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Best Paper

Storytime, Audience to Authors:

Enhancing Stakeholder Engagement

Paper 23

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Our Storyboard…

- Team Introduction
- Purpose of Paper
- ConOps vs OpsCon
- The Audience
- Stakeholder Engagement & Management
- Case Study

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Purpose (of the Paper & Presentation)

- Primarily intended for Public Agencies within the Infrastructure sector such as Transit authorities.
- Many stakeholders are not traditionally included in the creation and development of projects at these agencies in the collective experience of the authors.
- Key stakeholders are often not involved in the project until the middle or end of the development phase or not until they use the system!
- These neglected end users and influencers of the system do not have a timely voice – **they are effectively excluded**.

Summary: Key Stakeholders often sidelined in Transit & Rail projects!

Purpose (of the Paper & Presentation)

- The paper advocates for the early engagement of all defined stakeholders
- Widen the stakeholder group. Include the obvious and the unconventional, both internal and external to the agency.
- Our paper does not provide a detailed ConOps process but rather defines what a ConOps is, why it is necessary, and at what stage in the project should one be developed.
- Guidance is provided to help determine who the audience is for the system of interest (SOI) and ways to engage them.
- The paper describes a holistic approach to the creation and development of a ConOps by engaging the audience, who become stakeholders and effectively, authors.

Summary: Who are the parties with vested interests and how do we get them engaged in the conversation?

ConOps vs. OpsCon

Purpose of a ConOps

- A ConOps ensures there is a common understanding and consensus among the system's stakeholders regarding the purpose and goals of the system, what it will do, how it will be used, and who will be using it.

- The ConOps will serve as a "contract" between all the stakeholders. A ConOps is a commitment to the high-level system functionality and capability that will be delivered, and the resources that will operate and maintain it.

- The ConOps can also serve as a basis for developing operational and maintenance plans for the new system, via the operating scenarios provided in the ConOps.

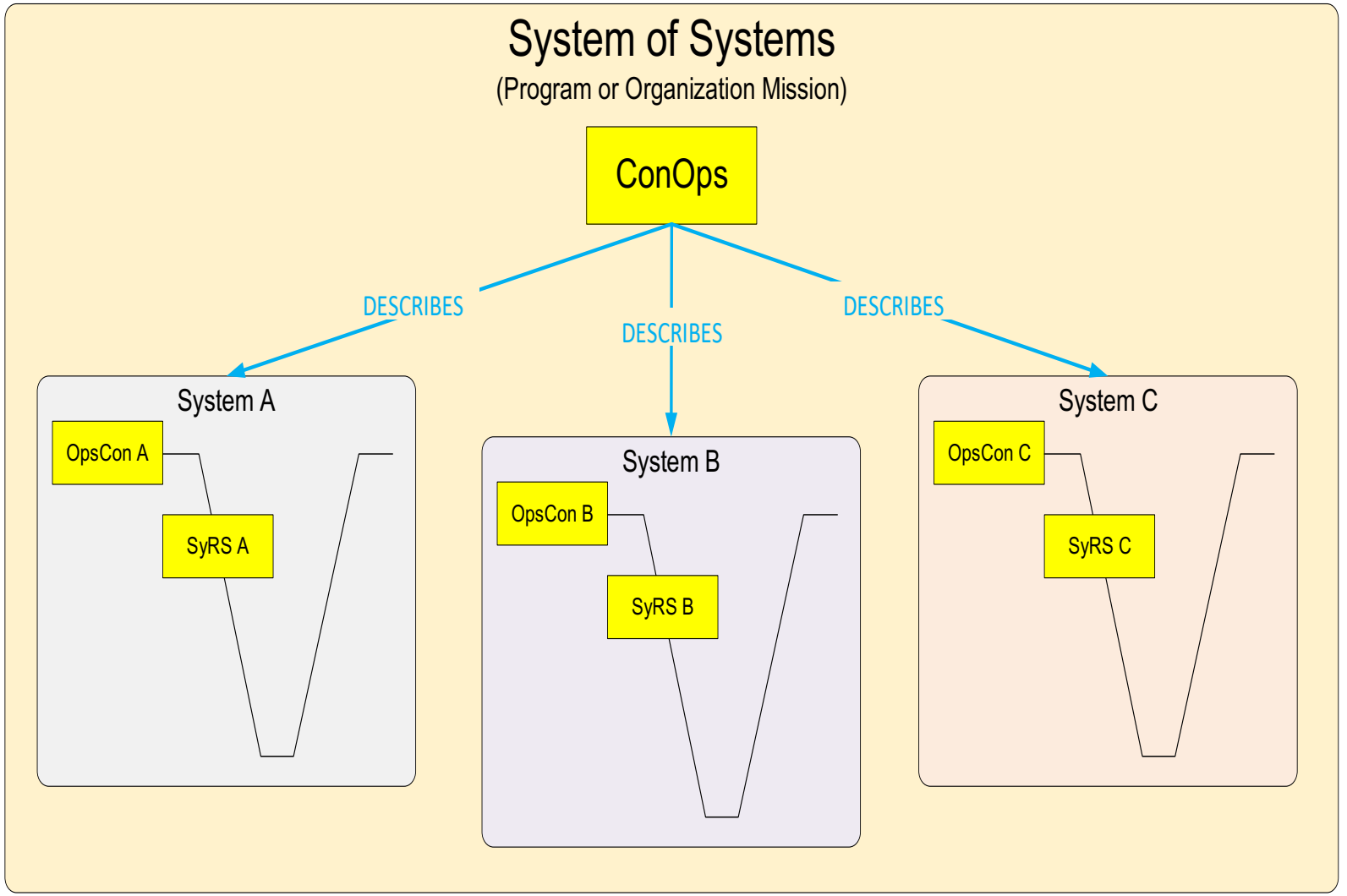
ConOps vs. OpsCon

	ConOps	OpsCon
ISO 29148	**Organization or Program Level**	Project or System Level
	Strategic - longer term view	Tactical – Shorter term view
	Program or Organization operation	Project, System or subsystem operation (what + rationale)
	System(s) seen as "black boxes" to meet the M.G.O.	User-oriented - describes the system characteristics
	Provides program level context for a project(s)	Provides project (or system) context for a system (or subsystem)
	Facilitates Stakeholder Requirement Elicitation	Communicate system characteristics to the acquirer, user, supplier
ANSI G-043A	**A document for recording a concept of operations. It is developed at the organization (enterprise) level, independent of any specific system solution, to describe how the organization (enterprise) will operate to execute strategy and doctrine. The Concept of Operations Document is not a requirements document. It describes the organization (enterprise) operational intent and context, and is used to derive needs and requirements.**	A document for recording an Operational Concept. It is prepared at the acquisition organization and developer level to describe how a particular system (new, modified, or existing) will be operated to satisfy its user and operator needs. The description is independent of specific design solutions, although it will make reference to a possible design solution at the highest level of abstraction. The Operational Concept Document is not a requirements document. It describes the system operational intent and context, and is used to derive needs and requirements.

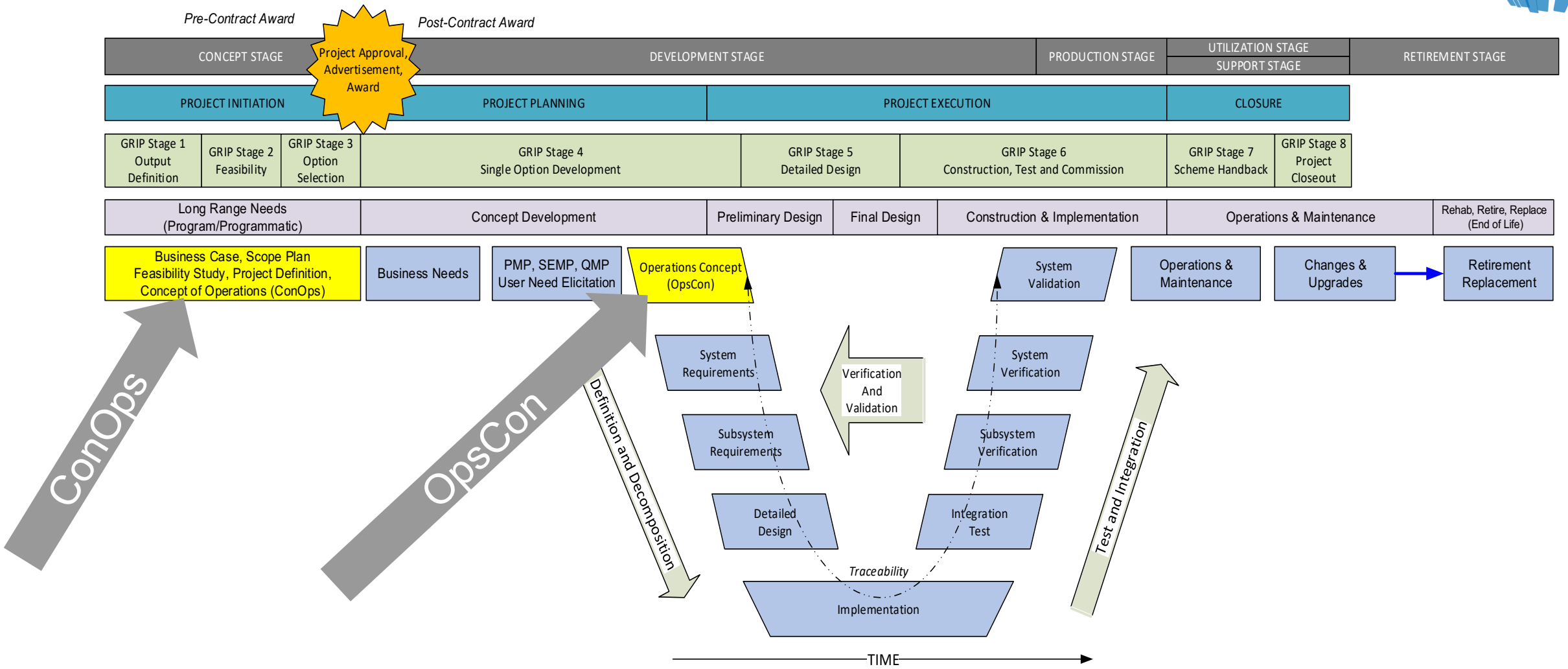
BEWARE: Unfortunate Confusion – often used interchangeably

ConOps vs. OpsCon

- Major infrastructure program, such as a new High Speed Rail line, is shown with constituent Systems A, B and C, such as Civil Works, Track Works, Vehicles, etc.
- Each of the Constituent Systems may be developed and delivered by disparate suppliers and designers at differing timelines, but all will need to align with the overall mission as narrated in the primary program level ConOps.
- The ConOps for a large SoS or program drives the mission goals and objectives down into the subordinate systems to provide continuity of purpose.



