%	0.3	0%	38.9	45%
9:30 pm	102	50.7	50%	0.6	1%	51.0	50%
11:45 am	133	47.1	35%	1.5	1%	84.5	64%
12:30 pm	123	48.2	39%	1.0	1%	73.7	60%
1:15 pm	115	48.4	42%	1.1	1%	65.5	57%
5:15/8:45 pm	39	15.0	39%	0.0	0%	23.6	61%
5:45/9:15 pm	6	1.8	33%	0.0	0%	3.8	67%

Time of Day	Averages for Weekends (rounded off)						
	Cars Parked	McGrath Tags	% of parked	Lib. Vol.	% of parked	Visitors	% of parked
8:30 am	4	1	26%	0	0%	3	74%
9:00 am	24	7	29%	0	0%	17	71%
9:30 pm	40	8	21%	0	0%	31	78%
11:45 am	78	6	8%	1	2%	70	91%
12:30 pm	80	6	8%	1	1%	73	92%
1:15 pm	91	6	7%	1	1%	84	92%
5:15/8:45 pm	36	6	18%	0	0%	29	82%
5:45/9:15 pm	6	0	0%	0	0%	6	100%

* This data comes from the City of Worcester, Department of Public Works & Parks, Engineering Division.

The following charts show parking in the McGrath Municipal Lot divided by type of parking tags. Blue represents cars displaying regular McGrath tags; red represents Library Volunteers (difficult to see here as they are comparatively few); and green represents visitors to the lot (not necessarily the library) that did not display tags.



Question Three: To What Extent Are The Cars In The Midday (Lunch Hour) Period The Same Cars?

Without doubt, the highest daily usage for both weekdays and weekends is in the midday or lunch-time period.

Anecdotal evidence suggests that there is a considerable amount of turn-over during this time period as cars seem to come and go more frequently than at other times of the day. So, while the counts show a relatively consistent continued usage, they actually refer to a number of different cars.

Time of Day	Cars Parked					% of lot filled on average
	Max.	Min.	Median	Average		
Weekday						
11:45 am	153	119	124.5	129		46%
12:30 pm	138	106	118	119		42%
1:15 pm	156	94	104.5	114		41%
Saturday						
11:45 am	90	61	78	76		27%
12:30 pm	91	69	79	80		28%
1:15 pm	130	75	76	94		33%

Tracking this effectively was beyond the scope of this study, however. Consequently, the research team suggests further inquiry into the number of cars in and out of the lot during this time frame because while it may not have an impact on overall usage, it may affect development of policy and placement of parking in the future.

Question Four: Are There Any Special Circumstances Affecting Parking In The McGrath Lot?

The short answer to this question, according to the research team, is yes. Two such circumstances in particular emerged during the study period: 1) the impact of snow and 2) events in other downtown attractions, particularly matinees at the Hanover Theatre.

The Impact of Snow on the McGrath Lot

A serious snowstorm on February 8-9, 2013, dropped just under 30-inches of snow over a 24-hour period on the city. After a few counts in its aftermath, the research team found:

Feb 8-9, 2013	Cars parked	Overall Average	Max. weekday	Offline spaces
11:45 am	163	129	153	37
12:30 pm	148	119	138	37
1:15 pm	136	114	156	37
5:15 pm	89	36	54	37
5:45 pm	68	6	11	37

- increased usage of the lot over average usage and the greatest usage in the midday block of the entire study. (Indeed, 10 more cars parked in the lot than on the next highest day.)
- an increased number of offline (unusable) spaces as plowed snow was piled up in parts of the lot.

After a brief survey of the area, the team concluded increased usage in lot parking may have been a direct result of the lack of spaces on the street and in adjacent lots. Such a large amount of snow made it more difficult to have all spaces and street spots cleared. The research team, then, believes the lot increase is a result of overflow from other areas.

The impact of Other Area Events

The research team was able to observe the impact of a Hanover Theatre matinee on the McGrath Parking Lot on February 2, 2013. The show was Green Day's *American Idiot*.

