



## **Mobility Management Plan**

Union Square Revitalization Parcel D2.3  
Residential & Commercial

April 30, 2019

Prepared for:

Union Square RELP Master Developer LLC

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## **1.0 PROJECT INFORMATION**

### **1.1 CONTACT INFORMATION**

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### **1.2 PROJECT DESCRIPTION**

#### **1.2.1 Parcel D2**

The currently proposed D2 Block development is a portion of the Union Square Revitalization that will be constructed within an approximately 154,000 square foot parcel (3.54 acres) of land within the approved Union Square Redevelopment area in Somerville, Massachusetts (site). This initial development site is bordered to the north by Somerville Avenue, to the east by residential and commercial properties and Allen Street, to the south by MBTA railroad tracks, and to the west by Prospect Street. The development site includes D2.1, a commercial/life-science building, D2.2, a mid-rise residential building, and D2.3, a residential tower. D2.2 and D2.3, although distinct buildings for permitting purposes, will operate as one residential project. Combined, the three building projects total 195,550 SF of commercial space, with 21,430 SF being retail, 16,220 SF dedicated to Arts and Creative Economy uses, and the balance Office or Lab space. The residential portion of the project includes 450 dwelling units.

Parking needs for all three building parcels will be accommodated by a 270-space structured, above-grade parking garage within the D2.2 and D2.3 building. The proposed parking supply will be unbundled, with spaces rented as an option rather than a requirement of an apartment rental agreement or lease of non-residential floor space, in accordance with the goals of the Union Square Neighborhood Plan.

As required per zoning, access to parking, as well as loading and servicing activities for each building occurs off an alley in order to minimize impact to the planned pedestrian oriented spaces along Somerville Avenue and Prospect Street. The alley is planned along the east edge of the site, consistent with the CDSP, and provides rear access to the proposed buildings.

The proposed development for USQ is consistent with the approved Coordinated Development Special Permit (CDSP) for the Union Square Redevelopment Area. The anticipated trip generation associated with this proposed development is discussed in detail later in this Mobility Management Plan (MMP).





## **1.2.2 Parcel D2.3**

D2.3 is a 25-story, high-rise residential building comprised of 363 units over 3,340 square feet of ground floor retail. The combination of a mezzanine within the tower lobby and second floor space provide approximately 7,320 square feet of dedicated Arts and Creative Enterprise space. The building maintains frontage west and south onto a public Civic Space which provides immediate access to and from the future Green Line State at the southern end of the site.

D2.3 is unified in operations with D2.2 and its 87 units. Together, the 450 residential unit's parking needs are met through the 3-level, shared parking garage at the building's base, accessible by way of the new D2 alley. Approximately 19 of the garage's spaces will be reserved for D2.2 and D2.3's exclusive use.

Servicing and loading for D2.3 occurs at the tower's south east corner, access to which is made through 'Charlestown Place', the end of the new thoroughfare network. The loading area accommodates two box-trucks for resident move-ins, internal to the building.

500 Bicycle parking spaces are provided by D2.2 and D2.3. 453 of these are sheltered and secured and located within the building's enclosure. The totality of spaces is accessible from either D2.2 or D2.3. D2.3 provides 38 additional, short-term parking spaces at the building's south facing exterior.

## **1.3 BUILD OUT/PROGRAM ESTIMATES**

Table 1 shows the proposed build out program for Parcel D2. The site will include office, lab, retail, arts and creative, and residential spaces. Approximately 640 square feet will be dedicated to facilities serving the MBTA's Green Line Station. Table 2 shows the estimated employees that will work in those spaces for Parcel D2.3 only.

**Table 1: Parcel D2 Build Out Program Estimates**

Parcel	Total GFA (SF)	Commercial Use (SF)					Residential Use		MBTA Area (SF)
		Office	Lab/R&D	Retail	Arts & Creative	Total	Units	SF	
D2.1	178,890	62,300	95,600	12,090	8,900	178,890	-	-	-
D2.2	97,400	-	-	6,000	-	6,000	87	91,400	-
D2.3	324,800	-	-	3,340	7,320	10,660	363	313,500	640
<b>Total</b>	<b>601,090</b>	<b>62,300</b>	<b>95,600</b>	<b>21,430</b>	<b>16,220</b>	<b>195,550</b>	<b>450</b>	<b>404,900</b>	<b>640</b>
<b>Percent</b>	<b>100%</b>	<b>10.4%</b>	<b>15.9%</b>	<b>3.6%</b>	<b>2.7%</b>	<b>32.5%</b>	<b>-</b>	<b>67.4%</b>	<b>0.1%</b>





**Table 2: Parcel D2.3 Summary**

	SF/Employee	Development Program (SF)	Estimated Employees
Office	200.00	----	---
Lab/R&D	440.00	----	---
Retail	500.00	3,340	7
Hotel Area	75.00	----	---
Arts & Creative	200.00	7,320	37
<i>Commercial Subtotal</i>	-	10,660	44
Residential Units	-	363	---
Residential SF	-	313,500	---
<i>Residential Subtotal</i>	-	313,500	---
MBTA Area	-	640	---
<b>Total</b>	-	<b>324,160</b>	<b>44</b>

## 1.4 ANTICIPATED PHASING

There is no anticipated phasing for Parcel D2.3. Furthermore, the intent is that construction happens simultaneously on D2.1, D2.2, D2.3, and the associated civic space and thoroughfares.

## 1.5 PARKING PLAN

The following section outlines the proposed Project parking supply and management plan as relates to the requirements of the Mobility Management Plan

### 1.5.1 Background

The Coordinated Development Special Permit (CDSP) for the overall Union Square Redevelopment outlined a shared parking strategy which the entire redevelopment would adhere to. Parcels D2.1, D2.2 and D2.3 are the first of the Union Square Redevelopment parcels to apply for Design and Site Plan Review (DSPR) and will continue to adhere to the overall parking management policy developed, including sharing parking in one facility amongst the multiple uses in the D2 parcels. Per the CDSP, “The project seeks to provide parking that serves the proposed development and adjacent neighborhood without incentivizing driving and is as efficiently utilized as possible in order to meet the goals of the Union Square Neighborhood Plan.”

### 1.5.2 Parking Demand

#### 1.5.2.1 Parcel D2

The Union Square zoning and the CDSP were both developed with an overall cap on parking supply to minimize the attractiveness of driving and support the multi-modal transportation goals outlined in the Union Square Neighborhood Plan. Those analyses informed the City of Somerville’s parking demand estimator, which was used to estimate potential parking demand for the D2 parcels based on the proposed program of office/lab, residential and retail uses,





### **Mobility Management Plan – Union Square Revitalization – Parcel D2.3**

as shown on Table 3. Note that the Arts/Creative space was classified in conjunction with the predominant use for each parcel and is included as Office/Lab for Parcel D2.1 & Retail for Parcel D2.3. It's also noteworthy that the parking demand model doesn't distinguish between lab and office, despite their varying employment densities.

The parking demand model for the D2 program shows demand for a maximum of 300 parking off-street spaces, plus an additional estimated demand for 44 on-street or short-term spaces. The parking in the Parcel D2 garage will ultimately be available as a shared parking resource for the overall Union Square Development. As a shared resource for the first project phase, and consistent with the City of Somerville goals to encourage alternative modes of transportation, the total number of off-street parking spaces planned is 270, below the 300-space maximum.