ConOps in Rail & Transit Lifecycle



Project Phase ConOps Development

Project Phase	Project Initiation/ Concept Stage	Project Planning/ Development Stage
Stage	Pre- Contract Award	Post- Contract Awar
ISO 29148 Terminology	Concept of Operations	Operations Concept
Definition	Authority prepares the document internally to describe the desired functionality of a proposed system; helping to determine the business-level requirements	Upon award, the project creates the document to describe the system; helping to determine the system-level requirements
Evolution	As feasibility studies provide more information and the scope plan evolves, the document should be updated, as necessary.	Flexibility to evolve when updates are necessary when the project definition/ direction changes
Delivery	Include in Contract Advertisement	Program/Project Deliverable
SE Authors (from)	Authorities/ Agencies/ Consultants	Prime/ Subcontractors/ Consultants

The Audience

Who is the Audience?

- Who is the ConOps primarily for?
- Who will the ConOps be distributed to?
- What level of influence does each person have?
- What is their knowledge level?

(i.e., subject matter experts (SMEs), or board of directors?)

Posit: Write it like a children's storybook - accessible to everyone.

Who is the Audience?

- Assume the Concept of Operations document will be distributed, and/or available, to various knowledge levels within the agency.
- With this approach, readers within the organization with general knowledge of the topic should be able to comprehend the intent and have the same understanding level, as well as determine and define the project expectations.

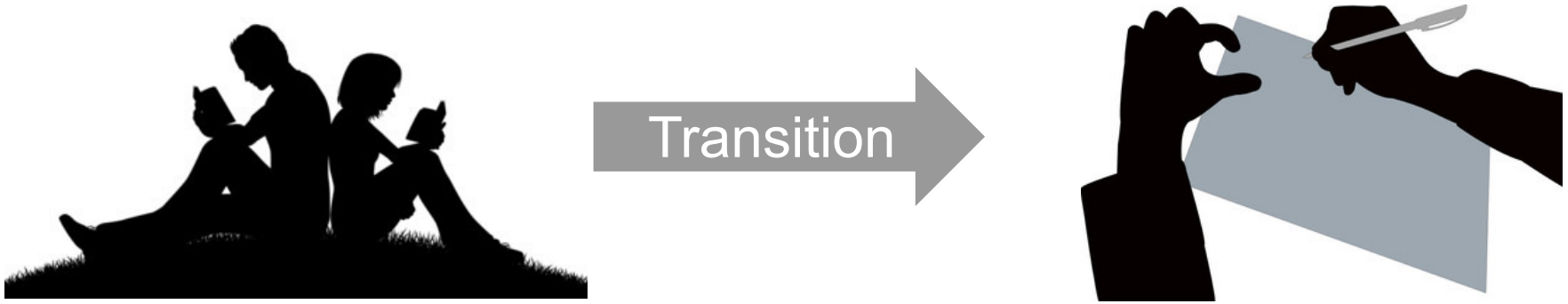
What Is a Stakeholder?

- A simple, useful definition of ‘Stakeholder’ is provided by the Association for Project Management (APM) which states:

- “***Stakeholder:*** *individuals or groups who have an interest in the project, program or portfolio because* ***they are involved in the work or affected by the outcomes***.”

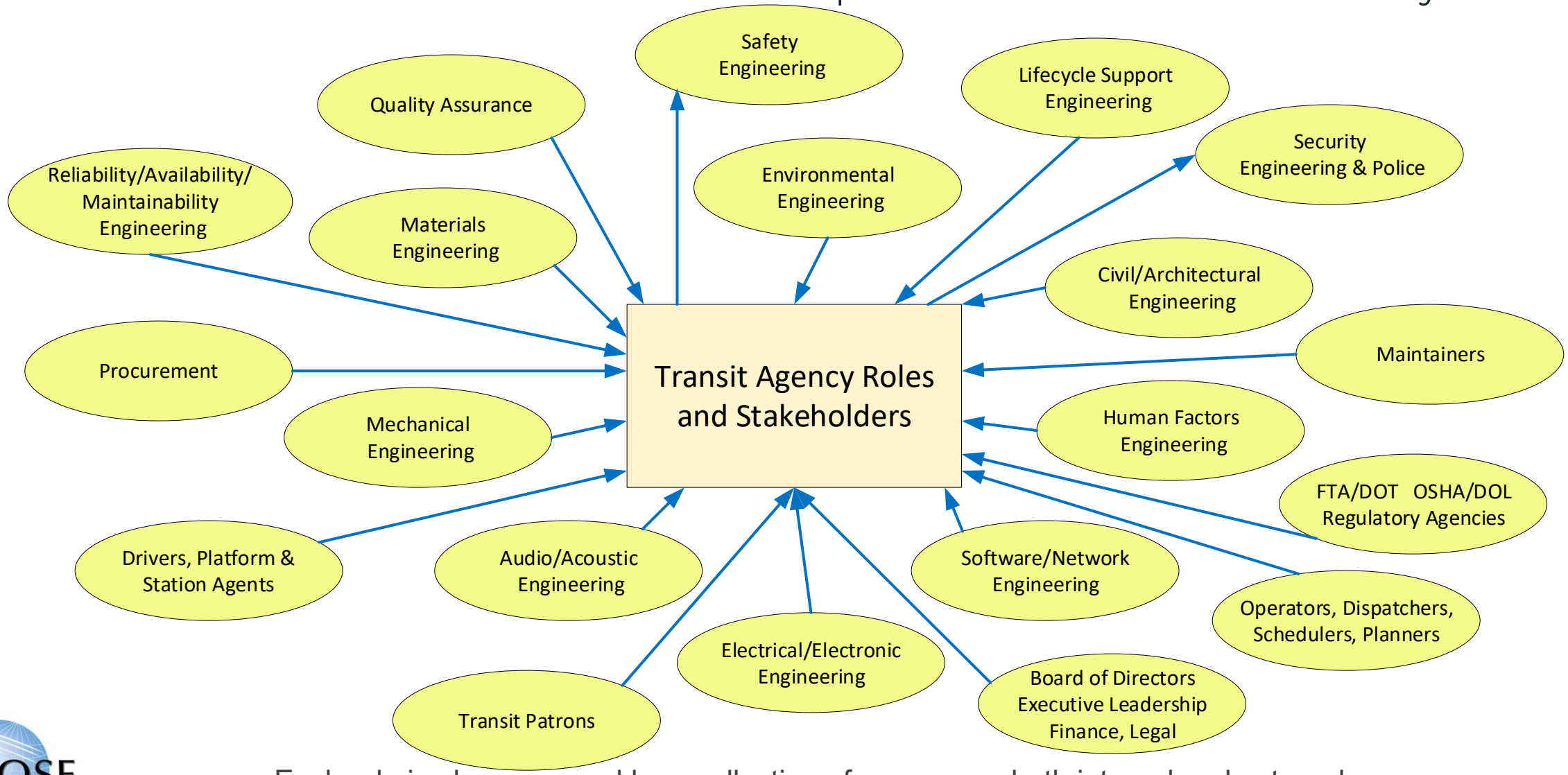
Identifying Stakeholders

- The audience of a ConOps is the user community and those audience members with a vested interest in the SOI can transition to stakeholder.
- These identified stakeholders can provide pertinent input to the development of the ConOps, thus transition from audience member to a contributing author participating in the creation of the ConOps.



Typical Stakeholders in a Transit Organization

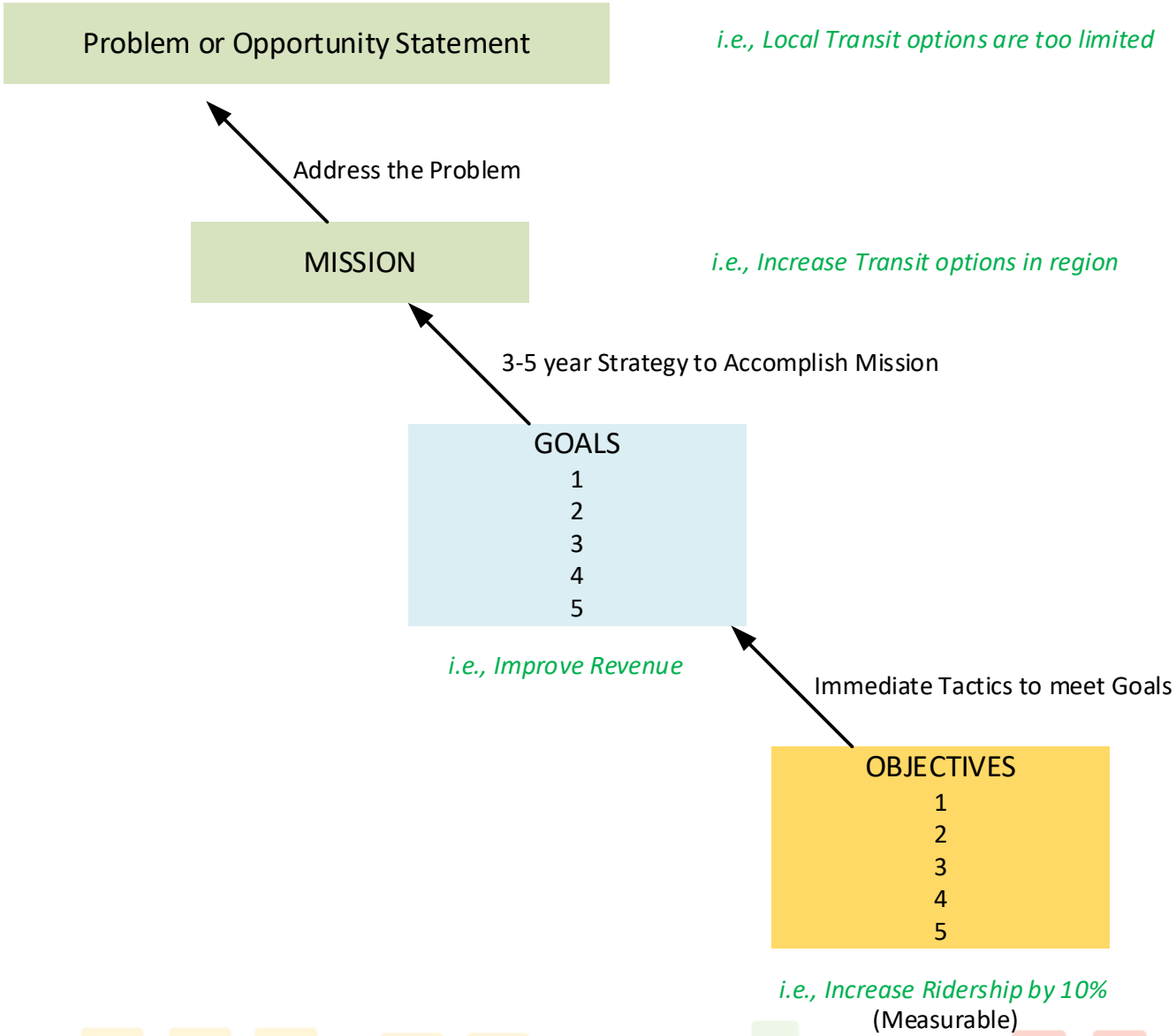
Each role has a viewpoint and is rewarded differently



