



23

COMMUNITY MITIGATION FUND

2023 Transportation Construction Grant Application

Bid No. Bid No. BD-23-1068-1068C-1068L-81256

All completed applications must be sent by January 31st to be considered for funding for the 2023 Grant Round. Please submit this completed form as well as any relevant attachments to MGCCMF@Massgaming.gov.

For more detailed instructions as well as the 2023 Application Guidelines please visit <https://massgaming.com/about/community-mitigation-fund/>

I. Project Summary
Legal Name of Applicant: City of Everett
Project Name (Please limit to 5 words): Wellington Connector Path
Amount Requested: \$350,000
Brief Project Description (approx. 50 words): The City proposes to use these funds to connect a new trail connection known as the Wellington Connector. This trail connection would begin from the newly completed Northern Strand bike path at Sweetser Circle to the Woods Memorial Bridge over the Mystic River. It would create a new and important off-road trail link from Everett to the Malden River trail network as well as Wellington MBTA station and Mystic River paths.

II. Applicant Contact Information
Please provide below the manager for this grant and any other individuals you would like to be copied on all correspondence.
Grant Manager: Jay Monty
Email Address: Jay.monty@ci.everett.ma.us
Telephone Number: 617-544-6033
Address: Everett City Hall 484 Broadway Everett, MA 02149
Contact II: Eric Molinari
Role: Transportation Planner
Email Address: eric.molinari@ci.everett.ma.us
Telephone Number: XXX-XXX-XXXX
Address: Everett City Hall 484 Broadway Everett, MA 02149

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Contact III:
Role:
Email Address:
Telephone Number:
Address:

III. Detailed Project Description & Mitigation

- 1) Please describe in detail the impact that is attributed to the operation of a gaming facility. Please provide documentation or evidence that gives support for the determination that the operation of the gaming facility caused or is causing the impact (i.e. surveys, data, reports)

With the development of the Encore casino on Lower Broadway and future expansion east of Broadway, traffic has and will continue to increase in the area due to an increase in guests and those that work at the casino. Beyond the expected growth in travel from the original Encore project, an additional 16,000 trips are currently projected to be added to Everett's roadways with the build-out of the East of Broadway project. As was demonstrated in the original MEPA permitting process, the impact of this traffic extends well beyond Lower Broadway and has impacts throughout Everett and the region. The off-road trail network that Everett has developed has proven to be a critical element in providing an alternative mode of travel for residents, visitors and employees in Everett and beyond. A key missing link to the existing trail network is trail running east-to-west from the existing Northern Strand trail to Wellington Station that would allow greater connectivity to transit and the growing riverfront trail network.

- 2) *(If applicable)* Please explain how this impact was not anticipated in the Applicant's Host or Surrounding Community Agreement.

The host community agreement, now nearly a decade old, did not fully anticipate the rapid growth of the Everett trail network or its importance as a link between the Lower Broadway development district and the rest of the City. With the anticipated opening of the Northern Strand extension in 2023, additional trail connections now become not only possible, but critical to attracting more multi-modal trips in Everett. As the casino has now been operating for nearly 4 years and seeks to grow along with the area surrounding it, so too must the vision of the city's transportation network. This includes investing further in the strategies originally laid out when the project was originally planned and building upon them. This project looks to expand upon the network of existing trails surrounding the casino and close some of the gaps that exist between existing trails, the riverfront and neighboring communities and transit connections. The proposed Wellington Connector, running between the Northern Strand Trail and the Woods Memorial Bridge would fill one of these gaps by providing direct access from the Northern Strand Trail to Wellington MBTA station and Medford and could not have been contemplated prior to the successful completion of the Northern Strand Trail. Additionally, this intersection was reconstructed as mitigation for the Encore Casino and has become insufficient for pedestrians accessing the existing Santilli Circle bus stop. This project would address this issue

3) Please describe what the Applicant is proposing and how the mitigation request will address the impact indicated.

The City is proposing the construction of two segments of shared use path which will be known as the Wellington Connector trail. The first segment would begin at the Northern Strand Bike Trail where the newly constructed extension passes beneath Sweetser Circle and head west approximately ¼ mile through a currently inaccessible green space between Revere Beach Parkway to meet an existing shared use path at the intersection of Kelvin Street and Bizzaro Lane. That existing path then travels west from Bizzaro Lane to the intersection of Santilli Highway and Santilli Circle. The second segment of proposed multi-use trail begins at Santilli Circle and would be constructed along the BNY Melon campus that runs parallel to Route 16 and connect to the Woods Memorial Bridge and Malden River trail that connect to the Wellington Orange Line MBTA Station. This will create a much-needed, safe route to a major transit hub in the region, giving folks more diverse mobility options to and from the Northern Strand.

The Lower Mystic Working Group, and other city and regional studies in which the Encore Casino participated, set goals to improve connectivity for non-vehicular traffic to places of interest and transit connections in the region. This project is consistent with the goals developed from these studies as highlighted below:

Lower Mystic Regional Working Group, Planning for Improved Transportation and Mobility in the Sullivan Square Area: Mobility Goal 3, “Transit improvements can be complemented by additional road and path improvements: Continue to develop the regional active transportation network with bicycle lanes and pedestrian paths and bridges. Ensure all local roadways incorporate Complete Streets elements.”

Riverfront Master Plan whose 3rd goal reads the following: “Improve connectivity for all users from the study area to the surrounding transportation network. Any new roadways included in the masterplan will be designed as “Complete Streets” to accommodate safety and encourage use by pedestrians, bicycles, transit services, large trucks, and other vehicles. Connections among the study area properties, and between the study area and major destinations surrounding the study area, will be improved.”

Commercial Triangle Neighborhood plan, which states as a main goal that the district should: “Improve the pedestrian and bicycle access and environment and has improved access to transit.”

The Wellington Connector trail, as proposed in this application, helps achieve these stated goals by improving connectivity for non-vehicle users including those who may work or be visiting the Lower Broadway entertainment district and Encore casino.

4) For all Transportation Construction Applications, the applicant should consult with MassDOT and the appropriate regional planning agency to obtain input on the project and identify opportunities for regional efforts. The results of this consultation should be included in this section of the application.

Throughout the construction of the Northern Strand trail and the ongoing planning and design process for this project the city has been engaged with MassDOT and the MBTA regarding rights-of-access, leases and maintenance agreements that are required for both the Northern Strand and future trail connections such as the Wellington Connector. The need for this connection aligns with various state goals identified in MassDOT's statewide bicycle and Pedestrian Plan. Additionally, the City has a working relationship with DCR regarding trail construction and wetland rehabilitation in the area of the project near Sweetser Circle.

IV. Scope, Budget, and Timeline

Applicant: City of Everett	Vendor Code:
Total Grant Amount Requested: \$375,000	Estimated Total Project Cost: \$1,010,000

Scope of Work

Please include below a breakdown of the proposed work. The project scope should be sufficiently detailed to allow the review team to understand the steps required for project completion.

See Attached Scope

Proposed MGC Grant Budget

Please use the following table to outline the budget of your project. Include any requests for proposals, quotes, or estimates that would quantify the costs associated with the mitigation as an attachment. In determining the funding request, please round up to the nearest hundred dollars.

Please provide the estimate and percentage of the costs projected to be funded from other federal, state, local or private contributions (Applicants may include contributions from gaming licensees).

Please indicate, through a commitment letter or otherwise, how such other funding will be

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available for the project. In the absence of a final commitment to such funding, please provide detail on any process needed to secure any non-CMF funding.

Timeline	Description of Purchase/Work	QTY	Budget
	TOTAL:		

Funding Source	Description of Purchase/Work	QTY	
In Kind Services			
Federal			
State			
Local Match			

V. Regional Incentive Award

Are you applying for a Regional Incentive Award?

Yes

No

Partner Community Contact-

Name:

Role:

Email Address:

Telephone Number:

Address:

VI. Waiver

If you are applying for a waiver, please submit the Waiver Form with your application. The form can be found at www.massgaming.com/about/community-mitigation-fund/forms/

Are you applying for a waiver?

Yes

No

VII. Please provide a brief description of each attachment.

Attachment 1: Consultant Construction Cost Estimates

Attachment 2: Bizarro Lane at Santilli Circle Connector Intersection and Path Connection Design

Attachment 3: Technical Memorandum - Santilli Circle Connector at Bizzaro Lane Signal Warrant Analysis

VIII. Applicant Certificate

On behalf of the aforementioned applicant/municipality/governmental entity I hereby certify that the funds that are requested in this application will be used solely for the purposes articulated in this Application.



1/31/23

Signature of Responsible Municipal
Official/Governmental Entity

Date:

Joseph D. Monty

(print name)

Director of Transportation and Mobility

Title:

**BIZZARO LANE INTERSECTION
RECONSTRUCTION & SHARED USE PATH
CONSTRUCTION PROJECT**

**IN THE CITY OF
EVERETT
MIDDLESEX COUNTY**



HSH PROJECT NUMBER 2022012.00

**CONCEPT DESIGN - JANUARY 2023
HOWARD STEIN HUDSON**



CALC'D BY:	AK	DATE:	1/17/2023	CITY:	EVERETT
CHK'D BY:	MD	DATE:	1/17/2023	PROJECT:	REVERE BEACH PARKWAY + BIZZARO

ESTIMATE SUMMARY

BIZZARO LANE INTERSECTION RECONSTRUCTION	\$ 860,000.00
SHARED USE PATH CONNECTION TO RIVER TRAIL	\$ 113,000.00
SHARED USE PATH ALTERNATIVE B (LENGTH: 890 FT)	\$ 1,010,000.00



CALC'D BY: AK	DATE: 1/17/2023	CITY: EVERETT
CHK'D BY: MD	DATE: 1/17/2023	PROJECT: REVERE BEACH PARKWAY + BIZZARO

AREA SUMMARY (BIZZARO LANE INTERSECTION RECONSTRUCTION)

Note: Areas from CAD

	AREA* (SF)	AREA (SY)
Mill & Overlay	27,500	3,056
Full Depth	500	56
HMA Sidewalks	3,100	344
Pedestrian Ramps	300	33
Loam and Seed	6,000	667
Cement Concrete Sidewalk	3,800	422
Stamped Concrete	350	39



CALC'D BY: AK	DATE: 1/17/2023	CITY: EVERETT
CHK'D BY: MD	DATE: 1/17/2023	PROJECT: REVERE BEACH PARKWAY + BIZZARO

**EVERETT - BIZZARO LANE INTERSECTION RECONSTRUCTION
CONCEPTUAL DESIGN ESTIMATE**

120.1	UNCLASSIFIED EXCAVATION		440	CY	\$88.00	\$38,720.00
		Area (SF)	Depth (ft)			
	Full Depth	500.00	1.63		30.09	CY
	Old Pavement	3400.00	1.00		125.93	CY
	Sidewalks + Ramps	7550.00	1.00		279.63	CY
			Total		435.65	CY
150	ORDINARY BORROW		130	CY	\$55.00	\$7,150.00
		Area (SF)	Depth (ft)			
	Old Pavement	3400.00	1.00		125.93	CY
			Total		125.93	CY
151	GRAVEL BORROW		250	CY	\$60.00	\$15,000.00
		Area (SF)	x	Depth (ft)	=	CY
	Full Depth =	500.00		0.67		12.35
	HMA Sidewalks =	3100.00		0.67		76.54
	Cem Conc Sidewalk - Stamped =	4150.00		0.67		102.47
	Pedestrian Ramps =	300.00		0.67		7.41
					TOTAL	198.77 CY
					25% SWELL	49.69 CY
					TOTAL	248.46 CY
170	FINE GRADING AND COMPACTING		900	SY	\$15.00	\$13,500.00
	Full Depth =		55.56	SY		
	HMA Sidewalks =		344.44	SY		
	Cem Conc Sidewalk - Stamped =		461.11	SY		
	Pedestrian Ramps =		33.33	SY		
		TOTAL	894.44	SY		
201	CATCH BASIN		2	EA	\$6,000.00	\$12,000.00
			<u>Quantity</u>			
			2	EA		
	TOTAL		2	EA		
220	DRAINAGE STRUCTURE ADJUSTED		9	EA	\$620.00	\$5,580.00
			<u>Quantity</u>			
			9	EA		
	TOTAL		9	EA		



220.3 DRAINAGE STRUCTURE CHANGE IN TYPE 1 EA \$1,200.00 \$1,200.00

Quantity
 1 EA
 TOTAL 1 EA

220.7 SANITARY STRUCTURE ADJUSTED 1 EA \$670.00 \$670.00

Quantity
 1 EA
 TOTAL 1 EA

222.1 FRAME AND GRATE - MASSDOT CASCADE TYPE 2 EA \$1,300.00 \$2,600.00

2 EA
 Total 2 EA

223.2 FRAME AND GRATE (OR COVER) REMOVED AND DISCARDED 1 EA \$200.00 \$200.00

1 EA
 Total 1 EA

241.12 12 INCH REINFORCED CONCRETE PIPE CLASS III 30 FT \$150.00 \$4,500.00

30 FT
 Total 30 FT

358 GATE BOX ADJUSTED 1 EA \$300.00 \$300.00

<u>Structure</u>	<u>Station</u>	<u>Offset</u>	<u>Quantity</u>	
WG			1	EA
		TOTAL	<u>1</u>	EA

402 DENSE GRADED CRUSHED STONE FOR SUB-BASE 7 CY \$90.00 \$630.00

Full Depth		56	SY
Area (SY)	x	Depth (yd)	Volume (CY)
55.56		0.111	6.17

415 PAVEMENT MICROMILLING 3060 SY \$10.00 \$30,600.00

Mill and Overlay 3055.56 SY

440 CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL 570 LB \$0.50 \$285.00

HMA Sidewalks =	344.44 SY
Pedestrian Ramps =	33.33 SY
	<u>377.78 SY</u>
*Estimate 1.5 LB per SY	<u>566.67 LB</u>



450.23 SUPERPAVE SURFACE COURSE - 12.5 (SSC - 12.5) 350 TON \$110.00 \$38,500.00

Full Depth 55.56 SY
Mill and Overlay 3055.56 SY

Table with 4 columns: Area (SY), Depth (in.), Ton/sy/in, Tons. Values: 3,111.11, 2, 0.056, 348.44

450.32 SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC -19.0) 10 TON \$210.00 \$2,100.00

Full Depth 55.56 SY

Table with 4 columns: Area (SY), Depth (in.), Ton/sy/in, Tons. Values: 55.56, 2, 0.056, 6.22

450.42 SUPERPAVE BASE COURSE - 37.5 (SBC - 37.5) 20 TON \$230.00 \$4,600.00

Full Depth 55.56 SY

Table with 4 columns: Area (SY), Depth (in.), Ton/sy/in, Tons. Values: 55.56, 4, 0.056, 12.44

451 HMA FOR PATCHING 90 TON \$375.00 \$33,750.00

Full Depth 55.56 SY
Mill and Overlay 3055.56 SY

Table with 4 columns: Assume 10% of Area, Depth (in.), Ton/sy/in, Tons. Values: 10%, 311.11, 5, 0.056, 87.11

452 ASPHALT EMULSION FOR TACK COAT 220 GAL \$10.00 \$2,200.00

Mill and Overlay 3055.56 SY

Table with 3 columns: Area (SY), GAL/SY, GAL. Values: 3,056, 0.07, 213.9

453 HMA JOINT SEALANT 1200 FT \$2.00 \$2,400.00

Length of the Project = 1000 FT
Limits of Work = 200 FT
Total 1200 FT

472 HOT MIX ASPHALT FOR MISCELLANEOUS WORK 10 TON \$300.00 \$3,000.00

Assume 2' HMA Patch x Limits of Work 400.00 SF

Table with 4 columns: Area (SY), Depth (in.), Ton/sy/in, Tons. Values: 44.44, 2, 0.056, 4.98

