

Final Evaluation Report

Great Neck Plaza Local Safe Streets and Traffic Calming Grant PIN 0757.74.326

Prepared for: **VILLAGE OF GREAT NECK PLAZA**

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Introduction

In the year 2002, The Village of Great Neck Plaza was awarded a grant under the Local Safe Streets and Traffic Calming Program (LSSTC), to undertake various traffic calming measures on several Village roadways. The Village of Great Neck Plaza is a densely populated community, approximately 1/3 of a square mile in area, located on the Great Neck Peninsula in western Nassau County. In addition to encompassing the major portion of the Great Neck Central Business District, the residential development within the Village consists primarily of multi-story apartment buildings, including several senior housing facilities. It also includes the Great Neck LIRR Station which serves as a key transportation hub for the entire Great Neck peninsula. Due to the nature of the area and the close proximity of the residents to shopping and the LIRR station, there is a significant amount of pedestrian activity throughout the Village, including a large percentage of senior citizens for whom walking is their primary means of transportation.

For many years, the major issues facing Village officials involved the safety of the local roadways, particularly as it related to excessive vehicular speeds conflicting with the high level of pedestrian activity. Village Officials immediately recognized the Local Safe Streets and Traffic Calming Program (LSSTC) as an opportunity to improve safety for their residents through a dedicated funding source designed specifically to address these types of safety issues.

The LSSTC grant which is the subject of this report included three separate and distinct components. The first of these was the construction of a round-about at the intersection of South Station Plaza/Barstow Road/Welwyn Road. The second component was the installation of overhead pedestrian warning signs with pressure activated pedestrian detectors at heavily utilized crosswalks on North Station Plaza, South Station Plaza, and Grace Avenue. The third element was the installation of permanent overhead speed awareness signs on South Middle Neck Road, Great Neck Road, Cutter Mill Road and Grace Avenue. The primary objective of the grant from the perspective of the Village was to create a safe, walkable community by slowing vehicular traffic and promoting a pedestrian-friendly environment for residents and visitors.

The key safety objectives of this LSSTC project were as follows:

- Reduction in vehicular speeds
- Reduction in accident frequency and severity
- Increase in pedestrian safety
- Reduction in the need for police enforcement

The purpose of this report is to assess the effectiveness of these traffic calming measures. In order to accomplish this, we conducted radar studies at each of the project locations and compared the results to speed data obtained in 2001, prior to the implementation of the grant. We also reviewed and summarized accident data for all of the project roadways for the periods before and after the implementation of the traffic calming measures under the grant. Finally, we conducted numerous hours of observations of traffic conditions in the project area to assist us in evaluating motorist and pedestrian behavior and assessing the effectiveness of the grant-related improvements. Below is a discussion of each of the traffic calming measures and our assessment of their effectiveness.

Barstow Circle Roundabout

The first phase of implementation involved construction of the Barstow Circle Roundabout which was completed in the fall of 2003. Prior to construction of this modern roundabout, the intersection of South Station Plaza and Barstow Road/Welwyn Road was a four-way Stop controlled intersection with a small “rotary” in the center. This intersection is immediately adjacent to the Great Neck LIRR Station and, as a result, it experiences a significant volume of pedestrian activity, particularly during peak commuter periods. The wide expanse of pavement, in addition to the number of vehicular turning movements and poor motorist compliance with the Stop controls, resulted in unsafe conditions for both motorists and pedestrians. The new roundabout has improved both vehicular and pedestrian safety by reducing the number of vehicle-to-vehicle conflict points from 32 to 8 and moving the pedestrian crossings away from the major vehicular activity in the center of the roundabout. The result is much shorter crosswalks and elimination of potential pedestrian conflicts with turning vehicles.

A review of the accident records from the Nassau County Police Department for the period from January 1, 2003 to August 15, 2006 reveals that there were two pedestrian accidents within the first 8 months of 2003 prior to construction of the roundabout and only one pedestrian accident in more than 33 months following the completion of the roundabout. This is an indication that the roundabout has achieved one of the primary objectives of the grant. Perhaps more importantly, the feedback which Village officials have received from residents since the roundabout was installed is that they “feel” safer when walking or bicycling through this intersection. Furthermore, observations during peak periods reveal that traffic flows smoothly with no evidence of congestion or confusion.

Overhead Speed Awareness Signs

In attempting to evaluate the effectiveness of the overhead speed awareness signs, radar studies were conducted in 2006 on the roadways where these devices were installed. A comparison of the “Before” and “After” speed data at

these locations does not reveal any significant reduction in operating speeds on South Middle Neck Road, Great Neck Road, Cutter Mill Road or Grace Avenue. In fact, the 85th percentile speed on Great Neck Road actually increased slightly in both directions. It is interesting to note, however, that in 2001 the eastbound speeds were greater than the westbound speeds, while the 2006 data reveals that the westbound speeds are now greater. While the change is not necessarily statistically significant, it might be concluded that the overhead awareness signs are having some positive impact on driver behavior.

On South Middle Neck Road, there is no indication that the speed awareness signs have had any measureable impact on travel speeds. However, field observations on several occasions revealed that many motorists begin to apply their brakes as the sign comes into view. It is likely that without the sign, they would be travelling faster as they approach the downtown area.

Cutter Mill Road reflects the highest travel speeds of all the streets where these speed awareness signs are installed. During off-peak periods, the 85th percentile speed in both directions is in the range of 40 mph. When comparing 2001 speed data to 2006 data, it appears as if the overhead speed awareness signs are not having any impact on driver behavior.

On Grace Avenue, the findings were consistent with the results experienced on the other streets.