Each role is also governed by a collection of processes, both internal and external

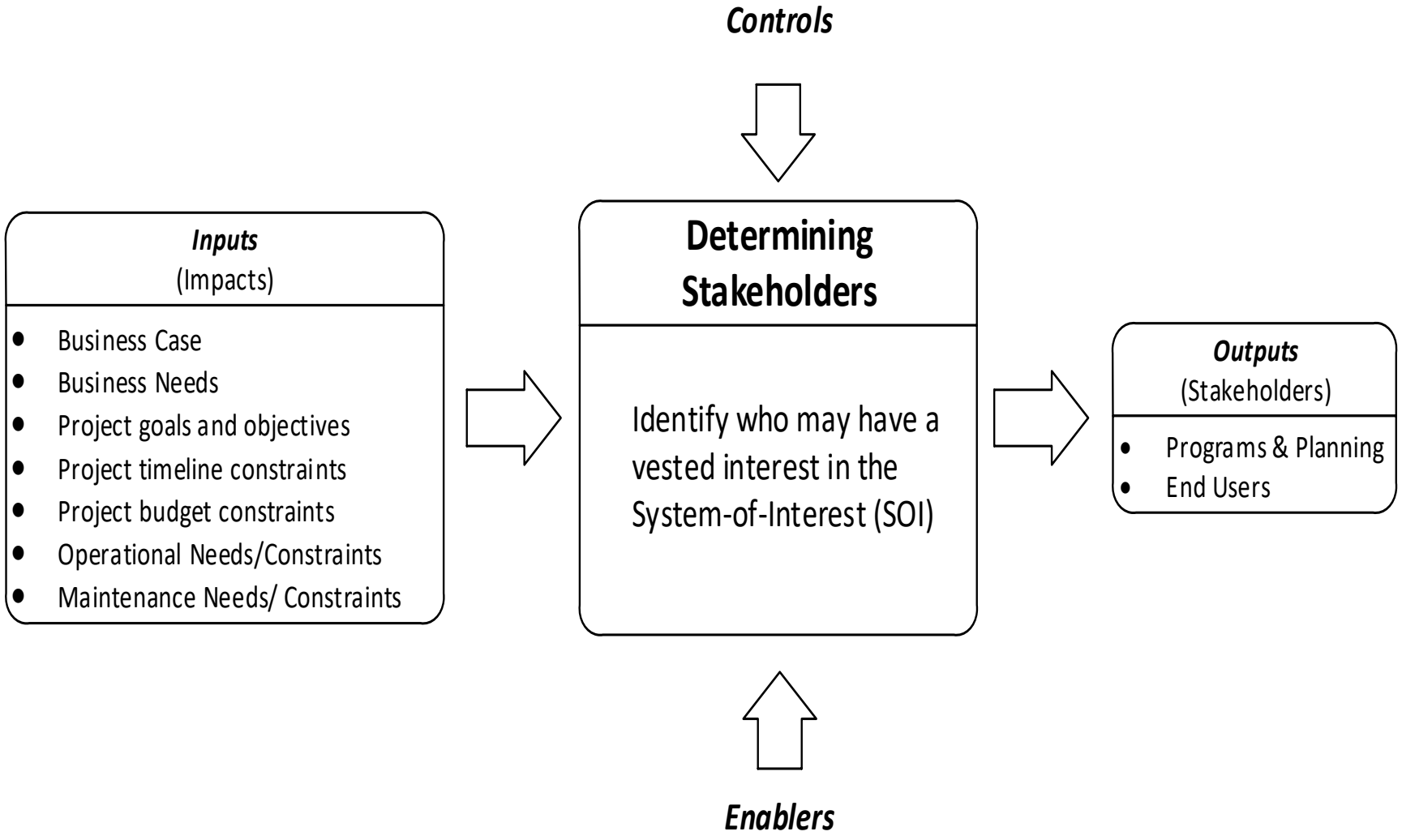
Inputs to Identifying the Stakeholders

- Typically, projects are initiated within the Program & Planning Department of an agency.
- Resources from this department include Project Initiators, Project Managers and Portfolio Managers.
- The Project Manager determines the business case and/or business need and works with Portfolio Managers and Engineers to determine the scope of the project and what must be delivered for project completion.



Identify the Stakeholders

Mission, **G**oals and **O**bjectives will provide inputs to the process… however there are additional considerations…



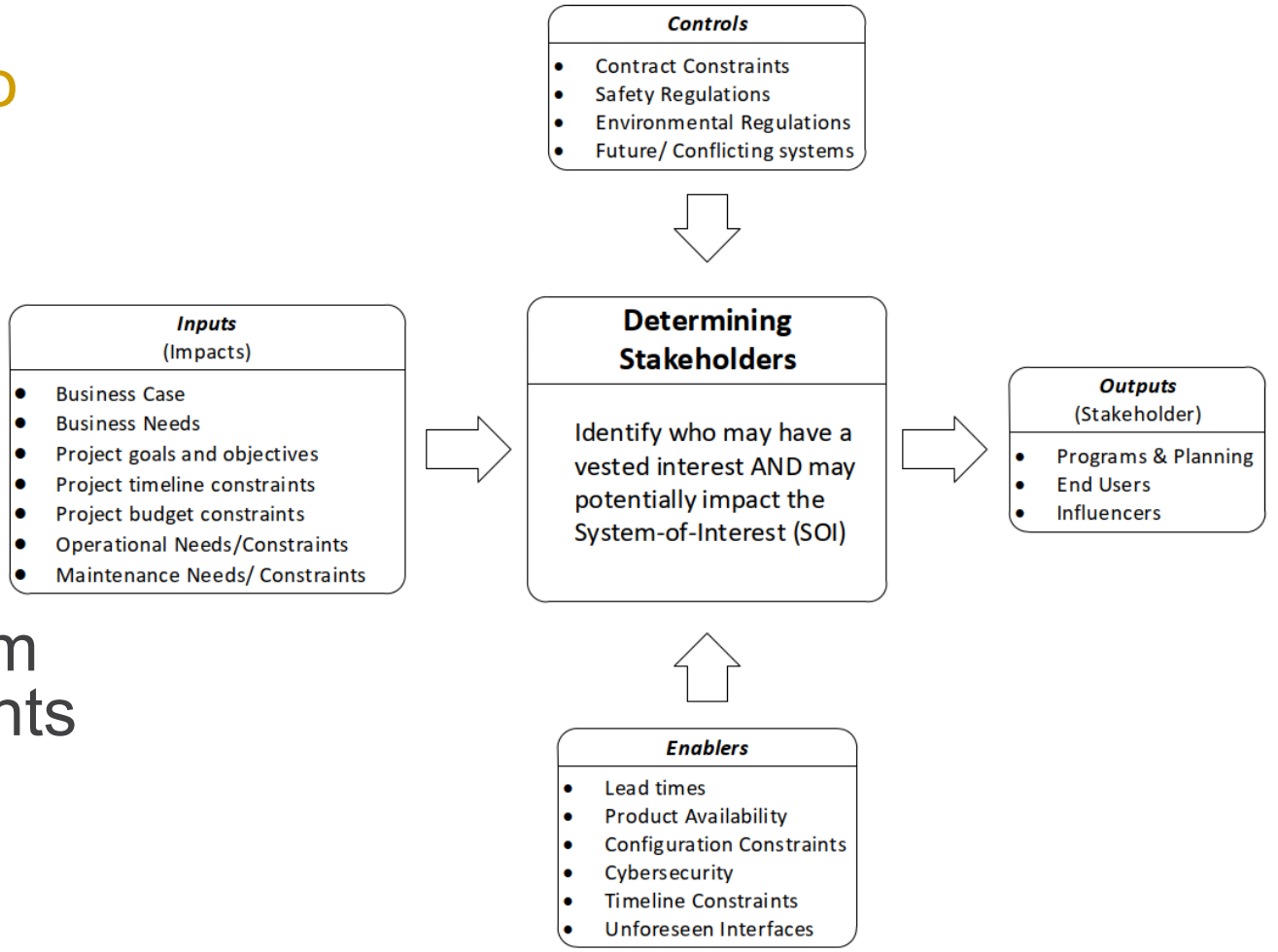
Primary Stakeholder Impacts

Impacts *(Inputs)*	Stakeholder *(Output)*	
• Business Case • Business Needs • Project goals and objectives • Project timeline constraints • Project budget constraints • Determines what must be delivered for project completion	Project Initiators - Executive Leadership - Project Managers - Portfolio Managers	Programs & Planning
• Measures of Effectiveness (MOE) • Measures of Performance (MOP)	Engineering - Subject Matter Experts	
Potential worker constraints: i.e., union may not allow certain job activities	Operations Management	End Users
• Identify and prioritize user needs • Identify potential/unforeseen interfaces	Operators - Operators - Dispatchers	
• Identify Fault Monitoring and System Performance needs • Identify redundancy, sparing, storage and backup needs	Maintainers	

Identify additional Stakeholders

…but there may be other influences that could impact the SOI that need to be engaged to provide a comprehensive ConOps document.

