

Bridge Strike Mitigation in the New York City Region

By
Regional Bridge Strike Task Force

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Outline

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Introduction

The issue of bridge strikes has a significant safety and economic impact throughout the State of New York.

Although identifying the problem is simple, trucks hitting bridges; the solution is more complex and involves a more deliberate solution.

There is a particularly high level of occurrences on the Parkway system.



Background on Bridge Strikes

Background

- Past identification of a problem, but no coordination between Regions, Cities, States, etc.
- No formal research studies were undertaken
- Three recent efforts started -
 - NYC DOT (Working with WCPD, NYPD)
 - NYS DOT (in conjunction with CUNY)
 - HVTMC (in conjunction with I 95 CC)
- In early 2009, the three efforts were merged into one task force

Bridge Strikes 101

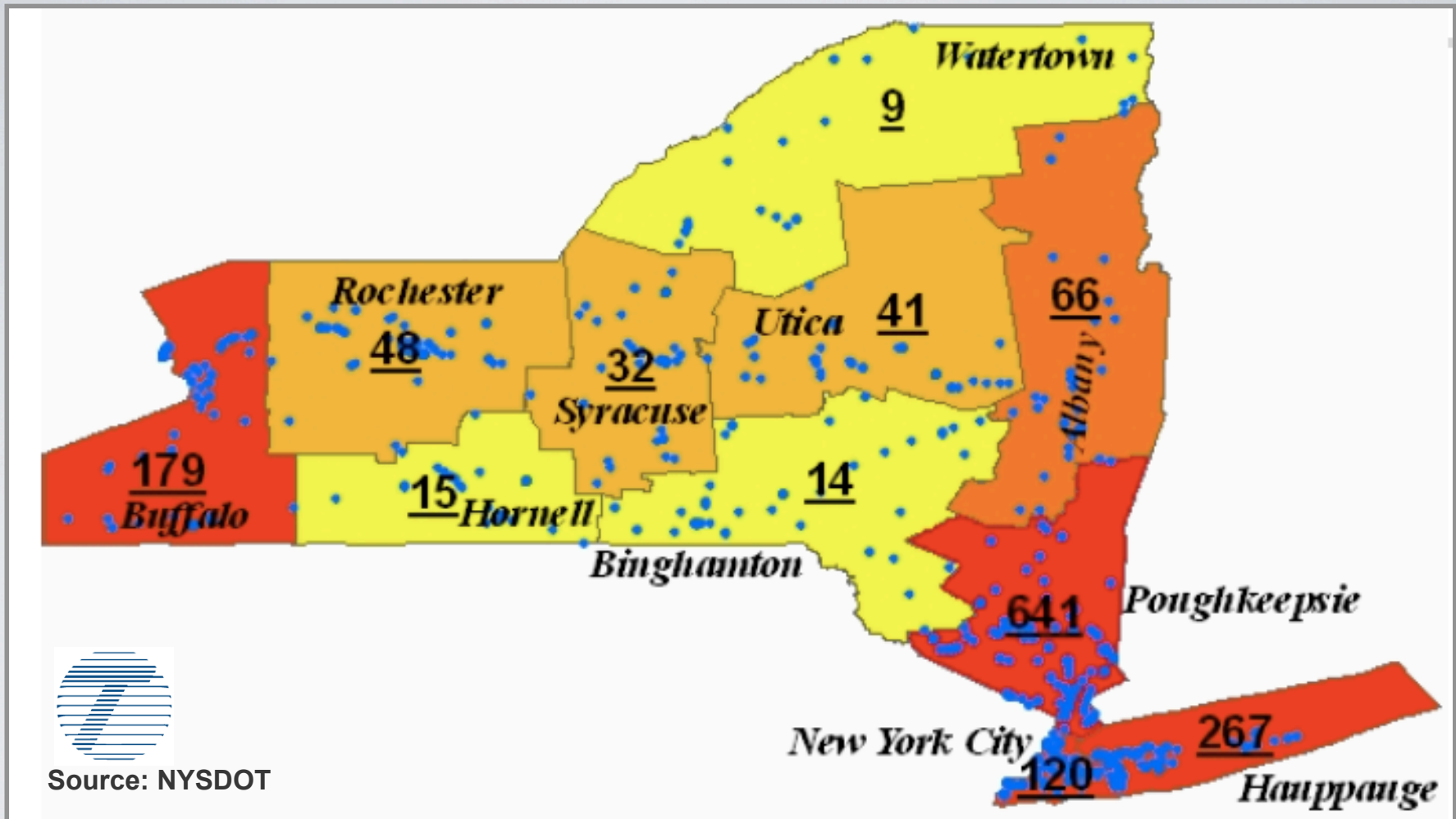
- More than 1,600 bridge strikes in NY over the last 15 years, since 1993 (NYSDOT)
- Bridge strikes tend to occur at three bridge categories:
 - Parkways
 - Rail Bridges
 - Arch Bridges