506 GRANITE CURB TYPE VB - STRAIGHT 650 FT \$67.00 \$43,550.00

Total 650.00 FT
650.00 FT



506.1	GRANITE CURB TYPE VB - CURVED	125	FT	\$85.00	\$10,625.00
		<u>125.00</u>	FT		
	Total	<u>125.00</u>	FT		
514	GRANITE CURB INLET - STRAIGHT	2	EA	\$720.00	\$1,440.00
		<u>2</u>	EA		
	Total	<u>2</u>	EA		
580	CURB REMOVED AND RESET	650	FT	\$40.00	\$26,000.00
	Assumed 50%	<u>650</u>	FT		
	Total	<u>650</u>	FT		
594	CURB REMOVED AND DISCARDED	650	FT	\$15.00	\$9,750.00
	TOTAL EXIST - R&R	<u>650</u>	FT		
	Total	<u>650</u>	FT		
697.1*	SILT SACK	11	EA	\$250.00	\$2,750.00
	CB	<u>11</u>	EA		
	Total	<u>11</u>	EA		
701	CEMENT CONCRETE SIDEWALK	430	SY	\$100.00	\$43,000.00
		<u>422.22</u>	SY		
	Total	<u>422.22</u>	SY		
701.12	STAMPED CEMENT CONCRETE	40	SY	\$125.00	\$5,000.00
		<u>38.89</u>	SY		
	Total	<u>38.89</u>	SY		
701.2	CEMENT CONCRETE PEDESTRIAN RAMP	40	SY	\$150.00	\$6,000.00
		<u>33.33</u>	SY		
	Total	<u>33.33</u>	SY		



702 HOT MIX ASPHALT WALK SURFACE 80 TON \$300.00 \$24,000.00

Area (SY)	Depth (in.)	Ton/sy/in	Tons
344.44	4	0.056	77.16

745 PEDESTRIAN BUS SHELTER 2 EA \$20,000.00 \$40,000.00

Total 2.00 EA
2.00 EA

751 LOAM BORROW 100 CY \$75.00 \$7,500.00

Loam (depth 4") 6000.00 SF
0.33 FT
Total 74.07 CY
25% SWELL 18.52 CY
TOTAL 92.59 CY

765 SEEDING 670 SY \$3.00 \$2,010.00

Total 666.67 SY
666.67 SY

804.3 3 INCH ELECTRICAL CONDUIT TYPE NM - PLASTIC - (UL) 115 FT \$100.00 \$11,500.00

Total 115 FT
115 FT

804.4 4 INCH ELECTRICAL CONDUIT TYPE NM - PLASTIC - (UL) 20 FT \$60.00 \$1,200.00

Total 20 FT
20 FT

811.27* ELECTRIC HANDHOLE - (MUNICIPAL STANDARD) 2 EA \$2,000.00 \$4,000.00

Total 2 EA
2 EA



811.37*	ELECTRIC HANDHOLE ADJUSTED		3	EA	\$580.00	\$1,740.00
			<u>3</u>	EA		
	Total		3	EA		
813.8	SERVICE CONNECTION (OVERHEAD)		1	LS	\$5,000.00	\$5,000.00
			<u>1</u>	LS		
	Total		1	LS		
824.41*	HIGH-INTENSITY ACTIVATED CROSSWALK (HAWK) BEACON LOCATION NO. 1		1	LS	\$96,200.00	\$100,000.00
Furnish & Install NEMA TS2 Type 1 - 4DW CONTROLLER	EA	\$25,000.00	1	\$	25,000.00	
Furnish & Install 8' Traffic Signal Post & Base	EA	\$1,200.00	2	\$	2,400.00	
Furnish & Install 12' Traffic Signal Post & Base	EA	\$2,500.00	1	\$	2,500.00	
Type II 35' Galvanized Steel Mast Arm Assembly	EA	\$16,000.00	1	\$	16,000.00	
Type II Mast Arm Pole Foundation	EA	\$14,000.00	1	\$	14,000.00	
Traffic Signal Post Foundation	EA	\$1,000.00	2	\$	2,000.00	
Furnish & Install 3 Section 12" (Y,R,R) Lens Vehicle Head	EA	\$2,000.00	4	\$	8,000.00	
Blank-out Sign	EA	\$4,000.00	1	\$	4,000.00	
Furnish & Install Pedestrian Signal Head	EA	\$2,000.00	2	\$	4,000.00	
Furnish & Install APS Pedestrian Pushbuttons	EA	\$1,300.00	2	\$	2,600.00	
Furnish & Install Traffic Signal Cable - Type 1	LF	\$12.00	200	\$	2,400.00	
Furnish & Install Louvered Backplates	EA	\$325.00	4	\$	1,300.00	
TS CABINET FOUNDATION GROUND MOUNT (TYPE CA/CB CABINET)	EA	\$2,000.00	1	\$	2,000.00	
Remove & Stack RRFB System	EA	\$10,000.00	1	\$	10,000.00	
					\$96,200.00	
			<u>1</u>	LS		
	Total		1	LS		
832	WARNING-REGULATORY AND ROUTE MARKER-ALUM. PANEL (TYPE A)		60	SF	\$15.00	\$900.00
			<u>60.00</u>	SF		
	Total		60.00	SF		
834.187*	MODULAR RAISED CURB WITH 36" POSTS WHITE		5	EA	\$300.00	\$1,500.00
			<u>5</u>	EA		
	Total		5	EA		
847.1	SIGN SUP (N/GUIDE)+RTE MKR W/1 BRKWAY POST ASSEMBLY - STEEL		10	EA	\$250.00	\$2,500.00
			<u>10</u>	EA		
	Total		10	EA		



864.04	PAVEMENT ARROWS AND LEGENDS REFL. WHITE (THERMOPLASTIC)	400	SF	\$20.00	\$8,000.00
	TURN ARROW	SF	20	2	40
	"ONLY" TEXT	SF	30	5	150
	"BUS" TEXT	SF	25	4	100
	BIKE YIELD LINES	SF	0.75	3	2
	Fish Hook thru/right	SF	30	1	30
	Fish Hook left/thru	SF	35	1	35
	Raised arrow	SF	21	1	21
			<u>378</u>	SF	
	Total		<u>378</u>	SF	
866.106	6 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC)	1450	FT	\$3.00	\$4,350.00
	SWL:		1365		
	BWL:		14		
	DWLEX:		<u>63</u>	FT	
	Total		<u>1442</u>	FT	
866.112	12 INCH REFL. WHITE (THERMOPLASTIC)	400	FT	\$6.00	\$2,400.00
	SL:		67	FT	
	CW:		325	FT	
	CHANNELIZATION:		<u>4</u>	FT	
	Total		<u>396</u>	FT	
867.106	6 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC)	1510	FT	\$3.00	\$4,530.00
	SYL:		355	FT	
	DBYL:		<u>1153</u>	FT	
	Total		<u>1508</u>	FT	
867.112	12 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC)	100	FT	\$6.00	\$600.00
	GORE:		<u>90</u>	FT	
	Total		<u>90</u>	FT	



874.2*	TRAFFIC SIGN REMOVED AND RESET	5	EA	\$150.00	\$750.00
		<u>5</u>	EA		
	Total	<u>5</u>	EA		
874.31*	TRAFFIC SIGN REMOVED AND DISCARDED	5	EA	\$50.00	\$250.00
		<u>5</u>	EA		
	Total	<u>5</u>	EA		
874.96*	MODULAR RAISED CURB WITH 36" POSTS REMOVED AND RESET	3	EA	\$500.00	\$1,500.00
		<u>3</u>	EA		
	Total	<u>3</u>	EA		
874.97*	MODULAR RAISED CURB WITH 36" POSTS REMOVED AND DISCARDED	5	EA	\$50.00	\$250.00
		<u>5</u>	EA		
	Total	<u>5</u>	EA		

Itemized Total:	\$592,100.0
TTCP (10%)	\$59,210.0
Mobilization & Utility (10%)	\$59,210.0
Contingency (20%)	\$142,104.0
Project Total	<u><u>\$860,000.0</u></u>

***Landscaping is not included in cost



CALC'D BY:	AK	DATE:	1/17/2023	CITY:	EVERETT
CHK'D BY:	MD	DATE:	1/17/2023	PROJECT:	REVERE BEACH PARKWAY + BIZZARO

AREA SUMMARY (SHARED USE PATH ALTERNATIVE B)

Note: Areas from CAD

	AREA* (SF)	AREA (SY)
HMA Sidewalks	11,000	1,222
Loam and Seed	6,500	722



CALC'D BY: AK	DATE: 1/17/2023	CITY: EVERETT
CHK'D BY: MD	DATE: 1/17/2023	PROJECT: REVERE BEACH PARKWAY + BIZZARO

EVERETT - SHARED USE PATH ALTERNATIVE B

120.1 UNCLASSIFIED EXCAVATION 820 CY \$60.00 \$49,200.00

	Area (SF)	Depth (ft)		
Sidewalks	11000.00	1.00	407.41	CY
Wall	11000.00	1.00	407.41	CY
		Total	814.81	CY

150 ORDINARY BORROW 410 CY \$55.00 \$22,550.00

	Area (SF)	Depth (ft)		
	11000.00	1.00	407.41	CY
		Total	407.41	CY

151 GRAVEL BORROW 340 CY \$45.00 \$15,300.00

	Area (SF)	x	Depth (ft)	=	CY
HMA Sidewalks =	11000.00		0.67		271.60
				TOTAL	271.60 CY
				25% SWELL	67.90 CY
				TOTAL	339.51 CY

170 FINE GRADING AND COMPACTING 1230 SY \$15.00 \$18,450.00

HMA Sidewalks =	1222.22 SY
TOTAL	1,222.22 SY

440 CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL 1840 LB \$0.50 \$920.00

HMA Sidewalks =	1222.22 SY
TOTAL	1,222.22 SY
*Estimate 1.5 LB per SY	1,833.33 LB

452 ASPHALT EMULSION FOR TACK COAT 90 GAL \$8.00 \$720.00

1222.22 SY

Area (SY)	GAL/SY	GAL
1,222	0.07	85.6

665.3 RAILING ON RETAINING WALL 450 FT \$50.00 \$22,500.00

	450	FT
Total	450	FT



702 HOT MIX ASPHALT WALK SURFACE 280 TON \$225.00 \$63,000.00

Area (SY)	Depth (in.)	Ton/sy/in	Tons
1222.22	4	0.056	273.78

751 LOAM BORROW 110 CY \$65.00 \$7,150.00

Loam (depth 4")	6500.00	SF
	0.33	FT
Total	80.25	CY
25% SWELL	20.06	CY
TOTAL	100.31	CY

765 SEEDING 730 SY \$3.00 \$2,190.00

Total	722.22	SY
	722.22	SY

996.51 PREFABRICATED MODULAR GRAVITY RETAINING WALL 3450 SF \$110.00 \$379,500.00

Length 430 ft	3450	SF
Height 8 ft	3450	SF
Total	3450	SF

Project Total: \$581,500

***Landscaping is not included in cost
 ***Cost for TTCP, Utility, and Mobilization is included in Intersection estimate

BMP Cost \$75,000.0

Lighting Cost \$180,000.0

Contingency (20%) \$167,300.0

Total \$1,010,000.0

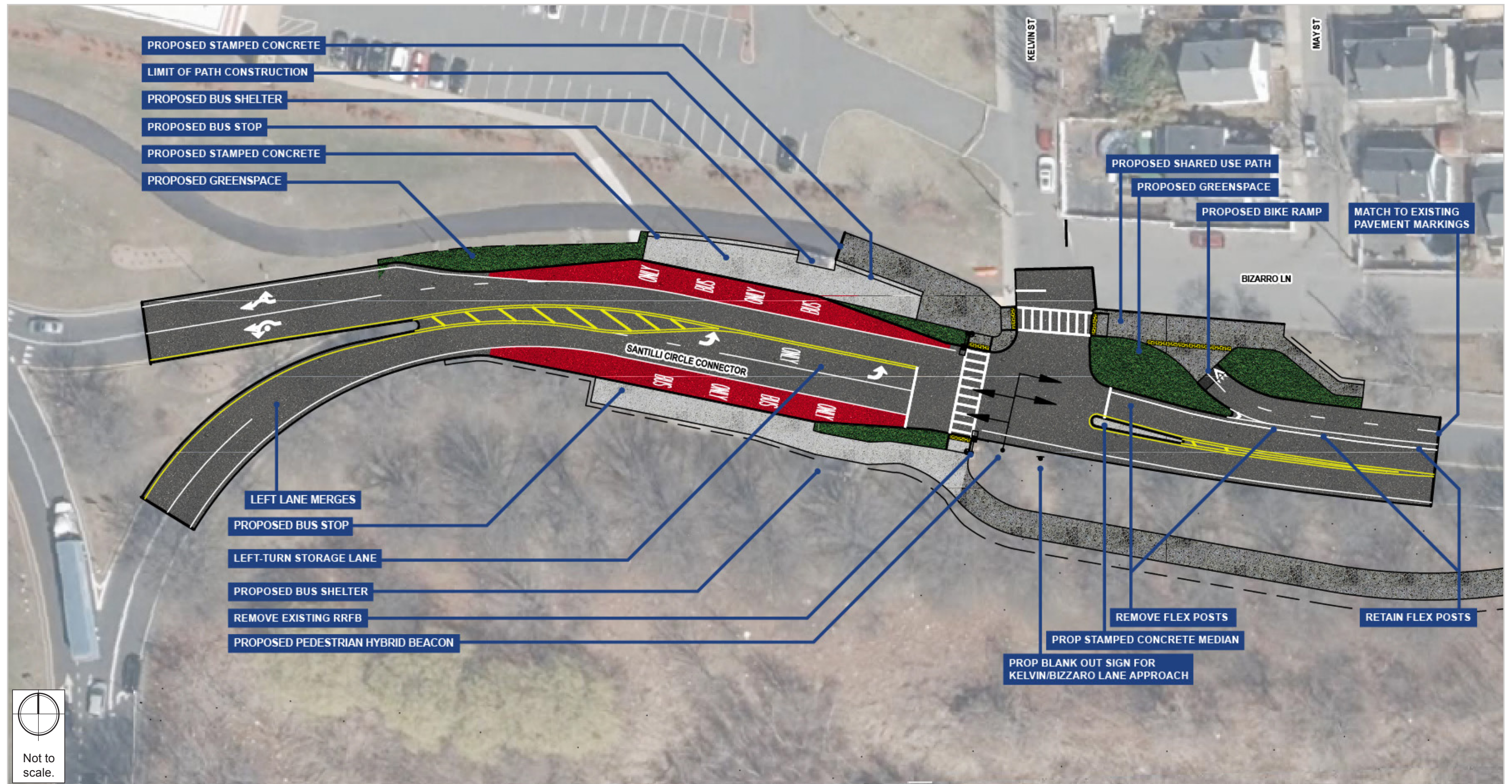


Figure 1. *Bizarro Lane at Santilli Circle Connector Intersection and Path Connection Design*





Figure 2. *Bizarro Lane at Santilli Circle Connector Intersection Design*





TO:	Jay Monty, City of Everett	DATE:	January 20, 2023
FROM:	Michaela Savran, PE, Howard Stein Hudson	HSH PROJECT NO.:	2022012.00
SUBJECT:	Santilli Circle Connector at Bizzaro Lane Signal Warrant Analysis		

Introduction

Howard Stein Hudson (HSH) has prepared this technical memorandum for the City of Everett to summarize the signal warrant analysis and make recommendations for treatments at the proposed crossing location across Santilli Circle Connector, west of Kelvin Street and Bizzaro Lane. A Rectangular Rapid Flashing Beacon (RRFB) system is currently provided as a warning device for the existing crosswalk.

Due to the anticipated connections between the shared use path within the project area to the extension of the Northern Strand Community Trail, which is east of the project area, as well as to River Trails at Village Landing Park to the west, safety improvements at the intersection of Santilli Circle Connector at Bizzaro Lane/Kelvin Street are necessary to provide a connection to and from a busy bus stop and the surrounding residential and commercial area.