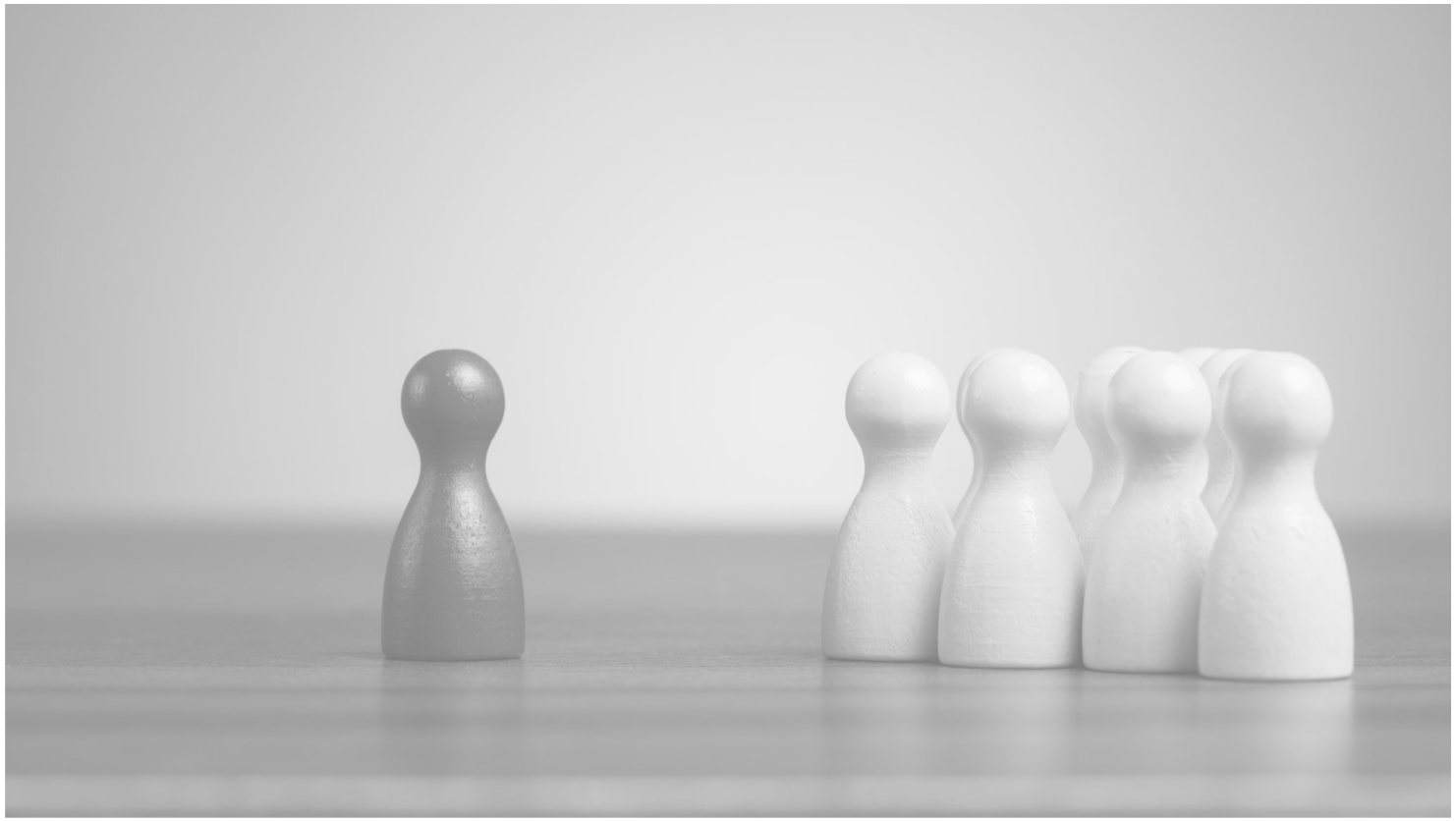
- What else could impact the proposed system?
- What other impacts may have an influence on the system being developed?
- How could audience members from other organizations and departments influence the proposed system?
- Do these influencers unknowingly have a vested interest?



Influencer Stakeholder Impacts

Impacts *(Inputs)*	Stakeholder *(Output)*	
• Potential configuration constraints • Potential cybersecurity constraints	Information Technology	Influencers
• Permits • Regulations, legislative constraints • Environmental Studies • Community/ Public Relations	Environment & Sustainability	
• Potential contract constraints • Potential extended lead time • Potential product unavailability	Procurement	
• Potential contract constraints • Insight into potential legal impacts to organization based on solution alternatives (i.e., potential increase of litigation cases against organization that could result due to implementation of new/updated system)	Legal	
Potential safety regulations/ constraints	Safety	
Potential/unforeseen interfaces	Construction Management	
Project timeline constraints	Schedulers	
Future projects, conflicting projects or interfacing systems that may affect the functionality of desired system, both internal and external to the SOI boundary	Interfacing Systems	

Stakeholder Engagement



What is Stakeholder Engagement?

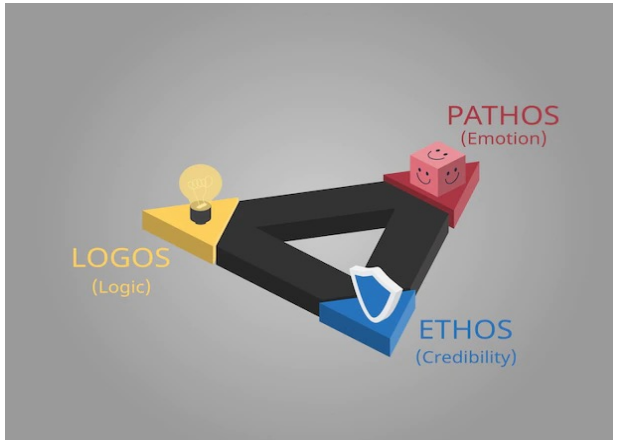
- Once stakeholders are identified, stakeholder engagement and stakeholder management are critical for successful project delivery.
- …and yet both are often regarded as bureaucratic activities that can be outsourced to administrative staff who are not, themselves, directly engaged in the project!

- Stakeholder Engagement is the process of eliciting information from stakeholders.
- Stakeholder Engagement is the main path to discovering needs, requirements and design constraints.

The Emotional (Pathos) Connection

- The development and continuous improvement of the ConOps by stakeholders requires a level of emotional commitment on the part of the Stakeholders that must be engendered, in part, by the ConOps.
- If the Stakeholders are not involved early in the full development of the ConOps, they will not ‘feel’ engaged.

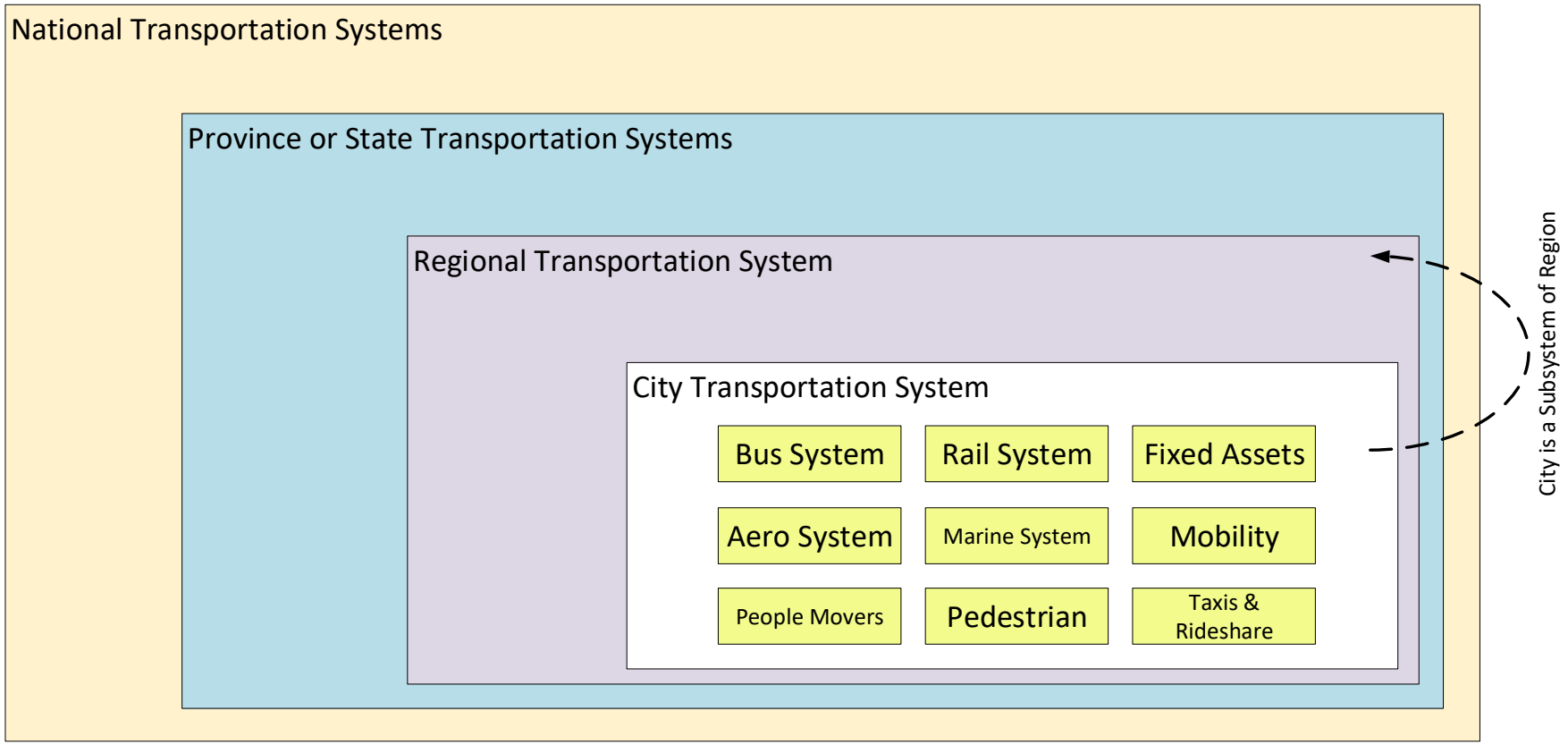
Pathos is an appeal to emotion in hopes of persuading a person, by purposely evoking emotions, to make them feel the way the author wants them to feel.



