



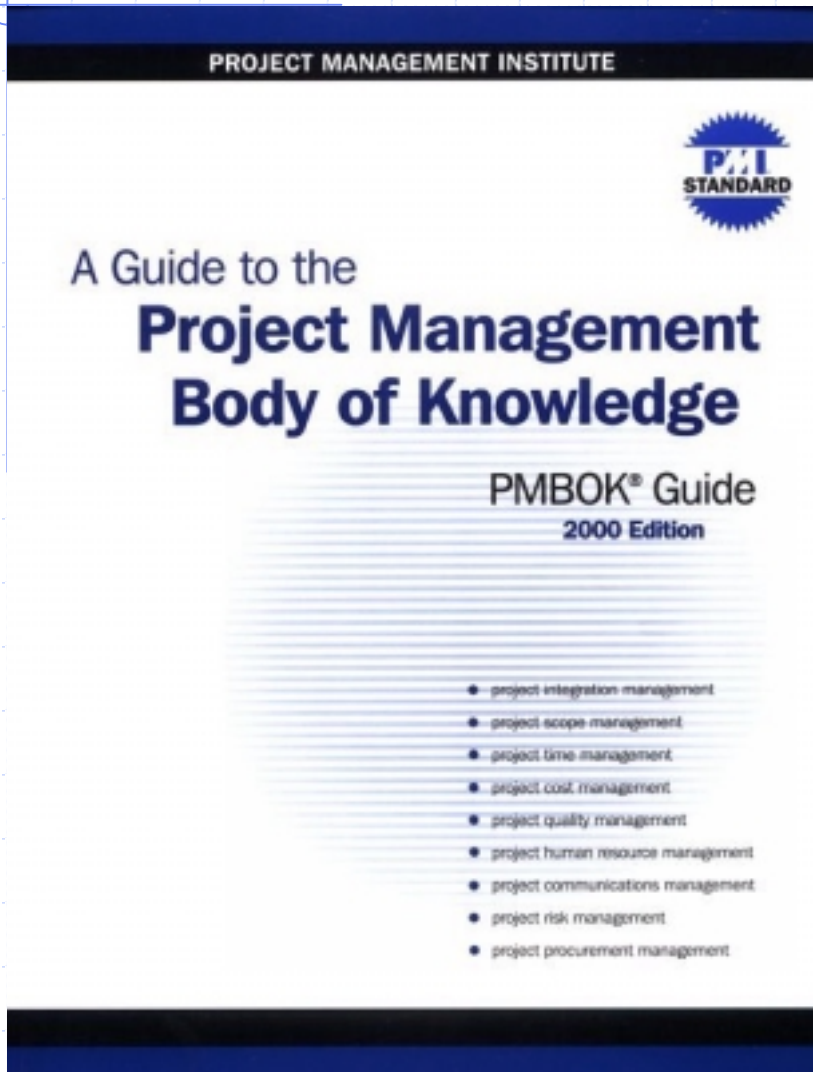
# Managing Government Projects

The Caltrans Experience

# Contents

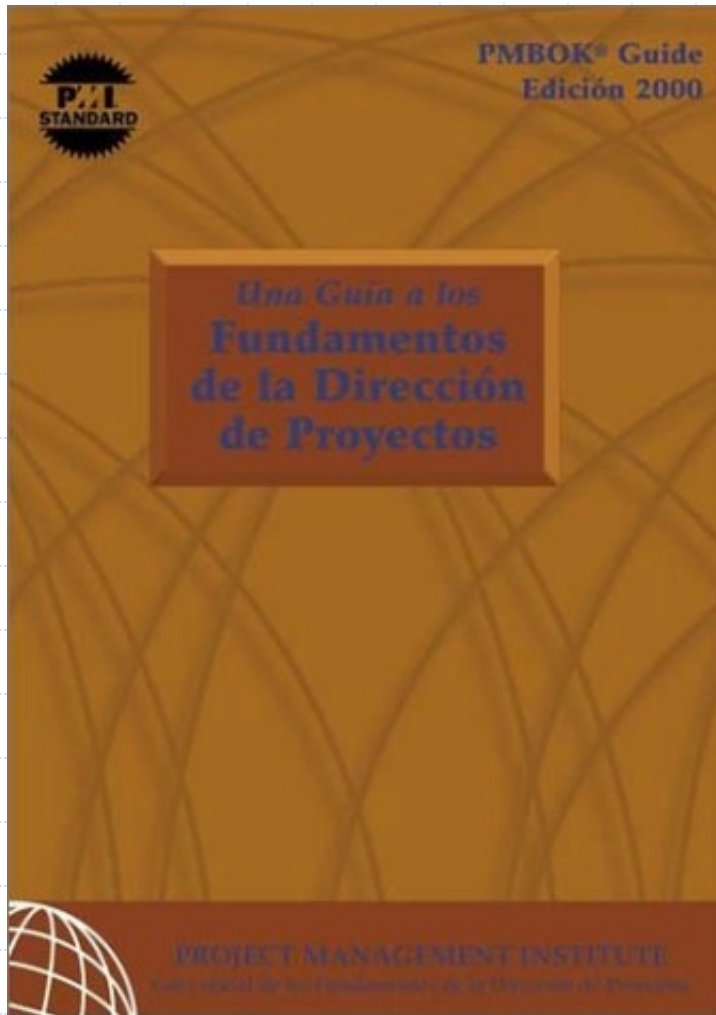
1. About the California Department of Transportation (Caltrans)
2. Essentials of Project Management, and how they are used in Caltrans
3. Afternoon: Government Extension to the PMBOK® Guide: What makes Government projects unique

