

Proposed Mixed-Use Development
445 Harvard Street
Brookline, Massachusetts

Transportation Impact Assessment Summary

Prepared by:



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Transportation Impact Assessment Summary

▶ **Project Description:**

- 25 Multifamily Residential Units
- 1,830+/- sf of Commercial Space
- Existing Use: Gasoline/Service Station (4 vfps)

▶ **Access:**

- 20-foot wide driveway that will intersect Thorndike Street 90 feet east of Harvard Street
- Existing driveways (3) to be closed
- No access from Harvard Street
- Loading/delivery area curbside on Harvard Street

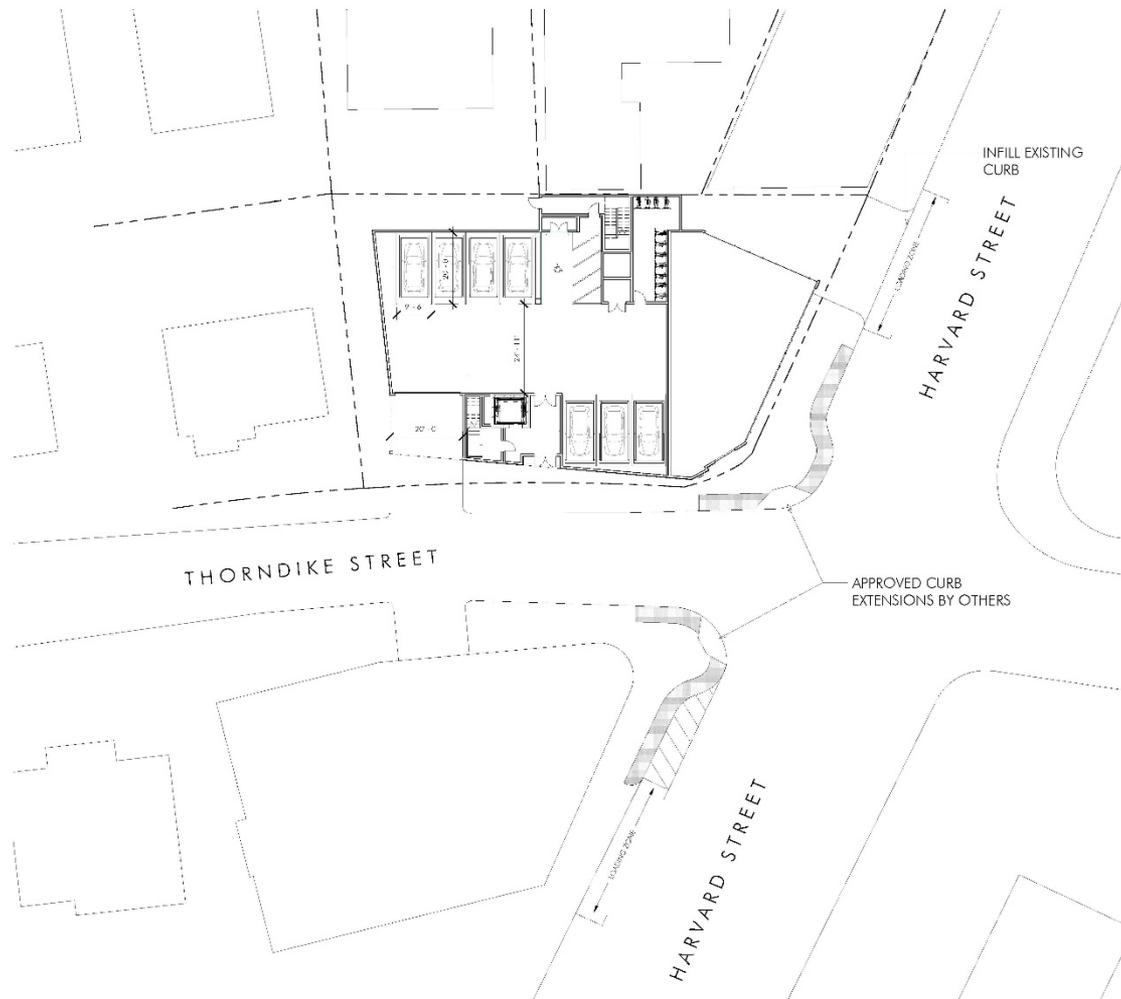
▶ **Parking:**

- 20 parking spaces including (1) handicapped accessible and 19 mechanical (stacker system)