**Table 3: Estimated Overall D2 Parking Demand (per City demand estimator)**

Use	SF/Units	Adjusted Rate	On-Street Space Demand (estimated)	Off-Street Spaces Demand (estimated)	Off-Street Spaces Provided	Off-Street "Reserved" Spaces Allowed (estimated)
<b>Office/Lab</b>	166,800 SF	0.80/1000 SF		133		13 (off-street)
<b>Residential</b>	450 units	0.37/unit		167		84 (off-street)
<b>Retail</b>	28,750 SF	1.52/1000 SF	44			0 (on-street)
<b>Total</b>			<b>44</b>	<b>300 (max)</b>	<b>270</b>	<b>97</b>

#### **1.5.2.2 Parcel D2.3**

Parking needs of D2.3 will be accommodated by the shared parking garage that will be constructed within the D2.2 and D2.3 building. Off-street parking requirements for the Union Square Overlay district (USQ) mandate a maximum number of parking spaces to promote alternate methods of transportation. Parking required to support the development has been estimated using a demand model based on rates provided by the City of Somerville, the results are summarized in Table 4 below. As a shared and "unbundled" resource, parking per building use type will vary from demand calculations.

**Table 4: D2.3 Parking Demand Calculations**

Building Use	GSF / Units	Adjusted Rate	Off-Street Parking Demand
<b>Office / Lab</b>	---	0.80 / 1,000 SF	---
<b>Residential</b>	313,500 / 363	0.37 / DU	135
<b>Retail</b>	10,660	1.52 / 1,000 SF	16
<b>Total</b>	324,160	----	151

The City of Somerville Parking Demand models for Parcel D2, and for Parcel D2.3 are included in the Appendix.





### **1.5.3 Parking Supply**

#### **On Street**

On street parking is currently not permitted along the project frontage and no modifications will be made as part of the proposed development. A short-term drop-off / pick up area accommodating up to four vehicles will be included as part Charlestown Place adjacent to the MBTA station. Drop-off spaces will also be located on the South side of Bennett Court.

#### **Off Street**

Parking needs of D2.3 will be accommodated by the approximate space shared parking garage on the D2.2 and D2.3 parcels. The three-story garage is located in the rear of buildings D2.2 / D2.3 and is lined with many active uses from Prospect Street (a designated pedestrian street). Of the spaces, provisions will be made for compact vehicles, EV charging stations, green vehicles and carpool spaces. Entrance and exit for the garage are provided from the alley and the D2.3 interior loading dock access is provided from Charlestown Place.

Note that there is currently no parking on the D2 site, so all spaces are net new spaces.

### **1.5.4 Parking Location Map**

The Site Plan is included in the Appendix and shows the location of the garage parking incorporated as part of Parcel D2. Parking will be shared between uses, with a singular vehicular access/egress, and multiple pedestrian connections to the garage.





### **1.5.5 Parking Management**

The parking facility (the “Commercial Services Vehicular Parking Facility”) will be operated jointly and shared among D2 Parcel uses, and will eventually contribute to a larger shared parking strategy for the entire Union Square Development. The parking facility will be gate controlled, with parkers having access through a ticketing or reader card system as determined. Parcel D2.1 does not include onsite parking but will have access to the shared parking garage being completed as part of Parcels D2.2 & D2.3. Parking management is one of the key elements to managing vehicular demand. The overall parking plan includes the following steps to manage parking:

- **Parking Management.** The Commercial Services Vehicular Parking Facility will be managed by the property owner or a management agency independent from other non-residential uses per the Union Square Redevelopment’s approved Mobility Management Plan.
- **“Unbundled” Parking.** All residents and employers at the Project site must purchase and/or lease parking separately from any office and/or residential space. This strategy ensures that users understand the true cost of parking provision and can make transportation choices accordingly. It also creates more affordable commercial space and housing by allowing parking to become an optional amenity rather than a required purchase.
- **Market Rate Pricing.** Parking for will be available at local market rates. Parking pricing is one of the most effective tools to balance demand and encourage people to travel using more cost-effective modes such as transit, walking, and/or bicycling.
- **Daily Pricing.** When practical and feasible, daily parking will be available at daily rates rather than monthly leases. When users pay for parking each day, they are reminded of its cost which encourages choosing other modes. Moreover, avoiding monthly leases helps to avoid the mentality that parking is a “sunk cost” and instead encourages flexibility in travel options.
- **Real-Time Availability.** The Commercial Service Vehicular Parking Facility will provide a sign at the vehicle entrance indicating the number of spaces available in real time, per the Union Square Redevelopment’s approved Mobility Management Plan.
- **Reserved Spaces** A limited number of residents will be able to lease reserved spaces within the Commercial Services Parking Facility. A maximum of 19 spaces will be reserved for residents (of Parcel D2.2 and D2.3 combined) within the Commercial Services Parking Facility, to be managed by the Transportation Coordinator between Parcel D2.2 and D2.3.

### **1.5.6 Bicycle Parking Supply**

500 Bicycle parking spaces are provided by D2.2 and D2.3. 453 of these are sheltered and secured and located within the building’s enclosure. The totality of spaces is accessible from either D2.2 or D2.3. D2.3 provides 38 additional, short-term parking spaces at the building’s south facing exterior. Final bicycle parking design includes:

- Clear wayfinding to bicycle parking, particularly in garage facilities
- 24-hour access
- Secure bicycle racks that meet Somerville-specific or national standards
- Location close to entrances
- Separate pedestrian entries where possible to allow people to get to/from bicycle parking facilities





## **1.6 NEARBY TRANSIT SERVICES**

The Project is part of the continued transformation of Union Square into a transit-oriented mixed-use urban employment center. Consistent with the goals of the Union Square Revitalization Plan, the Project will help facilitate improved public transit service by constructing critical improvements that benefit the Union Square station and access to it on D2 – including The Ride drop off, ADA access from Prospect Street sidewalk to the station, MBTA bicycle storage and MBTA employee facilities. The Project includes a multi-modal approach to site and MBTA station access that will provide connectivity to other modes of transportation and transportation services. This will encourage use of using the already robust and growing public transportation network.

The Union Square area, and Parcel D2.3 are currently well served by MBTA bus service (with rapid transit service on the MBTA Red Line one mile away) and the close proximity of neighborhood services that can reduce the vehicular traffic impacts of the Project. The forthcoming GLX will further enhance transit connectivity in the neighborhood, transforming it into one of the region's most transit accessible locations.