# References



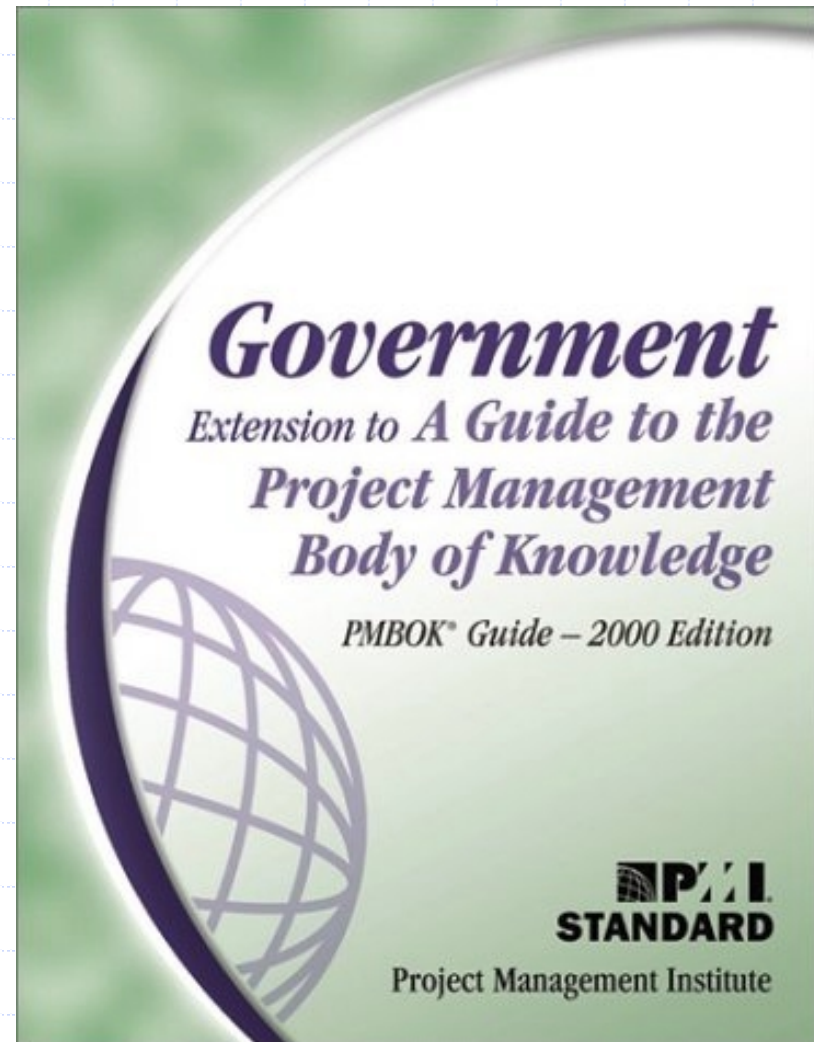
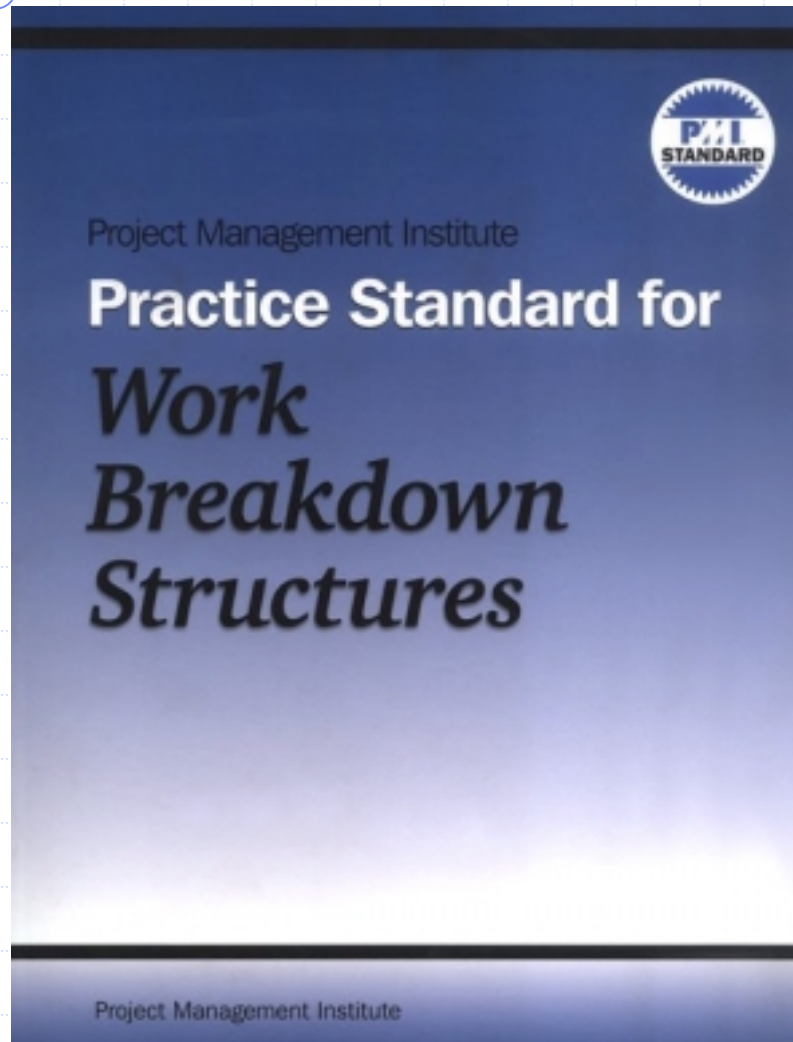
- ◆ A Guide to the Project Management Body of Knowledge (PMBOK® Guide)

# References



- ◆ Una Guía a los Fundamentos de la Dirección de Proyectos

# References



# References

## CALTRANS PROJECT MANAGEMENT HANDBOOK



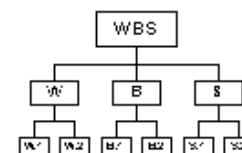
Fourth Edition  
Revision 1  
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Office of Project Management Process Improvement

## Guide to Caltrans Project Delivery Standard Work Breakdown Structure

Release 6.0, Revision 01  
August 2002



**Produced by:**  
Office of Project Management Process Improvement

# The California Department of Transportation (Caltrans)

- ◆ Responsible for the design, construction, maintenance, and operation of the 15,000 mile California State Highway System
- ◆ Also provides services in the areas of statewide transportation planning, intercity rail services and funding for local streets and roads, transit and airports

# Caltrans

- ◆ 23,000 employees
- ◆ \$7 Billion annual budget
- ◆ Headquartered in Sacramento
- ◆ 12 district offices provide most project services
- ◆ Engineering Services office in Sacramento provides bridge engineering and several specialist services

# Caltrans

- ◆ 34 million customers – the people of California
- ◆ Our customers depend on us for their daily commute, supplies of goods, and for their business and recreational travel

# Caltrans Project Delivery Program

- ◆ 11,000 employees
- ◆ \$4 Billion annual budget
- ◆ Assess environmental impacts, design highways and bridges, acquire real estate, arrange utility relocations, and manage construction
- ◆ Assisted by private consultants who handle short-term workload peaks
- ◆ Private contractors perform the physical construction

# Caltrans Project Delivery

- ◆ At any given time, project delivery staff work on more than 7,000 State Highway improvements
- ◆ 200 full-time project managers
- ◆ 160 PMI members
- ◆ 45 certified PMPs

An aerial photograph showing the Carquinez Suspension Bridge under construction. The bridge's steel truss structure is visible on the left side, extending over the water. On the right, the suspension cables and the main span are being assembled. The bridge spans a wide body of water, with hills and a town visible in the background. The sky is clear and blue.

