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Page 4: CB14 Introduction

Located in central Brooklyn, Community Board 14 (CB14) is home to 169,000 residents. With 82.9 miles of road, creating a safe street network is important to residents and visitors to the area. There are a number of traffic calming devices that a community can use to address issues of speeding in their neighborhood. One such device is a speed hump and with over 80 service requests for the raised hump in the road, CB14 recognizes the need to better understand the best conditions under which to install speed humps, as well as their impact on traffic flow on surrounding streets. This report will examine the current conditions of speeding and speed humps throughout the district, highlight a number of leading practices in implementing speed humps, and provide suggestions to help improve the process of installing these traffic calming devices throughout CB14.

Since 2012, CB14 has been tracking residents' requests for speed humps. Working in partnership with the New York City Department of Transportation (NYCDOT), CB14 has determined the status of the 71 speed hump requests that have been made through this office. As of March 2015, nineteen speed humps exist in CB14, while 21 requests have been approved and are pending installation by the NYCDOT road crew. Sixteen speed hump requests are still pending investigation by the NYCDOT, a process that can take anywhere from 7 to 12 months to complete. Once this feasibility assessment is complete, it can take another several months, depending on the schedule of the installation crew, until the speed hump is actually placed in the community. Finally, 15 requests have been denied either due to lack of community support, or after NYCDOT determined a speed reducer was not feasible at the requested location.

Status of CB14 Speed Hump Requests	
Installed	19

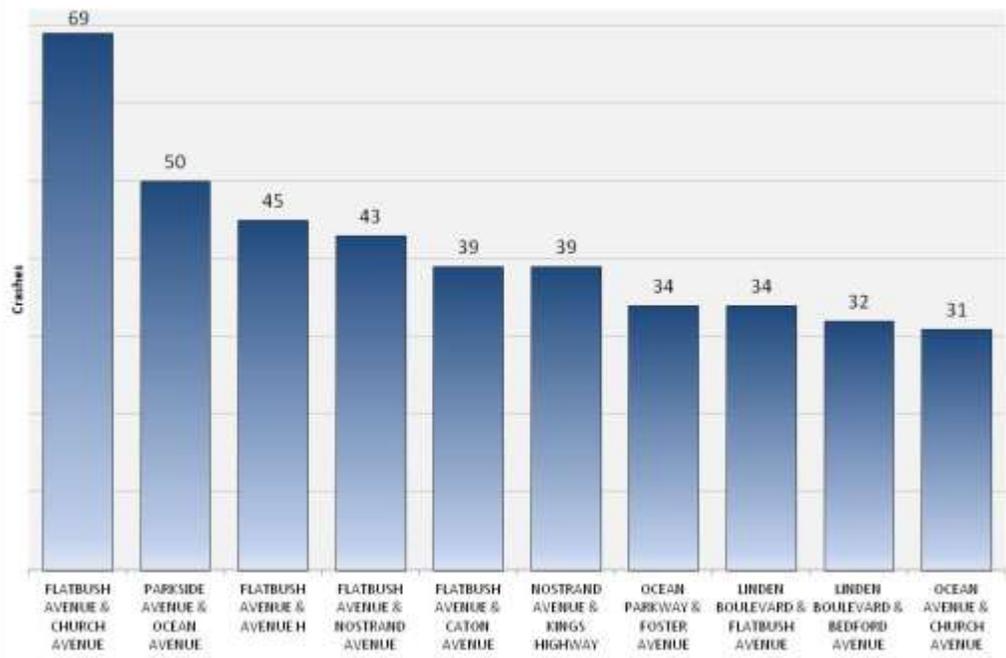
Approved, pending installation	21
Pending investigation	16
Denied	15

In 2014, the NYCDOT made the Vision Zero Data Feed publicly available, allowing users to identify the number of speed humps installed since 2013 in each police precinct. This data allowed for the comparison between the number of speed humps installed in CB14's 70<sup>th</sup> police precinct to other police precincts throughout the city. As can be seen in Map XX, the 70<sup>th</sup> Police Precinct, which serves the entirety of the CB14 district, had 6 speed humps installed between 2013 and 2015. With over 80 miles of roads, the 70<sup>th</sup> police precinct has an average of one speed hump every 14.7 miles. Of the 77 police precincts in New York City, the 70<sup>th</sup> Police Precinct ranks 29<sup>th</sup> in terms of the number of speed humps per road miles.

