Reduced School Speed Limit
Pilot Study - Parts I & II

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Commissioner

School Safety Engineering
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Pilot I

- **Pilot I**: Began in 2005 to test reduced speed limits
- 10 streets adjacent to schools in the Bronx
- 8 out of 10 streets had “speed reducers”
- Both 20 MPH and 15 MPH zones were tested

<table>
<thead>
<tr>
<th>School</th>
<th>Posted School Speed Limit (MPH)</th>
<th>Speed Reducer (Hump)</th>
<th>Control at School Crosswalk</th>
</tr>
</thead>
<tbody>
<tr>
<td>P.S. 79</td>
<td>15</td>
<td>✓</td>
<td>Signal</td>
</tr>
<tr>
<td>P.S. 90</td>
<td>20</td>
<td>✓</td>
<td>Stop</td>
</tr>
<tr>
<td>I.S. 166</td>
<td>20</td>
<td>No</td>
<td>Signal</td>
</tr>
<tr>
<td>M.S. 399</td>
<td>20</td>
<td>No</td>
<td>Signal</td>
</tr>
<tr>
<td>P.S. 30</td>
<td>20</td>
<td>✓</td>
<td>Signal</td>
</tr>
<tr>
<td>P.S. 102</td>
<td>15</td>
<td>✓</td>
<td>Stop</td>
</tr>
<tr>
<td>P.S. 110</td>
<td>15</td>
<td>✓</td>
<td>Signal</td>
</tr>
<tr>
<td>P.S. 291</td>
<td>15</td>
<td>✓</td>
<td>Stop</td>
</tr>
<tr>
<td>St. Luke</td>
<td>20</td>
<td>✓</td>
<td>Signal</td>
</tr>
<tr>
<td>P.S. 279</td>
<td>15</td>
<td>✓</td>
<td>Signal</td>
</tr>
</tbody>
</table>
Pilot I – Preliminary Conclusions

• Reduced speed limits at schools may be effective on minor residential streets that **do not** already have existing speed reducers.

• Speed reducers are an effective tool (regardless of whether there is a lower speed limit opposed to a lower advisory speed) to ensure low speeds (~20 mph) on minor residential streets.

• Reduced speed limits, **in addition to existing speed reducers**, have **limited** value.

**Future Study on streets** **without** speed reducers **necessary** in order to make more conclusive determination of the impact of reduced speed limits on streets without speed reducers.
Pilot I - Results

![Graph showing results of speed trials with and without speed reducers. The graph compares AM and PM speeds before and after the implementation of speed reducers, indicating improvements in overall speed.]
Pilot II 2007

Street Criteria:
- One-way street with one travel lane adjacent to a school building
- Street not designated a truck route or bus route
- Length of block more than 200 feet
- Located in advance of a designated school crosswalk, controlled by either a traffic signal or a stop sign
- **No Speed Reducers**

Data Collected:
- Vehicle speed and volume
- Vehicle classification and turning movements
- Pedestrian volume
- One “Before” and two “After” periods (March 2007 – December 2007)
- Two mid-week days for each period
Reduced Speed Zone: *Test Treatment*

Each Street received…
- **Flashing beacons** during school hours 7AM – 4 PM accompanied by reduced speed limit signs - **20 MPH**
- Signs indicating **Speed Zone Ahead**
- Signs indicating **End Speed Zone**
# Pilot II - Ten Schools

