



## **TRANSPORTATION ADVISORY COMMITTEE**

7 Twin Circle Drive, Arlington, MA 02474

**To:** Board of Selectmen, Arlington, Mass  
**From:** Transportation Advisory Committee (TAC)  
**Subject:** Jason Street School Bus Stops  
**Date:** 14 September 2009

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In 2004 the Transportation Advisory Committee was asked to review the crosswalk at Norfolk Road on Jason Street. A report, presented to the Board of Selectmen in September of 2004, indicated that the crosswalk at Norfolk was not safe because the sight distances from the curve to the crosswalk were too short for the measured speed of traffic. The report also suggested that the crosswalk and bus stop be moved to Woodland where the sight lines would be improved.

Mr. Iannelli, the Director of Transportation for Arlington's Public Schools, in a memo to the Board of Selectmen on 20 July 2009, indicated that there are difficulties with the Woodland location for the bus stop with respect to drivers passing the bus and parking for those who drive to the bus stop. He requested that the stop be relocated back to Norfolk. The Board has asked the TAC to comment on this position, and a report is attached.

As described in the report, our primary concern is safety during the morning from 7:45 AM until the departure of the school bus after 8:05 AM. During this period, an average of five vehicles per minute pass the bus stop going south towards Route 2 and under one per minute pass north going towards Arlington Center based upon traffic data collected in 2002 and again in 2008. Jason Street between Gray Street and Menotomy Rocks Park is narrow, only 25 ft wide. Mr. Iannelli described incidents where northbound drivers following the bus place themselves and others at serious risk to get by the bus on this narrow street with heavy traffic flowing the other way.

A better location for a bus stop is 75 yards south of Woodland at Brantwood and Hillsdale. Here the roadway is over 33 ft. wide allowing traffic to pass, and the large majority of the southbound traffic is on the other side of an island. There is sufficient room for the children to congregate and parking for those parents who must drive their children to the bus stop.

The TAC recommendations are as follows:

1. Remove the school bus stop at Woodland Road and Jason Street.
2. Request the children using the Woodland school bus stop to use the Brantwood bus stop and/or the Pleasant View bus stop.

Respectfully submitted,

Edward Starr, Chair

**Transportation Advisory Committee Members:**

Elisabeth Carr-Jones, Jean Clark, Officer Corey Rateau, Jeff Maxtutis, Howard Muise,  
Michael Rademacher, Scott Smith, Edward Starr, and Laura Wiener

**Web site; [www.tac.arlington.ma.us/](http://www.tac.arlington.ma.us/)**

## Report on Jason Street School Bus Stops

Reference: 1) TAC report to Board of Selectman of 29 September 2004  
2) Mr. Iannelli memo to Board of Selectmen of 7/20/2009  
3) Officer Rateau's memo to Board of Selectmen of 8/4/2009

### History

The Transportation Advisory Committee (TAC) was asked by the Board of Selectmen to make recommendations regarding the crosswalk at Norfolk Road on Jason Street in response to a parent's request. The TAC submitted its recommendations to the Board of Selectmen in September 2004 (Ref 1).

At that time, the TAC studied the crosswalk and found unsafe conditions at that location due to sight line distances and traffic speed. The sight line from the west end of the crosswalk to an auto traveling south around the curve is a distance of 115 ft or so. AASHTO guidelines require a stopping sight distance of 115 ft at 20 mph and 150 ft at 25 mph. The measured southbound speeds on Jason (26 mph mean and 30 mph 85<sup>th</sup> percentile) indicate that a sight line of over 150 ft would be required for safety. Hence the crosswalk was unsafe. It was also recommended to move the bus stop, since students might continue to cross at that unsafe location irrespective of whether or not a crosswalk existed.

Mr. Iannelli, the Director of Transportation for Arlington's Public Schools, in his memo of 7/20/2009 (ref. 2) indicates that the bus stop at Woodland and Jason has difficulties and recommends returning the school bus stop to Norfolk and Jason. He cites the following issues with the Woodland bus stop: 1) four bus stops exist in a very short distance; 2) driver road rage on the narrow street in frustration with following the school bus; 3) inadequate parking space for parents driving their children to the bus stop on Woodland and the need for children to cross Jason to get to the bus stop in heavy traffic; and 4) families north of Gray Street have further to walk.