Bridge Strikes | 0 |

- Two problem areas are the Hutchinson River Parkway in Westchester County, north of The Bronx and Rail Bridges in Buffalo (NYSDOT)
- 50 bridge hits in Westchester County January to November 2009
- Within NYC, there were 98 truck-bridge incidents in 2008 and 73 as of December 2, 2009
- NYC high truck-bridge incident locations – FDR, Hutchinson River Parkway, Belt Parkway, Jackie Robinson Parkway

Bridge Strikes 101

- Five regions account for 89% of bridge strikes in the state (NYSDOT)
 - Region 8 (Westchester County is key)
 - Region 10 (Nassau County is key)
 - Region 5 (Erie County is key)
 - Region 11 (The Bronx is key)
 - Region 1 (Albany)



NY High Bridge Strike Locations

Current Efforts

- Enforcement
- Education and Outreach
- Signing
- Technology

Enforcement

Two enforcement efforts:

- First yielded 275 tickets in one week
- Proposed legislation: GPS and Fines

Driver Interviewed for source of driving instructions:

- GPS
- Mapquest
- Dispatcher
- Handwritten Instructions
- Person on the street



Bridge Fascia Treatments

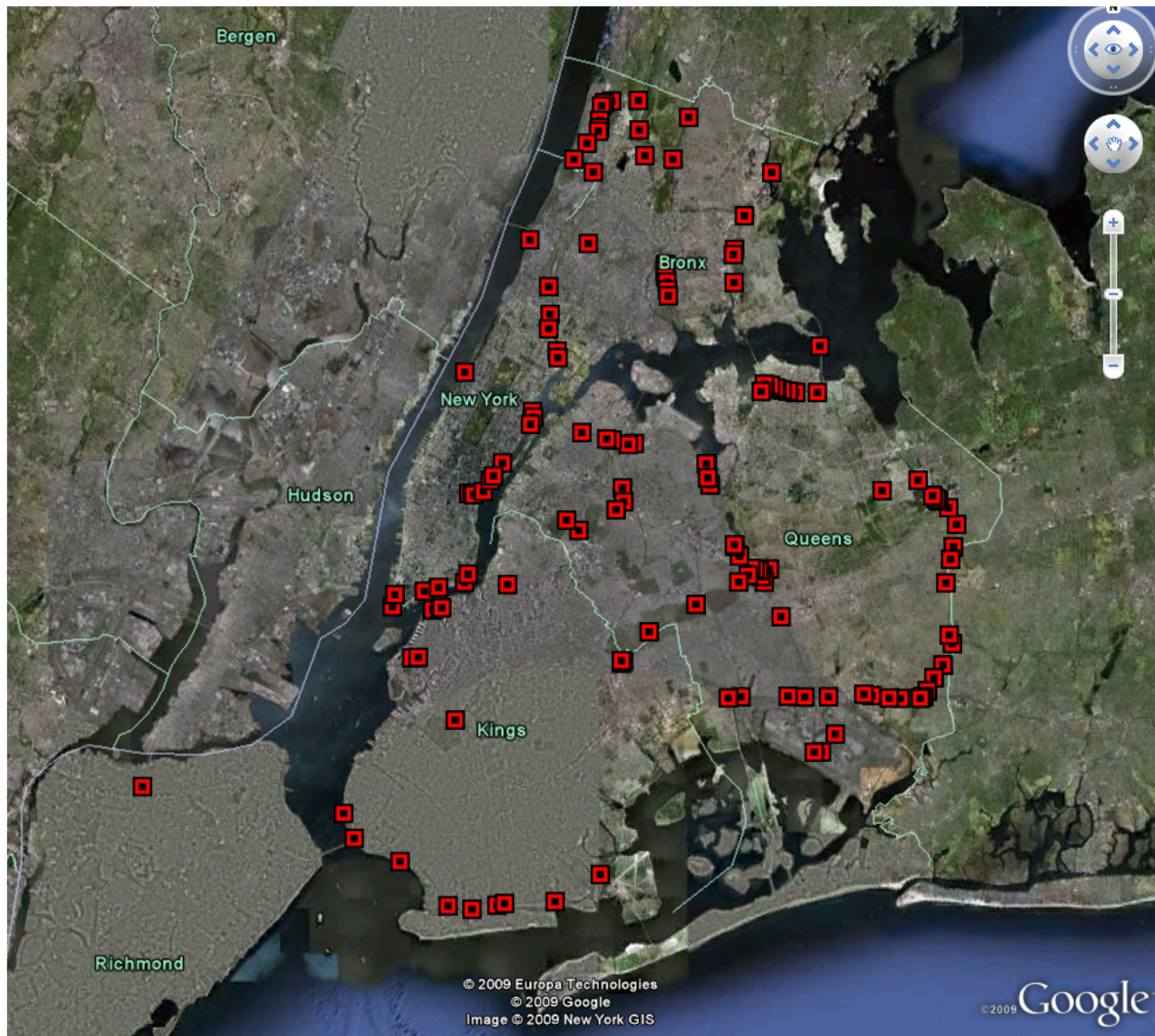


Implemented bridge fascia treatments (2008)

