

MEMORANDUM TO: Sean Dorsey
Village of Mount Prospect

FROM: Gregory J. Gedemer, PE, PTOE
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DATE: October 27, 2011

SUBJECT: Downtown Commuter Parking Study
Mount Prospect, Illinois

This memorandum summarizes the results and findings of a parking study conducted by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) regarding the operation of the commuter parking within downtown Mount Prospect. Currently the Village provides commuter parking via six locations, three daily fee parking lots, one handicapped parking lot, one permit parking lot and daily fee parking along the north side of Prospect Avenue east of Maple Street. The fee per day is currently \$1.50 and is collected via seven pay stations located within the three daily fee parking lots.

The purpose of this study was to assist the Village in the evaluation of their commuter parking operations and included the following tasks.

- Examining the existing physical and operating conditions of the parking facilities
- Evaluating the existing operations of the commuter parking facilities
- Researching the parking policies of other communities
- Developing preliminary recommendations to enhance operations

Existing Conditions

The existing physical and operating characteristics of the parking facilities were inventoried based on field visits, observations, extensive surveys and counts performed by KLOA, Inc. In addition, the Metra commuter train operations were documented based on the train schedule, field observations and discussions with Village officials. The following provides a description of the existing parking facilities, the data collection effort, and the Metra operations.

Commuter Parking Facilities

Currently the Village provides commuter parking via six locations, three daily fee parking lots, one handicapped parking lot, one permit parking lot and daily fee parking along the north side of Prospect Avenue east of Maple Street. The six parking facilities provide a total of 689 parking spaces and seven pay stations. **Figure 1** shows the location of each facility and the characteristics of the parking facilities are described below. (All of the figures and tables are located in the Appendix).

Lot 1 is a daily fee lot located in the southwest quadrant of the intersection of Main Street (IL 83) with Northwest Highway (U.S. Route 14) north of the railroad tracks. It provides 145 parking spaces that include four motorcycle parking spaces and one reserved parking space for railroad employees. The four motorcycle and one reserved parking spaces were not considered in this study. Lot 1 has one pay station located in the southeast corner of the lot.

Lot 2 is a reserved lot located south of Northwest Highway between Main Street and Emerson Street north of the railroad tracks. It provides a total of 13 parking spaces that includes nine handicapped parking spaces, two short-term (15 minute) parking spaces, and two reserved parking spaces for railroad employees.

Lot 3 is a daily fee lot located in the southeast quadrant of the intersection of Northwest Highway with Emerson Street north of the railroad tracks. It provides 146 parking spaces that include three handicapped parking spaces. Lot 3 has two pay stations with one located in the southwest corner of the lot and one located on the south side of the lot at the eastern end of the train platform.

Lot 4 is a daily fee lot located in the southeast quadrant of the intersection of Prospect Avenue with Maple Street south of the railroad tracks. It provides 283 parking spaces that are reserved for Village of Mount Prospect residents only. Lot 4 has four pay stations located in the northwest corner of the lot.

Lot 5 is a permit only lot located south of the tracks on the west side of Wille Street just north of Evergreen Avenue. It provides 39 parking spaces.

Prospect Avenue. A total of 63 daily fee parking spaces are provided on the north side of Prospect Avenue between Maple Street and William Street. No pay stations are provided along Prospect Avenue. Commuters typically use the pay stations in Lot 4.

Data Collection

KLOA, Inc. performed extensive counts and surveys at the existing parking facilities on Wednesday, September 21, 2011. The following summarizes the data collect as part of the study.

Parking Surveys. Occupancy surveys of all the parking facilities were performed every 20 minutes from 6:00 A.M. to 10:00 A.M. **Table 1** and **Figure 2** summarize the results of the parking surveys.

City Sticker Surveys. The city stickers of all the parked vehicles within the parking facilities were inventoried between 10:00 A.M. and 11:00 A.M. **Table 2** summarizes the results of the city sticker surveys.

