



Construction Safety Week 2011

Safety Innovations at NYC's Largest Projects
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April 25, 2011 – NYU Rosenthal Pavilion

Today's Agenda

- **National Statistics**
- **NYC Statistics**
- **Major Projects Safety Education**
- **Future Goals**
- **Building Integration Modeling (BIM)**
- **Innovative Edge Protection**

Top five injury causes in the workplace:

- **Overexertion**
- **Fall on same level**
- **Bodily reaction (slips & trips)**
- **Struck by object**
- **Fall to lower level**

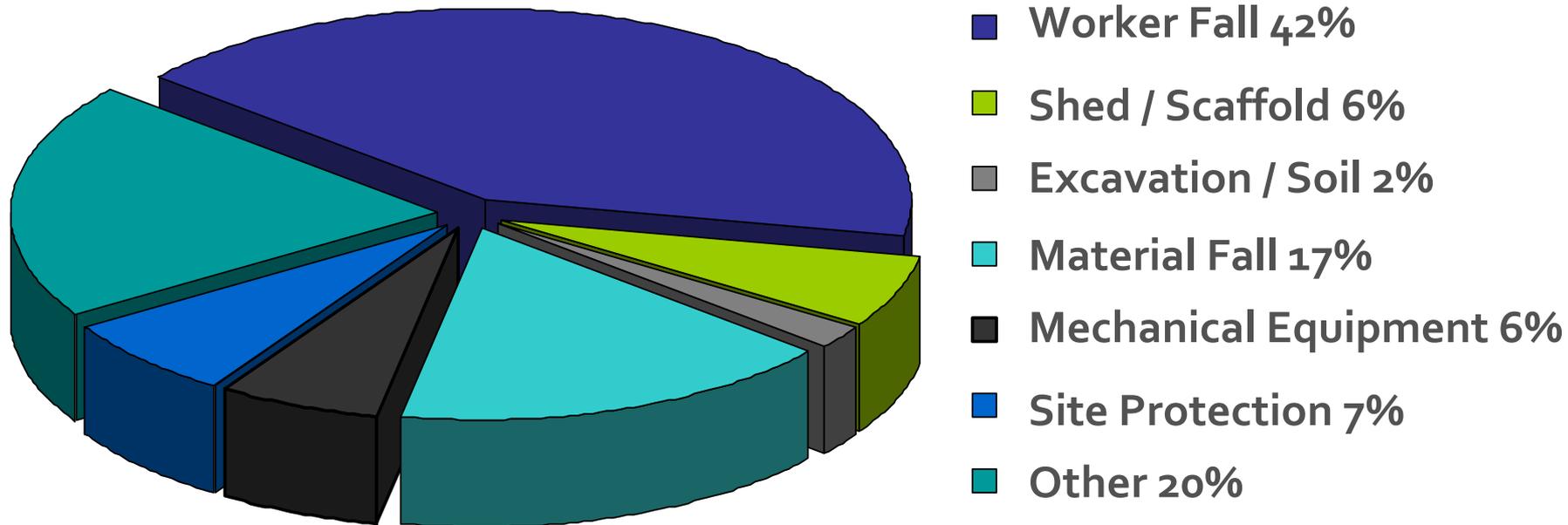
- **Top five accounted for 71% of the total 2008 cost burden**
- **Top 5 workplace injuries and illnesses in 2008 amounted to \$53.42 billion in direct U.S. workers compensation costs, more than one billion \$ per week**

- **Workers in construction incurred the most fatal injuries of any industry in the private sector in 2009.**
- **The subsector with the largest number of fatal work injuries - Specialty Trade Contractors**

