



Adaptive Signal Control Initiatives and Validation Program

Presenters

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Better, Faster, Smarter

Shortening Project Delivery

- Planning & Environmental Linkages
- Legal Sufficiency Enhancements
- Expanding Use of Programmatic Agreements
- Use of In-Lieu Fee and Mitigation Banking
- Clarifying the Scope of Preliminary Design
- Flexibilities in ROW
- Flexibilities in Utility Accommodation and Relocation
- Enhanced Technical Assistance on Ongoing EISs

Technology Innovation

- Warm Mix Asphalt
- Precast Bridge Elements
- Geosynthetic Reinforced Soil
- Safety Edge
- **Adaptive Signal Control Technology (ASCT)**



What have we learned...

- Systems produce substantial benefits over coordinated TOD signal timing
 - Travel time, Delay, Emissions, Congestion, Safety
- Most effective where:
 - demand conditions are Variable and unpredictable
 - Linear Arterials, limited success within tight grids
 - Under Saturated



Barriers to Adoption of ASCT

- **Complexity**
- **Cost**
- **Uncertainty about Benefits**



Validation Program for ASCT

- **Generic Process** and tools to measure any benefits from deployment of ASCT
- **Complementary** to the Model System Engineering Document



What is Validation?

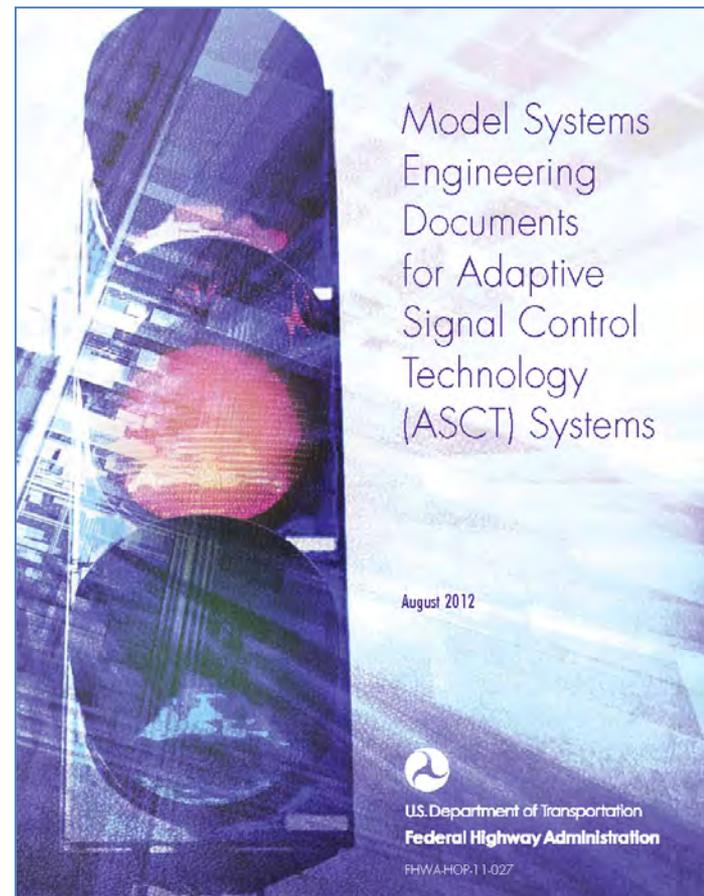
- **Validation**: Objectives are tested
 - Did it do what we want it to do?
- **Verification**: Requirements are tested
 - Did we get what we asked for?



