



## CITY OF CAMBRIDGE

# TRAFFIC, PARKING, + TRANSPORTATION

## MEMORANDUM

**To:** Louis A. Pasquale, City Manager

**From:** Joseph E. Barr, Director

**Date:** June 14, 2019

**Subject:** First Street Area Parking Planning Study – Final Report

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I am pleased to submit the final report for the First Street Area Parking Planning Study, which was completed by the consulting team of Kleinfelder and McMahon Associates. This study assesses the impacts of the potential lease of 420 unassigned parking spaces in the First Street Parking Garage, out of a total 1,110 parking spaces. Attached are both the final technical report and a summary document that provides a shorter and more user-friendly overview of the study process and results.

The most important conclusions of the consultant's study are as follows:

- There is ample parking within the study area to accommodate the anticipated 336 new daily parkers (based on 80% utilization of the 420 parking passes) at all times of the day.
- The potential lease will not inhibit our ability to provide monthly parking passes to Cambridge residents, or to make space available within the Garage during declared snow emergencies.
- Parking supply within the study area is significantly higher than parking demand, even if parking capacity at the CambridgeSide mall is reduced in the future,
- The City will be able to continue to meet its obligations under the Urban Development Action Grant (UDAG) that helped finance construction of the Garage. This includes monthly parking that must be available to specified local buildings, as well as space for daily parkers.
- The proposed parking lease should not impact the availability of residential parking within the neighborhood, since non-resident customers parking within the garage will not be able to access on-street resident permit parking.
- There are significant management and financial benefits associated with leasing parking to a single large customer, as opposed to large group of individual customers.

Considering the results of this study, and our ongoing management plan for the First Street Garage, my conclusion and recommendation is that the Garage can successfully accommodate the lease of 420 unassigned parking spaces, and you should therefore feel confident in moving forward with the disposition process based on the anticipated parking impacts.



# Summary of First Street Area Parking Planning Study Report

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The City of Cambridge retained the services of Kleinfelder, lead engineering and public outreach consultants, and McMahon Associates (McMahon), transportation planning and engineering consultants, to prepare an evaluation of the current parking supply in the vicinity of the First Street Garage located in the East Cambridge neighborhood of Cambridge, Massachusetts.

## Study Purpose

The City of Cambridge seeks to study the parking utilization patterns of existing on-street and off-street parking in the area around the First Street parking garage, located at 55 First Street. The study was initiated based on a request received by the City to lease 420 unassigned parking spaces, out of a total

1,110 parking spaces, and approximately 9,000 square feet of ground floor area intended for a retail use, in the City-owned First Street Garage for a period of 30 years. Based on a public meeting held on October 30, 2018, City Councillors and residents of the East Cambridge neighborhood have expressed a desire to better understand parking availability in the area and the impact that leasing 420 unassigned parking spaces in the First Street Garage could have on parking supply and demand in the future, both at the garage specifically and more generally in the adjacent neighborhood.

The results of the parking utilization study will inform discussions and decision-making associated with the potential disposition of the 420 unassigned parking spaces and 9,000 square feet of ground floor retail area.

## Study Purpose

*The City has received a proposal requesting to lease 420 unassigned parking spaces and approximately 9,000 square feet of ground floor area intended for retail use in the City-owned First Street Garage, located at 55 First Street.*

*This study evaluates the potential effects that leasing 420 additional unassigned parking spaces in the garage could have on parking demand in the area, now and in the future. Based on this analysis, there is ample parking available within the immediate vicinity to accommodate this request, without impacting the availability of parking for local residents.*

# Study Area & Parking Inventory

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Parking supply in the First Street Garage neighborhood was analyzed for weekday and Saturday utilization. The study area includes all on-street parking on both sides of the street within the study area as well as a representative sample of off-street parking lots and garages. Off-street parking was both inventoried in the field and analyzed based on available data and reports. The study area, depicted in **Figure 1**, includes the following parking:

- 1,001 on-street parking spaces (curbside)
- 5,707 off-street parking spaces (privately owned garages and lots)
- 1,110 parking spaces in the First Street Garage (City of Cambridge)

