



# BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

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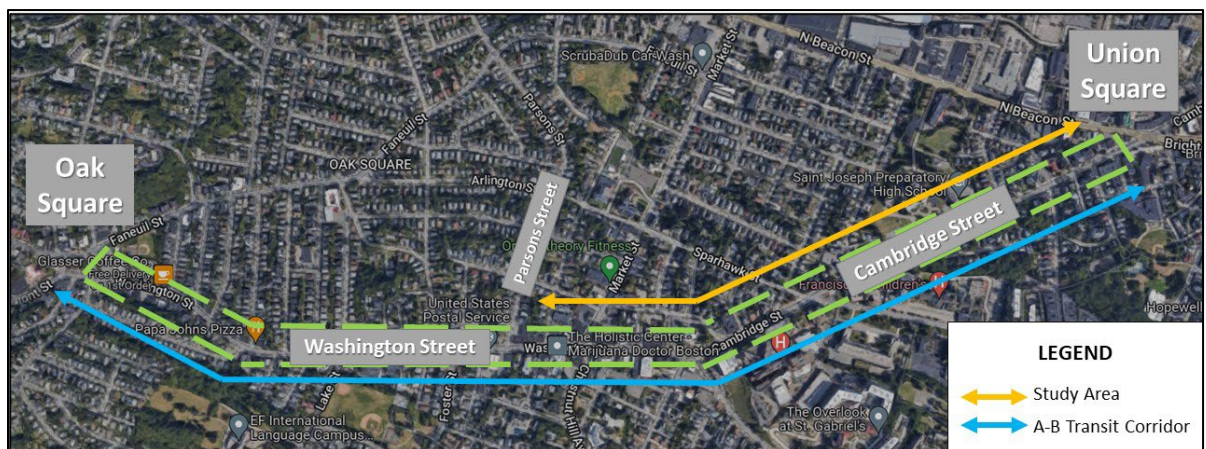
## TECHNICAL MEMORANDUM

**DATE:** March 25, 2022  
**TO:** Joseph Blankenship, Boston Planning & Development Agency  
**FROM:** Casey Cooper, MPO Staff  
**TEAM:** Rebecca Morgan, MPO Staff; Roger Roy, MPO Staff; Ben Krepp, MPO Staff; David Davenport, MPO Staff; Eric Bourassa, MAPC Staff; Marah Holland, MAPC Staff; Jessica Boulanger, MAPC Staff; Aditya Nochur, MAPC Staff; Chris Rawson, MPO Staff; Ed Smith, MPO Staff; Ed Bourque, MPO Staff; Taylor Beasley, MPO Staff  
**RE:** Allston-Brighton Parking Analysis

### 1 INTRODUCTION

The Boston Planning and Development Agency (BPDA) created the Allston-Brighton Mobility Plan to ensure that the existing and future multimodal network in the Allston and Brighton neighborhoods can accommodate the considerable growth introduced with the area's new developments. One of the key recommendations from the Plan, adopted on May 13, 2021, is to introduce bilateral, peak hour bus lanes starting at Washington Street's intersection with Parsons Street in Brighton and extending to Cambridge Street at Union Square in Allston. This one-mile segment is the eastern portion of what the Allston-Brighton Mobility Plan refers to as the A-B Transit Corridor. The western side of the Corridor extends west to Oak Square (see Figure 1).

