

### A. Koray Tureyen | Senior Associate



#### EDUCATION

- Middle East Technical University,
  - Bachelor of Science, Civil Engineering, 1997
- Purdue University
  - Doctor of Philosophy, Civil Engineering, 2001

#### PRACTICE AREAS

- Failure Investigation
- Repair and Rehabilitation Design
- Earthquake Engineering
- Facade Investigation
- Litigation Consulting
- Materials Evaluation and Research
- Structural Evaluation
- Testing and Instrumentation

#### REGISTRATIONS

- Professional Engineer in MI

#### PROFESSIONAL AFFILIATIONS

- American Concrete Institute
- Precast/Prestressed Concrete Institute

#### TECHNICAL COMMITTEES

- ACI 408 - Bond and Development
- ACI-ASCE 445 - Shear and Torsion

#### CONTACT

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#### EXPERIENCE

Since joining WJE in 2002, A. Koray Tureyen has conducted investigations involving structural and materials-related problems of reinforced concrete, steel, masonry, and wood structures. His forensic engineering experience includes evaluation of damage caused by earthquake, explosion, wind, fire, corrosion, and construction accidents. Dr. Tureyen has also gained experience in exterior facade investigations and troubleshooting of water infiltration problems through roof and facade systems.

Before joining WJE, Dr. Tureyen was an instructor at Purdue University and taught materials engineering and senior design courses. Through his work as a graduate research assistant, he gained experience in bridge design with an emphasis on the use of fiber-reinforced polymer bars and large scale testing, instrumentation, and monitoring methods. Additionally, Dr. Tureyen has experience in earthquake damage evaluation and dynamic analysis of reinforced concrete structures as a result of his involvement in research following the 1999 Kocaeli and Duzce earthquakes in Turkey.

#### REPRESENTATIVE PROJECTS

##### Failure Investigation

- Detroit Music Hall - MI: Investigation of explosion loading effects on architectural wall panels
- Dearborn CSO No. 2 - Dearborn, MI: Structural failure investigations of a 136-foot-inside diameter, 7.5-foot-thick reinforced concrete caisson shaft

##### Repair and Rehabilitation Design

- Harborview Ridge - Petoskey, MI: Structural evaluation of wood trusses and steel column repairs
- Northern Michigan University, Steam Transmission Vaults - Marquette: Evaluation of deterioration in the precast concrete steam transmission vaults and design of repairs
- ISP Wastewater Tank - Calvert City, KY: Structural analysis of an above ground precast concrete post-tensioned wastewater tank for earthquake motions and structural repair design for identified deficiencies

##### Earthquake Engineering

- Bassett Hospital - Cooperstown, NY: Structural analysis of a six-story, reinforced and precast concrete structure with steel plate shear walls for earthquake loading
- Operations Control Center - Boston, MA: Structural analysis against earthquake loading of a two-story, steel-braced frame structure with an irregular high bay

##### Facade Investigation

- Park Place Building at Cincinnati - Cincinnati, OH: Evaluation of exterior insulating foam system inspection for proper anchorage and design of supplemental anchors
- Atrium Corporate Center - Rolling Meadows, IL: Investigation of water leakage problems through standing seam metal roof, glass curtain wall, insulated metal panel, and concrete wall panels of a commercial building

##### Testing and Instrumentation

- Purdue University, Graduate Research - West Lafayette, IN: Instrumentation and testing of full-scale structural concrete beams for bond and shear
- Raycore Insulated Wall Panels - Northbrook, IL: Instrumentation and gravity load testing to failure of extruded polystyrene-insulated wall panels