Existing Traffic Volume Data

The traffic counts were conducted on Tuesday, May 24, 2022, and Wednesday May 25, 2022. Turning movement counts (TMCs) were recorded for 11 hours from 7:00 a.m. – 6:00 p.m. on Tuesday, May 24, 2022. The TMCs included vehicular, bicycle, and pedestrian counts at the study area intersection. Automatic Traffic Recorder (ATR) counts were recorded for 48 hours between Tuesday, May 24, 2022 and Wednesday, May 25, 2022, and they collected volumes, speeds, and classes. The ATR was placed on Santilli Circle Connector, east of Bizzaro Lane/Kelvin Street. The TMCs and ATRs are provided in **Appendix A**.

Existing Signal Warrant Analysis

Utilizing the traffic volumes collected, signal warrant analysis was conducted at the intersection of Santilli Circle Connector and Bizzaro Lane/Kelvin Street. The traffic signal warrant analysis was based on Chapter 4C of the 2009 *Manual on Uniform Traffic Control Devices* (MUTCD). The study evaluated the following warrants as part of the proposed work:



- Warrant 1 – Eight-Hour Vehicular Volume;
- Warrant 2 – Four-Hour Vehicular Volume; and
- Warrant 4 – Pedestrian Volume.

Based on the traffic warrant analysis performed, none of the signal warrants were satisfied with the traffic counts. A detailed signal warrant analysis is provided in **Appendix B**.

Although full safety analysis was not conducted for the study area, the area was looked at on the Massachusetts Department of Transportation’s (MassDOT’s) crash portal website. The volumes do not meet what would be needed to coincide with the number of crashes in Warrant 7 – Crash Experience, nor do the number and type of crashes in a year meet the Alternative Signal Warrant 7 – Crash Experience (IA-19).

With the anticipated connections to the Northern Strand Community Trail and River Trails at Village Landing Park, a bus stop serving bus routes 97, 99, 106, 110, and 112, and relatively high vehicular volumes with an average daily traffic (ADT) of over 19,000 and relatively high speeds of around 40 mph, the installation of a Pedestrian Hybrid Beacon (PHB) was explored following the signal warrant analysis.

Pedestrian Hybrid Beacon Guidelines

The Federal Highway Administration (FHWA) Safe Transportation for Every Pedestrian (STEP) program was utilized to evaluate crossing treatments at the crosswalk across Santilli Circle Connector at Kelvin Street/Bizzaro Lane. The STEP program helps transportation agencies address roadway user safety by promoting countermeasures with demonstrated benefits at uncontrolled crossing locations. The *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations* (FHWA, updated July 2018), identifies and evaluates countermeasures for application at uncontrolled crossing locations, based on vehicular volumes, roadway features (number of lanes, presence of a raised median), and posted speed limits. These countermeasures are identified through the STEP **Figure 1**.

At its intersection with Bizzaro Lane and Kelvin Street, Santilli Circle Connector is proposed to have two lanes (one lane in each direction), a posted speed limit of 25 mph, an 85th percentile speed of approximately 39 mph, and an ADT of approximately 19,500 vehicles. Looking at both the posted and 85th percentile speeds, **Figure 1** shows that potential enhancements for the crossing include an RRFB and a PHB.



Figure 1. Application of Pedestrian Crash Countermeasures by Roadway Feature

Roadway Configuration	Posted Speed Limit and AADT								
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
2 lanes (1 lane in each direction)	① 2 4 5 6 7	① 5 6 7 9	① 5 6 7 9	① 4 5 6 7	① 5 6 7 9	① 5 6 7 9	① 4 5 6 7 9	① 5 6 7 9	① 5 6 9
3 lanes with raised median (1 lane in each direction)	① 2 3 4 5 7	① ③ 5 7 9	① ③ 5 7 9	① 3 4 5 7 9	① ③ 5 7 9	① ③ 5 7 9	① ③ 4 5 7 9	① ③ 5 7 9	① ③ 5 9
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	① 2 3 4 5 6 7	① ③ 5 6 7 9	① ③ 5 6 7 9	① 3 4 5 6 7 9	① ③ 5 6 7 9	① ③ 5 6 7 9	① ③ 4 5 6 7 9	① ③ 5 6 9	① ③ 5 6 9
4+ lanes with raised median (2 or more lanes in each direction)	① ③ 5 7 8 9	① ③ 5 7 8 9	① ③ 5 8 9	① ③ 5 7 8 9	① ③ 5 7 8 9	① ③ 5 8 9	① ③ 5 7 8 9	① ③ 5 8 9	① ③ 5 8 9
4+ lanes w/o raised median (2 or more lanes in each direction)	① ③ 5 6 7 8 9	① ③ 5 6 7 8 9	① ③ 5 6 8 9	① ③ 5 6 7 8 9	① ③ 5 6 7 8 9	① ③ 5 6 8 9	① ③ 5 6 7 8 9	① ③ 5 6 8 9	① ③ 5 6 8 9

Given the set of conditions in a cell,

- # Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.
- Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.
- Signifies that crosswalk visibility enhancements should always occur in conjunction with other identified countermeasures.*

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

- 1 High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs
- 2 Raised crosswalk
- 3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
- 4 In-Street Pedestrian Crossing sign
- 5 Curb extension
- 6 Pedestrian refuge island
- 7 Rectangular Rapid-Flashing Beacon (RRFB)**
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon (PHB)**

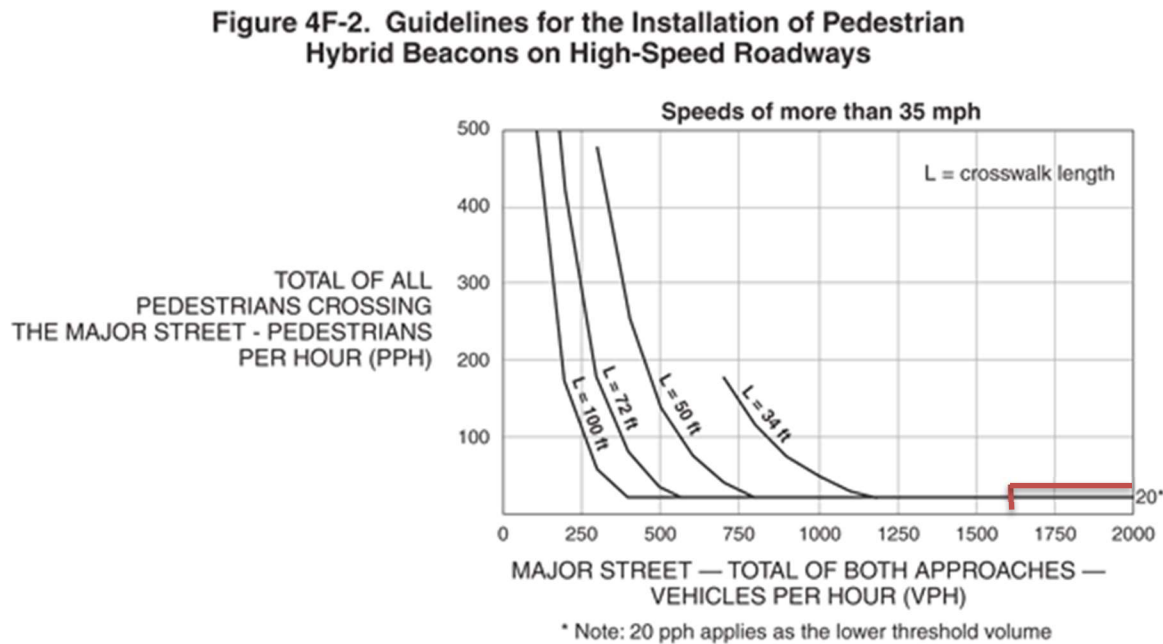
A Pedestrian Hybrid Beacon is listed as a candidate treatment for this location per the STEP Guidelines.

While an RRFB is currently being used as the warning device for the crosswalk, driver compliance is a concern based on field observations and the measured 85th percentile speeds. As this project area is approximately 800 feet from the Pioneer Charter School of Science and is part of a bigger plan to connect into adjacent community paths, safety for users crossing Santilli Circle Connector was a concern if we planned to retain the RRFB warning condition. The PHB would be provided in the form of a High-Intensity Activated Crosswalk (HAWK) beacon and is listed as a candidate treatment in the STEP Guide.



In accordance with Chapter 4F in the MUTCD, Figure 4F-2 was used to determine if a PHB was an appropriate traffic control device for this crossing. Figure 4F-2 was used as the 85th-percentile speed was found to be 39 mph. As shown in **Figure 2**, the crosswalk across Santilli Circle Connector had a total of 33 pedestrians crossing during its peak and the major street approaches total to almost 1,600 vehicles per hour.

Figure 2. MUTCD Figure 4F-2: Guidelines for the Installation of PHBs (High-Speed)



The lines show the required threshold for pedestrians crossing per hour based on the major street volumes and a crossing distance. Red is based on data from May 2022.

The current crossing distance is approximately 55 feet long. The proposed design shortens the crossing to approximately 40 feet in length but still exceeds the threshold of the PHB installation guidelines.

Additionally, the pedestrian and bicycle facilities proposed along the Santilli Circle Connector planned by the City of Everett in conjunction with this project will connect the eight mile long Northern Strand Community Trail to the River Trails, Gateway Center Shopping Plaza, the Massachusetts Bay Transportation Authority (MBTA) Wellington Station, breweries, recreational areas, and more. The latent demand activated by this construction would likely increase the number of pedestrians and cyclists utilizing the crossing.



The MUTCD also states that a PHB can be considered where gaps in traffic are not adequate to permit pedestrians to safely cross. While an official gap study was not conducted, the heavy vehicular volumes on the major street coming from Sweetser Circle to the east and Santilli Circle to the west may make it difficult for pedestrians to cross. During field observations, one pedestrian was seen waiting over a minute and a half, and only had a crossing gap due to westbound congestion.

Recommendation and Next Steps

Based on the STEP Guide and MUTCD guidelines, a PHB is warranted for this crossing and is recommended based on the location, and pedestrian and cyclist activity. Because Santilli Circle Connector is owned by MassDOT, HSH will work with the City of Everett to acquire a permit through the State Highway Access Permits System (SHAPS). Further evaluation will be done to ensure operations at the PHB will not significantly impact the adjacent signal west of the project area. A conceptual plan has been developed along with this memorandum and shows the proposed PHB and crosswalk locations.



HOWARD STEIN HUDSON

Engineers + Planners

Appendix A

Traffic Count Data



PRECISION
DATA
INDUSTRIES, LLC

Location Map: 228404 Everett, MA

Precision Data Industries, LLC 157 Washington Street, Suite 2, Hudson, MA 01749 ph: 508-875-0100 email: datarequests@pdillc.com



- (1) 7am-6pm TMC
- (1) 48HR VCU-ATR
- (1) 48HR Radar ATR

Total-(1) VCU and (1) HR

Client:
HSH

Engineer:
E. Enteadó

Site Code:
TBA

Date:
Tues 5/24 thru Wed 5/25/2022

PDI Job #
228404

City, State:
Everett, MA

Revere Beach Parkway Connector
 east of Kelvin Street
 City, State: Everett, MA
 Client: HSH/ E. Enteado
 Site Code: TBA



PDI File #: 228404 ATR-A

Count Date: Tuesday, May 24, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	43	2	1	0	46
12:15 AM	0	0	23	2	0	0	25
12:30 AM	0	0	14	3	1	0	18
12:45 AM	0	0	26	0	0	0	26
1:00 AM	0	0	11	2	0	0	13
1:15 AM	0	0	9	0	1	0	10
1:30 AM	0	0	12	2	0	0	14
1:45 AM	0	0	15	0	0	0	15
2:00 AM	0	0	10	0	0	1	11
2:15 AM	0	0	10	0	0	0	10
2:30 AM	0	0	4	0	0	0	4
2:45 AM	0	0	11	0	0	0	11
3:00 AM	0	0	13	0	0	0	13
3:15 AM	0	0	12	0	0	0	12
3:30 AM	0	0	7	1	0	0	8
3:45 AM	0	0	3	1	1	1	6
4:00 AM	0	0	6	1	1	0	8
4:15 AM	0	0	5	1	0	0	6
4:30 AM	0	0	12	0	0	0	12
4:45 AM	0	0	20	1	0	0	21
5:00 AM	0	0	19	1	1	0	21
5:15 AM	0	0	25	1	0	0	26
5:30 AM	0	1	29	3	0	0	33
5:45 AM	0	0	24	3	0	1	28
6:00 AM	0	0	21	3	2	1	27
6:15 AM	2	0	34	3	1	1	41
6:30 AM	0	0	25	3	1	1	30
6:45 AM	0	0	24	5	1	1	31
7:00 AM	3	0	26	4	3	0	36
7:15 AM	1	0	44	5	2	2	54
7:30 AM	0	0	57	5	2	2	66
7:45 AM	1	0	58	2	5	0	66
8:00 AM	0	0	55	2	0	0	57
8:15 AM	0	0	51	5	1	3	60
8:30 AM	1	0	48	4	3	1	57
8:45 AM	1	0	64	4	1	0	70
9:00 AM	0	0	75	4	5	2	86
9:15 AM	0	0	69	4	5	2	80
9:30 AM	0	0	87	4	5	2	98
9:45 AM	0	0	100	3	5	0	108
10:00 AM	1	0	95	2	4	1	103
10:15 AM	0	0	100	5	3	0	108
10:30 AM	0	0	91	4	3	0	98
10:45 AM	0	0	117	5	2	0	124
11:00 AM	0	1	115	5	3	3	127
11:15 AM	0	0	112	4	3	1	120
11:30 AM	0	0	113	4	2	2	121
11:45 AM	0	0	125	5	2	0	132

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	1	111	4	4	1	121
12:15 PM	1	0	128	4	1	0	134
12:30 PM	0	0	136	6	4	2	148
12:45 PM	1	0	121	4	2	1	129
1:00 PM	0	2	117	2	3	1	125
1:15 PM	1	0	113	3	3	1	121
1:30 PM	0	0	115	2	4	0	121
1:45 PM	1	1	133	7	1	1	144
2:00 PM	4	0	110	3	2	0	119
2:15 PM	1	0	125	4	1	0	131
2:30 PM	1	0	118	5	2	0	126
2:45 PM	2	0	148	5	1	0	156
3:00 PM	0	0	168	4	3	0	175
3:15 PM	3	1	145	6	0	0	155
3:30 PM	0	0	170	6	1	0	177
3:45 PM	0	0	159	6	2	0	167
4:00 PM	1	0	172	3	0	0	176
4:15 PM	0	0	153	6	2	0	161
4:30 PM	0	0	162	3	2	1	168
4:45 PM	1	0	162	3	2	0	168
5:00 PM	1	0	135	5	1	0	142
5:15 PM	3	0	27	3	0	0	33
5:30 PM	1	0	143	2	4	1	151
5:45 PM	1	0	183	6	1	0	191
6:00 PM	2	0	191	1	3	0	197
6:15 PM	1	0	180	8	4	0	193
6:30 PM	3	0	176	2	1	0	182
6:45 PM	1	0	166	3	3	0	173
7:00 PM	0	0	138	3	0	0	141
7:15 PM	1	0	164	5	0	0	170
7:30 PM	1	1	158	2	1	0	163
7:45 PM	1	1	141	3	1	0	147
8:00 PM	0	0	118	3	0	0	121
8:15 PM	3	0	124	3	1	0	131
8:30 PM	2	0	129	4	0	0	135
8:45 PM	0	0	117	0	0	0	117
9:00 PM	1	0	101	3	1	0	106
9:15 PM	1	0	111	3	0	0	115
9:30 PM	0	0	108	2	1	0	111
9:45 PM	1	0	79	1	0	0	81
10:00 PM	1	0	76	2	0	0	79
10:15 PM	1	0	69	4	1	1	76
10:30 PM	1	0	78	3	0	0	82
10:45 PM	0	0	53	1	0	0	54
11:00 PM	0	1	53	4	0	0	58
11:15 PM	0	0	48	1	0	0	49
11:30 PM	1	0	48	5	0	0	54
11:45 PM	0	0	31	1	0	0	32