Pay Station Usage Counts. Counts of the commuters using the pay stations were conducted from 5:00 A.M. to 9:00 A.M. or when the lots were full. In addition, any queuing occurring at the pay stations was noted. **Table 3** summarizes the results of the pay station counts.

Pay Station Transaction Time Surveys. Surveys of the time it takes commuters to complete their transaction at the pay stations were completed as part of the usage counts. **Table 4** summarizes the results of the transaction time surveys.

Commuter Surveys. Commuter surveys were conducted at the pay stations to gauge the commuters' position regarding permit parking and determine how often per week they commute. The surveys were administered from 6:00 A.M. to 9:00 A.M. **Table 5** summarizes the results of the commuter surveys.

Metra Train Operations

Metra currently operates along three tracks with the Mount Prospect train station providing two platforms that generally extend between Main Street and Maple Street. Inbound trains load on the north platform, express trains load on the north side of the south platform and outbound trains load on the south side of the south platform. Full at-grade railroad crossings are located at Main Street and Emerson Street which provides access to both platforms. In addition, a pedestrian at-grade railroad crossing is provided at Maple Street that provides access to the south platform (express and outbound trains).

During the morning commuter peak period (5:00 A.M. to 9:00 A.M.) eleven inbound trains serve the Mount Prospect train station, five of which are express trains. Over 50 percent of the inbound trains during the morning peak period occur within an approximate one hour period (6:44 A.M. to 7:50 A.M.) with six total trains serving the station, four of which are express trains. In addition, four outbound trains serve the Mount Prospect train station during the morning peak period.

Analyses of Existing Operations

Based on the data and information collected and the results of the counts and surveys, the following summarizes the operation of the commuter parking facilities.

Parking Inventory

A total of 682 commuter parking spaces are provided within downtown Mount Prospect not including the four motorcycle spaces and three reserved parking spaces. The following provides a breakdown of the parking spaces.

- Of the total parking spaces, 631 are daily fee parking spaces, 39 are permit parking spaces and 12 are handicapped parking spaces.
- Of the total daily fee parking spaces, 568 are provided in Lots 1 through 4 and 63 are provided along Prospect Avenue.

Parking Occupancy Surveys

The peak parking demand of all of the facilities occurred at 10:00 A.M. with a total occupancy of 593 vehicles (87 percent occupancy). Approximately 92 parking spaces were unoccupied. The following provides a breakdown of the parking occupancy of the facilities.

- Lot 1 and Lot 3 were generally full by 7:20 A.M. with a total of 140 and 144 vehicles respectively.
- Lot 4 had a peak parking demand of 238 vehicles (84 percent occupancy) which occurred at 10:00 A.M. Approximately 45 parking spaces were unoccupied.
- The Prospect Avenue on-street parking spaces were all occupied by 8:20 A.M. with a total of 56 vehicles with seven parking spaces being unavailable when the surveys were conducted.
- Lot 5 had a peak parking demand of 14 parking spaces which occurred at 10:00 A.M. Approximately 25 parking spaces were unoccupied.
- Lot 2 had a peak parking demand of five vehicles which occurred at 6:40 A.M.
- All daily fee parking spaces for non-Mount Prospect residents (Lot 1, Lot 3 and Prospect Avenue) were occupied by 8:20 A.M.

Vehicle Sticker Surveys

As expected the majority of the vehicles parked in the facilities (85 percent) displayed a Mount Prospect vehicle sticker or a vehicle sticker from the four communities bordering Mount Prospect. The following provides a breakdown of the vehicle sticker surveys

- Sixty-three percent of the vehicles parked in the facilities displayed a Mount Prospect vehicle sticker.
- Twenty-two percent of the vehicles parked in the facilities displayed a vehicle sticker from Arlington Heights, Des Plaines and Prospect Heights.
- Ten percent of the vehicles had no sticker displayed.
- The majority of vehicles parked in Lot 1, Lot 3, and along Prospect Avenue (62 percent) displayed vehicle stickers from other communities.
- The Mount Prospect resident only restriction for Lot 4 was generally followed as only six vehicles parked in this lot did not have a Mount Prospect vehicle sticker.