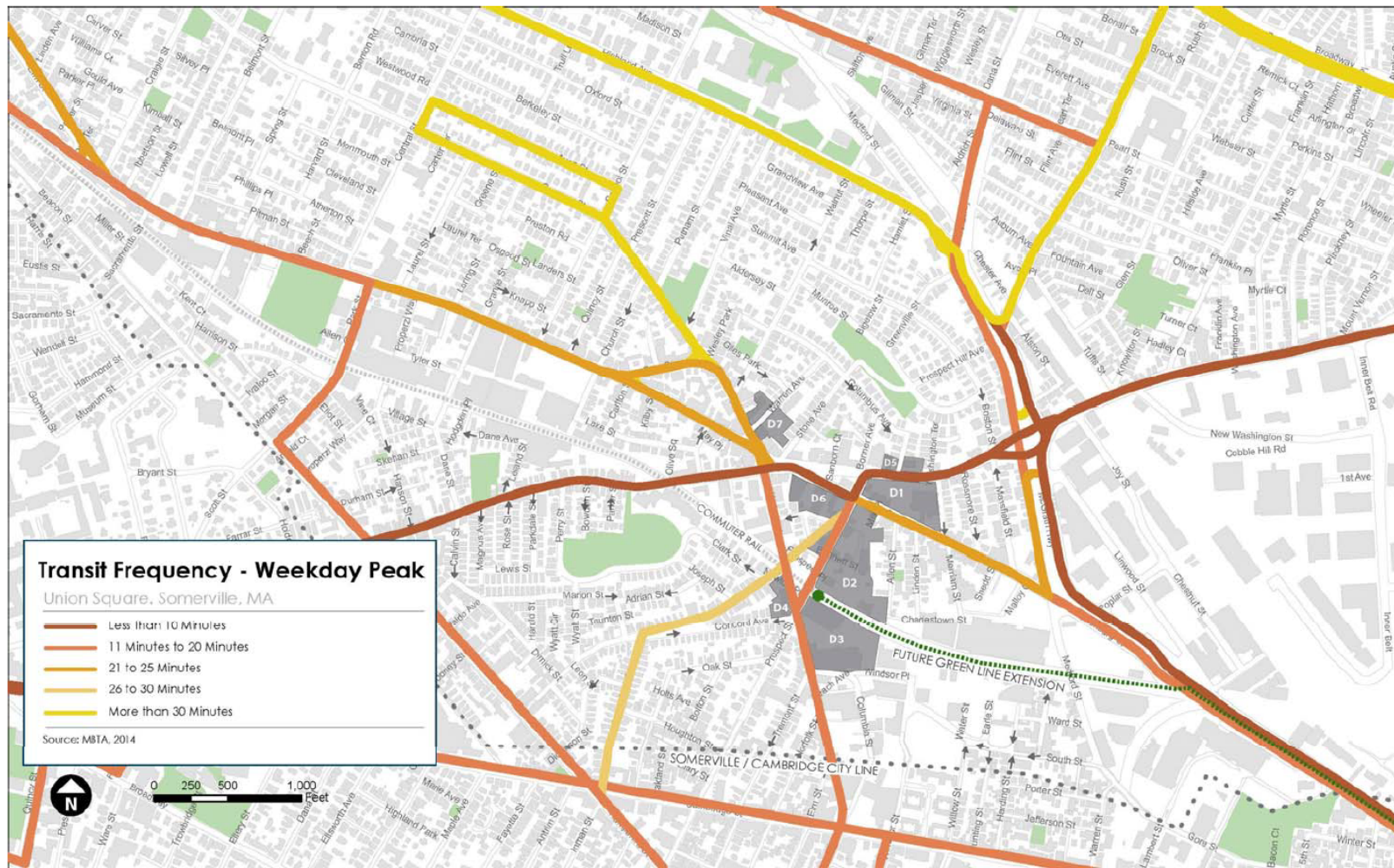
### **1.6.1 Existing Services**

Parcel D2.3 is adjacent to or within walking distance of robust transportation options. This access was evaluated for the area within a half mile radius of the site. The site is located within a quarter mile of five MBTA bus routes that directly serve Union Square: Routes 85, 86, 87, 91, and CT2. Routes 69, 80, 83, 88, and 90 serve roads within a half-mile or 10-minute walk of the site. Combined, these routes provide high transit frequency to the Union Square thoroughfares, as Figure 1 and Figure 2 demonstrate. Table 5 summarizes the transit services available within the study area and describes the ridership and service details





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**Figure 1: Weekday Peak Bus Frequency**



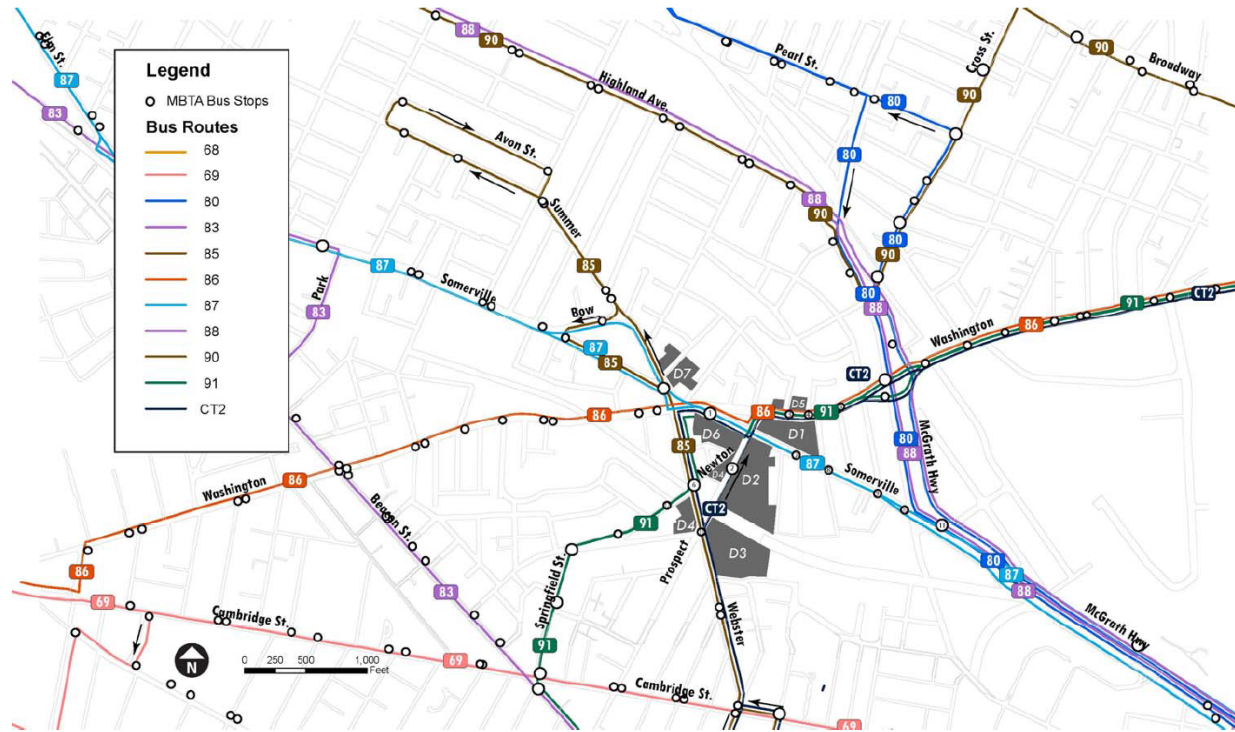
**Table 5: Available Transit Services Within the Study Area**

