

MEMORANDUM

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Date: April 11, 2023

Project: Safety Zones Speed Evaluation

Subject: Before and After Speed Study for Squares and Neighborhood Streets

INTRODUCTION

On March 21, 2016, Cambridge City Council adopted Vision Zero, which is a commitment to eliminate all traffic fatalities and severe injuries. Later, in February of 2018, the City released the Vision Zero Action Plan identifying several implementation tactics to work toward zero traffic deaths. One of the tactics of this overall strategy is to reduce motor vehicle speeds, which decreases the likelihood that someone would be injured or killed in the event of a crash. While the most effective way to manage traffic speeds is through the implementation of street design treatments that encourage slower driving, studies have shown that posting lower speed limits can have the effect of reducing vehicle speeds even absent any engineering design changes¹.

Putting Vision Zero principles into practice, the City of Cambridge has lowered speed limits throughout the city in recent years as part of a larger strategy around traffic calming and safety. In December 2016, the City reduced the baseline citywide speed limit from 30 MPH to 25 MPH. Then, in March 2018 through the Safer Squares initiative, the City further reduced speed limits from 25 MPH to 20 MPH in the areas known as the “squares,” which all feature denser populations and in higher-use business districts. In addition, between 2019 and 2021, the City implemented Residential Safety Zones on most streets primarily utilized for local access within residential neighborhoods, reducing the speed limit from 25 MPH to 20 MPH.

To begin to understand the effectiveness of posting a reduced 20 MPH speed limit for lowering motorist speeds, Toole Design performed a study of the vehicle speeds using data collected before and after the City’s baseline speed limit reductions. This technical memorandum presents a basic before and after study for the Safer Squares and Residential Safety Zones initiatives.

SPEED STUDY METHODOLOGY

The first step of this speed study was determining the appropriate locations to collect speed data on roadway segments in the vicinity of each square or within the residential neighborhood. A preferred speed study location is one approximately 300 feet away from the center of an intersection, so that vehicle speeds can be collected in free flow and without an intersection’s influence of vehicles slowing or accelerating toward a signalized approach.

¹ City Limits: Setting Safe Speed Limits on Urban Streets. NACTO. Summer, 2020

Next, two to three days of vehicle speeds were collected using automatic traffic counters (ATRs) at those desired locations. Multiple days of data were collected and were averaged so that outlying recorded speeds would be softened. “Before” data for the Safer Squares locations were collected between late February and early April of 2018, and “after” data were collected in June 2019. “Before” data were collected for the Residential Safety Zones locations between late August and mid-September of 2019, though due to the changes to individual travel behaviors and vehicle traffic patterns during the height of the COVID-19 pandemic, “after” data were collected in November of 2021.

Once the data were collected, several key performance measures were calculated from the before and after raw traffic counts. The following performance measures will help define the speed characteristics of each square and neighborhood location:

- » 50th, 85th, and 95th percentile speeds
- » Percentage of vehicles exceeding 20, 25, and 30 MPH

For each performance measure, a percent difference was calculated to demonstrate how speeds changed from the “before” period to the “after” period.

Street level photos were included in addition to the data tables to give a general idea of street characteristics at each location. Photos are intended to reflect the condition of the street location when the “after” data was collected. For this evaluation, street characteristics were not factored into the analysis, although they are known to influence vehicular speeds².

Notes on Interpretation of Performance Measures:

- Vehicle speed changes on a percent basis between the before and after condition exceeding 5% are highlighted. Changes indicating a speed reduction are highlighted in green while changes indicating a speed increase are highlighted in red. This helps visualize the speed changes, though does not necessarily mean that a highlighted speed change is statistically significant.
- A downward trend of the percentage of motorists exceeding 20 MPH, 25 MPH, and 30 MPH indicates that the overall cluster of vehicle speeds has dropped reducing the higher speed of vehicles.

Limitations and Assumptions:

- Performing a study of statistical significance would require additional data.
- Data is taken from Tuesday, Wednesday, or Thursday, which eliminates data variability based on day of week.
- MassDOT reports seasonal adjustment factors for volumes that reflect that warmer months tend to be within 5% higher than volumes for winter months (December, January, and February). This seasonal variation is not reflected nor controlled for in this analysis; although no counts were conducted during winter months.
- This study represents a basic before/after speed evaluation and does not take into consideration other possible factors like street design characteristics that may influence vehicular speeds.
- The COVID-19 pandemic delayed the collection of the after data due to the changing traffic patterns with limited vehicular travel and increased work from home. Data was collected once vehicular traffic patterns were deemed to be similar to pre-pandemic. This may impact the analysis and potential takeaways.

² Karin Brundell-Freij & Eva Ericsson, Influence of street characteristics, driver category and car performance on urban driving patterns. Transportation Research Part D. 2005.

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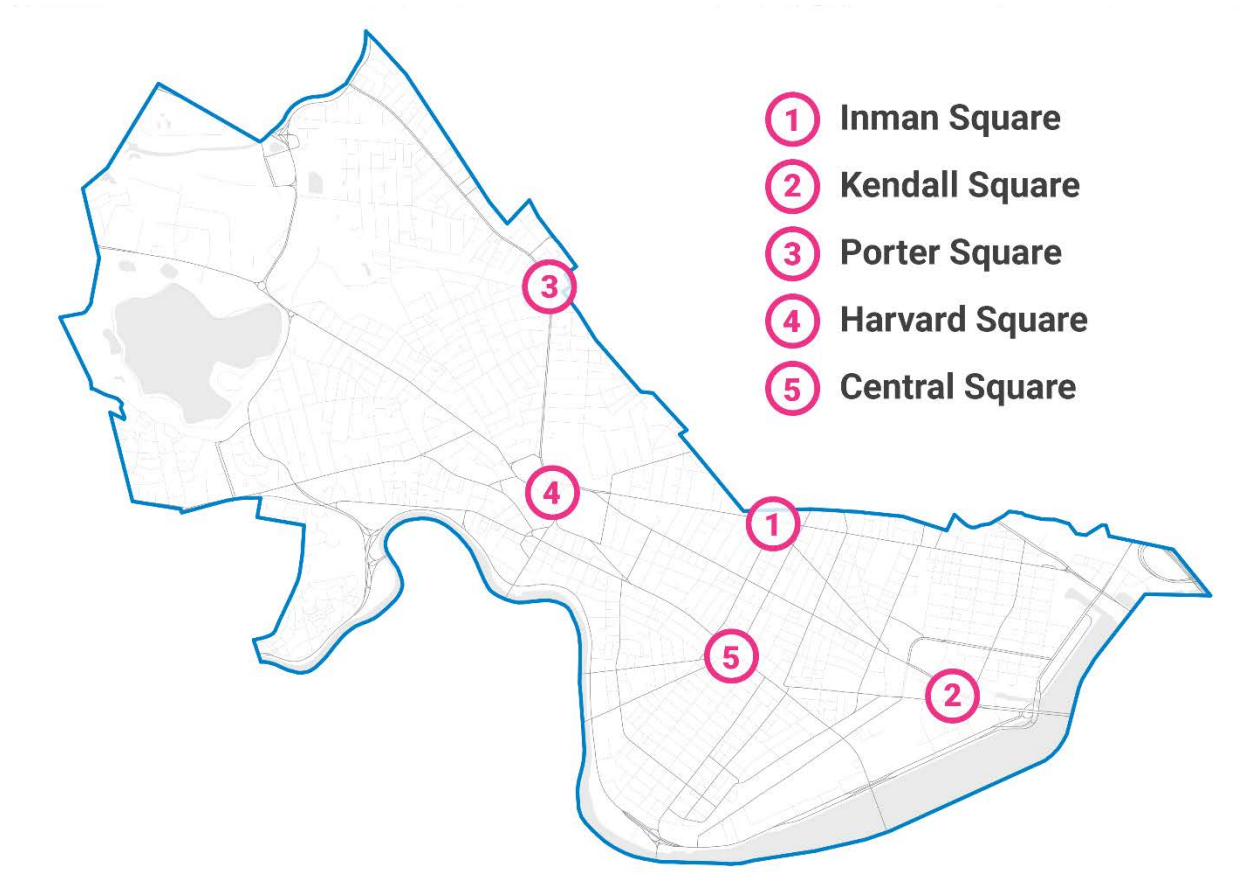
This memorandum has been separated into two parts, Safer Squares and Residential Safety Zones, as outlined below.

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SAFER SQUARES

This section covers the results of the Safer Squares initiative, which posted reduced speed limits across the five primary squares in Cambridge: Central Square, Inman Square, Harvard Square, Kendall Square, and Porter Square. Figure 1 illustrates the location of these squares in Cambridge.

Figure 1: The Five Squares of Study



Several key streets within each square were selected for before/after evaluation. These streets and the squares they pertain to vary widely in number of vehicular approach lanes, intersection geometries, and intensities of commercial activity. These characteristics may also influence vehicle speeds.

INMAN SQUARE

Three ATRs were located in Inman Square to evaluate vehicle speeds. Figure 2 illustrates these locations and Table 1 indicates the before speeds (recorded from February 27-28, 2018 for locations A, B, and C) and after speeds (recorded from July 16-17, 2019 for location A and on June 25-26, 2019 for locations B and C).

Figure 2: Inman Square ATR Locations




Inman Square Summary

- Springfield Street (location A) metrics indicate a decrease of approximately 7-8% for vehicles over 20 mph and 25 mph for Northbound traffic. Southbound traffic (from Somerville) demonstrated minor decreases for vehicles over 20 mph, 25 mph, and 30 mph.
- Cambridge Street (location B) metrics demonstrate a decrease of approximately 4-6% for vehicles over 20 mph and 25 mph for Westbound vehicles and minimal differences for Eastbound vehicles.
- Hampshire Street (location C) metrics exhibit a decrease of approximately 1-8% in Northwest-bound vehicle speeds and an approximate decrease of 1-5% in Southeast-bound vehicle speeds. For percent of vehicles over 20 mph and 25 mph, an approximate 6-10% decrease was observed for Northwest-bound traffic and an approximate 3-8% decrease was observed for Southeast-bound traffic.

