

Dear Pelham Resident:

On Tuesday, September 23rd^{at} 8 P.M. at the Richard J. Daranco Townhouse, the Town of Pelham, the Board of Education, the Village of Pelham and the Village of Pelham Manor will jointly sponsor the first of several town-wide forums to receive public comment on safety and traffic issues arising from the retail development on Sandford Boulevard in Mt. Vernon. This initial forum will focus on the most pressing safety issue: pedestrian safety in the Pelham Memorial High School/Town Library/Glover Field area. A subsequent meeting (or meetings) will address traffic issues generally and pedestrian safety in other areas in the Town of Pelham.

The accompanying report by Steven L. Grogg, P.E. of TRC Raymond Keyes Associates was commissioned by the Boards to analyze the existing conditions in the immediate area and offer specific alternatives to enhance pedestrian safety. We recommend you review it before the meeting.

We envision a meeting of approximately 90 minutes. The format will consist of a brief introduction, a presentation by Mr. Grogg and a public comment period for Pelham residents of about an hour, which will be extended if necessary. Each commenter would have a maximum of two minutes to make statements or ask questions about pedestrian safety in the school/fields area.

We know that there are many important safety and traffic issues relating to the Sandford Boulevard project but, in order to have an orderly and productive session, we request that participants focus on pedestrian safety in the Pelham Memorial High School/Town Library/Glover Field area. Other safety and traffic issues will be addressed in a subsequent meeting or meetings. By way of background, this meeting is not technically a “public meeting” of any of the Boards but rather an organized forum designed to inform the community and gather public input for the Boards.

While there has been a continuous dialog with individuals and groups in the community, both formally at Village, Town and BOE meetings and informally with individual board members, this will be the first town-wide meeting on the Sandford Boulevard project in nearly two years. Given the immediacy of the project and the serious safety issues at stake we hope to have broad participation by the Pelham community.

Sincerely,

Board of Supervisors-Town of Pelham
Board of Education- Pelham Union Free School District
Board of Trustees- Village of Pelham
Board of Trustees –Village of Pelham Manor

TECHNICAL MEMORANDUM

**PEDESTRIAN SAFETY REVIEW
PELHAM HIGH SCHOOL TO GLOVER FIELD**

Prepared for

**Town of Pelham
Village of Pelham
Village of Pelham Manor
Pelham Union Free School District**

Prepared by

**TRC RAYMOND KEYES ASSOCIATES
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September 18, 2003

Project No. 40923

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A. Scope of Report

TRC Raymond Keyes Associates (TRC) has prepared this Technical Memorandum to address pedestrian safety along the sidewalks between the Pelham Memorial High School and Glover Field. The specific concern is for school students that walk to and from Glover Field for sports practices, games, etc. TRC was advised that this occurs mostly during the afternoon, as the activities at the field are after-school activities. It is important to note that this memorandum does not address vehicular traffic concerns related to the traffic that is expected to be generated by the retail development on Sandford Boulevard, or any pedestrian safety concerns outside the immediate area that students are expected to traverse when walking between the High School and Glover Field. These matters will be addressed in subsequent reports.

This Technical Memorandum includes a summary of the existing conditions, a discussion of standards for sidewalks and pedestrian facilities, examples of implementation in other communities and recommendations for methods to improve pedestrian awareness for motorists and increasing the safety of the pedestrians.

B. Summary of Recommendations

Below is a summary of the alternative safety measures that should be evaluated for implementation by the appropriate school and municipal authorities in Pelham (the Pelham Boards). Further information and discussion of the recommendations is included in Section C and D. These recommendations are limited to the specific issue TRC was asked to analyze and address. We understand that the Pelham Boards intend to address other issues in the future as pedestrian and traffic patterns develop further.

- Implementation of a 15 MPH School speed zone on Colonial Avenue at the High School. This should include installation of flashing speed restriction signs
- Installation of pedestrian crossing warning signs on Colonial Avenue and Corlies Avenue near the High School
- An additional crossing guard or police officer at Wolfs Lane and Colonial Avenue Intersection during times of student crossing
- Modification of the traffic signal at Wolfs Lane and Colonial Avenue Intersection to provide “NO TURN ON RED” signs for northbound Wolfs Lane
- Implement a program to clean on a regular basis the sidewalk under the Hutchinson River Parkway Bridge plus work with the New York State Department of Transportation (NYSDOT) to install a netting or similar system under the bridge to discourage birds from sitting and nesting over the sidewalk.

