

MEMORANDUM

September 2, 2022

To: Stephen Meuse, PE; Patrick Baxter, PE, PTOE
Organization: Cambridge Traffic, Parking, and Transportation Department
From: Kristen Braley, EIT; Michelle Danila, PE, PTOE
Project: Engineering Services for Separated Bike Lane Projects

Re: Garden Street (Huron Avenue to Mason Street), One-way Analysis

Working with the City of Cambridge, Toole Design has designed alternatives to add separated bike lanes along Garden Street between Huron Avenue and Mason Street. Toole Design developed three, quick-build, conceptual designs introducing separated bike lanes along Garden Street between Huron Avenue and Mason Street. The three options are:

- **Option 1** which provides a two-way separated bike lane between Huron Avenue and Concord Avenue and one-way separated bike lanes south of Concord Avenue to Waterhouse Street. Vehicular access along Garden Street remains two-way throughout the project area. Curbside access is maintained primarily south of Chauncy Street on the north side of the road.
- **Option 2** which provides two-way separated bike lanes between Huron Avenue and Linnaean Street and one-way separated bike lanes between Linnaean Street and Waterhouse Street. Vehicular operations would be one-way eastbound between Shepard Street and Concord Avenue. Curbside access is maintained on the north side of the street between Shepard Street and Waterhouse Street.
- **Option 3** which converts Garden Street from two-way vehicular operations to one-way eastbound vehicular operations between Huron Avenue and Concord Avenue. Option 3 provides one-way separated bike lanes in both directions between Huron Avenue and Waterhouse Street. Curbside access is maintained south of Linnaean Street on one side of the road.

The intent of this memorandum is to develop an understanding of the impacts to motor vehicle traffic related to the one-way traffic operations proposed in Option 3.

Study Area and Proposed Concept

Garden Street is a two-way, major collector street running generally in the east-west direction between Massachusetts Avenue to the east and Field Street to the west. The approximate 1.2-mile street generally has

one travel lane in each direction with shared lane markings for bicyclists north of Huron Avenue. Shared lane markings are provided travelling eastbound and a conventional bike lane travelling westbound is marked between Huron Avenue and Chauncy Street. The westbound bike lane is disrupted between Linnaean Street and Garden Lane by parking on the north side of the road. Parking is generally permitted along the south side of the road with restrictions at pinch points.

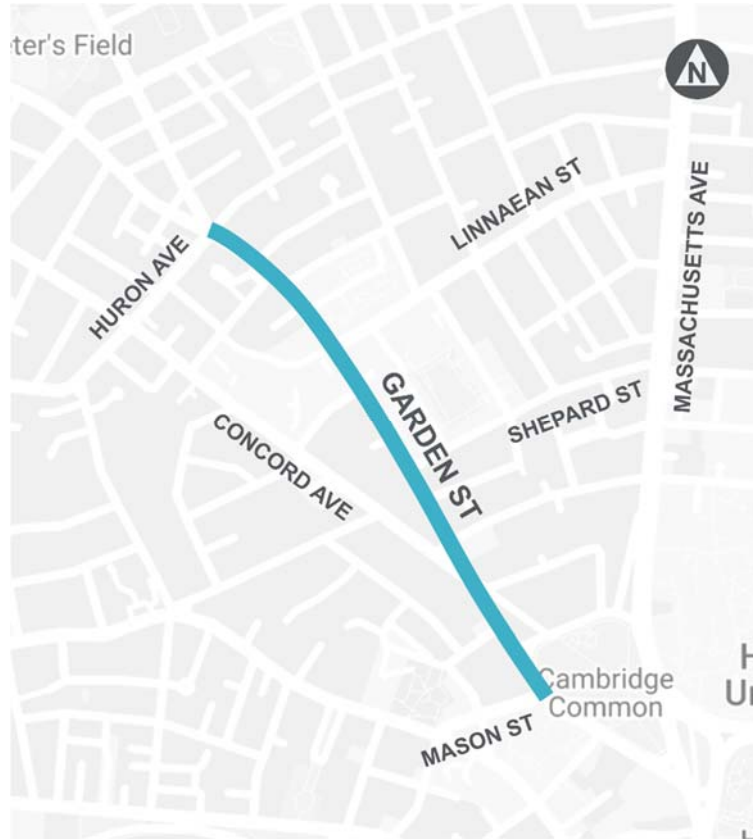


Figure 1. Garden Street Study Area Limits

Cambridge’s Cycling Safety Ordinance requires that separated bike lanes be implemented on Garden Street by Spring 2026. In addition, Cambridge’s Bike Plan (2020) identified Garden Street within the study area, between Huron Avenue and Concord Avenue, as a street that should provide greater separation for bicyclists.

