

# CLOCS-A:

## Construction Logistics and Community Safety – Australia

### Consolidation Workshop Minutes



**Event Date:** 17 November 2022  
**Time:** 10:00am to 01:00pm  
**Length:** 3 hours  
**Location:** Microsoft Teams  
**Chair:** Jerome Carslake & Michael Holmes  
**Summary by:** Olivia Dobson

#### 1. Welcome and Introductions

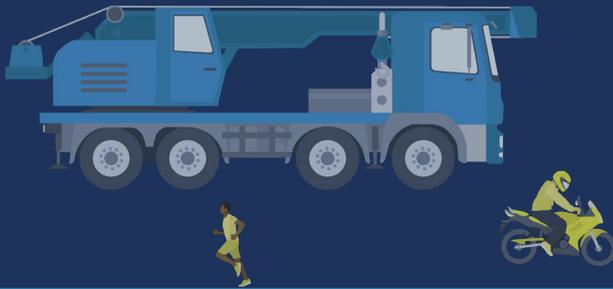
- Acknowledgement of MoU members and TG contributors

#### 2. CLOCS-A Vision, Mission and Objectives which anchors today's session

- **Mission:** ensuring the safest construction vehicle journeys
- **Goals:** a national construction industry standard developed to ensure the safest, leanest, and greenest construction vehicle journeys
- **Scope and application:** applied by stakeholders involved in the procurement and delivery of construction projects that are publicly funded

#### 3. Project Recap and objectives for today

- Outlined the development timeline, project objectives, and deliverables
- Completed: technical groups workshops and draft requirements, consolidation group has developed a structure, and the audit/self-assessment process has been developed
- Today: technical requirements consolidated in first draft standard, draft audit/self-assessment process drafted, draft sustainability and governance, and support tools
- March 23 2022: CLOCS-A Standard final draft and audit/self-assessment final draft completed
- June 23 2023: Finalisation of the Standard and audit/self-assessment process
- Current deliverables under development include: standard, preferred host of CLOCS-A, engagement and awareness campaign of CLOCS-A, and ten CLOCS-A related case studies.



CLOCS-A has been endorsed to improve heavy vehicle safety and will receive key funding through the National Heavy

Vehicle Regulator's (NHVR) Heavy Vehicle Safety Initiative, supported by the Federal Government.

To find out more, or to register your support

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### 3. Project Recap and objectives for today (continued)

- The 'big picture' of CLOCS-A is to reduce the risk of road trauma associated with construction projects by improving safety for VRUs around HVs through several hierarchies of control:
  - Never have HVs and VRUs in the same place at the same time (TG3)
  - Ultra-vigilant, trained, and focused drivers (TG2)
  - Use of the most suitable HVs that serve to minimise the changes of an incident involving VRUs (TG1)
  - All stakeholders involved having a sound understanding of CLOCS-A and HV safety (TG4)

### 4. TG1: Heavy Vehicle Safety Standard

- TG1 tasks
  - Additional tasks of the TG include: each standard providing a clear safety benefit and be practical/doable, separating standards into 3 different levels, outline which vehicles must comply/be exempt, accreditation procedures and entry audits, follow-up checks and policing, prescribe minimum vehicle maintenance standards, make it all simple/user friendly, minimise duplication, and make it work for everyone.
- Australia vs UK
  - Significant differences between Australian and UK fleets which must be considered include: mixture of bonneted and cab-over, plenty of either ex-road train or pseudo road train type trucks operating in the city and suburbs, and ADRs lagging Europe by a decade, differences ideas around what trucks should 'look like'

### 4. TG1: Heavy Vehicle Safety Standard (continued)

- Standards and rationale
  - Primary safety measures should:
    - Enhance visibility and awareness of VRUs to the driver:
      - eliminate things that reduce direct vision (bug deflectors, air intakes, bull bars, sunvisors, windscreen decals, window tinting, cab accessories)
      - implement measures that enhance indirect vision (Class V and VI mirrors, Fresnel lens, reversing cameras OR reversing sensors, left-side blind spot cameras OR left-side proximity sensors)
    - Enhance the visibility and awareness of the truck to VRUs
      - Audible (reverse beepers, left turn audible warning)
      - Visible (amber beacons, day run lights, conspicuity markings, drawbar colour, warning signage)
    - Reduce the likelihood of a HV being involved in an incident (wheel-nut indicators, ABS for trucks and trailers, telematics, electronic stability control (trucks), roll stability control (trailers), advanced emergency braking, lane departure warning, autonomous reverse braking)
  - Secondary safety:
    - Measures that help reduce the severity of incidents if they occur (front underrun protection, side underrun protection – trucks and trailers, rear underrun protection)
  - Green standards:
    - Measures that help to reduce the production of harmful emissions (Euro V emission standards, Euro VI emission standard OR zero emission vehicle)
- A summary by level was provided
  - The CLOCS-A standard has been tailored to the Australian industry and legislation, which explains discrepancies between the FORS and CLOCS-A standards.