Complexity: Transit Systems & Stakeholders

Use of terminology is relative to the perspective

Each View represents multiple stakeholders with very different perspectives



Necessary Context for use of terms “system” and “subsystem”

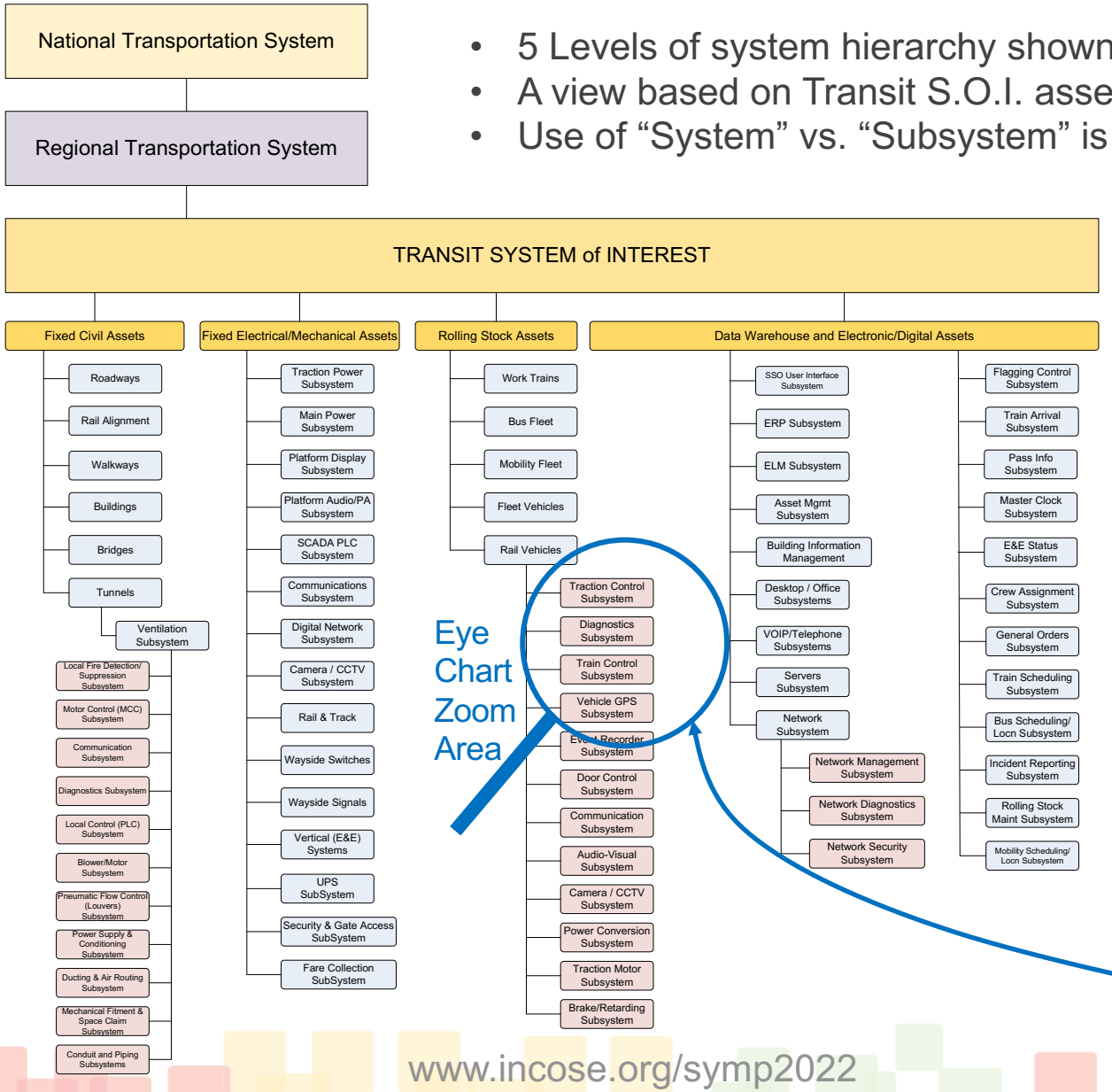
- *City is seen as a subsystem from the Regional view*
- *Region is seen as a subsystem from the Provincial view*
- *City, Region and Province are all subsystems from the National perspective*

Individual Transit System Complexity

- 5 Levels of system hierarchy shown
- A view based on Transit S.O.I. asset classification
- Use of “System” vs. “Subsystem” is relative

Different context views are needed for different stakeholders:

Partial Transit System Functional Block Diagram

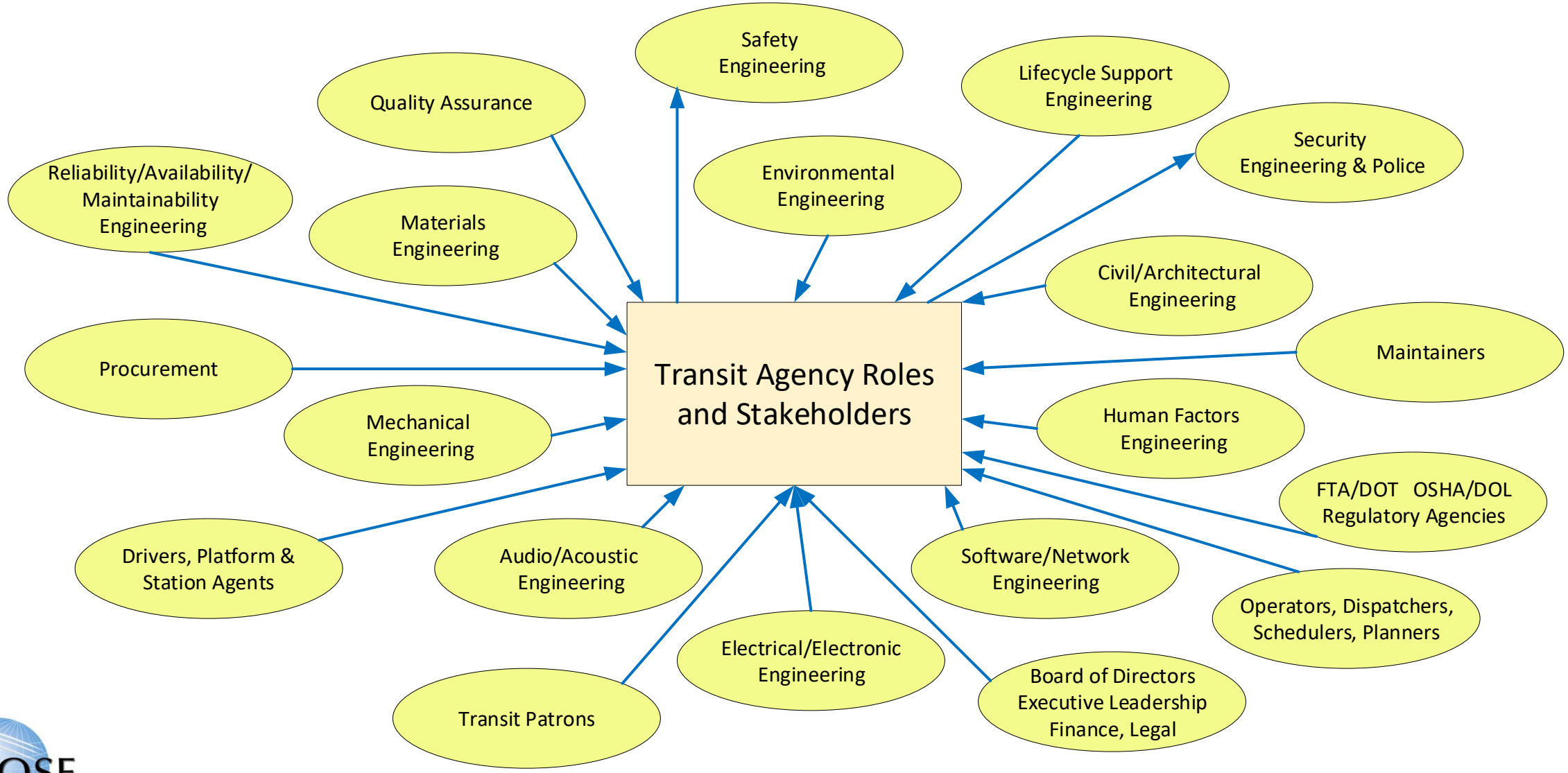


Functional views are needed for RAMS and software development

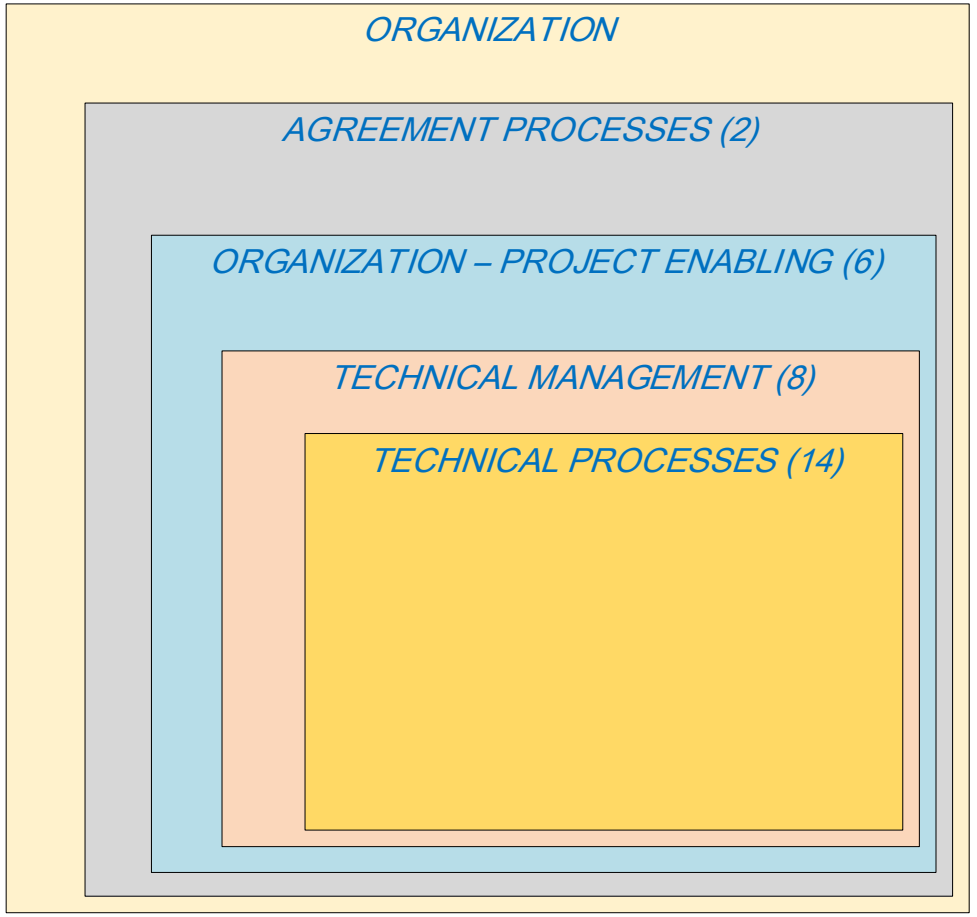
Asset Management and Maintenance prefer Physical breakdown (BoM)

Complexity increases dramatically as the system is decomposed

Typical Transit Project Stakeholders



Hierarchy of Organization Processes



CONTEXT VIEW – Parents enable child processes

As indicated by the hierarchy, technical processes such as Requirements Management or Verification can NOT execute properly without organizational support.