Toole Design’s three conceptual designs aim to provide a greater level of separation for people biking through incorporating one-way and/or two-way separated bike lanes as a quick-build project. Due to the constrained dimensions of the roadway, one-way separated bike lanes in each direction and two-way vehicular operations would require a minimum of 36 feet while sections of Garden Street are only 33 feet. Comments during and following a community meeting requested that the City review an option with full one-way vehicular operations through the study area instead of the partial one-way operations proposed in Option 2. Based on the limited curb-to-curb width and the community feedback, Option 3 was developed to provide one-way separated bike lanes and one-way vehicular operations along Garden Street.

Traffic Count Data

Automatic traffic recorder (ATR) data were collected on Garden Street just south of Shepard Street on Tuesday, June 14, 2022 for 24 hours and are attached. ATR data shows the daily traffic on Garden Street to be approximately 7,000 vehicles per day (vpd) with a greater proportion of those trips travelling eastbound. Table 1

summarizes Garden Street daily traffic data including design hour volumes, peak-hour percentage (K), directional distribution, vehicle class, and average and 85th percentile speeds.

Table 1. Daily Traffic Count Summary

	Westbound	Eastbound	Westbound and Eastbound
Daily Motor Vehicle Traffic (vpd)	2,673	4,314	6,987
Daily Traffic (including bicycles)	2,999	4,699	7,698
Design Hour Volume (vph)	316	512	666
K Factor	11.8%	11.9%	9.5%
Directional Distribution	38.3%	61.7%	-
Average Speed (mph)	27.0	25.8	26.2
85 th Percentile Speed (mph)	31.0	31.0	31.0
Vehicle Classification			
Bicycles	10.9%	8.2%	9.2%
Light Vehicles (motorcycles, cars, light goods)	86.1%	88.9%	87.8%
Buses	1.2%	0.8%	0.9%
Single Unit Trucks	1.7%	2.0%	1.9%
Multi-Unity Heavy Vehicles	0.1%	0.1%	0.1%

The daily traffic variations on Garden Street near Shepard Street are shown in Figure 2. The morning peak hour is from 8 to 9 AM and the evening peak hour is from 4:30 to 5:30 PM. Table 2 shows the hourly traffic travelling westbound and eastbound on Garden Street during the peak hours.

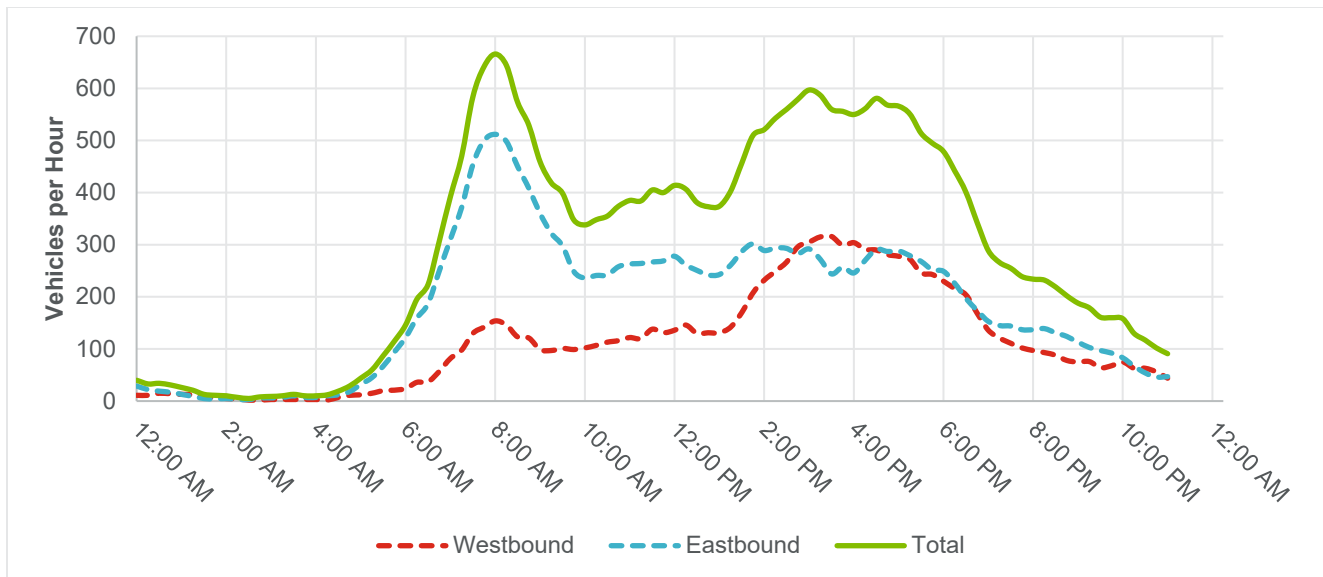


Figure 2. Daily Traffic Variations on Garden Street

Table 2. Hourly Traffic by Peak Hour

	Westbound Hourly Volume	Eastbound Hourly Volume	Total Hourly Volume
Morning Peak Hour (8-9AM)	154	512	666
Evening Peak Hour (4:30-5:30PM)	290	291	581

Origin-Destination Analysis

Toole Design obtained StreetLight data for the Garden Street corridor. The anonymized data gathered from smart phones and navigation devices is combined with other sources such as parcel data and road network data to analyze travel patterns. For this study, the data was used to understand regional and local travel patterns along Garden Street within the existing network. Pairing the data with historic traffic counts allows the patterns seen in the platform to be translated to quantifiable metrics. The insights from these analyses helped evaluate the implications of Option 3 on the traffic network and its feasibility based on those findings.