- Installing a buffer zone along the sidewalk under the Hutchinson River Parkway on the south side of Colonial Avenue
- Improvements at the intersections of the Sandford Boulevard and the Hutchinson River Parkway Southbound Ramps and the entrance to Glover Field.
 - Installing a call button for pedestrians crossing the Hutchinson River Parkway southbound exit and entrance ramps
 - Repainting the crosswalk for pedestrians crossing the Parkway exit and entrance ramps
 - Requesting that “NO TURN ON RED” signs be permitted on the Parkway Exit ramp (onto Sandford Boulevard heading east).
 - Installing a fence, or other barrier, to prevent pedestrians walking from the Parkway crosswalk directly to the Glover field access ramp and road
 - Request that “NO TURN ON RED” sign be permitted Sandford Boulevard eastbound prior to the Parkway ramp and entrance to Glover Field. This should include installation of appropriate signs and stop lines to effectuate this measure.
- Install “NO PEDESTRIANS” signs on both sides of the Glover Field access bridge and road.
- Install a painted pedestrian crosswalk running parallel to the Hutch River in the Glover parking lot to encourage use of the access bridge from the parking lot to “Richie Bell Field”
- Install a mid-block pedestrian crosswalk at Stellar Avenue and Colonial Avenue to include the following additional measures
 - Bump Outs or eliminate parking on the north side of Colonial Avenue
 - Narrowing Stellar Avenue
 - Widening Sidewalks on Stellar
 - An additional crossing guard at the new crosswalk
 - Other necessary improvements
- TRC supports the decision to closing Carol Place at Colonial Avenue and connect the existing sidewalks.

C. Relevant Background Information

Existing Sidewalks

The following is a summary of the existing sidewalks between the High School and Glover Field:

- North side of Colonial Avenue from the High School to Wolfs Lane (Figure 1)

Sidewalk Width- 4 feet

Grass Strip Width- 2 feet



Figure 1

- South side of Colonial Avenue from Stellar Lane to Wolfs Lane (Figure 2)

Sidewalk Width- 4 feet

Grass Strip Width- 2 to 3 feet



Figure 2

- South side of Colonial Avenue from the Wolfs Lane to Carol Place (Figure 3). (Note- Carol Place will be closed and the sidewalks connected)

Sidewalk Width- 5 feet

Grass Strip Width- 2 to 3 feet

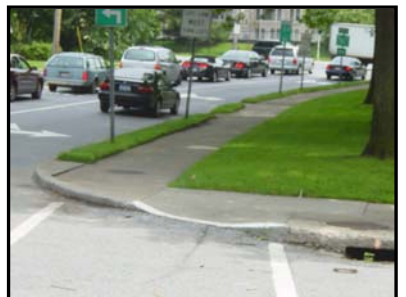


Figure 3

- South side of Colonial Avenue under Hutchinson River Parkway Bridge (Figure 4)

Sidewalk Width- 7 feet 9 inches



Figure 4

- South side of Sanford Boulevard over Hutchinson River (Figure 5)

Sidewalk Width- 7 feet 8 inches

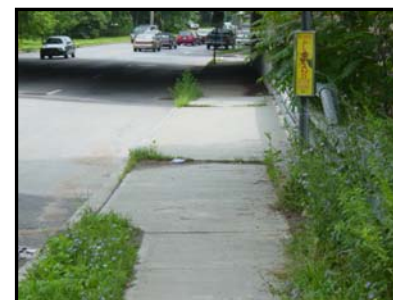


Figure 5

- South Side of Sanford Boulevard Avenue from the Hutchison River Bridge to the Hutchinson River Parkway Ramp (Figure 6)

Sidewalk Width- 4 feet

Grass Strip Width- 6 feet



Figure 6

The sidewalk on the north side of Colonial Avenue and Sanford Boulevard, west of Colonial Avenue is approximately 5 feet wide. Under the Hutchinson River Parkway Bridge the sidewalk is 7 feet 9 inches wide. Beyond the Hutchinson River Bridge a 4 feet wide sidewalk continues along the north side of Sanford Avenue. There is no crosswalk to allow pedestrians to get to the sidewalk on the south side of Sanford Avenue.

