

ARLINGTON TRANSPORTATION ADVISORY COMMITTEE

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Memorandum

To: Board of Selectmen, Arlington, Mass
From: Transportation Advisory Committee
Subject: Cedar/ Waverley Road
Reference: Board of Selectmen Letter: 6 July 2004
Date: 8 November 2004

Residents of Cedar Avenue raised the issue of safety at the intersections of Cedar Avenue/Waverley Street and Cedar/Renfrew. In addition, we examined the intersection of Renfrew/Hillside. At its meeting on 10/26/04, the TAC voted unanimously on the following recommendations. An attached report prepared by Jeff Maxtutis provides technical information and justification for these recommendations.

1. Cedar Avenue/Waverley/Park Avenue

- a. Remove existing STOP sign on Cedar Avenue (west) approach to Waverley Street. Install new STOP sign and pole at the corner Park Avenue and Cedar Street (west). Paint new STOP line across approach. Trim branches of tree of #361 Park Avenue that fall within town right-of-way and obscure visibility.
- b. Install new STOP sign on post near Utility Pole # 88/25 on the northwest corner of Waverley Street and Cedar Avenue (facing Waverley southbound). Paint new STOP line across approach.
- c. Paint new crosswalk at the intersection of Park Avenue/Cedar Avenue (west)/Waverley Street between the handicap ramps.
- d. Work with DPW to identify, test, and evaluate alternate geometric configurations that will reduce the expansive pavement width at this intersection.

2. Cedar Avenue/Renfrew Street

- a. Install a new STOP sign for the Renfrew Avenue approach on the northwest corner of Renfrew Street and Cedar Avenue.
- b. Replace faded One-Way sign on Cedar Avenue.

3. Renfrew Street/Hillside Avenue

- a. Install a new STOP sign on the two Renfrew Street approaches to Hillside Avenue.

Sincerely,

Edward Starr
Chair – Transportation Advisory Committee

Transportation Advisory Committee Members:
Elisabeth Carr-Jones, Ralph Elwell, Jeff Maxtutis, Lt. James McHugh, Kevin O'Brien, Michael Rademacher, John Sanchez, Scott Smith, Edward Starr.

Summary

Recommendations at Cedar Avenue/Waverley Street/Park Avenue, Cedar Avenue/Renfrew Street, and Renfrew Street/Hillside Avenue

Cedar Avenue/Waverley Street/Park Avenue

This location consists of two very closely spaced unsignalized intersections with unconventional geometrics resulting in multiple conflicting vehicle movements. This situation results in a wide expanse of pavement where vehicle right-of-way is not apparent. A total of 9 accidents have been reported at this intersection between 1990 and 2001, with an additional two accidents occurring in 2004.

Recommendations

- Remove existing stop sign on Cedar Avenue (west) approach to Waverley Street. Install new STOP sign and pole at the corner Park Avenue and Cedar Street (west). Paint new STOP line across approach. Trim branches of tree of #361 Park Avenue that fall within town right-of-way and obscure visibility.
- Install new STOP sign on post near Utility Pole # 88/25 on the northwest corner of Waverley Street and Cedar Avenue (facing Waverley southbound). Paint new STOP line across approach.
- Paint new crosswalk at the intersection of Park Avenue/Cedar Avenue (west)/Waverley Street between the handicap ramps.
- Work with DPW to identify, test, and evaluate alternate geometric configurations that will reduce the expansive pavement width at this intersection.

Cedar Avenue/Renfrew Street

Cedar Avenue and Renfrew Street intersect as an unsignalized T-intersection with Renfrew Street forming the minor leg of the intersection. There is no traffic control at the intersection. The sight line for southbound Renfrew Street motorists is restricted. No accidents have been reported at this intersection between 1990 and 2001. Most of the vehicles observed traveling southbound on the Renfrew Street approach do not stop at the intersection with Cedar Avenue.