# Carquinez Suspension Bridge

First new  
suspension  
bridge in USA  
in 28 years



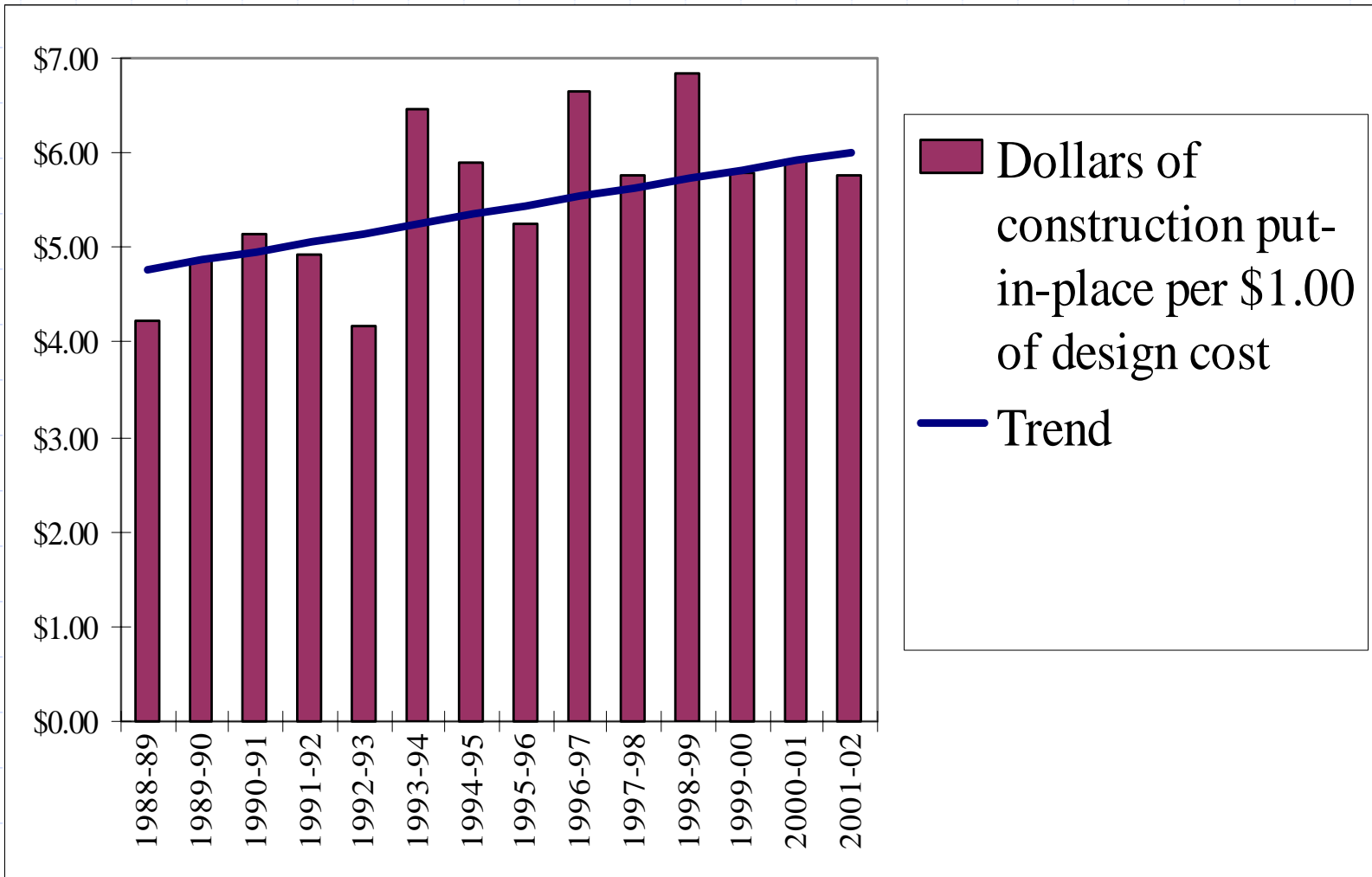
San Francisco  
– Oakland Bay  
Bridge

Replacement of  
eastern section

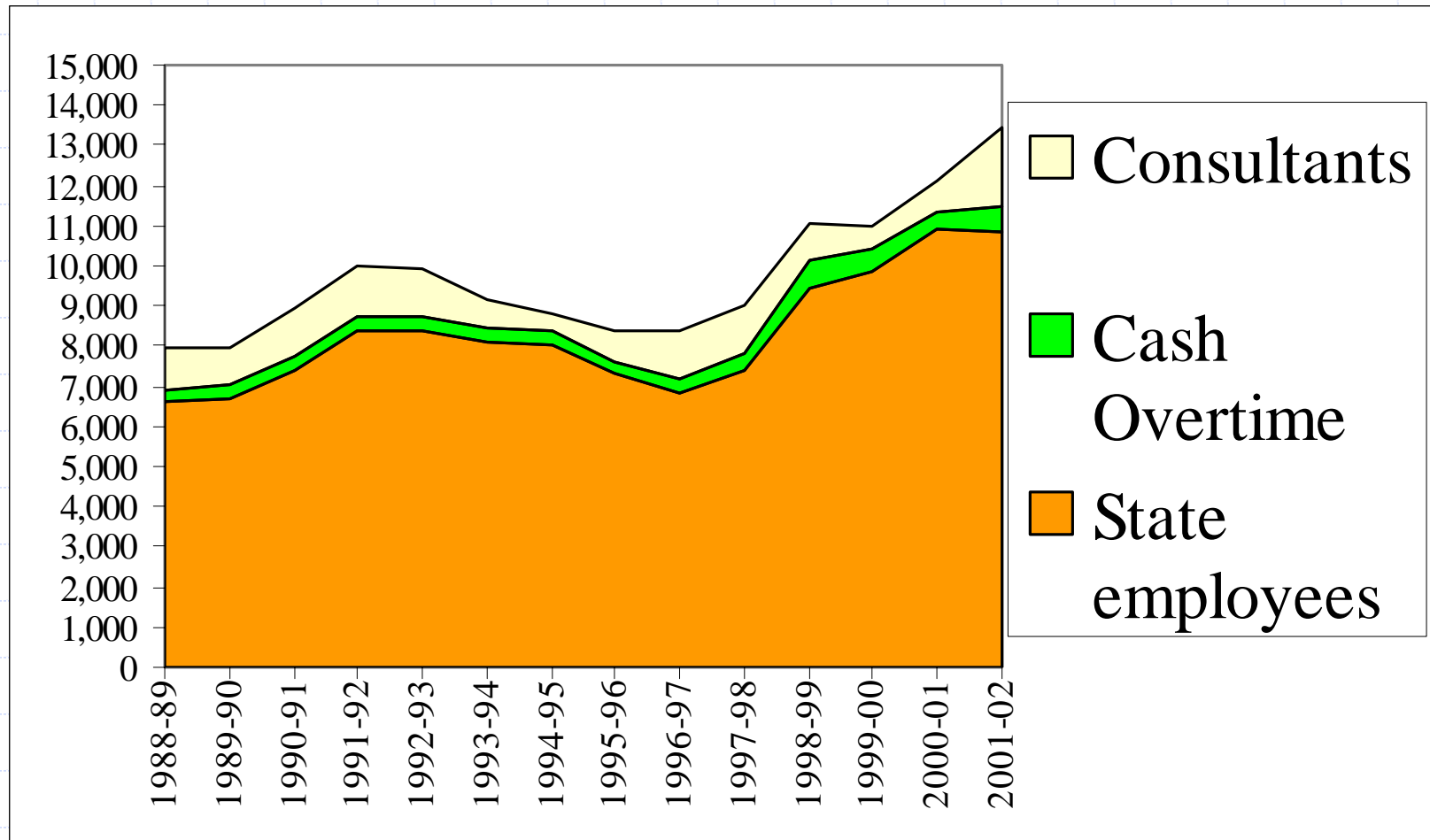
# Caltrans Project Management

- ◆ Began in 1989
- ◆ Change from a functional organization to a matrix organization
- ◆ Full time project managers
- ◆ Project manager stays with the project from initiation through completion