## 5. TG1 Q&A

- Is there a requirement for an acoustic vehicle alert system for electronic cars?
  - This is an important point to consider moving forward when we have more experience with these vehicles.
- Is there a reason telematics are not considered as a must-have (below gold level)?
  - Telematics are covered in other technical groups (including TG3), and there are challenges associated with telematics including the cost and what is defined as telematics (broad range of devices ranging in complexity).
- Were dashcams ever considered?
  - This was considered, but it was not viewed this would assist the driver in driving safer (although assists in investigating accidents) and may be out-of-scope. There are also practicality issues to consider (e.g. gaining approval from drivers and unions for dashcams)
- Was there any consideration of fatigue alerts?
  - Fatigue systems are still quite expensive, however this will be considered as an option at the gold level. There is a project being undertaken at Monash University to evaluate numerous fatigue management systems which may inform future developments.

## 6. TG2: Driver Safety Standard

- Purpose of TG2 was to develop:
  - overarching training and competency standards which provide heavy vehicle drivers with the knowledge, skills, and motivation to operate heavy vehicles safely in diverse road environments and share the road safely with vulnerable road users and develop empathy for them
  - minimum standards for ensuring driver fitness for duty and safe driving behaviours in the construction industry
- Deliverables include:
  - Driver Safety Requirements component of the CLOCS-A Standard
  - Identification of existing training courses/units of competency
  - Share existing units or competency standards with TG for review and comparison
  - Development of supporting tools (i.e., toolbox talks, induction slides)

## 6. TG2: Driver Safety Standard (continued)

- A number of tasks have been completed:
  - Formalise Terms of Reference and deliverables
  - Draft consultation paper
  - Specialised sub-groups to identify areas for consideration for Standards
  - Collation of sub-group outputs
  - Consult with group members on each proposed requirement (focus on industry application and achievability)
  - Draft requirement for CLOCS-A Standard (presented today)
- Four core themes of a safe driver in alignment with NTC definition
  - Authorised (licensed, process to verify licence)
  - Trained and competent (training needs analysis, low-risk driving skills, **vulnerable road user awareness training (basic, intermediate, and advanced level)**, load restraint, fatigue management, vehicle pre-start inspection, breakdown safety)
  - Fit for duty (pre-employment medical check, periodic medical check, drug and alcohol policy and test program, fatigue management policy and program, health and wellbeing program, workplace design and task analysis)
  - Safe behaviours and culture (code of conduct/safe driving policy, mobile phone use/in-cab distraction policy, regular communication/consultation, monitoring of driving standards and behaviour, driver reward and recognition program)
- Next steps:
  - Consultation with wider CLOCS-A community
  - VRU training course: draft minimum knowledge and skills criteria and development of bronze eLearning Module
  - Supporting tools and guidance (in consultation with TG4)



## 7. TG2 Q&A

- How do the load restraint, maintenance and fatigue standards integrate with the NHVS accreditation modules?
  - We have considered these standards, and the language of the standards is written in a way that aligns with the accreditation requirements.
  - We will further investigate the load restraint accreditation modules in WA and ensure this is considered within the relevant standards
  - Considering the commonality between accreditation trainings and standards is worth close consideration and has been discussed comprehensively in the TG2 meetings.
- Is there an expectation these courses will be externally/internally run?
  - We will not prescribe whether these courses are externally or internally run, the course only needs to demonstrate that it meets an industry recognised standard. Relevant external courses will be listed as a suggestion.
  - At this stage it has not been established if courses need to be RTO approved.

## 8. TG3: Logistics

- TG3 and associated standards have evolved following initial briefings and consultations in May 2022, monthly meetings, a literature review and consultation with CLOCS-A stakeholders, and a discussion with the CLOCS UK board
- The TG3 literature review
  - Key research areas: construction logistics plans, traffic management planning, route assessment planning, over dimensioned vehicles and heavy haulage loads, location of assembly/waiting areas, community interface, use of other transport modes, rail, water, scalable logistics plans from small to large construction projects, management of unplanned events, partial route closures, economies of scale for multi-site projects, and emerging technologies and use of IT.
  - Interviews with 17 stakeholders were undertaken across diverse organisations
  - 132 articles reviewed and summarised
  - An additional three key work areas were identified from the literature: cause and effects of construction site related accidents, reverse logistics, deconstruction, salvage materials, contract safety insertions