Garden Street Bi-Directional Metrics

A data collection “zone” was placed on Garden Street, just north of Chauncy Street, to capture typical trip lengths, trip durations, and origins and destinations of drivers passing westbound and eastbound through the zone. Analyses looked at daily trends and averaged hourly data in the morning peak period from 7 to 9 AM and the evening peak period from 4 to 6 PM on weekdays (Tuesday, Wednesday, Thursday) in October 2021. Based on discussions with the City, October 2021 trends were evaluated such that typical school-year trends unaffected by holiday travel in November and December would be represented.

The majority of trips on Garden Street each weekday and during the weekday morning and evening peak periods are less than five miles in length and about one in every three trips are less than 30 minutes long (Table 3, Table 4, Table 5, Figure 3, Figure 4).

Table 3. Daily and Peak Period Trip Lengths and Durations in October 2021

	Trips 5 miles or less in length	Trips 30 minutes or less in duration
Weekday (12AM-12PM)	64%	43%
Weekday Morning Peak Period (7-9AM)	59%	33%
Weekday Evening Peak Period (4-6PM)	52%	34%

Table 4. Daily and Peak Period Trip Durations along Garden Street in October 2021

	0-10 mins	10-20 mins	20-30 mins	30-40 mins	40-50 mins	50-60 mins	>60 mins
Weekday	7%	18%	17%	15%	12%	7%	23%
Weekday Morning Peak Period	5%	13%	16%	23%	12%	8%	24%
Weekday Evening Peak Period	4%	14%	17%	16%	15%	5%	29%

Table 5. Daily and Peak Period Trip Lengths on Garden Street in October 2021

	0-1 mi	1-2 mi	2-5 mi	5-10 mi	10-20 mi	20-30 mi	>30 mi
Weekday	10%	22%	32%	16%	9%	4%	7%
Weekday Morning Peak Period	4%	11%	44%	25%	7%	3%	6%
Weekday Evening Peak Period	8%	17%	27%	19%	18%	3%	8%

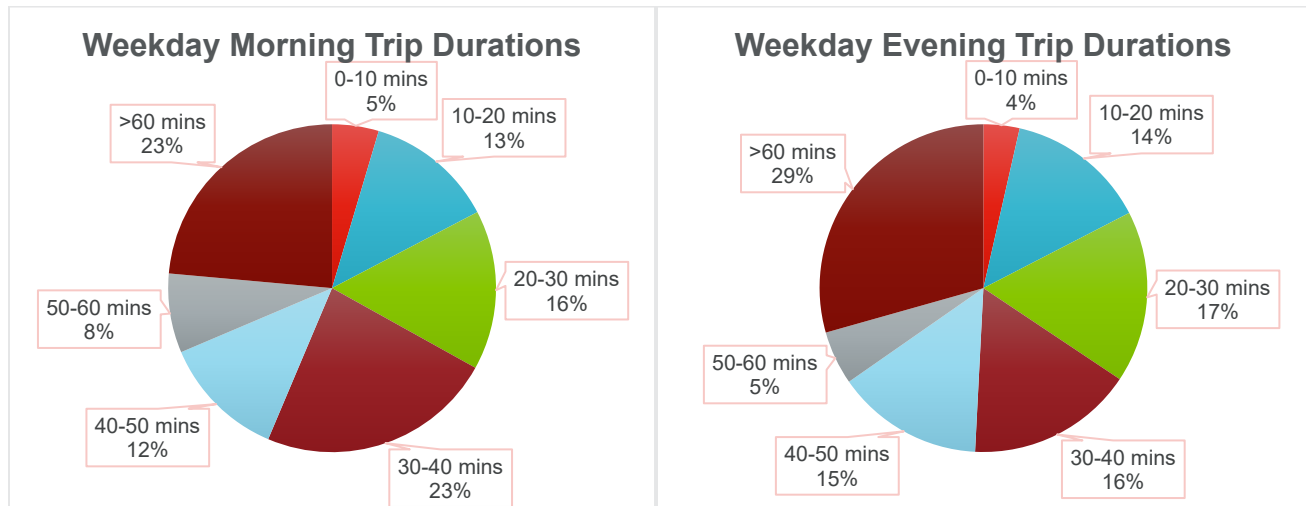


Figure 3. Weekday Morning (left) and Evening (right) Peak Period Trip Durations (minutes) in October 2021