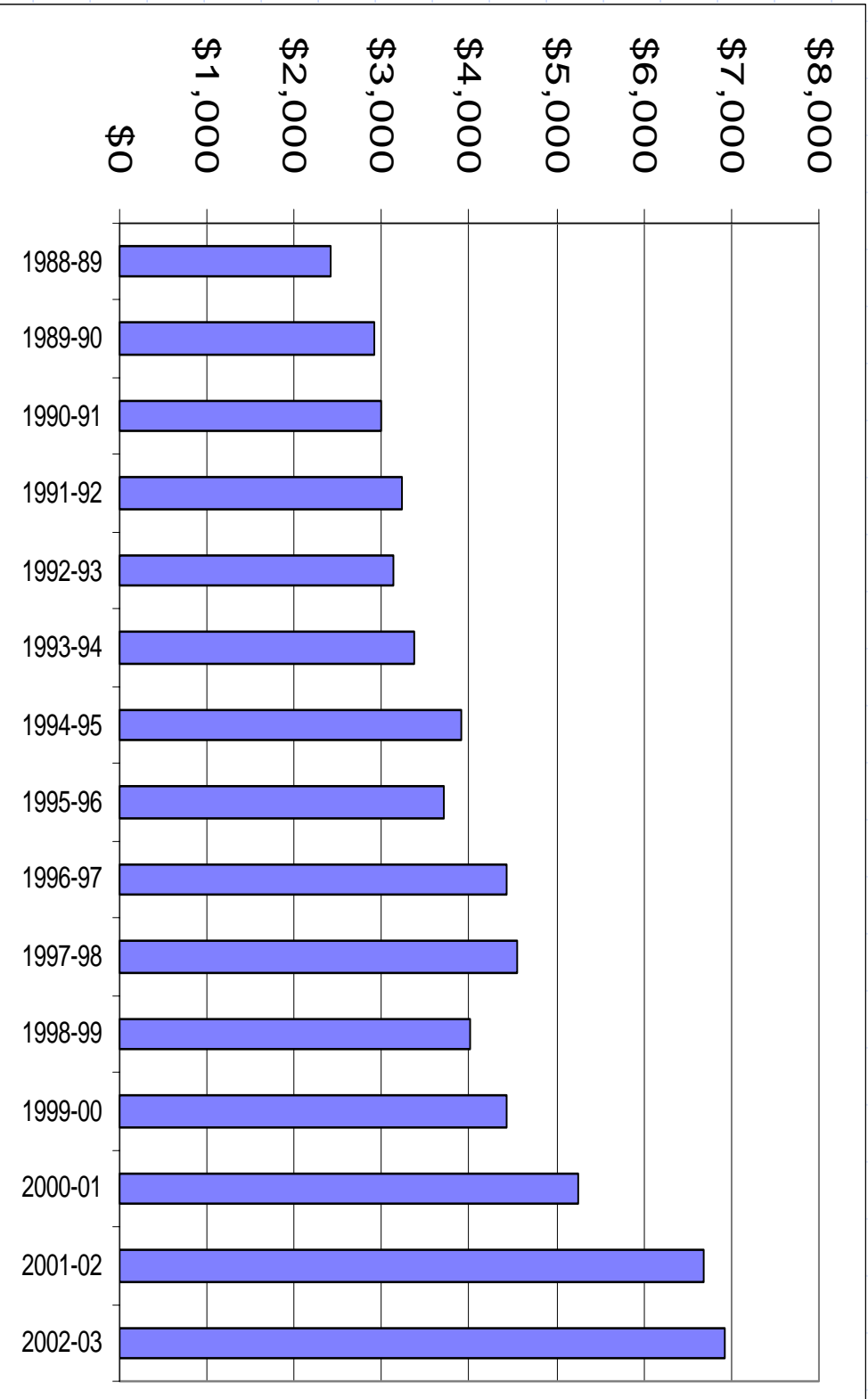
# Design Productivity Growth



# Budgeted workload



# Value of projects under construction

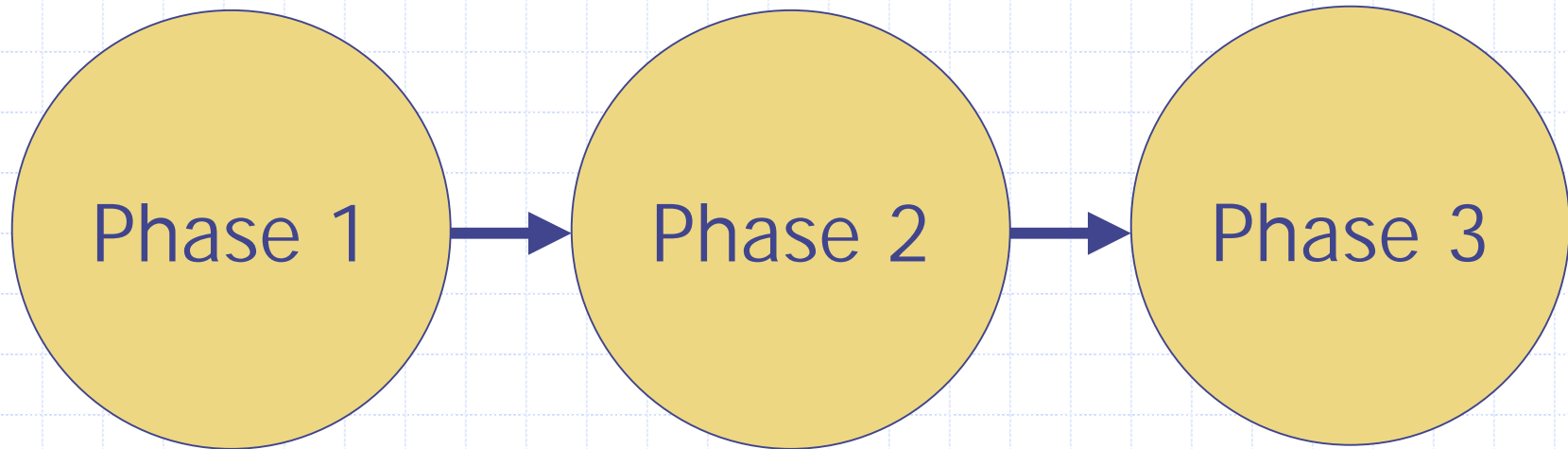


# Essentials of the PMBOK® Guide

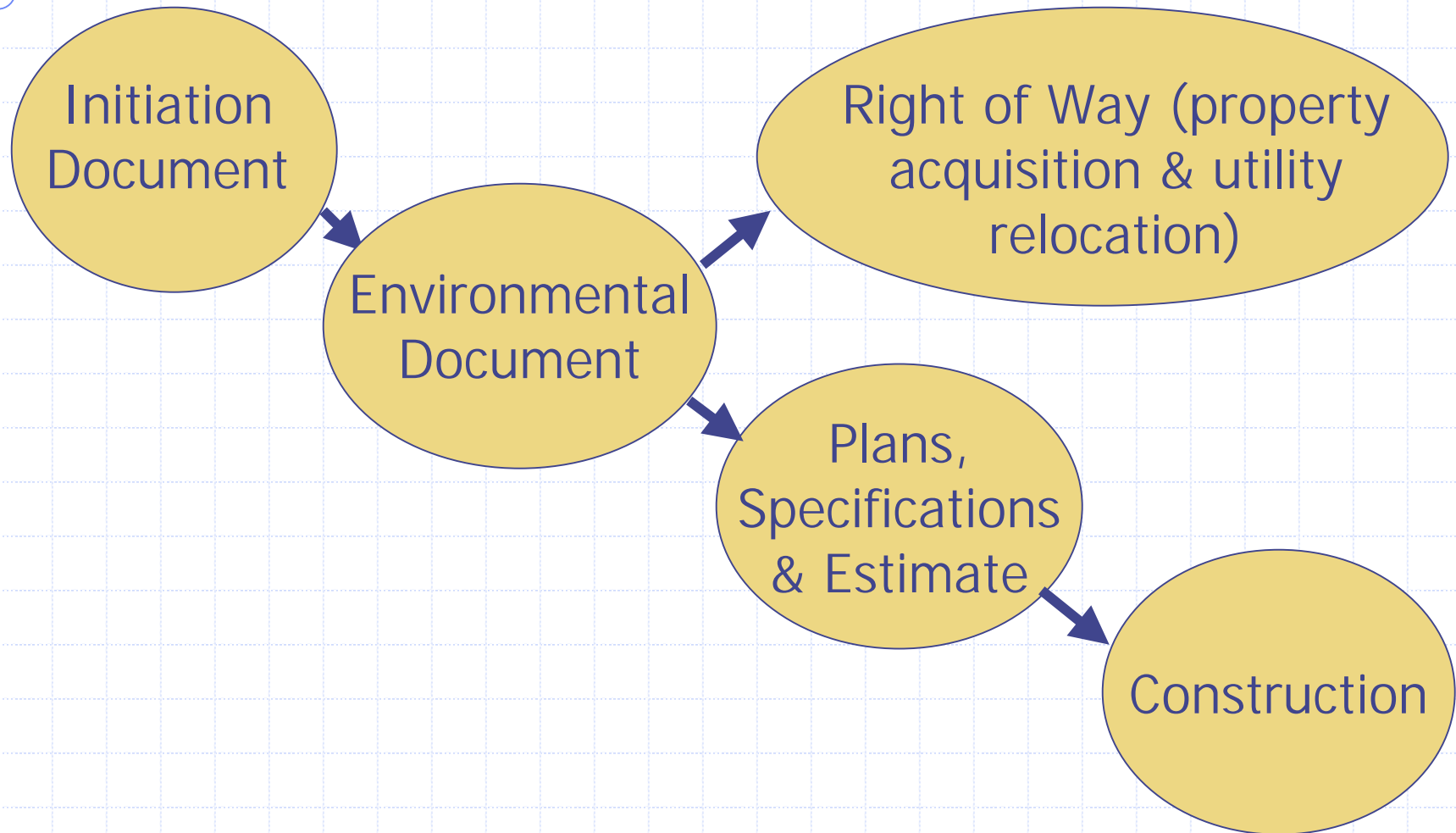
- ◆ Project Lifecycle (Chapter 2)
- ◆ Five process groups: Initiating – Planning – Executing – Controlling – Closing (Chapter 3)
- ◆ Charter and Work Breakdown Structure (WBS) (Chapter 5)
- ◆ Earned Value (portions of Chapters 4, 6, 7 & 10)
- ◆ Afternoon: Knowledge areas through entire process (Chapters 4, 6, 7, 8, 9, 10, 11 and 12)