Mr. Iannelli was also properly disappointed that he was not involved in the decision to change the bus stop in 2004. Lt. McHugh, then Director of the Traffic Division of the Police Department and a member of the TAC, participated in this study. The Traffic Division, as we understood, was responsible for working with the schools on bus routes. This was the first project that the TAC studied that involved the schools, and we did not know of the School Traffic Division. The Chair has personally apologized to Mr. Iannelli for this omission and he as gracefully accepted our apology.

**Pertinent Information and Measured Data****a. Current Bus Stops:** (see appendix A for bus schedule provided by Mr. Iannelli)

A map with local bus stops is on the following page. There are four bus stops on the Blue Route leading to Jason Street that are within a very short distance of each other: Hillsdale at Brunswick (7:57 AM), Hillsdale at Pleasant View (7:58 AM), Hillsdale/Jason at Brantwood (8:00 AM), and Jason at Woodland (8:05 AM). There are other bus stops that service this general area: Blue Route – several stops along Pleasant Street (Oak Knoll – 7:51, Irving St – 7:52, Kensington Park – 7:53) and Red Route (Gray at Valley – 7:33, Jason at Irving – 7:35).

Depending upon the elementary school population, the number of students using each stop varies from year to year. Both Brantwood and Woodland are very active now; Brunswick and Pleasant View are lightly used.

**b. Area Information**

Jason Street is narrow (25 ft.) with no parking on either side from Gray Street to Menotomy Rocks Park. Jason and Hillsdale meet at a Y, and Brantwood intersects at the Y. The roadway widths change somewhat at the island in the Y (Hillsdale – 33 1/2 ft wide to the island, Jason – 32 1/2 ft wide to the opposite side of the island).

Hillsdale is 35 ft wide between the Y and Pleasant View, and the intersection at Pleasant View at Hillsdale is very broad. Jason narrows again as it goes farther south from the Y towards Spring Street. See photos and map.

Norfolk (23 ft.) and Woodside (24 ft.) are also narrow, and turns from either onto Jason (25 ft) are tight because of the sharpness of the corners and the narrowness of the streets.

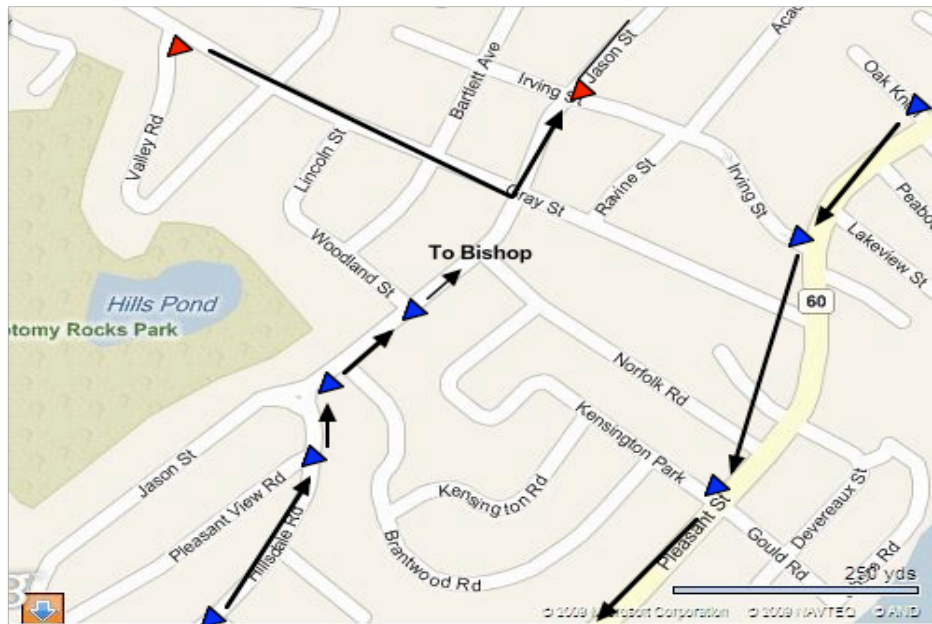
**c. Traffic Data**

Traffic measurements have been taken by APD in early May 2002 and early December 2008 on the stretch of Jason Street between Menotomy Rocks Park and Norfolk. These data are summarized and compared in Table 1.

The most important data for the purpose of this study is between 7:45 and 8:15 AM, as shown at the bottom of Table 1. Southbound traffic is mostly heading towards Route 2 in the morning and northbound is moving towards Arlington Center. In the 30 minutes of interest, using the 2008 data, a vehicle travels south on average about every 12 seconds, and northbound about every 38 seconds. This is a very busy period of the day. Average velocity for the traffic is 25 mph.

