MacArthur Maze
Tanker Fire/ Bridge Collapse
880 Restoration
Interstate 80

Oakland

To Bay Bridge

580 - East

880 - South
RESPONSE

• Caltrans engineers begin initial damage assessment as the fire burns.
• Plan developed to remove collapsed upper structure and determine lower ramp damage.
• Material samples are taken for analysis.
• Damage to lower bridge fully defined after demo.
Initial Focus Was On The 2 Steel Bent Caps.

- Look at feasibility of re-building 580 structure.
- Using the adjacent spans to facilitate the demo process.
- Stability of bridge piece hanging from left bent.
Shoring

- SM&I Design team develops shoring plans to support lower structure.
- Material samples are tested to validate the integrity of steel and concrete.
- Debris removed and detailed investigation of East Bay Viaduct initiated.
- Design work underway for replacement spans above.
Reconstruction

• Lower bridge shoring is installed and the bridge was jacked up 4+ inches.
• Polyester overlay placed on the concrete deck
• Bridge rail repaired
• Heat straightening of girders begins.
Traffic Resumes 8 Days after Fire
Reconstruction Continues

- Once traffic was restored, the repair of the girders begins.
- Heat straightening restores girder shape.
- The heat straightening also transfers the load back onto the girder.
- Once the load is transferred the shoring is removed.
- Concrete bent encased in seismic casing, cosmetic repairs on the concrete bent cap and steel painting completed.
Completed Project:

Original Directors Order covered $2 million for Demolition and $8 million for repairs