Pay Station Operations

The pay station usage was broken down in 15 minute periods. It should be noted that the counts in Lot 1 and Lot 3 ended by 7:30 A.M. and 7:15 A.M., respectively, as these lots were generally full. The following summarizes the results of the operations of the pay stations.

- Lot 1 has a ratio of approximately 140 parking spaces per pay station, Lot 3 has a ratio of approximately 73 parking spaces per pay station and Lot 4 has a ratio of approximately 86 parking spaces per pay station assuming the spaces in the lot and along Prospect Avenue.
- The mean transaction time at the pay stations ranged from 25 to 28 seconds.
- Lot 1 had the greatest peak 15-minute demand of 30 commuters per pay station. This was expected as the lot has only one pay station and has the greatest ratio of parking spaces per pay station.
- Lot 3 had a peak 15-minute demand of 24 commuters per pay station and Lot 4 had a peak 15-minute demand of approximately 14 commuters per pay station.
- Lot 1 had a queue of three people or more on nine separate occasions. On seven of the nine occasions the pay station had a queue of three or four people with a maximum observed queue of eight people. Based on the mean transaction time for this lot (28 seconds), the average wait time at the pay station when a queue formed was one to two minutes on average, with a maximum wait time of three to four minutes.
- Lot 3 had a queue of three people or more on five separate occasions. On four of the five occasions the pay stations had a queue of three to five people and a maximum observed queue of seven people. Based on the mean transaction time for this lot (28 seconds), the average wait time at the pay stations when a queue formed was one to two minutes on average, with a maximum wait time of approximately three minutes.
- Lot 4 generally only had a queue approximately five minutes before the arrival of the express trains with the queue lasting for a few minutes. The maximum queue observed was eight to ten people. However, with four pay stations available at this lot, the queue typically dissipated quickly.

Commuter Parking Survey

A survey of 179 commuters asked the following three questions.

- How many days a week do you use this station to commute to your destination?
- If available, would you purchase a monthly/yearly permit instead of using the pay stations?
- If available, would you prefer permit parking in all of the lots?

The results of the surveys showed that over 83 percent of the respondents ride the train five days a week. In addition, 91 percent of the respondents indicated they would purchase a permit if it were available. Lastly, 91 percent of the respondents would like to see permit parking in all of the facilities.

Parking Policies of Other Communities

KLOA, Inc. obtained information regarding the parking policies of other communities within the general area. The communities that were examined include Arlington Heights, Des Plaines, Palatine and Schaumburg. **Table 6** and the following summarize the information that was collected.

- Mount Prospect's daily parking fee (\$1.50 per day) is the same as all of the communities except Schaumburg (\$1.25 per day).
- All of the surveyed communities offer some form of permit parking.
- The permit parking fee is typically pro-rated over the month and ranges between \$21 and \$40 per month.
- The permit parking is generally provided in specific lots.
- Most communities use rear view mirror hangers to display the permits and change them monthly.

Evaluation and Recommendations

Overall the commuter parking within downtown Mount Prospect is operating well as outlined below.

- The commuter parking facilities had a peak parking demand of 87 percent. Approximately 90 parking spaces are unoccupied and are generally located in Lots 4 and 5. However, daily fee parking for non-residents (Lot 1, Lot 3 and Prospect Avenue) is generally full.
- The peak period of facility use occurred between 6:30 A.M. and 7:45 A.M. when six inbound trains stop at the station during this time period.
- Some queuing occurs at the pay stations during peak use, especially in Lot 1 which only has one pay station. However, the queuing generally was not excessive and the queue dissipated quickly.
- With only one pay station, Lot 1 has the greatest ratio of parking spaces to pay station and as a result experiences the greatest peak demand per pay station and queuing.