## On-Street Parking

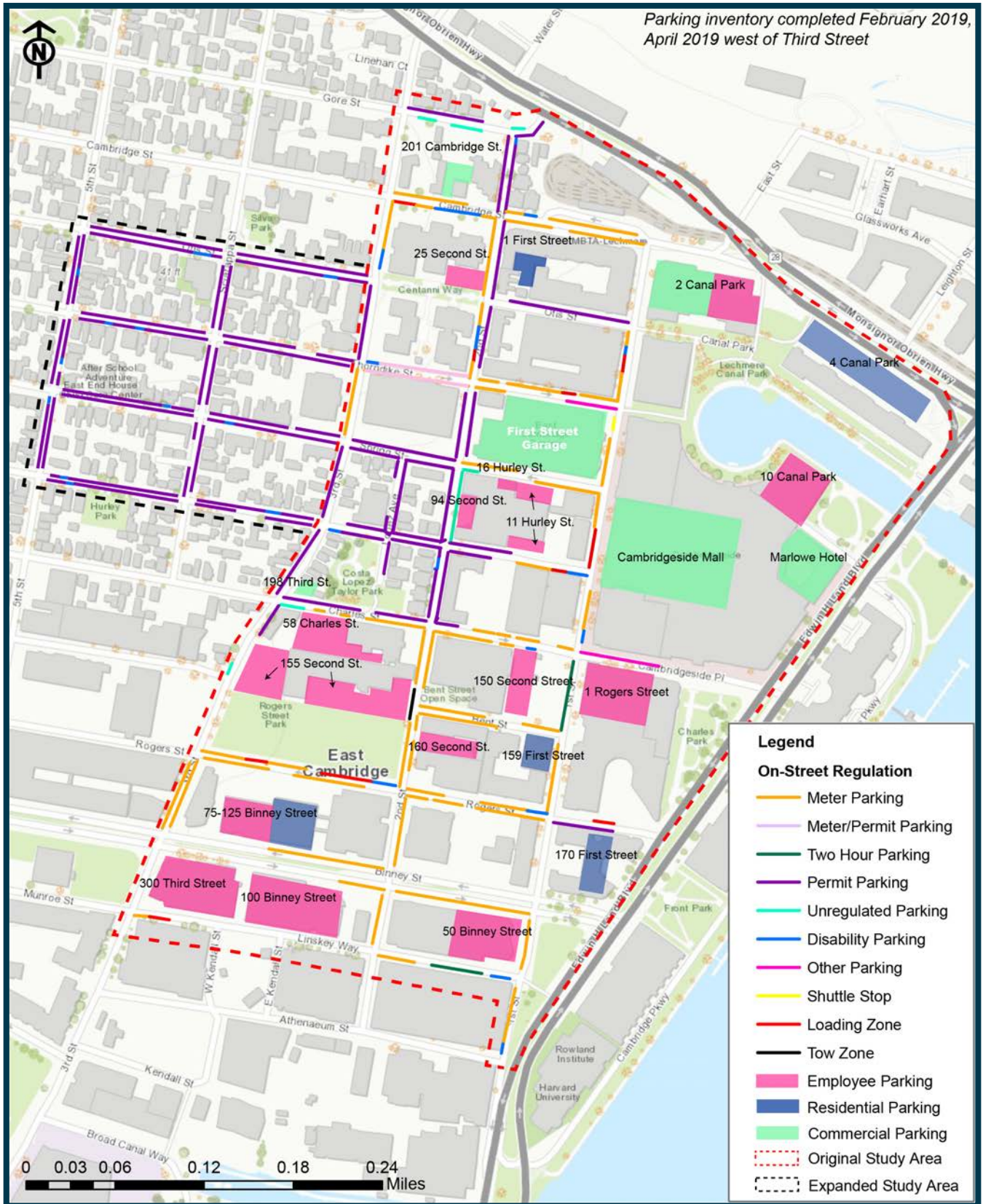
For the most part, on-street parking is signed, but not delineated with striping, with the exception of metered parking spaces. For un-striped areas, an estimate of the number of parking spaces was determined by block face, taking into account driveway locations and setbacks from intersecting streets, assuming 18-foot per parking space.

