TE-21: Applying Systems Engineering Principles to ITS Projects in California

COURSE OUTLINE

MODULE I – Systems Engineering for Transportation Projects in a Nutshell
MODULE II – Systems Engineering and ITS in California: The Vee
MODULE III – The Interface with Planning - Phase Zero
MODULE IV – The Systems Engineering Management Plan – Framework (Phase One)
MODULE V – Concept of Operations
MODULE VI – Defining System and Subsystem Requirements – Phase Two
MODULE VII – Cross-Cutting
MODULE VIII – The Systems Engineering Management Plan
MODULE IX a – Design (Phase Two)
MODULE IX b – Implementation through Retirement (Phases Three – Five)
MODULE X – Agency Roles/Responsibilities
MODULE XI – Regulatory Issues (Class Handout to be inserted here)

CASE STUDY
Desert City Freeway and Arterial System of Traveler Information (FAST) Exercises

EXAMPLES

Configuration Management
Draft (Fictitious) I-860 Smart Carpool Lane Project – Configuration Management Plan

Integration Plan
Draft (Fictitious) I-860 Smart Lane Project – System Integration Plan Guidelines

SEMP
Scottsville Transportation Network (STANET) RFP Scope of Work
Draft (Fictitious) Engineering Plan for the City of Rose Garden – Adaptive Traffic Control System

Verification Plan
Draft (Fictitious) I-860 SMART Carpool Lane Report – Verification (Test) Plan

SERF
Charming City - Signals Engineering Review Form, Signal Preemption Upgrades
I-99 Corridor Commercial Vehicle Operations Project – Systems Engineering Review Form

REFERENCES/RESOURCES

Definitions
Intelligent Transportation System Architecture and Standards – Federal Register: 23 CFR Parts 655 and 940
Web Resources