Recommendations

- Install a new STOP sign for the Renfrew Avenue approach on the northwest corner of Renfrew Street and Cedar Avenue.
- Replace faded One-Way sign on Cedar Avenue.

Renfrew Street/Hillside Avenue

Renfrew Street and Hillside Avenue intersect as an unsignalized four-way intersection with Renfrew Street forming the minor legs of the intersection. There is no traffic control at the intersection. Hillside Avenue is the major road and is designated having the right-of-way with other adjacent local streets such as Waverley and George Streets, which are STOP controlled. A total of 6 accidents have been reported between 1990 and 2001 at this intersection. In addition, a two-car collision was reported at this location on June 7, 2004.

Recommendations

It is recommended that new STOP signs be installed on the two Renfrew Street approaches to Hillside Avenue. This measure will reinforce that Hillside Avenue motorists have the right-of-way and motorists on the Renfrew Street approaches must stop. This control is consistent with STOP signs on other adjacent minor street approaches along Hillside Avenue such as Waverley Street and George Street.



Cedar Avenue Eastbound



Waverley Street Southbound



Cedar Avenue Eastbound



Renfrew Street Southbound

1. Introduction

This Memorandum summarizes evaluation of traffic conditions and recommendations at the three study intersections listed above. A site visit was held on Saturday, October 2, 2004 at 9:00 AM with local residents and Transportation Advisory Committee members Jeff Maxtutis and Elisabeth Carr-Jones. Each intersection is discussed separately below.

2. Cedar Avenue/Waverley Street/Park Avenue

Current Conditions

- This location consists of two very closely spaced unsignalized intersections with unconventional geometrics resulting in multiple conflicting vehicle movements. This situation results in a wide expanse of pavement where vehicle right-of-way is not apparent.
- Both the Cedar Avenue and Waverley Street STOP signs are confusing and poorly located. It is unclear whether Waverley Street is STOP controlled at Cedar Street or at Park Avenue. The STOP sign on Cedar Avenue is set too far back from Waverley Street. Motorists universally ignore this STOP sign and conflict with Waverley Street motorists traveling southeast toward Park Avenue. Sight distance is poor for southeast-bound Waverley Street motorists.
- A total of 9 intersections have been reported at this intersection between 1990 and 2001, with an additional two accidents occurring in 2004.
- Traffic volumes at the intersection of Cedar Avenue and Waverley Street are low (under 20 vehicles in the AM peak hour). Approximately 25 pedestrians were observed crossing across this intersection during the AM peak hour.
- The small traffic circle at the throat of Park Avenue and Waverley Street is too small to effectively separate traffic to/from Park and Waverley. As a result, northbound motorists on Park Avenue often make illegal left turns on the wrong side of the traffic circle.
- Pedestrians on Park Avenue crossing Cedar-Waverley must walk across approximately 110 feet of uninterrupted pavement with no refuge. The lack of pedestrian safety at this location is exacerbated by vehicle conflicts at Waverley-Cedar.

Engineering Guidance

The *Manual on Uniform Traffic Control Devices* (MUTCD) indicates that Stop control is used to identify right-of-way on intersecting streets where it is unclear.

Conclusions

The right-of-way for motorists at the intersection of Cedar Avenue and Waverley Street is unclear. This results in motorist confusion and unsafe operations. Pedestrian crossings at this location are an issue due to lack of pedestrian protection, pavement markings, and potential conflicts with motorists.