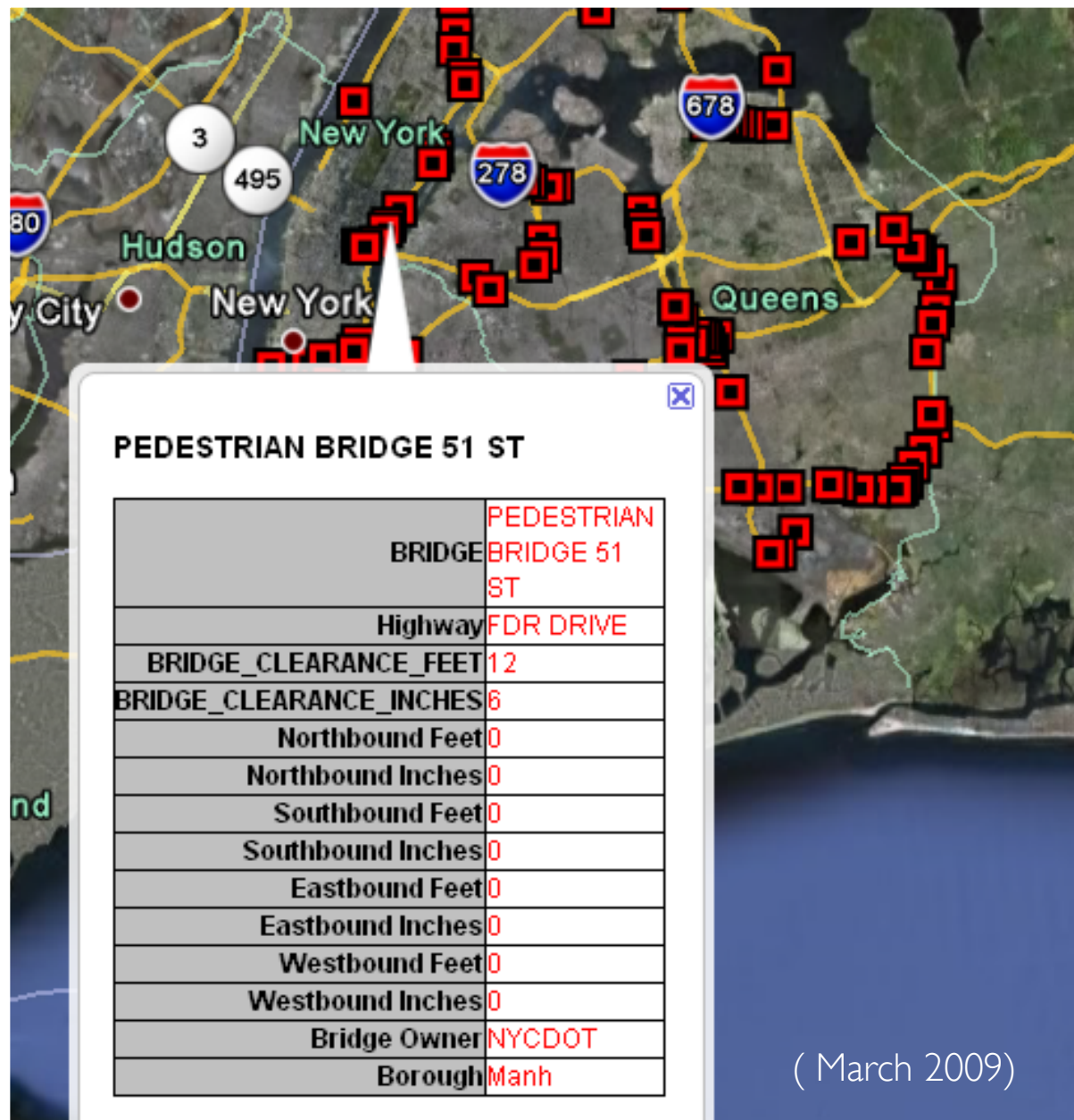
Results To Date

NYC Bridge Fascia Treatments:

- 56% decrease in bridge strike incidents at the FDR Drive at E. 60th Street
- 30% decrease in incidents at the Belt Parkway location.
- 7% increase in strikes per year at the Westchester Avenue Bridge over the Hutchinson River Parkway (location has a direct connection to the Whitestone Bridge and is close to the I-95 corridor).
- Fascia treatment is a promising strategy, but a definitive conclusion cannot be reached as yet.



Low Bridges GIS/KML File



Technology Pilot Initiatives



New York City DOT
NYCDOT - NYD-DOT-Mobile TrailerCam Lite Demo
Bronx, NY US

EarthCam

Control Archives Satellite Wireless Solar Traffic

Calendar

November 2009

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

44 Events 16 - 10:14:21

Archives

Event 10:14:21

A live video feed showing a multi-lane highway. A white truck is in the foreground, and other vehicles are visible in the distance. The video feed is part of the EarthCam interface.

Launched Hutchinson River Pkwy truck detection ITS pilot (Nov 2009)

Current Efforts

- GIS file and data feed on NYSDOT 511 website
- Collaboration with industry to develop technology pilots

NYSDOT Bridge Strike Mitigation Research briefing by Anil K. Agrawal of CUNY (May 2009)

Education and Outreach

- Insurance (NICB)
- 82,500 brochures were mailed as inserts with tax return documents in Dec 2009 to all trucking companies doing business with the State of New York (New York State Tax and Finance)
- Over 22,000 copies provided to trucking industry stakeholders through NYCDOT, NYSDOT and Motor Truck Association
- NY State Motor Truck Association, ATA and their local affiliate have put the flyer on their website.

