

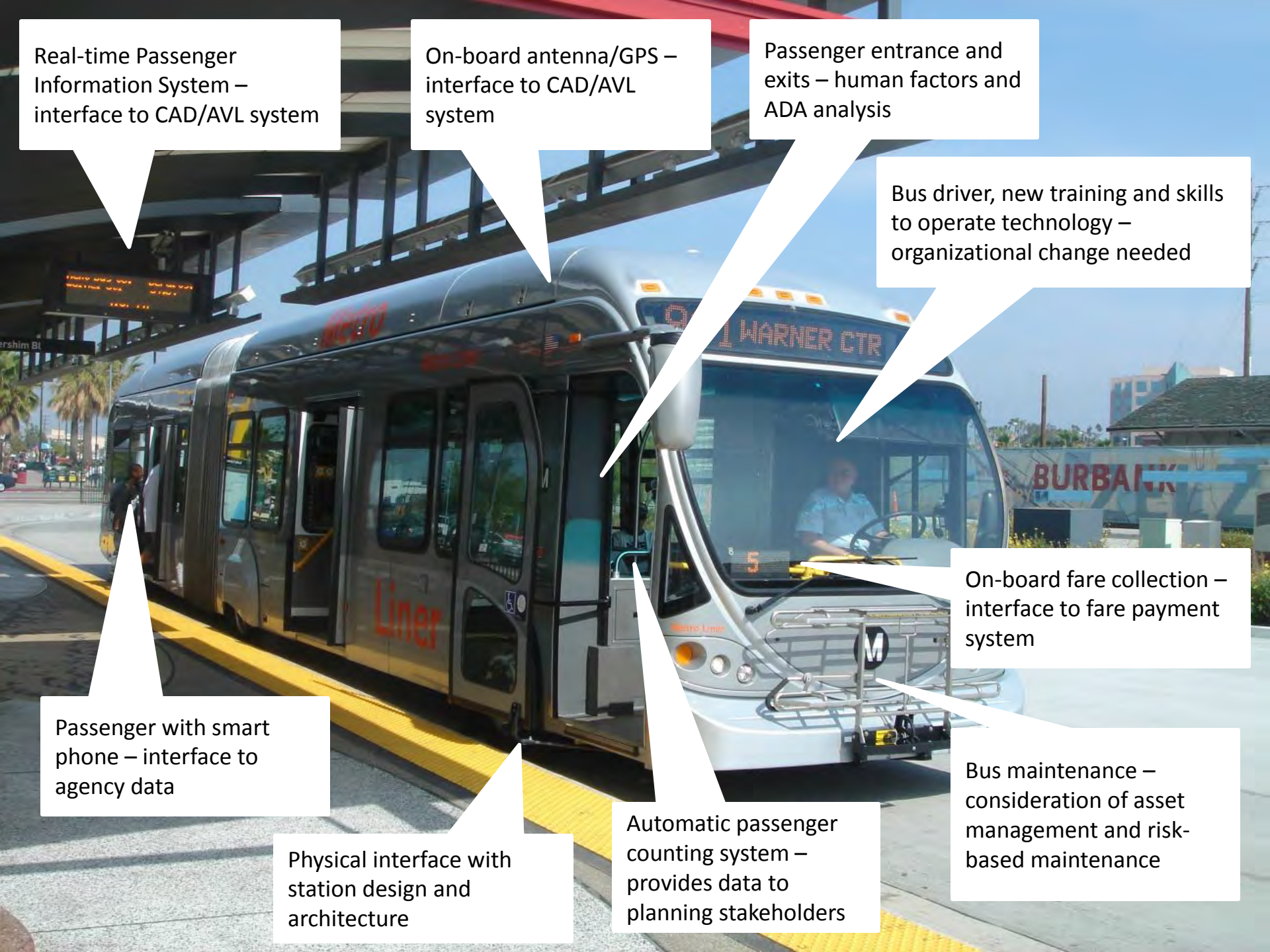
Transportation Industry SE Summit

January 28th, 2014



It's just a bus – right?