Feb 2, 2013	Cars parked	Saturday Median
11:45 am	90	78
12:30 pm	91	79
1:15 pm	130	76

The team concluded by observation, interviews, and analysis that events at the Hanover have an impact on parking on the usage of the McGrath Municipal Lot, but that it was not overwhelmingly significant because:

- it is not altogether frequent, and
- it resulted in only filling the lot to 46% capacity.

Question Five: Was There A Difference In Lot Usage From January To April, 2013?

The research team concluded that there was only a slight change in parking patterns from the beginning of the study in January to the end in April, 2013. On average, there were more cars parking in the lot throughout the day, but in most cases that number was fewer than 10 additional cars.

When the parking tag information is factored into the mix for the same timeframe, however, it seems the increase in cars parked is not necessarily due to an increase in visitors to the lot. Rather, the increase in cars displaying the McGrath Municipal Lot hangtags coincides closely with the increase in cars parked, which suggests that the increase is due to more municipal workers using the lot.

Interestingly, the City did not issue more passes around the time of these later counts. In February, there were 85 customers leasing McGrath Tags: 43 City, 35 Library, and 4 civilians. In April, there were 81 and in May there were 82 paying customers. As noted earlier, of those 82 in May, 42 were City, 34 were Library, and 6 were not City employees.*

Time of Day	Cars Parked (Average)		Difference
	First 4 Days (January)	Last 4 Days (April)	
8:30 am	43	55	12
9:00 am	81	89	8
9:30 pm	101	107	6
11:45 am	131	127	-4
12:30 pm	114	120	6
1:15 pm	107	114	8
5:15/8:45 pm	35	43	9
5:45/9:15 pm	4	6	2

Time of Day	Cars with McGrath Tags (Average)		Difference
	First 4 Days (January)	Last 4 Days (April)	
8:30 am	26	39	13
9:00 am	41	49	8
9:30 pm	47	57	10
11:45 am	47	49	2
12:30 pm	46	52	6
1:15 pm	46	49	3
5:15/8:45 pm	11	19	8
5:45/9:15 pm	1	3	3

* This data comes from the City of Worcester, Department of Public Works & Parks, Engineering Division.

Public Parking Near the McGrath Municipal Lot

Library Lane

10 spaces total

- 7 metered spaces 30-minute limit, \$.20/hour, M-F, 8-6
- 1 15-minute, non-metered space
- 2 handicapped spaces

Salem Street

13 spaces total

- 13 metered spaces, 2-hour limit, \$1/hour, M-F, 8-6

WPL Staff Lot (on public land but not publicly usable)

16 spaces total

- 14 numbered
- 2 at the loading dock

Madison Place (Myrtle Street side only)

71 spaces total

- 64 non-metered spaces, 2-hour limit posted
- 7 handicapped

Worcester Common (Underground)

41 spaces total

- 21 visitor spaces, 30 minute limit
- 20 reserved spaces of which 4 are handicapped and 1 is "employee of the month"

Worcester Common (South Side)

21 total spaces

- 19 metered spaces, 2-hour limit, \$1/hour, M-Sa, 8-8
- 2 15-minute spaces
- 2 commercial loading zone areas
- 1 bus depot area

Worcester Common (East Side)

7-8 total spaces

- 7-8 non-metered spaces, 1 hour limit posted
- 1 Bus Depot area

Worcester Common (North Side)

16-17 spaces total

- 11 metered spaces, 30 minute limit, \$1/hour. M-F, 8-6
- 5-6 non-metered, non-marked spaces
- 2 commercial loading zones
- 1 bus depot area