<table>
<thead>
<tr>
<th>#</th>
<th>Boro</th>
<th>School</th>
<th>School Address</th>
<th>Street with Reduced Speed Limit</th>
<th>Type of Traffic Control at intersection with school crosswalk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bronx</td>
<td>J HS 117</td>
<td>1865 Morris Avenue</td>
<td>Walton Avenue from Mount Hope Place to East 176th Street</td>
<td>Signal</td>
</tr>
<tr>
<td>2</td>
<td>Bronx</td>
<td>J HS 118</td>
<td>57 East 179th Street</td>
<td>Arthur Avenue from East 179th Street to East 180th Street</td>
<td>Signal</td>
</tr>
<tr>
<td>3</td>
<td>Bronx</td>
<td>MS 45</td>
<td>2502 Lorillard Place</td>
<td>Hoffman Street from East 189th Street to East Fordham Road</td>
<td>Signal</td>
</tr>
<tr>
<td>4</td>
<td>Brooklyn</td>
<td>IS 162</td>
<td>1390 Willoughby Avenue</td>
<td>Willoughby Avenue from Cypress Avenue to Saint Nicholas Avenue</td>
<td>Signal</td>
</tr>
<tr>
<td>5</td>
<td>Brooklyn</td>
<td>IS 383</td>
<td>1300 Greene Avenue</td>
<td>Bleecker Avenue from Knickerbocker Avenue to Wilson Avenue</td>
<td>Stop Sign</td>
</tr>
<tr>
<td>6</td>
<td>Brooklyn</td>
<td>IS/ PS 299</td>
<td>88 Woodbine Street</td>
<td>Woodbine Street from Evergreen Avenue to Bushwick Avenue</td>
<td>Signal</td>
</tr>
<tr>
<td>7</td>
<td>Brooklyn</td>
<td>PS 123</td>
<td>100 Irving Avenue</td>
<td>Suydam Street between Irving Avenue and Wyckoff Street</td>
<td>Signal</td>
</tr>
<tr>
<td>8</td>
<td>Brooklyn</td>
<td>PS 86</td>
<td>220 Irving Avenue</td>
<td>Harman Street from Irving Avenue to Knickerbocker Avenue</td>
<td>Signal</td>
</tr>
<tr>
<td>9</td>
<td>Queens</td>
<td>PS 16</td>
<td>41-15 104th Street</td>
<td>42nd Avenue from 108th Street to 104th Street</td>
<td>Stop Sign</td>
</tr>
<tr>
<td>10</td>
<td>Queens</td>
<td>PS 69</td>
<td>77-02 37th Avenue</td>
<td>77th Street from 37th Road to 37th Avenue</td>
<td>Signal</td>
</tr>
</tbody>
</table>
Pilot II Overall Results:
Speeds Decreased in AM and PM

ALL SCHOOLS

MPH

AM BEFORE  AM AFTER  PM BEFORE  PM AFTER
Pilot II Overall Results:
Speed Decreased Over Time
Pilot II Results:
Change by Type of Traffic Control
at Intersection Downstream

Signal vs. Stop Sign Speeds

Control Device Downstream

<table>
<thead>
<tr>
<th>Signal</th>
<th>Stop Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM BEFORE</td>
<td>PM BEFORE</td>
</tr>
<tr>
<td>23.4</td>
<td>24.8</td>
</tr>
<tr>
<td>21.1</td>
<td>21.6</td>
</tr>
<tr>
<td>21.0</td>
<td>24.8</td>
</tr>
<tr>
<td>21.6</td>
<td>21.6</td>
</tr>
</tbody>
</table>

AM BEFORE   | AM AFTER   | PM BEFORE   | PM AFTER   |
PM Speeds over time (MPH)

MPH

SCHOOLS

JHS117 JHS118 MS45 IS162 IS383 IS/PS299 PS123 PS86 PS16 PS69

PM BEFORE PM AFTER 1 PM AFTER 2

NEW YORK CITY DOT
Results: JHS 117, Bronx

**AM speeds** were reduced 8.9% from an average of 22.5 mph to 20.5 mph.

**PM speeds** were reduced 20% from an average of 25.0 mph to 20 mph.
Results: **JHS 118, Bronx**

**AM speeds** were reduced **23.2%** from an average of 28 mph to 21.5 mph.

**PM speeds** were reduced **29.7%** from an average of 29.5 mph to 20.8 mph.

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**JHS 118 Before and After Speeds**