AM Total	10	2	2069	118	70	28	2297
Percentage	0.44%	0.09%	90.07%	5.14%	3.05%	1.22%	
AM Peak	6:15 AM	4:45 AM	11:00 AM	6:45 AM	9:00 AM	8:15 AM	11:00 AM
Volume	5	1	465	19	20	6	500

PM Total	45	8	5911	169	63	10	6206
Percentage	0.73%	0.13%	95.25%	2.72%	1.02%	0.16%	
PM Peak	2:00 PM	1:00 PM	5:45 PM	3:00 PM	12:30 PM	12:30 PM	5:45 PM
Volume	8	3	730	22	12	5	763

Day Total	55	10	7980	287	133	38	8503
Percentage	0.65%	0.12%	93.85%	3.38%	1.56%	0.45%	

Revere Beach Parkway Connector
 east of Kelvin Street
 City, State: Everett, MA
 Client: HSH/ E. Enteado
 Site Code: TBA



PDI File #: 228404 ATR-A

Count Date: Wednesday, May 25, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	43	2	0	0	45
12:15 AM	1	0	32	2	1	0	36
12:30 AM	0	0	18	2	1	0	21
12:45 AM	0	1	21	2	0	0	24
1:00 AM	0	0	21	1	0	0	22
1:15 AM	0	0	8	0	0	0	8
1:30 AM	0	0	5	3	1	0	9
1:45 AM	0	0	9	1	0	0	10
2:00 AM	0	0	6	0	0	0	6
2:15 AM	0	0	5	1	0	0	6
2:30 AM	0	0	7	1	0	0	8
2:45 AM	0	0	12	1	0	0	13
3:00 AM	0	0	9	0	0	0	9
3:15 AM	0	0	9	0	0	0	9
3:30 AM	0	0	5	1	0	0	6
3:45 AM	0	0	3	1	2	0	6
4:00 AM	0	0	4	1	0	2	7
4:15 AM	0	0	4	1	0	0	5
4:30 AM	0	0	10	1	0	0	11
4:45 AM	0	0	21	1	1	0	23
5:00 AM	0	0	12	1	0	0	13
5:15 AM	0	0	23	2	0	0	25
5:30 AM	0	0	29	2	1	0	32
5:45 AM	1	0	40	4	2	1	48
6:00 AM	0	0	34	2	1	3	40
6:15 AM	1	0	29	4	1	0	35
6:30 AM	1	0	24	3	0	3	31
6:45 AM	2	0	36	5	1	1	45
7:00 AM	2	0	34	4	2	0	42
7:15 AM	0	0	50	3	3	1	57
7:30 AM	0	0	42	5	1	0	48
7:45 AM	1	0	54	4	1	0	60
8:00 AM	1	0	43	3	2	0	49
8:15 AM	0	0	53	3	1	0	57
8:30 AM	0	0	67	4	0	0	71
8:45 AM	0	0	76	3	3	1	83
9:00 AM	0	0	60	2	2	1	65
9:15 AM	0	0	61	5	3	3	72
9:30 AM	0	0	101	7	6	0	114
9:45 AM	1	0	86	2	4	0	93
10:00 AM	0	0	111	3	5	0	119
10:15 AM	0	0	95	5	8	0	108
10:30 AM	0	0	99	1	4	0	104
10:45 AM	0	1	129	4	2	2	138
11:00 AM	2	0	96	4	5	2	109
11:15 AM	2	0	104	1	3	0	110
11:30 AM	0	0	118	5	4	3	130
11:45 AM	0	0	132	7	1	2	142

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	108	3	6	0	117
12:15 PM	0	1	182	7	1	0	191
12:30 PM	0	1	129	6	3	1	140
12:45 PM	0	1	99	4	0	1	105
1:00 PM	0	0	116	6	4	1	127
1:15 PM	0	0	137	3	4	0	144
1:30 PM	0	1	136	3	7	0	147
1:45 PM	1	0	140	4	7	0	152
2:00 PM	1	0	135	3	0	0	139
2:15 PM	1	0	150	5	0	0	156
2:30 PM	0	0	115	4	1	0	120
2:45 PM	2	0	139	4	1	0	146
3:00 PM	3	2	128	5	3	0	141
3:15 PM	0	0	132	4	1	0	137
3:30 PM	1	0	144	4	0	1	150
3:45 PM	1	0	148	6	0	0	155
4:00 PM	2	1	145	2	2	0	152
4:15 PM	4	0	166	7	1	1	179
4:30 PM	1	0	166	3	1	0	171
4:45 PM	0	0	174	5	3	0	182
5:00 PM	0	0	197	4	1	0	202
5:15 PM	1	0	165	4	2	0	172
5:30 PM	0	0	153	4	3	0	160
5:45 PM	3	1	168	5	1	0	178
6:00 PM	0	2	152	4	1	1	160
6:15 PM	6	0	171	4	5	0	186
6:30 PM	1	0	174	3	2	0	180
6:45 PM	4	0	169	5	2	0	180
7:00 PM	0	1	154	5	0	0	160
7:15 PM	3	0	174	4	3	0	184
7:30 PM	1	2	161	2	1	0	167
7:45 PM	3	0	136	2	0	0	141
8:00 PM	1	0	133	1	2	0	137
8:15 PM	1	1	130	2	3	0	137
8:30 PM	0	0	125	3	1	0	129
8:45 PM	0	0	111	1	0	1	113
9:00 PM	0	1	125	2	0	0	128
9:15 PM	0	0	93	4	1	0	98
9:30 PM	2	0	76	4	1	0	83
9:45 PM	0	0	110	1	0	0	111
10:00 PM	0	2	90	2	0	0	94
10:15 PM	0	0	76	4	1	0	81
10:30 PM	0	1	56	3	0	0	60
10:45 PM	1	0	49	2	1	1	54
11:00 PM	0	0	51	2	1	0	54
11:15 PM	0	0	64	3	0	0	67
11:30 PM	0	1	47	2	0	0	50
11:45 PM	0	0	53	0	1	0	54

AM Total	15	2	2090	120	72	25	2324
Percentage	0.65%	0.09%	89.93%	5.16%	3.10%	1.08%	
AM Peak	6:15 AM	12:00 AM	11:00 AM	6:45 AM	9:30 AM	5:45 AM	11:00 AM
Volume	6	1	450	17	23	7	491

PM Total	44	19	6152	170	78	8	6471
Percentage	0.68%	0.29%	95.07%	2.63%	1.21%	0.12%	
PM Peak	6:00 PM	12:00 PM	4:15 PM	12:15 PM	1:00 PM	12:15 PM	4:15 PM
Volume	11	3	703	23	22	3	734

Day Total	59	21	8242	290	150	33	8795
Percentage	0.67%	0.24%	93.71%	3.30%	1.71%	0.38%	

Revere Beach Parkway Connector
 east of Kelvin Street
 City, State: Everett, MA
 Client: HSH/ E. Enteado
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC

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

PDI File #: 228404 ATR-A

Count Date: Tuesday, May 24, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	36	2	0	0	38
12:15 AM	0	0	29	4	0	0	33
12:30 AM	0	0	25	1	1	0	27
12:45 AM	0	0	17	1	0	0	18
1:00 AM	0	0	16	2	0	0	18
1:15 AM	0	0	15	0	0	0	15
1:30 AM	0	0	12	0	0	0	12
1:45 AM	0	0	13	0	1	0	14
2:00 AM	0	0	12	0	1	0	13
2:15 AM	0	0	10	0	0	0	10
2:30 AM	0	0	7	0	0	0	7
2:45 AM	0	0	8	0	0	0	8
3:00 AM	0	0	8	0	0	0	8
3:15 AM	0	0	16	0	0	0	16
3:30 AM	0	0	11	1	0	0	12
3:45 AM	0	0	23	1	1	0	25
4:00 AM	0	0	16	1	0	0	17
4:15 AM	0	0	18	1	0	0	19
4:30 AM	0	0	20	0	1	0	21
4:45 AM	1	0	29	1	1	0	32
5:00 AM	2	0	48	1	0	1	52
5:15 AM	0	0	80	4	0	0	84
5:30 AM	2	0	118	2	2	2	126
5:45 AM	3	0	158	2	0	2	165
6:00 AM	1	2	150	4	3	1	161
6:15 AM	2	1	160	4	4	1	172
6:30 AM	1	0	125	3	4	2	135
6:45 AM	1	0	125	4	3	2	135
7:00 AM	1	1	141	6	7	0	156
7:15 AM	2	0	125	3	1	1	132
7:30 AM	1	0	93	5	4	2	105
7:45 AM	1	0	112	3	1	1	118
8:00 AM	1	0	113	5	5	1	125
8:15 AM	0	0	120	3	5	1	129
8:30 AM	0	0	105	5	7	1	118
8:45 AM	0	1	99	3	4	1	108
9:00 AM	3	0	124	5	8	3	143
9:15 AM	1	0	133	5	4	2	145
9:30 AM	0	0	153	5	10	1	169
9:45 AM	0	1	146	1	15	4	167
10:00 AM	1	0	122	7	5	2	137
10:15 AM	4	1	151	3	8	0	167
10:30 AM	1	0	184	3	9	1	198
10:45 AM	0	1	146	2	11	0	160
11:00 AM	0	1	151	4	4	0	160
11:15 AM	0	1	141	5	4	4	155
11:30 AM	0	1	123	5	5	0	134
11:45 AM	0	0	149	3	3	1	156

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	129	4	6	5	144
12:15 PM	0	0	128	3	7	1	139
12:30 PM	1	1	147	4	2	2	157
12:45 PM	0	1	123	4	4	0	132
1:00 PM	1	0	124	2	2	2	131
1:15 PM	1	0	119	1	3	0	124
1:30 PM	0	1	143	6	5	1	156
1:45 PM	1	1	176	2	3	2	185
2:00 PM	1	0	137	3	14	1	156
2:15 PM	0	1	154	2	2	2	161
2:30 PM	1	0	142	1	6	0	150
2:45 PM	2	2	173	2	6	0	185
3:00 PM	0	0	169	5	1	1	176
3:15 PM	0	3	158	2	4	0	167
3:30 PM	2	2	203	4	0	1	212
3:45 PM	6	3	201	2	3	0	215
4:00 PM	0	0	180	5	2	1	188
4:15 PM	2	2	181	4	5	0	194
4:30 PM	1	0	191	6	0	1	199
4:45 PM	0	1	130	3	3	0	137
5:00 PM	2	1	146	6	3	0	158
5:15 PM	1	1	167	3	5	0	177
5:30 PM	0	2	204	6	1	0	213
5:45 PM	1	1	159	5	1	0	167
6:00 PM	0	1	138	6	1	0	146
6:15 PM	0	0	157	7	2	0	166
6:30 PM	3	0	154	3	0	0	160
6:45 PM	0	0	138	3	0	0	141
7:00 PM	0	1	142	4	0	0	147
7:15 PM	0	0	123	4	0	0	127
7:30 PM	0	1	128	3	2	1	135
7:45 PM	7	0	120	3	1	0	131
8:00 PM	0	0	120	4	0	0	124
8:15 PM	0	0	102	3	0	0	105
8:30 PM	1	0	120	2	0	0	123
8:45 PM	1	0	121	1	0	0	123
9:00 PM	0	0	82	4	1	0	87
9:15 PM	0	0	80	2	0	0	82
9:30 PM	0	0	68	2	0	0	70
9:45 PM	0	0	59	1	0	0	60
10:00 PM	0	0	86	4	1	1	92
10:15 PM	0	0	57	3	0	0	60
10:30 PM	1	0	59	2	0	0	62
10:45 PM	1	0	51	1	0	0	53
11:00 PM	0	0	59	3	0	0	62
11:15 PM	0	0	36	4	0	0	40
11:30 PM	0	1	33	2	0	0	36
11:45 PM	0	0	29	1	0	0	30

AM Total	29	11	3936	120	142	37	4275
Percentage	0.68%	0.26%	92.07%	2.81%	3.32%	0.87%	
AM Peak	5:30 AM	10:45 AM	10:15 AM	6:45 AM	9:30 AM	9:00 AM	10:15 AM
Volume	8	4	632	18	38	10	685

PM Total	37	27	6046	157	96	22	6385
Percentage	0.58%	0.42%	94.69%	2.46%	1.50%	0.34%	
PM Peak	3:30 PM	3:00 PM	3:30 PM	5:30 PM	2:00 PM	12:00 PM	3:30 PM
Volume	10	8	765	24	28	8	809

Day Total	66	38	9982	277	238	59	10660
Percentage	0.62%	0.36%	93.64%	2.60%	2.23%	0.55%	

Revere Beach Parkway Connector
 east of Kelvin Street
 City, State: Everett, MA
 Client: HSH/ E. Enteado
 Site Code: TBA



PDI File #: 228404 ATR-A

Count Date: Wednesday, May 25, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	1	22	1	1	0	25
12:15 AM	0	0	21	4	1	0	26
12:30 AM	0	0	36	2	0	0	38
12:45 AM	0	0	22	0	1	0	23
1:00 AM	0	0	24	2	0	0	26
1:15 AM	0	0	17	0	0	1	18
1:30 AM	0	0	13	1	1	0	15
1:45 AM	0	0	15	1	0	0	16
2:00 AM	0	0	7	1	0	0	8
2:15 AM	0	0	15	0	0	0	15
2:30 AM	0	0	8	1	0	0	9
2:45 AM	0	0	10	1	0	0	11
3:00 AM	0	0	4	0	1	0	5
3:15 AM	0	0	12	0	0	1	13
3:30 AM	0	0	6	1	0	0	7
3:45 AM	0	0	17	1	0	0	18
4:00 AM	0	0	21	1	2	0	24
4:15 AM	0	0	34	1	0	0	35
4:30 AM	2	0	15	1	1	0	19
4:45 AM	0	1	30	1	0	0	32
5:00 AM	2	0	51	1	2	1	57
5:15 AM	0	0	81	4	2	0	87
5:30 AM	2	0	145	3	2	1	153
5:45 AM	3	0	145	1	1	1	151
6:00 AM	0	0	170	5	2	0	177
6:15 AM	3	0	136	6	4	0	149
6:30 AM	1	0	137	3	4	5	150
6:45 AM	1	0	124	5	2	3	135
7:00 AM	2	2	138	7	4	2	155
7:15 AM	1	0	123	1	5	2	132
7:30 AM	0	0	102	7	4	0	113
7:45 AM	6	0	119	2	5	1	133
8:00 AM	0	0	113	7	3	0	123
8:15 AM	0	2	131	4	3	0	140
8:30 AM	0	0	114	6	5	3	128
8:45 AM	1	0	146	3	7	3	160
9:00 AM	0	0	108	6	5	1	120
9:15 AM	0	0	161	3	6	3	173
9:30 AM	2	1	156	4	8	3	174
9:45 AM	0	1	168	3	9	4	185
10:00 AM	1	0	145	6	4	4	160
10:15 AM	2	0	165	3	7	2	179
10:30 AM	0	1	166	6	9	0	182
10:45 AM	1	0	124	4	5	1	135
11:00 AM	0	0	168	3	8	4	183
11:15 AM	2	0	131	6	5	3	147
11:30 AM	0	1	147	3	9	0	160
11:45 AM	2	0	147	2	3	3	157