NYC Construction Accidents

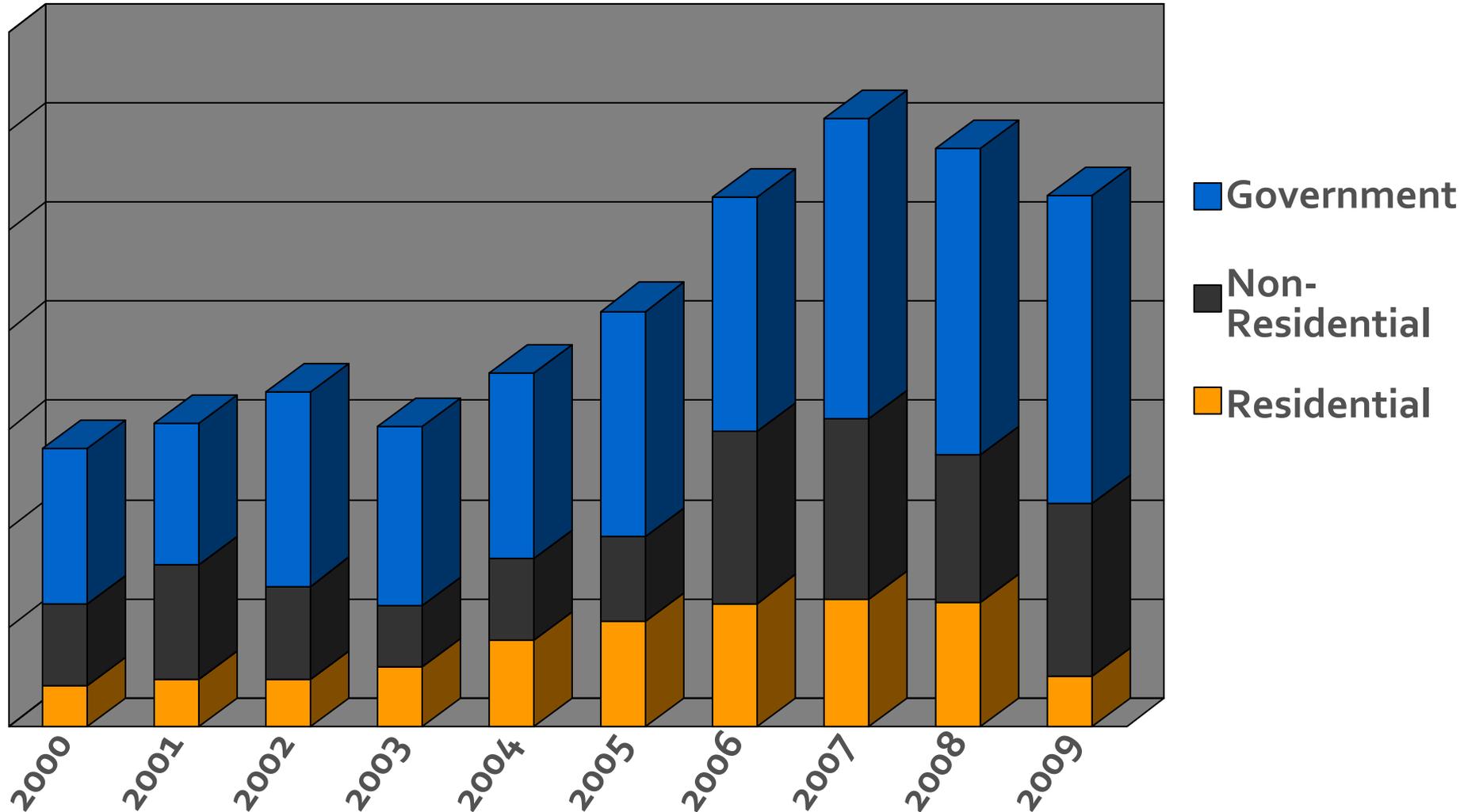
Top 2 indicators:

