

**THE MILL BROOK SCHOOL
Proposed Purchase
376 Orchard Street**

**Millis Zoning Board of Appeals
August 15, 2017**

Traffic Survey

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Traffic Survey

MassDot Sources

The Massachusetts Department of Transportation Management System collects traffic data annually on Route 115 right at the Millis/Sherborn line.



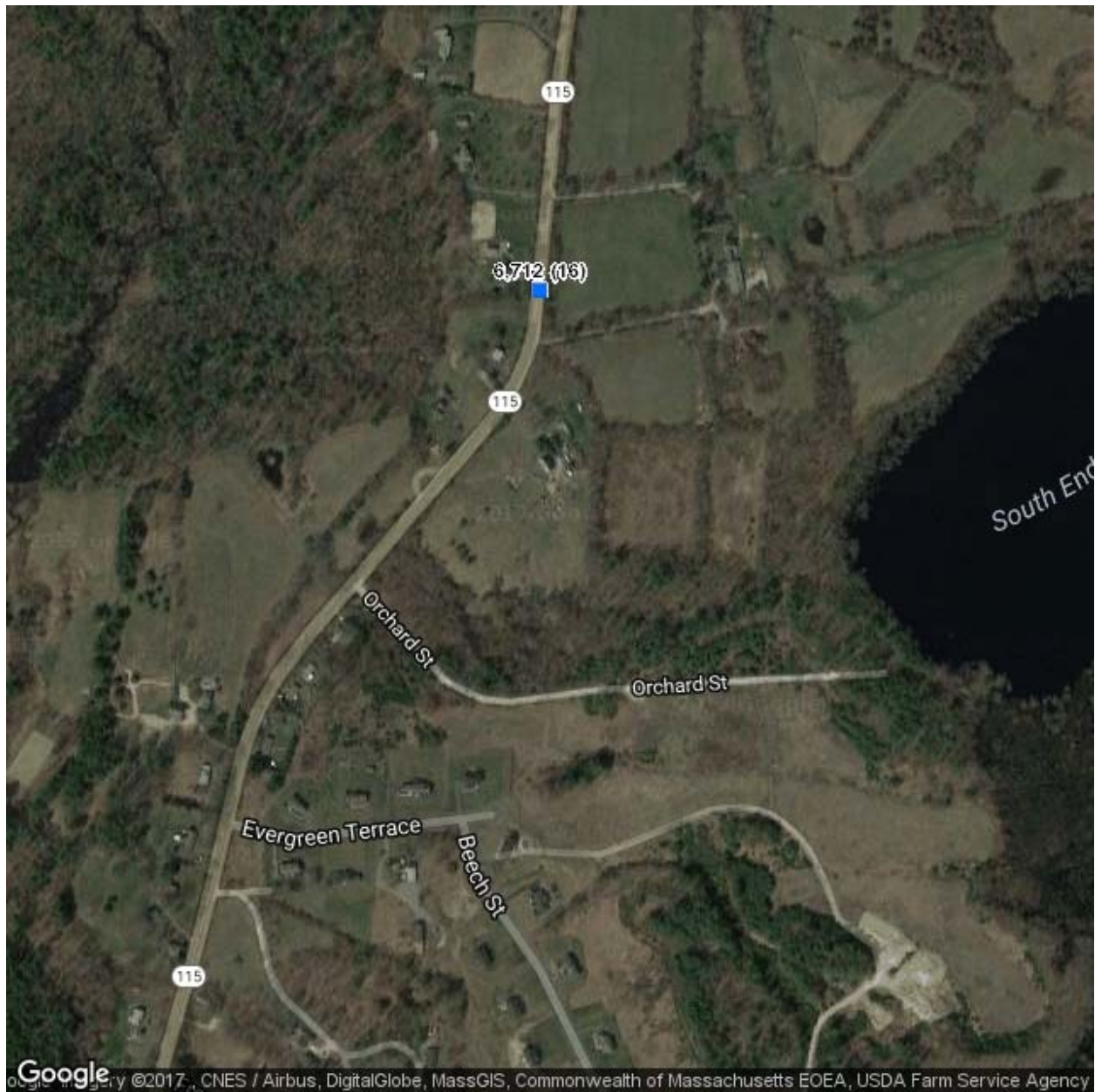
Transportation Data Management System

Volume Count Report

LOCATION INFO	
Location ID	4027
Type	SPOT
Funct'l Class	4
Located On	BULLARD STREET
AT	MILLIS
Direction	2-WAY
County	MIDDLESEX
Community	SHERBORN
MPO ID	
HPMS ID	269002701000
Agency	MHD