Two proxies were used in an attempt to determine the effects of speed humps on treated and surrounding streets: crashes and speeding summonses. While neither data source provided conclusive evidence on the impacts of speed humps on neighborhood streets, the locations of crashes and the number of speeding summonses issued over the last 4 years is explored in the following section.

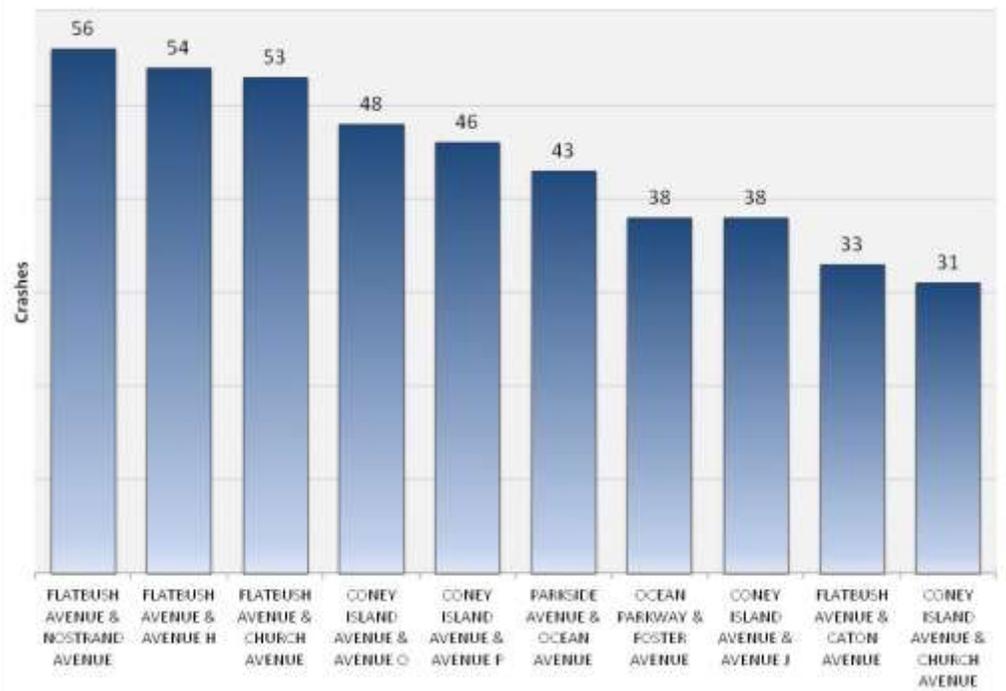
Crash data, which is publicly available through the New York City Open Data web portal, was mapped to the nearest intersection (see Map XX). On average, there were 6.42 crashes per intersection throughout the community district in 2014 with a total of 2,981 crashes for the year. This number is up slightly from 2013, when 2,959 crashes were reported in the district, with an average of 6.37 crashes per intersection. However, some intersections make up a much larger portion of the total number of crashes. The greatest number of crashes in 2013 occurred at the intersection of Flatbush Avenue and Church Avenue, with 69 crashes. However, in 2014 the cross streets of Flatbush Avenue and Nostrand Avenue became the intersection where crashes occurred most frequently, with 56 crashes, followed by Flatbush Avenue and Avenue H, and the intersection of Flatbush Avenue and Church Avenue, with 54 and 53 crashes, respectively.

**Top 10 Intersection by Crashes, 2013**



Source: NYC Open Data

**Top 10 Intersections by Crashes, 2014**



Source: NYC Open Data

The New York City Police Department (NYPD) publishes yearly totals for the number of speeding summonses issued by police precinct<sup>1</sup>. As can be seen in Figure XXX there has been a 380 percent increase in the number of speeding summonses issued between 2012 and 2014 in the 70<sup>th</sup> Police Precinct. While these numbers could reflect an increase in speeding as a personal choice when driving, there are a number of other factors that could play a role in the dramatic increase in speeding summonses issued. One possible reason for the increase in speeding summonses could be the focus on street safety by the current mayoral administration. If the Mayor is making it a priority to reduce the prevalence of speeding on City streets, this could trickle down to the police, leading to greater enforcement. Additionally, better resources and technology, along with training within the police precinct on the use of these resources could have played a part in improving the precincts ability to enforce speed limits.