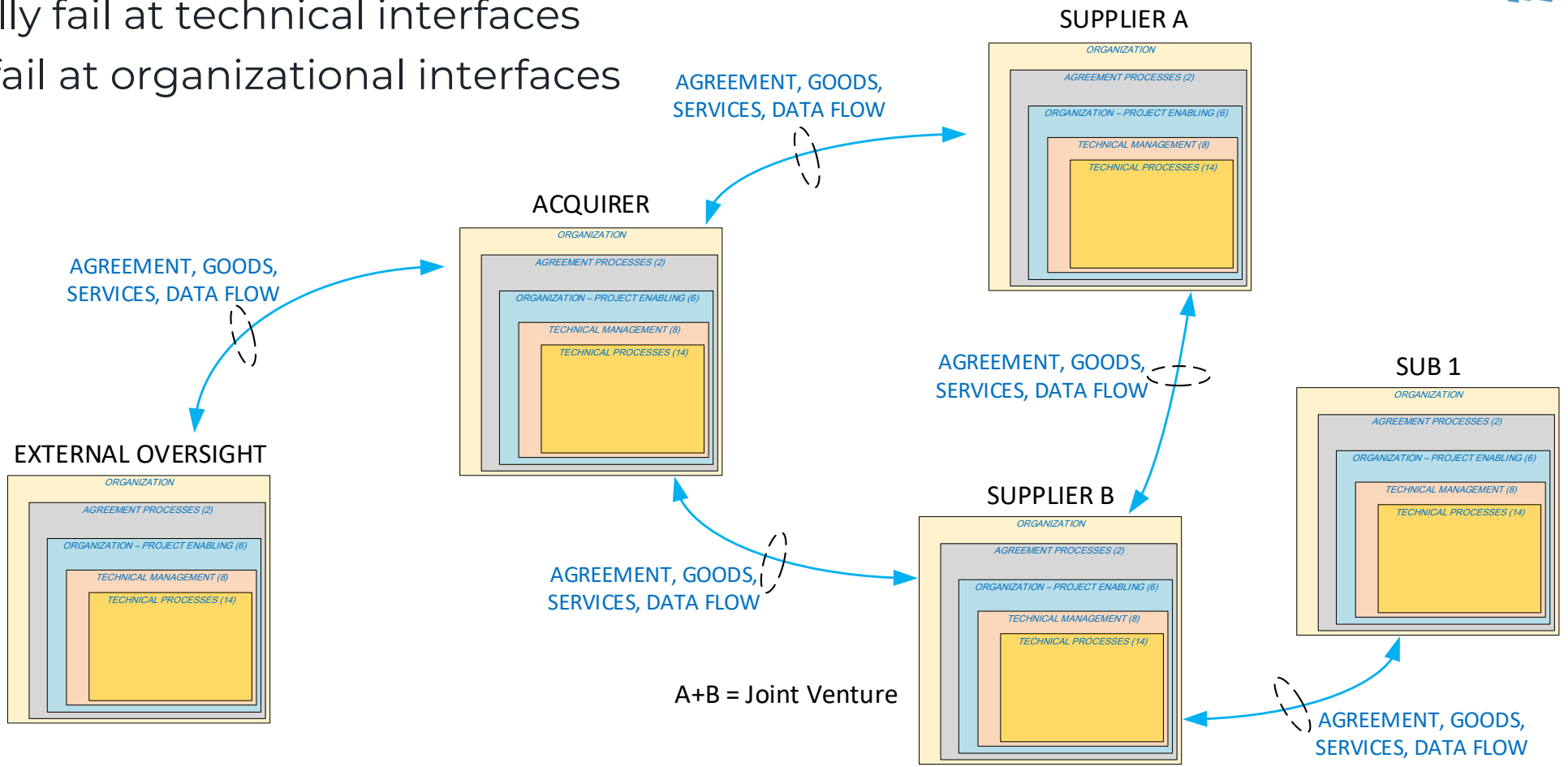
Example: If QA, PM or CM are missing or are weak, the result will be non-supported technical processes that WILL FAIL.

ALL processes occur within the framework of an organization:

- Technical Processes are facilitated through Technical Management
- Technical Management occurs within Organization / Project Enabling frameworks
- Organization / Project Enabling Processes all require Agreement Processes

Project Organization Complexity

- ✓ Systems typically fail at technical interfaces
- ✓ Projects often fail at organizational interfaces



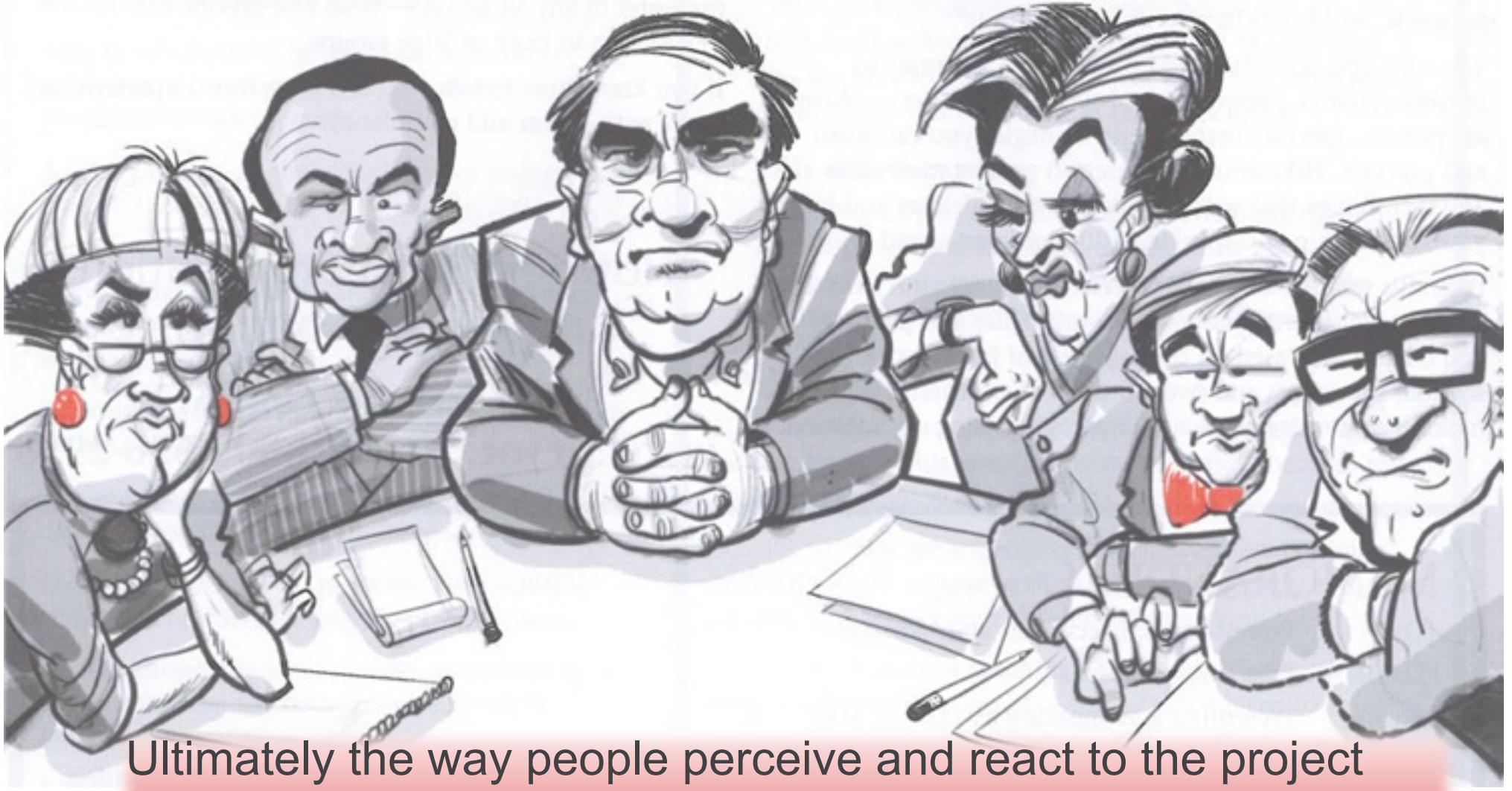
CORPORATE INTERFACES: Most Infrastructure Projects involve a significant number of disparate organizations

Summary – Stakeholder Complexity

- Transit Agencies represent a complex System of Systems within larger regional or national systems.
- There is a large array of stakeholders for an individual transit agency to consider.
- When a transit project is being planned, engagement of the acquiring agency stakeholders and stakeholders from interfacing organizations (suppliers, oversight, specialist consultancies) is highly complex and requires active planning and management.




Barriers to Engagement



Ultimately the way people perceive and react to the project dictates, to a great amount, how successful the project will be

Understanding Human Behavior

Motivation:

People mainly respond to their reward structure & related patterns

The boss trying to motivate Alice

Understanding Human Behavior

Motivation:

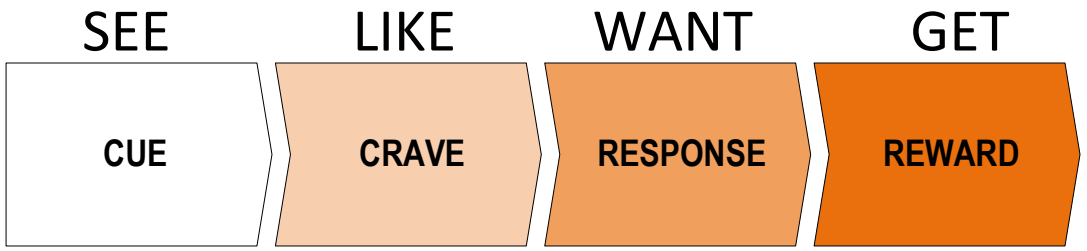
People respond to their reward structure & related patterns – not posters.

