California Department of Transportation

State wide

• 50,000 miles of freeway lanes
• 24,000 state and local bridges
• 6700 Civil Engineers

2014 Construction Statistics

• $158 M on 30 bridges and 4 bridge widenings
• 13 of the structures used precast girders
ABC in California

- Emergency Projects
- Site Condition Constraints
- Programmed Projects
Paramount Blvd OC Emergency Replacement
Paramount Blvd OC Emergency Replacement

- 2-span replacement structure
- PC/PS Bulb T Girders
- Steel Deck Forms
- A+B Contract
- Incentive/Disincentive

Contractor on site March 2, 2012
Open to traffic May 21, 2012
San Mateo-Hayward Bridge Widening (2002)

- Up to 270 feet of structure completed per week
- 5.15 mile long portion of south bay crossing
- PC Hollow Piles
- PC Cap Tubs
- PC Girders
- PC Deck Forms
San Francisco Oakland Bay Bridge Yerba Buena Island Viaduct
4 Day Closure to Traffic

Hardscrabble Creek
Bridge 2008
8 Hour Closure to Traffic
SPMT’s

East Yard Overhead Bridge Move 2014
Programmed ABC Projects

• The transportation landscape has changed
  – Aging infrastructure
  – Population growth
  – Congestion
  – Increasing environmental constraints
  – Safety considerations

• Incorporate ABC as a progressive project delivery tool.
  – Safety
  – Reducing congestion
  – Delivery on project commitments
  – Being good stewards of the environment
ABC Policy

• ABC Team Charter 2012
  – Effectively mainstream ABC in bridge design and construction.
  – Formation of ABC Team and Council

• ABC Strategic Plan 2013
  – Support Caltrans Mission through ABC
    • CT and Industry Buy-In
    • Planning
    • Deploy Research
    • Develop Guidance
CT and Industry Buy-In

• Build widespread acceptance for ABC
  – Top Management
  – Project Development Staff
  – Funding Partners
  – Stakeholders
  – Contracting Community
  – Public

• Leverage on FHWA/Every Day Counts efforts
• Point to successes outside of California
Planning

ABC Decision Making Guidance (March 2015)

• Qualitative assessment early in project planning
  – Construction Time
  – Environmental
  – User Costs and Delays
  – Site Conditions
  – Risk Management
  – Economy of Scale

• ABC evaluated for every project

• High score results in the development of an advance planning study ABC alternative

• Working Day estimates for traffic and environmental impacts.
In California the focus is on seismic performance of joints connecting prefabricated elements.
Develop Guidance

- Efficient and effective practices
- Coordinate implementation
- Reduce risk of innovative approach
- Focus on constructability
  - Design details
  - Design and Construction guidance
ABC Single Span

- Significantly reduced environmental impact
- Minimal traffic disruption
- Well suited to streambed restoration

Hardscrabble Creek Slide-In
Craig Creek Prefabricated
North Fort Mill Creek Prefabricated
Fort Goff Creek Bridge
Lead Adopter for SHRP2 Solutions
Innovative Bridge Designs for Rapid Renewal
Multi-Span ABC

• Multi-span ABC Pilot Program
  – 3 projects currently under design
  – Precast columns, caps, and superstructure
  – Incorporating EDC 2 and EDC 3 initiatives
  – Focus on connections & constructability

• Design, detailing and specification development

• Design and construction guidance
What’s working

• Outreach to decision makers
• Citing ABC Successes in other states
• Partnering with federal agencies (FHWA, SHRP2)
• Deploying research
• Early Planning
• Single span projects
  – One season solutions
  – Fish passage
Challenges

• Size of our organization
• Cast-In-Place Culture (internal and external)
• Funding - looking past comparative bridge construction costs
• Precast Industry
• Accurate Cost Data (capital, support, and user)
Thank you