## On-Street Parking

*Types of on-street parking in the study area include:*

- *Two-hour meter parking, effective:*
  - 9:00 A.M. to 5:00 P.M., or*
  - 8:00 A.M. to 6:00 P.M.*
- *Two-hour meter/permit parking:*
  - Meter from 8:00 A.M. to 6:00 P.M.*
  - Residential permit parking from 6:00 P.M. to 8:00 A.M. except on Sundays*
- *Two-hour non-metered parking:*
  - 8:00 A.M. to 6:00 P.M.*
- *Residential permit parking*
- *Unregulated parking*
- *Accessible parking*
- *Traffic/municipal vehicle parking (Thorndike Street)*
- *Best Buy in-store pick-up (Cambridgeside Place east of First Street. Note that Cambridgeside Place is a private way not under the jurisdiction of the City).*
- *Loading zone regulations are typically in place from 8:00 A.M. to 6:00 P.M.*

FIGURE 1: STUDY AREA MAP





## Off-Street Parking

Off-street parking locations in the study area were selected based on a review of the off-street parking data provided by the City, a field inventory, and on their proximity to the First Street Garage.<sup>1</sup> Parking use information for each facility was provided by the City,<sup>2</sup> and are defined as:

- **Employee:** Parking for employees of a specific employer
- **Commercial:** Parking available to the public, but may be owned by a private entity
- **Residential:** Parking available for residents of a specific location

Off-street parking utilization data was collected in the field or extracted from reports and data provided by the City of Cambridge.<sup>3</sup> The total parking inventoried by land use type is provided in the **Table 1** below.

**TABLE 1: OFF-STREET PARKING BY LAND USE TYPE**

Land Use	Number of Spaces
Employee	2,677
Commercial	2,200
Residential	830
<b>Total</b>	<b>5,707</b>

# Data Collection Methodology

Parking utilization data was collected both weekdays and Saturdays to understand residential, employee, and commercial parking demand in the study. This provides insight on the availability of resident parking, and employees and visitors of local businesses at different times of day. Residential and retail parking demand is likely to be captured over the course of a “typical weekday” whereas restaurant parking may be higher on a Friday or Saturday evening.

Dates were selected to best represent typical parking patterns, avoiding school vacation week and President’s Day, Valentine’s Day, the Patriot’s Super Bowl Parade, snow fall, and street sweeping in the study area. To obtain a representative sample of parking demand, the dates and time periods listed in **Table 3** were selected for on-street and off-street parking counts.

Occupancy for each parking space was recorded in increments of 1-hour for on-street parking and every 2-hours for off-street parking throughout the observation periods.

The First Street Garage has a total of 1,110 spaces currently available. Ten of these spaces are reserved for users including ZipCar, Cambridge Health Alliance (CHA) carpool/vanpool, golf carts, and operational

uses.<sup>4</sup> The garage has multiple users, including City of Cambridge residents via monthly passes or during snow emergencies, local building tenants via monthly passes are required by the HUD Urban Development Action Grant (UDAG), and the general public via short- term parking by the hour or day. **Table 2** lists monthly passes for the garage by pass type for January 2019.<sup>5</sup> Certain user groups, such as the CHA are required to occupy less than 200 spaces at any given time.<sup>6</sup>

**TABLE 2: MONTHLY PASSES BY USER TYPE**

Cambridge Residents	236
Regular office/non-resident users (includes UDAG required passes)	617
Cambridge Health Alliance	358
Commonwealth of Massachusetts	57
Gore Street Project	23
Complimentary*	211
<b>TOTAL</b>	<b>1,502</b>

\*Complimentary passes provided for City vehicles garage staff, a limited number of CHA and state employees, and others per temporary agreements.