Inman Square Data

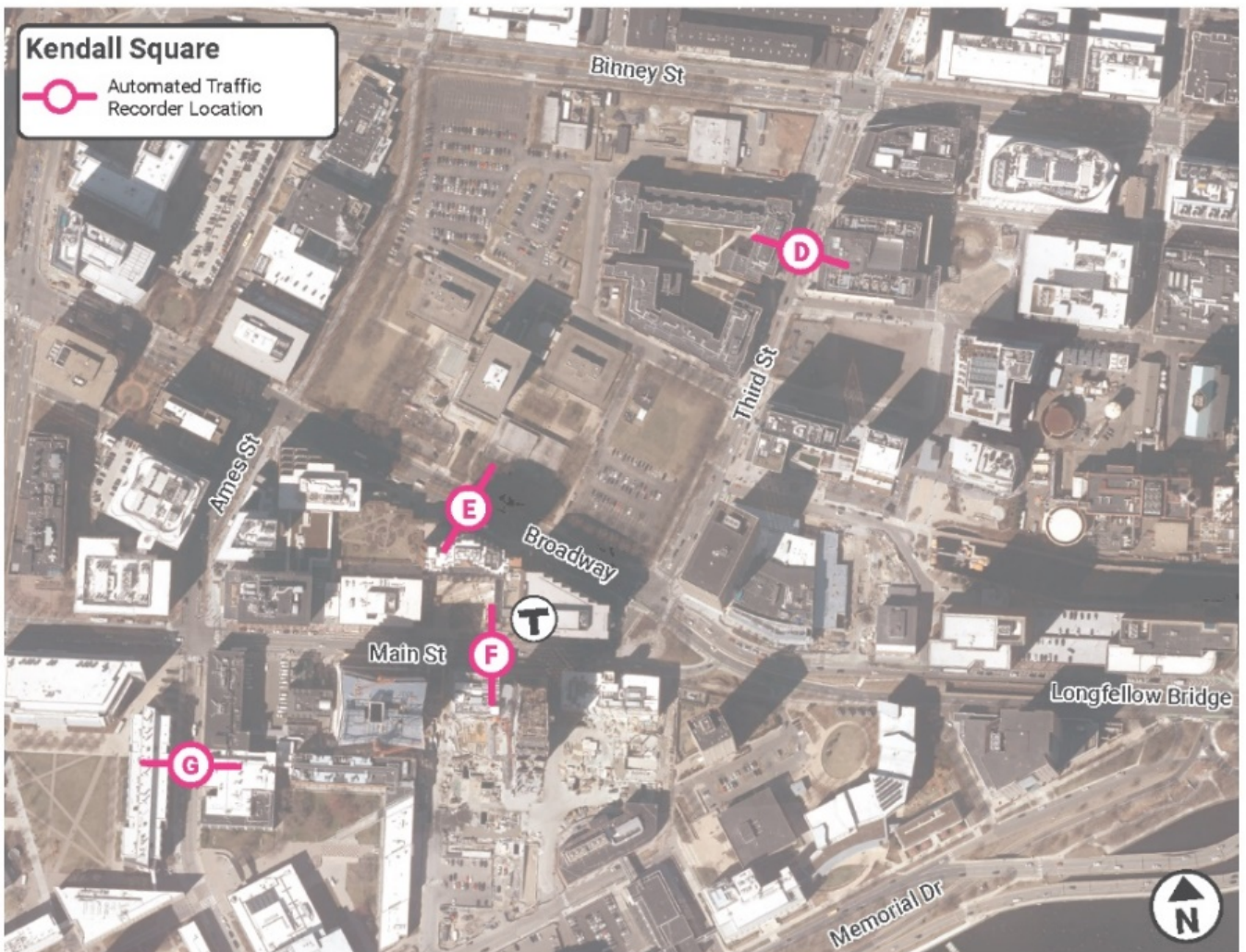
Table 1: Inman Square Before/After Speed Performance Measures

	(A) - Springfield Street (North of Square) 50th Percentile Speed 85th Percentile Speed 95th Percentile Speed % of vehicles over 20 mph % of vehicles over 25 mph % of vehicles over 30 mph	Northbound			Southbound		
		Before	After	Change	Before	After	Change
		23.0	22.1	-3.7%	21.4	21.5	0.7%
		27.4	27.1	-1.1%	26.0	25.9	-0.4%
		30.3	29.6	-2.2%	28.8	29.1	1.0%
		Before	After	Difference	Before	After	Difference
		77%	70%	-7.4%	65%	64%	-0.3%
	(B) - Cambridge Street (East of Square) 50th Percentile Speed 85th Percentile Speed 95th Percentile Speed % of vehicles over 20 mph % of vehicles over 25 mph % of vehicles over 30 mph	Eastbound			Westbound		
		Before	After	Change	Before	After	Change
		19.8	20.2	1.9%	20.2	19.7	-2.1%
		24.1	24.4	1.2%	24.6	24.2	-1.6%
		27.3	27.9	2.2%	27.8	27.7	-0.4%
		Before	After	Difference	Before	After	Difference
		51%	52%	0.8%	54%	48%	-6.2%
	(C) - Hampshire Street (Southeast of Square) 50th Percentile Speed 85th Percentile Speed 95th Percentile Speed % of vehicles over 20 mph % of vehicles over 25 mph % of vehicles over 30 mph	Northwest-bound			Southeast-bound		
		Before	After	Change	Before	After	Change
		20.6	20.2	-1.7%	19.7	18.9	-4.2%
		25.4	24.1	-5.1%	24.0	23.7	-1.3%
		28.8	26.4	-8.3%	27.2	25.8	-5.1%
		Before	After	Difference	Before	After	Difference
		59%	52%	-6.6%	50%	42%	-7.8%
		16%	7%	-9.6%	10%	6%	-3.7%
		3%	1%	-2.3%	1%	1%	-0.7%

KENDALL SQUARE

Four ATRs were located in Kendall Square to evaluate vehicle speeds. Figure 3 illustrates these locations and Table 2 indicates the before speeds (recorded from April 3-4, 2018 for location D and recorded from April 4-5, 2018 for locations E, F, and G) and after speeds (recorded from June 25-26, 2019 for locations D, E, F and G).

Figure 3: Kendall Square ATR Locations



Kendall Square Summary

- Third Street (location D) metrics indicate an approximate 3-10% decrease in Northbound vehicle speeds and a decrease of about 7-14% in percent of vehicles over 20 mph and 25 mph. Southbound traffic demonstrated minor increases in vehicle speeds and minor decreases in the percentage of vehicles over 25 mph and 30 mph.
- Broadway (location E) metrics demonstrate Westbound vehicle speed decreases of approximately 15-20% and a decrease of about 27-39% in percent of vehicles over 20 mph and 25 mph. Eastbound traffic exhibited minimal changes in vehicle speeds and had a 2% decrease in vehicles over 25 mph.
- Main Street (location F) metrics exhibit a decrease in 95th percentile Eastbound vehicle speeds of approximately 6% and an approximate 7-18% decrease in Westbound vehicle speeds. For

percent of vehicles over 20 mph and 25 mph, a decrease in speeds between 4-8% was observed for Eastbound traffic and an approximate 12-23% decrease was observed for Westbound traffic.

- Ames Street (location G) metrics indicate a decrease in Northbound and Southbound vehicle speeds. For percent of vehicles over 20 mph and 25 mph, a decrease of about 4-7% was observed for Northbound traffic and a decrease of about 5-7% was observed for Southbound traffic.

Kendall Square Data

Table 2: Kendall Square Before/After Speed Performance Measures

	(D) - Third Street (Northeast of Square) 50th Percentile Speed 85th Percentile Speed 95th Percentile Speed % of vehicles over 20 mph % of vehicles over 25 mph % of vehicles over 30 mph	Northbound			Southbound		
		Before	After	Change	Before	After	Change
		20.1	18.7	-7.3%	19.9	20.5	3.2%
		24.4	23.6	-3.3%	24.3	24.4	0.4%
		27.7	25.0	-9.8%	27.6	27.8	0.7%
		Before	After	Difference	Before	After	Difference
		55%	40%	-14.2%	51%	54%	3.2%
	(E) - Broadway (Northwest of Square) 50th Percentile Speed 85th Percentile Speed 95th Percentile Speed % of vehicles over 20 mph % of vehicles over 25 mph % of vehicles over 30 mph	Eastbound			Westbound		
		Before	After	Change	Before	After	Change
		19.3	20.0	3.7%	23.0	18.2	-20%
		24.8	24.6	-0.8%	27.8	23.6	-15%
		28.6	28.2	-1.4%	30.8	25.9	-16%
		Before	After	Difference	Before	After	Difference
		46%	50%	3.9%	76%	37%	-38.7%
	(F) - Main Street (West of Square) 50th Percentile Speed 85th Percentile Speed 95th Percentile Speed % of vehicles over 20 mph % of vehicles over 25 mph % of vehicles over 30 mph	Eastbound			Westbound		
		Before	After	Change	Before	After	Change
		19.7	19.0	-3.7%	20.2	16.6	-18%
		23.8	23.7	-0.4%	24.7	22.8	-7.7%
		27.1	25.4	-6.3%	28.4	24.4	-14%
		Before	After	Difference	Before	After	Difference
		50%	41%	-8.1%	55%	32%	-22.5%
	(G) - Ames Street (Southwest of Square) 50th Percentile Speed 85th Percentile Speed 95th Percentile Speed % of vehicles over 20 mph % of vehicles over 25 mph % of vehicles over 30 mph	Northbound			Southbound		
		Before	After	Change	Before	After	Change
		19.0	17.9	-5.9%	19.8	19.2	-3.1%
		23.4	23.3	-0.4%	23.9	23.7	-0.8%
		26.6	24.8	-6.8%	26.7	25.0	-6.4%
		Before	After	Difference	Before	After	Difference
		43%	36%	-6.9%	50%	44%	-6.5%

PORTER SQUARE

Two ATRs were located in Porter Square to evaluate vehicle speeds. Figure 4 illustrates these locations and Table 3 indicates the before speeds (recorded from February 27-28, 2018 for location H and recorded from April 4-5, 2018 for location I) and after speeds (recorded from June 25-26, 2019 for location H and recorded from July 16-17, 2019 for location I). Due to a malfunction with the ATR hose during the “after” phase of data collection, speeds in the Southbound direction at location H were not recorded.

Figure 4: Porter Square ATR Locations





Porter Square Summary

- On Massachusetts Avenue (location H), metrics indicate an approximate 5-10% decrease in Northbound 85th and 95th percentile speeds and an approximate 4% increase in Northbound 50th percentile speed. About 8% more vehicles were operating over 20 mph after speed limit changes, but about 12% fewer vehicles were operating over 25 mph.
- On Somerville Avenue (location I), metrics indicate decreases of approximately 6-8% in Northbound speeds. In the Southbound direction, an approximate increase of 5% in 50th percentile speed was demonstrated and decreases of about 8-11% in 85th and 95th percentile speeds were demonstrated. For percent of vehicles over 20 mph and 25 mph, an approximate decrease of 5-18% was observed for Northbound traffic. An approximate increase of 30% in Southbound vehicles traveling over 20 mph was observed, but 5 and 18% decreases in vehicles traveling over 25 mph and over 30 mph was respectively observed.