**Figure 1**  
**Map of Study Area within the A-B Transit Corridor**



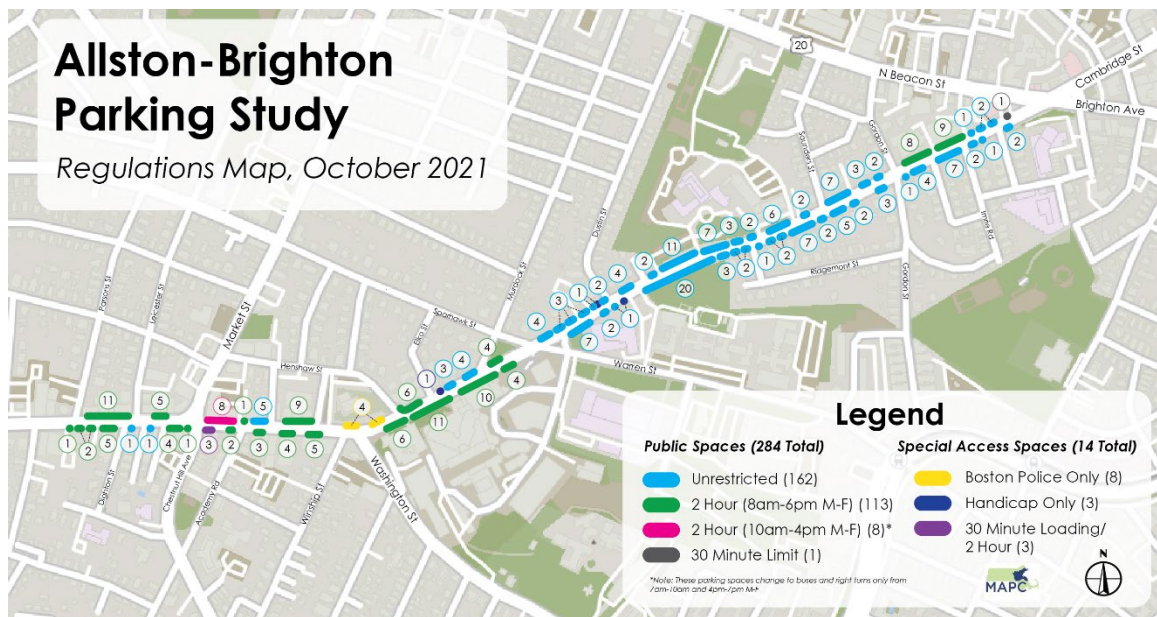
Source: Central Transportation Planning Staff (CTPS).

**Civil Rights, nondiscrimination, and accessibility information is on the last page.**

The City of Boston plans to conduct a three-year pilot along the corridor that will convert the existing on-street bicycle and parking lanes to shared bus and bicycle lanes during peak AM and PM travel periods. It is anticipated that the peak hour buses will operate from approximately 5:00 AM–10:00 AM and 3:00 PM–7:00 PM. In anticipation of this pilot, the BPDA sought to assess parking behavior along the corridor to determine the feasibility of introducing peak hour shared bus and bicycle lanes.

The Allston-Brighton Parking Analysis presented in this memo evaluates parking use starting at Washington Street’s intersection with Parsons Street in Brighton and extending along Cambridge Street to Union Square in Allston. This study finds that it would be feasible to convert one parking lane to a shared bus and bicycle lane in the inbound direction of travel during the AM peak and another in the outbound direction of travel during the PM peak.

**Figure 2**  
**Map of Parking Regulations along Study Corridor**



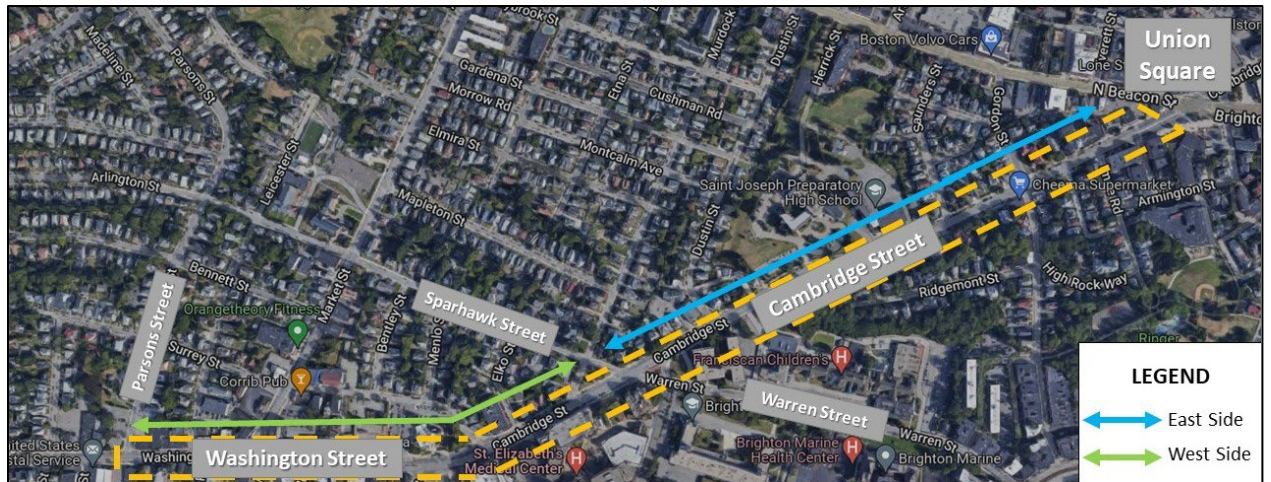
Source: Metropolitan Area Planning Council (MAPC).