Education Campaign

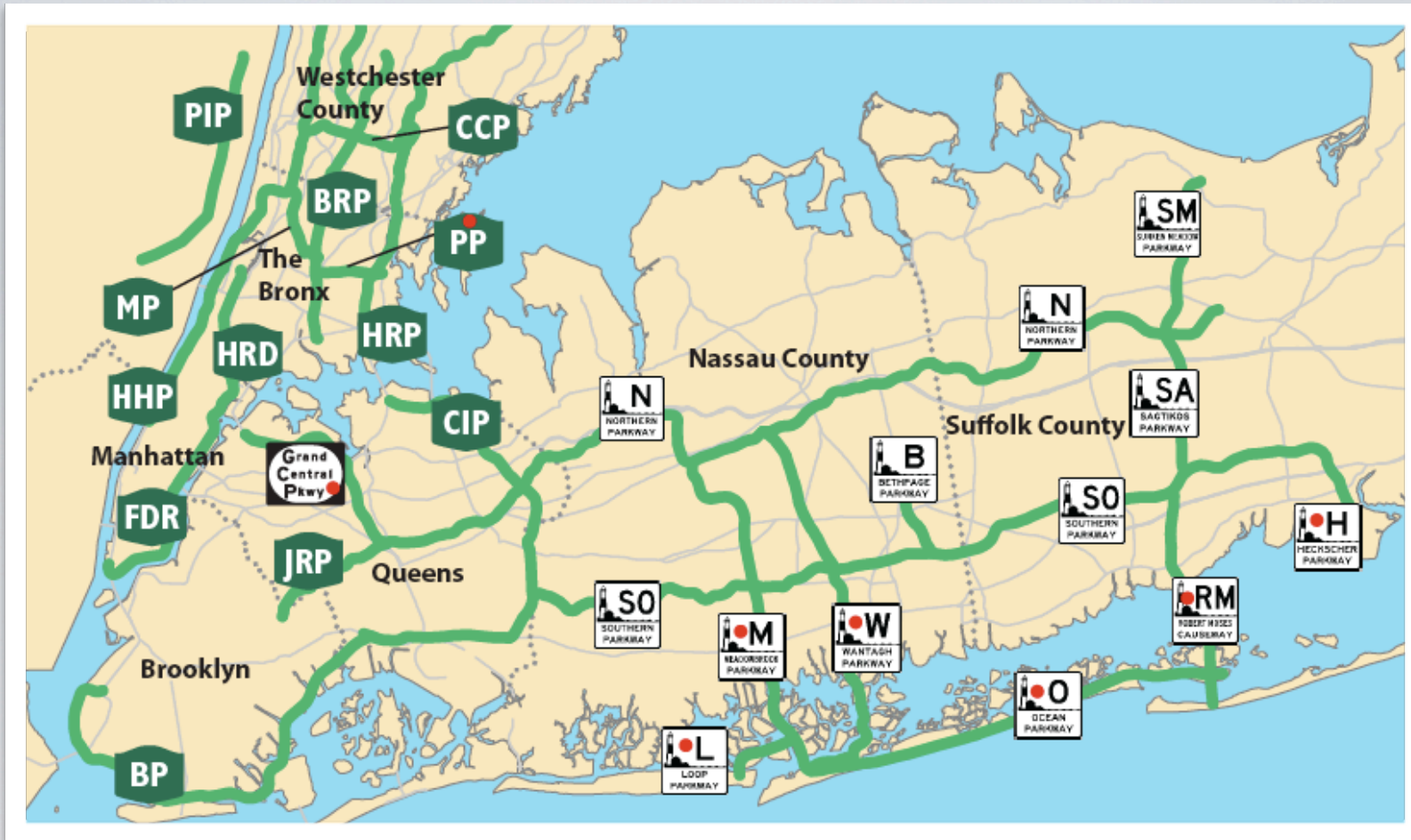
Regional Bridge Strike Task
Force



GOT STUCK?