Porter Square Data

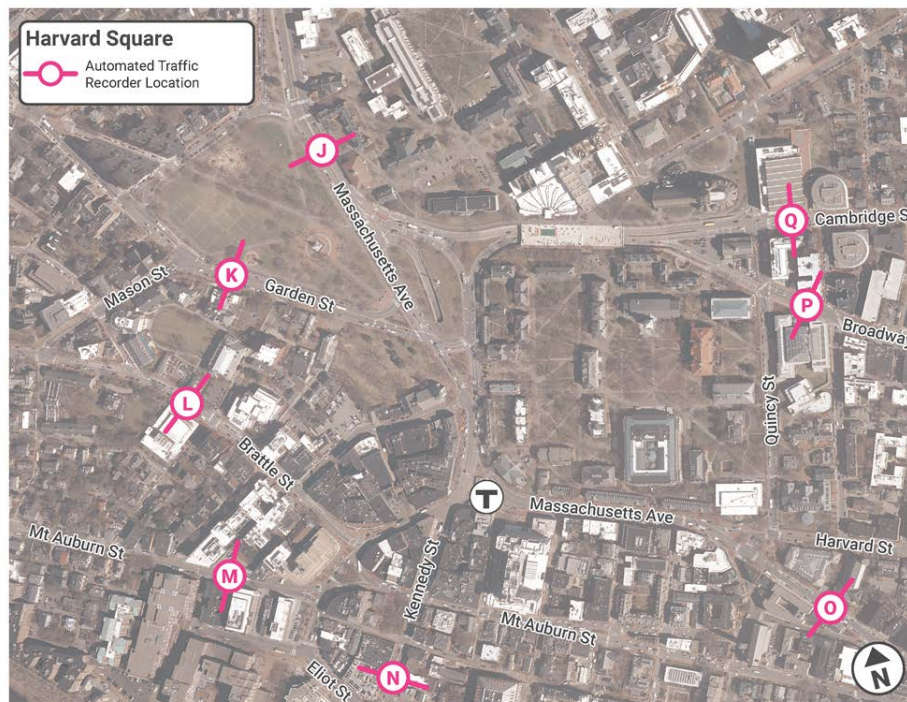
Table 3: Porter Square Before/After Speed Performance Measures

	(H) - Massachusetts Avenue (North of Square)			Northbound			Southbound		
				Before	After	Change	Before	After	Change
	50th Percentile Speed			20.5	21.3	3.6%	22.4	N/A	N/A
	85th Percentile Speed			25.5	24.3	-4.7%	27.6	N/A	N/A
	95th Percentile Speed			29.2	26.2	-10%	30.9	N/A	N/A
				Before	After	Difference	Before	After	Difference
	% of vehicles over 20 mph			57%	65%	8.4%	72%	N/A	N/A
	% of vehicles over 25 mph			18%	6%	-11.9%	30%	N/A	N/A
	% of vehicles over 30 mph			3%	1%	-2.4%	7%	N/A	N/A
	(I) - Somerville Avenue (Southeast of Square)			Northbound			Southbound		
				Before	After	Change	Before	After	Change
	50th Percentile Speed			23.6	22.3	-5.8%	21.7	22.7	4.7%
	85th Percentile Speed			29.7	27.3	-8.1%	28.0	24.8	-11%
	95th Percentile Speed			33.3	30.5	-8.4%	31.8	29.2	-8.2%
				Before	After	Difference	Before	After	Difference
	% of vehicles over 20 mph			77%	72%	-4.8%	65%	95%	29.6%
	% of vehicles over 25 mph			41%	23%	-17.8%	30%	13%	-17.5%
	% of vehicles over 30 mph			13%	5%	-7.5%	8%	4%	-4.6%

HARVARD SQUARE

Eight total ATRs were located in and around Harvard Square to evaluate vehicle speeds. Figure 5 illustrates these locations and Table 4 indicates the before speeds (recorded from February 28, 2018 to March 1, 2018 for locations J, K, L, M, N, and O) and after speeds (recorded from July 16-17, 2019 for locations J, K, and N and recorded from June 25-26, 2019 for locations L, M, O, P, and Q). “Before” data was not collected on Broadway or Cambridge Street, locations P and Q.

Figure 5: Harvard Square ATR Locations




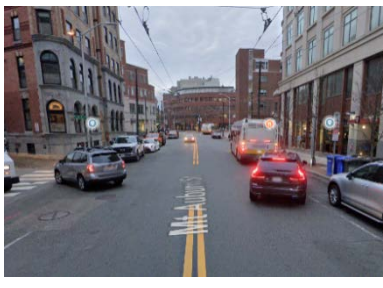

Harvard Square Summary

- Massachusetts Avenue (location J) metrics indicate a decrease of about 4-5% for vehicle speeds in the Northbound direction. In the Southbound direction, 85th percentile speed and 95th percentile speed decreased about 5% and 1%, respectively. Percent of vehicles traveling over 20 mph, 25 mph, and 30 mph decreased in the Northbound direction more than in the Southbound direction.
- Garden Street (location K) data demonstrate an increase in Westbound and Eastbound speeds.
- Brattle Street (location L) data indicates an increase of about 6% in the 85th percentile Westbound vehicular speeds. The percent of Westbound vehicles over 30 mph decreased by about 6%.
- Mt. Auburn Street (location M) experienced an increase in all vehicle speeds except the Westbound 50th percentile speeds which decreased by approximately 6%.
- John F. Kennedy Street (location N) Northbound speed metrics demonstrate an approximate 5% and 3% increase in 50th percentile and 85th percentile vehicle speeds, respectively, and about a 3% decrease in 95th percentile vehicle speeds.
- Massachusetts Avenue (location O) Westbound speed metrics indicate an approximate 2-5% reduction in observed vehicle speeds and a decrease of nearly 9% in the percentage of vehicles over 25 mph.
- Although before data was not collected for Broadway (location P), after data indicated the 85th percentile vehicle speeds were approximately 28 mph for Eastbound and 25 mph for Westbound. The percentage of vehicles over 25 mph was higher Eastbound (27%) than Westbound (4%).

- Although before data was not collected for Cambridge Street (location Q), after data indicated the 85th percentile vehicle speeds were approximately 24 mph for Eastbound and Westbound. The percentage of vehicles over 25 mph was higher Westbound (9%) than Eastbound (7%).

Harvard Square Data

Table 4: Harvard Square Before/After Speed Performance Measures

	(J) - Massachusetts Avenue (North of Square)	Northbound			Southbound		
		Before	After	Change	Before	After	Change
	50th Percentile Speed	24.3	22.9	-5.8%	21.1	21.3	0.9%
	85th Percentile Speed	29.4	28.3	-3.7%	26.9	25.6	-4.8%
	95th Percentile Speed	32.3	30.7	-5.0%	30.2	29.8	-1.3%
	% of vehicles over 20 mph	80%	73%	-7.1%	61%	62%	0.7%
	% of vehicles over 25 mph	45%	33%	-11.7%	23%	17%	-6.5%
	(K) - Garden Street (Northwest of Square)	Eastbound			Westbound		
		Before	After	Change	Before	After	Change
	50th Percentile Speed	21.1	22.1	4.4%	19.8	21.9	11%
	85th Percentile Speed	26.2	26.6	1.5%	24.1	28.5	18%
	95th Percentile Speed	29.2	30.0	2.7%	27.9	32.9	18%
	% of vehicles over 20 mph	63%	72%	8.2%	51%	64%	12.8%
	% of vehicles over 25 mph	20%	20%	-0.1%	11%	28%	17.3%
	(L) - Brattle Street (Northwest of Square)	Westbound					
		Before	After	Change			
	50th Percentile Speed	17.6	17.6	-0.1%			
	85th Percentile Speed	21.8	23.2	6.4%			
	95th Percentile Speed	24.7	24.9	0.8%			
	% of vehicles over 20 mph	33%	34%	0.4%			
	% of vehicles over 25 mph	4%	4%	0.5%			
	(M) - Mt. Auburn Street (West of Square)	Eastbound			Westbound		
		Before	After	Change	Before	After	Change
	50th Percentile Speed	17.8	19.0	6.9%	19.8	18.7	-6.0%
	85th Percentile Speed	21.8	23.7	8.7%	21.7	23.6	9%
	95th Percentile Speed	24.9	24.9	0%	24.6	24.9	1.2%
	% of vehicles over 20 mph	35%	46%	10.9%	52%	45%	-6.8%
	% of vehicles over 25 mph	5%	5%	-0.3%	4%	4%	-0.5%
	(N) - John F. Kennedy Street (South of Square)	Northbound					
		Before	After	Change			
	50th Percentile Speed	19.2	20.2	5.3%			
	85th Percentile Speed	23.2	24.0	3.4%			
	95th Percentile Speed	26.9	26.0	-3.3%			
	% of vehicles over 20 mph	44%	51%	6.8%			
	% of vehicles over 25 mph	8%	6%	-2.1%			
	% of vehicles over 30 mph	2%	1%	-0.5%			

Data Continued on Next Page

Harvard Square Data (continued)



(O) -Massachusetts Avenue (East of Square)	Westbound		
	Before	After	Change
50th Percentile Speed	21.9	21.4	-2.5%
85th Percentile Speed	27.5	26.1	-5.1%
95th Percentile Speed	31.0	29.4	-5.2%
	Before	After	Difference
	67%	62%	-5.2%
	27%	18%	-8.7%
	7%	3%	-3.7%



(P) - Broadway (Northeast of Square)	Eastbound			Westbound		
	Before	After	Change	Before	After	Change
50th Percentile Speed	N/A	22.1	N/A	N/A	21.0	N/A
85th Percentile Speed	N/A	27.8	N/A	N/A	25.0	N/A
95th Percentile Speed	N/A	30.8	N/A	N/A	28.8	N/A
	Before	After	Difference	Before	After	Difference
	N/A	66%	N/A	N/A	45%	N/A
	N/A	27%	N/A	N/A	4%	N/A
	N/A	6%	N/A	N/A	1%	N/A



(Q) Cambridge Street (Northeast of Square)	Eastbound			Westbound		
	Before	After	Change	Before	After	Change
50th Percentile Speed	N/A	21.6	N/A	N/A	19.5	N/A
85th Percentile Speed	N/A	24.4	N/A	N/A	24.2	N/A
95th Percentile Speed	N/A	26.8	N/A	N/A	27.5	N/A
	Before	After	Difference	Before	After	Difference
	N/A	70%	N/A	N/A	47%	N/A
	N/A	7%	N/A	N/A	9%	N/A
	N/A	1%	N/A	N/A	1%	N/A

CENTRAL SQUARE

Six ATRs were placed in Central evaluate vehicle speeds. Figure 6 illustrates these locations and Table 5 indicates the before speeds (recorded from February 28, 2018 to March 1, 2018 for locations R, S, T, U, V, and W) and after speeds (recorded from July 16-17, 2019 for location W and recorded from June 25-26, 2019 for locations R, S, T, U, V).

Figure 6: Central Square ATR Locations



Central Square Summary

- Massachusetts Avenue (location R) metrics indicate an increase in all vehicle speeds and percentage of vehicles over 20 mph, 25 mph, and 30 mph.
- Prospect Street (location S) metrics demonstrate an increase in all vehicle speeds and percentage of vehicles over 20 mph, 25 mph, and 30 mph.
- Bishop Allen Drive (location T) metrics exhibit an approximate 3% decrease in Eastbound 50th percentile vehicle speeds and an increase in all other observed vehicle speeds. However, the percentage of vehicles over 25 mph decreased for the Eastbound direction.
- Massachusetts Avenue (location U) metrics exhibit an approximate 3% decrease in Northwest-bound 50th percentile vehicle speeds and varying increases in all other vehicle speeds for Northwest-bound and Southeast-bound traffic. The percentage of vehicles speeds over 25 mph decreased by about 1% for the Northwest-bound vehicles.

- Green Street (location V) metrics indicate an increase between 8-13% in Westbound vehicle speeds.
- River Street (location W) metrics indicate an approximate decrease of 8-10% in Eastbound vehicle speeds and an approximate decrease of 19% in vehicles over 25 mph.