### 1.1 Corridor Zoning

Boston's zoning along the corridor provides important context for the parking behavior observed during data collection and the key findings in this analysis. The study corridor is divided into eastern and western halves by Cambridge Street’s intersection with Sparhawk Street and Warren Street, as illustrated in Figure 3. The east end of the study area is largely residential compared to the

west end of the corridor, which is primarily zoned for commercial use and includes many restaurants and retail shops.

**Figure 3**  
**Study Area Split: East and West**



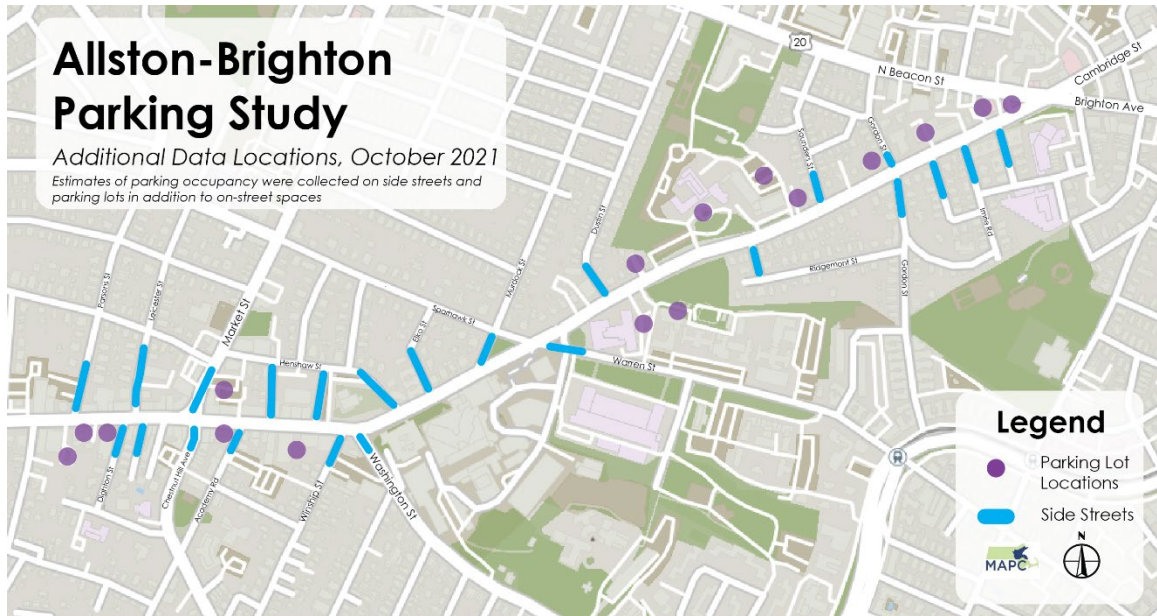
Source: Central Transportation Planning Staff (CTPS).

## 2 DATA ANALYSIS

Parking data, including parking occupancy, duration, and license plate information, were collected through observation along the corridor from 7:00 AM to 8:00 PM on October 19, 2021. Note that data collection occurred during the COVID-19 pandemic, which disrupted many travel patterns and led to reduced workforce commuting when compared to pre-pandemic levels.

Data was collected every hour on the east and west sides of the corridor over a period of one business day. Staff also visually estimated hourly percent occupancy of side streets and parking lots within the study area, the locations of which are illustrated in Figure 4.

**Figure 4**  
**Corridor Side Streets and Parking Lots**



Source: Metropolitan Area Planning Council (MAPC).

**2.1 Parking Occupancy**

Along the study corridor, parking occupancy peaks at midday with lower occupancy during the morning and late afternoon. Appendix A features a series of maps illustrating hourly parking occupancy along the study corridor starting at 7:00 AM and ending at 8:00 PM. Figure 5 shows the occupancy map for 12:00 PM, the hour at which the corridor reached peak occupancy.