- Worker Fall 42%
- Material Fall 17%



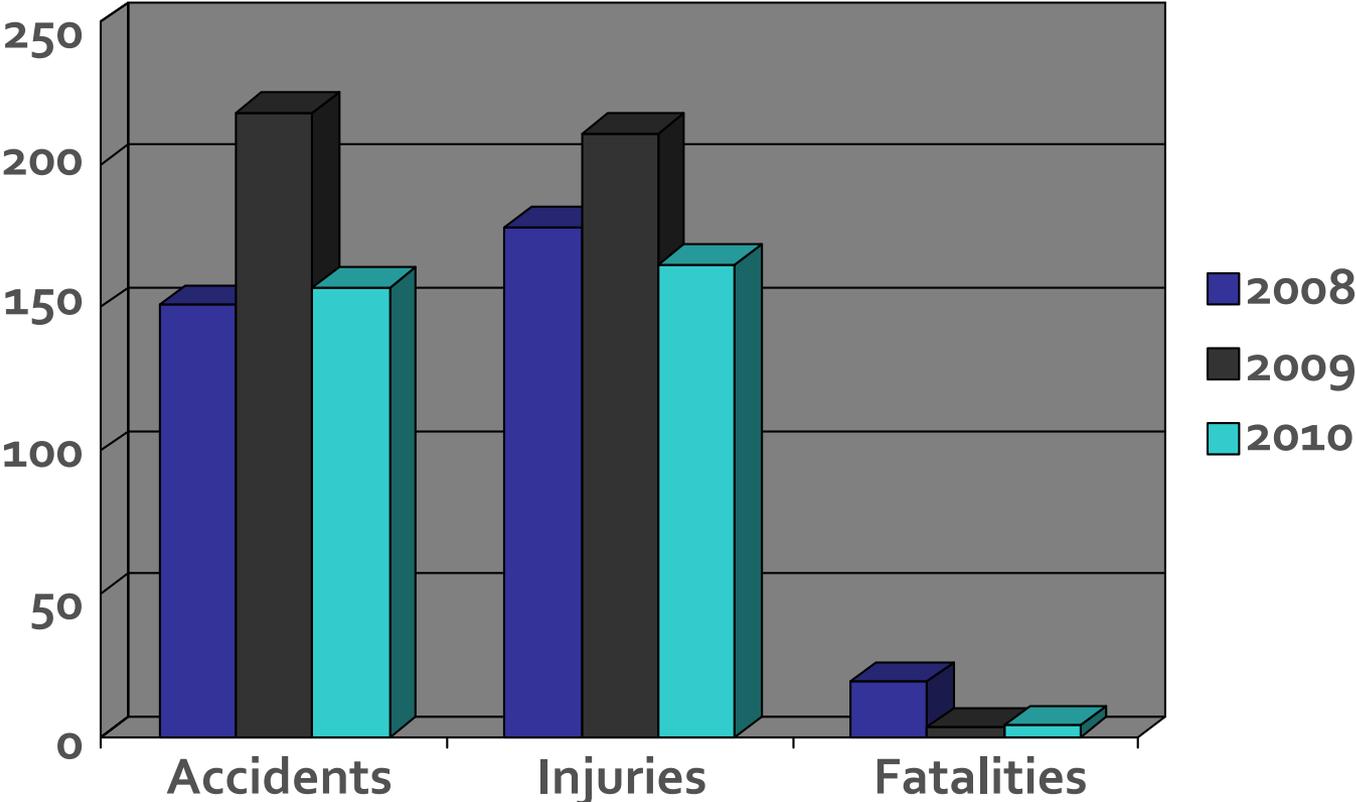
Safety vs. Contract Value

A Decade of Construction Spending in NYC- Dodge Report



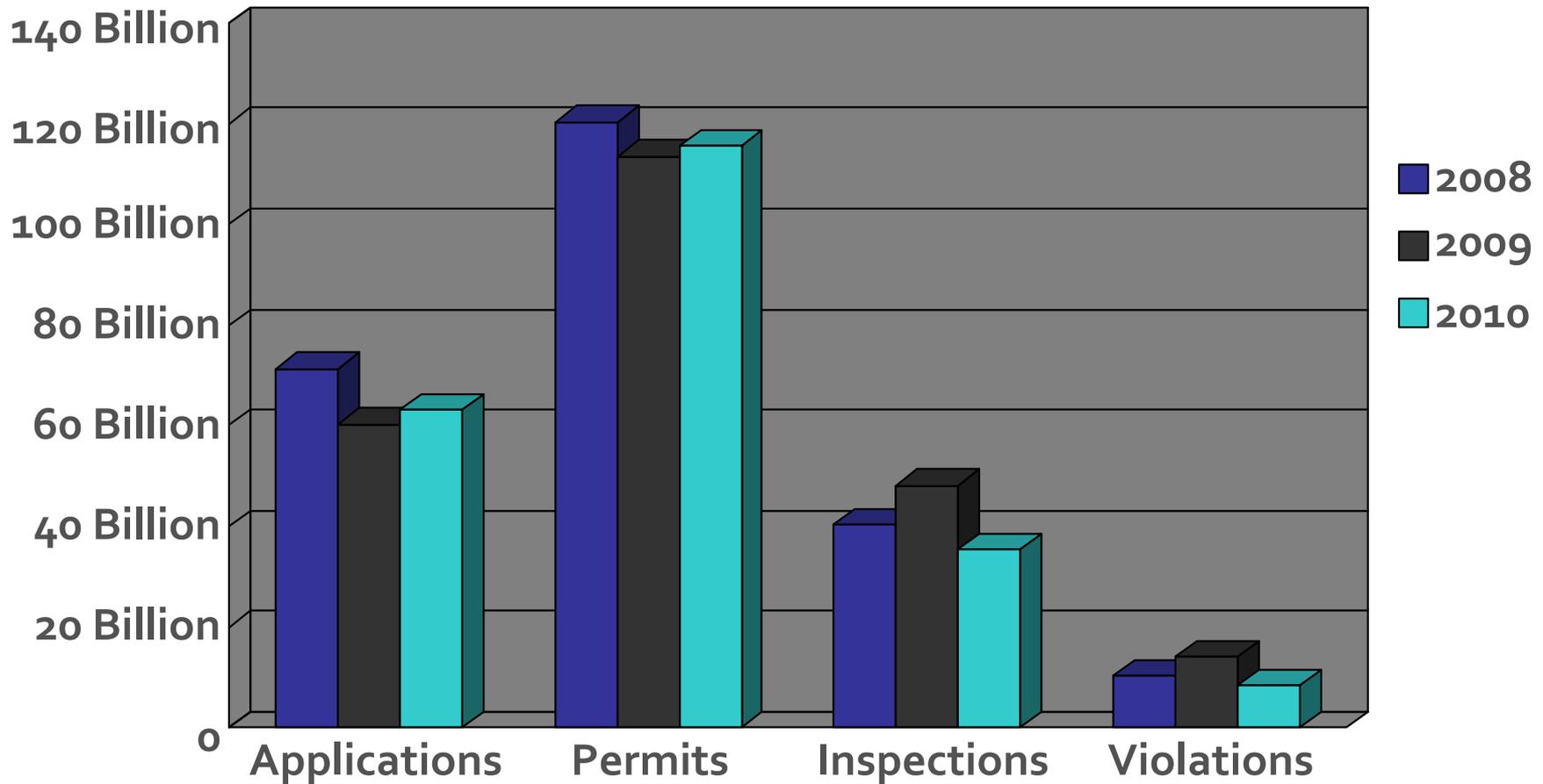
Construction Accident Data

Construction-related accidents, injuries and fatalities



Safety vs. Contract Value

Applications, Permits, Inspections & Violations