Case Study – Train Display Design:

- *A manager may be primarily rewarded for cost & schedule performance – not for excellent ergonomic design*
- *The Operations stakeholder, however, is relying on an excellent ergonomic design to avoid driver union difficulties later on*
- *QA activity would, ideally, act to balance the tension between these competing priorities and ensure that necessary stakeholders participate*
- *The technical lead should facilitate tradeoff discussions and help balance priorities based on overall lifecycle function, performance and mitigation of system risk (both fiducial and technical) This role needs a holistic approach.*

People & Organizational Behavior

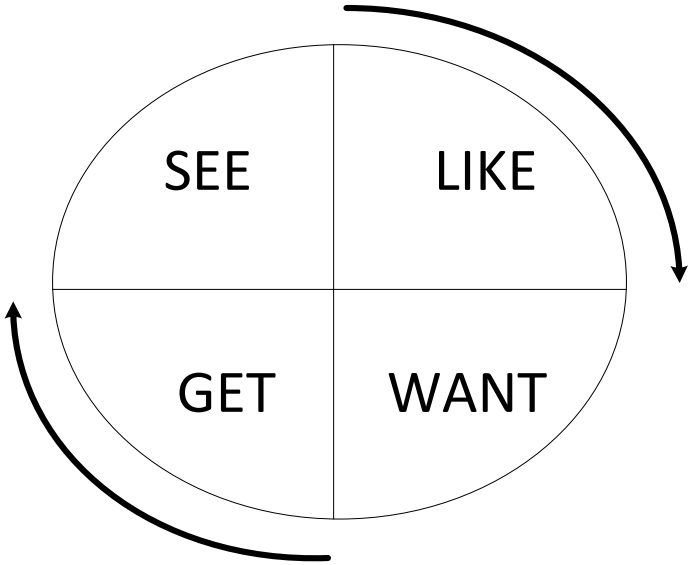
People and organizations are complex entities



Habitual behavior is often observed within large multi-year project organizations or teams.

Example: A company has been designing a product a certain way for years – but then has to incorporate electronics and software to remain competitive.

…..the company fails because it can't engineer software the same way they have been designing electro-mechanical machines for the past 45 years.

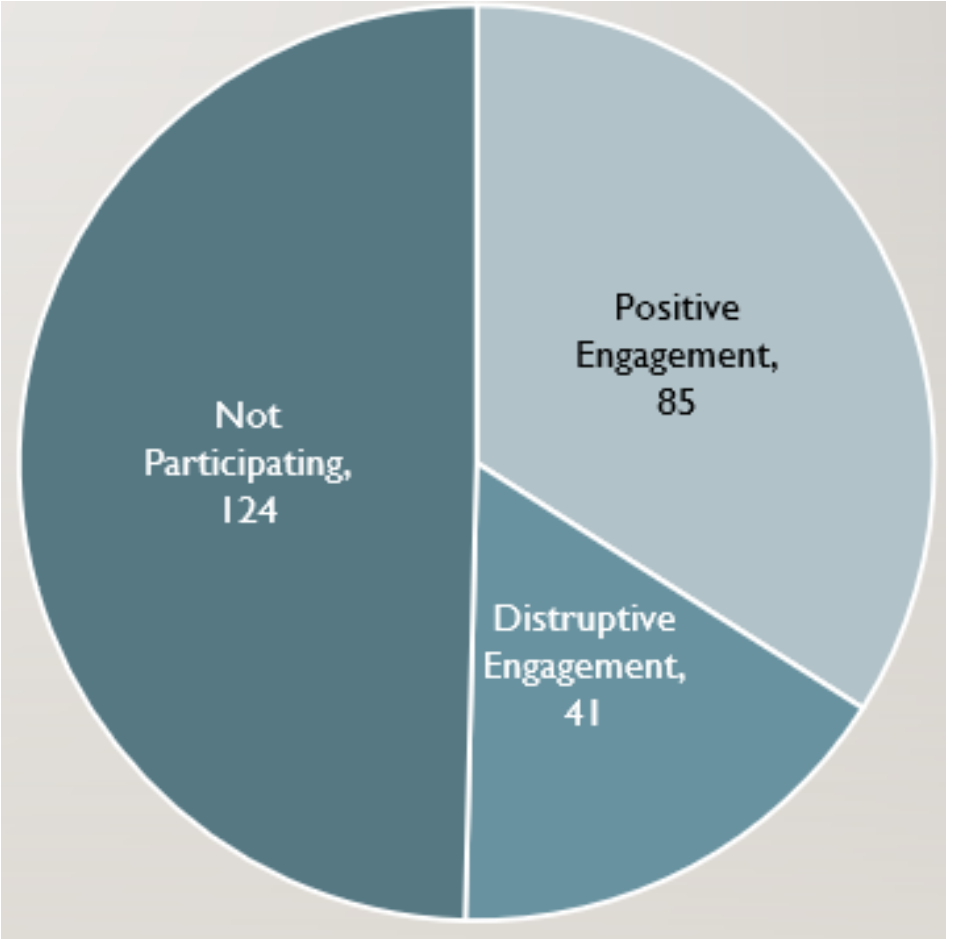


Like people, organizations can become addicted to certain behaviors. It takes about 21 repetitions to form a human habit.

At some point, organizations are repetitively going through the motions of their comfortable behavior – it becomes unconscious activity and can result in stubbornness and complacency – a.k.a. stagnation!

Do Not Underestimate…

- The difficulty of engaging stakeholders in the development of a ConOps should not be underestimated or trivialized. This can be demonstrated by substituting the phrase “Employee Engagement” for the phrase “Stakeholder Engagement” in the following discussion.
- Gallup has been studying Employee Engagement for several years and the 2018 estimate of engaged employees is now up slightly (in the US) to 34%. The number of “actively disengaged” employees is currently estimated to be 16.5%, with the balance of 49.5% being simply “disengaged”.



A wrench in the gears?

- Based on the Gallup study cited above, consider a large infrastructure project with 250 stakeholders:

- 85 stakeholders will be positively engaged in the ConOps work
- 41 could be disruptive or even passively acting as saboteurs.
- 124 may simply not participate or may only participate to a very minimal level.

With approximately 165 of 250 stakeholders not properly engaged, this is not a trivial issue!

SE Role in Stakeholder Engagement

The Systems Engineer must be a cross-discipline communicator to succeed

Successful stakeholder engagement requires:

- Relationship building
- Communication skills
- Negotiation skills
- Compromise skills

SE Role in Stakeholder Engagement

The SE must ensure that the ConOps development process is engaging for the Stakeholders.

- Stakeholders should ‘feel’ engaged in the development of the works.
- Successful completion of a project is defined by how the Stakeholders view it.
- Stakeholder requirements, expectations, perceptions, personal agendas and concerns will influence the project and inform what success looks like.

Benefits & Risks of Engagement

Benefits of Stakeholder Engagement	• More complete picture of current problem space and needs • Increased trust and confidence across the project community • Clearer understanding of remaining resistance • More robust risk management • Increased awareness of progress and delays • Increased awareness of organizational issues • Innovation - Increased awareness of industry benchmarks • Improved Strategic Thinking from varying viewpoints • Early buy-in from user and maintainer groups
Risks of Poor Stakeholder Engagement	• Reactive vs. Proactive, strategic approaches • Uncertainty of project outcome • Emotional failure, shortcoming • Unprofessional or unethical behaviors • Diversion and distraction of resources • Silo Thinking • Potential Conflicts

Stakeholder Management

- Stakeholder Management is often misunderstood as ‘the power to force stakeholder engagement’ to occur.
- Stakeholder Management is a process consisting of Identification, Analysis and Management and is defined in the APMBoK as:
- “*the systematic identification, analysis, planning and implementation of actions designed to engage with stakeholders*”.

Stakeholder Management Key Success Factors

Stakeholder Management Planning	Use a conscientious approach to stakeholder management
The Stakeholder Management Plan is not Static	The SMP is dynamic, respond as needs arise.
Define Project Success	Project success means different things to different stakeholders.
Understand the spectrum of Stakeholders	Consider the abilities of each stakeholder.
Compromise and Consensus – Decision Support	Ensure that decisions are agreed, supported.
Human Variables	Humans do not always behave in a consistent or predictable way. Stakeholders may not always seem rational or reasonable. It is necessary to operate with an awareness of human feelings – this is often ignored by technical staff. Also, understand that there will be personal agendas. Understand the Reward Structures = root cause of behavior, i.e., PM are rewarded by adherence to budget and schedule
Stakeholder Engagement	Early, Continuous, Transparent communications, keep records, plan.
Build Relationships	Developing relationships results in increased trust and confidence. Ensure conflicts are identified and mitigated early.
Group Roles – RACI	Define early: Responsible, Accountable, Consulted, and Informed.
Stakeholders can represent Project Risks.	Potential sources of risk - depends on influence level.

How to Engage

There are many methods used to engage with stakeholders. Several different methods may be required for a particular stakeholder group. There is no "one size fits all" approach to engagement – the techniques required vary as significantly as the variety of people involved.

- **Use Case 1**: Not all people are adept at reading or providing written specifications, needs and requirements. Non-technical stakeholders may require a lot of visual aids. Models, rapid prototypes, and simulations can provide the stimulus to generate comments, from which the SE can extract user needs.
- **Use Case 2**: Technicians or maintenance staff may prefer to be shadowed in their duties. This allows better questions to be generated and allow these stakeholders a true sense of being listened to.
- **Use Case 3**: End users of a Graphical User Interface (GUI) would like to "try before they buy" as much as possible. Consider rapid prototyping of the GUI and several sets of training sessions to keep stakeholders engaged for the entire project.