Existing Crosswalks

Students can cross Colonial Avenue at the following two locations:

- Corlies Avenue and Colonial Avenue - TRC was advised that a school crossing guard is at this crosswalk in the morning and after school. This crosswalk is east of the school and is not used by students walking to Glover Field.
- Colonial Avenue at Wolfs Lane - The signalized intersection allows pedestrian crossing on the eastern and southern side of the intersection. Other pedestrian crossings are prohibited. Pedestrian buttons are provided at the intersection that actuates a pedestrian phase for the intersection. TRC experienced wait times after pushing the button until the “WALK” indication from 10 seconds to one minute and 30 seconds. The “WALK” designation remained for approximately 10 seconds, which is sufficient time to cross one leg of the intersection.

The sidewalk on the south side of Colonial Avenue crosses the side streets at Stellar Lane and Carol Place. Both streets are one-way with Stellar Lane being northbound and Carol Place southbound. Striped crosswalks are located at both intersections. TRC supports the decision to close Carol Place and eliminate the crosswalk.

There is a cross walk at the end of the Hutchinson River Parkway Southbound Ramp. This signalized intersection does not have pedestrian buttons. The “WALK” cycle occurs every 55 to 60 seconds. The walk remains for approximately 10 seconds. The pedestrian signals do not have “DON’T WALK” indications to warn the end of the cycle. The crosswalk at the intersection is poorly marked (Figure 7). Also, TRC was advised that pedestrians walk diagonally across the ramp terminus to enter the park, which creates unsafe conditions (Figure 8)



Figure 7



Figure 8

Once entering the Glover Field parking lot there is not a defined pathway to direct pedestrians to the field entrance at the southern end of the parking lot. Pedestrians often cross on the vehicular bridge that does not have any sidewalk and has limited sight distance.

D. Analysis and Recommendations

Sidewalks

Except for the area under the Hutchinson River Parkway Bridge and the bridge over the River, all the sidewalks between the school and Glover Field have a grass buffer strip between the pavement and the sidewalk. As noted above, the width of the buffer zone varies from 2 to 6 feet.

Sidewalk widths of 5 feet are required to be ADA compliant. Per the ADA guidelines, sidewalks less than 5 feet wide must be provided with a 5 feet by 5 feet passing area every 200 feet. Some of the existing sidewalks along Colonial Avenue are only 4 feet wide. Increase in the existing 4 feet wide walks will not provide any significant increased pedestrian safety. TRC does recommends that if existing sidewalks are replaced in the future, the width should be increased to 5 feet wide if adequate right of way is available. Any increase in the sidewalk width should not decrease the grass buffer.

In urban, developed, areas the width of buffer zones to separate vehicles from pedestrians is often controlled by the available right of way width. The Institute of Transportation Engineers (ITE) suggests a width of 4 to 6 feet for the buffer zone. Parked cars also provide an additional buffer zone (such as on the north side of Colonial Avenue). It is important that the sidewalks be maintained to avoid overgrowth of shrubbery adjacent to the walk, trimming of low branches and to keep the grass from reducing the effective width of the walk. Based on TRC's observations, except for maintenance of the walk, no additional increase in the existing buffer zones along Colonial Avenue is recommended.

The sidewalk area from Carol Place to the west side of the Hutchinson River does not have a buffer zone. The existing sidewalk will allow maintaining a 5 feet wide sidewalk and having approximately 2 feet 6 inches of area to provide a buffer zone. Under the bridge, a significant problem is the trash, dirt and bird droppings that accumulate along the wall (see Figure 4). This reduces the effective width of the sidewalk and forces pedestrians closer to the road. TRC recommends that a program to regularly clean this sidewalk should be implemented along with working with the New York State Department of Transportation (NYSDOT) to determine if netting or another system could be placed under the bridge to discourage birds from sitting and nesting over the sidewalk.

TRC investigated alternatives for providing a buffer zone, pedestrian barriers and pedestrian railings along this section of sidewalk. A summary of each, along with the advantages and disadvantages, are as follows:

1. Buffer Zone

It is not practical to provide a grass strip under the bridge, however, a buffer zone consisting of an alternate pavement material, such as brick or textured concrete, could be installed. It appears that the concrete sidewalk on the bridge over the river may be constructed as a monolithic slab with the bridge. This would require more extensive construction to install the buffer strip on the bridge. The buffer zone has the advantage of delineating the five feet wide concrete walk and encouraging pedestrians to walk away from the road; however, it would not prohibit pedestrians from walking adjacent to the road.

