



# **TWG CHARTER & STRATEGIC PLAN 2015-18 (INCORPORATING TWG 2016 ACTION PLAN)**

Version 1.0

INCOSE Transportation Working Group

May 22nd, 2016

## DOCUMENT CONTROL

<b>Report Title:</b>	INCOSE TWG Charter & Strategic Plan 2015-18 (including TWG 2016 Action Plan)
<b>Version:</b>	1.0
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<b>Reviewer(s)</b>	Nita Rabadia (High Speed 2), Dale Brown (Atkins) and all others on TWG Steering Committee

## REVISION HISTORY

Change #	Version	Change authors	Date	Description of change
01	0.1	Simon Smith	Feb 16 <sup>th</sup> , 2015	Initial draft
02	0.2	Nita Rabadia	May 4 <sup>th</sup> , 2015	Minor comments added
03	0.3	Nita Rabadia	June 3 <sup>rd</sup> , 2015	Minor comments added
04	0.9	Simon Smith	Feb 1 <sup>st</sup> , 2016	Updated Annual Plan for 2016
05	1.0	Simon Smith	May 22 <sup>nd</sup> , 2016	Released for 2016 following TWG review period

## Table of Contents

<b>1</b>	<b>INTRODUCTION .....</b>	<b>4</b>
1.1	Purpose and Scope.....	4
1.2	Intended Audience .....	4
1.3	Validity and Update Cycle .....	4
1.4	Related Documents.....	4
<b>2</b>	<b>TWG CHARTER.....</b>	<b>5</b>
<b>3</b>	<b>3-YEAR TWG OBJECTIVES .....</b>	<b>5</b>
<b>4</b>	<b>SWOT ANALYSIS.....</b>	<b>7</b>
<b>5</b>	<b>TWG ANNUAL PLAN FOR 2016.....</b>	<b>8</b>

# 1 INTRODUCTION

## 1.1 Purpose and Scope

This document describes the strategic plan for the INCOSE Transportation Working Group (TWG) for the period 2015-18. Its intended purpose is to provide strategic direction to the TWG throughout that period. It also incorporates the Annual Plan, intended to provide yearly focus.

The scope of this document is limited to the TWG only.

## 1.2 Intended Audience

- For Content and Update: TWG Steering Committee
- For Content: TWG membership at-large, INCOSE Industry Outreach Board, INCOSE TechOps, and INCOSE Assistant Director, Government.
- Also published on the TWG INCOSE public website

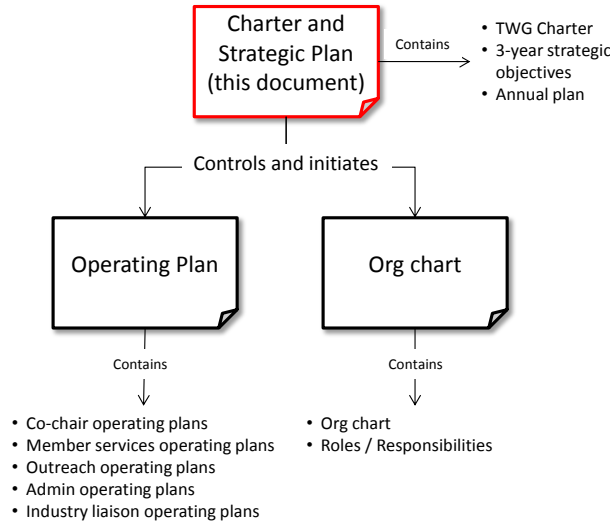
## 1.3 Validity and Update Cycle

This Strategic Plan is valid for the period **2015-18**. Its content is **updated every three years** at the International Workshop (IW) starting from the first year of its period (e.g., Updated at the Jan 2015 IW for the period 2015-18).

The Annual Plan, incorporated into this document, is **updated yearly** at the IW and published shortly afterwards.

## 1.4 Related Documents

This Strategic Plan is controlled and driven by the TWG Operating Plan which is the highest level document in the TWG document set:



## 2 TWG CHARTER

The TWG’s purpose, goal and scope for **2015-18** are:

- **Purpose** – To promote and grow the application of systems awareness, thinking and engineering within ground transportation
- **Goal** – Systems engineering is used to deliver complex systems in the transportation sector, and a broad and deep community of systems engineers is present throughout the supply chain.
- **Scope** – Ground transportation systems and their supporting technical and business infrastructures (with emphasis on highways, bus, rail and transit).