Map of MassDot Location Count Location 4027

This MassDOT location ID 4027 is located less than 2,000 feet from the entrance to 376 Orchard Street, and there are no through streets that would change the traffic count.



Annual Average Daily Traffic

The Annual Average Daily Traffic at Location 4027 since 1985:

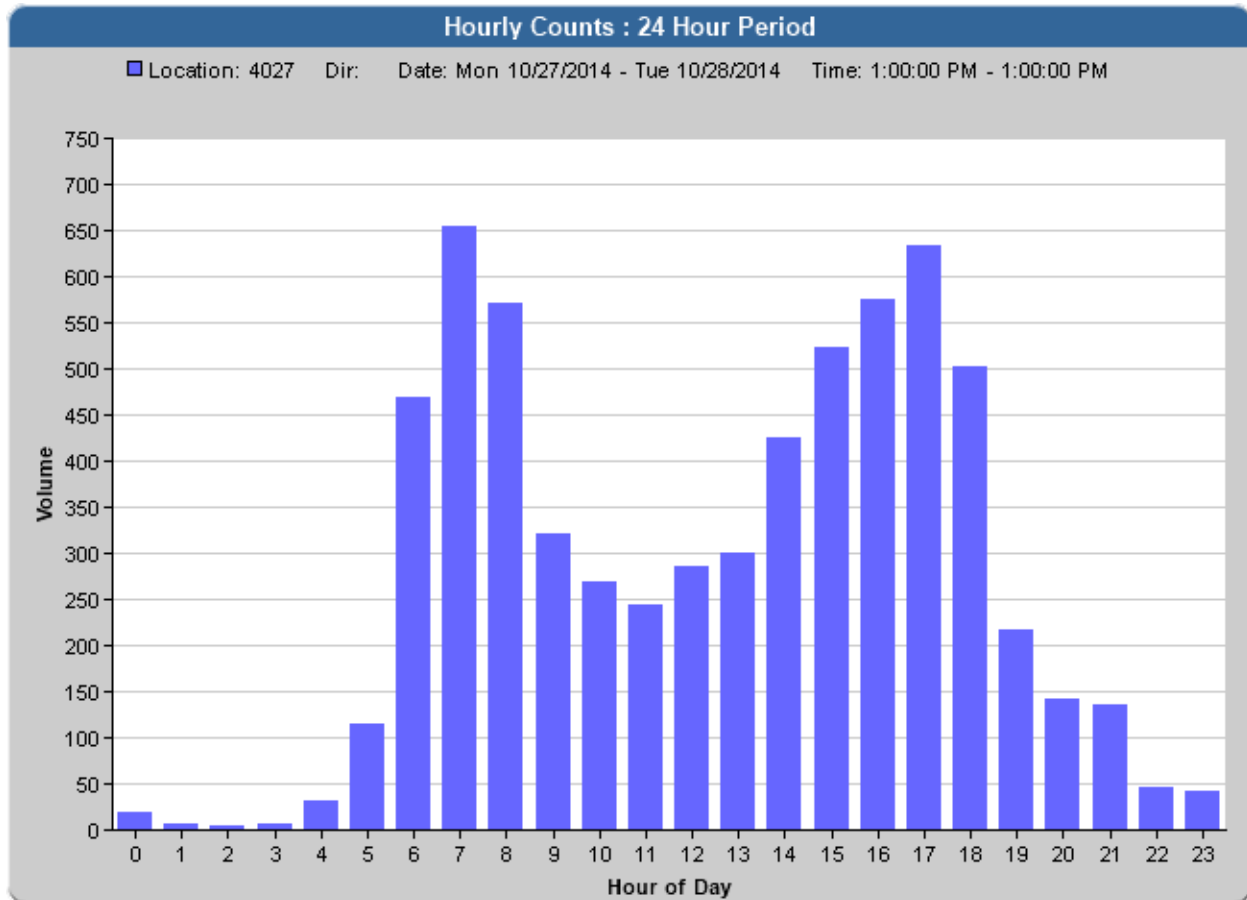
2016	6,712
2015	6,320
2014	6,178
2013	4,939
2012	4,868
2011	4,887
2010	4,799
2009	5,163
2008	5,200
2007	6,198
2006	6,528
2005	6,500
2004	6,066
2003	6,115
2002	6,100
1999	6,200
1990	4,963
1987	4,850
1985	6,900

