



# THE ROLE OF PUBLIC SECTOR PROCUREMENT IN CONSTRUCTION H&S

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# Agenda

- Introduction
- Definitions
- Procurement and the public sector
- Research Findings
- Recommendations



# Introduction

- The construction process is not just about building a road or a building
- Significant planning spans years before the first set of construction activities occur (cidb, 2011)
- The challenge despite all the laws and aspects of Health and Safety (H&S) remains to reduce fatalities, diseases and injuries in the sector
- The construction sector operates in silo's
- Built Environment Professionals (BEPs) disciplines dont work cohesively
- Clients and BEPs operate at a level of malicious compliance
- National Treasury do not identify H&S risks during project planning
- Supply Chain Management (SCM) does not allow adequate H&S resources for projects

## Introduction (2)

- Between 9% and 20% could be employed in the construction sector, therefore socially and economically important (Jimoh, Ijigah and Nuah, 2014)
- Stakeholders include BEPs, developers, industry, employer and voluntary associations, and government regulators
- Stakeholders have a primary or secondary relationship, the latter having influence only through legal or political actions
- H&S is noted as a ‘secondary’ contributor to procurement, with vested interest, which is contrary to the role it can play when included from inception (cidb, 2009; Amaeshi, 2009; Rwelamila, 2009; du Plessis and Cole, 2011).

# Definitions

- **Procurement**

- The process by which the resources (goods and services) required by the project are acquired. It includes development of the procurement strategy, preparation of contracts, selection and acquisition of suppliers, and management of contracts (Burke, 2014)

- **Stakeholder**

- Means those individuals or groups who can affect, or are affected by the achievement of an organisations purpose (Amaeshi, 2009)

# Procurement and the Public Sector

- National Treasury is the overarching organ of state
- Each provincial department / public entities are required to provide and maintain infrastructure (cidb, 2010)
- The traditional approach to procurement and SCM does not deliberately single out, or appear to consider H&S, competence and the important role of stakeholders
  - SCM rather considers lowest cost as the key selection factor.
- Client leadership is noted as a crucial driver for improving H&S throughout the supply chain (Office of Government Commerce (OGC), 2007; Wells and Hawkins, 2010).

## Procurement and the Public Sector (2)

- Procurement practices and involvement of stakeholders has minimal H&S input through critical stages of construction
- There is a range of competencies identified for those practicing construction H&S (Smallwood and Haupt (2008))
- The lack of H&S knowledge by built environment professionals increase project risk, potential loss of life, and economic burden carried by the State (cidb, 2009)
- Research among contractors indicates that the focus on perceived cost of compliance with H&S legislation rather than risk, increases risks to workers

# Procurement and the Public Sector (3)

- A variety of procurement systems have been developed and in use, namely:
  - Separated procurement;
  - Design and build/construct, and
  - Partnering (Watermeyer, 2012; Alharthi *et al.*, 2014)
- There is a daunting amount of legislation to be complied with
- The Infrastructure Delivery Management System (IDMS) is a model describing the processes that make up public sector infrastructure management (cidb, 2011)



Watermeyer, 2012)







# Procurement and the Public Sector (4)

- IDMS is a thinking tool or model within the public sector, mainly construction
- Outlines the core processes associated with the model for planning, delivery, procurement and maintenance of infrastructure
- Addresses infrastructure personnel involved in portfolio management, project management, operations and maintenance
- Made up of a multitude of layers
  - delivery elements;
  - Processes;
  - delivery gates;
  - milestones, performance management processes, and
  - triggers (cidb, 2012).