From observation, the majority of the southbound traffic during this period heads up Jason towards Spring Street, with a lesser amount heading on Hillsdale towards Brunswick.

An interesting aside is that the total daily volumes are about 30% lower in 2008 than in 2002, and that the speeds are also slightly slower. This difference could be caused by the difference in traffic patterns between early May and early December, or it could be a real decrease. It would be interesting to repeat the measurement next May to find out.



**Approximate location of current School Bus Stops in the Area. Blue diamonds represent part of the Blue Route in the area, red diamonds the Red Route.**



Photo 1 Looking north along Jason Street from crosswalk at Menotomy Rocks Park

Photo 2 Looking up Woodland from Jason

Photo 3 View of Norfolk from Jason

Photo 4 Looking south on Jason towards Y with Hillsdale



**Jason Traffic Measurements**

Two measurement Sets:

Set 1: On Jason between Brantwood and Norfolk  
from 5/14/02 to 5/17/02 (Tue - Fri)

Set 2: On Jason at Woodland from 12/3/08 to 12/8/08 (Wed to Mon)

All numbers below are the averages over the weekdays measured

Northbound Data	2002	2008	
7 to 8 AM	81	69	
8 to 9 AM	67	64	
2 to 3 PM		69	
Daily Total	1672	1209	
Southbound Data			
7 to 8 AM	291	215	
8 to 9 AM	334	318	
2 to 3 PM		94	
Daily Total	2006	1535	
Both Directions			
7 to 8 AM	372	284	
8 to 9 AM	401	382	
2 to 3 PM		163	
Daily Total	3678	2744	Note 30% reduction

<b>Speed</b>	<b>2002</b>	<b>2008</b>	
50th percentile	27 mph	25 mph	
85th percentile	33 mph	29 mph	
<b>Around Morning Bus times</b>	<b>2002</b>	<b>2008</b>	
<b>Northbound</b>			
7:45 to 8 AM	41	28	
8:00 to 8:15	29	19	
<b>SUM</b>	<b>70</b>	<b>47</b>	<b>in 1/2 hour</b>
<b>Southbound</b>			
7:45 to 8 AM	81	68	
8:00 to 8:15	105	83	
<b>SUM</b>	<b>186</b>	<b>151</b>	<b>in 1/2 hour</b>
<b>Both Directions</b>			
7:45 to 8 AM	122	96	
8:00 to 8:15	134	102	

## Discussions with Rick Iannelli

The Chair met with Mr. Iannelli in his office and at the site on 7/29. The Chair apologized for the lack of communication in 2004 and they discussed several potential solutions. The Chair explained why the Norfolk location is unsafe because of sight line issues. Mr. Iannelli explained how the bus driver purposely blocks traffic during loading at Woodland (or at Norfolk) until the children have boarded, and otherwise tries to accommodate passing traffic. Of course, the children gather many minutes before the bus arrives.

One of the parental issues at the Woodland bus stop is the difficulty in parking on Woodland. The Chair was surprised that parents drove their children to the bus stop, and asked why. Some parents choose a farther bus stop because it picks up later and provides them more time in the morning. For example, the Jason/Irving stop picks up at 7:35 AM and the Woodland stop picks up at 8:05 AM, a 30 minute difference. Woodland popularity may be partially because it is the latest one and the bus then goes directly to the Bishop School.

They discussed the impact on students if the Woodland bus stop were dropped and the students were asked to board at Brantwood. The distance between them is only about 75 yards, a couple minutes walk to gain many safety advantages. A potential problem mentioned was parent response to the change since they are now paying to have their children use the bus. Another issue was the extra distance. For those further down Norfolk, a bus stop on Pleasant Street might be more convenient.

The discussion ended with agreement that the Brantwood location had many safety advantages and should be considered as the last stop for this bus route.

## Safety Considerations

### a. Safety at Jason Street between Gray Street and Menotomy Rocks Park

Jason Street is narrow (25 ft) along this stretch. A bus essentially blocks the traffic in the direction it is moving (north). With heavy AM traffic southbound (a vehicle every 12 second on the average), a northbound vehicle in this stretch is mostly trapped to follow the bus. Opportunities to pass are rare. This has led to the driver behavior described in Mr. Iannelli's 7/20 memo, quoted below.