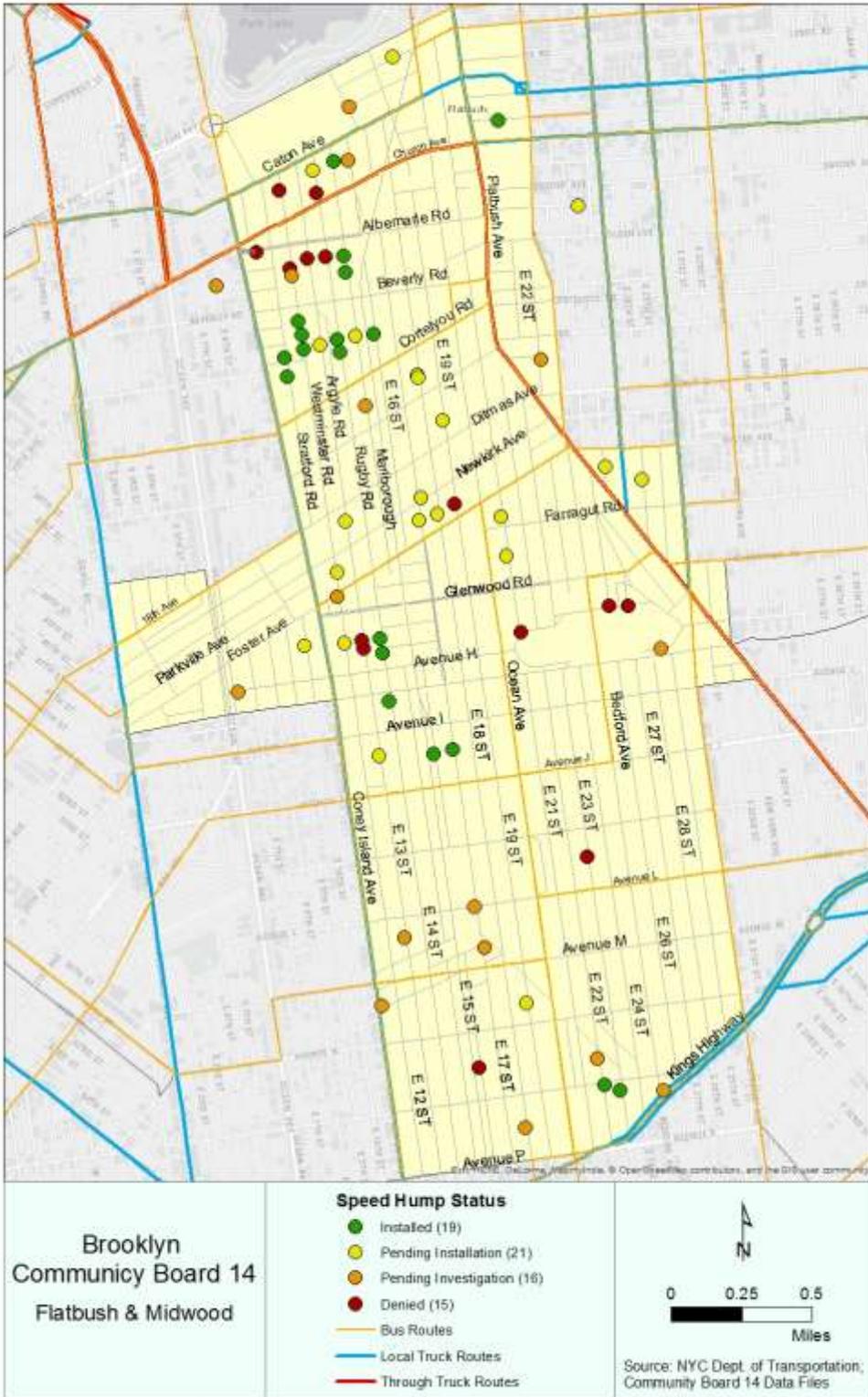
70 <sup>th</sup> Police Precinct	
Year	Speeding Summons Issued
2011*	32
2012	111
2013	223
2014	533
2015^	39