Name	Type of Service	Origin – Destination	Ridership Statistics (for entire route from MBTA 2014 Blue Book)									Headways (in minutes, from MBTA 2017 schedules)						
			Weekdays			Saturday			Sunday			Weekdays					Weekend	
			Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total	AM Peak	AM Base	PM Base	PM Peak	Late Night	Saturday Peak	Sunday Peak
<b>69</b>	Bus	Harvard/Holyoke Gate – Lechmere Station via Cambridge Street	1,588	1,598	3,185	999	1,092	2,092	543	508	1,051	10-20	25	25	10-20	40	20-40	20-40
<b>80</b>	Bus	Arlington Center – Lechmere Stations via Medford Hillside	1,063	995	2,058	748	667	1,415	428	398	826	20	25-35	25-35	20	60	30-60	30-60
<b>83</b>	Bus	Rindge Ave – Central Square Station via Porter	1,096	1,142	2,237						631	20	30	30	20	60	25-60	25-60
<b>85*</b>	Bus	Spring Hill – Kendall/MIT Station via Summer St & Union Square	301	288	589	---	---	---	---	---	---	30	40	40	40	---	---	---
<b>86*</b>	Bus	Sullivan Station – Reservoir (Cleveland Circle) via Harvard	2,591	3,027	5,618	1,430	1,780	3,210	895	1,022	1,917	8-18	20	20	8-18	28-45	30-60	30-60
<b>87*</b>	Bus	Arlington Center / Clarendon Hill – Lechmere Station via Somerville Avenue	1,943	1,853	3,796	1,436	1,422	2,858	817	925	1,742	20-22	30	30	20-22	30-35	30-40	30-40
<b>88</b>	Bus	Clarendon Hill – Lechmere Station via Highland Avenue	2,003	2,073	4,075	1,418	1,376	2,794	862	803	1,664	8-18	30	30	8-18	35	20-40	20-40
<b>90</b>	Bus	Davis Square Station – Wellington Station Via Sullivan Square Station and Assembly Mall	588	593	1,182	334	350	684	230	163	393	40	40-55	40-55	40	65	70	70
<b>91*</b>	Bus	Sullivan Square Station – Central Square Station via Washington St	784	909	1,693	713	860	1,574	354	389	743	25-30	25-30	25-30	25-30	60-65	20-60	20-60
<b>CT2*</b>	Bus	Sullivan Station – Ruggles Station via Kendall/MIT	1,425	1,390	2,815	---	---	---	---	---	---	20	30-35	30-35	20	---	---	---





\*Routes that run directly through Union Sq. All others run within ½ mile of Study Area



**Figure 2: Existing Transit Services in and near Union Square**

## 1.6.2 Additional Context

The GLX project is under construction and Union Square Station is expected to come online on a timeline proximate to the development of D2.3, which is adjacent to the future Union Square Station. The overall Union Square Development will fund and construct improvements that provide access and needed facilities for the station and will carefully provide for construction coordination. Respecting access and facilities to the GLX project and it is an important part of the overall development. The Project is further supportive of ongoing City of Somerville and MBTA efforts to improve public transportation in the area. Many of these efforts have been completed recently, or are underway, and may further impact service in the Union Square area, but in ways as yet undetermined. These include:

- Dedicated bus lane on Prospect Street, adjacent to D2;
- Better Bus project, the MBTA effort to review route by route changes to the bus network;
- Bus Network Redesign – soon to be underway MassDOT/MBTA effort to redesign the overall bus network; and
- Potential improvements to bus routes once the Green Line Extension opens to coordinate service and minimize duplication.

The Project has been supportive of these efforts through its partnership with the City and has committed to ensuring public transportation access and improvements on a Project-wide and Lot by Lot level. While these evolve but remain undefined in specifics, the analysis included herein assumes the persistence of the current bus network, with the addition of the GLX.



### **1.6.3 Existing Stops around Parcel D2.3**

Parcel D2.3 features easy access to outbound bus route CT2. The bus stop is located on Prospect Street, approximately 130 feet walking distance and one-minute walking time from the site. The average wait time for bus service is approximately 12 minutes. Per the ongoing bus plans described above, and the City of Somerville's proposed reconstruction of Prospect Street, the location of and final operations for bus stops around Parcel D2.3 will likely evolve. The Project will be an active participant in those plans and will contribute to the planning, design and construction of the future bus stop in a way that maximizes access and comfort for Project tenants and the community at large.

## **1.7 BICYCLE NETWORK**

Union Square includes a vibrant cycling community and there are dedicated on-street facilities located along major corridors in the study area. These facilities are planned for expansion adjacent to the Union Square Revitalization Program's developments on a schedule to be determined by the City. Somerville Avenue is scheduled to receive dedicated, separated cycle tracks on both sides of the street prior to the construction of the entire development; the separated cycle tracks are included in the analysis. Figure 3 shows the existing Union Square network, with a cycle track on Somerville Avenue and bicycle lanes on multiple nearby corridors, including Beacon Street, Cambridge Street, Webster and Washington Street. The analysis contained in the TIS evaluates existing conditions, including existing bicycle volumes at all intersections. Level of Traffic Stress Analysis (LTS) was used to evaluate the safety and comfort experienced by cyclists in all analysis scenarios.







Figure 3: Existing Bicycle Facilities



### **1.7.1 Bicycle Turning Movement Counts**

Bicycle turning movement counts (TMCs) were collected for all study area intersections for AM peak, PM peak, and Saturday peak times. Full count results are included in an appendix to the TIS. Summary results are displayed in the maps on the following pages.

During the AM peak period, the highest bicycle volumes were observed at the following locations:

- Inman Square, heading southeast on Hampshire Street
- Beacon Street at Washington St, heading south on Beacon Street
- Somerville Avenue, between School Street and Union Square
- Southbound on Webster Avenue between Union Square and Cambridge Street

During the PM peak period, the highest bicycle volumes were observed at the following locations:

- Inman Square, primarily heading northwest on Beacon Street
- Beacon Street at Washington Street, heading north on Beacon Street
- Bow Street at Walnut Street, with approximately half of these heading further north onto Summer Street, and the other half heading west on Somerville Avenue
- Webster Avenue between Cambridge Street and Union Square, heading north

During the Saturday peak period, the highest bicycle volumes were observed at the following locations:

- Somerville Avenue between Bow Street and Union Square, eastbound
- Bow Street between Union Square and Somerville Avenue, westbound
- Beacon Street between Cambridge Street and Washington Street, both northbound and southbound
- Webster Avenue between Cambridge Street and Union Square, both northbound and southbound

### **1.7.2 Bicycle Counts**

Bicycle counts were conducted at key locations entering and exiting the core of the study area. These counts recorded bicycle volumes and genders and ages for each cyclist for ten minutes during each hour from 7:00 AM to 8:00 PM. All counts were collected on October 4, 2017. Summary results are available in the following table. Full results from these counts are available as an Appendix to this document. The age and gender counts reveal that the majority of the cycling population is male, with only 20-30% of cyclists being female. The vast majority of cyclists were in the 15-30 years old age range, with a significant minority of cyclists in the 31-64 age group. Peak hours were not consistent across count locations but did tend to occur during either the AM or PM peak hours, with a tendency to occur somewhat later than what might be expected for a motor vehicle traffic peak (7:00-8:00 PM vs. 5:00-6:00 PM). The greatest number of cyclists was recorded on Bow Street, between Walnut Street and Warren Avenue, with over 270 cyclists estimated during the peak hour of 6:00 – 7:00 PM. These numbers represent a significant and active cycling community that must be well-accommodated as Union Square continues to grow and thrive.

### **1.7.3 Bicycle Level of Traffic Stress**

Bicycle Level of Traffic Stress (LTS) analysis uses multiple parameters related to roadway design and traffic levels to estimate the level of comfort experienced by cyclists using the roadway. The LTS analysis was conducted for all roadways in the study area for the 2018 Existing Condition. This condition includes the implementation of the bidirectional cycle tracks planned for Somerville Avenue.





## Mobility Management Plan – Union Square Revitalization – Parcel D2.3

Figure 4 uses colors to denote each bicycle LTS for each direction of every road segment. Given the significant number of bicycle facilities and quiet, neighborhood streets within the study area, most area roadways operate at LTS 1 or 2. Area roadways with high levels of motor vehicle traffic and narrow parking lanes adjacent to bicycle lanes, such as Beacon Street and Cambridge Street, operate at LTS 3. While these corridors do have bicycle lanes, the level of activity and risk of conflict with parking vehicles reduces the typical cyclists' comfort level. No area roadways operate at LTS 4.