# Procurement and the Public Sector (5)

- The current procurement system requires 3 bid committees that include
  - a bid specification committee (BSC);
  - a bid evaluation committee (BEC), and
  - a bid adjudication committee (BAC)
- Cost estimates are based on the capacity required for the management of the planned works and work required on assets
- Plans are reviewed annually and included in the medium term expenditure framework (MTEF)

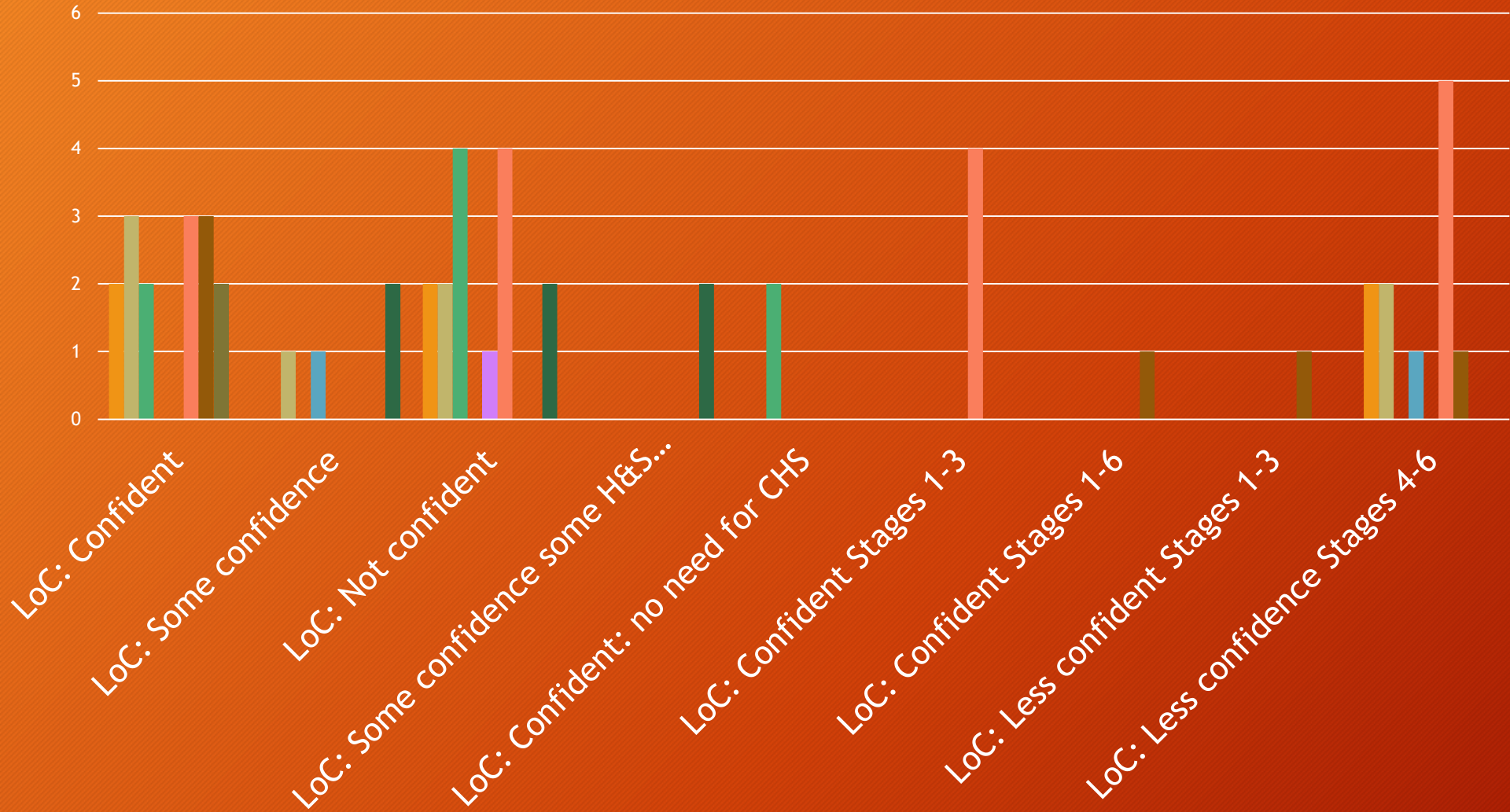
<b>IDMS: NATIONAL TREASURY</b> 		 <b>IDMS</b> 		 <b>BEP STAGES</b>	
<b>Stages</b>		<b>Stages</b>		<b>Stages</b>	
1	Infrastructure planning	1	Infrastructure Plan	Not applicable	
2	Procurement planning	2	Procurement Strategy		
3	Package planning	3	Strategic Brief		
4	Package definition	4	Concept report	1	Project Initiation and Briefing / Inception / Inception Services
5	Design Development	5	Design development report	2	Concept and viability (preliminary design)
6	Design documentation	6a	Product information	3	Design Development (Detailed Design)
		6b	Manufacture, fabrication and construction information		
		6c	Logistics information	4	Documentation and Procurement
7	Works	7	Completed works	5	Contract Administration and Inspection
8	Hand over	8	Works handed over to user	6	Close out
9	Close out	9a	Updated asset register	Not applicable	
		9b	Completed contract or package order		

