

Why Should Transportation Professionals Use a Concept of Operations?

A transportation professional who is currently working on writing a Concept of Operations for an existing system indicated the following benefits a Concept of Operations provides for that existing system:

- A Concept of Operations helps me to communicate ideas about the system.
- Concepts of Operations are useful in facilitating discussion about what a system needs to be through discourse among all stakeholders.
- Concept of Operations helps me clear up ideas about the system.



For More Information:

Configuration Management for Transportation Management Systems *is available on the TMC Pooled-Fund Study website at <http://tmcdfs.ops.fhwa.dot.gov>*

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Developing and Using a Concept of Operations in Transportation Management Systems

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What is a Concept of Operations?

A Concept of Operations is defined as a high-level description of what the major system capabilities will be. The Concept of Operations uses general, non-technical terms to determine:

- **Who:** Who are the stakeholders involved in the system?
- **What:** What are the known elements and the high-level capabilities of the system?
- **When:** What is the time sequence of activities that will be performed?
- **Where:** What are the geographical and physical locations of the system?
- **Why:** What does your organization lack that the system will provide?
- **How:** What resources do we need to design and build the system?

“The biggest benefit from developing a Concept of Operations is getting all the stakeholders to agree on what they all do and what they need from each other.”

“The most important benefit is that you have a document describing the operations of the system when people begin to doubt that you have a plan.”

– Excerpts from a survey of transportation professionals

How Will a Concept of Operations Help Me?

A Concept of Operations helps groups to define the roles and responsibilities of participating agencies, enables communication, and provides a means for a variety of different organizations to work together toward a common goal. In addition, the Concept of Operations:

- Helps participants reach a consensus on the priority of needs for the organization.
- Bridges the gap between the technical and operational sides of the organization.
- Provides continuity over the ebbs and flows of the economy and politics.

What are the Benefits?

There are a variety of benefits that an organization or group of organizations can realize from developing and using a Concept of Operations. Some of them include:

- The identification of system stakeholders and the assurance that they will communicate in a common forum.
- The formulation and documentation of a high-level system definition.
- The foundation for all lower-level sub-system descriptions.
- The definition of all major user groups and activities.
- The identification of the environment in which the system will function.

“As system developers move through the system life cycle, going deeper and deeper into the details of the system development, it is often easy to lose track of what one is to accomplish overall; no matter what the stage of the systems' development, the Concept of Operations helps to clear this up – it helps to keep the big picture in mind.”

– Excerpts from a survey of transportation professionals