# Project Lifecycle

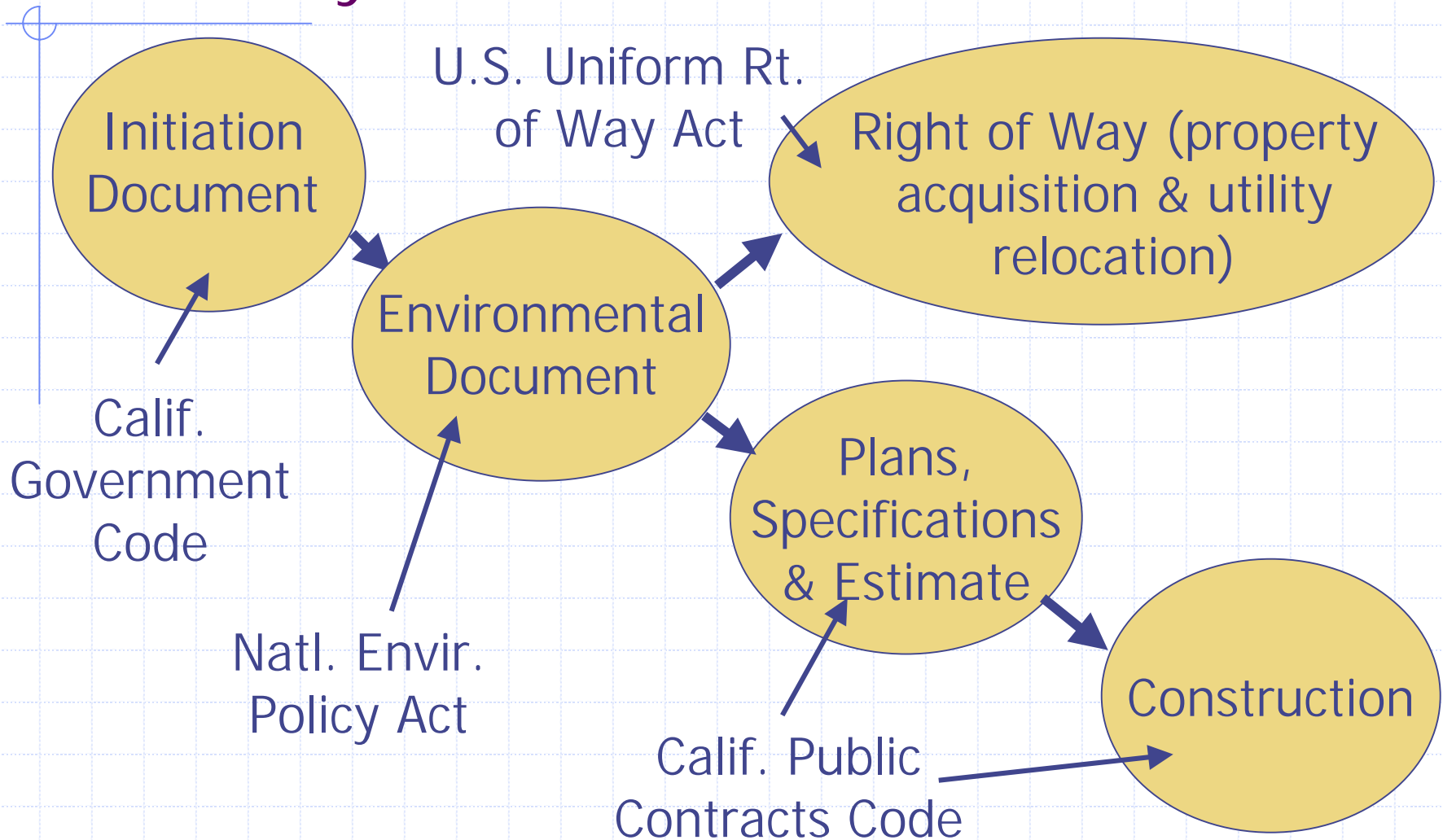
(PMBOK® Guide, Chapter 2)



# Caltrans Project Lifecycle



# Government Project Lifecycles are driven by laws



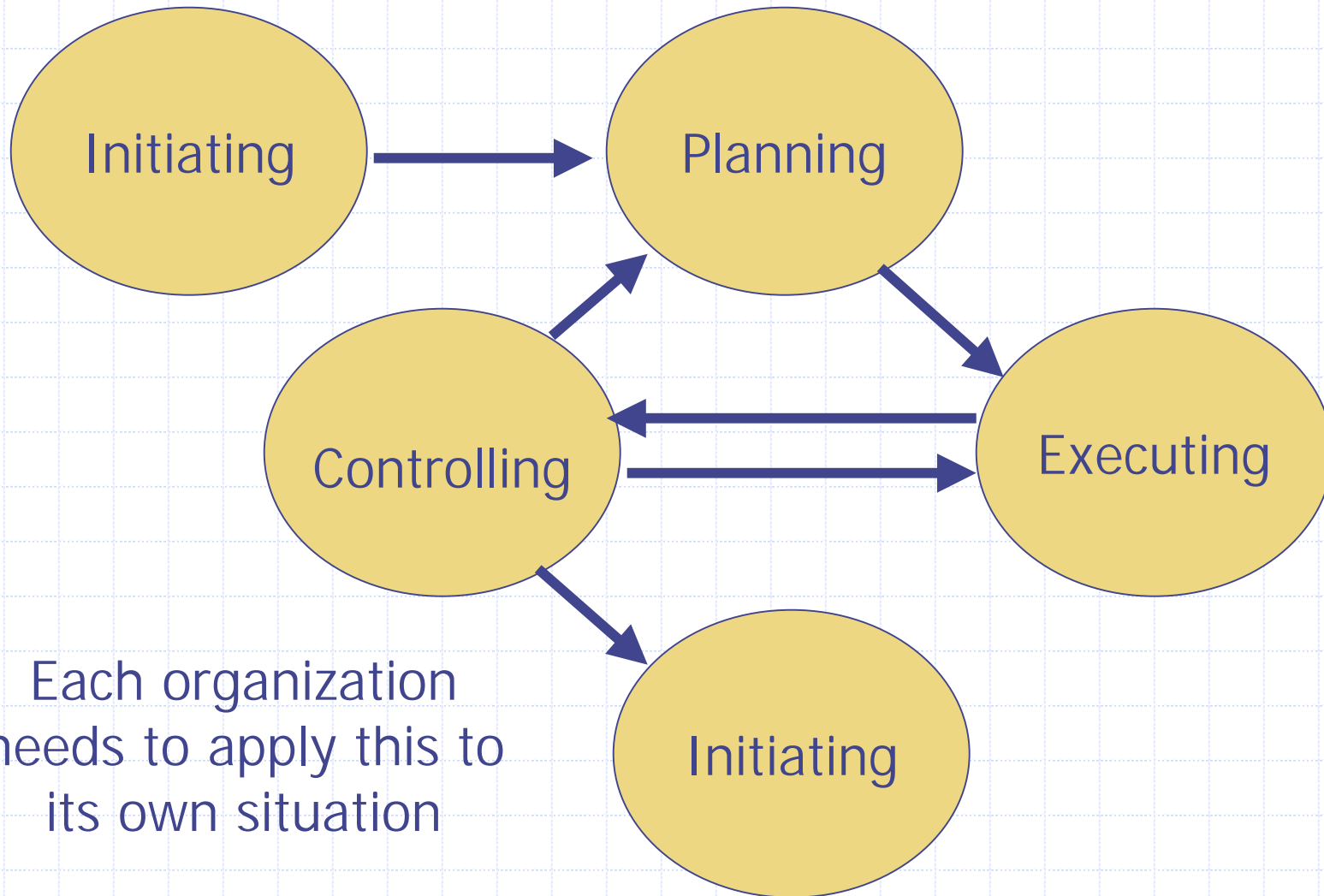
# Questions

1. What laws control your projects?
2. What major products must you produce by law? (e.g., Feasibility Report; Environmental Document; Plans, Specifications and Estimates; Contract)
3. Based on #2, what are the standard phases (lifecycle) of your projects?