- The majority of the commuters are obeying the parking regulations with Mount Prospect residents only parking in Lot 4.
- The commuter surveys has shown an overwhelmingly desire for permit parking.

While the commuter parking is generally operating well, the following preliminary recommendations were developed to enhance operations.

Provide a Second Pay Station in Lot 1

The Village should consider providing a second pay station in Lot 1. With only one pay station, Lot 1 has the greatest ratio of parking spaces to pay station (140) and as a result experiences the greatest peak demand per pay station and queuing at the pay station. A second pay station in Lot 1 will provide it with a similar ratio of parking spaces per pay station to that in Lot 3 and Lot 4. Further, providing two pay stations provides the lot with a second pay station in case one has any operational problems.

Provide Alternative Payment Options

In order to reduce the demand at the pay stations and to provide additional convenience for the commuter, it is recommended that the Village examine alternative payment options including the following.

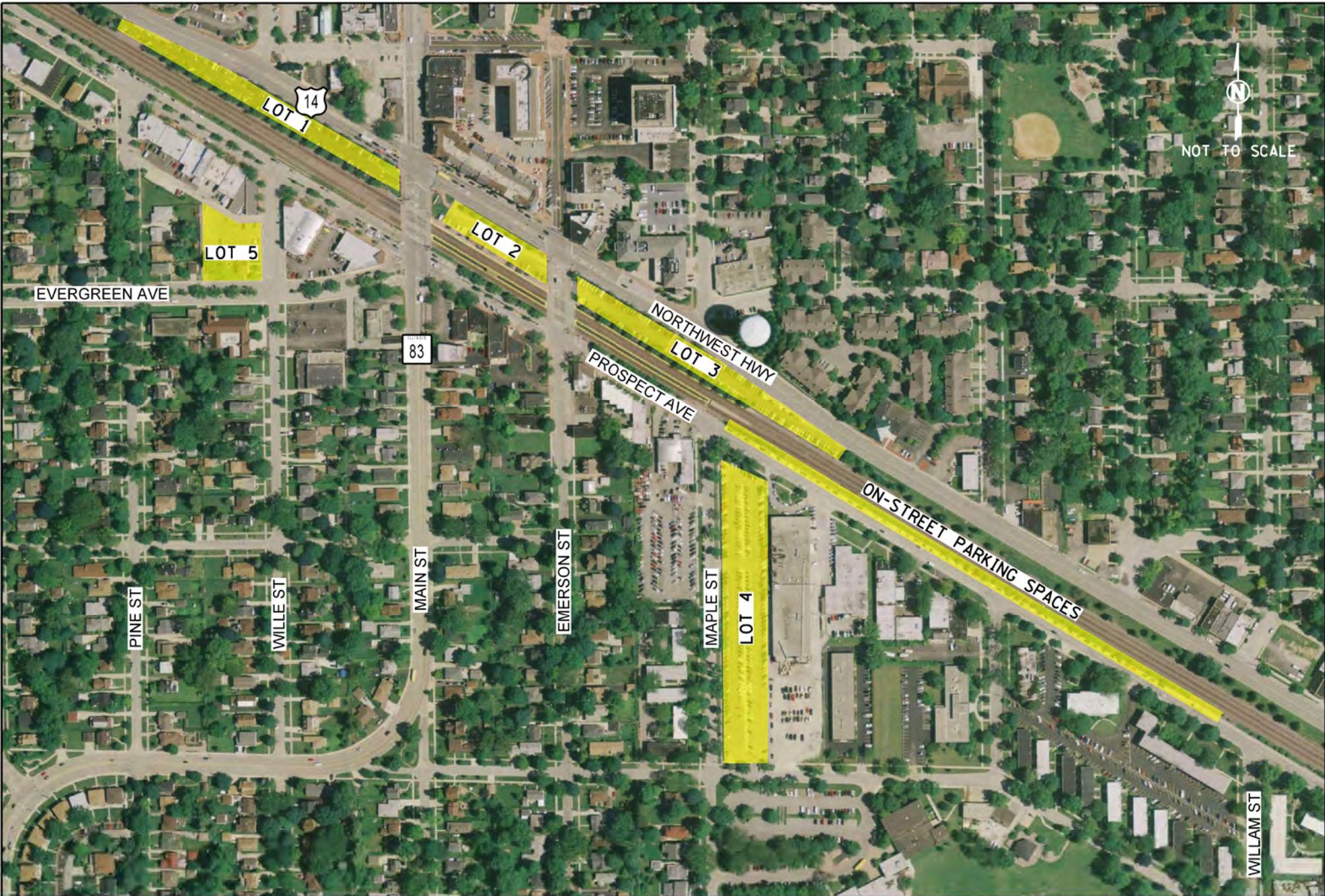
Permit Parking. The results of the commuter parking surveys have shown an overwhelming desire for commuter parking. Further, over 80 percent of the respondents commute to work five days a week. Lastly, most of the surrounding communities provide some form of permit parking. While the Village does provide limited permit parking in Lot 5, it is not actively marketed and the location of the parking is the least desirable for commuters. As such, the Village should consider expanding its existing permit parking program and allowing permit parking in one or more facilities that are located closer to the train station. The permit parking will appeal to commuters who commute regularly and do not want the hassle of paying a daily fee. Some of the logistics of implementing permit parking are outlined below.