**JHS 118 Change in Speeds over Time**
Results: MS 45, Bronx

**AM speeds** were reduced **13.6%** from an average of 23.5 mph to 20.3 mph

**PM speeds** were reduced **18.4%** from an average of 24.5 mph to 20 mph
**Results**: **MS 162, Brooklyn**

**AM speeds** were reduced **2.3%** from an average of 22 mph to 21.5 mph

**PM speeds** were reduced **13%** from an average of 23 mph to 20 mph
Results: **IS 383, Brooklyn**

**AM speeds** were reduced **10%** from an average of 25 mph to 22.5 mph.

**PM speeds** were reduced **6.3%** from an average of 24 mph to 22.5 mph.

![IS 383 Speeds Chart](chart1.png)

![IS 383 Change in Speeds Chart](chart2.png)
Results: **MS 299, Brooklyn**

**AM speeds** were reduced **14.6%** from an average of 24 mph to 20.5 mph

**PM speeds** were reduced **12.5%** from an average of 24 mph to 21 mph.
Results: **PS 123, Brooklyn**

**AM speeds** *increased* by **1.4%** from an average of 22 mph to 22.3 mph.

**PM speeds** *increased* **5.9%** from an average of 22 mph to 23.3 mph.
Results: **PS 86, Brooklyn**

AM speeds were reduced **4.3%** from an average of 23.5 mph to 22.5 mph.

PM speeds were reduced **2.2%** from an average of 23 mph to 22.5 mph.
Results: **PS 16, Queens**

**AM speeds** were reduced **15.1%** from an average of 24.5 mph to 20.8 mph

**PM speeds** were reduced **18.4%** from an average of 25.5 mph to 20.8 mph

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**PS 16 Before and After Speeds**

<table>
<thead>
<tr>
<th>Time</th>
<th>AM BEFORE</th>
<th>AM AFTER</th>
<th>PM BEFORE</th>
<th>PM AFTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM</td>
<td>24.5</td>
<td>20.8</td>
<td>25.5</td>
<td>20.8</td>
</tr>
</tbody>
</table>

**PS 16 Change in Speeds over Time**

<table>
<thead>
<tr>
<th>Time</th>
<th>AM BEFORE</th>
<th>AM AFTER 1</th>
<th>AM AFTER 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM</td>
<td>24.5</td>
<td>21</td>
<td>20.5</td>
</tr>
<tr>
<td>PM</td>
<td>25.5</td>
<td>21.5</td>
<td>20</td>
</tr>
</tbody>
</table>
Results: **PS 69, Queens**

**AM speeds** were reduced 9.1% from an average of 22 mph to 20 mph

**PM speeds** were reduced 5.6% from an average of 21.5 mph to 20.3 mph
Conclusions from Pilot II

**Flashing Beacons accompanied by 20 MPH reduced speed limit signs resulted in a reduction of speeds:**
- AM Speeds decreased overall from 23.7 mph to 21.2 mph (a 10% decline)
- PM Speeds decreased overall from 24.2 mph to 21.1 mph (a 12% decline)

**Speeds decreased over time:**
- 7.8% after the 1st “after” AM speed test
- 12.3% after the 2nd “after” AM speed run
- 9.5% after the 1st “after” PM speed run
- 12.3% after the 2nd “after” PM speed run

→ This shows that reduction of speeds can be maintained over several months.

**Traffic Control:**
- On streets with downstream **signalized** intersections speeds decreased 9.9% and 12.9% in the AM and PM respectively
- On streets with downstream **stop controlled** intersections speeds decreased and 12.6% in the AM and PM.

**JHS 118 had the largest decline in speed. Speeds decreased 23.2% in the AM and 29.7% in the PM.**

**PS 123 in Brooklyn was the only school not to show a decrease in speed. Speeds increased slightly from 22.0 mph to 22.3 mph in the AM and from 22.0 mph in the PM to 23.3 mph.**