

Bridge Grand Challenge Session Notes

- FHWA goal for the new millennium is to build bridges with twice today's span length at ½ the cost that will last twice as long.
- Why not have as an overarching goal for NEES to develop cost effective bridges that will remain fully operational after a significant earthquake
- Develop the missing information (fragility curves, repair costs, downtime, limit states etc) that enables us to assess the vulnerability of highway networks (i.e. a Hazus program for highway systems)
- Focus on problems that have been around for sometime that the NEES equipment can now address and put these problems to rest. e.g. abutment/backfill interaction, vertical acceleration, spatial variation of ground motions.
- Liquefaction and lateral spread – this is both a bridge and building issue
- Develop the capability to assess the performance of complete bridge systems including abutments/backfill, soil structure interaction, seismic control devices etc.
- Develop new bridge design concepts that are in the spirit of the FHWA goal and have significantly better seismic performance
- Long term monitoring systems
- Recommend the development of a NEES directory that summarizes the areas of interest and expertise of individuals interested in participating in grand challenge type projects.