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 101

- 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

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
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