Figure 4: Bicycle Level of Traffic Stress, Existing Condition





## **1.8 SIDEWALKS**

In an effort to provide amenities for the public and pedestrian access on site, a planned civic space has been included along the Prospect Street frontage. The civic space connects to the proposed thoroughfare creating a pedestrian plaza for the length of D2.2 and D2.3's west elevation. Connecting the public right of way, retail/active uses, and residential lobbies support the designed public way culminating in a connection to the MBTA station area. Sidewalks connecting to the civic space extend along the rear of each building providing continuous pedestrian access throughout the site. The civic space will include a variety of seating options, comprised, of fixed benches along landscaped planters and un-fixed tables and chairs that will provide for flexible arrangements.

The D2.3 parcel includes two access points connecting the public sidewalk along Prospect Street to the site. Pedestrians travelling north along Prospect Street will have the opportunity to enter the site from either of the two access stairways or continue to the at grade entrance at Bennett Court, providing ADA access to the Project and the MBTA station. Retail uses and the residential lobby are located on the north face of the building directly connecting to the pedestrian path included in the design of the civic space.

As part of the project, the public sidewalk along Prospect Street side will be rehabilitated and widened including the addition of streetscape and connections to the civil spaces. The City of Somerville will reconstruct the sidewalk along Somerville Avenue as part of its Somerville Avenue Utility Improvement Project, resulting in a wider pedestrian path and improved streetscape prior to occupancy of D2.3. Two curb cuts will be created, one for Bennett Court and one for the alley. Three curb cuts along prospect street and two along Somerville Avenue will be closed resulting in a net reduction of three curb cuts.





## **2.0 TRIP GENERATION & MODE SHARE**

Trip generation was conducted using nationally accepted trip generation rates from the ITE Trip Generation Manual, 10<sup>th</sup> edition. Person trips generated via this manual were modified according to the average vehicle occupancy rate observed in Union Square by the US Census. Census-based mode share data was used to distribute site-generated trips across modes, and a transportation demand management (TDM) factor was applied to reach an ultimate future non-vehicle mode share of 60%. In coordination with the City of Somerville, it was assumed that 15% of trips could be removed from the vehicle analysis due to internal capture, with the remaining entering and exiting trips being distributed across the roadway network for analysis.

Table 6 lists the development program assumptions for the following land uses: residential, hotel, retail, office, lab, and arts for Parcel D2, as well as a breakdown for Parcel D2.3. Although it is anticipated the office use on Parcel D2.1 will be a mix of life sciences and traditional office (currently anticipated to be 60% lab and 40% office), this analysis assumes 100% office, which has a more conservative (higher) peak hour vehicle travel demand.

**Table 6: Parcel D2 Development Program Assumptions**

Land Use	Parcel D2	Parcel D2.3
<b>Apartments (units)</b>	450	363
<b>Hotel (rooms)</b>	0	0
<b>Retail (SF)</b>	21,430	3,340
<b>Office (SF)</b>	62,300	0
<b>Lab/R&amp;D (SF)</b>	95,600	0
<b>Arts &amp; Creative (SF)</b>	16,220	7,320





## 2.1 ITE TRIP GENERATION RATES

The ITE Trip Generation Manual, 10<sup>th</sup> edition, trip generation land use codes and rates applied to the above program are listed in Table 7. ITE average trip generation rates were used to calculate the site trips (as opposed to the potential use of trip generation fitted curve equations) to be consistent with the trip generation calculations contained in the previous comprehensive traffic impact study for the full build out of all development parcels that was reviewed and approved by the City through the Coordinated Development Special Permit (CDSP) process.

It should be noted that ITE land use code (LUC) 710 was used to estimate demand from the proposed office space and arts space combined to create a more conservative estimate as previously discussed.

**Table 7: ITE Trip Generation Rates**

ITE LUC	Description	Unit Variable	Rate	Entering	Exiting
<b>Weekday</b>					
<b>222</b>	Multifamily Housing (High-Rise)	Dwelling unit	4.45	50%	50%
<b>820</b>	Shopping Center	1000 sf GLA	37.75	50%	50%
<b>710</b>	General Office Building	1000 sf GLA	9.74	50%	50%
<b>AM Peak Hour</b>					
<b>222</b>	Multifamily Housing (High Rise)	Dwelling unit	0.31	24%	76%
<b>820</b>	Shopping Center	1000 sf GLA	0.94	62%	38%
<b>710</b>	General Office Building	1000 sf GLA	1.16	86%	14%
<b>PM Peak Hour</b>					
<b>222</b>	Multifamily Housing (High Rise)	Dwelling unit	0.36	61%	39%
<b>820</b>	Shopping Center	1000 sf GLA	3.81	48%	52%
<b>710</b>	General Office Building	1000 sf GLA	1.15	16%	84%
<b>Saturday Peak Hour</b>					
<b>222</b>	Multifamily Housing (High Rise)	Dwelling unit	0.36	55%	45%
<b>820</b>	Shopping Center	1000 sf GLA	4.50	52%	48%
<b>710</b>	General Office Building	1000 sf GLA	0.53	54%	46%

Source: *Trip Generation Manual*, 10<sup>th</sup> Edition; ITE, 2017





## 2.2 AVERAGE VEHICLE OCCUPANCY

The total number of vehicle trips as generated by ITE methodology was converted to person trips according to the average vehicle occupancy rate observed in Union Square by the US Census. Based on US Census data for block groups within Union Square, the average vehicle occupancy within the study area is 1.25. Therefore, ITE-estimated vehicle trips were multiplied by 1.25 to produce the total number of daily person trips as well as AM, PM, and Saturday peak hours for analysis, shown in Table 8.

**Table 8: Parcel D2.3 Site-Generated Person Trips**

Daily	AM Peak Hour	PM Peak Hour	Saturday Peak Hour
2,268	155	190	187

## 2.3 MODE SHARE

Mode splits for project-generated person trips were determined using US Census journey-to-work data. According to the data, the existing vehicle mode share is approximately 66% and the existing non-vehicle mode share is approximately 34%. Existing US Census non-vehicle mode share for the Union Square Census tract was grown to 60% based on assumptions regarding proposed TDM measures to be required by the City as part of the development. These measures assume a significant positive impact on non-vehicle mode share due to the Green Line Extension, improved streetscapes in the Union Square area, and ongoing citywide measures intended to increase transit, bicycle, and pedestrian activity. The Table 9 displays the non-vehicle mode shares used for this analysis. Please note that non-vehicle mode share includes transit, bicycle, and pedestrian modes.

**Table 9: Existing and Projected Future Non-Vehicle Mode Shares**

Non-Vehicle Mode Shares	
Existing Non-Vehicle Share (US Census Data)	34%
Future Non-Vehicle Share (Existing and Proposed TDM)	60%
Future Transit Share	22%
Future Bicycle Share	15%
Future Pedestrian Share	23%

By using the future mode shares in Table 9, Table 10 summarizes person trips, alternative mode trips, and vehicle trips for analysis by daily, AM peak, PM peak, and Saturday peak time periods for Parcel D2.3. Vehicle trips for analysis were generated by applying the following context variables:

- **Internal Capture:** An internal capture factor of 15% was applied to the overall vehicle trips. Therefore, the remaining 85% of vehicle trips were considered new trips.
- **Pass-by Trips:** No pass-by factor was applied to create a conservative approach to traffic generation. As the retail uses are not yet known, this approach conservatively assumes that the retail would generate trips of its own accord.