SACPCMP		SACAP	SACLAP	SACQSP	ECSA	SACPVP
CPM (SACPCMP, 2006)	CM (SACPCMP, 2006)	Architects (SACAP, 2015)	Landscape Architects (SACLAP, 2011)	Quantity Surveyors (SACQSP, 2013)	Engineers (ECSA 2013)	Property Valuers (SACPVP, 2011)
<b>STAGE 1 DESCRIPTORS: Project Initiation and Briefing / Inception / Inception Services</b>						
Nil noted	Not applicable	Nil noted	Nil noted	Nil noted	Nil noted	Nil noted
<b>STAGE 2 DESCRIPTORS: Concept and Feasibility / Concept and Viability/ Concept and Viability Services</b>						
Advise the client regarding the requirement to appoint an H&S consultant where necessary	Not applicable	Nil noted	Advise the client regarding the appointment of an H&S consultant where necessary	Advise the client regarding the appointment of an H&S consultant where necessary	Advise the client regarding the appointment of an H&S consultant where necessary	Nil Noted

CPM (SACPCMP, 2006)	CM (SACPCMP, 2006)	Architects (SACAP, 2015)	Landscape Architects (SACLAP, 2011)	Quantity Surveyors (SACQSP, 2013)	Engineers (ECSA, 2013)	Property Valuers (SACPVP, 2011)
<b>STAGE 3 DESCRIPTORS: Design and Development / Design Development / Design Development Services</b>						
Facilitate any input from the design consultants required by CM regarding constructability	Review designs by consultants in relation to H&S requirements during construction and provide input if required on related practical and cost issues	Nil noted	Nil noted	Facilitating the input required by the H&S consultant	Facilitate input required by the H&S consultant	Nil noted
<b>STAGE 4 DESCRIPTORS: Tender Documentation and Procurement / Document and Procurement / Documentation and Procurement Services</b>						
Facilitate and monitor the preparation by the H&S consultant of the H&S	Manage and co-ordinate the preparation and implementation of the H&S requirements for	Nil noted	Nil noted	Nil noted	Nil noted	Nil noted

# Research Findings

- Mixed method study
- 3 focus groups held in the Eastern Cape Department Roads & Public Works
- Included Client, BEPs, Contractors, H&S practitioners
- Three main themes:
  - Theme 1: Stakeholder competence in H&S;
  - Theme 2: Procurement practices, linking H&S to the 6 Stages, and
  - Theme 3: Procurement, H&S and the Construction Work Permit



- Designer: Building Inspector
- Designer: Chief Engineer
- Designer: Pr. Architect
- Designer: Pr. QS
- Designer: Pr.Eng
- Stakeholder: CHSA
- Stakeholder: CHSM
- Stakeholder: CHSO
- Stakeholder: CHSO Intern

