Park Ave Tunnel: Safety Improvements in Manhattan

May 14, 2009
Today’s Presentation

- Project Location
- History
- Project Area
- Before Conditions
- Major Issues
- Crash Data
- Improvements (1999 & 2008)
- Results
Project Location

- New York City
- Midtown Manhattan
- Park Ave & E. 33rd St
- Park Ave & E. 40th St
History

• 1834: Originally built as an open railroad cut
  • used by steam and horse-drawn trains
• 1852: covered to create tunnel
• 1870-1934: used by electric streetcars
• 1937: converted to automotive use
Park Ave Tunnel Safety Improvements

Project Area

- At Grade (South of 33rd St)
- At Grade & Tunnel (33rd – 40th Sts)
- Viaduct (40th – 46th Sts)
- At Grade (North of 46th St)
Park Avenue at E. 33rd Street

BEFORE
Park Avenue, E. 40th Street to E. 46th Street

BEFORE
Before Conditions

E. 33rd St and Park Ave facing North
Before Conditions

E. 33rd St & Park Ave facing South
Before Conditions

E. 40th St and Park Ave facing South
Before Conditions

E. 40th St and Park Ave facing South
**Major Issues**

- Pedestrian-Vehicle conflicts at mouth of the tunnel
- Poor pedestrian visibility into tunnel
- High-speed traffic exiting tunnel
- Pedestrians crossing against signal
- Pedestrians stranded in middle of intersection
Park Ave Tunnel
Safety Improvements

Crash History

• #1 Pedestrian Crash Location in NYC

• Average 1996-2007 = 11.6 per year
Pedestrian Behavior

- 81% of pedestrians struck were crossing against the signal
- 66% were struck by southbound vehicles
1999 Improvements

• WB through movement on E 33rd St. banned

• Jersey barriers installed

• High risk northern crosswalk eliminated

• Pedestrian fencing installed at NW corner and median
1999 Improvements (cont.)

• Flexible delineators installed to separate tunnel entrance and exit
1999 Improvements (cont.)

- Pedestrian and vehicle signage upgraded
Park Avenue at E. 33rd Street

BEFORE

AFTER
2008 Improvements at E. 33rd St

- Converted Park Ave Tunnel to One-Way Traffic Only, closing SB lane
- Neckdown on SE corner to shorten crossing, align with NE corner
- Realigned Jersey barriers to separate NB tunnel traffic from SB local traffic
- 10’ pedestrian refuge island in south crosswalk
Improvements South of E. 33rd St

- Channelize moving lanes on SB Park Avenue south of East 33rd St. to align with downstream traffic south of East 32nd St.
Park Avenue, E. 40th Street to E. 46th Street

BEFORE

AFTER
2008 Improvements at E. 40th St

- SB viaduct lanes reduced from two to one
- SB viaduct directs vehicles to SB Park Avenue main line
- NB viaduct lanes widened to 10' from 9'
- 8' pedestrian refuge island on the south crosswalk of East 40th St.
- Installed flexible delineators
Park Ave Tunnel Safety Improvements

BEFORE

E. 33rd St & Park Ave Facing North

AFTER
Park Ave Tunnel Safety Improvements

BEFORE

E. 33rd St at Park Ave facing South

AFTER
Park Ave Tunnel Safety Improvements

BEFORE

E. 33rd St Southeast Corner

AFTER
Park Ave Tunnel
Safety Improvements

BEFORE

E. 40th St & Park Ave Facing North

AFTER
Park Ave Tunnel
Safety Improvements

Signage (After)

E. 33rd St Tunnel Entrance
E. 40th St Tunnel Exit
SB Viaduct
E. 33rd St from NW corner
NB Viaduct at E. 42nd St
Results

• **Zero pedestrians** injured while crossing Park Avenue at 33rd St since implementation
• Total Injuries at Park Avenue & 33rd Street have decreased by 74%
• Pedestrian injuries on the Park Avenue SB local lanes have decreased by 46%
• Illegal EB & WB pedestrian crossings decreased by 50%
• 30 pedestrians per hour wait in refuge
Results (cont.)

• SB travel times from E. 49th to 31st increased by 1 min at AM peak, 2-3 min at PM peak

• Traffic still composed primarily of taxis: 50-73%

• Queues are on viaduct, where impact is low

• SB viaduct operating better than expected
  – 875 vph in one lane
  – 25% switched routes or modes
Park Ave Tunnel
Safety Improvements

Park Ave and E. 33rd St Today
Comments or Questions?