**TABLE 3: FIELD COLLECTION DATES AND TIMES**

On-Street Data Collection		Off-Street Data Collection	
Date	Times	Date	Times
Tuesday February 26	6 AM – 12 AM every hour	Wednesday February 13	8 AM – 8 PM every two hours
Saturday March 9	6 AM – 12 AM every hour	Saturday February 9	8 AM – 8 PM every two hours
Tuesday April 9*	9 AM – 11PM every hour	N/A	N/A

\* Supplemental data collection day in response to public comments received at the March 26, 2019 community open house. Includes the expanded area bounded by First Street to the east, Otis Street to the north, Hurley Street to the south, and Fifth Street to the west.

1. List of off-street parking facilities provided by the City of Cambridge via email on January 11, 2019. The off-street inventory contains the majority of off-street parking facilities in the area. Some smaller, privately owned surface parking lots were excluded.
2. City of Cambridge email January 24, 2019. For facilities with multiple land uses the following assumptions were made: 2 Canal Park (47 commercial spaces, 80 employee spaces) 75-125 Binney Street (328 employee spaces, 69 residential spaces).
3. Utilization for 4 Canal Park and 170 First Street was provided by property owners to the City and assumed to be the same for weekdays and Saturdays.
4. Data provided by City of Cambridge First Street Garage Manager via email April 1, 2019.
5. Accounts by Rate, provided by City of Cambridge
6. Data provided by City of Cambridge First Street Garage Manager via email April 1, 2019

# Parking Utilization Trends

## OFF-STREET PARKING UTILIZATION:

- Parking is underutilized on both a weekday and a Saturday. Even when off-street parking is most in demand, approximately half of the overall supply remains available.
- The highest use of parking is midday from 12:00 PM-2:00 PM on both a weekday and a Saturday, with just under 50% of parking spaces used.

## ON-STREET PARKING UTILIZATION:

- The highest use of parking on a weekday is at 11:00 AM with 81% of spaces used.
- The highest use of parking on a Saturday is at 8:00 PM with 68% of spaces used.
- This is within the recommended 85% “effective capacity” for business district commercial parking systems.

Peak parking demand in the study area at occurred at 12:00 PM on a weekday in February

## FIRST STREET GARAGE UTILIZATION:<sup>7</sup>

Parking utilization in the First Street Garage was analyzed hourly in February 2019:

- Lowest on weekdays at 11:00 PM with only 15% of spaces used.
- Highest on weekdays at 10:00 AM with 83% of spaces used. Parking is most used from 9:00 AM to 2:00 PM.
- Highest on Saturday at 12:00 PM with 17% of spaces used.
- Existing demand is comfortably accommodated throughout the day.
- The garage is a good example of shared parking, by balancing parking needs between different users, at different times of day, and on different days of the week.

Use of the garage on weekdays has increased between 2011 and 2018 with the average utilization growing from approximately 45% in 2011 to approximately 71% in 2018. Potential causes of the up and down changes in utilization over this time include the following:

- Closure of the Sullivan Courthouse in 2014;
- Growth in the economy, which led to an increase in development bringing more residents and employees to the area;
- Variation in parking fees within East Cambridge;
- Increased hourly parking rates at the CambridgeSide mall;
- Leasing of spaces to Cambridge Health Alliance employees during renovations to one of their garage facilities;
- Issuance of approximately 125 parking passes to non-residents who are on a waiting list to enhance revenue and better serve local businesses. These passes have been issued with a clear understanding that they can be cancelled with limited notice.

To better understand trends overtime when the garage is highly utilized, the days when the garage was at least 80% utilized were evaluated from 2011-2018 and are referred to as “high utilization days.” This data indicates the months with the most high utilization days are February, January, and December. The days of the week when the most high utilization days occur are Wednesdays and Thursdays.

Examining high utilization days over time helps illustrate that there is no true “typical” day for parking utilization, as it is constantly in flux between hours of the day, days of the week, and months of the year.

Data used in this analysis for off-street parking and the First Street Garage was taken on Wednesday, February 13, 2019. Based on the historical utilization trends, this provides a conservative approach to the analysis, as utilization on this day is likely higher than average compared to other days of the week and months of the year.