Site Location Map



Site Plan



Trip Generation Summary

Time Period/Direction	Proposed Vehicle Trips					Existing Vehicle Trips			(J = E - H) Primary Trip Difference
	(A) Multifamily Residential Building (25 Units) ^a	(B) Retail Space (1,830 sf) ^b	(C) Pass-By Trips ^c	(D = B - C) Primary Trips	(E = A + D) Total Primary Trips	(F) Existing Gasoline/ Service Station ^d	(G) Pass-By Trips ^e	(H = F - G) Existing Primary Trips	
Average Weekday Daily									
Entering	67	82	28	54	121	170	72	98	
<u>Exiting</u>	<u>67</u>	<u>82</u>	<u>28</u>	<u>54</u>	<u>121</u>	<u>170</u>	<u>72</u>	<u>98</u>	
Total	134	164	56	108	242	340	144	196	+46
Weekday Morning Peak Hour									
Entering	2	7	0	7	9	11	6	5	
<u>Exiting</u>	<u>7</u>	<u>6</u>	<u>0</u>	<u>6</u>	<u>13</u>	<u>11</u>	<u>6</u>	<u>5</u>	
Total	9	13	0	13	22	22	12	10	+12
Weekday Evening Peak Hour									
Entering	7	6	2	4	11	13	5	8	
<u>Exiting</u>	<u>5</u>	<u>6</u>	<u>2</u>	<u>4</u>	<u>9</u>	<u>13</u>	<u>5</u>	<u>8</u>	
Total	12	12	4	8	20	26	10	16	+4

^aBased on ITE LUC 221, *Multifamily Housing (Mid-Rise)*.

^bBased on ITE LUC 820, *Shopping Center (filtered to exclude any developments greater than 20,000± sf)*.

^cA Pass-by trip rate was applied to the traffic volumes associated with the retail use as follows: weekday daily and weekday evening peak hour: 34 percent; weekday morning peak hour: 0 percent.

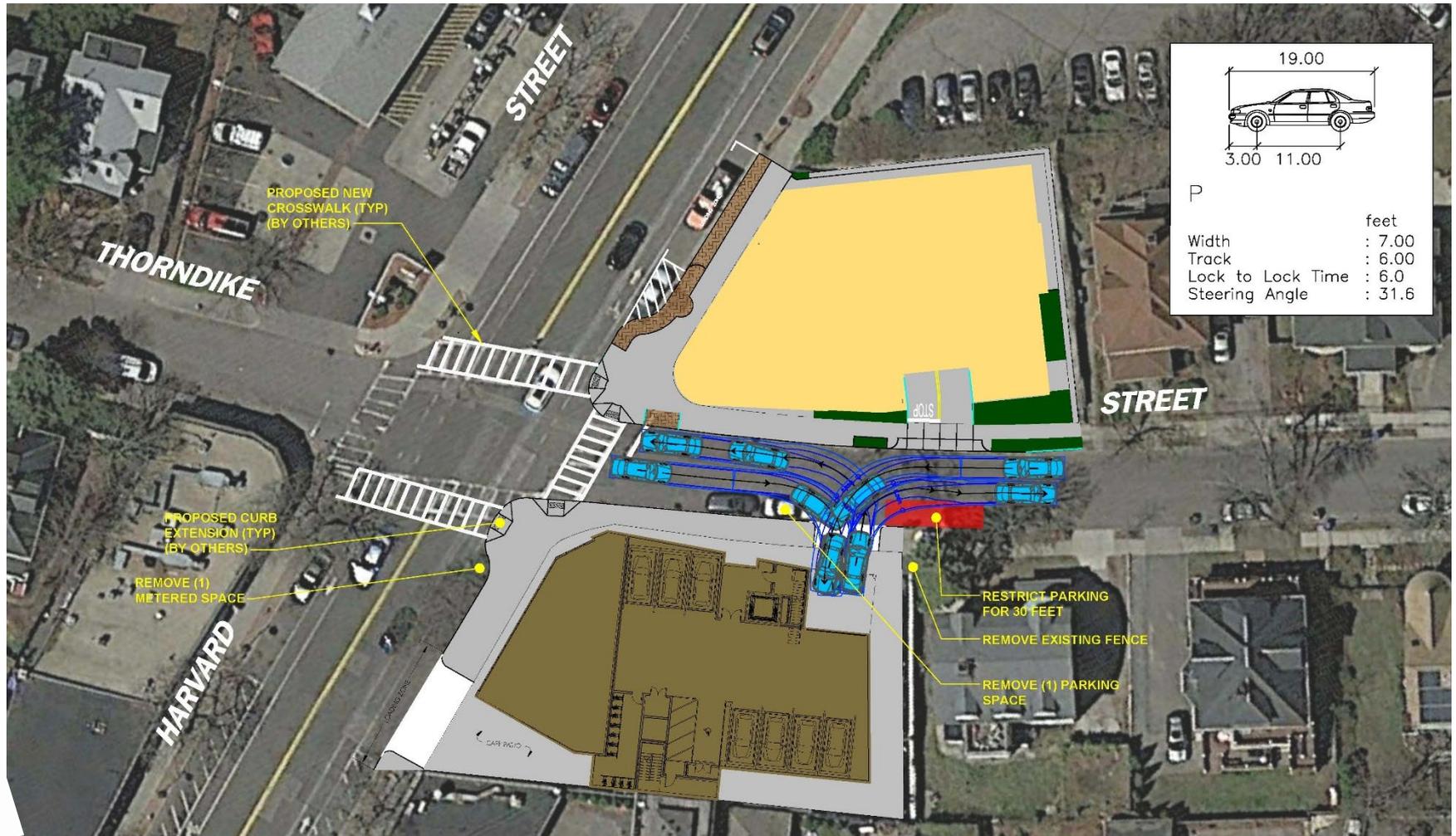
^dBased on November 2018 customer/sales data.

