

## CHALLENGES IN TECHNICAL, PHYSICAL, POLITICAL, SOCIOECONOMIC, OUTREACH, MESSAGING

**How did the Ecuador Army Corps react immediately after the earthquake?**

*What tools did you use? Was ATC-20 tagging applied?*

**What is the current status of recovery?**

*Were there code modifications for new and existing infrastructure and buildings?*

**How important is the involvement of communities in achieving resilience for extreme events, but also day-to-day use of our infrastructure?**

*What have you learned about the reaction, recovery (short- and long-term) of the people?*

**Can you share a personal experience?**



2016  $M_w$ 7.8 Ecuador Earthquake  
Mini-Symposium, NYC, 5/30/17



## CHALLENGES NYC INFRASTRUCTURE SYSTEMS

**Paul Nietzschmann, PE**  
WSP USA

**Are there plans for upgrade and actions for retrofit for transportation and other infrastructure systems?**

**What are the challenges of implementation?**

**How are the new bridge projects designed?**  
*(e.g., Bayonne raising, Tappan Zee, retrofit of Queensboro)*



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## CHALLENGES NYC EXISTING BUILDINGS

**Karl Rubenacker, PE, SE**  
Gilsanz Murray Steficek LLP

**Are there building code requirements for upgrade and actions for retrofit?**

**What are the challenges of implementation?**

**What are the buildings of highest priority for retrofit?**



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## CHALLENGES NYC EXISTING BUILDINGS

**Melissa Umberger**  
NYCEM - New York City Emergency Management

**What is the NYC Seismic Hazard Mitigation Plan?**

**How is NYC preparing and how will it react immediately after an earthquake?**

**What are the future plans for preparedness?**

**Are there selected priorities for retrofit?**



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