Between 2011 and 2018 the First Street Garage was most heavily used:

- During winter months, December to February
- Mid-week on Wednesdays and Thursdays
- Seasonal with weekly fluctuations

7. Based on a representative day in February 2019

## FIRST STREET GARAGE CURRENT UTILIZATION

While 1,502 passes were issued in January 2019, data from the garage shows that only approximately 60% of pass holders use the garage on a daily basis.<sup>8</sup> Approximately 80% of the office building employees with parking access passes use the garage on any given day.<sup>9</sup> The number of monthly passes allocated does not reflect the daily utilization of each user group. The practice of “overselling” parking permits is common in the parking industry in order to optimize garage operations. The number of permits issued for the First Street Garage is within industry standards. As not all parkers use the garage on the same dates and times, this practice helps ensure that the First Street Garage is used efficiently, but not overcapacity.

The current utilization of the First Street Garage illustrates it as a successful example of shared parking, as peak utilization was not found to exceed 83% on a representative day in February 2019 (see Figure 2), even with 1,502 monthly passes issued.

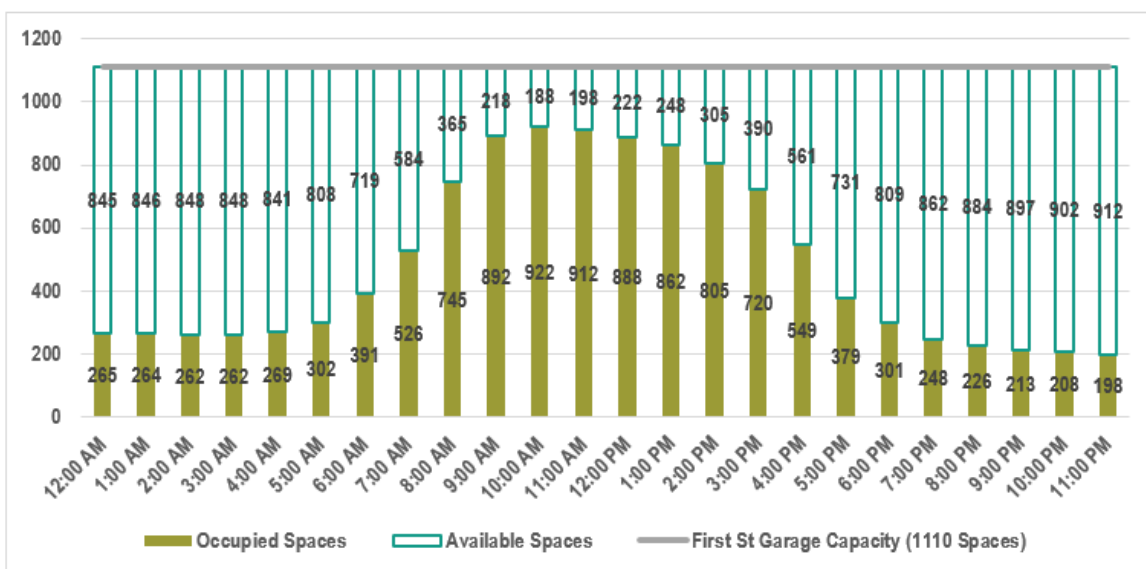
Shared parking is a common model used to balance parking needs between different users, different times of day, and different days of the week.

The current utilization of the First Street Garage illustrates that it is a successful example of shared parking, as peak utilization was not found to exceed 83% on a representative day in February, even with 1,502 monthly passes issued.

Based on the utilization trends observed in the garage, existing demand is well managed and there is room to increase the number of monthly passes issued by continuing to employ shared parking principles.

Data was analyzed on an above average day of the week and above average month of the year, and there are still at least 188 parking spaces available during peak periods in the First Street Garage.

**FIGURE 2 : FIRST STREET GARAGE PARKING UTILIZATION FOR A REPRESENTATIVE DAY IN FEBRUARY 2019**



8. Data provided by the City of Cambridge  
 9. Data provided by the City of Cambridge



# Parking Analysis Conclusions

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This study evaluated parking supply and demand in the First Street Garage and in the surrounding neighborhood to inform a potential Disposition by the City that would include the lease of 420 unassigned parking spaces via monthly parking passes in the Garage, as well as 9,000 square feet of ground floor retail space.

