PROBABILITY OF DETECTION (POD) STUDY FOR BRIDGE INSPECTION RELATED TO STEEL BRIDGES

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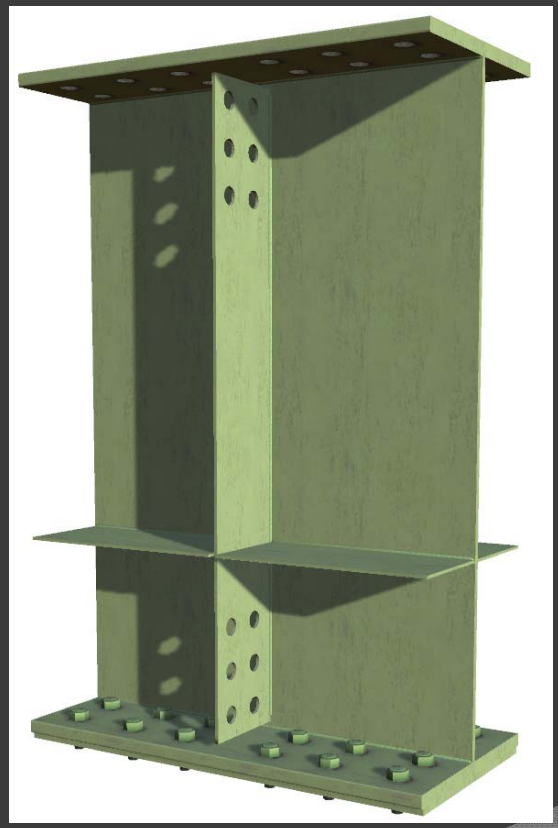
Research Objectives

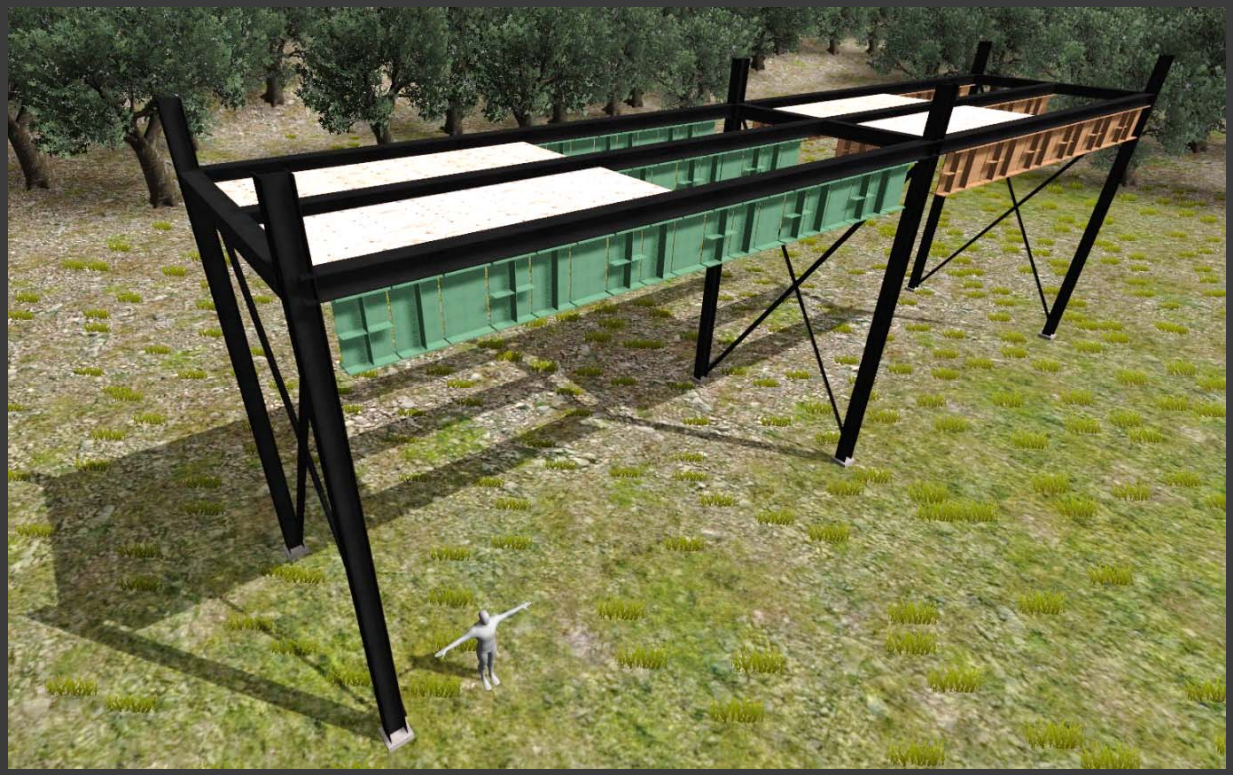
- Determine the probability that inspectors find surface defects of various sizes
- Establish methods for improving probability of detection in steel bridges



Research Tasks

- Establish test matrix, testing procedures and arrangement of specimens
- Produce specimens with realistic defects
- Assemble test specimens on simulated bridge
- Use current bridge inspectors to inspect the test bridge
  - Using only visual inspection from common access equipment
- Use results to determine probability of detection related to crack size
- Develop recommendations to improve visual inspection of steel bridges

S-BRITE POD Fixture



- Painted Steel & Weathering Steel Girders
- Specimens elevated 25 feet from the ground
- Represents a three-girder bridge with 2-40 foot spans
- Rendering generated by the Envision Center at Purdue University