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	137	3	2	0	142
12:15 PM	1	2	155	4	4	0	166
12:30 PM	0	0	125	3	5	1	134
12:45 PM	0	0	120	3	6	2	131
1:00 PM	0	1	138	3	0	0	142
1:15 PM	4	0	167	2	4	1	178
1:30 PM	0	0	152	7	3	1	163
1:45 PM	1	1	192	2	2	0	198
2:00 PM	0	0	189	4	4	0	197
2:15 PM	1	1	128	1	3	1	135
2:30 PM	0	3	170	3	3	0	179
2:45 PM	2	0	193	1	2	1	199
3:00 PM	1	3	179	5	1	1	190
3:15 PM	2	2	195	4	4	1	208
3:30 PM	0	0	164	4	3	0	171
3:45 PM	1	2	157	6	4	0	170
4:00 PM	0	1	170	5	0	2	178
4:15 PM	4	0	147	2	3	0	156
4:30 PM	3	0	168	5	2	1	179
4:45 PM	1	1	169	3	1	0	175
5:00 PM	0	4	203	4	3	0	214
5:15 PM	1	0	160	7	1	0	169
5:30 PM	0	0	174	7	1	0	182
5:45 PM	0	0	142	4	3	0	149
6:00 PM	0	1	154	5	1	0	161
6:15 PM	3	0	150	5	1	0	159
6:30 PM	1	1	126	3	0	0	131
6:45 PM	1	1	141	6	0	0	149
7:00 PM	1	2	144	4	0	0	151
7:15 PM	2	1	116	5	0	0	124
7:30 PM	3	1	133	1	2	0	140
7:45 PM	0	1	130	4	0	0	135
8:00 PM	0	0	116	5	0	0	121
8:15 PM	1	0	143	1	1	0	146
8:30 PM	1	0	125	3	2	0	131
8:45 PM	0	0	95	1	1	0	97
9:00 PM	0	0	91	3	0	0	94
9:15 PM	3	0	87	4	1	0	95
9:30 PM	0	0	70	2	0	0	72
9:45 PM	1	1	80	1	0	0	83
10:00 PM	0	0	85	4	0	0	89
10:15 PM	0	0	61	2	0	0	63
10:30 PM	1	0	70	1	1	0	73
10:45 PM	1	0	44	1	0	0	46
11:00 PM	0	0	45	3	1	0	49
11:15 PM	0	0	39	2	2	0	43
11:30 PM	0	0	38	2	0	0	40
11:45 PM	0	0	54	1	1	1	57

AM Total 34 10 4110 134 141 52 4481
 Percentage 0.76% 0.22% 91.72% 2.99% 3.15% 1.16%
 AM Peak 7:00 AM 6:15 AM 9:45 AM 6:15 AM 9:45 AM 9:15 AM 9:45 AM
 Volume 9 2 644 21 29 14 706

PM Total 41 30 6231 161 78 13 6554
 Percentage 0.63% 0.46% 95.07% 2.46% 1.19% 0.20%
 PM Peak 3:45 PM 2:30 PM 2:30 PM 5:15 PM 12:00 PM 12:30 PM 2:30 PM
 Volume 8 8 737 23 17 4 776

Day Total 75 40 10341 295 219 65 11035
 Percentage 0.68% 0.36% 93.71% 2.67% 1.98% 0.59%

Revere Beach Parkway Connector
 east of Kelvin Street
 City, State: Everett, MA
 Client: HSH/ E. Enteado
 Site Code: TBA



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

PDI File # 228404 ATR-A

Direction: EB

Weekly Report

Day Date	Tuesday 05/24/22		Wednesday 05/25/22												Week Ave			
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
12:00	46	121	45	117	0	0	0	0	0	0	0	0	0	0	46	119		
12:15	25	134	36	191	0	0	0	0	0	0	0	0	0	0	31	163		
12:30	18	148	21	140	0	0	0	0	0	0	0	0	0	0	20	144		
12:45	26	129	24	105	0	0	0	0	0	0	0	0	0	0	25	117		
1:00	13	125	22	127	0	0	0	0	0	0	0	0	0	0	18	126		
1:15	10	121	8	144	0	0	0	0	0	0	0	0	0	0	9	133		
1:30	14	121	9	147	0	0	0	0	0	0	0	0	0	0	12	134		
1:45	15	144	10	152	0	0	0	0	0	0	0	0	0	0	13	148		
2:00	11	119	6	139	0	0	0	0	0	0	0	0	0	0	9	129		
2:15	10	131	6	156	0	0	0	0	0	0	0	0	0	0	8	144		
2:30	4	126	8	120	0	0	0	0	0	0	0	0	0	0	6	123		
2:45	11	156	13	146	0	0	0	0	0	0	0	0	0	0	12	151		
3:00	13	175	9	141	0	0	0	0	0	0	0	0	0	0	11	158		
3:15	12	155	9	137	0	0	0	0	0	0	0	0	0	0	11	146		
3:30	8	177	6	150	0	0	0	0	0	0	0	0	0	0	7	164		
3:45	6	167	6	155	0	0	0	0	0	0	0	0	0	0	6	161		
4:00	8	176	7	152	0	0	0	0	0	0	0	0	0	0	8	164		
4:15	6	161	5	179	0	0	0	0	0	0	0	0	0	0	6	170		
4:30	12	168	11	171	0	0	0	0	0	0	0	0	0	0	12	170		
4:45	21	168	23	182	0	0	0	0	0	0	0	0	0	0	22	175		
5:00	21	142	13	202	0	0	0	0	0	0	0	0	0	0	17	172		
5:15	26	33	25	172	0	0	0	0	0	0	0	0	0	0	26	103		
5:30	33	151	32	160	0	0	0	0	0	0	0	0	0	0	33	156		
5:45	28	191	48	178	0	0	0	0	0	0	0	0	0	0	38	185		
6:00	27	197	40	160	0	0	0	0	0	0	0	0	0	0	34	179		
6:15	41	193	35	186	0	0	0	0	0	0	0	0	0	0	38	190		
6:30	30	182	31	180	0	0	0	0	0	0	0	0	0	0	31	181		
6:45	31	173	45	180	0	0	0	0	0	0	0	0	0	0	38	177		
7:00	36	141	42	160	0	0	0	0	0	0	0	0	0	0	39	151		
7:15	54	170	57	184	0	0	0	0	0	0	0	0	0	0	56	177		
7:30	66	163	48	167	0	0	0	0	0	0	0	0	0	0	57	165		
7:45	66	147	60	141	0	0	0	0	0	0	0	0	0	0	63	144		
8:00	57	121	49	137	0	0	0	0	0	0	0	0	0	0	53	129		
8:15	60	131	57	137	0	0	0	0	0	0	0	0	0	0	59	134		
8:30	57	135	71	129	0	0	0	0	0	0	0	0	0	0	64	132		
8:45	70	117	83	113	0	0	0	0	0	0	0	0	0	0	77	115		
9:00	86	106	65	128	0	0	0	0	0	0	0	0	0	0	76	117		
9:15	80	115	72	98	0	0	0	0	0	0	0	0	0	0	76	107		
9:30	98	111	114	83	0	0	0	0	0	0	0	0	0	0	106	97		
9:45	108	81	93	111	0	0	0	0	0	0	0	0	0	0	101	96		
10:00	103	79	119	94	0	0	0	0	0	0	0	0	0	0	111	87		
10:15	108	76	108	81	0	0	0	0	0	0	0	0	0	0	108	79		
10:30	98	82	104	60	0	0	0	0	0	0	0	0	0	0	101	71		
10:45	124	54	138	54	0	0	0	0	0	0	0	0	0	0	131	54		
11:00	127	58	109	54	0	0	0	0	0	0	0	0	0	0	118	56		
11:15	120	49	110	67	0	0	0	0	0	0	0	0	0	0	115	58		
11:30	121	54	130	50	0	0	0	0	0	0	0	0	0	0	126	52		
11:45	132	32	142	54	0	0	0	0	0	0	0	0	0	0	137	43		
Total	2297	6206	2324	6471	0	0	0	0	0	0	0	0	0	0	2311	6339		
Day Total	8503		8795		0		0		0		0		0		8649			
Peak HR	11:00 AM	5:45 PM	11:00 AM	4:15 PM													11:00 AM	5:45 PM
Volume	500	763	491	734													496	734

Revere Beach Parkway Connector
 east of Kelvin Street
 City, State: Everett, MA
 Client: HSH/ E. Enteado
 Site Code: TBA



PDI File # 228404 ATR-A

Direction: WB

Weekly Report

Day Date	Tuesday 05/24/22		Wednesday 05/25/22												Week Ave			
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
12:00	38	144	25	142	0	0	0	0	0	0	0	0	0	0	32	143		
12:15	33	139	26	166	0	0	0	0	0	0	0	0	0	0	30	153		
12:30	27	157	38	134	0	0	0	0	0	0	0	0	0	0	33	146		
12:45	18	132	23	131	0	0	0	0	0	0	0	0	0	0	21	132		
1:00	18	131	26	142	0	0	0	0	0	0	0	0	0	0	22	137		
1:15	15	124	18	178	0	0	0	0	0	0	0	0	0	0	17	151		
1:30	12	156	15	163	0	0	0	0	0	0	0	0	0	0	14	160		
1:45	14	185	16	198	0	0	0	0	0	0	0	0	0	0	15	192		
2:00	13	156	8	197	0	0	0	0	0	0	0	0	0	0	11	177		
2:15	10	161	15	135	0	0	0	0	0	0	0	0	0	0	13	148		
2:30	7	150	9	179	0	0	0	0	0	0	0	0	0	0	8	165		
2:45	8	185	11	199	0	0	0	0	0	0	0	0	0	0	10	192		
3:00	8	176	5	190	0	0	0	0	0	0	0	0	0	0	7	183		
3:15	16	167	13	208	0	0	0	0	0	0	0	0	0	0	15	188		
3:30	12	212	7	171	0	0	0	0	0	0	0	0	0	0	10	192		
3:45	25	215	18	170	0	0	0	0	0	0	0	0	0	0	22	193		
4:00	17	188	24	178	0	0	0	0	0	0	0	0	0	0	21	183		
4:15	19	194	35	156	0	0	0	0	0	0	0	0	0	0	27	175		
4:30	21	199	19	179	0	0	0	0	0	0	0	0	0	0	20	189		
4:45	32	137	32	175	0	0	0	0	0	0	0	0	0	0	32	156		
5:00	52	158	57	214	0	0	0	0	0	0	0	0	0	0	55	186		
5:15	84	177	87	169	0	0	0	0	0	0	0	0	0	0	86	173		
5:30	126	213	153	182	0	0	0	0	0	0	0	0	0	0	140	198		
5:45	165	167	151	149	0	0	0	0	0	0	0	0	0	0	158	158		
6:00	161	146	177	161	0	0	0	0	0	0	0	0	0	0	169	154		
6:15	172	166	149	159	0	0	0	0	0	0	0	0	0	0	161	163		
6:30	135	160	150	131	0	0	0	0	0	0	0	0	0	0	143	146		
6:45	135	141	135	149	0	0	0	0	0	0	0	0	0	0	135	145		
7:00	156	147	155	151	0	0	0	0	0	0	0	0	0	0	156	149		
7:15	132	127	132	124	0	0	0	0	0	0	0	0	0	0	132	126		
7:30	105	135	113	140	0	0	0	0	0	0	0	0	0	0	109	138		
7:45	118	131	133	135	0	0	0	0	0	0	0	0	0	0	126	133		
8:00	125	124	123	121	0	0	0	0	0	0	0	0	0	0	124	123		
8:15	129	105	140	146	0	0	0	0	0	0	0	0	0	0	135	126		
8:30	118	123	128	131	0	0	0	0	0	0	0	0	0	0	123	127		
8:45	108	123	160	97	0	0	0	0	0	0	0	0	0	0	134	110		
9:00	143	87	120	94	0	0	0	0	0	0	0	0	0	0	132	91		
9:15	145	82	173	95	0	0	0	0	0	0	0	0	0	0	159	89		
9:30	169	70	174	72	0	0	0	0	0	0	0	0	0	0	172	71		
9:45	167	60	185	83	0	0	0	0	0	0	0	0	0	0	176	72		
10:00	137	92	160	89	0	0	0	0	0	0	0	0	0	0	149	91		
10:15	167	60	179	63	0	0	0	0	0	0	0	0	0	0	173	62		
10:30	198	62	182	73	0	0	0	0	0	0	0	0	0	0	190	68		
10:45	160	53	135	46	0	0	0	0	0	0	0	0	0	0	148	50		
11:00	160	62	183	49	0	0	0	0	0	0	0	0	0	0	172	56		
11:15	155	40	147	43	0	0	0	0	0	0	0	0	0	0	151	42		
11:30	134	36	160	40	0	0	0	0	0	0	0	0	0	0	147	38		
11:45	156	30	157	57	0	0	0	0	0	0	0	0	0	0	157	44		
Total	4275	6385	4481	6554	0	0	0	0	0	0	0	0	0	0	4378	6470		
Day Total	10660		11035		0		0		0		0		0		10848			
Peak HR	10:15 AM	3:30 PM	9:45 AM	2:30 PM													9:45 AM	3:00 PM
Volume	685	809	706	776													688	755

Revere Beach Parkway Connector
 east of Kelvin Street
 City, State: Everett, MA
 Client: HSH/ E. Enteado
 Site Code: TBA



PDI File #: 228404 ATR-A (Speed)

Count Date
 Tuesday, May 24, 2022

Speed (60-minute)

EB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	2	8	35	51	17	2	0	1	0	0	0	116	40.0	35.7
1:00 AM	0	0	0	1	19	26	8	0	1	0	0	0	0	55	39.9	35.9
2:00 AM	0	0	1	4	6	18	9	1	0	0	0	0	0	39	41.3	36.3
3:00 AM	0	0	1	6	9	11	11	2	1	1	0	0	0	42	43.9	37.0
4:00 AM	0	0	1	2	13	10	16	4	1	0	0	0	0	47	44.0	37.7
5:00 AM	0	1	3	9	23	46	24	4	1	0	0	0	0	111	41.0	36.0
6:00 AM	0	0	0	22	30	44	26	7	0	0	0	0	0	129	42.0	35.6
7:00 AM	0	3	20	61	74	43	27	8	0	0	0	0	0	236	39.0	32.1
8:00 AM	0	0	4	16	66	91	45	8	1	0	0	0	0	231	41.0	35.9
9:00 AM	0	2	10	83	123	94	23	4	0	0	0	0	0	339	38.0	32.8
10:00 AM	0	0	4	65	174	123	43	7	1	1	0	0	0	418	39.0	34.0
11:00 AM	0	2	21	82	190	128	33	3	0	1	0	0	0	460	38.0	32.9
12:00 PM	0	1	21	77	181	159	35	8	3	1	0	1	0	487	38.0	33.6
1:00 PM	1	1	9	88	190	131	29	5	0	0	0	0	0	454	37.1	33.1
2:00 PM	0	1	21	87	176	126	50	5	0	0	0	0	0	466	38.0	33.1
3:00 PM	1	5	62	214	223	87	18	6	1	1	0	0	0	618	35.0	30.3
4:00 PM	0	7	41	180	247	120	21	6	1	1	0	0	0	624	36.0	31.2
5:00 PM	1	3	34	140	174	84	18	5	2	0	0	0	0	461	37.0	31.3
6:00 PM	1	2	39	183	239	136	35	5	0	0	0	0	0	640	37.0	31.6
7:00 PM	1	1	11	103	216	174	46	7	3	0	0	0	0	562	38.0	33.5
8:00 PM	0	3	22	88	192	108	34	5	1	1	0	0	0	454	38.0	32.7
9:00 PM	0	3	14	79	132	105	24	6	0	0	0	0	0	363	38.0	32.8
10:00 PM	0	0	2	54	114	90	13	6	1	0	0	0	0	280	38.0	33.4
11:00 PM	0	0	2	24	63	62	24	4	1	1	0	0	0	181	40.0	35.0
Total	5	35	345	1676	2909	2067	629	118	19	9	0	1	0	7813	38.0	32.9
Percent	0.06%	0.45%	4.42%	21.45%	37.23%	26.46%	8.05%	1.51%	0.24%	0.12%	0.00%	0.01%	0.00%			

AM Peak		7:00 AM	11:00 AM	9:00 AM	11:00 AM	11:00 AM	8:00 AM	7:00 AM	1:00 AM	12:00 AM					11:00 AM
Volume	0	3	21	83	190	128	45	8	1	1	0	0	0	460	
PM Peak	1:00 PM	4:00 PM	3:00 PM	3:00 PM	4:00 PM	7:00 PM	2:00 PM	12:00 PM	12:00 PM	12:00 PM		12:00 PM		6:00 PM	
Volume	1	7	62	214	247	174	50	8	3	1	0	1	0	640	