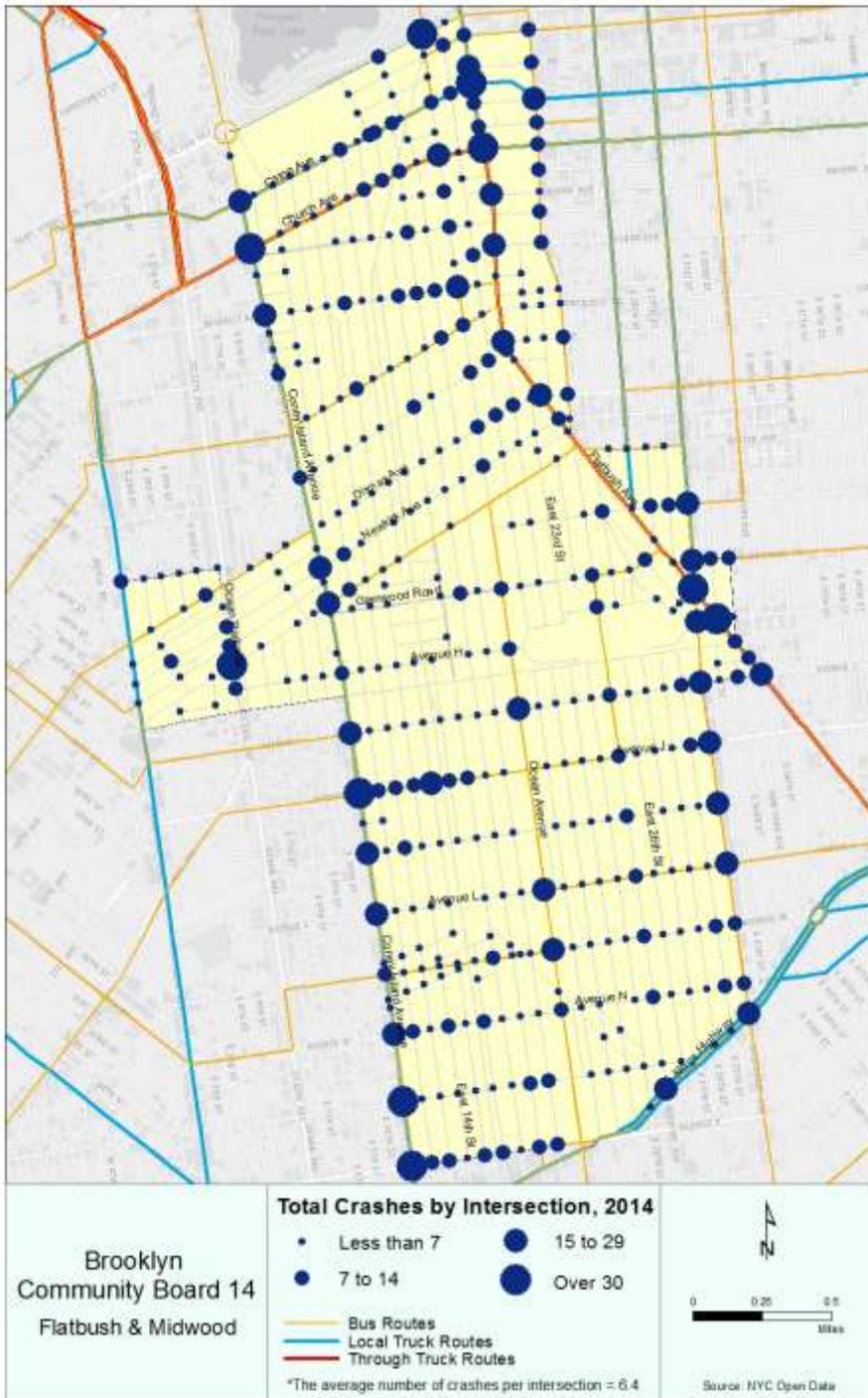
\*2011: August – December

^2015: January only

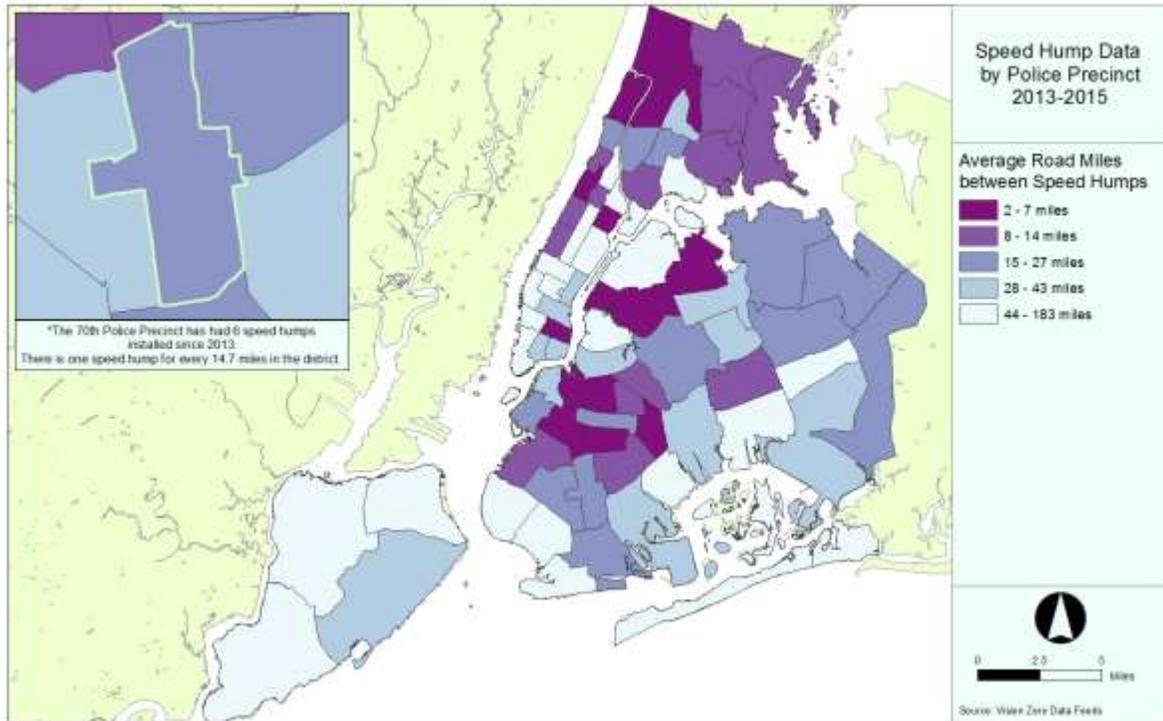
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<sup>1</sup> NYPD Traffic Reports Moving Summonses.  
[http://www.nyc.gov/html/nypd/html/traffic\\_reports/traffic\\_summons\\_reports.shtml](http://www.nyc.gov/html/nypd/html/traffic_reports/traffic_summons_reports.shtml)





Page 7: Map (speed humps by miles of road)



Page 9: Traffic Calming Measures in NYC

In 2014, two hundred and eighty-six New York City residents were killed in motor vehicle crashes. Eighty-three of those deaths, or 31 percent, occurred in Brooklyn. With nearly 250 people killed by motor vehicles each year, Mayor de Blasio has vowed to put an end to traffic-related deaths through his Vision Zero Action Plan. The Mayor’s plan lays the groundwork for design and policy measures aimed at bringing traffic fatalities to zero in New York City.