- *Location of Permit Parking Spaces.* If permit parking is expanded, it should be provided in facilities located closer to the train station than Lot 5. A majority of the commuters that were surveyed indicated that it should be provided in all of the facilities. Lastly, the communities examined as part of the study have their permit parking located in specific facilities.
- *Permit Parking Fee.* The four communities examined as part of the study generally provide a permit parking fee that is pro-rated over the month. Both Arlington Heights and Des Plaines, which have the same daily fee as Mount Prospect, charge \$30 a month for permit parking. Some communities provide a discount over the daily fee and/or if the permits are purchased quarterly as opposed to monthly.

- *Type of Permit.* Three of the four communities that were investigated as part of the study use rear view mirror hangers to display the permits.

Pay by Phone/Smart Phone Applications. A number of communities in the Chicago area (Barrington, Crystal Lake, Downers Grove, Elmhurst, Forest Park, Hinsdale, Oak Lawn, and Orland Park) are using a service provided by Parkmobile that allows commuters to pay their daily fee by calling an 800 number or via a smart phone application. Once they have registered, commuters only have to call the 800 number or log in through their smart phone and provide/enter a designated number for Mount Prospect and the number of their parking space. Parkmobile currently charges a fee of \$0.37 per transaction and all fees are charged to the commuter's credit card. Since the transaction fees are passed along to the commuter, the service requires limited, if any costs to the participating community. In fact, some communities have added a surcharge to the transaction fee. This type of service will appeal to the high tech commuter and those commuters that are running late to catch their train.

Appendix



PROJECT:
 MOUNT PROSPECT DOWNTOWN
 COMMUTER PARKING STUDY
 MOUNT PROSPECT, ILLINOIS

TITLE:
 EXISTING METRA COMMUTER PARKING LOT LOCATIONS

PROJECT NO: II-124

 FIGURE NO: I

Table 1
MOUNT PROSPECT DOWNTOWN COMMUTER PARKING STUDY
PARKING INVENTORY AND OCCUPANCY SURVEYS
WEDNESDAY, SEPTEMBER 21, 2011