Central Square Data

Table 5: Central Square Before/After Speed Performance Measures

	(R) - Massachusetts Avenue (Northwest of Square) 50th Percentile Speed 85th Percentile Speed 95th Percentile Speed % of vehicles over 20 mph % of vehicles over 25 mph % of vehicles over 30 mph	Northwest-bound			Southeast-bound		
		Before	After	Change	Before	After	Change
		19.3	21.3	10%	19.8	21.0	6.3%
		23.3	25.8	11%	23.9	24.8	3.8%
		26.5	29.4	11%	27.4	28.8	5.1%
		Before	After	Difference	Before	After	Difference
		45%	61%	16.1%	50%	60%	9.0%
	(S) - Prospect Street (Northeast of Square) 50th Percentile Speed 85th Percentile Speed 95th Percentile Speed % of vehicles over 20 mph % of vehicles over 25 mph % of vehicles over 30 mph	Northbound			Southbound		
		Before	After	Change	Before	After	Change
		16.9	21.1	25%	16.2	20.2	24%
		21.0	24.5	17%	21.0	24.0	14%
		21.9	27.8	27%	21.8	25.4	17%
		Before	After	Difference	Before	After	Difference
		29%	62%	32.7%	31%	51%	20.2%
	(T) - Bishop Allen Drive (East of Square) 50th Percentile Speed 85th Percentile Speed 95th Percentile Speed % of vehicles over 20 mph % of vehicles over 25 mph % of vehicles over 30 mph	Eastbound			Westbound		
		Before	After	Change	Before	After	Change
		16.9	16.4	-3.2%	16.0	17.7	11%
		21.3	22.7	6.6%	20.8	23.1	11%
		23.2	24.3	4.7%	22.0	24.7	12%
		Before	After	Difference	Before	After	Difference
		32%	32%	0.2%	23%	34%	10.9%
	(U) - Massachusetts Avenue (Southeast of Square) 50th Percentile Speed 85th Percentile Speed 95th Percentile Speed % of vehicles over 20 mph % of vehicles over 25 mph % of vehicles over 30 mph	Northwest-bound			Southeast-bound		
		Before	After	Change	Before	After	Change
		19.0	18.5	-2.9%	14.2	15.9	12%
		21.7	23.5	8.3%	20.4	22.6	11%
		24.5	24.7	0.8%	22.8	24.6	8%
		Before	After	Difference	Before	After	Difference
		40%	45%	4.1%	18%	28%	9.7%

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Central Square Data (continued)

	(V) - Green Street (South of Square)	Westbound		
		Before	After	Change
	50th Percentile Speed	14.5	15.8	8.9%
	85th Percentile Speed	19.7	22.2	13%
	95th Percentile Speed	21.5	24.2	13%
		Before	After	Difference
	% of vehicles over 20 mph	15%	26%	10.9%
	% of vehicles over 25 mph	0%	1%	0.8%
	% of vehicles over 30 mph	0%	0%	0.0%
	(W) - River Street (Southwest of Square)	Eastbound		
		Before	After	Change
	50th Percentile Speed	23.5	21.5	-8.4%
	85th Percentile Speed	28.9	26.2	-9.3%
	95th Percentile Speed	32.6	29.4	-9.8%
		Before	After	Difference
	% of vehicles over 20 mph	77%	63%	-14.0%
	% of vehicles over 25 mph	38%	19%	-19.3%
	% of vehicles over 30 mph	10%	3%	-6.8%

SAFER SQUARES RESULTS

Taken as a whole, the changes to 50th percentile speed, 85th percentile speed, and 95th percentile speed in the study locations present mixed results. Cumulative changes in speeds across the Safer Squares study area are slightly lower than before the study occurred. Out of 21 locations, 12 locations had lower 50th and 95th percentile speeds and 13 locations had lower 85th percentile speeds than the existing condition. Reducing high end speeds (95th percentile speeds) was of particular interest for effort, though Figure 9 demonstrates a similar mixture of results to the rest of the study. Results demonstrate 5 locations yielding a greater than 5% increase in high end speeding and 8 locations yielding a greater than 5% decrease in high end speeding. For 85th percentile speeds, results demonstrate 6 locations with a greater than 5% increase in 85th percentile speeds and 6 locations with a greater than 5% decrease in 85th percentile speeds. In terms of average speeds at each location, results demonstrate 6 locations with a greater than 5% increase in 50th percentile speeds and 3 locations with a greater than 5% decrease in 50th percentile speeds.