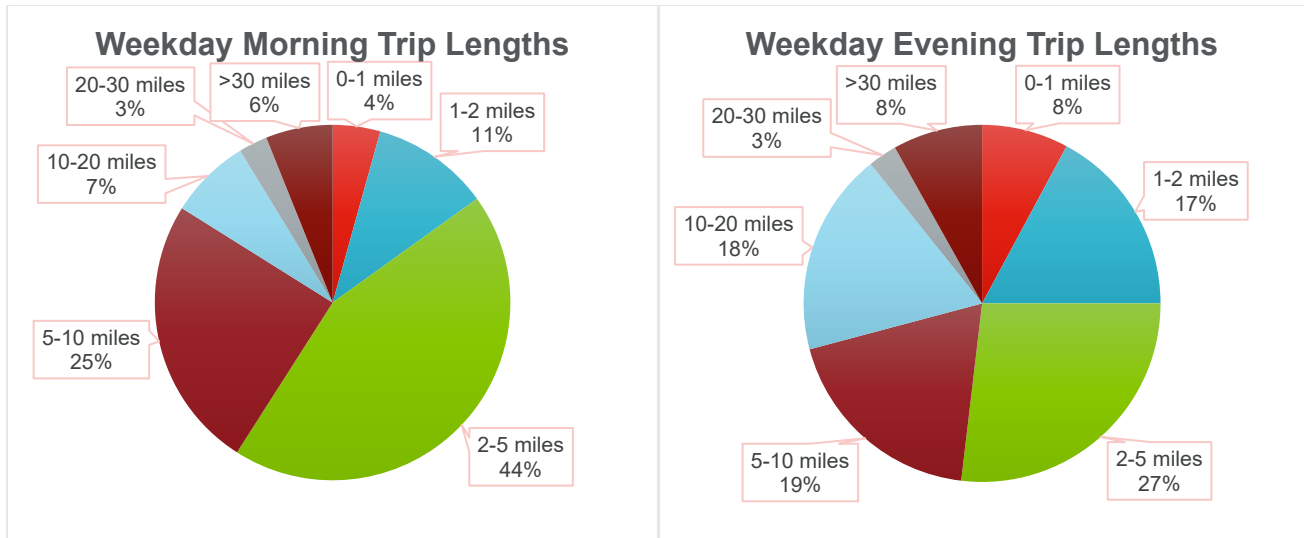


Figure 4. Weekday Morning (left) and Evening (right) Trip Lengths (miles) in October 2021

The Garden Street zone near Chauncy Street was also used to gauge how many trips passing along the street start and end in Cambridge. The data suggests that over half of the trips passing along Garden Street start and end in Cambridge in the morning and evening peak periods (Table 6).

Table 6. Proportion of Trips Passing Along Garden St that Start AND End in Cambridge in October 2021

	Trips starting and ending in Cambridge	Trips that do not start or end in Cambridge
Weekday	59%	41%
Weekday Morning Peak Period	64%	36%
Weekday Evening Peak Period	53%	47%

Garden Street Local Origin-Destination Analysis

An Origin-Destination Analysis was used to determine where people are going when driving westbound along Garden Street. Analysis tracked trips passing through an origin zone on Garden Street just north of Chauncy Street and passing through destination zones at the following locations, as represented in Figure 5:

- Walker Street eastbound,
- Bond Street westbound,
- Linnaean Street eastbound,
- Raymond Street northbound,
- Huron Avenue westbound,
- Huron Avenue eastbound,
- Walden Street westbound,
- Walden Street eastbound,
- Concord Avenue northbound,
- Sherman Street northbound,
- Alpine Street westbound,
- Field Street northbound,
- Rindge Avenue eastbound,
- Cedar Street northbound,
- Cambridgepark Drive westbound,
- Concord Turnpike (Route 2) westbound,
- Alewife Brook Parkway northbound.