**Table 10: Parcel D2.3 Site-Generated Trips by Mode**

Period	Person Trips	Transit Trips	Bicycle Trips	Pedestrian Trips	Vehicle Trips	New Vehicle Trips for Analysis	Vehicle Trips Entering	Vehicle Trips Exiting
<b>Daily</b>	2,268	499	349	523	897	762	382	380
<b>AM Peak Hour</b>	155	34	24	36	61	52	15	37
<b>PM Peak Hour</b>	190	42	29	44	75	64	37	27
<b>Sat. Peak Hour</b>	187	41	29	43	74	63	34	29





## **3.0 PROGRAMS AND SERVICES**

The Proponent is committed to making reasonable efforts to achieve the City's goal to control the percentage of trips by automobile consistent with SomerVision. In combination with ongoing pedestrian and bicycle improvements, close proximity to public transportation, including the GLX, and the inherent walkable characteristics of the Union Square neighborhood, implementation of the Mobility Management Plan is anticipated to help decrease the percentage of trips. Per the Mobility Management Plan for the overall Union Square Redevelopment, including Parcel D2.1, the Proponent, "has committed to achieve a 60% non-automobile mode share for travel to the development site, which includes multiple buildings that will host a variety of tenants in the future. It is important to note that the majority of the mobility management programs and services necessary to achieve the Applicant's commitment will be implemented by the future employers, parking facility operators, and property management firms of the new buildings included in the development proposal. Participants will need to establish mode share commitments that meet or exceed the established goal and provide both required and optional programs and services to varying degrees to ensure success. As identified by the Applicant in the submitted Mobility Management Plan for the Union Square Redevelopment, if annual monitoring and reporting identifies a shortfall in meeting this goal, additional mobility management programs and services must be implemented.<sup>1</sup>"

### **Background**

As described in this MMP, Parcel D2.3 is being built in conjunction with Parcels D2.1, D2.2 and the Thoroughfares associated with them. Collectively, these are the first parcels completing DSPR approvals. The Proponent is committed to making the necessary efforts to achieve the 60% non-auto mode share agreed to in the CDSP and its existing Mobility Management Plan from November 15, 2017, and consistent with recent zoning, SomerVision, and the Union Square Neighborhood Plan. In combination with proposed pedestrian and bicycle improvements, close proximity to public transit services, and inherent walkable characteristics of the Union Square neighborhood, the Project has been developed consistent with area goals and guidelines to take advantage of, promote and maximize non-auto travel. Included below is an overview of the programs and commitments of the Project towards meeting these goals. The Project is designed to encourage a walkable, bikeable, transit-oriented environment in Union Square. This includes:

- Smaller blocks, which encourage walking and biking by providing short, direct connections.
- Density around the future Union Square Station, which will encourage ridership as more people have easy access.
- Pedestrian accommodations and site through-connectivity, which prioritizes pedestrian pathways and makes walking the most convenient choice for access.
- A shared parking approach, which maximizes the use of each parking space and commits more of the development to uses other than private vehicle storage.

Both SomerVision and the Union Square Neighborhood Plan, community driven planning documents, outline a priority on non-auto transit. The City of Somerville is supporting this goal by proactively creating additional bicycle, pedestrian and transit facilities throughout Somerville, including in Union Square. The City's \$50 million commitment to the GLX project, which include direct Project contributions to a total of \$5.8 million, is a critical factor in building out

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<sup>1</sup> *Mobility Management Plan Approval Letter, Union Square Redevelopment Plan, December 14, 2017*





## ***Mobility Management Plan – Union Square Revitalization – Parcel D2.3***

this future, as are updated zoning requirements that seek to encourage density and a mix of uses at the most transit-accessible locations.

The Project, in keeping with the recently adopted Neighborhood Plan, seeks to create a live, work, shop and play environment with interlinked uses. Many trips will begin and end in Union Square, but for those accessing Union Square, its unique and growing mix of multimodal infrastructure will provide excellent alternatives to the personal vehicle, and the US2 team understands that additional programming and services should be in place to encourage people to travel using sustainable modes.

### **D2.3 Programs**

The Mobility Management Plan for Parcel D2.3 includes a range of commitments to meeting mode share goals, encouraging non-auto travel and managing demand and access. The specific programs and services covered in this MMP are consistent with the:

- Overall MMP for the Union Square Redevelopment as approved by the City of Somerville in its letter dated December 14, 2017
- Ongoing coordination with the City of Somerville on Mobility Management Plan guidance
- City of Somerville's Proposed Zoning Code - Section 11 Parking and Mobility

The US2 team has developed the Mobility Management plan below and will work with the City and/or future owners and tenants to implement these measures. These programs and services include:

- General Commitments
- Financial Incentives
- Shared Vehicle Services
- Alternative Schedules
- Marketing & Education
- Parking Management
- On-Site Services
- Others

## **3.1 GENERAL COMMITMENTS**

### **3.1.1 Applicability to Project Tenants**

As there will be multiple tenants located within the Project site and within each Block, MMP obligations will be included to the extent possible as part of the lease language between tenants and the property owner. Verification of the ongoing conformance with this condition will be provided to the City of Somerville by the property owner either as a copy of the leases (with financial aspects and other non-MMP elements redacted) or via an affidavit signed by the owner and tenant(s) verifying that this language to extend MMP obligations to the extent possible was included and agreed to in the lease. This documentation will be provided to the City prior to the issuance of the Certificate of Occupancy of a space by a tenant with 50 or more employees.





### **3.1.2 Commitment to Local Hiring**

The Proponent is committed to promoting the hiring of local residents for employment opportunities associated with the Project and its tenants. Local hiring is important in terms of supporting overall Somerville and community goals, as well as for transportation demand management benefits. Per the overall MMP for the Union Square Development, to the extent practicable, the Project will implement a program to advertise employment opportunities and seek qualified candidates that live within walking or bicycling distance to the Project. Residents of Parcel D2.3 would be expected to participate in Local Hiring initiatives.

### **3.1.3 Transportation Management Association Involvement**

The Proponent is committed to participation in a Transportation Management Association (TMA) to help administer TDM programs and advance joint transportation initiatives. The Project will coordinate with the Assembly Square Transportation Management Association, and others to explore opportunities to expand membership or programs to include Union Square. As determined, the Proponent will participate in exploring the formation of a Union Square TMA as the area develops. Under any scenario, the Proponent would work closely with the appropriate TMA and City to maximize full participation of tenants, employees and different users.

### **3.1.4 Transportation Coordinator**

As required by the MMPs and the Director of Transportation & Infrastructure's Final Decision Letter for the Project Mobility Management Plan, an on-site TDM Coordinator will be designated for Parcel D2.3, unless and until the property is a member of a TMA. The work location and contact information for each TDM Coordinator will be provided to the Director of Transportation & Infrastructure prior to the issuance of a Certificate of Occupancy for applicable buildings. This person may be the office manager, human resources employee, or other individual serving a dual-role in another job on the site.