Figure 7: 50th Percentile Speed - Safer Squares Study Area

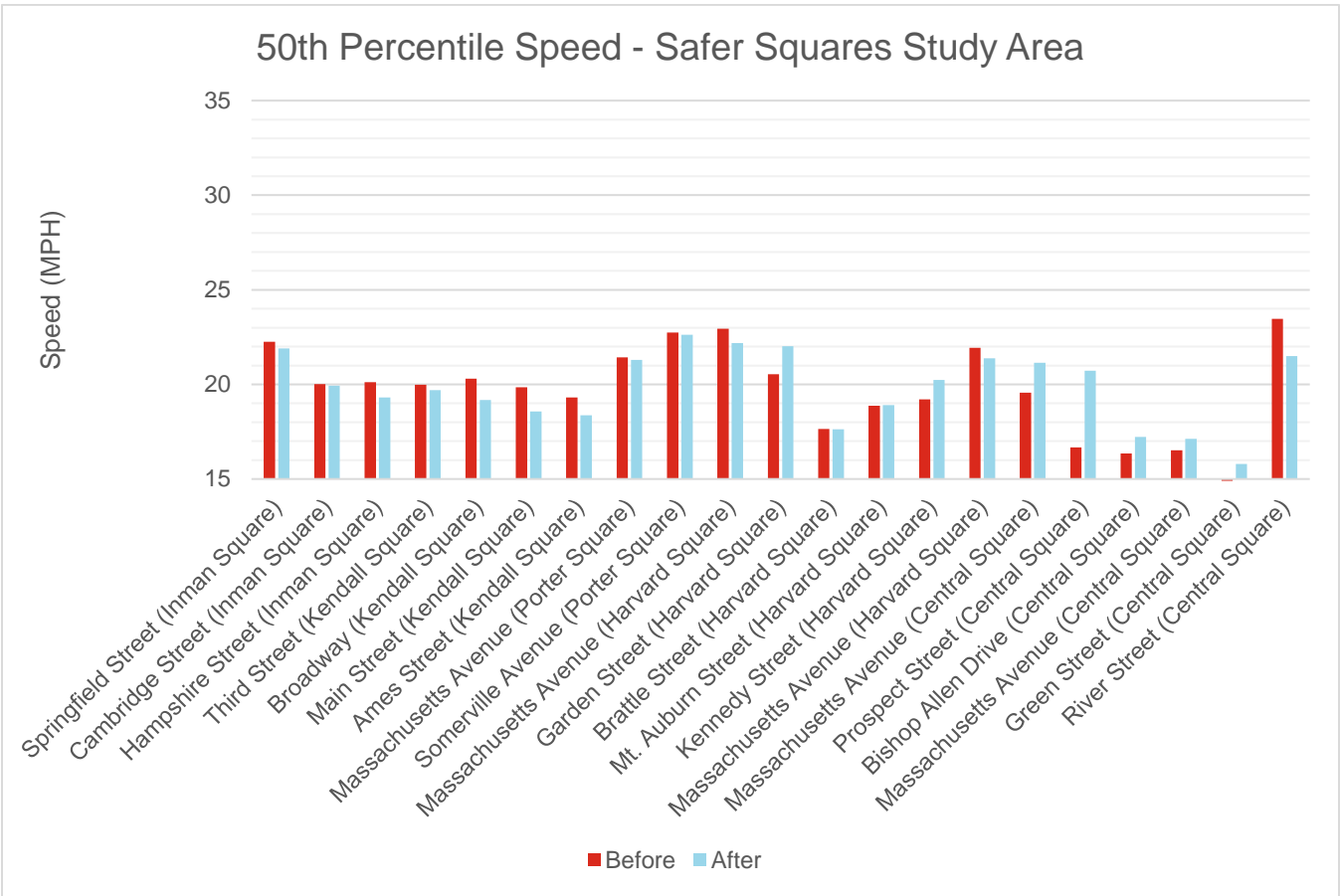


Figure 8: 85th Percentile Speed - Safer Squares Area

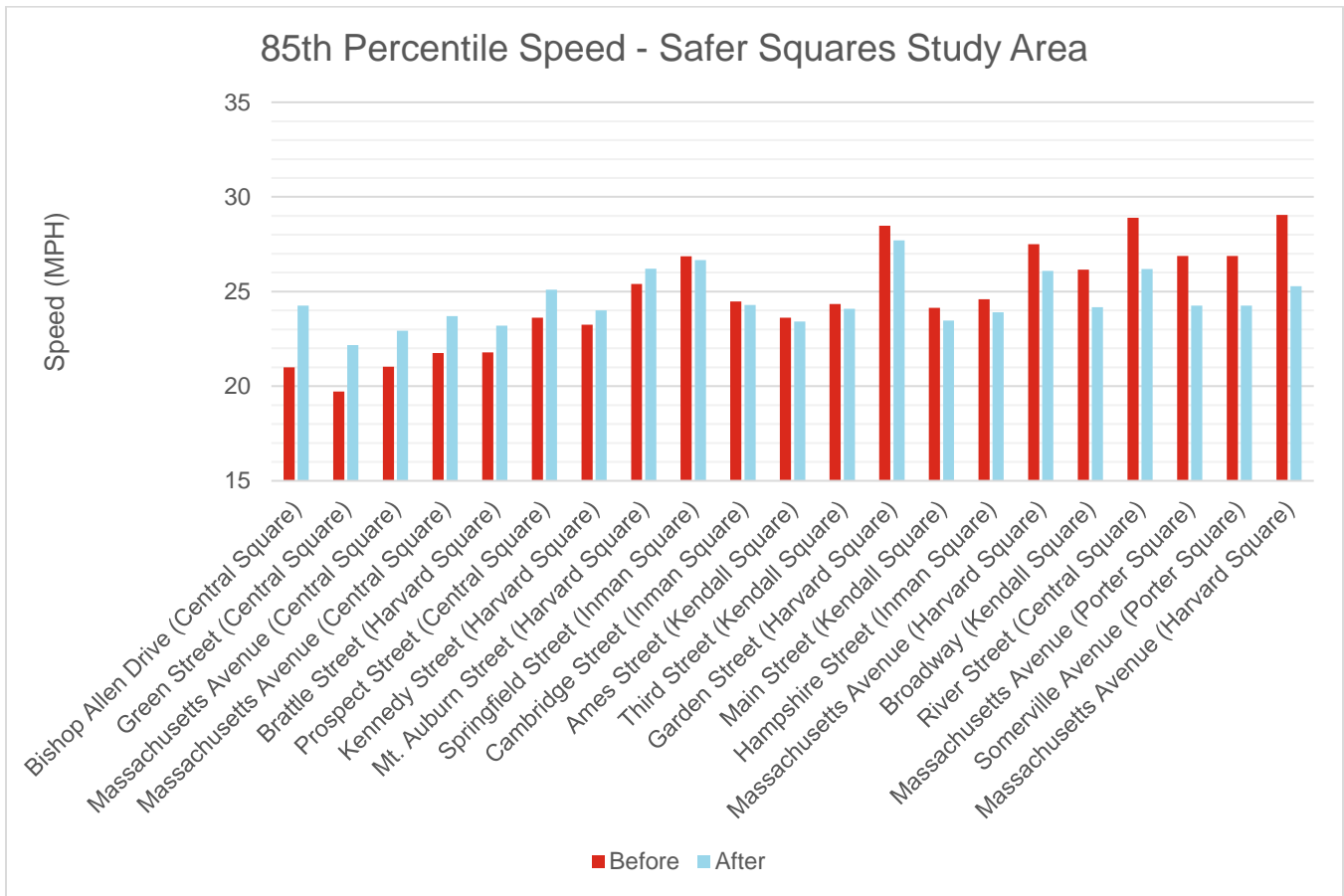
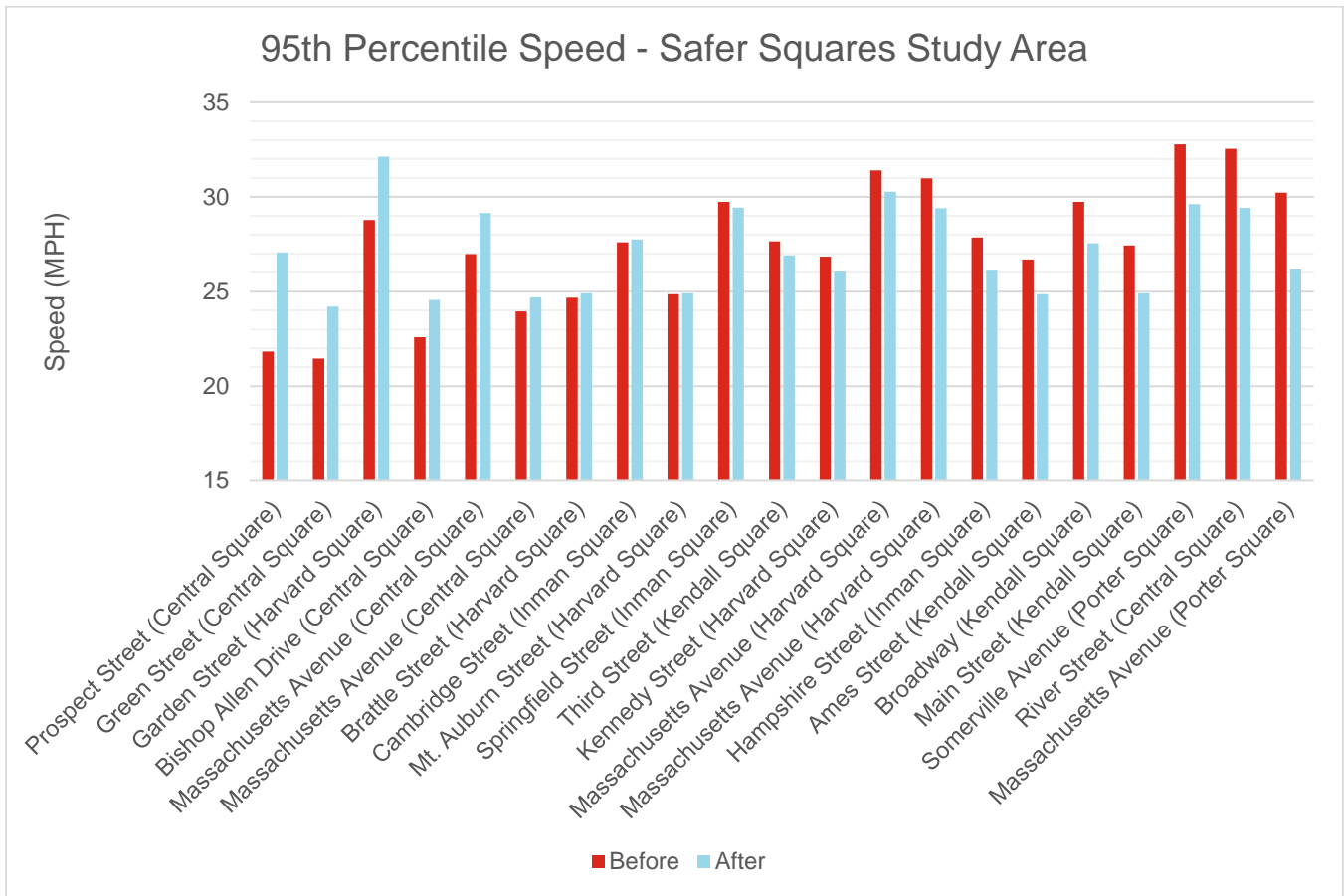


Figure 9: 95th Percentile Speed - Safer Squares Study Area



RESIDENTIAL SAFETY ZONES

This section observes the impact of the speed limit reductions across Cambridge to residential streets across the city. The streets evaluated were grouped by neighborhood into North Cambridge, the Harvard area, Mid-Cambridge, Cambridgeport, East Cambridge, and West Cambridge. The lower speed limit was applied to a large number of primarily local access streets across the City, and the streets in this study represent a sampling of streets in Residential Safety Zones in each neighborhood.

Figure 10: Neighborhood Areas



Though the streets included in the Residential Safety Zones study are primarily neighborhood streets, they vary in street design characteristics like presence of on-street parking, intersection geometries, and other factors. These characteristics may also influence vehicle speeds.

NORTH CAMBRIDGE

Four total ATRs were located in North Cambridge to evaluate vehicle speeds. Figure 11 illustrates these locations and Table 6 indicates the before speeds (recorded from August 27-28, 2019 for locations 1, 18, and 19 and recorded from September 10-11, 2019 for location 24) and after speeds (recorded from November 2-3, 2021 for location 1, 19, and 24 and recorded from November 16-17, 2021 for location 18).

Figure 11: North Cambridge ATR Locations



North Cambridge Summary

- Middlesex Street (location 1) sustained decreases between 3% and 12% in Northbound vehicular speeds and between 1% and 17% in Southbound vehicular speeds. A decrease between 20% and 35% was observed in the percentage of vehicles over 20 mph in both directions.
- At Harvey Street (location 18), 50th percentile Westbound vehicle speed decreased by about 3% while 85th and 95th percentile speed increased by about 1%.
- Day Street (location 19) data exhibited a decrease in 50th percentile speed of about 6% and a decrease of about 11% in the percentage of vehicles driving over 20 mph in the Eastbound direction.
- Magoun Street (location 24) sustained about a 7% decrease in 50th percentile speed and decreases of approximately 13% and 5% in percent of speeds over 20 mph and 25 mph, respectively. The data exhibit a 6% increase in 95th percentile speed and an increase of about 2% in percent of speeds over 30 mph.

North Cambridge Data

Table 6: North Cambridge Before/After Speed Performance Measures

	(1) - Middlesex Street south of Wilson Avenue	Northbound			Southbound		
		Before	After	Change	Before	After	Change
	50th Percent Speed	21.7	19.2	-11.8%	22.5	18.5	-17.6%
	85th Percent Speed	24.9	24.3	-2.5%	27.1	24.9	-8.3%
	95th Percent Speed	28.5	27.6	-3.1%	29.4	28.9	-1.4%
		Before	After	Difference	Before	After	Difference
	% over 20 mph	69%	49%	-19.9%	75%	40%	-34.7%
	(18) - Harvey Street east of Clay Street	Westbound					
		Before	After	Change			
	50th Percent Speed	20.3	19.8	-2.9%			
	85th Percent Speed	24.5	24.6	0.3%			
	95th Percent Speed	27.9	28.3	1.4%			
		Before	After	Difference			
	% over 20 mph	53%	48%	-4.8%			
	(19) - Day Street west of Orchard Street	Eastbound					
		Before	After	Change			
	50th Percent Speed	20.6	19.2	-6.5%			
	85th Percent Speed	24.4	24.3	-0.6%			
	95th Percent Speed	27.7	27.8	0.6%			
		Before	After	Difference			
	% over 20 mph	55%	44%	-11.2%			
	(24) - Magoun Street south of Massachusetts Avenue	Southbound					
		Before	After	Change			
	50th Percent Speed	22.2	20.8	-6.5%			
	85th Percent Speed	27.6	27.3	-1.3%			
	95th Percent Speed	29.8	31.6	6.0%			
		Before	After	Difference			
	% over 20 mph	68%	55%	-13.0%			
	% over 25 mph	27%	22%	-4.9%			
	% over 30 mph	4%	6%	2.3%			

HARVARD AREA

Five total ATRs were located in the Harvard Area to evaluate vehicle speeds. Figure 12 illustrates these locations and Table 7 indicates the before speeds (recorded from August 27-28, 2019 for locations 2, 3, and 4 and recorded from August 21-22, 2019 for locations 13 and 14) and after speeds (recorded from November 2-3, 2021 for locations 2 and 3, recorded from November 9-10, 2021 for locations 13 and 14, and recorded from November 16-17, 2021 for location 4).

Figure 12: Harvard Area ATR Locations



Harvard Area Summary

- Garden Street (location 2) indicates approximate increases of 1-2% for vehicle speeds in both directions.
- Oxford Street (location 3) data exhibits about a 6% decrease of the 50th percentile speeds in both directions. The percentage of vehicles over 20 mph decreased between 10% and 13% in both directions.
- Sumner Road (location 4) indicates an overall decrease in vehicle speeds and approximately 7% decrease in vehicles over 20 mph.
- Garfield Street (location 13) data exhibit approximately a 7% decrease in Westbound vehicle speeds and an overall increase in Eastbound vehicle speeds. For percentage of vehicles over 25 mph, Westbound decreased by approximately 16% while Eastbound increased by approximately 14%.
- Linnaean Street (location 14) data demonstrates an increase in vehicle speeds in the Westbound direction and a decrease in vehicle speeds in the Eastbound direction. The percentage of vehicles over 25 mph decreased by approximately 9% for the Eastbound direction and increased by approximately 5% for the Westbound direction.

