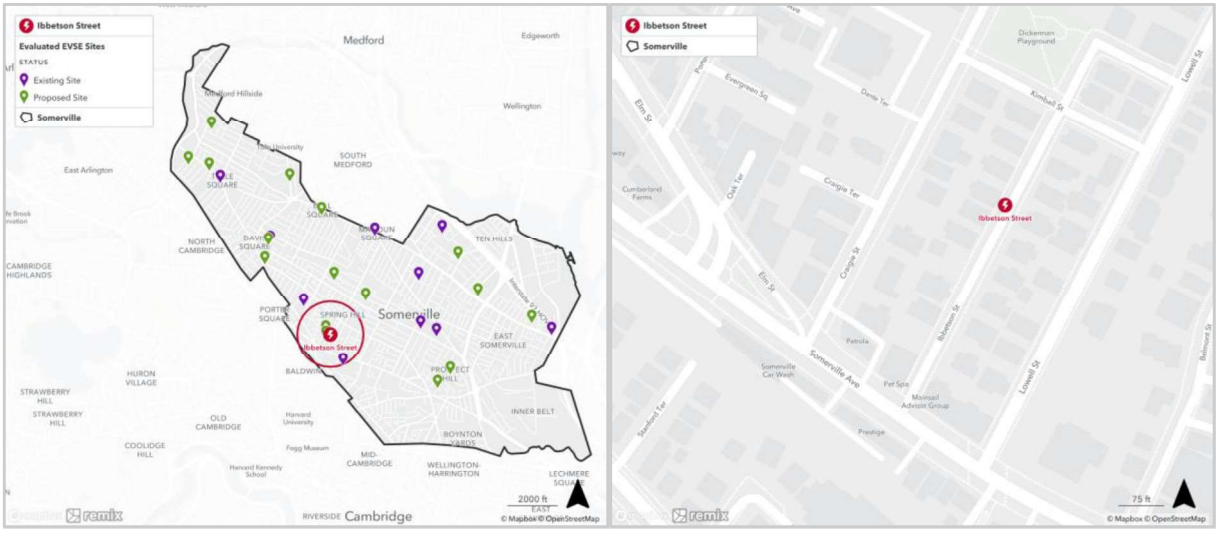
A. Ibbetson Street

Site Analysis

Ibbetson Street EVSE siting location: On-street parking along Ibbetson Street

Recommendation: Install in year 1



Key Information		
Community Score	Commercial Score	Combined Score
5.6	6.6	12.2

Existing City-owned EVSE	None
Floodplain	Out of floodplain
Bicycle Network Plan	No Impact
Capital Projects	Yes. There is potential for a tie-in to work at the Dickerman Playground Capital Project.
Parking Restrictions	None

The Ibbetson Street location is a new location for EVSE siting in Somerville. This location has an existing electrical service and would require a panel upgrade to install one 7kW Level 2 dual-head charging station. This location scored high on both the Community and Commercial Scores, making it a good location to promote equitable access to EVSE to underserved communities and economic activity.

There are two metered parking spaces in front of 2-4 Ibbetson that would be a good location for installation. The odd side of the street is not recommended, as it only has one parking space due to a fire lane located at the corner.

During the course of this project, the Project Team also evaluated Kimball Street near Dickerman Playground, but this location was not selected due to a stone wall interfering with the charging installation. The Ibbetson Street site serves as a replacement for the Kimball Street location.

Existing Electrical Conditions

Is there an existing electrical service?	Yes
Is there space on the existing panelboard?	No
Are there upgrades required for the panel/service in order to install EVSE?	Yes - Panelboard upgrade required. 150A, 120/240V, 1-Phase.
Is a new electrical service required?	No
Estimated Cost of Construction	Starting at $8,650

Load Calculation Summary

- The existing 100A Cab Sub Panel has approximately 56A of load on it. Based on calculations, this panelboard has a remaining electrical capacity of 14A.
- A 150A panelboard upgrade is required to provide additional electrical capacity for one (1) 7kW Level 2 Dual-Head EV charger.
- Based on calculations, the upgraded panelboard would provide sufficient electrical capacity for one (1) 7kW Level 2 Dual-Head EV charger.

Additional Information: Ibbetson Street currently has a 150A service at 120/240V, 1-Phase, located in a service cabinet along the sidewalk at the corner of Ibbetson Street and Somerville Avenue. There is one 100A panel that currently feeds a heater, light, and receptacle associated with the service cabinet. There is also an additional 100A panel that feeds LED street lighting through a contactor panel.

Proposed Electrical Upgrades: The existing 100A panel needs to be upgraded to a 150A panel to feed one (1) 7kW Level 2 Dual-Head EV charger. This would provide sufficient electrical capacity for the additional load associated with an EV charger.

EVSE Installation Recommendations and Costs

Option 1 (Recommended):

- Chargers in this location follow an on-street parking configuration.
- The Project Team recommends installation of a new panelboard for one additional 7kW Level 2 Dual-Head EV charger. The charger shall be installed on the same side of the street as the electrical service cabinet. There is space for two (2) cars to park along the street for access to the charger.
- ADA parking spots can be designated for the EV charger location. The street and sidewalk would need to accommodate the new layout.
- The installation of one 7kW Level 2 Dual-Head EV charger with a new 150A panelboard is expected to be $8,650.

Option 2:

- One additional EV charger can be installed under a power sharing scenario for a total of two (2) 7kW dual-head chargers. Instead of 7kW of power being provided to each head of the Dual-Head charger, 7kW total would be provided to the charger. If one head is being used, the 7kW would be provided for charging capacity. If both heads were being used, each head would get 3.5kW of power. This allows for more charging ports without the consumption of more power.
- For two 7kW Dual-Head chargers with the power sharing option, the approximate cost for the electrical infrastructure work and charger installations is $12,500.

Option 3:

- A service upgrade to 400A (96kw) at 120/240V can be requested. With this service size, approximately 96kW of power can be distributed to the EV chargers desired. The number and kW size of EV chargers can be chosen to meet 96kW in any configuration. For example, installing one 12kW Dual-Head charger would use 24kW of capacity out of the 96kW available.
- A new 96kW 400A service from Eversource is approximately $36,000. No electrical infrastructure and distribution costs are provided due to the high number of configurations possible.