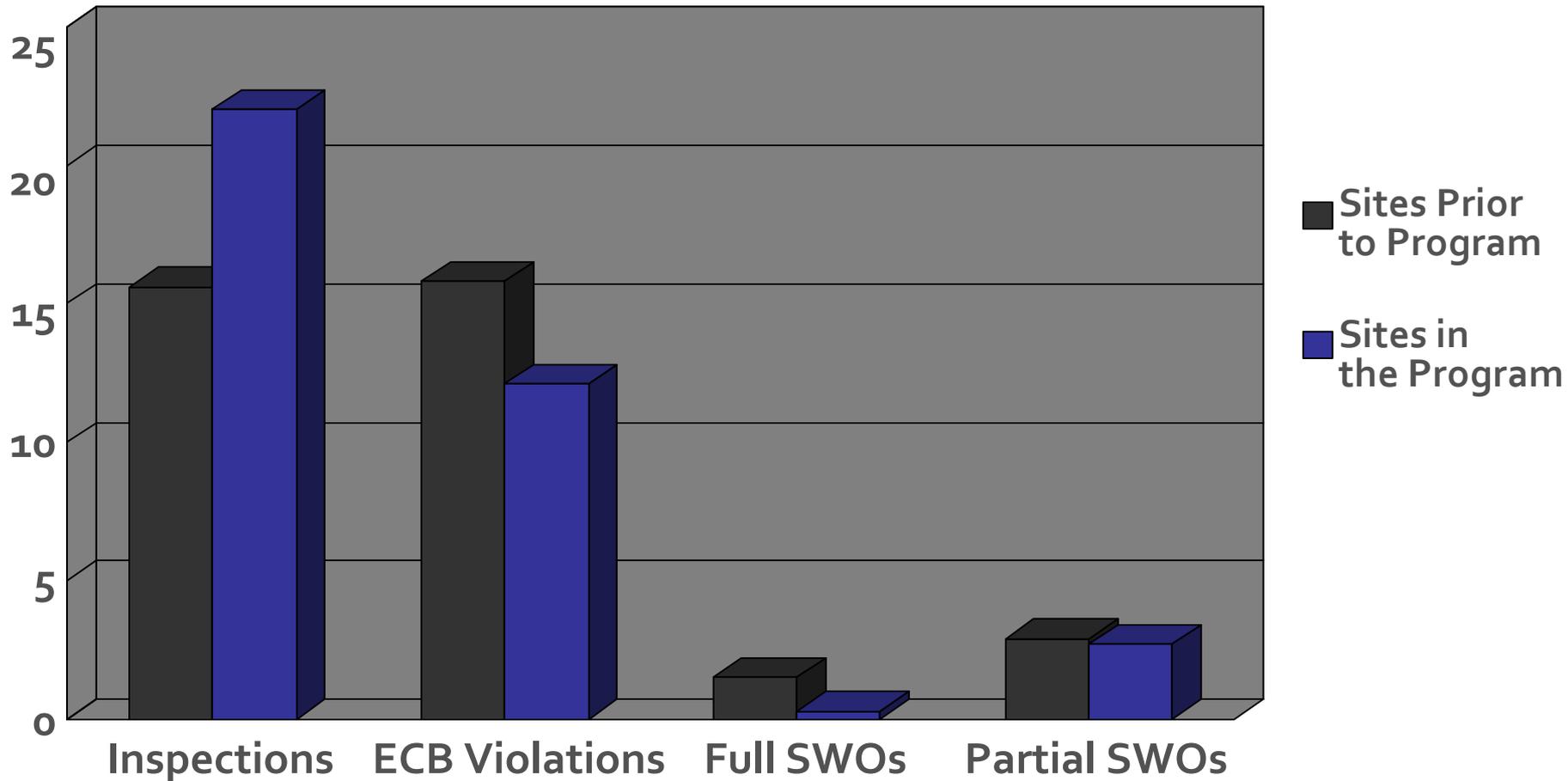


- **Scaffold Safety Team**
- **Excavation Unit**
- **BEST Squad**
- **Major Buildings Pilot Program**

- Prior to 2009, 10 major buildings accumulated **567** violations and **43** Full Stop Work Orders resulting in **over 400** days of lost work
- Major building safety education initiatives:
 - o 10 major projects since January 2009 with **169** violations and **4** Full Stop Work Orders resulting in less than **less than 20** days of lost work

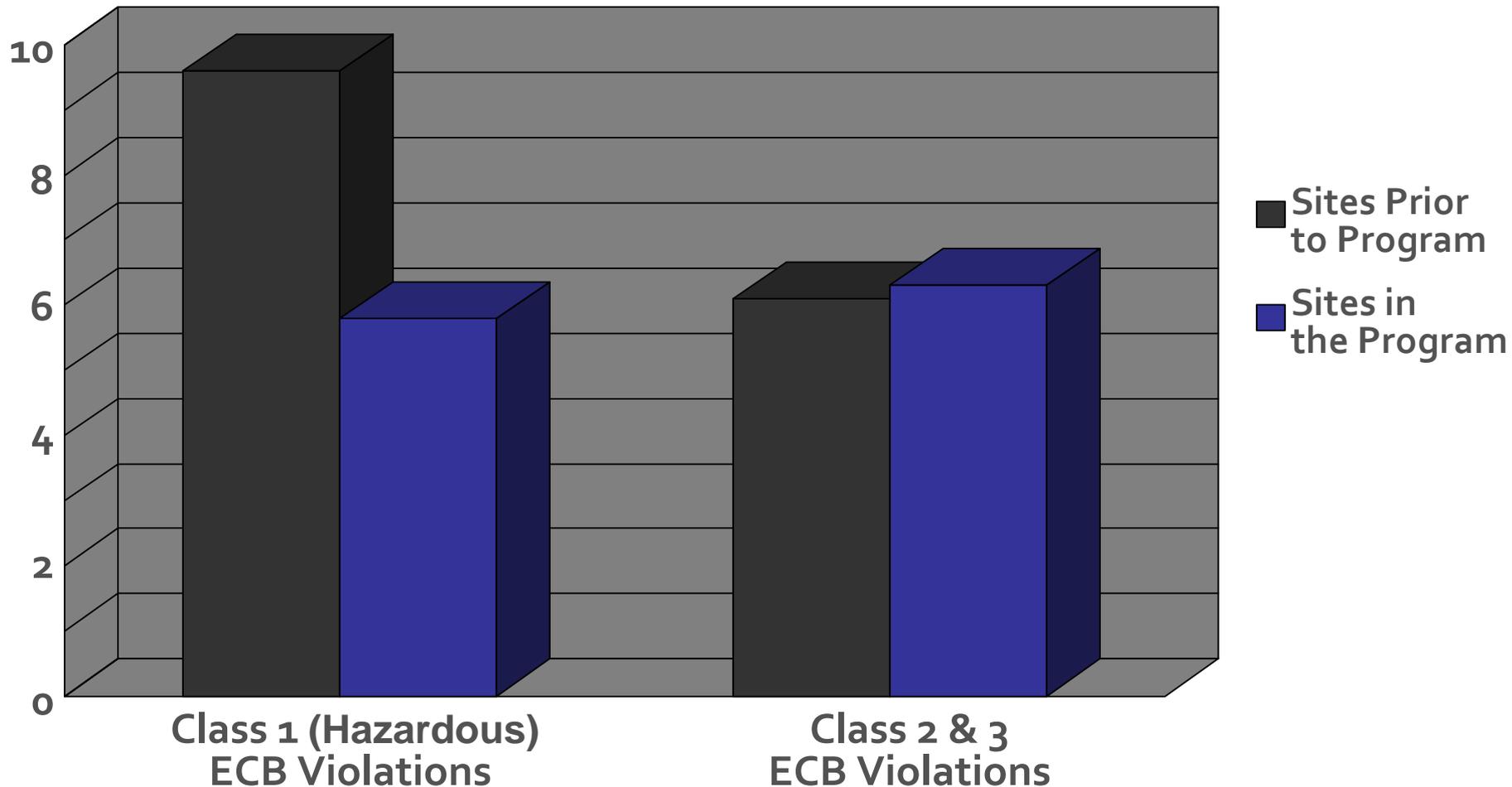
Inspections & Violations

Monthly Comparison: Inspections & violations prior to the creation of the Major Projects Pilot Program vs. sites in the program