*"Those who understand morning traffic issues can sympathize with any vehicle following this bus route and the frustration it causes. As a result, these vehicle will try and pass this bus at any opportunity on this narrow route, even passing through the flashing stoplights or traveling over the curbing if necessary. Many of these instances are witnessed daily by parents and students while waiting at the stop."*

(Underline added)



This is clearly an unsafe situation. It will be the same for a bus stop at Norfolk just as it is at Woodland because of the narrow roadway and density of traffic.

The southbound traffic volume during the AM period also makes it difficult for pedestrians to cross Jason at Woodland, and more dangerous at Norfolk because of the limited sight line. Children that live west of Jason need to cross Jason or go to the Gray/Valley bus stop. Those dropped off by their parents at Woodland to catch the latest bus also need to cross Jason Street.

The TAC recommends that, for the safety of children and drivers, there should not be a school bus stop anywhere on the narrow section of Jason Street from Gray Street up to Menotomy Rocks Park.

#### **b. Safety at Brantwood Road at Hillsdale Road and Hillsdale Road at Pleasant View Road School Bus Stops**

The roadway is much wider at each of these bus stops. At Brantwood, there is 33 ½ ft to the island, allowing northbound traffic to pass a stopped bus (legally if the flag is not displayed). The high volume southbound Jason Street traffic passes on the other side of the island, harboring the bus stop on the less traveled Hillsdale. As the bus moves along the narrower part of Jason, it does not need to stop, reducing conflicts and driver frustration.

The crosswalk at the Menotomy Rocks Park is visible from all directions, has a bollard, and is heavily used. It is a much safer crossing area for children coming from the west.

Pedestrian waiting space is larger and pleasant at both Brantwood and Pleasant View bus stops. These two bus stops are separated by 90 yards with a usable sidewalk between them. Two lines of children could comfortably go 50 feet in each direction. If the number of children gathered makes it uncomfortable, the close by Pleasant View bus stop could be used. See photos. Parking is available on Hillsdale and Brantwood, and children do not need to cross the street.

Significant safety improvements would be realized if the Woodland school bus stop were dropped and consolidated with the stop at Brantwood. This option reduces several conflicts between drivers, the bus, and pedestrians. There is room for passing where the bus needs to stop, and it is moving through the narrow stretch. Fewer pedestrians need to cross Jason's heavy morning traffic. Parents can find more parking and sidewalk space for their children.

### **Specific Recommendations for Safety Improvements**

1. Remove the school bus stop at Woodland Road and Jason Street but retain the crosswalk.
2. Request the using the Woodland school bus stop to use the Brantwood bus stop and/or the Pleasant View bus stop.

Given the significant motorist-pedestrian visibility issues on Jason Street at Norfolk Road, we cannot recommend a bus stop at this location. However, should a bus stop be established here, it is recommended that a) arriving children not cross Jason street until the bus has arrived, its red lights are flashing, and all traffic has been stopped, b) that a School Bus Stop Ahead sign be placed on Jason southbound within 50 ft of the intersection with Gray Street, and c) that traffic enforcement be significantly increased on this stretch of Jason Street during the period the school bus is operating.



Photo 5: View of Brantwood at Jason taken from entrance to Menotomy Park. School bus stop is under the tree on the southeast corner of Brantwood and Hillsdale

Photo 6: View of Brantwood at Jason taken from the south side of the intersection. Hillsdale is on the right



Photo 7: View “south” on Hillsdale toward Pleasant View school bus stop

Photo 8: View “north” towards Jason intersection from Pleasant View school bus stop

**To:** Board of Selectmen, Arlington, Mass  
**From:** Edward Starr  
**Subject:** School Bus Stops on Jason Street  
**Date:** 18 September 2009

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As requested by the Board on 14 September, Richard Iannelli and I met today over a bagel and coffee to discuss relocating the school bus stop at Woodland and Jason Streets.

We jointly agreed on the following recommendations:

1. Relocate the Woodland stop to Norfolk Road and Jason Street when the following conditions are met:
  - a. Arriving children in the morning do not cross Jason Street until the bus has arrived, its red lights are flashing, and all traffic has stopped. Also, all departing children in the afternoon that need to cross Jason Street do so while the traffic is stopped before the bus departs.
  - b. Place a "School Bus Stop Ahead" sign on Jason Street southbound within 50 feet of the intersection with Gray Street.
  - c. Relocate the "School Bus Stop" sign to the Norfolk stop.
  - d. Retain the crosswalk across Jason Street at Woodland.
  - e. Significantly increase traffic enforcement on this stretch of Jason Street during the period the school bus is operating.

Respectfully submitted,

Edward Starr  
Richard Iannelli