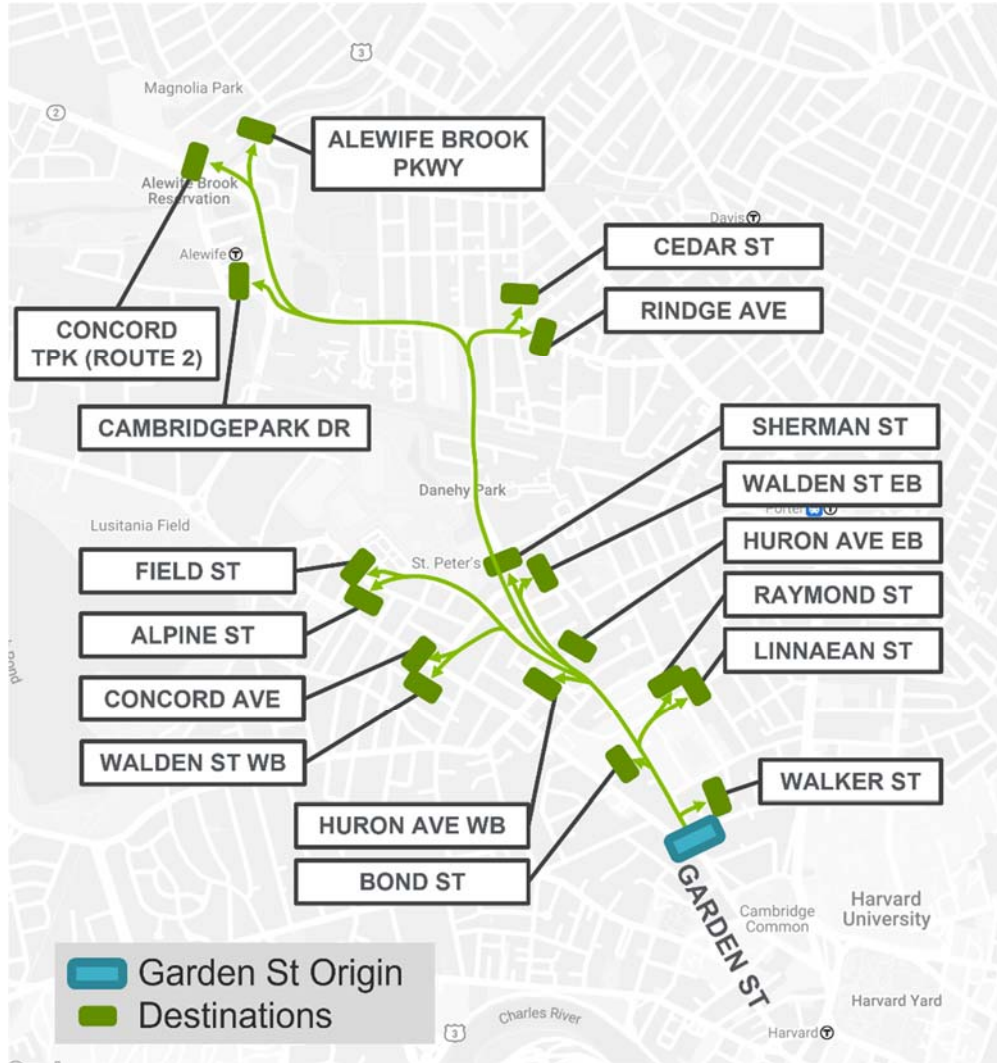


Figure 5. Origin-Destination Zone Locations

Trips starting on Garden Street near Chauncy Street and passing through these destinations are trips travelling to destinations outside of the immediate study area and are trips that can most easily take alternate routes westbound if Garden Street were one-way eastbound. For example, a trip going to Route 2 or Cambridgepark Drive could reroute to Concord Avenue to travel out of the project area.

The study captured approximately 85% of morning peak period traffic travelling westbound on Garden Street and approximately 64% of evening peak period traffic. Results suggest that 15% and 36% of trips in the morning and evening peak periods, respectively, travel to destinations on or immediately adjacent Garden Street, without passing through one of the marked destination zones. The most common destinations in the morning peak period are Cedar Street northbound, Linnaean Steet eastbound, and Sherman Street northbound, and the most common destinations in the evening peak period are Route 2 westbound and Sherman Street northbound (Table 7). Trips

to Cambridgepark Drive, Route 2, Alewife Brook Parkway, Cedar Street, and Rindge Avenue (the five northern destinations) were assumed to have passed through Sherman Street. The data double counts trips that pass through two destination zones, so trips to the five northern destinations were removed from the total share going to Sherman Street to limit that double counting.

Table 7. Garden Street Destinations

Destination	Morning Peak Period		Evening Peak Period	
	% of Westbound Garden St Traffic	Vehicles per Hour	% of Westbound Garden St Traffic	Vehicles per Hour
Alpine St WB	1%	1	3%	7
Alewife Brook Pkwy NB	0%	0	0%	0
Bond St WB	0%	0	1%	3
Cambridgepark Dr WB	1%	2	0%	1
Cedar St NB	9%	14	3%	9
Concord St NB	1%	2	3%	9
Field St NB	3%	5	4%	12
Huron Ave EB	0%	0	1%	4
Huron Ave WB	0%	0	0%	0
Linnaean St EB	23%	35	5%	14
Raymond St NB	5%	7	3%	10
Rindge Ave EB	4%	6	1%	3
Route 2 WB	0%	0	22%	64
Sherman St NB	35%	54	13%	36
Walden St EB	0%	0	2%	7
Walden St WB	0%	0	0%	0
Walker St EB	3%	5	3%	8
Total	85%	131	64%	186

The high prevalence of trips going to Linnaean Street in the morning peak hour is likely due to student drop off at the Graham & Parks School. Evening peak hour trips to Route 2 highlight the use of Garden Street as a route used for through vehicle trips to destinations outside of Cambridge. The disposition of trips going to the five northern destinations relative to the number of trips going to Sherman Street suggests that 35% (AM)/13% (PM) of trips pass through Sherman Street but do not continue further through the five northern destinations, showing a high concentration of trips going to North Cambridge from Garden Street.