The key conclusions from this evaluation are as follows:

- a. **Overall Parking Availability.** The study indicates that there is ample parking within the study area to accommodate not only the anticipated 336 new daily parkers (based on 80% utilization of the 420 parking passes), but also all 420 new parking pass holders, at all times of the day. Analysis of the existing off-street commercial parking supply in the study area shows that supply is significantly higher than demand, even if parking capacity at the CambridgeSide mall is reduced in the future due to any redevelopment of portions of that site.

The data used for the future scenarios provides a conservative analysis as it was based on collection dates in February of 2019, when parking utilization was higher than on the average day of the week and the average month of the year. On a typical day, demand would not be as high as shown in this analysis, and the availability of parking would therefore be higher.

- b. **Availability of Parking for Cambridge Residents.** The City will continue to be able to make parking passes in the First Street Garage available to residents, as is currently the practice.

Since the data collection was done during the winter, that data represents the higher end of resident parking demand, given that more residents obtain parking permits during the winter months, and the analysis of the data confirms that it will be possible to preserve that access in the future.

- c. **Availability of Parking During Snow Emergencies.** The City will continue to be able to make parking available at the Garage for residents during snow emergencies. During snow emergencies, the usage by office workers, retail visitors, and daily parkers is significantly lower than on a typical day, so there will still be several hundred parking spaces available in the Garage for residents who need to move their car off the street due to a declared snow emergency.
- d. **On-Street Parking.** The study shows that leasing 420 unassigned parking spaces in the First Street Garage should not directly impact residential parking in the neighborhood, since the on-street residential parking spaces are generally not available to non-residents who may not be able to use the Garage. Should the City wish to make metered on-street parking available to non-residents who are displaced from the Garage, this could be done through changes to on-street parking regulations. These changes could include longer time limits and altered pricing structure by time of day, for example, to allow parking beyond the current two-hour limit, but potentially at a higher hourly cost that is more comparable to the cost of off-street parking.
- e. **Urban Development Action Grant Commitments.** As a result of this study, the City has confirmed that it will be able to continue to meet its obligations under the Urban Development Action Grant (UDAG) that helped finance construction of the Garage. This includes monthly parking that must be available to specified local buildings, as well as space for daily parkers.

f. **Parking for Existing Customers.** The study shows that on a day when demand is higher than average, there may be a few hours of the day when the Garage will not be able to accommodate all existing customers. As noted above, the Garage will continue to be able to accommodate Cambridge resident parkers and meet the requirements of the UDAG, so this will only impact some “at-will” non-resident monthly pass holders, as well as some non-resident daily parkers. These non-resident parkers will therefore need to find parking elsewhere in the study area (either permanently or on a day-by-day basis) or use a sustainable transportation option instead. As noted above, there is expected to be ample off-street parking available in the surrounding area to accommodate those who are not able to use the Garage

In recent years, the City has issued approximately 125 parking passes to non-residents who are on a waiting list (there is no waiting list for residents who request a parking pass), to enhance revenue and better serve local businesses. These passes have been issued with a clear understanding that they can be cancelled with limited notice, so these customers will not be surprised if they are not able to park at the First Street Garage at some point in the future.

g. **Customer Stability.** From a best practices fiscal and management perspective, it is to a parking garage owner’s benefit to have a single, customer leasing a large number of parking spaces in a parking facility as compared to dozens—or even

hundreds—of individual customers. This improves the predictability of revenue and the ability to project daily occupancy based on past trends, as well as improving collection of accounts receivable.

h. **Larger Transportation Trends.** As sustainable transportation options expand in the future as encouraged by City policies, and additional mixed-use development occurs nearby, additional mode shift is likely to occur to offset future parking demand. Larger trends in transportation and demographics are expected to reduce the demand for parking, such that the number of high demand days could decrease, and the resulting availability of parking in the First Street Garage will increase.