## 8. TG3: Logistics (continued)

- The focus in the Construction Logistics Plan was on:
  - Route planning
  - RUs
  - Obtaining access approvals with the various governmental levels
- Elements integral to the Construction Logistics Plan:
  - Appointed/nominated person/s that will compile the data and documentation
  - The implementation of to/from site transport 'safety measures'
- The safety measures of the TG focus on the overall logistics planning elements that impact safety, including knowing the overall size of the potential road and other modal requirements for the construction project
- Access approvals may be required for the vehicle type used, which impacts on route planning, time of day, and day of week approvals (and documentation of vehicle types which use these routes)
- Drivers must be aware of the safety and hazard issues with moving to/from the construction site, and safety also emerges from other elements in the logistics plan.
- Focus on productivity to deliver a safety benefit, and the documentation of estimated productivity benefits
- All preceding elements/initiatives need to be document (i.e., audited) via contractual clauses as well as reporting of key safety, operations and productivity measures

## 9. TG3 Q&A

- Should productivity be a key focus considering the broad range of vehicles working in the construction fleet?
  - There is a close relationship between productivity and safety, research indicates that KM saved reduces fatalities.
- Can you detail how much industry engagement has been involved at this stage?
  - 17 interviews undertaken by David Wilson at University of Melbourne

## 10. TG4: Communications

- Stream 1: Community engagement – awareness beyond major projects
- Stream 2: Advocacy – making the business case for CLOCS-A
- The development process of TG4 has included:
  - Map the stakeholders
    - Stakeholder breakdown includes: government and regulators, developers and project providers, primary contractors, vehicle and transport operators, community and local government, and industry groups
    - These were mapped according to the Johnson and Scholes model (interest and power matrix)
  - Define problem/issue
  - Scan of existing content/material
  - Consultation with supporting partners and SG
  - Agreement of CLOCS-A content and supporting tools/deliverables
  - Implementation
  - Monitoring and Evaluation
- Communication activities were mapped out into a table that will sit in the appendix of the standard. These are mapped according to communication focus, item, tools and deliverables, CLOCS-A Tiers, and responsible stakeholders.
  - Key communication focuses include: contract clauses, CLOCS-A member, community engagement communications and activities, and vehicle branding and communications.
- Numerous supporting outputs are being produced by TG4, including:
  - Case studies
  - Ride Along
  - Toolbox Talks
  - CLOCS-A Branding

## 11. TG4 Q&A

- Will benefits of concessions apply to those companies who participate and reach each standard?
  - This comes down to the risk approach: the benefit will be reliably getting access to the site and the program and gives peace of mind that you are meeting safety and regulatory standards. This also gives confidence to all operators knowing they adhere to the appropriate standards, and this has been demonstrated in CLOCS UK.

## 12. Draft Audit and Certification Framework

- Several considerations for the overarching audit framework
  - Conformance to the standard needs to be verified – several discussions with CLOCS-UK and FORS and consultation with other schemes in Australia has informed these strategies.
  - Different stakeholder responsibilities exist within the standard and this will influence the audit type/level of experience and competency. These will be defined in-line with the CLOCS-UK standard (i.e., defining four core stakeholders: Client, Principal Contractors, Planning Authorities, and Transport Operators)
  - Audits proposed to consist of desktop review and physical sampling (minimum of 20% of organisation's operational sites and vehicles)
  - Proposal is for accreditation to be issued following passing of an audit with the option of self-assessment in the following year following zero/OFI findings - follow-up audit frequency will reflect nature and level of findings
  - Auditors will need to be independent – proposed that the CLOCS-A Managing Body will appoint auditors
- The draft proposed CLOCS-A Audit Process was presented – this is currently in the development stage
- Audit process:
  - Self-assessment conducted within first month of signing up
  - Conformance verified by independent auditor within 3 months of self-assessment
  - Audits with low-high level NCRs would generate a follow-up audit to verify closure of actions with risk-based agreed timelines
  - Self-assessment again in 12-months for those with 0 NCRs/OFIs.
  - Accreditation Audits ever second year, self assessment completed at 12 months in between each Accreditation Audit
  - Requirement to 'show cause' where corrective actions have not been closed out by the auditee.
- Auditors:
  - Prequalification process for approved auditors
  - Qualified in Lead Auditor for safety management systems with transport and logistics and construction experiences
  - Assigned by CLOCS-A managing body and endorsed by SG
  - Experience/competency requirements commensurate to level of audit complexity requirement
- Next steps include the framework and process being refined by CLOCS-A audit WG, the CLOCS-A Audit and Accreditation Business Rules and Standards being developed by May 2023 and Self-Assessment and Audit Tool developed in parallel.