The person(s) in this role will coordinate with other organizations within Union Square to help promote a reduced reliance on single-occupant motor-vehicle travel to the Project site. To that end, the TDM measures identified in the following sections will be implemented under the direction of and supervision of this person. The final job description for this role will be determined over time, but the duties will likely include:

- Acting as a liaison with site employers and MassRIDES;
- Assisting site employees and residents with ride matching and transportation planning;
- Developing and implementing appropriate TDM measures;
- Disseminating information on alternate modes of transportation and developing transportation related marketing and education materials;
- Hosting an annual mobility management educational meeting for tenants and their employees (both the content of this meeting and associated posted material also shall be provided to the Director of Transportation & Infrastructure for review and approval prior to issuance of a Certificate of Occupancy);
- Developing and maintaining information pertaining to pedestrian and cycling access to and from the Project site;
- Distributing transit maps and passes;





## **Mobility Management Plan – Union Square Revitalization – Parcel D2.3**

- In tenants' lease agreements the Proponent will require that tenants be registered with the MassRIDES Emergency Ride Home (ERH) program, or to provide a similar ERH service; and
- In an effort to seek qualified employees located within walking distance or biking distance or their place of work, to every extent practicable users will advertise job opportunities.

### **3.2 FINANCIAL INCENTIVES**

The Project will provide access to financial incentives to encourage non-auto travel, which will include the following programs:

#### **3.2.1 Qualified Transportation Fringe Benefits**

The Federal Commute Benefit program (as of November 2018) allows employees to receive a discount on commute costs through a pre-tax purchase program. This discount encourages employees to carefully consider transportation options, including cost rather than time. Ideally, the benefit “tips the scale” in favor of transit and carpooling by making these options even more affordable as compared to car ownership, insurance, and paying for parking.

Employees at Parcel D2.3 will have the opportunity to enroll in federally designated Commute Benefit programs as current legislation allows.<sup>2</sup> In 2019, this means that employees are eligible for:

- A pre-tax transit pass up to \$260
- Pre-tax parking payment up to \$260
- Vanpool fees (including UberPOOL and LyftLine up to \$260)

Participation in this program will be mandated in all lease agreements between the Project and its tenants, per the Union Square Redevelopment's approved Mobility Management Plan.

#### **3.2.2 Transit Passes**

Free or discounted transit passes can increase transit ridership and in turn reduce travel by private vehicle. This is often much cheaper for administrators to provide than market rate parking in urban areas.

**Employer Transit Passes:** As possible, D2.3 employers will be encouraged to provide a certain level of transit pass as an employee benefit. This will be included in any benefits package, similar to insurance or a gym membership, and can be part of providing a competitive workplace environment to attract talent.

**Resident Passes:** Providing a subsidy for residents, particularly new residents who are establishing travel patterns, can lower a barrier to taking transit (both paying for and obtaining the pass) and encourage people to choose transit over driving. The development team will explore the bulk purchase of transit passes.

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<sup>2</sup> IRS Publication 15-B provides a recent review of benefits. <https://www.irs.gov/pub/irs-prior/p15b--2018.pdf>





### **3.2.3 Bike Sharing (Blue Bikes Membership)**

Free or discounted bikeshare membership can increase bicycle use and in turn reduce travel by private vehicle. As possible, D2.3 employers will be encouraged to provide a certain level of BikeShare (BlueBikes) membership as an employee benefit. This will be included in any benefits package, similar to insurance or a gym membership, and can be part of providing a competitive workplace environment to attract talent.

### **3.2.4 Guaranteed Ride Home Program**

Employees in particular can use this program to get home in an emergency such as for a family illness, bicycle damage, and/or unscheduled overtime, making commuting by bicycle, on foot, or by transit more convenient and comfortable. The Project will include a provision in all lease agreements requiring the leasee to become a participating MassRIDES employer partner worksite that is registered for the MassRIDES Emergency Ride Home (ERH) program or will provide a similar guaranteed ride home service operated by the lease, per the conditions of the Union Square Redevelopment MMP.

## **3.3 SHARED VEHICLE SERVICES**

The Project will support the use of shared vehicle services for all users at Parcel D2.3 either directly or in conjunction with the overall Union Square Development and adjacent parcels, as described below:

**Carpool Matching:** MassDOT’s MassRIDES administers NuRide, a ride matching program that helps people with similar commutes find one another. All tenants and employees in the Project will be encouraged to Union Square will have the option to join this service. The site’s user interface is relatively easy to use and helps users identify people with extremely similar commutes by crowdsourcing information.

**Preferential Parking for Carpool/Vanpool:** Parking for Parcel D2.3 will be provided in the shared garage to be completed as part of D2.2 and D2.3. Preferential parking for designated carpool/vanpools will be made available as determined for 5% of spaces. This type of “premium service” can encourage more users to pursue what may otherwise be perceived as a less convenient option. “Preferential Parking” that is more convenient (i.e., closer to the door) for carpool vehicles will be available when possible.

**On-Site Car Sharing:** Parking for Parcel D2.3 will be provided in the shared garage to be completed as part of D2.2 and D2.3. Carshare spaces will be provided in the garage, at no charge, and will be available for Parcel D2.3 users.

## **3.4 ALTERNATIVE SCHEDULES**

Transportation demand management is about shifting the mode as well as the time that people travel to a given location. While “peak hours” of service on transit as well as roads can be very congested, often there is ample capacity at other times of day. The Project will encourage this by working with employers and tenants as feasible to implement a policy encouraging:

**Flexible Hours.** Employers at the Phase 1 Project site will be encouraged to offer flexible hours to their employees to ease pressure during peak times.





**Telecommuting.** In addition, employers will be encouraged to allow telecommuting at least once a week, which will reduce vehicle travel by an average of 20% if each person driving stays at home one day each week.

### **3.5 MARKETING AND EDUCATION**

A key element of all TDM programs is letting potential users know that they exist. The specific programs will be developed by the Transportation Coordinator in conjunction with Project tenants in the spirit of this MMP. The Project intends to provide information through channels such as:

- Annual Mobility Education Meeting – all employees and residents in the Project will be invited to attend a Mobility Education meeting to learn about options annually. It is important to do this each year as mobility options will change.
- TDM Program information on Project, tenant and US2 **websites** and related media.
- **Posted Transportation Information**, such as maps and/or **TransitScreen** installation.
- Residential/Employee distributed **information packet**, both paper and digital, including:
  - Carshare membership information;
  - Bikeshare membership information;
  - Local bicycle map; and
  - Local transit map.

### **3.6 PARKING MANAGEMENT**

Parcel D2.3 will have access to the shared parking garage being completed as part of Parcels D2.2 & D2.3. Parking management is one of the key elements to managing vehicular demand. The overall parking plan includes the following steps to manage parking:

- **Parking Management.** The Commercial Services Vehicular Parking Facility will be managed by the property owner or a management agency independent from other non-residential uses per the Union Square Redevelopment's approved Mobility Management Plan.
- **"Unbundled" Parking.** All residents and employers at the Project site must purchase and/or lease parking separately from any office and/or residential space. This strategy ensures that users understand the true cost of parking provision and can make transportation choices accordingly. It also creates more affordable housing and office space by allowing parking to become an optional amenity rather than a required purchase.
- **Market Rate Pricing.** Parking will be available at local market rates. Parking pricing is one of the most effective tools to balance demand and encourage people to travel using more cost-effective modes such as transit, walking, and/or bicycling
- **Daily Pricing.** When practical and feasible, daily parking will be available at daily rates rather than monthly leases. When users pay for parking each day, they are reminded of its cost which encourages choosing other modes. Moreover, avoiding monthly leases helps to avoid the mentality that parking is a "sunk cost" and instead encourages flexibility in travel options
- **Real-Time Availability.** The Commercial Service Vehicular Parking Facility will provide a sign at the vehicle entrance indicating the number of spaces available in real time, per the Union Square Redevelopment's approved Mobility Management Plan.