By way of comparison, in 2016 the Annual Average Daily Traffic on Route 109 just north of Route 115 was 17,461.

24 Hour Traffic Count (1)

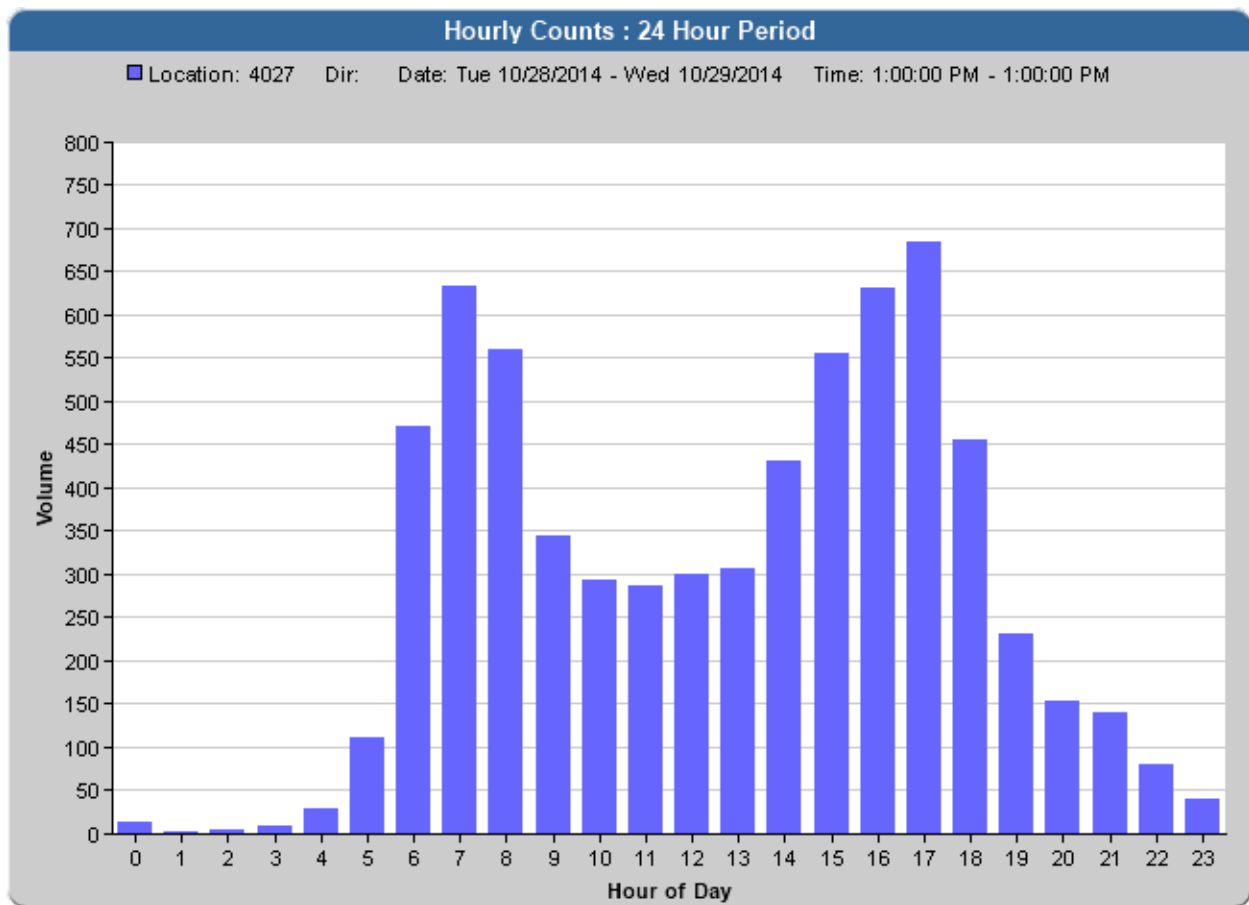
In October 2014 MassDOT did an hourly count of traffic volume over 48 hours from Monday, 10/27/14 – Wednesday, 10/29/14.