# Research: Client Pr Arch

*R1 (Excerpt) ... I am going to put a different spin to this. I don't see the need for a H&S officer being involved till even stage 3 because what's the input going to be? You know we all know what materials are flammable blah blah blah blah.... what input is the officer going to have in the design stage?*

- *R1 (Excerpt) ...So from a building perspective that is what you have confirmed - in your training you didn't have any....?*
- *P5 No.*
- *R1 Nothing at all?*
- *P5 No.*

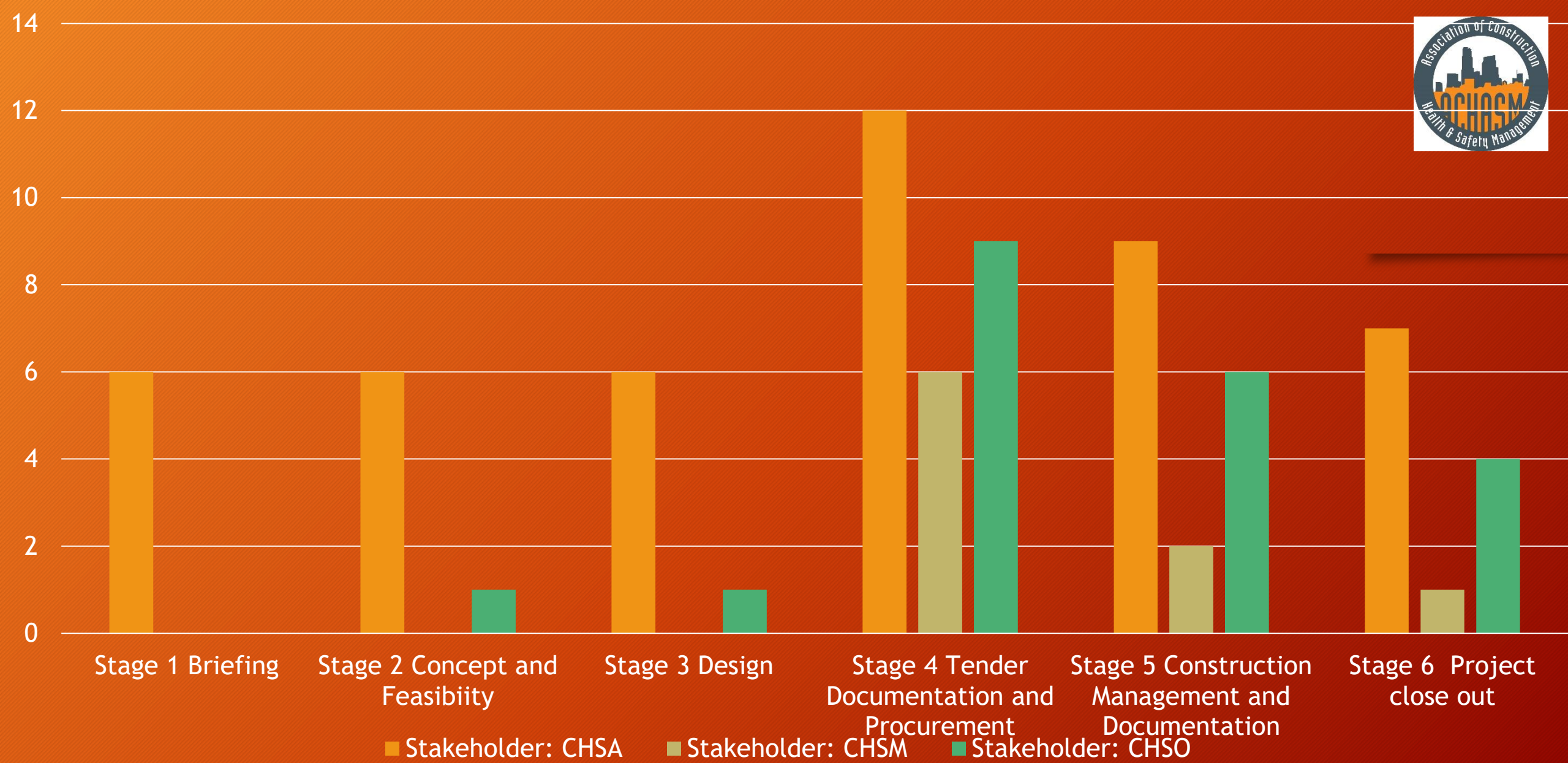


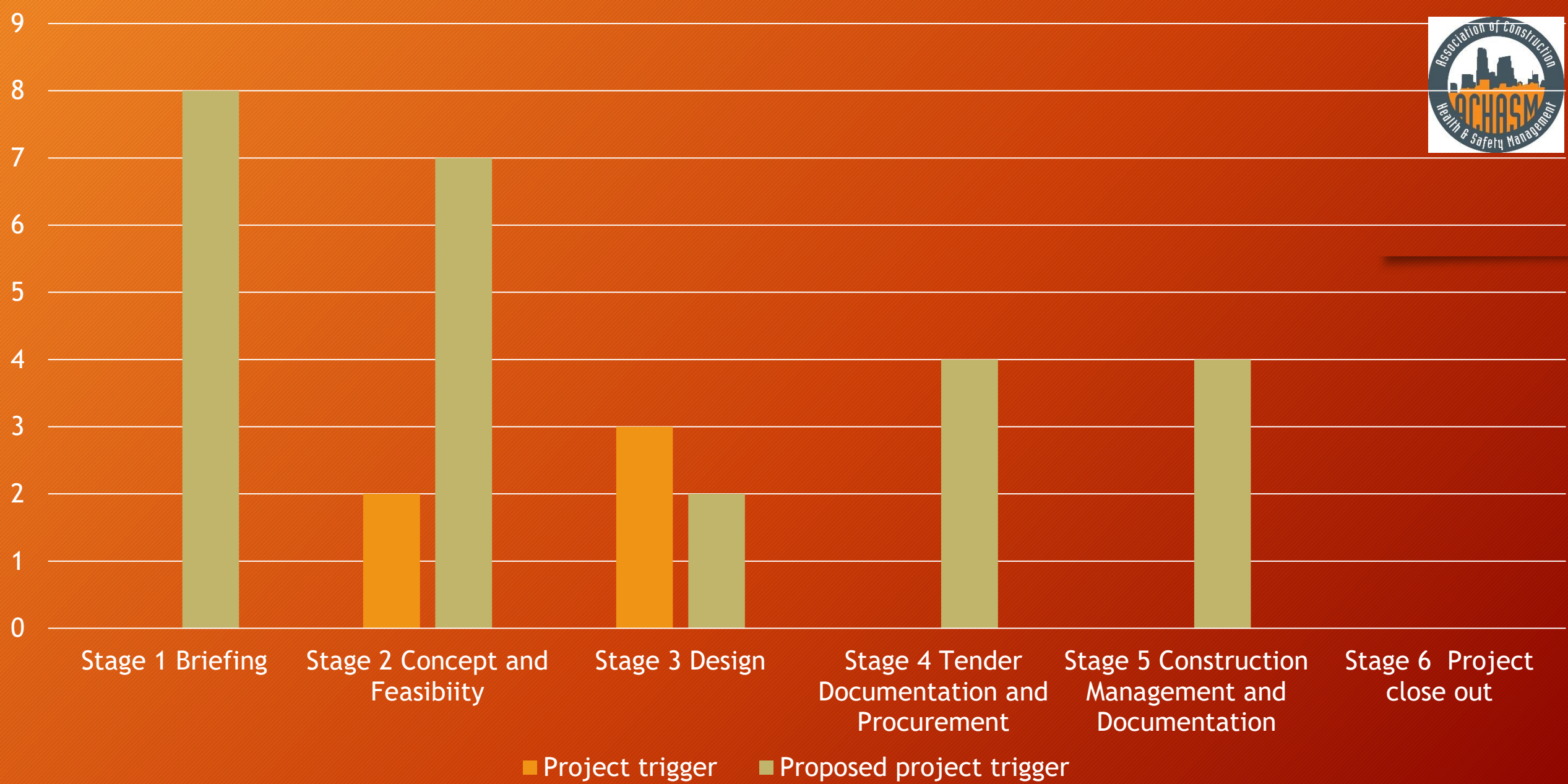
## Research: Client PrQS

- *P7 (Excerpt) ...In terms of QS, I don't feel confident at all. Because up until 2 years ago we just used to slap a standard document in and put in an item 'comply with all aspects of H&S. So to actually go through and identify the risks and enumerate those risks, it's a very new thing.*