Portland Street

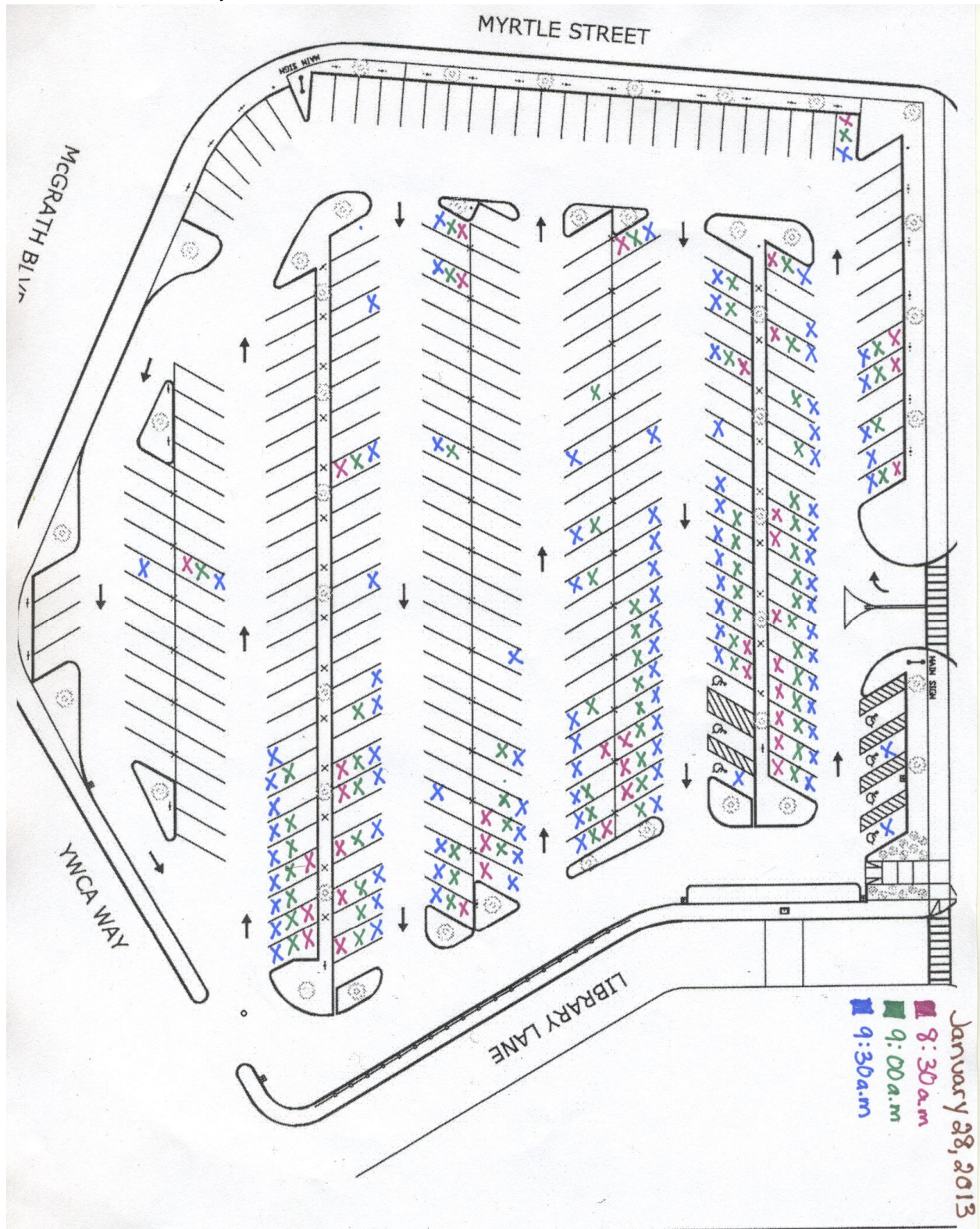
approximately 30 spaces total

- 26 metered spaces, 1 or 2 hour limit; \$0.20 or \$1/ hour, M-F, 8-6
- 10 (estimated) non-metered spaces, 15 minute limit posted
- 3 (estimated) non-metered spaces, 2 hour limit posted