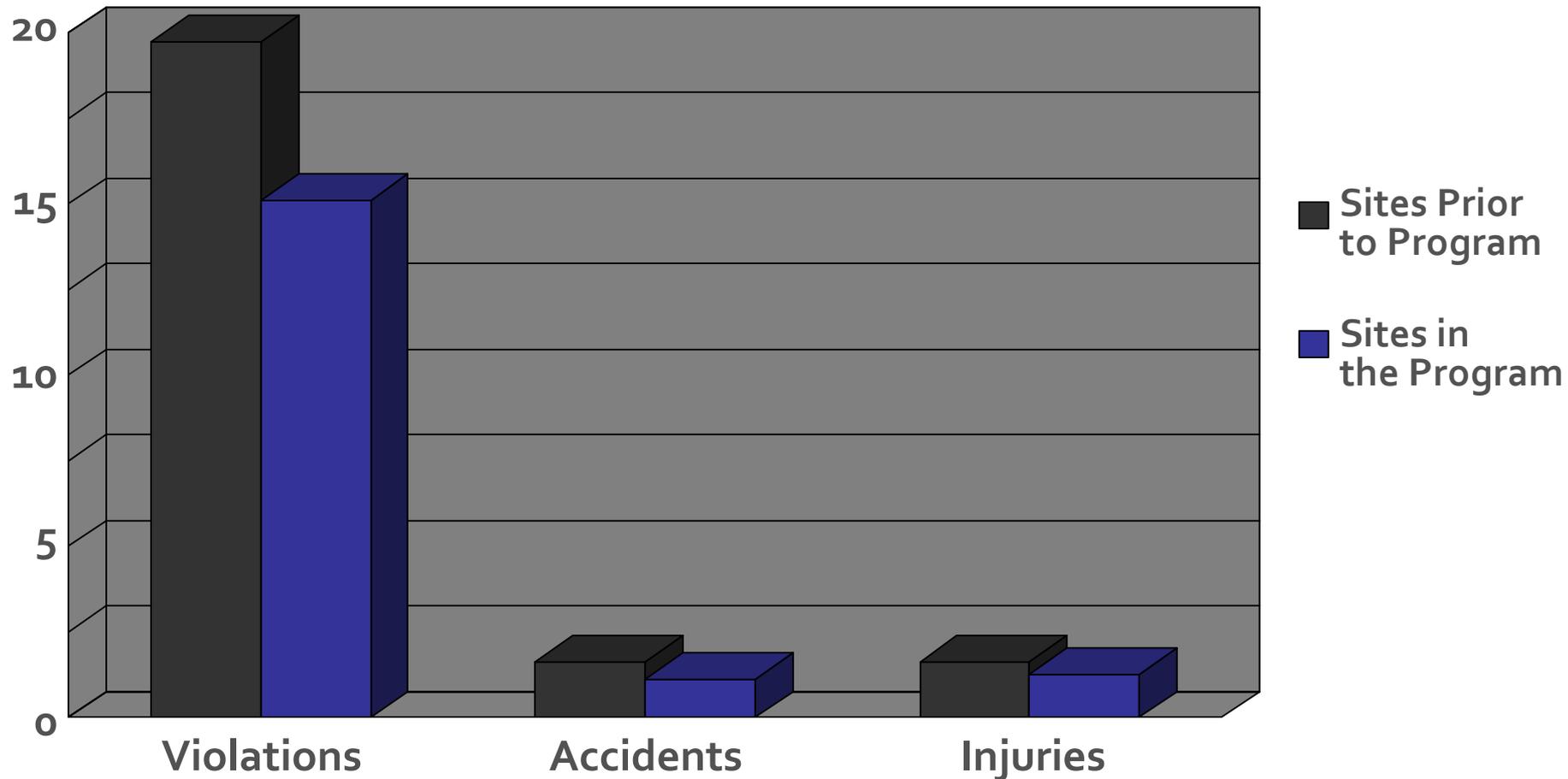
Violation Classification

Monthly Comparison: Violations sites prior to the creation of the Major Projects Pilot Program vs. sites in the program



Safety Performance

Monthly Comparison: Violations & accidents & injuries at sites prior to the creation of the Major Projects Program vs. sites currently in the program