2. Vehicular Barrier

Vehicular barriers would protect pedestrians who are using the adjacent sidewalks from the risks posed by errant vehicles. A barrier that is not structurally adequate may be less desirable for the area it was intended to protect than having no barrier at all. Since the sidewalk will be immediately adjacent to the sidewalk, it is necessary to have a barrier that has a zero deflection. A guide rail is designed to deflect 1-4 feet when impacted by a vehicle. The amount of deflection will depend on the vehicle speed and angle of impact. A guiderail system must have properly designed end treatments to protect direct vehicle impact. A concrete barrier can provide a zero deflection. The advantage of the concrete barrier is that it will protect pedestrians from an errant vehicle. The disadvantages include (1) creates problems with snow removal; (2) the sidewalk area behind the barrier will be more susceptible to accumulating trash; (3) a concrete barrier is not visually attractive (NYSDOT stated that an ornate rail has been added to the top to improve the appearance); and (4) if a car stops or breaks down adjacent to the barrier it does not allow someone to exit from the right side of the car.

3. Pedestrian Railing

Fences or similar devices are used to channel pedestrians to safe crossing locations. Examples of the use of such devices can be found in New York City, White Plains and New Rochelle. At Iona College in New Rochelle, ornate bollards (six feet on center) with 1-1/2 inch rails between the bollards are being installed along North Avenue to channel pedestrians to a crosswalk (Figure 9) The reconstruction on North Avenue also includes a two-foot wide brick border (buffer strip) adjacent to the road.

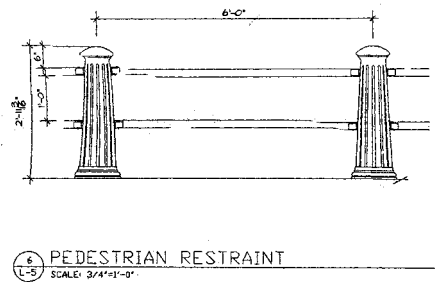


Figure 9

In White Plains, a metal rail has been used near the Westchester Mall and at the train station (Figure 10 and 11). White Plains officials indicated the pedestrian rail near the Westchester Mall (Figure 11) had been hit by vehicles and they subsequently have installed a guiderail in front of the rail to minimize the damage. A pedestrian rail under the Parkway Bridge should be installed 2 feet 3 inches from the face of curb to minimize the potential damage from cars and trucks. This will allow maintaining a 5 feet wide sidewalk behind the rail. A pedestrian rail will make it difficult for pedestrians to walk from the sidewalk into the road, but it is not designed to protect pedestrians from an errant vehicle. The pedestrian rail should be designed to discourage climbing, such a metal rail with a non-climb vinyl coated chain link fence.



Figure 10



Figure 11

It is TRC's opinion that providing a buffer zone in this area would alert pedestrians to stay in the sidewalk, away from the curb. The cleaning and elimination of the debris and bird dropping condition under the bridge is crucial to making this effective. A barrier does not appear to be necessary to assure pedestrian safety. Considering the disadvantages of the various types of barriers, TRC does not recommend a barrier.

Crosswalks

A pedestrian crossing at a signalized intersection with adequately designed pedestrian phases is the safest means for traversing a heavily traveled road. However, it is recognized that the students that walk from the school to Glover Field may at times not abide by the signal control or cross mid-block during gaps in traffic. Based on our review of the intersections and the roadway, the following are recommendations for possible modifications to the existing intersections and also for providing an additional mid-block pedestrian crossing near the school.

1. Colonial Avenue and Wolfs Lane

The existing signalized intersection allows pedestrians to cross Colonial Avenue and Wolfs Lane under signal control. Due to the signal timing, students can experience delays in crossing both streets and may become impatient and cross against the signal. It is not practical to provide a “WALK” time to allow student to cross both legs of the intersection in one cycle. An exclusive pedestrian phase, stopping all travel lanes, may cause significant delays for vehicles traveling through the intersection. Also, students may begin to try to diagonally cross the intersection, which could create to unsafe crossings.

The crossing at the intersection could be improved by the following:

- Provide a crossing guard or police officer at the intersection during times of student crossing.
- Restrict right turns from northbound Wolfs Lane by providing a “NO TURN ON RED” sign.
- TRC reviewed the alternate for providing an all-way stop condition for the crosswalk. The diagonal crossing distance from the northeast to southwest corner of the intersection is approximately 100 feet. An all way crossing will require that all vehicle movements to be stopped for a minimum of 30 seconds. This could cause substantial delays for vehicles traveling through the intersection. Because of the size of the intersection, if a person is caught in the intersection when the signal turns green, they could panic and cause an unsafe condition. It is TRC’s opinion that an all-way stop is not appropriate at this intersection.