# Phases in most Government Projects

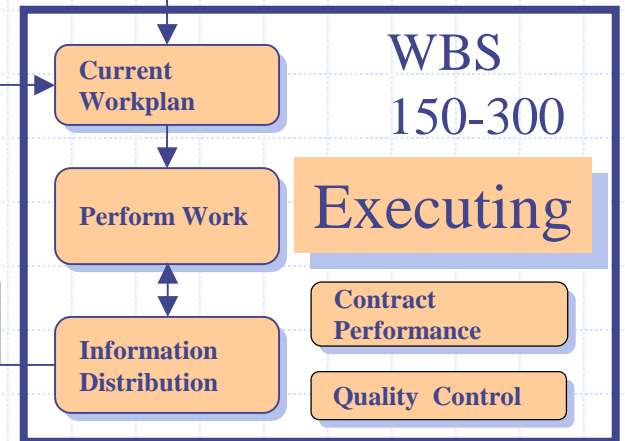
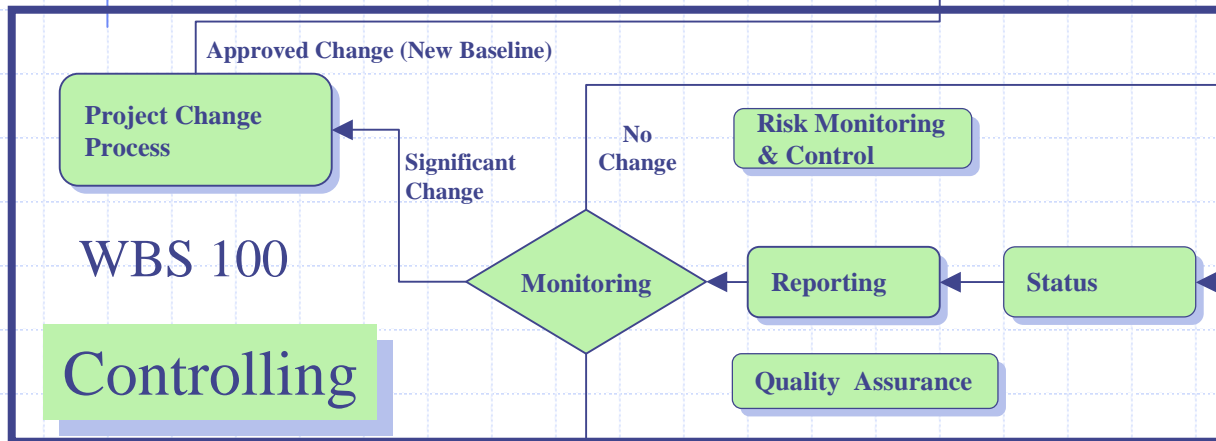
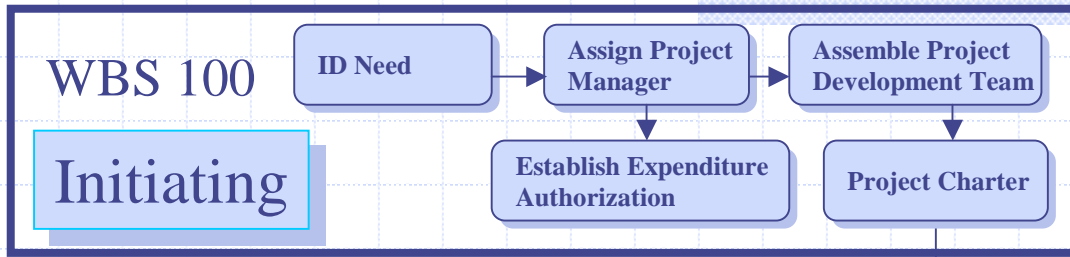
1. Origination Document: What the Executive produces to get approval from the Legislature
2. Planning and Design: What is needed to reach contract award
3. Procurement: Purchasing and installing products or services bought from the private sector