15th Percentile:	28.0 MPH	Average Speed:	32.9 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	33.0 MPH	10 MPH Pace:	28 to 37 MPH	Number of Vehicles > 30 MPH:	5238
85th Percentile:	38.0 MPH	Number in Pace:	5264	Percent of Vehicles > 30 MPH:	67.0%
95th Percentile:	42.0 MPH	Percent in Pace:	67.4%		

Revere Beach Parkway Connector
east of Kelvin Street
City, State: Everett, MA
Client: HSH/ E. Enteado
Site Code: TBA



PDI File #: 228404 ATR-A (Speed)

Count Date
Tuesday, May 24, 2022

Speed (60-minute)

WB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	1	0	9	15	51	34	5	1	0	0	0	0	116	42.0	37.3
1:00 AM	0	0	2	4	9	19	11	15	2	1	0	0	0	63	47.0	38.9
2:00 AM	0	0	0	1	4	16	11	4	1	1	0	0	0	38	44.5	39.8
3:00 AM	0	0	1	1	10	21	17	6	2	1	1	0	0	60	45.0	39.6
4:00 AM	0	0	0	0	9	29	28	17	3	1	0	0	0	87	46.1	40.9
5:00 AM	1	5	1	6	38	190	161	47	6	0	1	0	0	456	44.0	39.2
6:00 AM	8	12	16	68	158	192	108	26	3	0	0	0	0	591	41.0	34.7
7:00 AM	12	15	13	59	151	144	42	12	2	0	0	0	0	450	39.0	33.0
8:00 AM	0	1	0	20	121	216	123	17	4	1	0	0	0	503	41.7	37.2
9:00 AM	2	3	10	44	222	236	78	12	2	0	0	1	0	610	40.0	35.1
10:00 AM	5	11	37	65	158	212	74	11	1	0	0	0	0	574	39.1	33.8
11:00 AM	6	17	19	46	174	166	52	8	3	0	0	0	0	491	39.0	33.6
12:00 PM	2	1	18	64	182	202	65	11	3	0	0	0	0	548	39.0	34.4
1:00 PM	3	5	23	58	186	183	79	8	3	0	0	0	0	548	40.0	34.3
2:00 PM	1	2	19	121	230	174	50	6	2	0	0	0	0	605	38.0	33.1
3:00 PM	22	76	81	52	49	35	19	4	0	0	0	1	0	339	35.0	25.6
4:00 PM	16	47	60	81	69	85	17	6	1	0	0	1	0	383	37.0	28.7
5:00 PM	9	25	33	62	172	155	46	18	0	0	0	1	0	521	39.0	32.7
6:00 PM	8	11	23	62	144	159	48	6	0	0	0	0	0	461	39.0	33.1
7:00 PM	0	1	11	57	170	173	58	18	2	2	0	0	0	492	40.0	34.8
8:00 PM	2	2	13	50	154	187	52	8	1	0	0	0	0	469	39.0	34.5
9:00 PM	0	0	3	32	114	109	42	10	0	0	0	0	0	310	40.0	35.0
10:00 PM	1	0	4	26	85	77	49	12	0	0	0	1	0	255	41.0	35.6
11:00 PM	0	0	2	3	32	74	41	9	5	1	0	0	0	167	42.0	37.9
Total	98	235	389	991	2656	3105	1305	296	47	8	2	5	0	9137	40.0	34.2
Percent	1.07%	2.57%	4.26%	10.85%	29.07%	33.98%	14.28%	3.24%	0.51%	0.09%	0.02%	0.05%	0.00%			

AM Peak	7:00 AM	11:00 AM	10:00 AM	6:00 AM	9:00 AM	9:00 AM	5:00 AM	5:00 AM	5:00 AM	1:00 AM	3:00 AM	9:00 AM		9:00 AM
Volume	12	17	37	68	222	236	161	47	6	1	1	1	0	610
PM Peak	3:00 PM	3:00 PM	3:00 PM	2:00 PM	2:00 PM	12:00 PM	1:00 PM	5:00 PM	11:00 PM	7:00 PM		3:00 PM		2:00 PM
Volume	22	76	81	121	230	202	79	18	5	2	0	1	0	605

15th Percentile:	28.0 MPH	Average Speed:	34.2 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	35.0 MPH	10 MPH Pace:	31 to 40 MPH	Number of Vehicles > 30 MPH:	7075
85th Percentile:	40.0 MPH	Number in Pace:	5810	Percent of Vehicles > 30 MPH:	77.4%
95th Percentile:	44.0 MPH	Percent in Pace:	63.6%		

Revere Beach Parkway Connector
 east of Kelvin Street
 City, State: Everett, MA
 Client: HSH/ E. Enteado
 Site Code: TBA



PDI File #: 228404 ATR-A (Speed)

Count Date
 Tuesday, May 24, 2022

Speed (60-minute)

Combined EB and WB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	1	2	17	50	102	51	7	1	1	0	0	0	232	41.0	36.5
1:00 AM	0	0	2	5	28	45	19	15	3	1	0	0	0	118	45.0	37.5
2:00 AM	0	0	1	5	10	34	20	5	1	1	0	0	0	77	43.0	38.0
3:00 AM	0	0	2	7	19	32	28	8	3	2	1	0	0	102	44.0	38.5
4:00 AM	0	0	1	2	22	39	44	21	4	1	0	0	0	134	45.0	39.7
5:00 AM	1	6	4	15	61	236	185	51	7	0	1	0	0	567	44.0	38.6
6:00 AM	8	12	16	90	188	236	134	33	3	0	0	0	0	720	41.0	34.9
7:00 AM	12	18	33	120	225	187	69	20	2	0	0	0	0	686	39.0	32.7
8:00 AM	0	1	4	36	187	307	168	25	5	1	0	0	0	734	41.0	36.8
9:00 AM	2	5	20	127	345	330	101	16	2	0	0	1	0	949	39.0	34.3
10:00 AM	5	11	41	130	332	335	117	18	2	1	0	0	0	992	39.0	33.9
11:00 AM	6	19	40	128	364	294	85	11	3	1	0	0	0	951	39.0	33.2
12:00 PM	2	2	39	141	363	361	100	19	6	1	0	1	0	1035	39.0	34.0
1:00 PM	4	6	32	146	376	314	108	13	3	0	0	0	0	1002	39.0	33.7
2:00 PM	1	3	40	208	406	300	100	11	2	0	0	0	0	1071	38.0	33.1
3:00 PM	23	81	143	266	272	122	37	10	1	1	0	1	0	957	35.0	28.6
4:00 PM	16	54	101	261	316	205	38	12	2	1	0	1	0	1007	37.0	30.3
5:00 PM	10	28	67	202	346	239	64	23	2	0	0	1	0	982	38.0	32.0
6:00 PM	9	13	62	245	383	295	83	11	0	0	0	0	0	1101	38.0	32.2
7:00 PM	1	2	22	160	386	347	104	25	5	2	0	0	0	1054	39.0	34.1
8:00 PM	2	5	35	138	346	295	86	13	2	1	0	0	0	923	39.0	33.6
9:00 PM	0	3	17	111	246	214	66	16	0	0	0	0	0	673	39.0	33.8
10:00 PM	1	0	6	80	199	167	62	18	1	0	0	1	0	535	40.0	34.4
11:00 PM	0	0	4	27	95	136	65	13	6	2	0	0	0	348	41.0	36.4
Total	103	270	734	2667	5565	5172	1934	414	66	17	2	6	0	16950	39.0	33.6
Percent	0.61%	1.59%	4.33%	15.73%	32.83%	30.51%	11.41%	2.44%	0.39%	0.10%	0.01%	0.04%	0.00%			

AM Peak	7:00 AM	11:00 AM	10:00 AM	10:00 AM	11:00 AM	10:00 AM	5:00 AM	5:00 AM	5:00 AM	3:00 AM	3:00 AM	9:00 AM		10:00 AM
Volume	12	19	41	130	364	335	185	51	7	2	1	1	0	992
PM Peak	3:00 PM	3:00 PM	3:00 PM	3:00 PM	2:00 PM	12:00 PM	1:00 PM	7:00 PM	12:00 PM	7:00 PM		12:00 PM		6:00 PM
Volume	23	81	143	266	406	361	108	25	6	2	0	1	0	1101

15th Percentile: 28.0 MPH Average Speed: 33.6 MPH Posted Speed Limit: 30 MPH
 50th Percentile: 34.0 MPH 10 MPH Pace: 30 to 39 MPH Number of Vehicles > 30 MPH: 12313
 85th Percentile: 39.0 MPH Number in Pace: 10737 Percent of Vehicles > 30 MPH: 72.6%
 95th Percentile: 43.0 MPH Percent in Pace: 63.3%

Revere Beach Parkway Connector
 east of Kelvin Street
 City, State: Everett, MA
 Client: HSH/ E. Enteado
 Site Code: TBA



PDI File #: 228404 ATR-A (Speed)

Count Date
 Wednesday, May 25, 2022

Speed (60-minute)

EB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	3	38	59	19	4	1	1	0	0	0	125	41.0	36.6
1:00 AM	0	0	0	3	15	20	12	1	1	1	0	0	0	53	41.2	37.0
2:00 AM	0	0	0	2	5	16	6	5	0	0	0	0	0	34	44.1	37.5
3:00 AM	0	1	4	1	5	10	7	1	1	1	0	0	0	31	42.0	35.6
4:00 AM	0	0	1	2	14	12	16	3	0	0	0	0	0	48	43.0	36.9
5:00 AM	0	0	2	9	13	54	33	4	1	0	0	0	0	116	41.8	37.4
6:00 AM	0	1	3	16	43	55	30	12	1	0	0	0	0	161	42.0	36.0
7:00 AM	0	4	30	63	63	41	10	4	0	0	0	0	0	215	36.9	30.6
8:00 AM	0	2	9	55	78	69	27	8	1	0	1	0	0	250	39.0	33.6
9:00 AM	0	2	23	70	117	79	23	6	0	2	0	0	0	322	38.0	32.5
10:00 AM	1	5	21	86	144	123	45	9	1	0	0	0	0	435	39.0	33.0
11:00 AM	0	5	40	135	154	96	36	4	0	1	1	0	0	472	38.0	31.7
12:00 PM	0	5	57	143	191	91	35	7	2	1	0	0	0	532	37.0	31.4
1:00 PM	0	5	22	133	199	108	28	9	0	0	0	0	0	504	37.0	32.1
2:00 PM	0	0	20	108	191	163	33	8	1	0	0	0	0	524	38.0	33.0
3:00 PM	0	8	35	144	195	109	30	4	1	0	1	0	0	527	37.0	31.6
4:00 PM	0	1	29	171	233	143	35	2	0	0	0	0	0	614	37.0	32.0
5:00 PM	1	1	39	196	220	111	25	4	0	1	0	0	0	598	36.0	31.3
6:00 PM	0	5	33	149	219	172	46	5	0	0	0	0	0	629	37.0	32.4
7:00 PM	1	1	26	139	235	115	22	2	0	0	0	0	0	541	37.0	31.8
8:00 PM	0	0	18	123	162	109	29	5	0	0	0	0	0	446	37.0	32.4
9:00 PM	1	0	11	66	170	110	24	4	0	0	0	0	0	386	37.0	32.9
10:00 PM	0	0	10	45	110	83	21	7	4	0	1	0	0	281	39.0	34.0
11:00 PM	0	0	1	18	74	87	33	3	0	2	0	0	0	218	40.0	35.7
Total	4	46	434	1880	2888	2035	625	121	15	10	4	0	0	8062	38.0	32.6
Percent	0.05%	0.57%	5.38%	23.32%	35.82%	25.24%	7.75%	1.50%	0.19%	0.12%	0.05%	0.00%	0.00%			

AM Peak	10:00 AM	10:00 AM	11:00 AM	11:00 AM	11:00 AM	10:00 AM	10:00 AM	6:00 AM	12:00 AM	9:00 AM	8:00 AM				11:00 AM
Volume	1	5	40	135	154	123	45	12	1	2	1	0	0	472	
PM Peak	5:00 PM	3:00 PM	12:00 PM	5:00 PM	7:00 PM	6:00 PM	6:00 PM	1:00 PM	10:00 PM	11:00 PM	3:00 PM			6:00 PM	
Volume	1	8	57	196	235	172	46	9	4	2	1	0	0	629	

15th Percentile:	27.0 MPH	Average Speed:	32.6 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	32.0 MPH	10 MPH Pace:	28 to 37 MPH	Number of Vehicles > 30 MPH:	5225
85th Percentile:	38.0 MPH	Number in Pace:	5352	Percent of Vehicles > 30 MPH:	64.8%
95th Percentile:	42.0 MPH	Percent in Pace:	66.4%		

Revere Beach Parkway Connector
 east of Kelvin Street
 City, State: Everett, MA
 Client: HSH/ E. Enteadó
 Site Code: TBA



PDI File #: 228404 ATR-A (Speed)

Count Date
 Wednesday, May 25, 2022

Speed (60-minute)

WB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	1	0	0	3	15	44	32	6	8	0	0	0	0	109	44.0	38.9
1:00 AM	0	0	0	1	12	23	27	13	1	0	1	0	0	78	45.0	40.0
2:00 AM	0	0	0	0	11	18	13	0	1	1	0	0	0	44	41.0	37.8
3:00 AM	0	0	1	1	6	13	15	7	2	1	0	0	0	46	47.0	39.8
4:00 AM	0	1	0	1	17	43	28	20	3	0	0	0	0	113	45.0	39.3
5:00 AM	1	5	0	8	67	190	135	38	10	0	0	0	0	454	44.0	38.4
6:00 AM	0	1	6	45	201	263	103	24	3	0	0	0	0	646	40.0	35.8
7:00 AM	21	29	33	58	80	62	25	1	1	0	0	0	0	310	37.0	28.9
8:00 AM	14	26	40	63	134	127	36	5	1	0	0	0	0	446	38.0	31.3
9:00 AM	2	2	7	88	234	220	86	9	2	2	1	0	0	653	40.0	34.6
10:00 AM	3	7	25	78	235	192	67	12	2	2	0	0	0	623	39.0	33.7
11:00 AM	3	14	26	89	198	172	33	8	0	0	0	0	0	543	38.0	32.7
12:00 PM	9	10	20	62	153	138	30	5	2	0	0	0	0	429	38.0	32.5
1:00 PM	8	25	28	45	178	144	43	7	1	0	0	0	0	479	39.0	32.5
2:00 PM	7	36	60	94	164	151	56	8	3	0	0	0	0	579	39.0	31.6
3:00 PM	3	20	65	139	210	143	46	5	4	0	0	0	0	635	37.0	31.4
4:00 PM	2	9	27	92	167	176	77	9	1	1	0	0	0	561	40.0	33.5
5:00 PM	6	32	40	105	167	112	39	8	0	0	0	0	0	509	38.0	31.1
6:00 PM	1	2	12	81	187	162	56	12	2	0	0	0	0	515	39.0	34.0
7:00 PM	4	2	7	55	160	198	54	11	0	1	0	0	0	492	39.0	34.6
8:00 PM	2	2	4	55	168	162	50	9	0	0	0	0	0	452	39.0	34.4
9:00 PM	0	3	3	35	99	134	51	4	0	1	0	0	0	330	40.0	35.0
10:00 PM	4	1	2	26	71	96	59	7	5	0	0	0	0	271	41.0	35.8
11:00 PM	1	0	0	11	39	84	40	12	3	0	0	0	0	190	42.0	37.1
Total	92	227	406	1235	2973	3067	1201	240	55	9	2	0	0	9507	40.0	33.7
Percent	0.97%	2.39%	4.27%	12.99%	31.27%	32.26%	12.63%	2.52%	0.58%	0.09%	0.02%	0.00%	0.00%			
AM Peak	7:00 AM	7:00 AM	8:00 AM	11:00 AM	10:00 AM	6:00 AM	5:00 AM	5:00 AM	5:00 AM	9:00 AM	1:00 AM					9:00 AM
Volume	21	29	40	89	235	263	135	38	10	2	1	0	0	653		
PM Peak	12:00 PM	2:00 PM	3:00 PM	3:00 PM	3:00 PM	7:00 PM	4:00 PM	6:00 PM	10:00 PM	4:00 PM						3:00 PM
Volume	9	36	65	139	210	198	77	12	5	1	0	0	0	635		