2. Hutchinson River Parkway Southbound Ramps and Sandford Boulevard

The Traffic Report in the Environmental Impact Statement for the Sandford Boulevard Redevelopment Project recommended that the improvements to this intersection include modification to the existing traffic signal “to signalize the exit from Glover Field; to

permit alternate signal timing plans for different times of the day; and to provide pedestrian signals and pushbuttons for crossing the Glover Field driveway and the Parkway ramps”. Sandford Boulevard is a County Road (CR61) and the Hutchinson River Parkway ramps are under the jurisdiction of the NYSDOT. The developer for the Sandford Boulevard project has submitted traffic signal plans for the intersection of Sandford Boulevard and the Hutchinson River Parkway Ramps and the Glover Field driveway. The Village should work with the NYSDOT, the County DPW and the appropriate agency in Mount Vernon to make sure these improvements are properly implemented and include the following components:

- Provide pedestrian call buttons on the crosswalks
- Provide proper pedestrian signals on the crosswalks
- Re-stripe the crosswalks
- Install a fence, guiderail or extend the existing concrete barrier on the west side of the southbound ramp to prohibit pedestrians from walking diagonally across the intersection to go toward Glover Field
- Provide “NO TURN ON RED” signs to protect pedestrians in the crosswalks. This includes the Parkway off ramp turning onto Sandford Blvd. eastbound and on Sandford Boulevard eastbound, turning onto the southbound Parkway on ramp

3. Glover Field

The parking layout of Glover Field should be evaluated to maximize parking and to provide a painted pedestrian crosswalk running parallel to the Hutch River in the Glover parking lot to encourage use of the access bridge from the parking lot to “Richie Bell Field”. To make the entrance more visible additional signing and trimming of vegetation should be provided at the park entrance. “NO PEDESTRIAN” signs should be placed on both ends of the vehicular bridge to prohibit pedestrians.

4. Carol Place

It is TRC’s understanding that the Village of Pelham Manor is considering closing Carol Place at Colonial Avenue and creating a dead end at the library driveway. This would allow extending the sidewalk across the existing road. This would eliminate the crosswalk and eliminate potential conflicts between vehicles and pedestrians.

5. Mid-Block Crossing

Mid-block crosswalks provide locations for pedestrians to cross major streets in areas with infrequent intersection crossings, where pedestrian-generators are located on opposite sides of a roadway, or where the nearest intersection crossing creates substantial out-of direction travel for pedestrians. This eliminates, or at least minimizes, “jaywalking”, which exposes pedestrians to traffic where drivers do not expect them. The ITE states that mid-block pedestrian crossings can: 1) help channel crossing pedestrians to the safest midblock location, 2) provide visual cues to allow approaching motorists to anticipate pedestrian activity and unexpected stopped vehicles and 3) provide pedestrians with reasonable opportunities to cross during heavy traffic periods, when there are natural gaps in the approaching traffic streams.

Jaywalking currently occurs in the area of Stellar Lane in the AM and PM due to parents using Stellar Lane as a drop off point, students parking in the nearby Pelham Manor neighborhoods and students going to Glover Field. The current construction at the school requires pedestrians on the north side of Colonial Avenue to cross the construction entrance and driveway to the temporary parking lot. A mid-block crossing could be installed east of the Colonial Avenue and Stellar Avenue intersection. This would eliminate the jaywalking that occurs near Stellar Lane and provide students traveling from the school to and from Glover Field a location to cross Colonial Avenue that would avoid the construction driveways.

To implement the mid-block crossing, the following improvements should be provided:

- Install pedestrian ramps on the north side of Colonial Avenue at the crosswalk location. The crosswalk should be located opposite the existing curb ramp at the east corner of Stellar Avenue (Figure 12)
- Remove the existing sidewalk ramp at the end of the sidewalk leading from the school (Figure 15)
- Prohibit parking for a distance of 20-30 feet along the north side of Colonial Avenue on the east side of the crosswalk to provide sight distance for pedestrians and vehicles. An alternate to prohibiting parking would be to provide a “bulb out” or curb projection on the north side of Colonial Avenue. However, since this will be the only such curb projection along Colonial Avenue and it may be an obstruction to vehicles traveling westbound. Also since the drainage along the north side of Colonial Avenue flows to the west, an inlet and storm drain may be necessary on the east side of the “bulb out” to avoid ponding of water.
- Relocate the existing pedestrian crossing sign on the south side of Colonial Avenue to the west of Stellar Avenue.
- TRC suggests adding a sign stating “State Law, Yield to Pedestrian in Crosswalk” to all pedestrian crossing symbol signs.
- Install a pedestrian ramp on the east side of Stellar Avenue.