- *R1 And there is nothing in your undergrad training?*
- *P7 I cant say that, but we didn't have a formal subject called H&S, or anything like that.*

# Research: Client PrQS

- *P6 Lets put at it this way, once we get a 'B4', in other words education department has identified certain projects - a school for us, that is all we get. Thereafter once there will be a basic brief, to say we will be building or replace a school building and they will give us a basic brief, to say 10 classrooms and whatever goes with it, but basically after that they give us a budget on which we can calculate those fees. Or, we sit, the two of us, and will say what the if it is going to be 'that' size we will more or less calculate that is what the costs are likely to be.*
- *P7 Which is normally wildly inaccurate.*
- *P6 Indeed, we thumb suck crazily*
- *P7 Because we really don't know what is going to be done.*





## CONSTRUCTION HEALTH AND SAFETY INTERVENTIONS /CONSTRUCTION STAGES

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>PROJECT INITIATION AND BRIEFING</b>	<b>CONCEPT AND FEASIBILITY</b>	<b>DESIGN DEVELOPMENT</b>	<b>TENDER DOCUMENTATION AND PROCUREMENT</b>	<b>CONSTRUCTION DOCUMENTATION AND MANAGEMENT</b>	<b>PROJECT CLOSE OUT</b>

**Each item should be considered as a trigger or ‘gateway’ in terms of the IDMS, in that the following stage does not proceed without the appropriate items relative to legal compliance and H&S being met. Stakeholders (all) includes the client, and designers; Construction work permit ((CWP)**