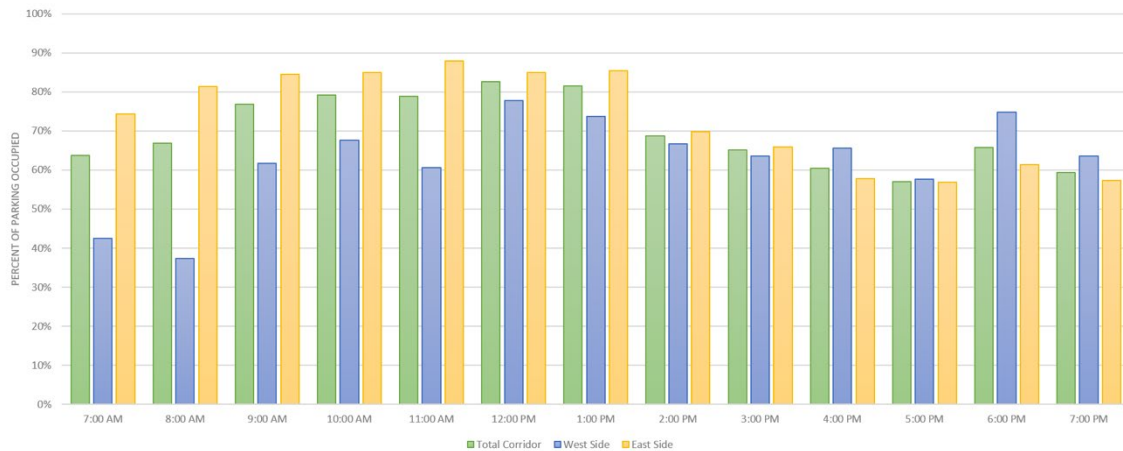
**Figure 5**  
**Peak Corridor Occupancy**



Source: Metropolitan Area Planning Council (MAPC).

Figure 6 summarizes parking occupancy along the A-B Transit Corridor, breaking down the hourly percentages for the west and east sides of the study area and for the entire corridor.

**Figure 6**  
**Parking Occupancy along A-B Transit Corridor**



Source: Central Transportation Planning Staff (CTPS).

As shown in Figure 6, parking occupancy does not meet capacity along the A-B Transit Corridor. Occupancy peaks at midday, with a greater proportion of spaces along the study corridor available during the morning and evening peak travel periods. These are the hours during which the City of Boston has proposed converting parking spaces for use as shared bus and bicycle lanes.

To accommodate this proposal without displacing all 298 parking spots along the study corridor, on-street parking could be consolidated to one side of the roadway during the AM and PM peak hours. Doing so would result in a slight parking deficit, with more vehicles observed along the corridor on the date of data collection than parking spaces available on one side of the street, but this does not include off-street parking spaces. Tables 1 and 2 illustrate the parking deficits along the corridor if inbound parking spaces are converted to a shared bus and bicycle lane during the morning peak travel period, and if outbound parking spaces are converted to a shared bus and bicycle lane during the evening peak travel period.

**Table 1**  
**Parking along Study Corridor during AM Peak Travel Period**

<b>Time</b>	<b>Occupied Spaces (Total = 298)</b>	<b>Occupied Outbound Spaces (Total = 154)</b>	<b>Occupied Inbound Spaces (Total = 144)</b>	<b>Outbound Parking Lane Deficit*</b>
<b>7:00 AM</b>	190	99	91	<b>-36</b>
<b>8:00 AM</b>	199	93	106	<b>-45</b>
<b>9:00 AM</b>	229	111	118	<b>-75</b>

\* Outbound Parking Lane Deficit calculated by subtracting the number of occupied spaces along the entire study corridor during each AM peak travel hour of data collection from the total outbound spaces (154).

**Table 2**  
**Parking along Study Corridor during PM Peak Travel Period**

<b>Time</b>	<b>Occupied Spaces (Total = 298)</b>	<b>Occupied Outbound Spaces (Total = 154)</b>	<b>Occupied Inbound Spaces (Total = 144)</b>	<b>Inbound Parking Lane Deficit*</b>
<b>3:00 PM</b>	194	106	88	<b>-50</b>
<b>4:00 PM</b>	180	102	78	<b>-36</b>
<b>5:00 PM</b>	170	96	74	<b>-26</b>
<b>6:00 PM</b>	196	109	87	<b>-52</b>

\* Inbound Parking Lane Deficit calculated by subtracting the number of occupied spaces along the entire study corridor during each PM peak travel hour of data collection from the total inbound spaces (144).