According to the New York City Department of Transportation, “excessive speed contributes to 25 percent of roadway fatalities on New York City Streets” and in terms of pedestrian safety, speed is more critical than volume. Vision Zero takes a number of steps in an attempt to address these issues. For example, the Vision Zero Action Plan laid out a proposal for New York City to be given the authority to bring the default speed limit down to 25 miles per hour. This proposal became law on November 7<sup>th</sup>, 2014. Often traffic calming devices can augment the effectiveness of speed limits when implemented concurrently. Recognizing that speed humps can play an important role in supplementing

existing traffic calming efforts, Vision Zero recommends an accelerated speed hump program and the installation of 250 speed humps, including in neighborhood slow zones<sup>2</sup>.

While Vision Zero aims to increase the number of speed humps on New York City streets, the neighborhood slow zones, which do not require the approval of community boards before a speed hump is installed, take precedent over speed humps requested by residents. Given the priority placed on neighborhood slow zones, the speed humps requested through CB14's office may experience an even greater delay in the investigation and implementation process.

Speed humps are one of many traffic-calming measures available in a community's toolkit, and when implemented correctly, they have the ability to reduce speeds on the streets where they are installed. The following section will highlight the best practices in implementing speed humps.

#### Page 10: Implementing Speed Humps

Numerous organizations and agencies have conducted studies and developed reports that highlight the ideal locations, methods of installment, and the benefits and challenges speed humps present to a community. In addition to the Mayor's Vision Zero Action Plan, these organizations include the Institute of Traffic Engineers (ITE), the National Association of City Transportation Officials (NACTO), and the Center for Transportation Research and Education (CTRE), among others. This section uses the recommendations made by these organizations, both nationally and internationally, to aggregate the best practices for and limitations to implementing speed humps.

#### *Street Selection:*

According to the NYC Street Design Manual, when selecting a speed hump location, it is best to avoid streets with the following characteristics:

- Local or through truck routes
- MTA bus routes
- Emergency-vehicle response or snow emergency routes
  - *While this provision is included in the NYC Street Design Manual, CB14 has been unable to find any information on the location of these routes.*
- Hospital entrances

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<sup>2</sup> Vision Zero Action Plan. <http://www.nyc.gov/html/visionzero/pdf/nyc-vision-zero-action-plan.pdf>

- Street segments with Fire Departments
- More than one moving lane in each direction

Evaluation of a speed hump request should be determined based on:

- Existing traffic speeds
- Traffic volumes
- Number of Collisions
- Proximity to schools, playgrounds, parks
- Presence of sidewalks

*Dimensions:*

There are generally agreed-upon dimensions that speed humps on residential streets should prescribe to. They are as follows:

- Height: 3 to 3.5 feet
- Length: 12 to 14 feet

To achieve a desired speed of under 20 mile per hour, the street segment containing the speed hump, humps should be installed with the following spacing:

- In pairs 13 to 40 feet apart, every 200 feet

*Affected Street Users*

Passenger Cars: ITE found that on average, drivers slow to 10mph when traversing a 12-foot-wide speed hump.

Emergency and Fire Vehicles: A tradeoff may exist between reducing overall traffic speeds and providing faster emergency vehicle response times.

Bicycles: Typically, unaffected by speed humps. Require no special provisions

Page 11: Benefits and Limitations of Speed Humps

*Benefits:*

Speed humps have many proven benefits. Speed humps are a widely used traffic calming device, and neighborhoods across the country have experienced decrease speeds and traffic volumes on their streets as a result of speed hump installations. For example, in

2008, the City of Portland undertook a traffic calming program that resulted in the installation of over 500 speed humps. As the speed humps were installed, the City would assess the impact the speed humps had on traffic volumes and speed, both on the primary street receiving the traffic calming device, as well as parallel streets. Their findings were that vehicle speeds decreased both on treated streets, as well as streets parallel to the speed hump. The study also included a survey on resident's perceptions of the impact speed humps had on speeds along their streets, finding that 69 percent of residents perceived a decrease in speeds after the device was installed. Traffic volumes were also decreased on streets with speed humps. Finally, the study found an average crash reduction of 39 percent on streets that received speed humps<sup>3</sup>. Although similar studies have not been conducted in New York City, the New York City School Safety Engineering Project completed a report in April 2004, which indicated that speed reducers, such as speed humps and speed tables have "been shown to be among the most effective of all traffic calming devices at reducing vehicle speeds."<sup>4</sup>