It is anticipated that trips currently going to the marked destinations could primarily reroute along Concord Avenue or Massachusetts Avenue. Which trips could be rerouted to Concord Avenue or Massachusetts Avenue based on their destination zone is outlined in Table 8.

Table 8. Destination Reroute Assignments

	Trips to destination that could reroute along Concord Ave	Trips to destination that could reroute along Massachusetts Avenue
Destination	<ul style="list-style-type: none"> ▪ Alpine Street westbound ▪ Alewife Brook Parkway northbound ▪ Bond Street westbound ▪ Cambridgepark Drive westbound ▪ Concord Avenue northbound ▪ Field Street northbound ▪ Huron Avenue westbound ▪ Route 2 westbound ▪ Walden Street westbound 	<ul style="list-style-type: none"> ▪ Cedar Street northbound ▪ Huron Avenue eastbound ▪ Linnaean Street eastbound ▪ Raymond Street northbound ▪ Rindge Avenue eastbound ▪ Sherman Street northbound ▪ Walden Street eastbound ▪ Walker Street eastbound

Rerouting trips to Concord Avenue could remove up to 10 vehicles per hour (vph) in the morning peak (less than one vehicle per minute (vpm)) and 95 vph (about one to two vpm) in the evening peak from Garden Street. Rerouting remaining tracked trips to Massachusetts Avenue could remove up to 121 vph (about two vpm) in the morning peak hour and 91 vph (about one to two vpm) in the evening peak hour from Garden Street. Combined, this could leave approximately 23 vph and 104 vph in the morning and evening peak hours, respectively, with destinations along Garden Street that could not easily be rerouted to Concord Avenue or Massachusetts Avenue (Table 9). The remaining westbound vehicles were trips that did not pass through the marked destinations are likely local trips going to destinations on or very near Garden Street which could use the local street network to get to their destination.

Table 9. Westbound Garden Street Peak Hour Volumes with Potential Reroutes

Westbound Garden St Volume	Morning Peak Hour (vph)	Evening Peak Hour (vph)
Existing	154	290
Rerouted along Concord Ave	10	95
Rerouted along Massachusetts Ave	121	91
Remaining	23	104

Conclusion

The proposed Option 3 along Garden Street between Huron Avenue and Mason Street converts existing two-way vehicular operations to one-way eastbound operations. With the removal of the westbound travel lane, Concord Avenue and Massachusetts Avenue are anticipated to see an additional one to two vpm in the peak hours based on Origin-Destination Analysis and historic traffic volume data. The remaining trips are likely more local trips, going to destinations along and very near Garden Street, of which may use the local network to access their destinations. The local trips may also be converted to bicycling trips with the addition of dedicated facilities along Garden Street considering the majority of trips along the corridor are short (less than five miles in length). Based on these results, the conversion of Garden Street to one-way vehicular operations in Option 3 is the preferred design for implementation of separated bike lanes on Garden Street.

Garden Street
 east of Shepard Street
 City, State: Cambridge, MA
 Client: Toole/P. Buehrer
 Site Code: TBD



PRECISION
 DATA
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 228669 ATR B

Count Date: Tuesday, June 14, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	13	0	0	0	13
12:15 AM	1	0	7	0	0	0	8
12:30 AM	0	0	4	0	0	0	4
12:45 AM	1	0	5	0	0	0	6
1:00 AM	0	1	5	0	0	0	6
1:15 AM	0	0	4	0	0	0	4
1:30 AM	0	0	2	0	0	0	2
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	2	0	0	0	2
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	1	0	0	0	1
2:45 AM	0	0	2	0	0	0	2
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	4	0	0	0	4
3:45 AM	0	0	1	0	1	0	2
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	3	0	0	0	3
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	2	0	0	0	2
5:00 AM	0	0	4	0	0	0	4
5:15 AM	2	0	5	0	0	0	7
5:30 AM	1	0	7	0	0	0	8
5:45 AM	1	0	16	0	0	0	17
6:00 AM	2	0	16	0	1	0	19
6:15 AM	2	0	25	0	2	0	29
6:30 AM	4	0	34	0	0	0	38
6:45 AM	1	0	43	0	1	0	45
7:00 AM	6	1	50	0	2	1	60
7:15 AM	11	0	53	2	0	0	66
7:30 AM	7	0	94	2	1	0	104
7:45 AM	15	0	103	2	0	0	120
8:00 AM	14	0	111	1	3	0	129
8:15 AM	26	1	129	4	3	0	163
8:30 AM	18	1	139	1	2	0	161
8:45 AM	25	1	114	0	2	0	142
9:00 AM	12	0	97	2	2	0	113
9:15 AM	7	1	82	0	6	0	96
9:30 AM	6	0	96	0	5	0	107
9:45 AM	9	0	67	2	0	0	78
10:00 AM	7	0	59	1	3	0	70
10:15 AM	7	1	61	1	2	0	72
10:30 AM	6	0	52	0	0	0	58
10:45 AM	3	0	55	0	1	0	59
11:00 AM	6	0	65	0	3	0	74
11:15 AM	2	1	58	1	6	0	68
11:30 AM	5	0	60	1	7	0	73
11:45 AM	3	0	58	0	3	0	64

