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## List of Acronyms

- AA – Alternatives Analysis
- AASHTO – American Association of State Highway Transportation Officials
- ACHP – Advisory Council on Historic Preservation
- ADA – Americans with Disabilities Act
- AREMA – The America Railway Engineering and Maintenance of Way Association
- BPM – Best Practices Model
- BRT – Bus Rapid Transit
- CFR – Code of Federal Regulations
- CRT – Commuter Rail Transit
- DEIS – Draft Environmental Impact Statement
- EIS – Environmental Impact Statement
- EOT – Edge of Travel Way
- FHWA – Federal Highway Administration
- GP – General Purpose (roadway lanes)
- GPR – Ground Penetrating Radar
- HDM – Highway Design Manual
- HOT – High Occupancy Toll
- LRFD – Load and Resistance Factor Design
- LRT – Light Rail Transit
- MNR – Metro-North Railroad
- MTA – Metropolitan Transportation Authority (State of New York)
- NFPA – National Fire Prevention Association
- NHL – National Historic Landmarks
- NHPA – National Historic Preservation Act
- NPV – Net Present Value
- NRE – National Register Eligible
- NTS – Not to Scale
- NYSDOT – New York State Department of Transportation
- NYSHPO – New York State Historic Preservation Office
- NYSM – New York State Museum
- NYSP – New York State Police
- NYSTA – New York State Thruway Authority
- PANYNJ – Port Authority of New York and New Jersey
- PSHA – Probabilistic Seismic Hazard Assessment
- ROW – Right-of-Way
- SAWG – Stakeholders Advisory Working Group
- TARA – Threat and Risk Assessment
- TDM – Travel Demand Management
- TSM – Travel System Management
- TOFC – Trailer on Flat Car
- TZB – Tappan Zee Bridge
- VMT – Vehicle Miles Traveled



TAPPAN ZEE BRIDGE/I-287  
ENVIRONMENTAL REVIEW

## ALTERNATIVES ANALYSIS FOR REHABILITATION OR REPLACEMENT OF THE TAPPAN ZEE BRIDGE

### PREPARED BY

This report was prepared for NYSDOT, MTA/MNR and NYSTA by Ove Arup & Partners Consulting Engineers, PC (Arup)

Prime Consultant:

David Palmer, P.E., Principal, Arup

Description of Work Performed by Firm:

Arup prepared the Rehabilitation or Replacement Report of the Tappan Zee Bridge including engineering work, risk assessment and cost estimates. Arup performed program of analysis examining the viability of the proposed schemes for

- (1) A replacement of the Tappan Zee Bridge in the area of the deep soft soils and
- (2) A rehabilitated bridge at the main spans to further establish the foundation requirements.

SubConsultant:

Hugh S. Lacy, P.E., Principal, Mueser Rutledge Consulting Engineers (MRCE)

Description of Work Performed by Firm:

MRCE assisted Arup in preparing the Rehabilitation or Replacement Report of the Tappan Zee Bridge. MRCEs work included:

- (1) Implementing a geotechnical investigation to define the subsurface conditions across the Hudson River in the vicinity of the existing and replacement bridge.
- (2) Studied foundation alternatives for both the rehabilitation and replacement options
- (3) Prepared a Probabilistic Seismic Hazard Evaluation (P.S.H.A) study to derive ground motions at rock for hazard levels prescribed for the bridge,

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Description of Work Performed by Firm:

Earth Tech/AECOM prepared the environmental and transportation analyses for this report as presented in Chapters 6 and 7. This work also included the Preliminary Section 106 Effects Analysis and Section 4(f) evaluation presented in Appendix D.

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