Time	Lot 1	Lot 2	Lot 3	Lot 4	Prospect	Lot 5	Total
Inventory	140	13	146	283	63	39	684
6:00 A.M.	42	1	52	8	2	0	105
6:20 A.M.	58	1	67	12	5	0	143
6:40 A.M.	95	5	115	24	9	0	248
7:00 A.M.	131	2	143	45	15	0	336
7:20 A.M.	140	2	144	113	29	2	430
7:40 A.M.	140	2	144	134	40	6	466
8:00 A.M.	140	2	144	166	47	6	505
8:20 A.M.	140	3	144	223	56	7	573
8:40 A.M.	140	2	144	235	56	8	585
9:00 A.M.	140	2	144	236	56	10	588
9:20 A.M.	140	2	144	236	56	11	589
9:40 A.M.	140	2	144	237	56	12	591
10:00 A.M.	140	1	144	238	56	14	593
Maximum							
Occupancy	140	5	144	238	56	14	593
Percentage	100%	38%	99%	84%	89%	36%	87%

Lot 1 is located north of the railroad tracks and west of Main Street. The four motorcycle spaces and one reserved parking space were not included in the inventory and occupancy surveys.

Lot 2 is located north of the railroad tracks between Main Street and Emerson Street. This lot has nine handicapped spaces, two short-term parking spaces (15 minutes) and two reserve spaces.

Lot 3 is located north of the railroad tracks east of Emerson Street. This lot has three handicapped spaces.

Lot 4 is located east of Emerson Street between Prospect Avenue and Lincoln Street. This lot is reserved for Mount Prospect residents.

Lot 5 is located west of Pine Street just north of Evergreen Avenue.

Prospect Avenue includes the spaces located on the north side of the road between Emerson Street and Williams Street. Seven parking spaces were not available when the surveys were performed.