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	4	0	63	2	3	1	73
12:15 PM	2	1	68	0	0	0	71
12:30 PM	2	0	68	1	1	0	72
12:45 PM	1	0	69	0	0	1	71
1:00 PM	5	1	49	0	2	0	57
1:15 PM	1	0	56	0	3	0	60
1:30 PM	5	0	59	0	2	0	66
1:45 PM	2	0	69	1	1	0	73
2:00 PM	3	1	68	1	0	0	73
2:15 PM	1	0	76	2	6	1	86
2:30 PM	3	0	75	0	1	0	79
2:45 PM	6	0	57	0	1	0	64
3:00 PM	7	0	74	0	1	0	82
3:15 PM	3	0	81	2	1	0	87
3:30 PM	1	0	60	1	5	0	67
3:45 PM	3	0	65	1	1	0	70
4:00 PM	2	0	55	0	0	0	57
4:15 PM	3	0	56	0	0	0	59
4:30 PM	7	2	77	0	0	0	86
4:45 PM	7	0	56	0	0	0	63
5:00 PM	9	2	76	1	0	0	88
5:15 PM	7	0	76	0	1	0	84
5:30 PM	8	0	73	1	1	0	83
5:45 PM	6	1	56	0	0	0	63
6:00 PM	10	2	67	0	1	0	80
6:15 PM	5	0	65	0	1	0	71
6:30 PM	4	0	55	0	4	0	63
6:45 PM	9	0	53	0	1	0	63
7:00 PM	4	0	47	0	0	0	51
7:15 PM	6	0	37	0	0	0	43
7:30 PM	4	0	36	0	0	0	40
7:45 PM	4	0	33	0	0	0	37
8:00 PM	0	0	39	0	0	0	39
8:15 PM	8	0	35	1	0	0	44
8:30 PM	0	0	28	1	0	0	29
8:45 PM	7	0	33	0	0	0	40
9:00 PM	3	0	40	0	1	0	44
9:15 PM	1	0	27	1	0	0	29
9:30 PM	3	0	22	0	0	0	25
9:45 PM	0	0	22	0	0	0	22
10:00 PM	2	0	30	1	0	0	33
10:15 PM	1	0	22	0	0	0	23
10:30 PM	0	0	17	0	0	0	17
10:45 PM	1	0	13	0	0	0	14
11:00 PM	2	0	14	1	0	0	17
11:15 PM	1	0	9	0	0	0	10
11:30 PM	0	0	9	0	0	0	9
11:45 PM	2	0	14	0	0	0	16

AM Total	210	8	1811	20	56	1	2106
Percentage	9.97%	0.38%	85.99%	0.95%	2.66%	0.05%	
AM Peak	8:00 AM	8:00 AM	8:00 AM	7:30 AM	11:00 AM	6:15 AM	8:00 AM
Volume	83	3	493	9	19	1	595

PM Total	175	10	2349	18	38	3	2593
Percentage	6.75%	0.39%	90.59%	0.69%	1.47%	0.12%	
PM Peak	4:45 PM	4:15 PM	1:45 PM	1:30 PM	1:30 PM	12:00 PM	4:30 PM
Volume	31	4	288	4	9	2	321

Day Total	385	18	4160	38	94	4	4699
Percentage	8.19%	0.38%	88.53%	0.81%	2.00%	0.09%	

Garden Street
east of Shepard Street
City, State: Cambridge, MA
Client: Toole/P. Buehrer
Site Code: TBD