A silver Metro Liner bus is stopped at a station platform. The bus has "Metro Liner" written on its side and "WARNER CTR" on its destination sign. A driver is visible through the windshield. The platform has a yellow tactile strip along the edge. In the background, there are palm trees and a building with a sign that says "BURBANK".

Real-time Passenger Information System – interface to CAD/AVL system

On-board antenna/GPS – interface to CAD/AVL system

Passenger entrance and exits – human factors and ADA analysis

Bus driver, new training and skills to operate technology – organizational change needed

On-board fare collection – interface to fare payment system

Passenger with smart phone – interface to agency data

Physical interface with station design and architecture

Automatic passenger counting system – provides data to planning stakeholders

Bus maintenance – consideration of asset management and risk-based maintenance

Planning, designing or implementing complex systems?

Integrating new technology and software with legacy systems?

Working on projects that involve multiple engineering disciplines?

Managing multiple, sometime conflicting, stakeholder expectations?

Delivering projects that involve organizational change or business process re-engineering?



The Transportation Working Group



Established
in 2006

Over 250 members in
10 countries

Members include

- Federal/national governments
- Public agencies
- Suppliers
- Consultants
- Academia

Mission statement

To promote the development and tailored application of Systems Engineering best practices to ground transportation systems: with emphasis on roadways, rail, bus and metro

The Transportation Working Group




Webinars – every 3-4 months



Newsletters – next one this Spring

SE101



INCOSE
Transportation
Issue 1.2
January 2014


What is Systems Engineering?

Systems Engineering is an interdisciplinary team process aimed at creating successful systems. It starts by defining customer needs and functionality, before going on to create a holistic design.

It considers both the business and the technical needs of all customers, with the ultimate goal of providing a quality product that meets the user needs.

"Build the right transportation system; and build the system right". Systems Engineering links the economic benefits of the new transportation system, its high level design down to the sub-system requirements across the whole system lifecycle – from initial concept to system retirement.

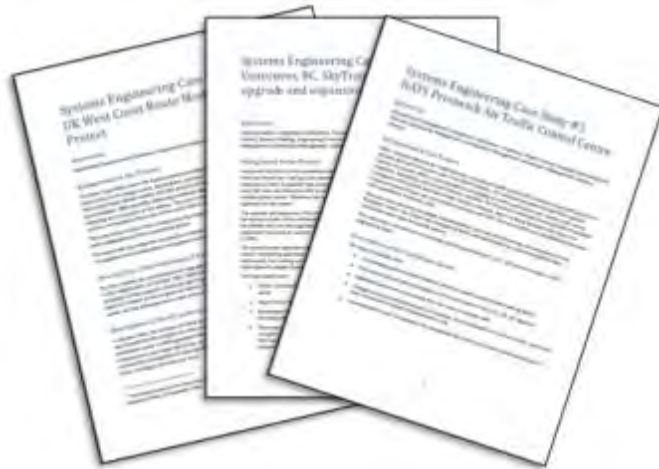
The 'V' project lifecycle model, below, shows the logical relationship between the different Systems Engineering activities or 'processes'.



The V-model diagram illustrates the relationship between development and testing phases. The left side of the 'V' represents development phases: 'understand the problem space', 'analyze', 'design', and 'implement'. The right side represents testing phases: 'define system requirements', 'verify', 'validate', and 'test'. Horizontal arrows connect corresponding levels on both sides, indicating the relationship between development and testing. A vertical arrow on the right points downwards, indicating the flow of the system lifecycle.