- **Reserved Spaces** A limited number of residents will be able to lease reserved spaces within the Commercial Services Parking Facility. A maximum of 19 spaces will be reserved for residents (of Parcel D2.2 and D2.3 combined) within the Commercial Services Parking Facility, to be managed by the Transportation Coordinator between Parcel D2.2 and D2.3.

## **3.7 ON-SITE SERVICES**

The Project will offer additional transportation amenities on-site to encourage alternative transportation as described below:

- **Secure Bicycle Parking.** 500 Bicycle parking spaces are provided by D2.2 and D2.3. 453 of these are sheltered and secured and located within the building's enclosure. The totality of spaces is accessible from either D2.2 or D2.3. D2.3 provides 38 additional, short-term parking spaces at the building's south facing exterior. Final bicycle parking design includes:
  - Clear wayfinding to bicycle parking, particularly in garage facilities
  - 24-hour access
  - Secure bicycle racks that meet Somerville-specific or national standards
  - Location close to entrances
  - Separate pedestrian entries where possible to allow people to get to/from bicycle parking facilities
- **Bicycle Repair Facilities.** Standalone facilities with heavy-duty tools, including air pumps, are a relatively low-cost way to support people who choose to bike, and will be included if feasible.

Project tenants, employees and visitors will also have access to other on-site bicycle and transportation facilities associated with other Union Square Redevelopment parcels including D2.1 and D2.3.

## **3.8 SAMPLE LEASE AGREEMENT**

Prior to the Certificate of Occupancy the Project will develop sample lease agreement text in coordination with the City of Somerville.





## **4.0 MONITORING AND ANNUAL REPORTING**

The Project will complete an Annual Reporting on the programs included in the Mobility Management Plan and tracking the achievement of mode share goals. This reporting will be completed per the Somerville Zoning Ordinance and Planning Board's Mobility Management Plan Submittal Standards, which include:

### **4.1 ANNUAL TRAVEL SURVEYS**

Travel surveys are a key component of understanding how residents and employees are traveling, as well as whether they are aware of the travel options that are available to them. User questions will follow City of Somerville requirements as available, and will cover topics such as:

- Mode choice for commute
- Mode choice for other trips
- Work hours
- Travel distance
- Reasons for most common mode choice
- Awareness of commute options

It is likely that the survey will be digital, but if response rates are low, employers and/or property managers will be encouraged to supplement digital responses with intercept or paper surveys.

### **4.2 BIENNIAL COUNTS OF CAR AND BIKE PARKING OCCUPANCY AND DRIVEWAY INS/OUTS**

Biennial counts will be completed for the shared parking garage in conjunction with MMP submittals for Parcel D2.1 and D2.2. Project parking will submit peak occupancy and driveway counts biennially as part of a Mobility Status Update (see below).

### **4.3 STATUS UPDATE**

Based on the findings from the survey and the most recent set of biennial counts, building management will submit a Mobility Status update annually to the City of Somerville. The update will follow any guidelines provided by the City of Somerville and will include:

- Survey results
- Driveway counts
- Peak bicycle parking occupancy counts
- Peak vehicle parking occupancy counts
- Digital files as required

Comparison with and review of previous trends as data is available.





## **4.4 COMMITMENT TO MODE SHARE GOALS**

Monitoring will be conducted at the same time each year as determined by the Certificate of Occupancy. Per the MMP for the Union Square Development, if annual monitoring identifies a shortfall in the achievement of the 60% non-auto mode share goal, the Project will work with the City of Somerville to implement additional mobility management programs or services to achieve the required mode share. Previous guidance identifies potential interventions, such as higher parking prices, provision of additional amenities, or implementation of shuttles. Based on the information provided in annual monitoring, the Project will work to determine the most appropriate interventions.





## Appendix A

### SITE PLAN







D2.3 SITE PLAN



## **APPENDIX B**

### **CITY OF SOMERVILLE PARKING DEMAND MODEL**





# CITY OF SOMERVILLE PARKING DEMAND MODEL

## Parcel D2

### Parking Demand Calculator

	<u>Office/Lab SF</u>	<u>Hotel Rooms</u>	<u>Residential Units</u>
	↓↓ Replace Numbers Below ↓↓		
Site 1	166,800		
Site 2			87
Site 3			363
Site 4			
Site 5			
Site 6			

<b>TOTAL</b>	<b>166,800</b>	<b>-</b>	<b>450</b>
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Space/1000	167	-	-
------------	-----	---	---

ITE Base Rate	2.47/1000	0.6/room	1.1/DU
---------------	-----------	----------	--------

NN Adjustments	0.68	0.68	0.70
	1.0812672	0.92	0.69
	0.06180928	0.5712	0.70

Adjusted Rate	0.80	0.36	0.37
---------------	------	------	------

#### Off-Street Spaces

Space per Use Category	133	0	167
<b>Total Spaces Allowed (max)</b>	<b>300</b>		

#### Reserved Off-Street Spaces

% of Total per Use	10%	30%	50%
# of Total per Use	13.30	0.00	83.68
<b>Total Allowed (max)</b>	<b>97</b>		

#### See Zoning

These spaces are provided as off-street commercial parking made available on a monthly, daily, or hourly basis as desired by the operator. Only a certain number may be provided as reserved spaces for a specific user.

### Retail Parking Demand Calculator

	<u>Retail SF</u>
	↓↓
Site 1	12,090
Site 2	6,000
Site 3	10,660
Site 4	
Site 5	
Site 6	

<b>TOTAL</b>	<b>28,750</b>
--------------	---------------

Space/1000	29
------------	----

ITE Base Rate	2.55/1000
---------------	-----------

NN Adjustments	0.68
	0.92
	2.4276

Adjusted Rate	1.52
---------------	------

#### On-Street Spaces

<b>Ideal</b>	<b>44</b>
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# CITY OF SOMERVILLE PARKING DEMAND MODEL

## Parcel D2.3

### Parking Demand Calculator

	Office/Lab SF	Hotel Rooms	Residential Units
	↓↓	Replace Numbers Below	↓↓
Site 1	-		363
Site 2			
Site 3			
Site 4			
Site 5			
Site 6			

**TOTAL** - - 363

Space/1000 0 - -

ITE Base Rate	2.47/1000	0.6/room	1.1/DU
---------------	-----------	----------	--------

NN Adjustments	0.68	0.68	0.70
	1.0812672	0.92	0.69
	0.06180928	0.5712	0.70

Adjusted Rate	0.80	0.36	0.37
---------------	------	------	------

#### Off-Street Spaces

Space per Use Category	0	0	135
<b>Total Spaces Allowed (max)</b>	<b>135</b>		

#### Reserved Off-Street Spaces

% of Total per Use	10%	30%	50%
# of Total per Use	0.00	0.00	67.50
<b>Total Allowed (max)</b>	<b>68</b>		

#### See Zoning

These spaces are provided as off-street commercial parking made available on a monthly, daily, or hourly basis as desired by the operator. Only a certain number may be provided as reserved spaces for a specific user.

### Retail Parking Demand Calculator

	Retail SF
	↓↓
Site 1	10,660
Site 2	
Site 3	
Site 4	
Site 5	
Site 6	

**TOTAL** 10,660

Space/1000 11

ITE Base Rate	2.55/1000
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NN Adjustments	0.68
	0.92
	2.4276

Adjusted Rate	1.52
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#### On-Street Spaces

<b>Ideal</b>	<b>16</b>
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