Mount Prospect Downtown Commuter Parking Study Parking Occupancy Surveys

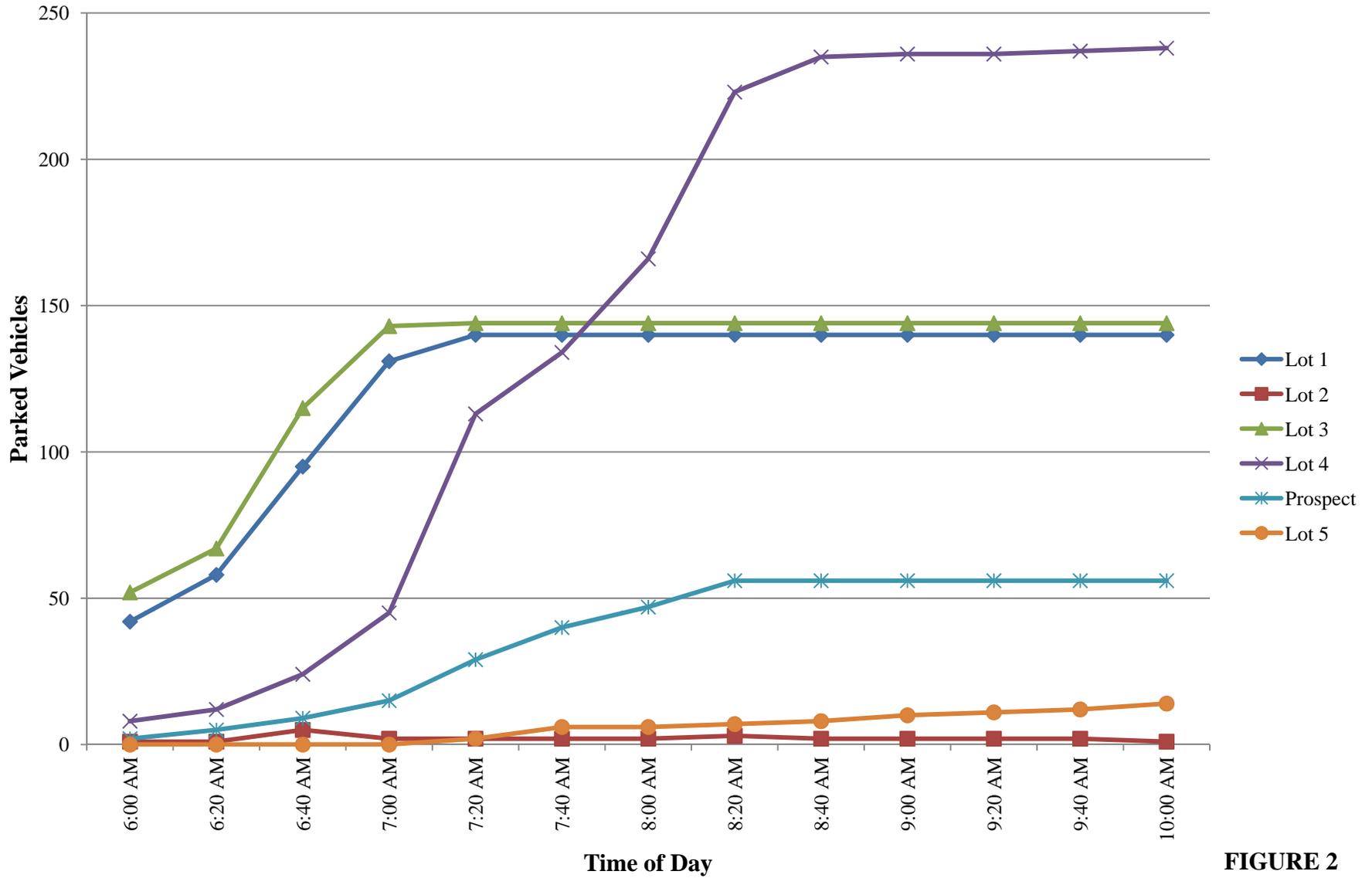


FIGURE 2

Table 2
MOUNT PROSPECT DOWNTOWN COMMUTER PARKING STUDY
VEHICLE STICKER SURVEY
WEDNESDAY, SEPTEMBER 21, 2011

Municipality	Lot 1	Lot 3	Lot 4	Lot 5	Prospect	Total	Percentage
Mount Prospect	50	71	232	6	9	368	62.6%
Arlington Heights	39	17	0	1	10	67	11.4%
None	20	24	3	2	10	59	10.0%
Prospect Heights	11	15	0	1	8	35	6.0%
Des Plaines	7	5	0	2	12	26	4.4%
Cook County	1	4	0	0	2	7	1.2%
Palatine	3	1	0	0	0	4	0.7%
Lombard	1	0	2	0	0	3	0.5%
Chicago	1	0	0	1	0	2	0.3%
Northbrook	0	1	0	0	1	2	0.3%
Rolling Meadows	2	0	0	0	0	2	0.3%
Schaumburg	0	1	0	0	1	2	0.3%
Wilmette	1	0	0	0	1	2	0.3%
Buffalo Grove	0	1	0	0	0	1	0.2%
Elk Grove	1	0	0	0	0	1	0.2%
Evanston	0	1	0	0	0	1	0.2%
Franklin Park	1	0	0	0	0	1	0.2%
Glendale Heights	1	0	0	0	0	1	0.2%
Park Ridge	0	0	0	1	0	1	0.2%
Skokie	0	0	1	0	0	1	0.2%
Texas	1	0	0	0	0	1	0.2%
Wooddale	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0.2%</u>
Total	140	141	238	14	55	588	100.0%

Lot 1 is located north of the railroad tracks and west of Main Street.

Lot 3 is located north of the railroad tracks east of Emerson Street.

Lot 4 is located east of Emerson Street between Prospect Avenue and Lincoln Street.

Lot 5 is located west of Pine Street just north of Evergreen Avenue

Prospect Avenue includes the spaces located on the north side of the road between Emerson Street and Williams Street.