Model Systems Engineering Document for ASCT Systems

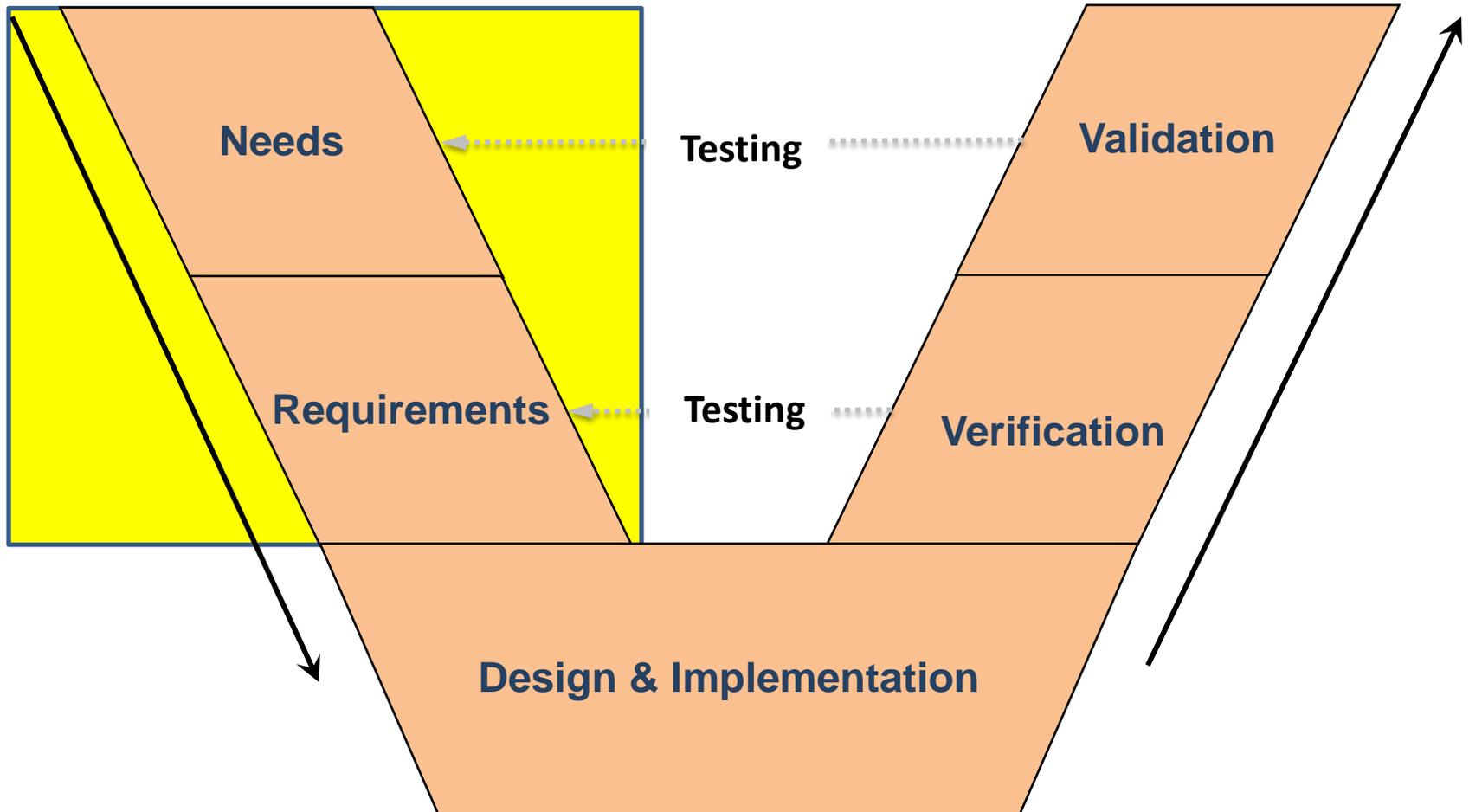
Basic Systems Engineering Deliverables

- Concept of Operations
- Requirements
- High Level Design
- Verification Plan
- Validation Plan