Overall, based on the above, it is reasonable to conclude that these permanent overhead speed awareness devices are of limited benefit if they are not supplemented by periodic police enforcement. This is not inconsistent with what we would expect to find when the majority of the drivers use the roads on a daily basis and realize that they do not have to fear receiving a speeding summons. However, while there may not have been a measureable reduction in the overall travel speeds on the streets involved, at two of the locations, the speed in the direction of travel approaching the signs was lower than the speed in the opposite direction. It should also be noted that during our observations, it was obvious that many motorists were applying their brakes as they approached these devices, particularly those who were traveling well above the posted speed

limit. The primary value of these devices under such circumstances is to serve as a reminder to those drivers who are not paying attention to their speed and will slow down once they realize how fast they are actually going. We believe that periodic enforcement in conjunction with the signs is necessary to maximize their effectiveness.

Overhead Pedestrian Crossing Signs

In terms of the overhead pedestrian warning signs, identified as Advanced Pedestrian Safety System (APSS) in the grant application, a review of the accident data for the period following their installation indicates that there have not been any pedestrian accidents at any of the crosswalk locations where these devices were installed since the time of installation. Conversely, the accident records do show that there were several pedestrian accidents on other streets in the immediate area, including nearby signalized intersections with pedestrian push-buttons and pedestrian indications. A limited number of impromptu pedestrian interviews were conducted at these pedestrian crosswalks on North Station Plaza and South Station Plaza and we found that none of the pedestrians we spoke to were aware that the overhead signs were activated by the pressure pads in the ramps leading to the crosswalk. In fact, it was obvious that a significant number of pedestrians do not walk over the pressure pads as they enter the crosswalk. Unfortunately, we also found that in most instances, the pressure pads were not functioning correctly and therefore were not activating the signs as intended even if someone did step on them. Similarly, at the Grace Avenue location, the pressure pads were only working intermittently and pedestrians did not appear to be cognizant of the function of the signs.

We also noted that the overall target value of the signs is limited, particularly on North Station Plaza and South Station Plaza where there is considerable activity at ground level and the driver's eye is focused on what is taking place in front of them, rather than overhead. In our opinion, the effectiveness of these devices can be improved with some upgrades and modifications as discussed in the recommendation section below.

Findings and Conclusions

In the course of conducting this evaluation, we obtained and summarized accident records and plotted collision diagrams for the all of the roadways within the overall area encompassing the locations which are the subject of this report. This enabled us to compare the pre and post-implementation accident experience at the locations where traffic calming measures were implemented under the grant, in relation to the general accident experience throughout the downtown area.

A review of the accident experience in the vicinity of the Barstow Circle Roundabout reveals a positive trend, particularly as it relates to pedestrian accidents. However, the accident data alone does not necessarily reflect the positive benefits associated with the construction of the roundabout. For instance, the police records do not reflect the number of near misses or minor unreported incidents which are generally commonplace in congested locations such as this. I was relatively familiar with the pre-implementation conditions in the vicinity of Barstow Road and South Station Plaza and, in my opinion, the roundabout has created a considerably safer pedestrian environment, as well as improved vehicular flow.

The other traffic calming measures were less successful in terms of their effectiveness for various reasons. For instance, as stated above, we believe that the overhead speed warning devices require periodic police enforcement in order to command the respect of drivers. We also feel that the limited target value of overhead pedestrian crossing signs and the lack of reliability of the actuation pads on the crosswalk approaches have minimized the value of these installations.

In consideration of the above, it is important to recognize that while the primary objective of traffic calming is increased safety, it is also a quality of life issue and the benefits in this regard cannot be easily quantified. Just as important as the number of accidents is the degree of danger felt by pedestrians and others as they traverse the area. The measures taken by the Village were intended to address this by reducing the negative effects of motor vehicle traffic on non-

motorized street users and enhance the local pedestrian environment by altering driver behavior and stimulating driver awareness of the shared nature of the local roadways. In other words, the traffic calming initiatives implemented under this grant were aimed at “civilizing” vehicular activity in this active, vibrant downtown area by promoting the theme of a shared environment. Based on this premise, it can be concluded that the measures undertaken through the subject LSSTC grant have been successful.

Recommendations

The Village of Great Neck Plaza has clearly demonstrated its on-going commitment to promoting a safe, walkable community and has been in the forefront with regard to the utilization of traffic calming techniques to accomplish this objective. To our knowledge, the Great Neck Plaza is one of only a few municipalities to successfully implement traffic calming improvements under the LSSTC program. In addition to the activities under the subject grant, they are about to commence a lane reduction project on another Village roadway which is being primarily funded under an LSSTC grant. This latter project faced numerous obstacles and is only coming to fruition as a result of the dedication and perseverance of the Village to making the local streets safe for their residents and visitors.

In order to continue this initiative and establish the entire downtown area as a safe, walkable community, it is recommended that the Village continue to seek funds to pursue the following:

- Retrofit and/or modify the overhead pedestrian warning signs to increase their target value and enhance their effectiveness. It is also recommended that these signs operate continuously or that other methods of actuation be explored to make them more reliable.
- Install permanent ground-mounted "Yield To Pedestrian In Crosswalk" signs at most crosswalk locations throughout the downtown area.
- Consider the installation of raised crosswalks and/or raised intersections at key locations within the downtown area.
- Install curb bump-outs at select intersections.
- Request periodic police enforcement of the speed limit on Middle Neck Road, Great Neck Road and Cutter Mill Road.

In addition to the above, we believe that the "road diet" project on Great Neck Road will prove to be successful without adversely impacting conditions on the surrounding roads. Once that project is complete and sufficient time has elapsed to properly evaluate the results, consideration should be given to introducing a similar project on the western section of Cutter Mill Road. In the alternative, curb bump-outs and strategically located center median islands should be considered.