Truck Drivers:

**Don't let
this happen
to you.**



Downstate Parkway System

Stay off of State Parkways

When New York State's picturesque parkway system was built early in the twentieth century, it was designed for automobiles.

Some bridges on the parkway system have posted vertical clearances as low as 6'11".

Commercial vehicles often strike low bridges causing serious accidents, long delays while they are removed and damage to property.

Don't Break the Rules

Entering any parkway while driving a commercial vehicle could result in:

- Fines and/or points on your drivers license;
- Possible physical injury to yourself or others;
- Damage to your vehicle;
- Damage to infrastructure;
- Towing fees in excess of \$10,000;
- Reimbursement costs to the State and City for bridge repair;
- Loss of wages; and
- Loss of employment.

What if I Do?

If you have mistakenly entered a parkway and are approaching a low overhead clearance:

- Stop the truck safely, on the shoulder where practical;
- Turn hazard lights on;
- Call 911 for assistance;
- Set out hazard warning devices if equipped and trained to do so.

Obey the Signs!

No Commercial Vehicles, Trucks, or Tractor Trailers are Permitted on New York State's Parkways. Commercial Vehicles must look for and obey these signs:

PASSENGER CARS ONLY

NO COMMERCIAL VEHICLES



These signs mean "No Trucks." They are typically located at the entrance ramp for parkways or are attached to guide signs indicating roadways where trucks, trailers and tractor trailers are not permitted.

MAXIMUM VEHICLE HEIGHT 6'-11"

This sign prohibits all vehicles above 6'11" in height from entering a roadway where it is posted.

6'-11"
CLEARANCE



When a bridge has an overhead clearance less than 14 feet, this sign is posted on the bridge indicating the legal overhead clearance of the bridge or elevated structure.

This sign is used to warn drivers in advance of bridges and overhead structures posted with low clearance.

Note: DO NOT rely solely on GPS units or online mapping services. They may incorrectly route you onto a parkway. Always obey posted signage.



Governor David Paterson in coordination with Westchester County, has proposed legislation for higher penalties including jail time and confiscation of trucks if ticketed on parkways.

Press Release Oct 14, 2009

Lessons Learned

- Increasing the number of signs has not proven effective (NYSDOT Research)
- Need to improve sign location before parkway on ramps
- GPS units and navigation software designed for auto use are routing trucks onto parkways



Next Steps and Future Work

- Proof of concept pilots for commercial vehicle detection and driver notification systems (Nov 2009 to Summer 2010)
- Identify funding for testing of commercial vehicle detection on parkways as was done with NYSDOT on TIGER application (Spring 2010)
- Compile GIS database of all low bridges in NYC, including other owners (Summer 2010)
- Continue to work with NAVTEQ, TeleAtlas, ProMiles, ALK Technologies and Google to develop GIS navigation with low bridge data.
- Develop a regional GIS database of low bridge clearances in collaboration with industry, other transportation agencies and railroads and deploy in navigation systems

Challenges

- Coordination between Public and Commercial interests
- Updating Data (both on public side and commercial products)
- Education of Out of State Drivers
- Police Response Time Versus Notification Time
- Legal/Safety Issues (esp relating to bars)
- Cost of Deploying Technology Solutions

Successes

- Sharing of Data Layer
- Law Enforcement Effort
- Coordination Between Entities
- Outreach and Education
- CUNY Phase 1 and 2 of 3 Part Study
- Survey Instruments
- Sign Location Changes

Side Benefits

- Relationships formed out of joint operation
- Leveraging technology for multiple purposes:
- LPR for Law Enforcement
- LPR for Video Analytics, Weigh in Motion, Speed/Capacity
- Improved Coordination with Private Sector

Thank you