## 2.2 Parking Duration

Average parking duration was highest along the more residential eastern end of the A-B Transit Corridor (where parking is largely unrestricted) and lowest on the more commercial western end of the A-B Transit Corridor (which largely has two-hour parking), as illustrated in Figure 7.

**Figure 7**  
**Average Parking Duration within Study Area**

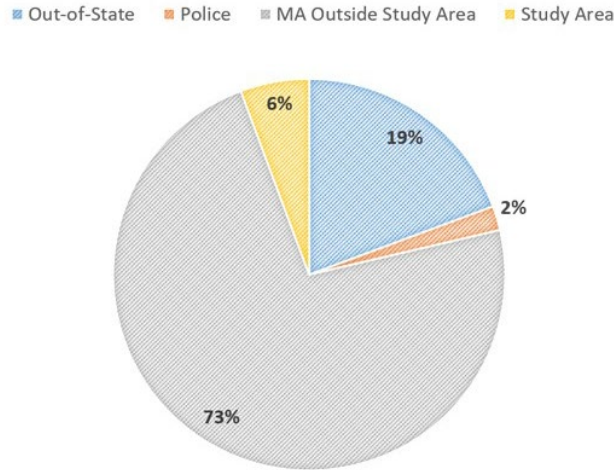


Source: Metropolitan Area Planning Council (MAPC).

## 2.3 License Plate Analysis

The license plate data collected along the corridor shows that the majority of vehicles parked along the study corridor are not registered to addresses along the A-B Transit Corridor, with only six percent tied to addresses within the area (see Figure 8). The eastern end of the corridor includes large amounts of unrestricted parking and experiences low turnover, including many vehicles parked for eight or more hours. This suggests that vehicles parked near Union Square belong to people who work in the area or perhaps students and young professionals renting within the study area who have not registered their vehicles to their current address with the Registry of Motor Vehicles (RMV). It is possible that fewer residents registered their vehicles as a result of the COVID-19 pandemic's impact on RMV hours and business activities.

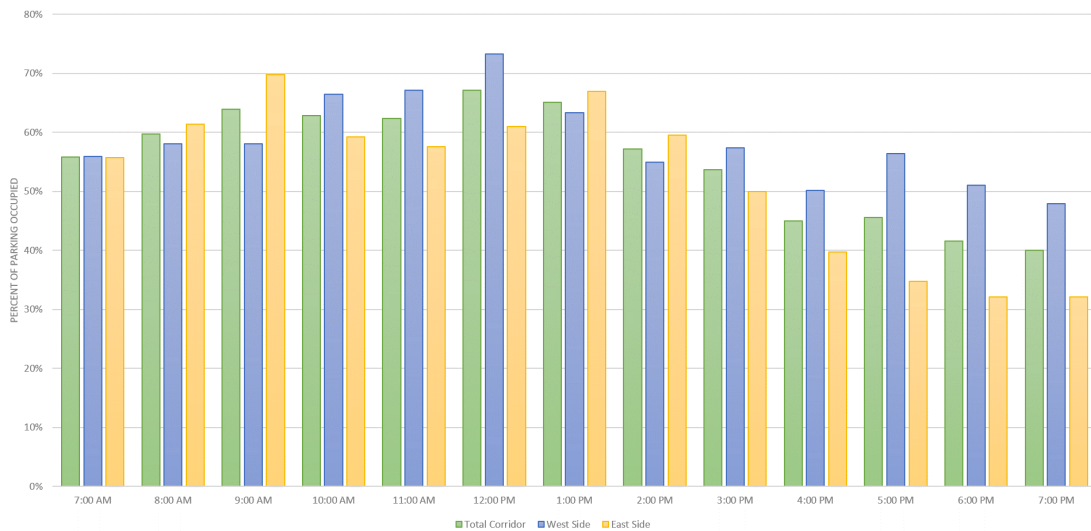
**Figure 8  
Parked Vehicle Origins**



## 2.4 Side Street and Parking Lot Occupancy

Average parking occupancy estimates for the side streets and parking lots along the study corridor largely remained less than 70 percent throughout the day (see Figure 9). Occupancy only exceeded 70 percent at noon, and only on the western half of the study corridor. Appendix B lists the hourly visual occupancy estimates collected on the date of data collection. This suggests that spaces along side streets and within parking lots should accommodate the parking deficit highlighted in Table 1 during AM and PM peak hours when existing on-street bicycle and parking lanes are converted to shared bus and bicycle lanes.