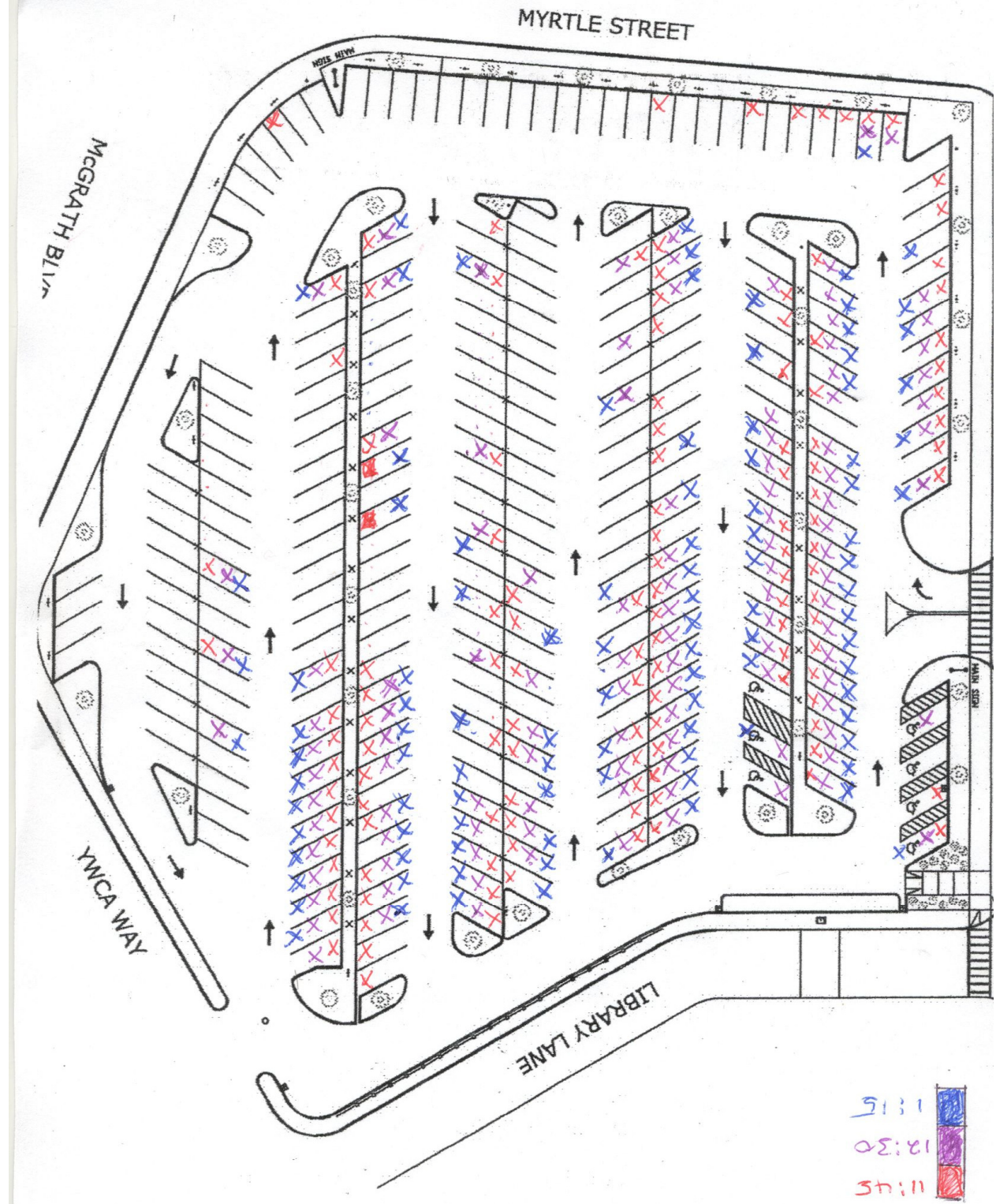
Appendices

The following pages contain 3 McGrath Parking lot survey forms used by the research team. One is for a representative morning block (8:30, 9:00, and 9:30), another is for a representative midday block (11:45, 12:30, and 1:30), and the final is for representative closing block (5:15 and 5:45). These show specifically where cars parked in the lot.

MORNING BLOCK, ACTUAL



MIDDAY BLOCK, ACTUAL



CLOSING BLOCK, ACTUAL

