I-278 GOWANUS EXPRESSWAY VIADUCT, BROOKLYN, NY, USA:
- Only interstate highway in Brooklyn, NY
- Built in 1941, widened in 1961 to 6-8 lane expressway, extended to Verrazano-Narrows bridge
- 200,000 Average Daily Traffic (ADT), with more than 10% trucks
- 3.7 mile long viaduct with 322 spans
- Over 2,000,000 ft^2 of concrete deck

PROJECT FEATURES
Original Application of Maturity Testing For Rapid Reconstruction of Bridge Decks
- First application in New York State
- First nationwide ultra-early strength monitoring

Innovative Special Specifications
- Combined performance & prescriptive requirements on mix design, testing, concrete mixing, and curing

Complexity of Project
- Develop low-slump workable concrete that can achieve 3,000 psi strength in 15 hours and has low cracking potential
- Laboratory and field testing using maturity loggers or temperature sensors embedded in concrete
- Rapid deck replacement within limited time constraint (weekend lane closure) while maintaining nearby traffic

Owner Needs Exceeded
- Successful early opening to traffic
- Improved reliability of temperature measurement
- Reliable attainment of design strength in specified time
- Minimized construction time
- Reduced disruption to the public and motorists

Future Value
- Statewide and possibly nationwide use of the new maturity application and the new special specifications
- With cold weather requirements, the specifications are potentially applicable to Canadian bridge projects

STRENGTH MATURITY RELATIONSHIP