15th Percentile:	28.0 MPH	Average Speed:	33.7 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	34.0 MPH	10 MPH Pace:	30 to 39 MPH	Number of Vehicles > 30 MPH:	7076
85th Percentile:	40.0 MPH	Number in Pace:	6040	Percent of Vehicles > 30 MPH:	74.4%
95th Percentile:	43.0 MPH	Percent in Pace:	63.5%		

Revere Beach Parkway Connector
 east of Kelvin Street
 City, State: Everett, MA
 Client: HSH/ E. Enteado
 Site Code: TBA



PDI File #: 228404 ATR-A (Speed)

Count Date
 Wednesday, May 25, 2022

Speed (60-minute)

Combined EB and WB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	1	0	0	6	53	103	51	10	9	1	0	0	0	234	42.0	37.7
1:00 AM	0	0	0	4	27	43	39	14	2	1	1	0	0	131	44.0	38.8
2:00 AM	0	0	0	2	16	34	19	5	1	1	0	0	0	78	42.0	37.6
3:00 AM	0	1	5	2	11	23	22	8	3	2	0	0	0	77	45.0	38.1
4:00 AM	0	1	1	3	31	55	44	23	3	0	0	0	0	161	45.0	38.6
5:00 AM	1	5	2	17	80	244	168	42	11	0	0	0	0	570	43.0	38.2
6:00 AM	0	2	9	61	244	318	133	36	4	0	0	0	0	807	41.0	35.8
7:00 AM	21	33	63	121	143	103	35	5	1	0	0	0	0	525	37.0	29.6
8:00 AM	14	28	49	118	212	196	63	13	2	0	1	0	0	696	38.0	32.1
9:00 AM	2	4	30	158	351	299	109	15	2	4	1	0	0	975	39.0	33.9
10:00 AM	4	12	46	164	379	315	112	21	3	2	0	0	0	1058	39.0	33.4
11:00 AM	3	19	66	224	352	268	69	12	0	1	1	0	0	1015	38.0	32.2
12:00 PM	9	15	77	205	344	229	65	12	4	1	0	0	0	961	37.0	31.9
1:00 PM	8	30	50	178	377	252	71	16	1	0	0	0	0	983	38.0	32.3
2:00 PM	7	36	80	202	355	314	89	16	4	0	0	0	0	1103	39.0	32.2
3:00 PM	3	28	100	283	405	252	76	9	5	0	1	0	0	1162	37.0	31.5
4:00 PM	2	10	56	263	400	319	112	11	1	1	0	0	0	1175	38.0	32.7
5:00 PM	7	33	79	301	387	223	64	12	0	1	0	0	0	1107	37.0	31.2
6:00 PM	1	7	45	230	406	334	102	17	2	0	0	0	0	1144	38.0	33.1
7:00 PM	5	3	33	194	395	313	76	13	0	1	0	0	0	1033	38.0	33.2
8:00 PM	2	2	22	178	330	271	79	14	0	0	0	0	0	898	38.0	33.4
9:00 PM	1	3	14	101	269	244	75	8	0	1	0	0	0	716	39.0	33.9
10:00 PM	4	1	12	71	181	179	80	14	9	0	1	0	0	552	40.0	34.9
11:00 PM	1	0	1	29	113	171	73	15	3	2	0	0	0	408	41.0	36.4
Total	96	273	840	3115	5861	5102	1826	361	70	19	6	0	0	17569	39.0	33.2
Percent	0.55%	1.55%	4.78%	17.73%	33.36%	29.04%	10.39%	2.05%	0.40%	0.11%	0.03%	0.00%	0.00%			

AM Peak	7:00 AM	7:00 AM	11:00 AM	11:00 AM	10:00 AM	6:00 AM	5:00 AM	5:00 AM	5:00 AM	9:00 AM	1:00 AM					10:00 AM
Volume	21	33	66	224	379	318	168	42	11	4	1	0	0			1058
PM Peak	12:00 PM	2:00 PM	3:00 PM	5:00 PM	6:00 PM	6:00 PM	4:00 PM	6:00 PM	10:00 PM	11:00 PM	3:00 PM					4:00 PM
Volume	9	36	100	301	406	334	112	17	9	2	1	0	0			1175

15th Percentile:	28.0 MPH	Average Speed:	33.2 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	33.0 MPH	10 MPH Pace:	29 to 38 MPH	Number of Vehicles > 30 MPH:	12301
85th Percentile:	39.0 MPH	Number in Pace:	11200	Percent of Vehicles > 30 MPH:	70.0%
95th Percentile:	43.0 MPH	Percent in Pace:	63.7%		

PDI File #: **228404 A**
 Location: **N: Kelvin Street NE: Bizzaro Lane**
 Location: **E: Revere Beach Parkway Connector W: Revere Beach Parkway Connector**
 City, State: **Everett, MA**
 Client: **HSH/ E. Enteado**
 Site Code: **TBA**
 Count Date: **Tuesday, May 24, 2022**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**



Cars and Heavy Vehicles (Combined)

	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					Total
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	
Cars Exiting Leg					135					94					664					779	1672
Heavy Exiting Leg					1					1					25					28	55
Total Exiting Leg					136					95					689					807	1727

PDI File #: **228404 A**
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 City, State: **Everett, MA**
 Client: **HSH/ E. Enteado**
 Site Code: **TBA**
 Count Date: **Tuesday, May 24, 2022**
 Start Time: **7:00 AM**
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Cars

	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					Total
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	
9:45 AM	3	1	0	0	4	0	3	2	0	5	3	3	139	0	145	97	4	4	0	105	259
10:00 AM	2	0	0	0	2	1	3	2	0	6	1	0	122	0	123	94	9	14	0	117	248
10:15 AM	2	1	0	0	3	1	4	0	0	5	2	8	137	0	147	99	5	6	1	111	266
10:30 AM	3	1	0	0	4	0	3	2	0	5	2	2	174	0	178	91	4	12	0	107	294
Total Volume	10	3	0	0	13	2	13	6	0	21	8	13	572	0	593	381	22	36	1	440	1067
% Approach Total	76.9	23.1	0.0	0.0		9.5	61.9	28.6	0.0		1.3	2.2	96.5	0.0		86.6	5.0	8.2	0.2		
PHF	0.833	0.750	0.000	0.000	0.813	0.500	0.813	0.750	0.000	0.875	0.667	0.406	0.822	0.000	0.833	0.962	0.611	0.643	0.250	0.940	0.907
Entering Leg	10	3	0	0	13	2	13	6	0	21	8	13	572	0	593	381	22	36	1	440	1067
Exiting Leg					51					30					390					596	1067
Total					64					51					983					1036	2134

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					Total
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	
1:30 PM	0	1	0	0	1	0	1	2	0	3	0	1	143	0	144	112	7	14	0	133	281
1:45 PM	2	2	0	0	4	0	4	3	0	7	2	7	168	0	177	131	6	13	1	151	339
2:00 PM	0	0	0	0	0	1	3	2	0	6	2	5	129	0	136	109	4	12	0	125	267
2:15 PM	2	1	0	0	3	0	4	2	0	6	2	4	143	0	149	123	11	11	0	145	303
Total Volume	4	4	0	0	8	1	12	9	0	22	6	17	583	0	606	475	28	50	1	554	1190
% Approach Total	50.0	50.0	0.0	0.0		4.5	54.5	40.9	0.0		1.0	2.8	96.2	0.0		85.7	5.1	9.0	0.2		
PHF	0.500	0.500	0.000	0.000	0.500	0.250	0.750	0.750	0.000	0.786	0.750	0.607	0.868	0.000	0.856	0.906	0.636	0.893	0.250	0.917	0.878
Entering Leg	4	4	0	0	8	1	12	9	0	22	6	17	583	0	606	475	28	50	1	554	1190
Exiting Leg					68					34					488					600	1190
Total					76					56					1094					1154	2380

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					Total
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	
3:30 PM	3	0	0	0	3	12	24	21	0	57	7	12	184	0	203	149	20	17	1	187	450
3:45 PM	3	0	0	0	3	5	10	4	0	19	8	11	181	0	200	149	13	19	0	181	403
4:00 PM	1	1	0	0	2	0	7	11	0	18	3	6	172	0	181	166	22	24	0	212	413
4:15 PM	2	1	0	0	3	3	14	7	0	24	5	7	177	0	189	155	16	19	0	190	406
Total Volume	9	2	0	0	11	20	55	43	0	118	23	36	714	0	773	619	71	79	1	770	1672
% Approach Total	81.8	18.2	0.0	0.0		16.9	46.6	36.4	0.0		3.0	4.7	92.4	0.0		80.4	9.2	10.3	0.1		
PHF	0.750	0.500	0.000	0.000	0.917	0.417	0.573	0.512	0.000	0.518	0.719	0.750	0.970	0.000	0.952	0.932	0.807	0.823	0.250	0.908	0.929
Entering Leg	9	2	0	0	11	20	55	43	0	118	23	36	714	0	773	619	71	79	1	770	1672
Exiting Leg					135					94					664					779	1672
Total					146					212					1437					1549	3344

PDI File #: **228404 A**
 Location: **N: Kelvin Street NE: Bizzaro Lane**
 Location: **E: Revere Beach Parkway Connector W: Revere Beach Parkway Connector**
 City, State: **Everett, MA**
 Client: **HSH/ E. Enteado**
 Site Code: **TBA**
 Count Date: **Tuesday, May 24, 2022**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					Total				
	from North					from Northeast					from East					from West									
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total					
2:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	7	0	7	6	0	0	0	6	14				
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	9	0	9	6	1	0	0	7	16				
Total Volume	0	0	0	0	0	0	0	2	0	2	0	1	40	0	41	21	1	2	0	24	67				
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	2.4	97.6	0.0	0.0	87.5	4.2	8.3	0.0	0.0					
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.250	0.588	0.000	0.569	0.875	0.250	0.500	0.000	0.857	0.698				
Buses	0	0	0	0	0	0	0	0	0	0	0	0	14	0	14	15	1	0	0	16	30				
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.0	0.0	34.1	71.4	100.0	0.0	0.0	66.7	44.8				
Single-Unit Trucks	0	0	0	0	0	0	0	2	0	2	0	1	22	0	23	6	0	2	0	8	33				
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	100.0	55.0	0.0	56.1	28.6	0.0	100.0	0.0	33.3	49.3				
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	4				
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	9.8	0.0	0.0	0.0	0.0	0.0	6.0				
Buses	0	0	0	0	0	0	0	0	0	0	0	0	14	0	14	15	1	0	0	16	30				
Single-Unit Trucks	0	0	0	0	0	0	0	2	0	2	0	1	22	0	23	6	0	2	0	8	33				
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	4				
Total Entering Leg	0	0	0	0	0	0	0	2	0	2	0	1	40	0	41	21	1	2	0	24	67				
Buses																					15	14	30		
Single-Unit Trucks																					8	22	33		
Articulated Trucks																					0	4	4		
Total Exiting Leg																					3	1	23	40	67

PDI File #: 228404 A
 Location: N: Kelvin Street NE: Bizzaro Lane
 Location: E: Revere Beach Parkway Connector W: Revere Beach Parkway Connector
 City, State: Everett, MA
 Client: HSH/ E. Enteado
 Site Code: TBA
 Count Date: Tuesday, May 24, 2022
 Start Time: 7:00 AM
 End Time: 6:00 PM
 Class:



Buses

	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					Total
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	
7:00 AM	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	5	0	6	3	0	0	0	3	9
7:15 AM	0	0	0	0	0	0	2	1	0	3	0	0	4	0	4	3	4	0	0	7	14
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	5	3	0	0	8	13
7:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	3	0	3	3	0	0	0	3	9
Total Volume	0	0	0	0	0	0	5	1	0	6	1	0	17	0	18	14	7	0	0	21	45
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	83.3	16.7	0.0	0.0	5.6	0.0	94.4	0.0	0.0	66.7	33.3	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.250	0.000	0.500	0.250	0.000	0.850	0.000	0.750	0.700	0.438	0.000	0.000	0.656	0.804
Entering Leg	0	0	0	0	0	0	5	1	0	6	1	0	17	0	18	14	7	0	0	21	45
Exiting Leg					0					8					15					22	45
Total					0					14					33					43	90

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					Total
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	
10:00 AM	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7	2	0	0	0	2	9
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	6	0	0	0	6	9
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	2	0	0	0	2	6
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	5	0	0	0	5	7
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	16	0	16	15	0	0	0	15	31
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.571	0.000	0.571	0.625	0.000	0.000	0.000	0.625	0.861
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	16	0	16	15	0	0	0	15	31
Exiting Leg					0					0					15					16	31
Total					0					0					31					31	62

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					Total
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	
2:45 PM	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	5	1	0	0	6	9
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	5	2	0	0	7	12
3:15 PM	0	0	0	0	0	0	1	2	0	3	0	0	2	0	2	4	3	0	0	7	12
3:30 PM	0	0	0	0	0	0	0	3	0	3	0	0	4	0	4	3	1	0	0	4	11
Total Volume	0	0	0	0	0	0	1	5	0	6	0	0	14	0	14	17	7	0	0	24	44
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	16.7	83.3	0.0	0.0	0.0	0.0	100.0	0.0	0.0	70.8	29.2	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.417	0.000	0.500	0.000	0.000	0.700	0.000	0.700	0.850	0.583	0.000	0.000	0.857	0.917
Entering Leg	0	0	0	0	0	0	1	5	0	6	0	0	14	0	14	17	7	0	0	24	44
Exiting Leg					0					7					22					15	44
Total					0					13					36					39	88

PDI File #: **228404 A**
 Location: **N: Kelvin Street NE: Bizzaro Lane**
 Location: **E: Revere Beach Parkway Connector W: Revere Beach Parkway Connector**
 City, State: **Everett, MA**
 Client: **HSH/ E. Enteado**
 Site Code: **TBA**
 Count Date: **Tuesday, May 24, 2022**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**



Single-Unit Trucks

	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					Total
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	
9:00 AM	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
9:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	8	0	8	6	0	0	0	6	15
9:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	4	0	4	3	0	0	0	3	8
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11	5	0	0	0	5	16
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	15	0	15	5	0	0	0	5	20
Total Volume	0	0	1	0	1	1	0	0	0	1	0	0	38	0	38	19	0	0	0	19	59
% Approach Total	0.0	0.0	100.0	0.0		100.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.633	0.000	0.633	0.792	0.000	0.000	0.000	0.792	0.738
Entering Leg	0	0	1	0	1	1	0	0	0	1	0	0	38	0	38	19	0	0	0	19	59
Exiting Leg					1					1					19					38	59
Total					2					2					57					57	118

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					Total
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	
10:00 AM	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right <td>Thru</td> <td>U-Turn</td> <td>Total</td> <td>Thru</td> <td>Bear Left</td> <td>Left<td>U-Turn</td><td>Total</td> <td>Total</td> </td>	Thru	U-Turn	Total	Thru	Bear Left	Left <td>U-Turn</td> <td>Total</td> <td>Total</td>	U-Turn	Total	Total
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	4	0	0	0	4	9
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	6	0	7	3	0	1	0	4	11
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	9	0	9	5	0	0	0	5	14
10:45 AM	0	0	0	0	0	1	0	0	0	1	1	0	10	0	11	2	0	0	0	2	14
Total Volume	0	0	0	0	0	1	0	0	0	1	1	1	30	0	32	14	0	1	0	15	48
% Approach Total	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		3.1	3.1	93.8	0.0		93.3	0.0	6.7	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.250	0.250	0.750	0.000	0.727	0.700	0.000	0.250	0.000	0.750	0.857
Entering Leg	0	0	0	0	0	1	0	0	0	1	1	1	30	0	32	14	0	1	0	15	48
Exiting Leg					3					1					14					30	48
Total					3					2					46					45	96