Recommendations

It is recommended that the Stop control at the intersection of Cedar Avenue and Waverley Street be changed so that the existing ineffective Stop sign on Cedar Avenue is removed and a new Stop sign be placed on the Waverley Street approach to Cedar Avenue. The following specific measures are recommended:

- Remove existing stop sign on Cedar Avenue (west) approach to Waverley Street. Install new STOP sign and pole at the corner Park Avenue and Cedar Street (west). Paint new STOP line across approach. Trim branches of tree of #361 Park Avenue that fall within town right-of-way and obscure visibility.
- Install new STOP sign on pole near Utility Pole # 88/25 on the northwest corner of Waverley Street and Cedar Avenue (facing Waverley southbound). Paint new STOP line across approach.
- Install new crosswalk at the intersection of Park Avenue/Cedar Avenue (west)/Waverley Street between the handicap ramps.
- Work with DPW to identify, test, and evaluate alternate geometric configurations that will reduce the expansive pavement width at this intersection by providing landscaped islands/channelization. These measures will 1) reduce the unprotected 110-foot pedestrian crossing distance, 2) eliminate multiple conflicting vehicle movements, and 3) be designed to act as a landscaped gateway location into the town for motorists approaching from Belmont and Route 2.

3. Cedar Avenue/Renfrew Street

Current Conditions

- Cedar Avenue and Renfrew Street intersect as an unsignalized T-intersection with Renfrew Street forming the minor leg of the intersection.
- There is no traffic control at the intersection. A faded ONE-WAY sign on Cedar Street points east and faces the Renfrew Street approach. The southbound Renfrew Street approach is restricted.
- Very low traffic volume (12 vehicles) was recorded at this intersection during the AM peak hour. Only one pedestrian was observed during the count. No accidents have been reported at this intersection between 1990 and 2001.
- Although it is evident that motorists on the eastbound Cedar Avenue approach have the right-of-way at this intersection, most of the vehicles observed traveling southbound on the Renfrew Street approach did not stop at the intersection with Cedar Avenue. Vehicles travel on the wrong side of the road on the Renfrew Street and Cedar Avenue approaches to the intersection.

Engineering Guidance

The *Manual on Uniform Traffic Control Devices* (MUTCD) indicates that Stop control is used to identify right-of-way on intersecting streets where it is unclear.

Conclusions

Although Cedar Avenue motorists have the right-of-way at this unsignalized T-intersection, most motorists on the Renfrew Street approach do not stop at the intersection. The sight line for these motorists is restricted due to trees. While no collisions have been reported between 1990 and 2001, residents have indicated near misses.

Recommendations

The use of STOP signs on minor street approaches at unsignalized intersections is inconsistent throughout the town. While a STOP sign itself may not force motorists to stop, it may alert motorists that Cedar Avenue has the right-of-way and raise awareness for motorists on the Renfrew Street approach. The following measures are recommended:

- Install a new STOP sign for the Renfrew Avenue approach on the existing street sign pole on the northwest corner of Renfrew Street and Cedar Avenue.
- Replace faded One-Way sign on Cedar Avenue.

4. Renfrew Street/Hillside Avenue

Current Conditions

- Renfrew Street and Hillside Avenue intersect as an unsignalized four-way intersection with Renfrew Street forming the minor legs of the intersection.
- There is no traffic control at the intersection. Hillside Avenue is the major road and is designated having the right-of-way with other adjacent local streets such as Waverley and George Streets, which are STOP controlled. There are clear sight lines at all intersection approaches.
- Incidents have been observed where motorists on the Renfrew Street approach have not stopped before entering or crossing Hillside Avenue. A total of 6 accidents have been reported between 1990 and 2001 at this intersection. In addition, a two-car collision was reported at this location on June 7, 2004

Engineering Guidance

The *Manual on Uniform Traffic Control Devices* (MUTCD) indicates that Stop control is used to identify right-of-way on intersecting streets where it is unclear.

Conclusions

The right-of-way for motorists at the intersection of Renfrew Street and Hillside Avenue is unclear. This has resulted in several recent accidents and additional near misses.

Recommendations

It is recommended that new STOP signs be installed on the two Renfrew Street approaches to Hillside Avenue. This measure will reinforce that Hillside Avenue motorists have the right-of-way and motorists on the Renfrew Street approaches must stop. This control is consistent with STOP signs on other adjacent minor street approaches along Hillside Avenue such as Waverley Street and George Street.