Table 3
MOUNT PROSPECT DOWNTOWN COMMUTER PARKING STUDY
PAY STATION USAGE
WEDNESDAY, SEPTEMBER 21, 2011

Time	Lot 1	Lot 3	Lot 4	Total
5:00 A.M. to 5:15 AM	5	5	3	13
5:15 A.M. to 5:30 AM	8	7	1	16
5:30 A.M. to 5:45 AM	10	16	1	27
5:45 A.M. to 6:00 AM	4	4	1	9
6:00 A.M. to 6:15 AM	13	16	2	31
6:15 A.M. to 6:30 AM	8	10	3	21
6:30 A.M. to 6:45 AM	30	48	16	94
6:45 A.M. to 7:00 AM	21	20	21	62
7:00 A.M. to 7:15 AM	19	11	40	70
7:15 A.M. to 7:30 AM	20	n.a.	44	64
7:30 A.M. to 7:45 AM	n.a.	n.a.	36	36
7:45 A.M. to 8:00 AM	n.a.	n.a.	20	20
8:00 A.M. to 8:15 AM	n.a.	n.a.	54	54
8:15 A.M. to 8:30 AM	n.a.	n.a.	7	7
8:30 A.M. to 8:45 AM	n.a.	n.a.	1	1
8:45 A.M. to 9:00 AM	n.a.	n.a.	0	0
Total	138	137	250	525
Peak 15-Minute Demand	30	48	54	94
Pay Stations	1	2	4	7
Peak Demand/Pay Station	30	24	13.5	13.4

Lot 1 is located north of the railroad tracks and west of Main Street.
Lot 3 is located north of the railroad tracks east of Emerson Street.
Lot 4 is located east of Emerson Street between Prospect Avenue and Lincoln Street.
n.a. = No counts were performed at the pay station(s) as the lot was full.

Table 4
MOUNT PROSPECT DOWNTOWN COMMUTER PARKING STUDY
PAY STATION TRANSACTION TIMES

	Lot 1	Lot 3	Lot 4	Total
Mean Time (seconds)	28	28	25	26
Average Time (seconds)	29.2	28.4	25.3	27.6
Minimum Time (seconds)	21.0	15.0	15.0	15.0
Maximum Time (seconds)	87.0	46.0	55.0	87.0

Lot 1 is located north of the railroad tracks and west of Main Street.

Lot 3 is located north of the railroad tracks east of Emerson Street.

Lot 4 is located east of Emerson Street between Prospect Avenue and Lincoln Street.

Table 5
MOUNT PROSPECT DOWNTOWN COMMUTER PARKING STUDY
COMMUTER SURVEY RESULTS

	Number	Percentage
How many days a week do you use this station to commute to your destination (work, school, etc.)?		
1 day	3	1.7%
2 days	2	1.1%
3 days	15	8.4%
4 days	10	5.6%
5 days	<u>149</u>	<u>83.2%</u>
Total	179	100.0%
If available, would you purchase a monthly/yearly permit instead of using the pay stations?		
Yes	162	90.5%
No	<u>17</u>	<u>9.5%</u>
Total	179	100.0%
If available, would you prefer permit parking in all of the lots?		
Yes	162	90.5%
No	<u>17</u>	<u>9.5%</u>
Total	179	100.0%

Table 6
MOUNT PROSPECT DOWNTOWN COMMUTER PARKING STUDY
PARKING POLICIES OF OTHER COMMUNITIES

	Des Plaines	Arlington Heights	Palatine	Schaumburg
Daily Fee	\$1.50	\$1.50	\$2.00	\$1.25
Monthly Permit Parking Fee	\$30.00	\$30.00	\$40.00	\$21.00
Quarterly Permit Parking Fee			\$120.00	\$53.00
Locations of Permit Parking	North Garage Vail Avenue Garage Evergreen Garage	Lot 4	Lots 11 and 14 Gateway Center Garage	North Lot
Types of Permits	Back Window Sticker Changes Monthly	Rear View Mirror Hangers	Rear View Mirror Hangers	Rear View Mirror Hangers Changes Monthly