^eA Pass-by trip rate was applied to the traffic volumes associated with the Gasoline/Service Station as follows: weekday daily and weekday evening peak hour: 42 percent; weekday morning peak hour: 58 percent.

Project Impact Summary and Findings

- ▶ Project will result in less than (1) additional vehicle every 5 to 15 minutes during the peak traffic volume periods when compared to the existing use
- ▶ The number of driveways and conflict points will be reduced from (3) to (1)
- ▶ Crash data provided by the Brookline Police Department indicated (6) crashes occurred at the Harvard Street/Thorndike Street intersection between 2014 and 2018, inclusive, (2) of which involved pedestrians
- ▶ Pedestrian safety improvements are under construction (curbline bump-outs) as a part of the 455 Harvard Street Project
- ▶ Comprehensive Transportation Demand Management program will be implemented as a part of the Project
- ▶ Curbside use changes suggested to improve sight lines and facilitate loading/delivery operations

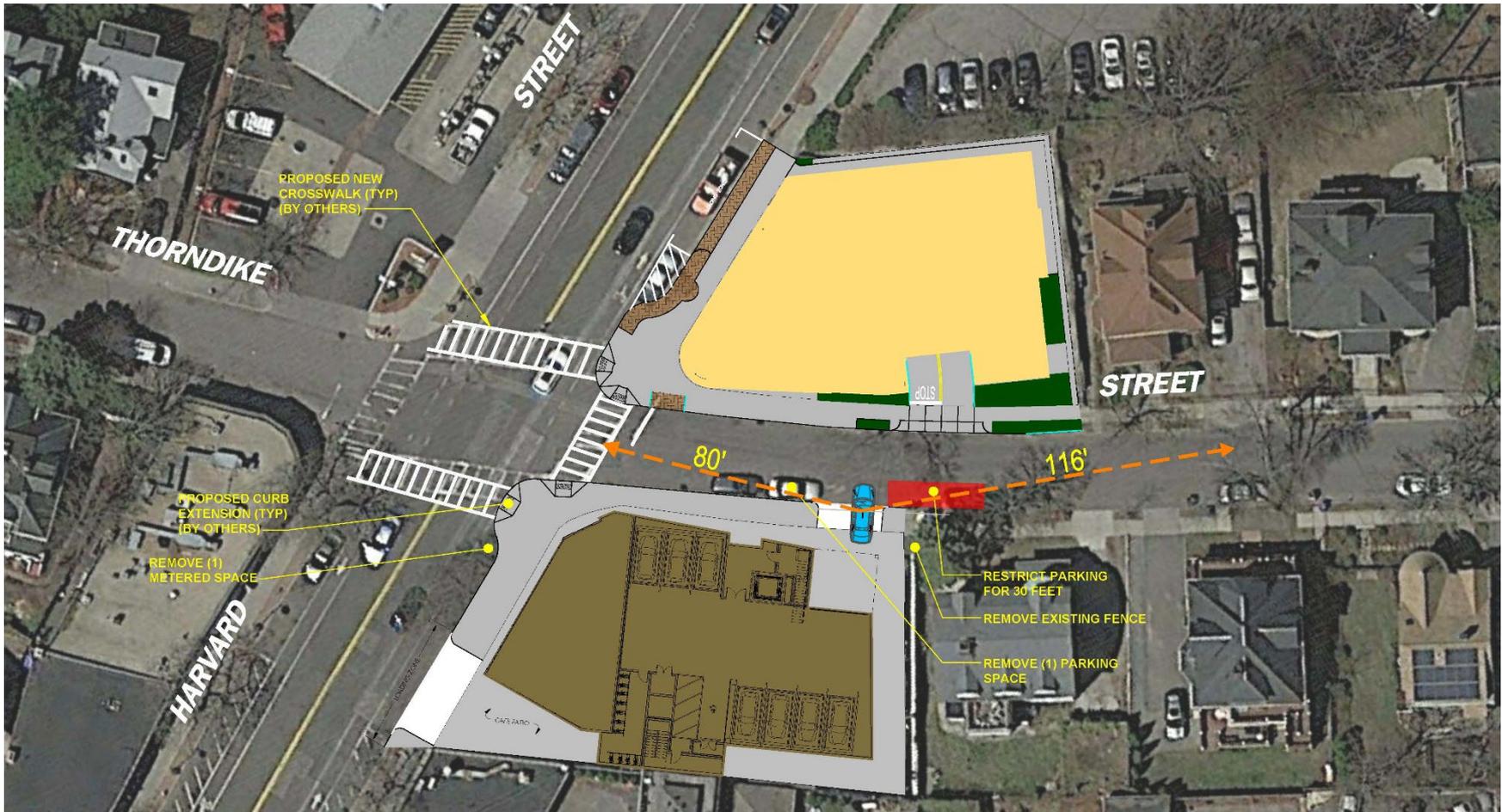
Driveway Turning Analysis



P	feet
Width	: 7.00
Track	: 6.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.6



Driveway Sight Line Assessment



Thorndike Street/Harvard Street Sight Line Assessment