**Figure 9  
Parking Occupancy of Side Streets and Parking Lots**



Source: Central Transportation Planning Staff (CTPS).

## 2.5 Corridor Parking Behavior

The zoning and duration information suggest that parking turnover is high along the commercial portion of the study corridor, where people use largely time-limited parking spaces to patronize local businesses, while unrestricted street parking in the residential area to the east serves as car storage.

A comparison of hourly parking on the west and east sides of the study corridor revealed that occupancy is considerably higher before 2:00 PM on the eastern residential portion of the A-B Transit Corridor than within the western commercial area. In contrast, parking occupancy is higher on the west end of the corridor during the dinner hours of 6:00 PM and 7:00 PM than along the residential stretch of roadway to the east. This may be a result of customers driving to restaurants and parking along the study corridor while dining or picking up take-out orders.

## 3 CONCLUSION

The occupancy, duration, and vehicle origin data suggest that the City of Boston could introduce peak hour, bilateral shared bus and bicycle lanes along the A-B Transit Corridor to improve throughput while minimizing the impact to area businesses by avoiding the time of day when demand for parking peaks along the study corridor. Estimates of parking occupancy on the side streets and parking lots of the A-B Transit Corridor suggest that demand for parking along the roadway could be supported elsewhere during the hours when parking is converted to support bus and bicycle travel.

To mitigate impacts to local businesses due to parking changes, the City of Boston could partner with private businesses to determine the best use of parking lots and side street parking along the corridor during the peak AM and PM travel periods. The City of Boston may also consider studying the travel modes used by business patrons within the study area to determine customer demand for parking.

The reduction of parking availability during peak travel hours has the potential to impact parking behavior along the corridor. People who live or work in the area and choose to park along the study corridor throughout the day may opt for spaces in parking lots and on side streets when there are no longer continuous, unrestricted, daily parking options along the corridor. In addition, the shared bus and bicycle lanes will improve transit and bicycling conditions, which may encourage a mode shift from vehicle travel to bus or bicycle trips. These behavior changes, coupled with the availability of off-street parking spaces, suggest that

converting one parking lane to a shared bus and bicycle lane during the morning and evening peak travel periods is a feasible approach for supporting a multimodal network in Allston and Brighton that can accommodate the neighborhoods' growing transportation demands.

### 3.1 Key Findings

#### ***Zoning***

- The east end of the study area is largely residential.
- The west end of the corridor is primarily commercial.

#### ***Parking Occupancy***

- Parking occupancy peaks at midday.
- Parking occupancy during the dinner hours of 6:00 PM and 7:00 PM is higher on the west side, which is primarily commercial, than along the eastern residential stretch.
- Parking occupancy is considerably higher before 2:00 PM on the eastern residential portion of the A-B Transit Corridor than it is within the western commercial area.

#### ***Parking Duration***

- Parking duration is higher on the east end of the study corridor, which largely has no parking restrictions. (Residential Area)
- Parking turnover is higher on the west end of the study corridor, which largely has two-hour parking restrictions. (Commercial Area)

#### ***Vehicle Origins***

- Based on license plate data, it is assumed that the majority of people parking along the corridor do not live in the area.
- Six percent of parked vehicles were registered to addresses along the study corridor.
- 19 percent of vehicles were registered to states other than Massachusetts.

#### ***Side Street Parking and Parking Lots***

- Average parking occupancy estimates for the side streets and parking lots along the study corridor largely remained less than 70 percent throughout the day.
- Spaces along side streets and within parking lots should accommodate vehicles during AM and PM peak hours.

***Presumptions***

- Street parking on the east end of the corridor, which is primarily residential, serves mainly as car storage.
- Street parking on the west end of the corridor, which is primarily commercial, is used by patrons of the local businesses and is mostly occupied at midday and during dinner hours.

Appendix A – Parking Occupancy Maps

Appendix B – Side Street and Parking Lot Visual Occupancy Estimates

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