Major Project Goals

- Promote innovation
- Share information
- Communicate expectations
- Enforce expectations
- Improve common goals safer work site / safer public
- Leverage technology

Exclusion Zones – Equipment

Shea Stadium Demolition



Exclusion Zones / 3D Modeling



Yankee Stadium Demolition

Coordinated Operations

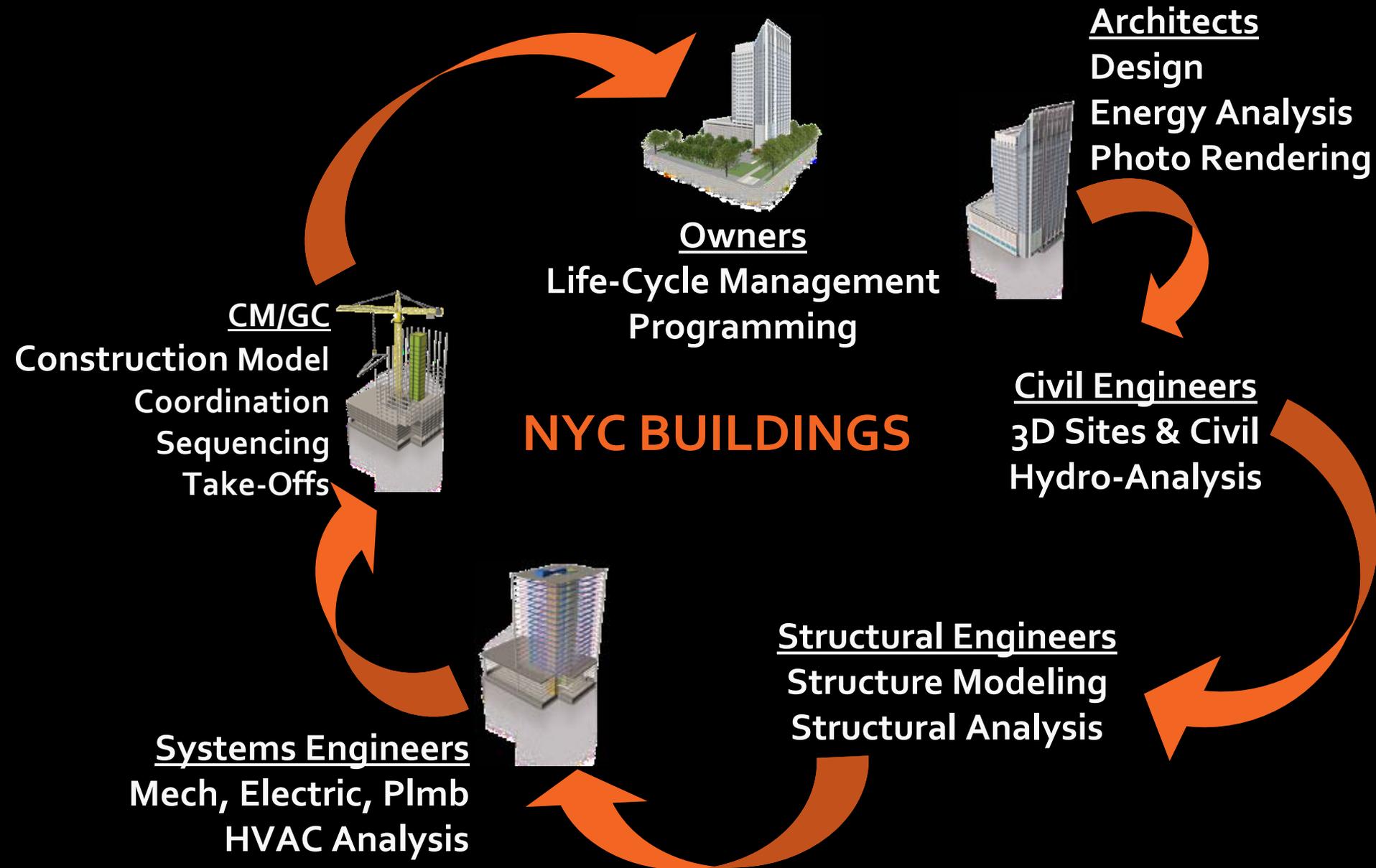
The New School



- **Alternative Netting Systems – Buildings Bulletin 2010-001 design parameters for netting and system components**
 - Over a dozen projects with some form of cocoon
- **Internal climber cranes**
- **External stairwells**
- **Planning**