## 3 3-YEAR TWG OBJECTIVES

The TWG’s objectives for **2015-18** are:

INCOSE 5-year objectives	TWG Objective	Strategy	Metric
Growth	Grow the use of SE within transportation	Engage with decision makers and influencers throughout the supply chain and beyond	<ul style="list-style-type: none"> <li>• Number of agencies adopting/applying SE</li> <li>• Number of agencies procuring SE services</li> <li>• Number of TWG members from different geographies</li> <li>• Number of TWG members from different supply chain elements</li> <li>• Number of TWG members from different modes</li> </ul>

<p>Alliances Education</p>	<p>Develop a broad, deep and active community of transportation systems engineers</p>	<p>Expand the TWG membership and provide networking, knowledge sharing and learning opportunities through the development of strategic alliances with SE practitioners and industry organizations</p>	<ul style="list-style-type: none"> <li>• Number of active TWG members</li> <li>• Number of System Engineers within transportation</li> </ul>
<p>Products Competency Forums</p>	<p>Provide value to our members</p>	<p>Understand members' needs and provide TWG services, products and events that meet those needs</p>	<ul style="list-style-type: none"> <li>• Number of satisfied TWG members</li> <li>• Number of products or events per year</li> </ul>
<p>None</p>	<p>Follow a sustainable and resilient approach to all TWG activities</p>	<p>Avoid over-reliance on individuals and capture TWG operating knowledge in a document</p>	<p>n/a</p>

## 4 SWOT ANALYSIS

SWOT analysis (strengths, weaknesses, opportunities and threats) was performed at IW15 against the purpose, goal and objectives. The consideration of SWOT helped develop the 2015 Action Plan that follows.

<b><u>Strengths</u></b> (internal to TWG)	<b><u>Weaknesses</u></b> (internal to TWG)
<ul style="list-style-type: none"> <li>• Diversity of experience, location</li> <li>• Most members have passion for SE</li> <li>• Large number of members (250+)</li> <li>• Active in generation of products compared to other WGs</li> <li>• Good functional org structure provides resiliency</li> <li>• Continuity of leadership across the past 3 years</li> <li>• Relative maturity of the WG</li> </ul>	<ul style="list-style-type: none"> <li>• Not enough active membership support in the Steering Committee.</li> <li>• Within the TWG, only 3-4 people active out of 250+</li> <li>• Recent lack of agency actively engaged in leadership</li> </ul>
<b><u>Opportunities</u></b> (external to TWG)	<b><u>Threats</u></b> (external to TWG)
<ul style="list-style-type: none"> <li>• Promote and recognize member contributions to TWG to gain more activity</li> <li>• Engaging other industry bodies (ITSA, IBTTA, IEEE, and APTA. But what about Europe?)</li> <li>• Industry trends are systems oriented. (Increased urbanization, the Internet of things, Smart cities, Next Gen infrastructure, alternate procurement models like PPP and DBOM)</li> <li>• Many regulations are systems-oriented, some US ones include Rail Safety Improvement Act, Rule 940, MAP21</li> <li>• INCOSE 2025 – how can the TWG get involved/aligned with this?</li> <li>• Opportunity to involve the supply chain more – but need to articulating the business case</li> </ul>	<ul style="list-style-type: none"> <li>• UK and Australia well ahead of US transportation SE uptake</li> <li>• Funding for support of WG</li> <li>• Dwindling opportunities for engagement (webinars, meetings)</li> <li>• Frequent need to sell SE</li> <li>• Rapid Technology growth</li> </ul>

## 5 TWG ANNUAL PLAN FOR 2016

The following action plan is in place for 2016. The action plan is structured by organizational function, and each function has the responsibility for implementing these actions.