First 24 hour period:



24 Hour Traffic Count (2)

Second 24 hour period:



Two Days Hourly Detail

Combined data for both days:

Location ID:	4027	Type:	SPOT
Located On:	BULLARD STREET	AT:	MILLIS
Direction:	2-WAY		
Community:	SHERBORN	Period:	Mon 10/27/2014 - Sun 11/2/2014
AADT:	6178		

Start Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Avg	Graph
12:00 AM		18	13					16	
1:00 AM		7	3					5	
2:00 AM		5	4					5	
3:00 AM		7	8					8	
4:00 AM		32	29					31	
5:00 AM		115	111					113	
6:00 AM		469	472					471	
7:00 AM		654	633					644	
8:00 AM		570	561					566	
9:00 AM		321	344					333	
10:00 AM		268	294					281	
11:00 AM		243	286					265	
12:00 PM		285	299					292	
1:00 PM	299	307						303	
2:00 PM	425	431						428	
3:00 PM	522	555						539	
4:00 PM	576	631						604	
5:00 PM	633	684						659	
6:00 PM	503	455						479	
7:00 PM	216	232						224	
8:00 PM	142	153						148	
9:00 PM	136	139						138	
10:00 PM	46	81						64	
11:00 PM	41	41						41	
Total	3,539	6,703	3,057	0	0	0	0		
24hr Total		6533	6766						6,650
AM Pk Hr		7:00							
AM Peak		654						654	
PM Pk Hr		5:00							
PM Peak		684						684	
% Pk Hr			10.20%						10.00%

Hourly Volume by Direction

Below is the directional traffic volume by hour (SB = Southbound, NB = Northbound)

HOURLY VOLUME BY LANE TUESDAY, OCTOBER 28, 2014

	4027_SB	4027	4027_NB
12-1 AM	14	18	4
1-2 AM	4	7	3
2-3 AM	1	5	4
3-4 AM	1	7	6
4-5 AM	3	32	29
5-6 AM	17	115	98
6-7 AM	58	469	411
7-8 AM	106	654	548
8-9 AM	106	570	464
9-10 AM	102	321	219
10-11 AM	111	268	157
11-12 AM	104	243	139
12-1 PM	162	285	123
1-2 PM	165	299	134
2-3 PM	248	425	177
3-4 PM	337	522	185
4-5 PM	430	576	146
5-6 PM	482	633	151
6-7 PM	386	503	117
7-8 PM	154	216	62
8-9 PM	105	142	37
9-10 PM	97	136	39
10-11 PM	34	46	12
11-12 PM	32	41	9
TOTAL	3259	6533	3274

Student Drop Off and Pick Up

Photo of Driveway

View of 376 Orchard Street driveway from the street:



The driveway is about 25 wide at the street.

Photo Looking North from Driveway



The second telephone pole is about 220 feet away.