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					Total
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	
2:00 PM	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right <td>Thru</td> <td>U-Turn</td> <td>Total</td> <td>Thru</td> <td>Bear Left</td> <td>Left<td>U-Turn</td><td>Total</td> <td>Total</td> </td>	Thru	U-Turn	Total	Thru	Bear Left	Left <td>U-Turn</td> <td>Total</td> <td>Total</td>	U-Turn	Total	Total
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	9	0	10	3	0	1	0	4	14
2:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	3	0	3	0	0	1	0	1	5
2:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	4	0	4	2	0	0	0	2	7
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	1	0	0	0	1	7
Total Volume	0	0	0	0	0	0	0	2	0	2	0	1	22	0	23	6	0	2	0	8	33
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	4.3	95.7	0.0		75.0	0.0	25.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.250	0.611	0.000	0.575	0.500	0.000	0.500	0.000	0.500	0.589
Entering Leg	0	0	0	0	0	0	0	2	0	2	0	1	22	0	23	6	0	2	0	8	33
Exiting Leg					3					0					8					22	33
Total					3					2					31					30	66

PDI File #: **228404 A**
 Location: **N: Kelvin Street NE: Bizzaro Lane**
 Location: **E: Revere Beach Parkway Connector W: Revere Beach Parkway Connector**
 City, State: **Everett, MA**
 Client: **HSH/ E. Enteado**
 Site Code: **TBA**
 Count Date: **Tuesday, May 24, 2022**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					Total
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	
9:00 AM	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	2	0	0	0	2	5
9:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	2	0	2	1	0	0	0	1	4
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	2	3
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	4
Total Volume	0	0	0	0	0	0	0	1	0	1	0	0	10	0	10	5	0	0	0	5	16
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.625	0.000	0.625	0.625	0.000	0.000	0.000	0.625	0.800
Entering Leg	0	0	0	0	0	0	0	1	0	1	0	0	10	0	10	5	0	0	0	5	16
Exiting Leg					0					0					6					10	16
Total					0					1					16					15	32

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					Total
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	
11:15 AM	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right <td>Thru</td> <td>U-Turn</td> <td>Total</td> <td>Thru</td> <td>Bear Left</td> <td>Left<td>U-Turn</td><td>Total</td> <td>Total</td> </td>	Thru	U-Turn	Total	Thru	Bear Left	Left <td>U-Turn</td> <td>Total</td> <td>Total</td>	U-Turn	Total	Total
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	1	0	0	0	1	5
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	1	0	0	0	1	6
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10	3	0	0	0	3	13
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.750	0.000	0.000	0.000	0.750	0.542
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10	3	0	0	0	3	13
Exiting Leg					0					0					3					10	13
Total					0					0					13					13	26

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					Total
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	
2:00 PM	Kelvin Street					Bizzaro Lane					Revere Beach Parkway Connector					Revere Beach Parkway Connector					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right <td>Thru</td> <td>U-Turn</td> <td>Total</td> <td>Thru</td> <td>Bear Left</td> <td>Left<td>U-Turn</td><td>Total</td> <td>Total</td> </td>	Thru	U-Turn	Total	Thru	Bear Left	Left <td>U-Turn</td> <td>Total</td> <td>Total</td>	U-Turn	Total	Total
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	4
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	4
Exiting Leg					0					0					0					4	4
Total					0					0					4					4	8

PDI File #: 228404 A
 Location: N: Kelvin Street NE: Bizzaro Lane
 Location: E: Revere Beach Parkway Connector W: Revere Beach Parkway Connector
 City, State: Everett, MA
 Client: HSH/ E. Enteado
 Site Code: TBA
 Count Date: Tuesday, May 24, 2022
 Start Time: 7:00 AM
 End Time: 6:00 PM
 Class:



Pedestrians

	Kelvin Street				Bizzaro Lane				Revere Beach Parkway Connector				Revere Beach Parkway Connector				Total												
	from North				from Northeast				from East				from West																
	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right		Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	U-Turn	CW-NB	CW-SB	Total
7:00 AM	Kelvin Street				Bizzaro Lane				Revere Beach Parkway Connector				Revere Beach Parkway Connector																
	from North				from Northeast				from East				from West																
7:00 AM	0	0	0	0	7	9	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	20
7:15 AM	0	0	0	0	4	4	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	9
7:30 AM	0	0	0	0	2	0	2	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2	6
7:45 AM	0	0	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total Volume	0	0	0	0	13	18	31	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	7	7	40
% Approach Total	0.0	0.0	0.0	0.0	41.9	58.1		0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0		
PHF	0.000	0.000	0.000	0.000	0.464	0.500	0.484	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.438	0.438	0.500
Entering Leg	0	0	0	0	13	18	31	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	7	7	40
Exiting Leg					31							2											0				7		40
Total					62							4											0				14		80

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Kelvin Street				Bizzaro Lane				Revere Beach Parkway Connector				Revere Beach Parkway Connector				Total												
	from North				from Northeast				from East				from West																
	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right		Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	U-Turn	CW-NB	CW-SB	Total
1:45 PM	Kelvin Street				Bizzaro Lane				Revere Beach Parkway Connector				Revere Beach Parkway Connector																
	from North				from Northeast				from East				from West																
1:45 PM	0	0	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	7
2:00 PM	0	0	0	0	2	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	10
2:15 PM	0	0	0	0	1	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	6
2:30 PM	0	0	0	0	1	6	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	10
Total Volume	0	0	0	0	5	17	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	6	11	33
% Approach Total	0.0	0.0	0.0	0.0	22.7	77.3		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.5	54.5	
PHF	0.000	0.000	0.000	0.000	0.625	0.708	0.786	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.500	0.688
Entering Leg	0	0	0	0	5	17	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	6	11	33
Exiting Leg					22							0											0				11		33
Total					44							0											0				22		66

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Kelvin Street				Bizzaro Lane				Revere Beach Parkway Connector				Revere Beach Parkway Connector				Total												
	from North				from Northeast				from East				from West																
	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right		Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	U-Turn	CW-NB	CW-SB	Total
3:30 PM	Kelvin Street				Bizzaro Lane				Revere Beach Parkway Connector				Revere Beach Parkway Connector																
	from North				from Northeast				from East				from West																
3:30 PM	0	0	0	0	10	20	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	36
3:45 PM	0	0	0	0	6	6	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	3	10	22
4:00 PM	0	0	0	0	4	5	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	7	13	22
4:15 PM	0	0	0	0	12	3	15	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	3	3	19
Total Volume	0	0	0	0	32	34	66	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	13	19	99
% Approach Total	0.0	0.0	0.0	0.0	48.5	51.5		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0				0.0	0.0	0.0	0.0	40.6	59.4	
PHF	0.000	0.000	0.000	0.000	0.667	0.425	0.550	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.464	0.679	0.615
Entering Leg	0	0	0	0	32	34	66	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	13	19	99
Exiting Leg					66							0						1				1					32		99
Total					132							0						2				2					64		198



HOWARD STEIN HUDSON

Engineers + Planners

Appendix B

Signal Warrant Analysis

Warrant 1 - Eight-Hour Vehicular Volume

	Hourly Major	Hourly Minor
7:00 AM	869	208
7:15 AM	838	194
7:30 AM	817	160
7:45 AM	771	95
8:00 AM	745	38
8:15 AM	788	32
8:30 AM	819	29
8:45 AM	909	34
9:00 AM	1007	39
9:15 AM	1038	37
9:30 AM	1087	32
9:45 AM	1123	32
10:00 AM	1133	35
10:15 AM	1171	37
10:30 AM	1184	39
10:45 AM	1137	43
11:00 AM	1152	37
11:15 AM	1136	31
11:30 AM	1130	28
11:45 AM	1188	24
12:00 PM	1163	22
12:15 PM	1156	27
12:30 PM	1127	33
12:45 PM	1105	28
1:00 PM	1172	35
1:15 PM	1181	32
1:30 PM	1231	30
1:45 PM	1221	35
2:00 PM	1235	35
2:15 PM	1324	70
2:30 PM	1373	85
2:45 PM	1488	127
3:00 PM	1524	134
3:15 PM	1555	114
3:30 PM	1594	113
3:45 PM	1603	79
4:00 PM	1555	69
4:15 PM	1465	68
4:30 PM	1273	51
4:45 PM	1251	45
5:00 PM	1302	41
5:15 PM		
5:30 PM		
5:45 PM		

Condition A - Hour Met?	Condition B - Hour Met?	A Combined	B Combined
YES	YES	YES	YES
YES	YES	YES	YES
YES	YES	YES	YES
	YES	YES	YES

Notes:
70% factor used because WB 85th percentile is 40 mph.
While 70% is if 85th percentile exceeds 40 mph, this was done to check and it still doesn't meet the warrant.

Condition A = Major > 350 vph
Minor > 105 vph

Condition B = Major > 525
Minor > 53

Combination-
Condition A = Major > 280
Minor > 84

Condition B = Major > 420
Minor > 42

YES

	YES		YES
	YES	YES	YES
YES	YES	YES	YES
YES	YES	YES	YES
YES	YES	YES	YES
	YES		YES
	YES		YES
	YES		YES
	YES		YES

Unique Hours 2 4 3 5

Warrant not met

Warrant 2 - Four-Hour Vehicular Volume

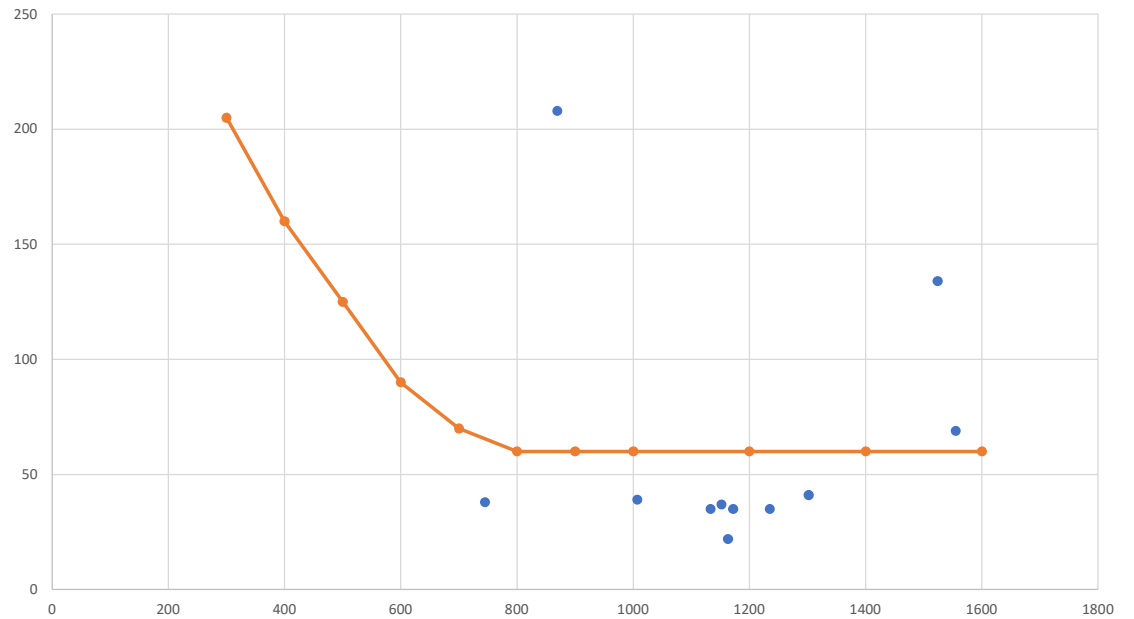
	Hourly Major	Hourly Minor	Hourly Major	Hourly Minor
7:00 AM	869	208	869	208
7:15 AM	838	194		
7:30 AM	817	160		
7:45 AM	771	95		
8:00 AM	745	38	745	38
8:15 AM	788	32		
8:30 AM	819	29		
8:45 AM	909	34		
9:00 AM	1007	39	1007	39
9:15 AM	1038	37		
9:30 AM	1087	32		
9:45 AM	1123	32		
10:00 AM	1133	35	1133	35
10:15 AM	1171	37		
10:30 AM	1184	39		
10:45 AM	1137	43		
11:00 AM	1152	37	1152	37
11:15 AM	1136	31		
11:30 AM	1130	28		
11:45 AM	1188	24		
12:00 PM	1163	22	1163	22
12:15 PM	1156	27		
12:30 PM	1127	33		
12:45 PM	1105	28		
1:00 PM	1172	35	1172	35
1:15 PM	1181	32		
1:30 PM	1231	30		
1:45 PM	1221	35		
2:00 PM	1235	35	1235	35
2:15 PM	1324	70		
2:30 PM	1373	85		
2:45 PM	1488	127		
3:00 PM	1524	134	1524	134
3:15 PM	1555	114		
3:30 PM	1594	113		
3:45 PM	1603	79		
4:00 PM	1555	69	1555	69
4:15 PM	1465	68		
4:30 PM	1273	51		
4:45 PM	1251	45		
5:00 PM	1302	41	1302	41
5:15 PM				
5:30 PM				
5:45 PM				

Notes:

70% factor used because WB 85th percentile is 40 mph

While 70% is if 85th percentile exceeds 40 mph, this was done to check and it still doesn't meet the warrant.

Warrant 2 - Four-Hour Vehicular Volume - 70% Factor



Warrant not met

Warrant 4 - Pedestrian Volume

Warrant not met

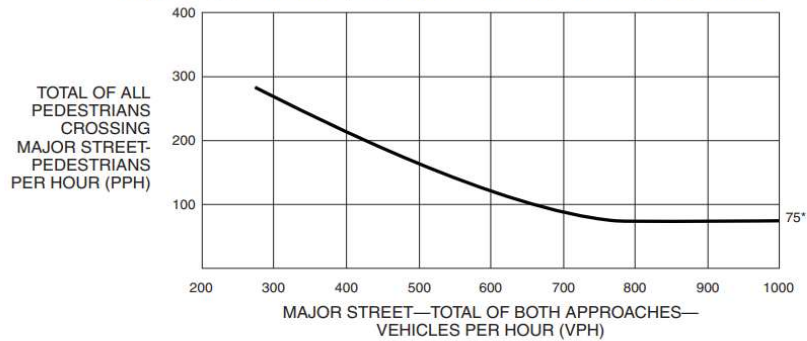
Notes:

The warrant is not met, as the highest pedestrian volume per hour is 33 pedestrians.

The graphs used to determine if the warrant is met require between 75-133 pedestrians per hour to meet the warrant. The highest recorded ped volume is 33 pph.

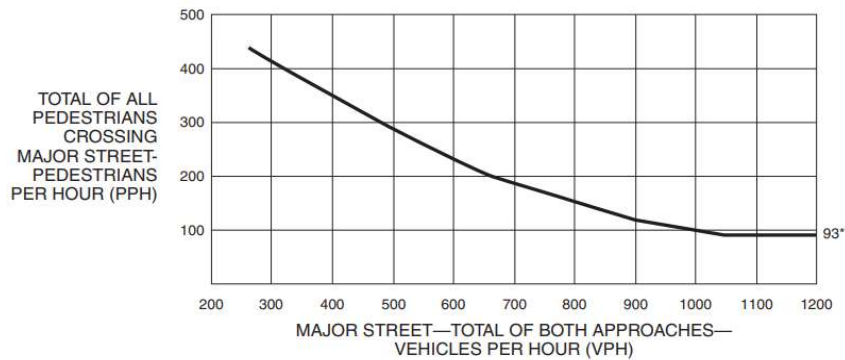
70% factor used because WB 85th percentile is above 35 mph.

Figure 4C-6. Warrant 4, Pedestrian Four-Hour Volume (70% Factor)



*Note: 75 pph applies as the lower threshold volume.

Figure 4C-8. Warrant 4, Pedestrian Peak Hour (70% Factor)



*Note: 93 pph applies as the lower threshold volume.



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