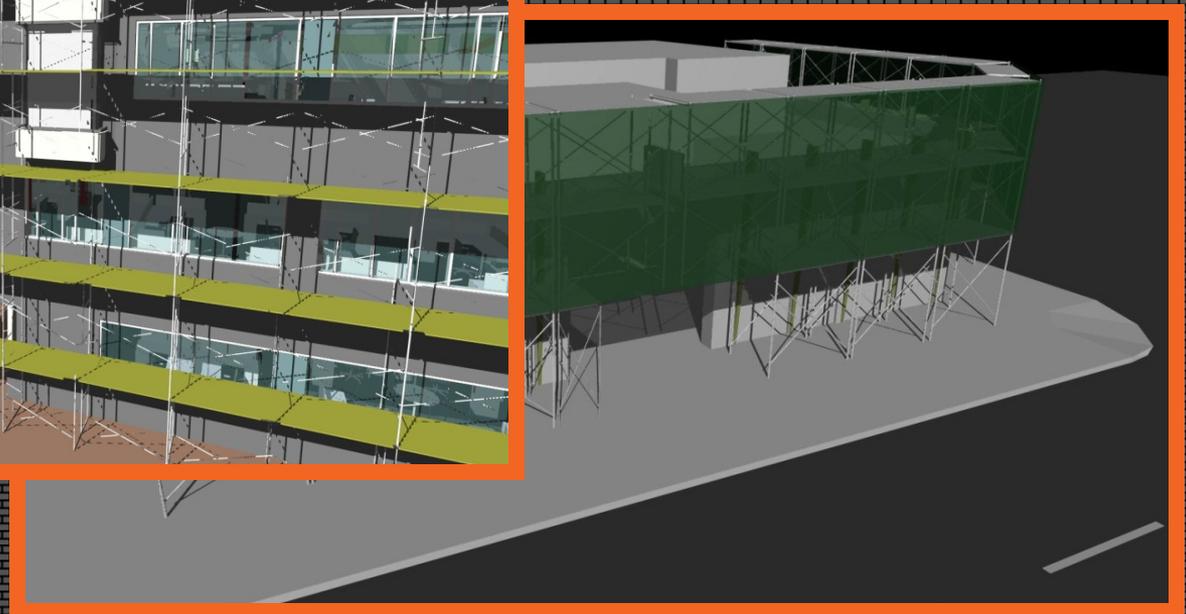
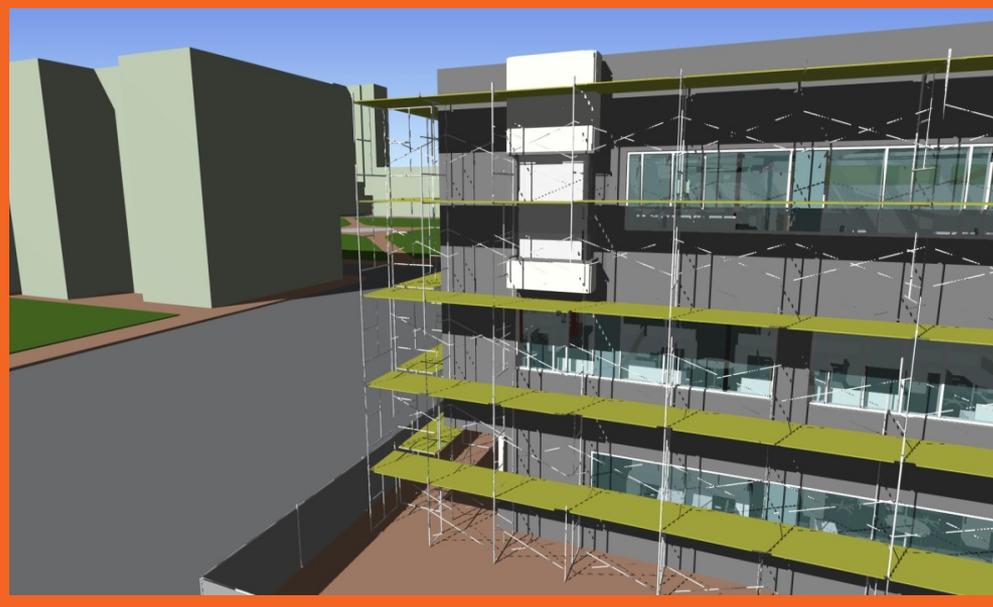
- **BIM**
- **Using technology to eliminate changed conditions and plan jobsite logistics**

Project Life Cycle



Site Logistics & Safety Planning

- Most frequently cited DOB violations
- Program history to eliminate violations and accidents



- **2007 – Average 5 – 10 Plan sheets 2- 3 revisions**
- **2010 – Average 10 – 15 plan sheets
Multiphase Jobs > 50 Plan sheets 5+ revisions**

- **Site Safety Plan 2011**
- **DOB review 3D site safety plans**



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