Harvard Area Data

Table 7: Harvard Area Before/After Speed Performance Measures

	(2) - Garden Street south of Robinson	Northbound			Southbound		
		Before	After	Change	Before	After	Change
	50th Percent Speed	24.8	25.4	2.7%	23.6	24.0	1.7%
	85th Percent Speed	29.3	29.7	1.1%	29.0	29.4	1.2%
	95th Percent Speed	32.7	33.3	1.8%	32.3	33.0	2.2%
		Before	After	Difference	Before	After	Difference
	% over 20 mph	83%	86%	2.7%	73%	77%	4.2%
	(3) - Oxford Street south of Wendell	Northbound			Southbound		
		Before	After	Change	Before	After	Change
	50th Percent Speed	20.7	19.4	-6.1%	21.2	19.8	-6.6%
	85th Percent Speed	24.6	24.1	-2.1%	24.7	24.6	-0.3%
	95th Percent Speed	28.0	27.0	-3.7%	28.3	28.3	0.1%
		Before	After	Difference	Before	After	Difference
	% over 20 mph	56%	46%	-10.2%	62%	49%	-13.1%
	(4) - Sumner Road north of Irving	Northbound					
		Before	After	Change			
	50th Percent Speed	20.3	19.4	-4.1%			
	85th Percent Speed	24.4	24.1	-1.1%			
	95th Percent Speed	27.6	27.2	-1.5%			
		Before	After	Difference			
	% over 20 mph	52%	45%	-6.8%			
	(13) - Garfield Street east of Massachusetts	Eastbound			Westbound		
		Before	After	Change	Before	After	Change
	50th Percent Speed	22.2	23.0	4.0%	23.5	21.9	-7.0%
	85th Percent Speed	26.8	29.1	8.8%	28.8	26.7	-7.0%
	95th Percent Speed	29.3	33.4	13.8%	32.0	29.5	-7.7%
		Before	After	Difference	Before	After	Difference
	% over 20 mph	71%	72%	0.7%	80%	67%	-12.9%
	(14) - Linnaean Street west of Gray Street	Eastbound			Westbound		
		Before	After	Change	Before	After	Change
	50th Percent Speed	22.2	22.1	-0.7%	22.7	23.2	2.3%
	85th Percent Speed	27.5	25.8	-6.0%	28.2	28.8	2.2%
	95th Percent Speed	29.6	29.0	-2.2%	30.5	32.4	6.0%
		Before	After	Difference	Before	After	Difference
	% over 20 mph	71%	73%	4.0%	70%	75%	3.5%
	% over 25 mph	26%	18%	-9.1%	30%	36%	4.5%
	% over 30 mph	4%	2%	-1.5%	5%	8%	2.8%

MID-CAMBRIDGE

Three total ATRs were located in Mid-Cambridge to evaluate vehicle speeds. Figure 13 illustrates these locations and Table 8 indicates the before speeds (recorded from August 21-22, 2019 for locations 5, 12, and 20) and after speeds (recorded from November 16-17, 2021 for locations 5, 12, and 20).

Figure 13: Mid-Cambridge ATR Locations




Mid-Cambridge Summary

- Inman Street (location 5) data exhibited an overall increase in vehicle speeds and a 10% increase in the percentage of vehicles over 25 MPH.
- Columbia Street (location 12) data demonstrates an overall increase in vehicle speeds in both directions. For the percentage of vehicles over 25 mph, the Northbound direction increased by approximately 10% and the Southbound direction increased by approximately 20%.
- Harvard Street (location 20) indicates a decrease in vehicle speeds in the Eastbound direction and an increase in the Westbound direction. For the Westbound direction, the 85th percentile speed increased by approximately 6% and the percentage of vehicles over 25 mph increased by approximately 14%.

Mid-Cambridge Data

Table 8: Mid-Cambridge Before/After Speed Performance Measures

	(5) - Inman Street south of St. Mary's	Southbound					
		Before	After	Change			
	50th Percent Speed	18.7	20.6	10.2%			
	85th Percent Speed	23.8	25.7	7.9%			
	95th Percent Speed	26.3	29.1	10.7%			
		Before	After	Difference			
	% over 20 mph	41%	54%	12.9%			
	(12) - Columbia Street north of Market	Northbound			Southbound		
		Before	After	Change	Before	After	Change
	50th Percent Speed	20.9	21.8	4.3%	21.5	23.7	10.3%
	85th Percent Speed	24.7	27.0	9.3%	26.4	28.9	9.4%
	95th Percent Speed	28.4	29.6	4.3%	29.3	32.1	9.5%
		Before	After	Difference	Before	After	Difference
	% over 20 mph	58%	66%	7.2%	63%	78%	15.0%
	(20) - Harvard Street east of Dana Street	Eastbound			Westbound		
		Before	After	Change	Before	After	Change
	50th Percent Speed	24.3	24.2	-0.4%	23.2	24.9	7.5%
	85th Percent Speed	29.4	29.3	-0.3%	28.5	29.5	3.2%
	95th Percent Speed	33.1	33.0	-0.2%	31.5	33.3	5.8%
		Before	After	Difference	Before	After	Difference
	% over 20 mph	80%	77%	-3.4%	76%	83%	6.5%
	% over 25 mph	45%	45%	-0.2%	35%	49%	14.3%
	% over 30 mph	11%	10%	-0.6%	7%	11%	4.2%

CAMBRIDGEPORT

Three total ATRs were located in Cambridgeport to evaluate vehicle speeds. Figure 14 illustrates these locations and Table 9 indicates the before speeds (recorded from August 21-22, 2019 for locations 6, 7, and 8) and after speeds (recorded from November 16-17, 2021 for locations 6, 7, and 8).

Figure 14: Cambridgeport ATR Locations



Cambridgeport Summary

- Brookline Street (location 6) speed data demonstrates about a 6% decrease in percentage of vehicles over 20 mph and a decrease of 2% for the 50th percentile speed.
- Pearl Street (location 7) data indicates a 5% increase in 95th percentile speed and a 2% increase in vehicles over 25 mph.
- Magazine Street (location 8) data demonstrates a decrease in vehicular speeds in the Northbound direction and an increase in the Southbound direction. For the Northbound direction, the 50th percentile, 85th percentile, and 95th percentile speeds decreased between 22% and 27%. The percentage of vehicles over 20 mph decreased by 59% in the Northbound direction. For the Southbound direction, the 85th percentile speed increased by 5% and the percentage of vehicles over 25 mph increased by approximately 6%.

Cambridgeport Data

Table 9: Cambridgeport Before/After Speed Performance Measures



(6) - Brookline Street south of Hamilton Street	Northbound		
	Before	After	Change
50th Percent Speed	21.2	20.8	-2.0%
85th Percent Speed	24.8	25.2	2.0%
95th Percent Speed	28.4	28.9	1.8%
	Before	After	Difference
% over 20 mph	62%	56%	-5.6%
% over 25 mph	13%	16%	3.1%
% over 30 mph	1%	2%	0.6%



(7) - Pearl Street south of Erie Street	Southbound		
	Before	After	Change
50th Percent Speed	18.9	18.7	-1.1%
85th Percent Speed	23.7	23.9	0.8%
95th Percent Speed	25.7	27.0	5.0%
	Before	After	Difference
% over 20 mph	40%	39%	-1.0%
% over 25 mph	6%	8%	2.0%
% over 30 mph	1%	1%	0.4%



(8) - Magazine Street south of Erie Street	Northbound			Southbound		
	Before	After	Change	Before	After	Change
50th Percent Speed	23.0	16.7	-27.4%	21.3	21.3	0.0%
85th Percent Speed	28.2	21.2	-24.7%	26.3	27.7	5.2%
95th Percent Speed	30.9	23.9	-22.4%	29.5	31.1	5.4%
	Before	After	Difference	Before	After	Difference
% over 20 mph	79%	20%	-59.0%	61%	59%	-2.4%
% over 25 mph	32%	1%	-30.5%	19%	25%	6.3%
% over 30 mph	6%	0%	-5.7%	4%	6%	2.5%

EAST CAMBRIDGE

Four total ATRs were located in East Cambridge to evaluate vehicle speeds. Figure 15 illustrates these locations, with Table 10 indicates the before speeds (recorded from August 21-22, 2019 for locations 9, 10, 11, and 23) and after speeds (recorded from November 16-17, 2021 for locations 10 and 23 and recorded from November 9-10, 2021 for locations 9 and 11). “After” speeds in the Southbound direction at location 10 are not displayed because the ATR was placed too close to the stop sign creating unreliable data.

Figure 15: East Cambridge ATR Locations



East Cambridge Summary

- Third Street (location 9) indicates decreases of nearly 6% in Northbound 50th percentile speeds and an approximate decrease of 11% in the percentage of vehicles observed above 20 MPH. In the Southbound direction, 95th percentile speeds increased by about 11%.
- Second Street (location 10) Northbound speed data demonstrates a 10% and 5% decrease in 85th percentile speed and 95th percentile speed, respectively. Southbound “after” data is not reliable; however, before data should the 85th percentile speed at approximately 24 mph with the percent of vehicles over 25 mph at 6%.
- Spring Street (location 11) speed data exhibits a decrease for vehicular speed in both directions. A 24-25% decrease in percentage of vehicles over 20 mph was observed for vehicles in both directions.
- Education Circle (location 23) indicated decreases between 0% and 6% for all vehicular speeds observed. The percentage of vehicles over 20 mph decreased by about 7% in the Eastbound direction and by about 10% in the Westbound direction.

East Cambridge Data

Table 10: East Cambridge Before/After Speed Performance Measures



(9) - Third Street south of Spring Street

50th Percent Speed
85th Percent Speed
95th Percent Speed

% over 20 mph
% over 25 mph
% over 30 mph

Northbound			Southbound		
Before	After	Change	Before	After	Change
20.6	19.4	-5.9%	20.2	20.3	0.1%
24.2	24.0	-1.0%	24.0	24.7	2.8%
26.9	26.8	-0.2%	25.6	28.5	11.4%
Before	After	Difference	Before	After	Difference
56%	44%	-11.1%	52%	52%	-0.1%
8%	8%	-0.2%	6%	12%	6.7%
1%	1%	0.0%	0%	2%	1.8%



(10) - Second Street south of Spring Street*

50th Percent Speed
85th Percent Speed
95th Percent Speed

% over 20 mph
% over 25 mph
% over 30 mph

Northbound			Southbound		
Before	After	Change	Before	After	Change
16.6	17.0	2.6%	18.2	N/A	N/A
22.3	20.0	-10.3%	23.5	N/A	N/A
24.7	23.4	-4.9%	26.2	N/A	N/A
Before	After	Difference	Before	After	Difference
25%	15%	-9.7%	35%	N/A	N/A
4%	1%	-3.0%	6%	N/A	N/A
0%	0%	-0.4%	1%	N/A	N/A

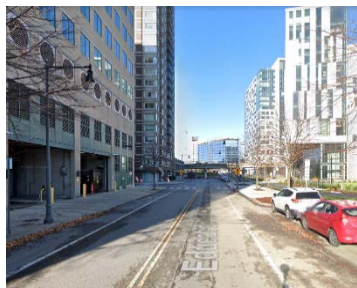


(11) - Spring Street west of Sciarappa Street

50th Percent Speed
85th Percent Speed
95th Percent Speed

% over 20 mph
% over 25 mph
% over 30 mph

Eastbound			Westbound		
Before	After	Change	Before	After	Change
20.6	17.5	-14.8%	21.1	17.8	-15.6%
24.2	23.1	-4.8%	25.3	23.4	-7.2%
26.9	25.1	-6.6%	28.8	26.3	-8.8%
Before	After	Difference	Before	After	Difference
55%	31%	-24.4%	59%	34%	-25.4%
8%	5%	-2.7%	16%	6%	-9.3%
0%	0%	0.0%	2%	1%	-0.8%