### KEY ACTIVITIES PER STAGE AND STAKEHOLDER

<p><b>Client:</b></p> <ul style="list-style-type: none"> <li>• Appoint the CHSA, and</li> <li>• Provide financial resources for the project.</li> </ul> <p><b>Designers</b></p> <ul style="list-style-type: none"> <li>• Ensure financial resources for the project;</li> <li>• Identify communication channels, and</li> <li>• Use parameters set by the CHSA.</li> </ul>	<p><b>All Stakeholders:</b></p> <ul style="list-style-type: none"> <li>• Feasibility or value management;</li> <li>• Workshop the design aspects, and</li> <li>• Discuss O&amp;M from the design perspective e.g. how washing or replacing of windows will be done through the life cycle.</li> </ul>	<p><b>All Stakeholders:</b></p> <ul style="list-style-type: none"> <li>• Detailed designs for the project by ensuring legal compliance to continue with construction, and</li> <li>• Selection of the procurement strategy and, including partner or contractor selection.</li> </ul>	<p><b>All Stakeholders:</b></p> <ul style="list-style-type: none"> <li>• Ensure inclusion of the CHSA as part of the technical SCM committees, and</li> <li>• Ensure contractors are adequately resourced and competent.</li> </ul>	<p><b>All Stakeholders:</b></p> <ul style="list-style-type: none"> <li>• Ensure appropriate legal compliance through the project;</li> <li>• Stop any work placing workers at risk;</li> <li>• Ensure means of change management is included, and</li> <li>• Monitor and maintain records relating to contractors and communication to ensure compliance.</li> </ul>	<p><b>All Stakeholders:</b></p> <ul style="list-style-type: none"> <li>• Ensure monitoring and close out records are submitted, relating to contractors and communication to ensure compliance, and</li> <li>• Maintain performance reports.</li> </ul>
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<p><b>CHSA</b></p> <ul style="list-style-type: none"> <li>• Develop and maintain H&amp;S policies and project strategic objectives;</li> <li>• Develop a risk register;</li> <li>• Visit site to assess potential issues and risks;</li> <li>• Develop Baseline Risk Assessment (BRA), and</li> <li>• Develop project H&amp;S parameters for designers.</li> </ul>	<p><b>CHSA</b></p> <ul style="list-style-type: none"> <li>• Include requirement for H&amp;S pre-qualification in the SCM process of tendering.</li> <li>• Further development of the BRA;</li> <li>• Advising on the investigations to be done (from a H&amp;S perspective), and</li> <li>• Link BRA into designer project specific H&amp;S specification (DPSHSS).</li> </ul>	<p><b>CHSA:</b></p> <ul style="list-style-type: none"> <li>• Include H&amp;S information in the project specifications and controls;</li> <li>• H&amp;S pre-qualification in the SCM process of tendering (to reduce procurement time and potential contractor claims), and</li> <li>• Reduce the time period for developing the PSHS plan in contractual documentation to 7 days (unless extenuating circumstances)</li> <li>• Prepare BoQ against PSHSS for inclusion into the project specific H&amp;S plan;</li> <li>• Finalise the SSHSS and BRA;</li> <li>• Assess the requirements and include criteria for the pre-qualification and pre-tender H&amp;S plan, and</li> <li>• Ensure all the H&amp;S documentation is included in the tender</li> </ul>	<p><b>CHSA:</b></p> <ul style="list-style-type: none"> <li>• Support the client to limit liability with SCM;</li> <li>• Assist with assessing competence and resources during tender adjudication and award, and</li> <li>• Ensure adequate information for CWP application.</li> </ul> <p><b>CHSO:</b></p> <ul style="list-style-type: none"> <li>• Prepare BoQ against PSHSS for inclusion into the project specific H&amp;S plan, and</li> <li>• Submit 'generic' H&amp;S plan with the tender (pre-</li> </ul>	<p><b>CHSA:</b></p> <ul style="list-style-type: none"> <li>• Ensure aspects of change management is included;</li> <li>• Stop any work placing workers at risk, and</li> <li>• Ensure monitoring of all contractors and communication to ensure compliance.</li> </ul> <p><b>CHSO:</b></p> <ul style="list-style-type: none"> <li>• Ensure monitoring of all contractors and communication to ensure compliance, and</li> <li>• Stop any work placing</li> </ul>	<p><b>CHSA:</b></p> <ul style="list-style-type: none"> <li>• Ensure monitoring and close out records are submitted. relating to contractors and communication to ensure compliance.</li> <li>• Reconcile hazards encountered with the BRA, PSHSS, and PSHSP; submit operational and maintenance (O&amp;M) information, consolidated H&amp;S information for maintenance.</li> </ul> <p><b>CHSO:</b></p> <ul style="list-style-type: none"> <li>• Ensure monitoring and close out records are submitted. relating to contractors and communication to ensure compliance.</li> </ul>
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# Recommendations

- Propose policy documents, and guidelines to integrate with the IDMS to guide SCM and procurement committees
- Propose practice notes to support the policy documents and guidelines for provinces and districts.
- Ensuring dissemination of research to academic institutions for inclusion in undergraduate and postgraduate learning;
- Proposing and submitting recommendations to the BEPCs to consider amending the IDoW for each of the BEP discipline



# Thank you

- References can be supplied along with the full research and models proposed