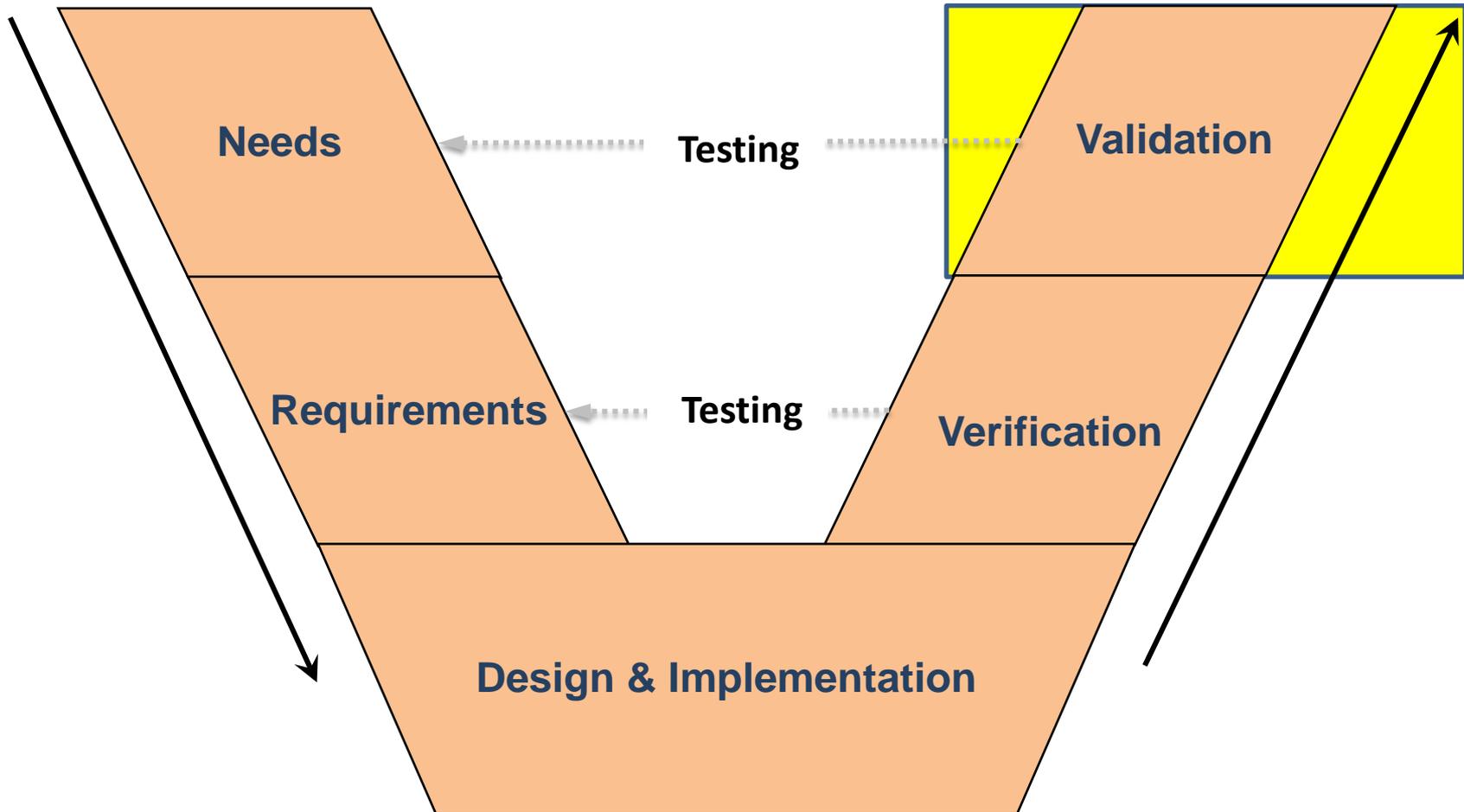


Model SE Document for ASCT





ASCT Validation Process





Our Goals for Today

- Describe the challenges to validate ASCT
- Describe the theoretical underpinning of our approach.
- Describe the tools and the process developed to validate ASCT and the plans to test these techniques in Mesa, Arizona.



Questions?

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