(23) - Education Circle east of Museum Way

50th Percent Speed
85th Percent Speed
95th Percent Speed

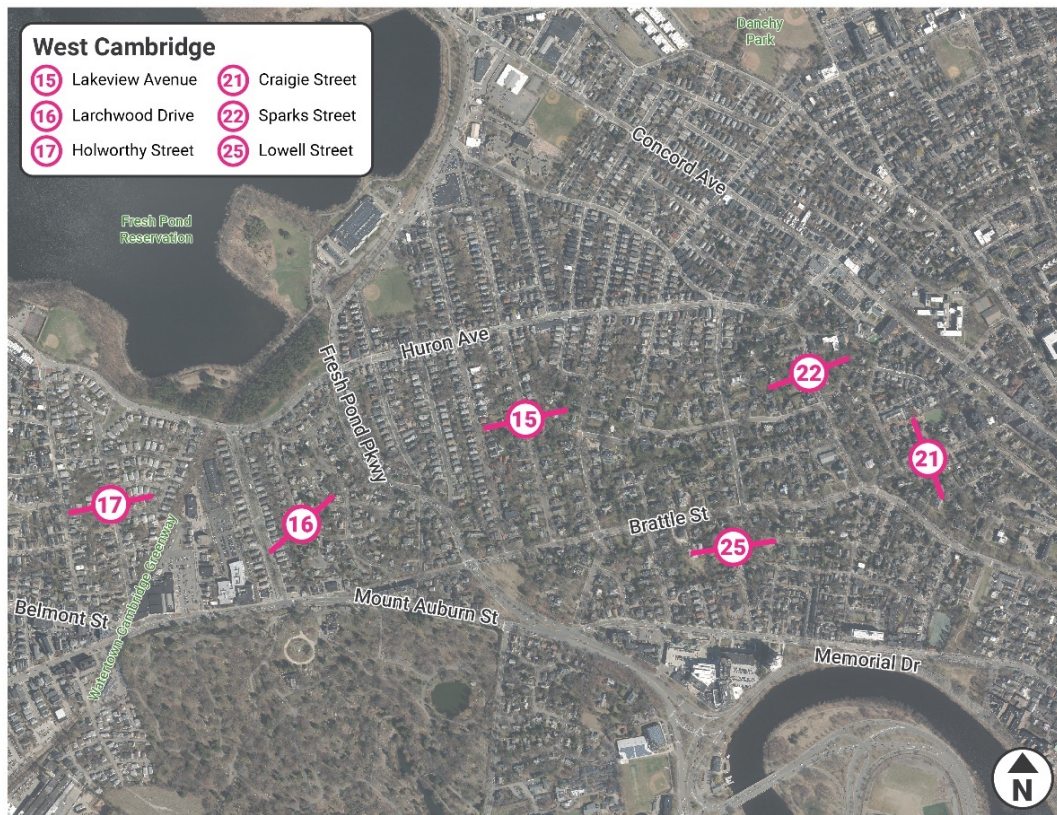
% over 20 mph
% over 25 mph
% over 30 mph

Eastbound			Westbound		
Before	After	Change	Before	After	Change
20.3	19.4	-4.8%	19.4	18.2	-6.1%
24.4	24.2	-0.8%	24.3	23.5	-3.3%
27.8	27.7	-0.3%	27.8	25.9	-6.8%
Before	After	Difference	Before	After	Difference
53%	46%	-7.4%	46%	36%	-10.1%
10%	9%	-0.7%	10%	6%	-3.9%
1%	1%	0.4%	1%	0%	-0.9%

WEST CAMBRIDGE

Six total ATRs were located in West Cambridge to evaluate vehicle speeds. Figure 16 illustrates these locations, with Table 11 indicates the before speeds (recorded from September 10-11, 2019 for location 15, recorded from August 21-22, 2019 for locations 16 and 17, and recorded from August 27-28, 2019 for locations 21, 22, and 25) and after speeds (recorded from November 2-3, 2021 for locations 15, 16, 17, 21, 22, and 25).

Figure 16: West Cambridge ATR Locations



West Cambridge Summary

- Lakeview Avenue (location 15) vehicular speed data showed decreases in both directions. The percentage of vehicles over 20 mph, 25 mph, and 30 mph all decreased. The Northbound direction had a 10% decrease of the percentage of vehicles over 20 mph while the Southbound direction had a decrease of 15%.
- Larchwood Drive (location 16) speed data demonstrated a decrease between 8% and 11% in 50th percentile speed in the Eastbound and Westbound direction, respectively. In addition, the percentage of vehicle over 20 mph decreased by about 14% in both directions.
- Holworthy Street (location 17) speed data exhibits a decrease of about 6% in Northbound 85th percentile speed. Both the percentage of vehicles over 20 mph and 25 mph both decreased by about 10%.
- Craigie Street (location 21) had a decrease in all vehicular speeds. The 50th percentile speed for the Westbound direction had the highest decrease at approximately 9%. The percentage of vehicles over 20 mph decreased by about 12% in the Eastbound direction and by about 18% in the Westbound direction.
- Sparks Street (location 22) speed data exhibits an increase across all metrics reviewed. Most notably, the percentage of vehicles over 25 mph was determined to be nearly 38%.

- Lowell Street (location 25) had minor increases for all metrics. The Northbound and Southbound speed data increased approximately 1% in the 50th percentile, 85th percentile, and 95th percentile speeds. In addition, the percentage of vehicles over 25 mph increased by 2% in the Northbound direction and increased by 3% in the Southbound direction.

West Cambridge Data

Table 11: West Cambridge Before/After Speed Performance Measures

	(15) - Lakeview Avenue north of Brattle Street	Northbound			Southbound		
		Before	After	Change	Before	After	Change
	50th Percent Speed	26.5	24.5	-7.3%	28.1	25.1	-10.8%
	85th Percent Speed	31.8	29.7	-6.6%	33.3	30.5	-8.4%
	95th Percent Speed	34.6	33.5	-3.0%	35.6	34.3	-3.7%
		Before	After	Difference	Before	After	Difference
	% over 20 mph	86%	75%	-10.1%	95%	80%	-14.7%
	(16) - Larchwood Drive west of Old Dee Road	Eastbound			Westbound		
		Before	After	Change	Before	After	Change
	50th Percent Speed	21.2	19.6	-7.6%	21.3	19.0	-10.5%
	85th Percent Speed	24.8	24.3	-2.0%	24.9	24.4	-1.7%
	95th Percent Speed	28.3	27.4	-3.2%	28.5	27.9	-2.3%
		Before	After	Difference	Before	After	Difference
	% over 20 mph	61%	47%	-14.3%	62%	49%	-13.8%
	(17) - Holworthy Street south of Holmes Street	Northbound					
		Before	After	Change			
	50th Percent Speed	22.6	21.4	-5.2%			
	85th Percent Speed	27.8	26.1	-6.1%			
	95th Percent Speed	29.9	29.2	-2.3%			
		Before	After	Difference			
	% over 20 mph	73%	62%	-10.9%			
	(21) - Craigie Street east of Buckingham Street	Eastbound			Westbound		
		Before	After	Change	Before	After	Change
	50th Percent Speed	23.4	22.7	-2.7%	25.2	22.9	-9.2%
	85th Percent Speed	28.3	28.2	-0.3%	29.5	28.6	-2.9%
	95th Percent Speed	30.3	30.3	0.2%	33.0	31.9	-3.5%
		Before	After	Difference	Before	After	Difference
	% over 20 mph	82%	71%	-11.5%	88%	70%	-18.1%
	(22) - Sparks Street north of Highland Street	Southbound					
		Before	After	Change			
	50th Percent Speed	21.4	24.9	16.6%			
	85th Percent Speed	24.7	29.5	19.3%			
	95th Percent Speed	28.0	32.9	17.4%			
		Before	After	Difference			
	% over 20 mph	65%	84%	19.0%			
	% over 25 mph	12%	50%	37.9%			
	% over 30 mph	1%	11%	10.1%			

Data Continued on Next Page

West Cambridge Data (continued)



(25) - Lowell Street north of Foster Street	Northbound			Southbound		
	Before	After	Change	Before	After	Change
50th Percent Speed	22.0	22.3	1.2%	23.0	23.3	1.1%
85th Percent Speed	26.8	27.1	1.4%	28.1	28.4	1.1%
95th Percent Speed	29.3	29.5	0.6%	29.9	30.6	2.3%
	Before	After	Difference	Before	After	Difference
% over 20 mph	69%	72%	3.0%	78%	79%	1.2%
% over 25 mph	22%	24%	2.1%	32%	35%	3.0%
% over 30 mph	2%	3%	0.6%	5%	6%	1.0%

RESIDENTIAL SAFETY ZONES RESULTS

Results for the Residential Safety Zone study, as evaluated using changes to 50th percentile speed, 85th percentile speed, and 95th percentile speed, are also mixed. Cumulative speeds across the study locations are slightly lower than before the study occurred. Out of 25 locations, 14 locations had lower 50th percentile speeds, 11 locations had lower 85th percentile speeds, and 18 locations had lower 95th percentile speeds compared to the initial data collection. Focusing on reduction in high end speeds (95th percentile speeds) was of particular interest for this effort, and Figure 19 demonstrates the differences between 95th percentile speeds during the two data collection periods. Results demonstrate 3 locations yielding a greater than 5% increase in high end speeding and 12 locations yielding a greater than 5% decrease in high end speeding. For 85th percentile speeds, 3 locations had a larger than 5% increase in 85th percentile speeds and 6 locations had a larger than 5% decrease in 85th percentile speeds. Average speeds increased by at least 5% in 3 locations but decreased by at least 5% in 12 locations.