*Limitations:*

While speed humps have been found to be an effective measure in reducing speeds on residential streets, they also create potential issues for the neighborhoods in which they are installed. The New York City School Safety Engineering Project cites the following disadvantages associated with speed humps:

- Traffic may be diverted
  - If drivers are aware of their locations and averse to driving over speed humps, they may choose alternate routes, causing a diversion of traffic to previously balanced streets. The study conducted in Portland, Oregon found a 4 percent increase in average daily traffic on streets parallel to those which had a speed hump.
- May make snow clearing difficult
- Require signage, which some residents find objectionable.
- May delay ambulances and fire vehicles
  - Estimated delays for ambulances: 2.3 to 9.7 seconds per speed hump
  - Estimated delays for fire vehicles: 2.8 to 15 seconds per speed hump

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<sup>3</sup> <http://www.portlandoregon.gov/transportation/35934?a=85390>

<sup>4</sup> <http://www.nyc.gov/html/dot/downloads/pdf/schoolsafetymitigation.pdf>. Page 63

- It is estimated that each speed hump can cost the city at least \$1,000, depending on roadway, labor and material costs
  - *This number is based on the 2002 Pedestrian Facilities Users Guide created by the Federal Highway Administration*

## Page 12: Going Forward

While many residents in the district have requested speed humps, some neighborhood groups have opposed the installation of any speed humps along their streets. The following three suggestions include possible alternatives to speed humps that would still positively impact street safety, and ways to improve data collection and the sharing of information among residents, community groups and NYCDOT.

1. Alternatives to Speed Humps: Many residential streets throughout the CB14 district provide wide travel lanes plus parking, which can result in vehicles traveling at higher speeds than desired. If a speed hump is not feasible, or if the neighborhood has indicated they do not want speed humps installed, NYCDOT could examine the use of street paint on wider streets throughout the district to narrow the driver's field of vision.
  - Examples of streets in CB14 that are characterized by wide streets with parking on either side and no visible street markings include:
    - East 19<sup>th</sup> St, between Avenue M and Avenue N
    - East 19<sup>th</sup> St, between Newkirk Avenue and Foster Avenue
    - East 17<sup>th</sup> St, between Newkirk Avenue and Foster Avenue



2. Improved Communication after Speed Hump Request: One of the greatest challenges CB14 faces is the lack of data available after a speed hump is requested. Currently, community members can request speed humps through CB14, 311, the NYCDOT Brooklyn Borough President Office website, or the offices of elected officials. This can often lead to duplicate requests being made, as community organizations and members are not aware of existing pending requests. Streamlining the request process and making the status of speed hump requests publicly available to residents, community boards and elected officials would help save time for all participants. To help keep this issue on NYCDOT's radar, CB14 staff and residents can attend town hall style meetings with NYCDOT's Technology team, which take place about once a quarter at NYCDOT offices.
  
3. Follow-up Data Collection after Speed Hump Installation: There is little data available in New York City on the impact a speed hump has on the streets where speed humps are installed. Under the current system, CB14 is required to approve or deny speed hump requests once NYCDOT has conducted a study into the need and feasibility of installing a speed hump on a neighborhood street. However, due to a lack of resources, DOT does not currently collect data on the impact a speed hump has on the treated or surrounding streets. This dynamic creates an imbalance of information for a community board. For example, CB14 is required to approve speed hump requests while there is no available data on the effects a speed hump has in terms of resulting speeds or traffic counts on CB14

residents. In order for both CB14 to make more informed decisions when approving or denying a speed hump request, NYCDOT should make every effort to follow-up on speed hump installations to see if traffic speeds and crashes have in fact trended downwards on impacted streets. This follow-up data collection would also help determine if there is a point of diminishing return on speed hump installations or if placing speed humps on a street makes it safer at all times. If the latter is true, then the goal would be to place speed humps on every street where feasible. Given the large number of community requests made, as well as the importance of speed humps in the Mayor's Vision Zero Action Plan, NYCDOT should try to find the resources to investigate the outcomes of traffic calming devices installed throughout the City.