SE guides – 101 on your seats, 102 due out this summer

The Transportation Working Group



**14 case studies –
could you share
your story?**



**TWG LinkedIn – join
the community**



**TWG website – new
website on its way**

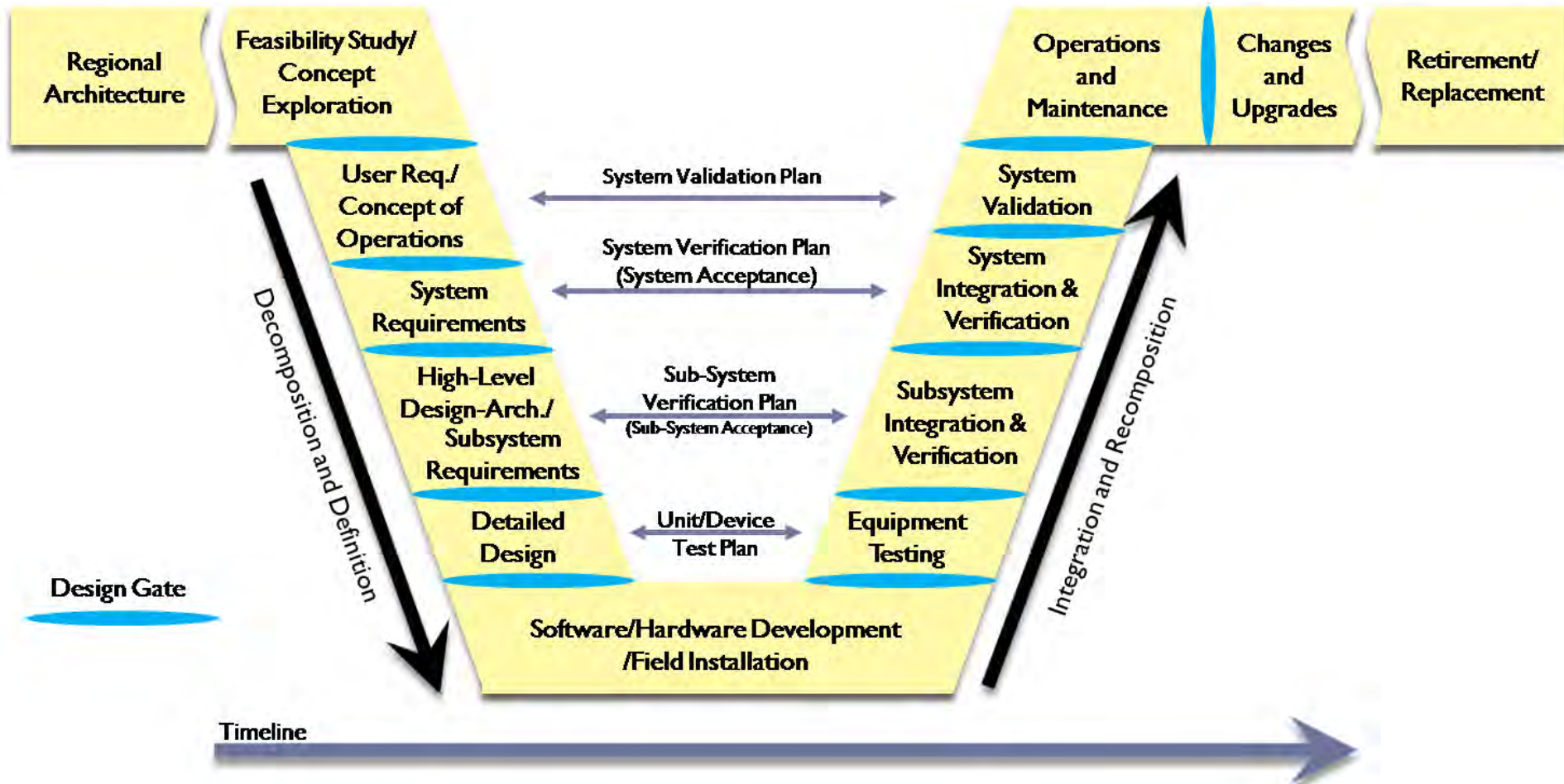
Introducing... *Systems Engineering*

A process

A philosophy

A process

A philosophy



A process

A philosophy