Figure 17: 50th Percentile Speed - Residential Safety Zones Area

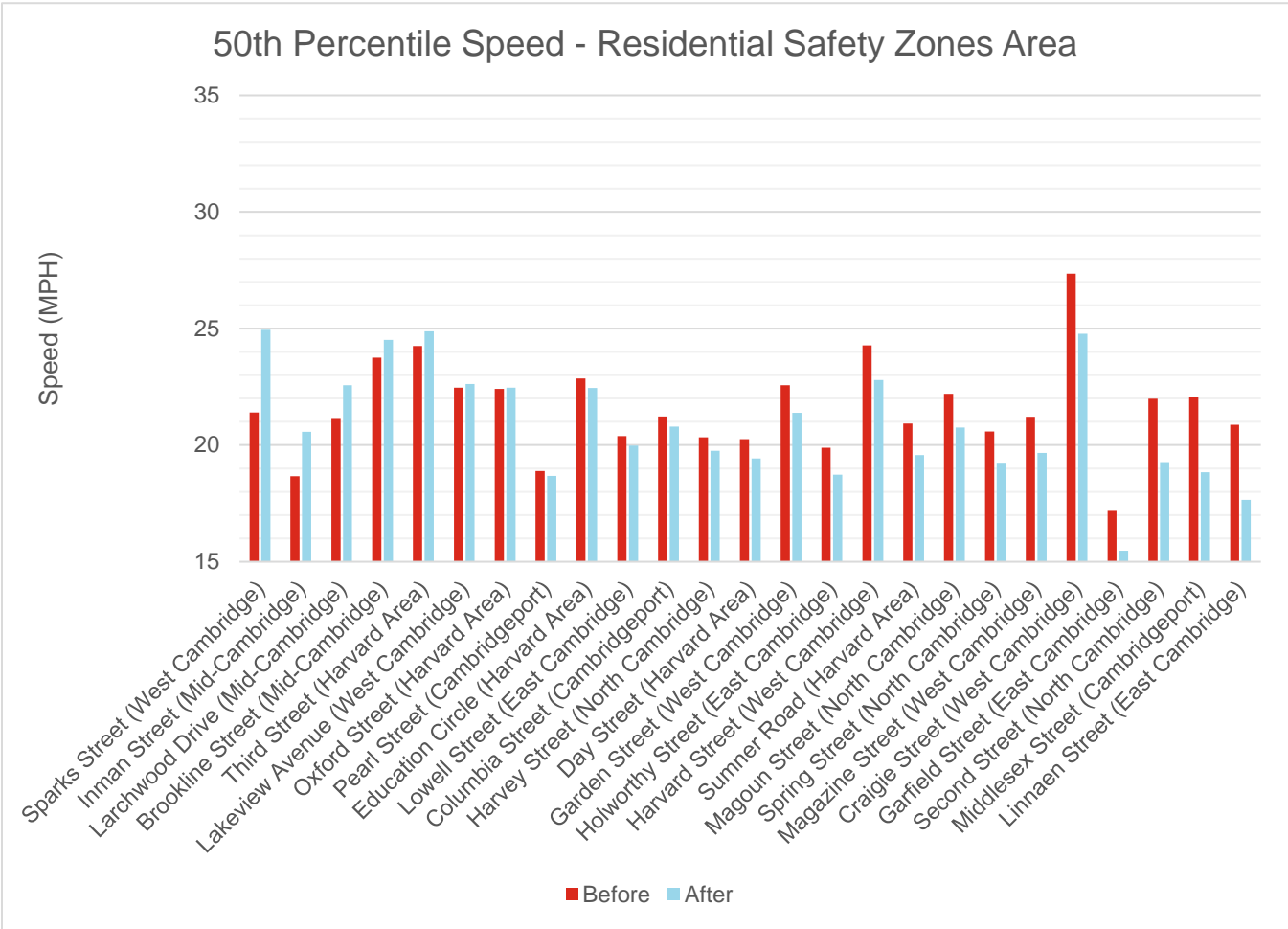


Figure 18: 85th Percentile Speed - Residential Safety Zones Area

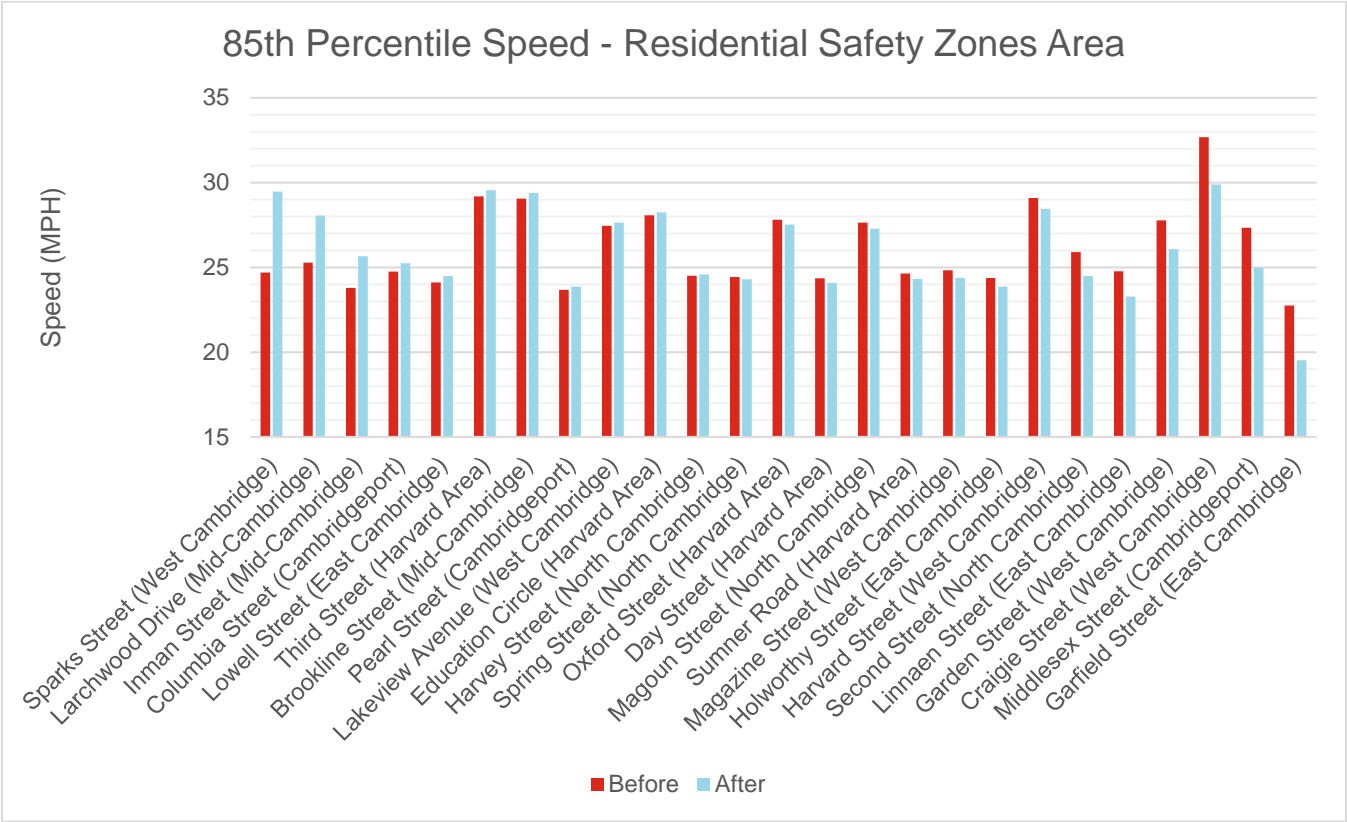
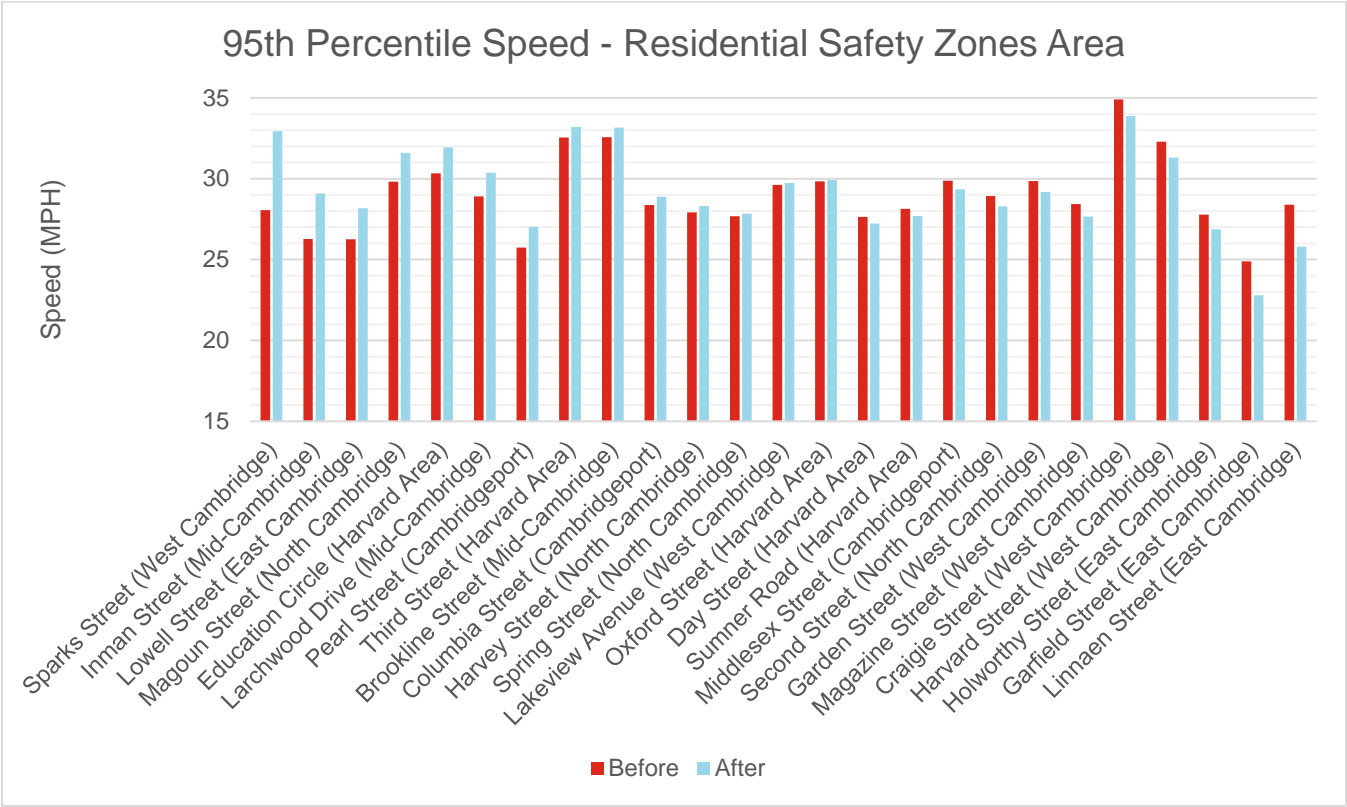


Figure 19: 95th Percentile Speed - Residential Safety Zones Area



STUDY FINDINGS

It is difficult to draw comprehensive conclusions from this study due to limitations in the data collected. This study provides an approximate before and after snapshot of speeds at each study location. However, it does not control for any variables that might affect speeds recorded on days years apart from one another like street design changes, surrounding construction activity, etc. As such, it is not possible to directly link any differences in before and after speed data with the speed limit reduction alone.

That said, analysis of the data collected before and after the speed limit change demonstrates some reduction in speeds, particularly among the Residential Safety Zones study locations. Close to half of these study locations saw greater than 5% reduction in 50th percentile and/or 95th percentile speeds. Results are more mixed for the Safer Squares study locations, where speed reductions were observed at a smaller share of locations. More Safer Squares locations saw greater than 5% increases in 50th percentile speed than saw decreases, and an even number saw noticeable changes in each direction for 85th percentile speed.

Results at each location and across each study would need greater context in order to draw more specific conclusions. However, while the impact of lowering the speed limit in Cambridge on its own may be unclear, speed limit reductions are an important step to begin designing streets throughout the City to lower target speeds. Regardless of any possible outcomes from this change, a lower Citywide speed limit creates the environment for the City to continue leading on making its streets safer for all who use them.

Table 12: Percentage of Locations with a Greater Than 5% Reduction in Speeds

Speed Metric	Share of Locations that Saw a >5% Reduction	
	<i>Safer Squares (n= 21)</i>	<i>Residential Safety Zones (n=25)</i>
50th Percentile Speed	14%	48%
85th Percentile Speed	29%	24%
95th Percentile Speed	38%	48%