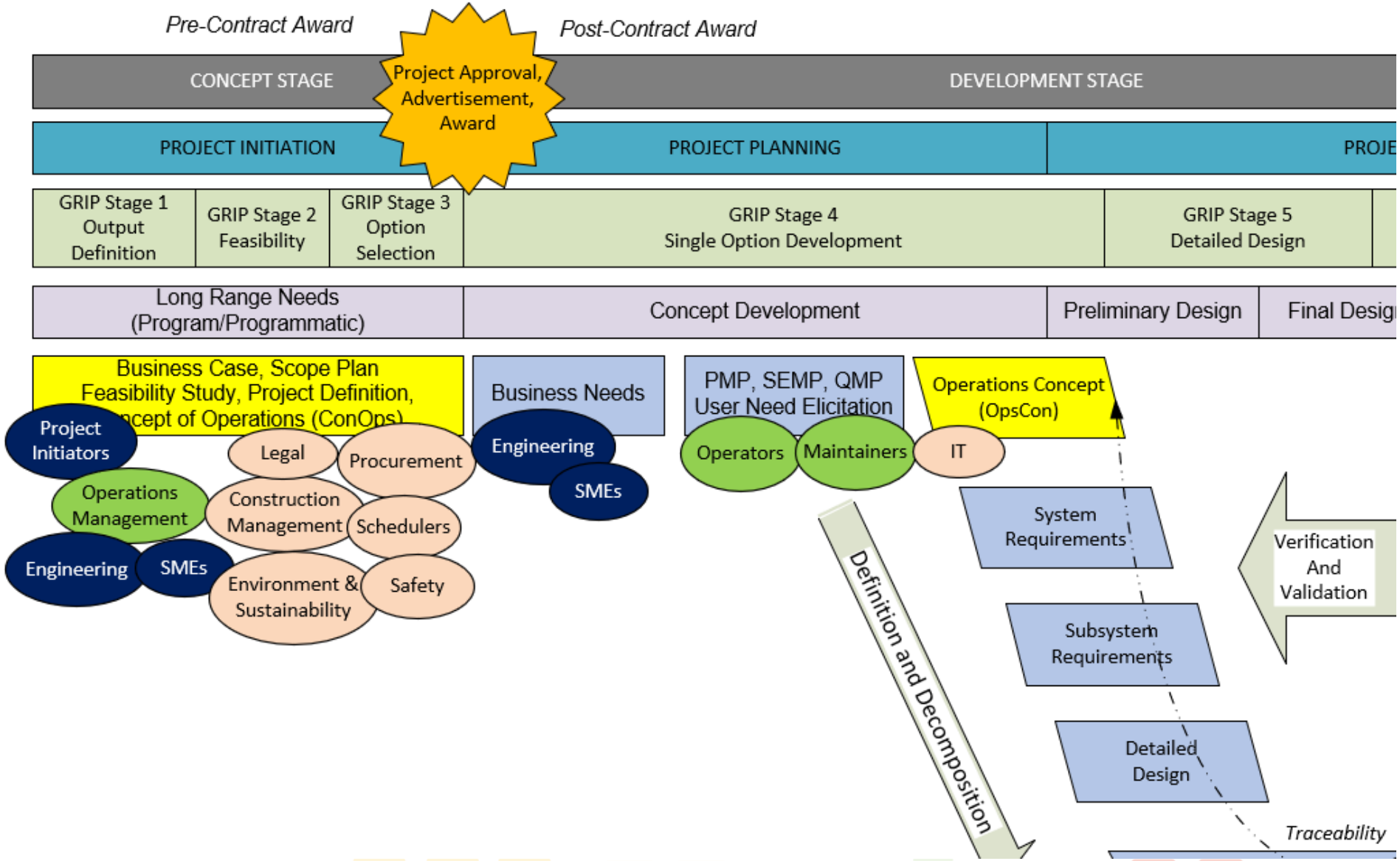
Engagement Techniques

Technique	Procedure	Notes & Tips
Interview	Conduct interviews to gain an understanding of the current system. Gather ideas and concepts to gauge where everyone's understanding, and expectations are for a proposed system. Identify current issues and system constraints known to that stakeholder. Identify the external interfaces and interactions. Identify potential and known risks.	Interviews can be conducted individually, within user groups, using focused groups then multiple user groups together, and/or departments with common needs. It is not uncommon for the ideas gathered from each group/individual to be vastly different and contradictory. It is the task of the Systems Engineer(s) to guide the development and deliver a viable product.
Requirements Workshops	Focused working sessions with Stakeholders to review user needs to ensure they are clear, feasible, and conflict-free.	Doing this early in the project cycle facilitates requirements agreement later during design and verification activities.
Surveys and Questionnaires	Use this when the Stakeholders are geographically dispersed, or face-to-face interactions are very much constrained.	Limit use of remote techniques. Limit use of requiring persons unfamiliar with engineering to perform self-elicitation.
Diagrams, schematics, figures, photos and graphs	Drawings can help convey the stakeholders' visions and display their expectations. What some may not be able to describe with words, they may be able to display with figures.	There is truth behind the saying pictures are worth a thousand words. Many people are visual learners and thinkers – a visual approach optimizes their ability to contribute.
Benchmarking	Score best practices and market analysis for the system of interest – contrast the new system concept against what is currently available	Helps to "sell" the concept – may assist in the generation of new stakeholder needs missed otherwise.

Engagement Techniques

Technique	Procedure	Notes & Tips
Document Analysis	Review existing documentation (e.g., standard operating procedures, system documentation, screen layouts, etc.) to gain better insight into the current system and operations in order to more effectively engage the stakeholders.	Also allows for an "audit" of whether current procedures and processes are working well and where gaps need to be addressed.
Observation	Shadowing an end user, observing how they use the current system and discovering ways in which to improve the process.	This represents gathering a sense of "a day in the life of…" This approach can showcase issues or features which the stakeholder may otherwise forget to mention or may have not noticed because of repetition.
Brainstorming	Provide a platform that enables Stakeholders to share their ideas and visions through a free-flowing, creative discussion. Information captured during these sessions will influence decision-making going forward.	Use of formal brainstorming methods such as 'Brainwriting-6-3-5' and 'Affinity Diagramming' can yield excellent results and can improve teambuilding for the project.
Peer Reviews	Reviews of project Concept of Operations or similar documents builds consensus and stakeholder acceptance. Stakeholders realize that they have a true voice in the project.	Several peer reviews may be necessary to refine the purpose and use of the proposed system, as well as address any potential conflicts and mitigate to achieve concurrence. Use this technique to review the Stakeholder List and Management Plan.
Training Sessions	Provide training sessions to different stakeholder groups for different aspects of the SOI. The User Interface is an excellent example of early training. This solves two user needs – actual training and user feedback.	Use this several times during the concept and development cycle to maintain engagement. This technique makes official training at the end of the project less onerous and provides better training quality.

When To Engage



Where to Engage

We show a broad example of areas within a Concept of Operations where various stakeholders can provide pertinent input.

Phase		Stakeholder Roles/ Contributions	Stakeholders												
			Prgs & Planning			End Users			Influencers						
Project Initiation	Project Planning	CONOPS Documents Outline [2]	Project Initiators	Engineering	SMEs	Ops Management	Operators	Maintainers	Procurement	Construction Mgt	Environ & Sustain.	IT Department	Schedulers	Safety	Legal
x	x	Title page		x											
x	x	Revision chart		x											
x	x	Preface	x	x											
x	x	Table of contents		x											
x	x	List of figures		x											
x	x	List of tables		x											
x	x	1. Scope	x	x	x	x					x				
x	x	1.1 Identification	x	x		x					x				
x	x	1.2 Document overview		x											
x	x	1.3 System overview	x	x	x						x				
x	x	2. Referenced documents		x	x						x				
x	x	3. Current system or situation	x	x	x	x	x	x			x	x			
x	x	3.1 Background, objectives, and scope	x	x	x	x					x				
x	x	3.2 Operational policies and constraints		x	x	x	x	x			x	x			
x	x	3.3 Description of the current system or situation		x	x	x	x	x			x				
x	x	3.4 Modes of operation for the current system or situation		x	x	x	x	x			x				
x	x	3.5 User classes and other involved personnel		x	x	x	x	x			x	x			
x	x	3.6 Support environment		x	x	x	x	x			x				
x	x	4. Justification for and nature of changes	x	x	x	x	x	x			x				
x	x	4.1 Justification of changes	x	x	x	x					x				
x	x	4.2 Description of desired changes		x	x	x					x				
x	x	4.3 Priorities among changes		x	x	x	x	x			x				
x	x	4.4 Changes considered but not included	x	x	x	x					x				
x	x	5. Concepts for the proposed system	x	x	x	x	x	x			x	x		x	
x	x	5.1 Background, objectives, and scope	x	x	x	x					x				
	x	5.2 Operational policies and constraints	x	x	x	x					x			x	
	x	5.3 Description of the proposed system		x	x	x					x				
	x	5.4 Modes of operation		x	x	x	x	x			x				
x	x	5.5 User classes and other involved personnel		x	x	x	x	x			x	x			
x	x	5.6 Support environment		x	x	x	x	x			x				
	x	6. Operational scenarios		x	x	x	x	x			x				
x	x	7. Summary of impacts	x	x	x	x	x	x	x	x	x	x	x	x	x
x	x	7.1 Operational impacts		x	x	x		x			x		x	x	x
x	x	7.2 Organizational impacts	x	x	x	x				x	x		x	x	x
	x	7.3 Impacts during development		x	x	x	x		x	x	x	x	x	x	x
x	x	8. Analysis of the proposed system	x	x	x	x	x		x	x	x	x		x	x
x	x	8.1 Summary of improvements	x	x	x	x	x				x				
x	x	8.2 Disadvantages and limitations		x	x					x	x	x		x	
x	x	8.3 Alternatives and trade-offs considered	x	x	x	x			x		x				x
x	x	9. Notes		x							x				
x	x	Appendices		x							x				
x	x	Glossary		x							x				

Where to Engage

The ConOps Document Outline shown is a reference from IEEE Standard 1362™-1998 (R2007), which was synchronized into ISO/IEC/IEEE 29148:2011.

Phase		Stakeholder Roles/ Contributions	Stakeholders												
			Prgs & Planning			*End Users*			*Influencers*						
Project Initiation	Project Planning	**CONOPS Documents Outline [2]**	Project Initiators	Engineering	SMEs	Ops Management	Operators	Maintainers	Procurement	Construction Mgt	Environ & Sustain.	IT Department	Schedulers	Safety	Legal
x	x	Title page		x											
x	x	Revision chart		x											
x	x	Preface	x	x											
x	x	Table of contents		x											

Case Study

Case Study

Details

ConOps development for Subway Platform Safety Project –

Looking beyond the usual go-to Stakeholders, what other groups may not typically be considered influencers on or interested parties in the project and how may their perspectives end up shaping the system's development?

Approach

Stakeholder identification and engagements with end users and maintainers

Engagements

Benchmarking, questionnaires, document analysis/white paper review, interviews, and requirements workshops

Impact

New Stakeholder group identified:

Legal Department

Works closely with the Safety Department, a main influencer

Benefits – Two-fold

1. The Legal Department provided a new perspective on the impact of new technology and potential liability concerns
2. The Legal Department gained knowledge from other Stakeholders about currently deployed technology in subway system unfamiliar to them

Outcome of Legal Department Engagement Sessions

- Provided background on current agency safety policies and practices
- Discussed effectiveness of deploying low-tech solutions versus high-tech solutions
- Raised discussion points: What if the system fails, or Why was the system installed at Station A, but not at Station B?
- Stressed the importance of performing feasibility studies and benchmarking against other agencies prior to deployment

Conclusion

The Legal Department was appreciative of being asked to participate in the ConOps process, noting that they are not usually included in discussions during the development of new systems, but only get involved from a legal aspect if there are incidents resulting from the deployment of new systems. Their participation brought a fresh perspective to the impact analysis process and how new solutions could affect the Agency.

Conclusions

- Stakeholder identification, engagement and management play a significant role in how a project or system ConOps is developed.
- By realizing underlining impacts, identifying the intended audience of a ConOps as contributing stakeholders aides in the development of a more robust document.
- Stakeholder engagement techniques will provide improved insight of system impacts, while collecting audience contributions that can be incorporated into the ConOps.
- The stakeholders, through these activities, become authors of the ConOps document while the Systems Engineer is thoughtfully managing the engagement activities.

Thank You!

Questions?

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