# Five Process Groups with each Phase (PMBOK Guide, Chapter 3)



Each organization needs to apply this to its own situation

# Caltrans Project Management Process



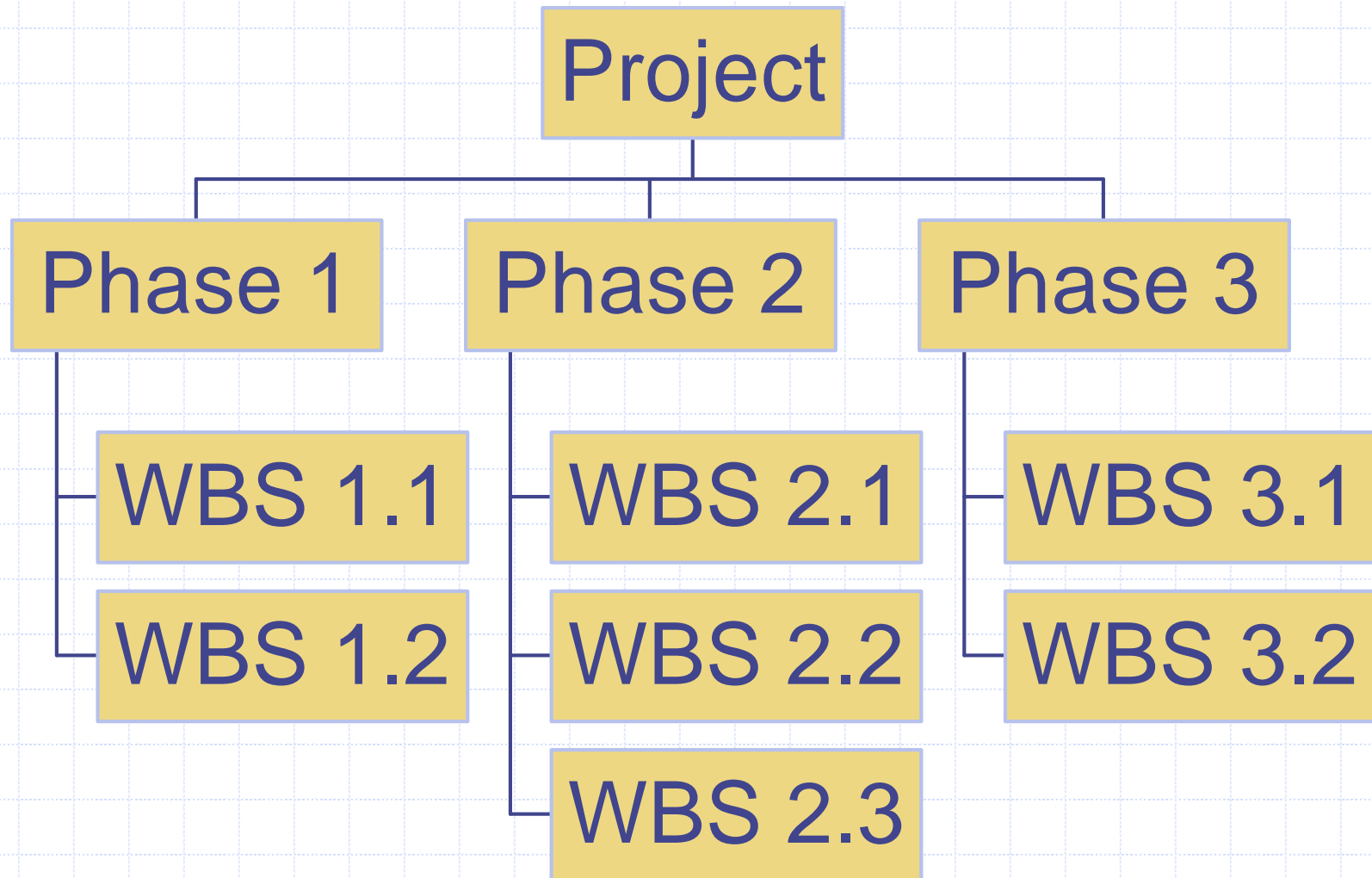
# Charter

- ◆ A charter documents the agreement between the Sponsor and Project Manager over the key elements of a project and phase.
- ◆ Two Caltrans samples provided – one for Highway projects, the other for process improvements.

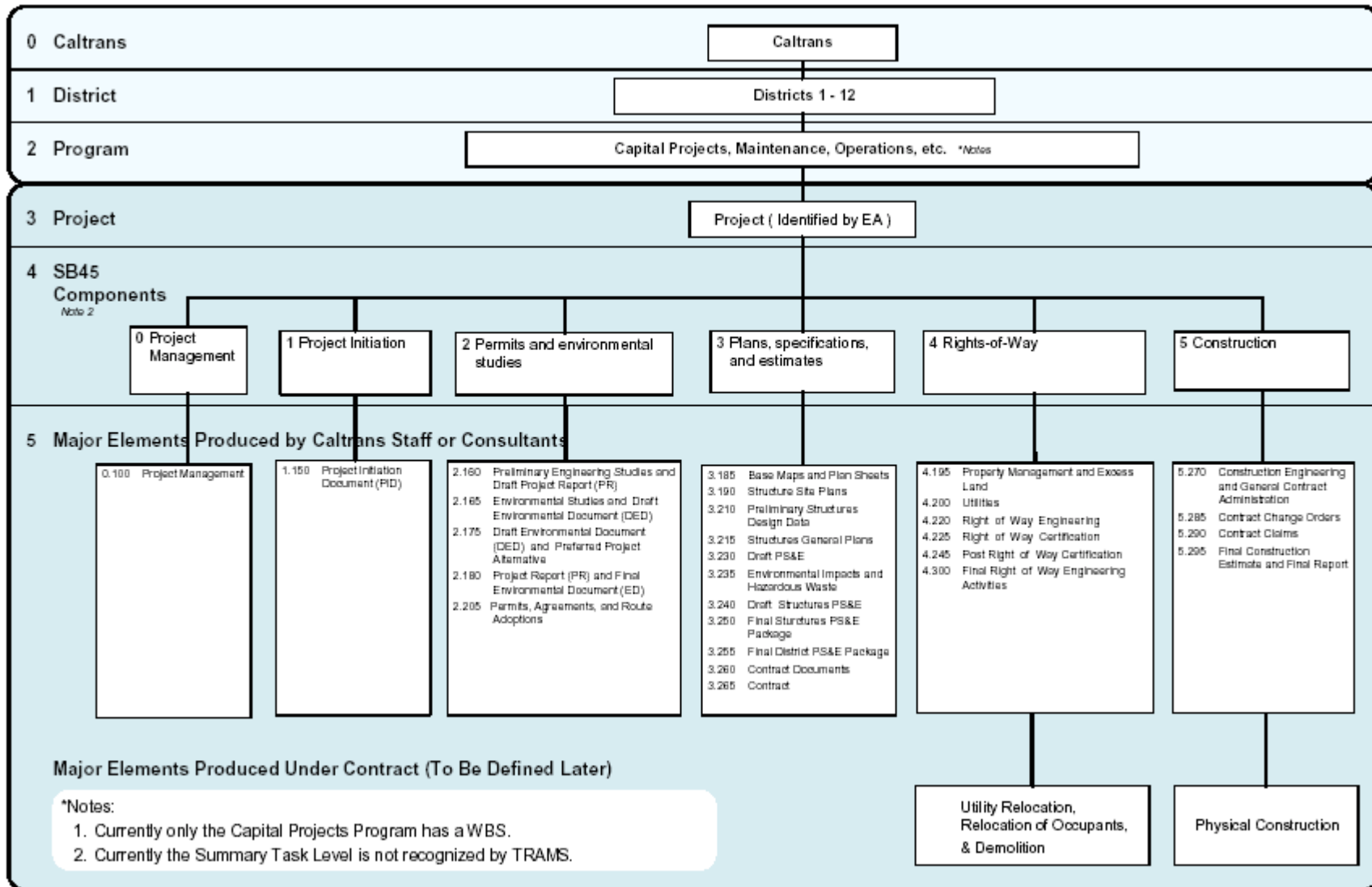
# Work Breakdown Structure (WBS)

- ◆ The next step from the Lifecycle and Charter
- ◆ Further defines each phase
- ◆ For use by the Project Manager and Project Team (*not* by Executives and the Legislature) – Management reporting should be at the Phase and Charter level

# Work Breakdown Structure (WBS)



# Caltrans standard WBS



# Questions

1. What are the deliverables needed for each of the phases to listed in the earlier exercise? (e.g., for procurement, perhaps: Draft contract; Request for Proposals; Proposal Evaluation & Contractor Selection; Award; Contract Execution; Invoicing & Payment; Acceptance and Evaluation).
2. Respond to laws, but more detailed than one would expect in the law itself.

# Discussion