157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 228669 ATR B

Count Date: Tuesday, June 14, 2022
Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	2	0	3	0	0	0	5
12:15 AM	0	0	2	0	0	0	2
12:30 AM	1	0	2	0	0	0	3
12:45 AM	0	0	4	0	0	0	4
1:00 AM	0	0	3	0	0	0	3
1:15 AM	0	0	6	0	0	0	6
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	3	0	0	0	3
2:00 AM	0	0	2	0	0	0	2
2:15 AM	0	0	2	0	0	0	2
2:30 AM	0	0	0	0	0	0	0
2:45 AM	1	0	1	0	0	0	2
3:00 AM	0	0	1	0	0	0	1
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	1	0	2	0	0	0	3
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	2	0	0	0	2
5:00 AM	1	0	0	0	0	0	1
5:15 AM	0	0	4	0	1	0	5
5:30 AM	1	0	4	0	0	0	5
5:45 AM	2	0	3	0	0	0	5
6:00 AM	0	0	3	0	0	0	3
6:15 AM	0	0	8	0	2	0	10
6:30 AM	0	0	4	0	1	0	5
6:45 AM	1	0	5	1	0	0	7
7:00 AM	2	0	11	2	2	0	17
7:15 AM	1	0	8	1	2	0	12
7:30 AM	1	0	23	2	0	0	26
7:45 AM	1	0	30	0	1	0	32
8:00 AM	1	0	29	1	1	0	32
8:15 AM	1	0	41	1	1	0	44
8:30 AM	6	0	37	0	0	0	43
8:45 AM	7	0	42	0	1	0	50
9:00 AM	4	0	22	1	0	0	27
9:15 AM	3	0	20	0	0	0	23
9:30 AM	4	0	34	0	0	1	39
9:45 AM	1	0	18	1	2	0	22
10:00 AM	3	0	21	0	0	0	24
10:15 AM	5	0	20	2	2	0	29
10:30 AM	1	0	30	0	2	1	34
10:45 AM	2	0	22	1	1	0	26
11:00 AM	2	0	25	0	1	0	28
11:15 AM	0	0	28	0	2	0	30
11:30 AM	0	0	34	0	2	0	36
11:45 AM	2	0	29	1	0	0	32

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	4	0	23	0	1	0	28
12:15 PM	4	0	45	1	2	0	52
12:30 PM	4	0	28	1	0	0	33
12:45 PM	5	1	34	0	0	0	40
1:00 PM	2	0	32	0	2	0	36
1:15 PM	4	0	29	1	2	0	36
1:30 PM	2	0	26	0	4	0	32
1:45 PM	4	0	33	1	1	0	39
2:00 PM	0	0	39	4	1	1	45
2:15 PM	3	0	57	2	1	0	63
2:30 PM	3	1	64	1	1	1	71
2:45 PM	2	0	55	0	4	0	61
3:00 PM	7	0	61	1	0	0	69
3:15 PM	9	1	73	4	0	0	87
3:30 PM	10	2	95	0	0	0	107
3:45 PM	7	0	67	1	0	0	75
4:00 PM	5	2	68	1	1	0	77
4:15 PM	6	0	78	1	0	0	85
4:30 PM	7	1	78	0	1	0	87
4:45 PM	10	1	72	0	0	0	83
5:00 PM	13	1	58	0	0	0	72
5:15 PM	15	0	77	0	1	0	93
5:30 PM	13	0	71	0	0	0	84
5:45 PM	10	1	67	0	2	0	80
6:00 PM	13	2	51	0	0	0	66
6:15 PM	9	0	51	1	0	0	61
6:30 PM	15	0	67	0	1	0	83
6:45 PM	7	0	56	0	1	0	64
7:00 PM	8	0	39	0	0	0	47
7:15 PM	6	0	39	0	1	0	46
7:30 PM	6	0	33	0	0	0	39
7:45 PM	3	0	24	0	0	0	27
8:00 PM	6	0	24	0	0	0	30
8:15 PM	4	0	30	0	0	0	34
8:30 PM	9	0	23	1	0	0	33
8:45 PM	5	0	19	0	0	0	24
9:00 PM	2	0	20	0	0	0	22
9:15 PM	5	0	25	0	0	0	30
9:30 PM	0	0	14	0	0	0	14
9:45 PM	1	0	16	0	0	0	17
10:00 PM	2	0	21	0	0	0	23
10:15 PM	5	0	13	0	0	0	18
10:30 PM	4	0	18	0	0	0	22
10:45 PM	5	0	23	0	0	0	28
11:00 PM	2	0	9	0	0	0	11
11:15 PM	1	0	13	0	0	0	14
11:30 PM	1	0	11	0	0	0	12
11:45 PM	1	0	11	0	0	0	12

AM Total	57	0	590	14	24	2	687
Percentage	8.30%	0.00%	85.88%	2.04%	3.49%	0.29%	
AM Peak	8:30 AM	12:00 AM	8:00 AM	6:45 AM	9:45 AM	8:45 AM	8:00 AM
Volume	20	0	149	6	6	1	169

PM Total	269	13	1980	21	27	2	2312
Percentage	11.63%	0.56%	85.64%	0.91%	1.17%	0.09%	
PM Peak	4:45 PM	3:15 PM	3:30 PM	1:45 PM	1:00 PM	1:45 PM	3:15 PM
Volume	51	5	308	8	9	2	346

Day Total	326	13	2570	35	51	4	2999
Percentage	10.87%	0.43%	85.70%	1.17%	1.70%	0.13%	