Photo Looking South from Driveway

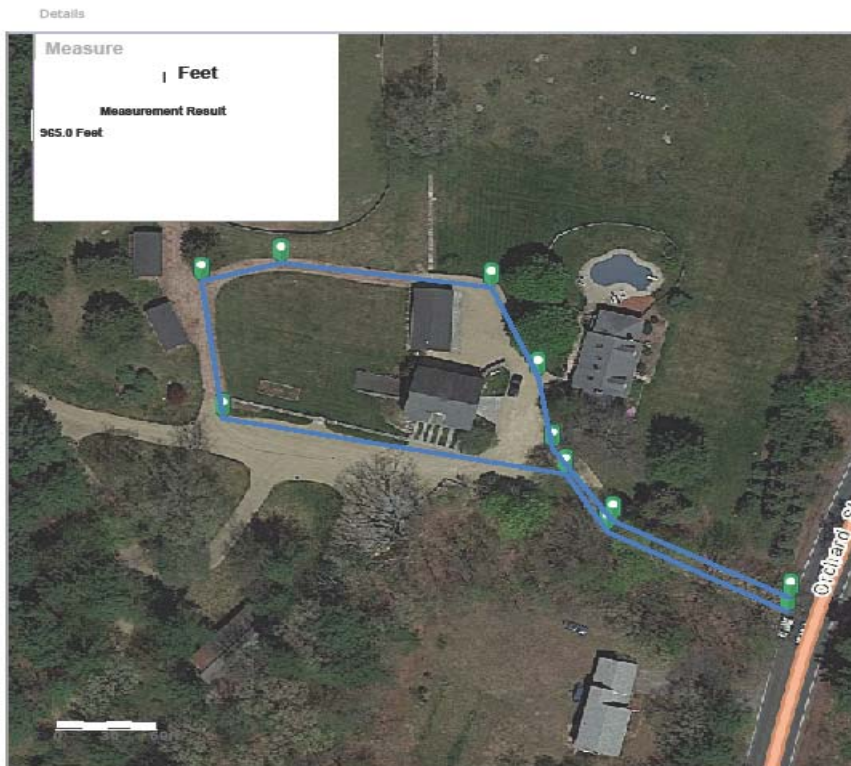


The intersection with Evergreen Terrace is about 240 feet away.

Interior Drop Off Pattern and Parking

A sketch of our plan for student drop-off before school and pick-up after school is outlined below:

Massachusetts Interactive Property Map



This traffic pattern allows cars almost 1,000 feet of pull-off space on the school property to prevent any backup onto Orchard Street. We will plan parking along the loop perimeter for up to 20 cars in Year 1 and add parking as necessary.

Conclusions

Enrollment Projections and Traffic Impact

We project a first year enrollment in September 2018 of between 25-35 students, and a faculty and staff of 9. By September 2023 we project an enrollment of between 80-100 students and a faculty and staff of 15.

Students, faculty, and staff will generally arrive at the school between 8:00-8:20 AM for the first class period of the day, which begins at 8:20 AM.

Classes end at 3:00 PM, although departure will be more staggered because of after school activities. We estimate about two thirds of the students, faculty and staff will leave school during the 3:00 PM hour and the other one third during the 4:00 PM hour.

We anticipate that most families will car pool and on average each car will arrive in the morning and leave in the evening with 3 students. In our first year we anticipate each faculty or staff member will arrive in his or her own car. We therefore estimate 10 parent round trips and 8 faculty/staff one-way trips in the morning, and the same in the evening, for a total of 28 round trips each school day, or 56 individual trips. This would represent a 0.8% increase to the 2016 average daily traffic count of 6,712 vehicles. Traffic volume at 8:00 AM would rise from 566 to 594, traffic volume at 3:00 PM would rise from 539 to 558, and traffic volume at 4:00 PM would rise from 604 to 613.

By our fifth year we plan to have van service to the school from several locations, which will reduce the number of cars coming to the school in both the morning and the afternoon. Nevertheless, for the sake of argument we will not factor that in and estimate 30 parent round trips with 3 student passengers and 15 faculty/staff one-way trips in the morning, and the same in the evening, for a total of 75 round trips each school day, or 150 individual trips. This would represent a 2.2% increase to the 2016 average daily traffic count. Traffic volume at 8:00 AM would rise from 566 to 641, traffic volume at 3:00 PM would rise from 539 to 589, and traffic volume at 4:00 PM would rise from 604 to 629.