- The existing hedge on the southwest corner of the intersection restricts the vehicle sight distance looking to the east along Colonial Avenue. The sight distance should be analyzed and the Village should consider prohibiting left turns if the condition is found to be unsafe (Figure 13).
- To reduce the length of the crosswalk across Stellar Avenue, the throat of Stellar Avenue at Colonial Avenue can be narrowed to 18 to 20 feet. Moving the east curb to the west would improve the sight distance for vehicles exiting Stellar Avenue.
- Re-stripe the pedestrian crosswalk across Stellar Avenue and move the stop sign and stop bar to behind the crosswalk (Figure 13 and 14)
- Replace the existing pedestrian ramps if determined they are not in compliance with ADA standards
- This additional crosswalk will be near the crosswalk at Corlies Avenue, where a school crossing guard is currently positioned. An additional crossing guard will be required



Figure 12



Figure 13



Figure 14



Figure 15

The New York State Vehicle and Traffic Law provides the following privileges and restrictions for pedestrians in crosswalks:

- When traffic-control signals are not in place or not in operation, the driver of a vehicle shall yield the right of way, slowing down or stopping if need be to so yield, to a pedestrian crossing the roadway within a crosswalk on the roadway upon which the vehicle is traveling, except that any pedestrian crossing a roadway at a point where a pedestrian tunnel or overpass has been provided shall yield the right of way to all vehicles.
- No pedestrian shall suddenly leave a curb or other place of safety and walk or run into the path of a vehicle which is so close that it is impractical for the driver to yield.
- Whenever any vehicle is stopped at a marked crosswalk or at any unmarked crosswalk at an intersection to permit a pedestrian to cross the roadway, the driver of any other vehicle approaching from the rear shall not overtake and pass such stopped vehicle.

Additional Measures

TRC recommends that the following measures should be implements along Colonial Avenue near the High School to increase awareness of the pedestrian crossings and to provide additional safety. These measures should be implemented regardless of the other measures considered by the Pelham Boards.

- Pedestrian warning signs can be placed in the middle of the road along Colonial Avenue and Corlies Avenue (see Figures 16 and 17 for examples). These signs alert oncoming vehicles of the pedestrian crossing. The disadvantage of these signs is that they require maintenance to replace if damaged by vehicles.



Figure 16



Figure 17

- In accordance with the provisions of the New York State Vehicle and Traffic Law, the Village of Pelham has the ability to create a school speed zone on Colonial Avenue. There is currently a 15 MPH zone on Corlies Avenue; however, even though there are several reduced speed signs near the school, the Village does not appear to have enacted the appropriate regulations to implement a reduced speed zone on Colonial Avenue. TRC recommends that a reduced speed zone be implemented and enforced on Colonial Avenue. The NYS Manual on Uniform Traffic Control Devices allows the school zone to be implemented with the installation of flashing speed restriction signs to reduce speeds only during times of student pedestrian travel or signing with time restrictions. Experience has shown that the flashing signs are the most effective for speed control and driver awareness.

E. Conclusion

The recommendations above, and summarized in Section B, should be considered for implementation by the appropriate school and municipal authorities in Pelham. The speed zone and pedestrian crossing warning signs should be implemented as soon as possible. The crossing of pedestrians at a signalized intersection is the safest and easiest to control. As such, the changes at the Wolfs Lane and Colonial Avenue intersection should be implemented first. Next, the improvements along Colonial Avenue heading west (Carol Place closing and sidewalk, the buffer zone under the Parkway, the improvements to the Hutchinson River Parkway Ramps) should be pursued and implemented as soon as practical. Finally, the mid-block crossing can be accomplished if the improvements to the Stellar Avenue area are implemented

Respectfully submitted,

TRC RAYMOND KEYES ASSOCIATES
A TRC Company



Steven L. Grogg, P.E.
Vice President