Objective	Grow the use of SE with transportation	Develop a broad, deep and active community of transportation systems engineers	Provide value to our members	Follow a sustainable and resilient approach to all TWG activities
<b>Co-chairs</b>	<ul style="list-style-type: none"> <li>Foster closer links with relevant INCOSE WGs and initiatives, such as MBSE, BIM, and Infrastructure / Critical Infrastructure</li> <li>Work closely with IOB on TWG plans for IS17 Adelaide</li> <li>Develop APTA, TWG, AREMA guide to introducing SE/holistic thinking into rail industry and transit agency</li> <li>Develop list of key industry topics that TWG members and potential members are engaged with. Such a list can form the basis of TWG roundtables/panels at the IS and discussions throughout the year via 'at-large' TWG meetings or at IW</li> </ul>	<ul style="list-style-type: none"> <li>Hold TWG 'at-large' meetings every 6-8 weeks that include discussion on industry opportunities and issues</li> <li>Every third call timed to allow for Australian participation</li> </ul>	<ul style="list-style-type: none"> <li>Engage with INCOSE to advocate for TWG in IS16 planning</li> <li>Update/release SE102</li> <li>Conduct member survey (in collaboration with Member Services) to better understand member needs, hot topics, industry challenges</li> <li>Develop plans for IW17 to incorporate discussion-based sessions into the overall TWG agenda</li> </ul>	<ul style="list-style-type: none"> <li>Add and fill new Academic and Government Liaison positions on TWG org chart</li> <li>Release TWG 2016 Annual Plan</li> <li>Identify strategies and options for succession planning for all steering committee positions</li> </ul>
<b>Member services</b>	<ul style="list-style-type: none"> <li>Develop materials and promote the organization of 'What is SE' sessions for non SEs</li> </ul>	<ul style="list-style-type: none"> <li>Engage with the Young Rail Professionals</li> </ul>	<ul style="list-style-type: none"> <li>Run 4 TWG webinars, and add to YouTube</li> <li>Publish 2 TWG newsletters</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that newsletter templates and webinar materials are centrally available to the TWG steering committee (e.g. using a shared Dropbox)</li> </ul>
<b>Outreach</b>	<ul style="list-style-type: none"> <li>Government Outreach - Build on FHWA webinar, engage with FTA</li> <li>Academic / young person outreach – through INCOSE student chapters</li> </ul>	<ul style="list-style-type: none"> <li>Australia TWG outreach - Start building outreach for IS17, Leverage IOB</li> <li>Explore possibilities for Chinese outreach</li> <li>New member outreach - LinkedIn monthly updates; "did you know?" etc.</li> </ul>		



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<b>Administration</b>			<ul style="list-style-type: none"> <li>Ensure website, Connect, LinkedIn and mailing list are kept up to date on at least a monthly basis</li> <li>Update the <a href="mailto:transportwg@incose.org">transportwg@incose.org</a> mailing list to reflect the latest membership</li> </ul>	<ul style="list-style-type: none"> <li>Provide administrative support for all TWG events, including IW, IS, webinars, newsletters etc.</li> </ul>
<b>Highway Liaison</b>	<ul style="list-style-type: none"> <li>Also consider potential UK and Australia highway liaison, around ICM and 'smart' motorways</li> </ul>	<ul style="list-style-type: none"> <li>Update <i>FHWA SE Guidebook</i> website to promote INCOSE</li> <li>Update <i>FHWA SE Guidebook</i> with CalTrans Integrated Corridor Management (ICM) case study</li> <li>Add link to INCOSE on <i>FHWA SE Guidebook</i> website</li> </ul>	<ul style="list-style-type: none"> <li>Provide CalTrans ICM case study to TWG Case Studies</li> <li>Add link to <i>FHWA SE Guidebook</i> on INCOSE TWG website</li> <li>Conduct TWG webinar on CalTrans ICM SE processes</li> <li>Consider potential webinar comparing the FHWA and Dutch approach to SE</li> </ul>	
<b>Transit Liaison</b>	<ul style="list-style-type: none"> <li>Continue to build TWG linkages and networking at the American Public Transportation Association (APTA)</li> </ul>		<ul style="list-style-type: none"> <li>Provide TWG case study on transit project that used SE</li> </ul>	
<b>Supplier Liaison</b>	<ul style="list-style-type: none"> <li>Promote INCOSE and SE to other suppliers (and customers) when interacting with them</li> <li>Consider a supplier networking event at IW17</li> </ul>		<ul style="list-style-type: none"> <li>Provide TWG webinar on SE with Scrum for New Product Development at Suppliers</li> <li>Consider Webinar, panel or roundtable looking at Supplier challenges with customer approach to procurement, requirements, processes etc., and Customer challenges with what suppliers provide back</li> </ul>	
<b>Academic Liaison</b>	<ul style="list-style-type: none"> <li>Engage with academic institutions to develop and deliver more systems engineering content in their courses</li> </ul>	<ul style="list-style-type: none"> <li>TBD – new role for 2016</li> </ul>	<ul style="list-style-type: none"> <li>TBD – new role for 2016</li> </ul>	<ul style="list-style-type: none"> <li>TBD – new role for 2016</li> </ul>

<b>Objective</b>	<b>Grow the use of SE with transportation</b>	<b>Develop a broad, deep and active community of transportation systems engineers</b>	<b>Provide value to our members</b>	<b>Follow a sustainable and resilient approach to all TWG activities</b>
<b>Government Liaison</b>	<ul style="list-style-type: none"><li>Engage with government institutions and agencies (on the national, regional or municipal level) to promote the awareness and uptake of SE</li></ul>	<ul style="list-style-type: none"><li>TBD – new role for 2016</li></ul>	<ul style="list-style-type: none"><li>TBD – new role for 2016</li></ul>	<ul style="list-style-type: none"><li>TBD – new role for 2016</li></ul>