### 13. Draft Audit/Certification Q&A

- How are the inherent risks of the participant activities and business model taken into consideration when auditing?
  - We do not have an answer to this question at this stage of the development process, but this is vital to be considered.
- Who will be responsible for the costs of the audits?
  - We do not have an answer to this question at this stage of the development process, the cost will be worked out (i.e. a scalable model) in the next stage as the Managing Body is appointed.
  - We would love to draw in industry representatives to the Audit WG and invite any attendees to be involved.
- 0 NCR/OFI is a high benchmark, what is the rationale behind this?
  - This will be reworded – an OFI in the audit does not mean you haven't met the standard, only that there are things that can be done to be improved.

### 14. Draft Governance and Sustainability Model

- The SG had a detailed discussion on what the entity should look like moving forward – it was agreed the model should have the ability to evolve (e.g. from an initial program-based approach to non-for-profit).
- A board structure was presented, which will be provided in more detail at the next workshop.
  - We want to make sure this is consultative and industry-driven as the standards evolve over time
- A proposed model for membership was presented, which is based on a tiered model.
- The key steps in the Eol process were outlined

### 15. Draft Government/Sustainability Q&A

- No Questions

### 16. Next steps

- The PowerPoint and draft standard will be circulated following this workshop
- ACTION: Comments will be invited for **6 weeks (until 9 January, 2023)**
- Feedback will be logged, tagged as to provided by who and when, what it was and how it has been addressed
- Next Workshop will finalise all elements

### 17. Open Discussion and Close

- How do we deal with an operator who may qualify for Gold level logistics, Silver level training, but Bronze level vehicle standards?
  - It will be the lowest rank (e.g. this operator would receive Bronze certification). This is in line with the UK FORS framework, which also has an agreed timeframe for progression up the tiers.
  - It is reasonable that only the vehicles operating on a certain project will be required to be at the minimum tier level required for that project.
  - This topic is also for discussion with the SG.
- This is draft 1 of the standard, and is open for comments and review.
- If you wish to nominate to be part of any of the TGs or specialised WGs, please contact: [Jerome.Carslake@monash.edu](mailto:Jerome.Carslake@monash.edu) – we would love experts to come in and provide input.
  - We will also be developing a group to develop a process for rating infrastructure projects as Bronze, Silver or Gold.

### Key Contacts

TG1 – Michael Chan: [Michael.Chan@roads.vic.gov.au](mailto:Michael.Chan@roads.vic.gov.au)

– Merv Rowlands: [mervrowlands@outlook.com](mailto:mervrowlands@outlook.com)

TG2 – Michael Holmes: [Michael.Holmes@transport.nsw.gov.au](mailto:Michael.Holmes@transport.nsw.gov.au)

TG3 – Kim Hassall: [translog@iprimus.com.au](mailto:translog@iprimus.com.au)

TG4 – Jerome Carslake: [Jerome.Carslake@monash.edu](mailto:Jerome.Carslake@monash.edu)



## Attendees

Aaron Christensen		Matthew Moon	Acciona
Adam Brighthouse	Toowoomba Regional Council	Merv Rowlands	Construction Vehicle Consulting
Adam Cordukes		Michael Chan	Vic DoT
Alison Downie		Michael Holmes	Sydney Metro
Andrea Von Wald		Neil A Isles	
Anne L Taylor	Major Transport Infrastructure Authority	Olivia Dobson	MUARC
Anthony Kwok	Trimble	Owen Corey	HSE Global
Astrid A Kauffman	MTIA	Paul Caus	Truck Industry Council
Bill Greer	MTIA	Rachel Carlisle	Vic DoT
Bradley Glennan		Rachel Nash	NHVR
Brendan Dwyer	Office of Road Safety	Rad Waterreus	McConnell Dowell
Bronwyn J Hayden		Robert Thompson	John Holland CPB Ghella JV
Bryn Dufton		Robin Murcutt	Hanson Construction Materials
Chris Loose	Truck Industry Council	Royce Christie	Roads Australia
Colin Griffiths		Ruby Athanas	CLOCS-A
Damien Hense	CICA	Sarah Krausas	Major Road Projects Victoria
Daniel Kelly	Laing O'Rourke	Scott McPherson	SCESCOMAX
David (guest)		Shadi Faraj	Bingo Industries
David Fitzgerald	McConnell Dowell	Tammy Aylett	Sydney Metro
Dean Bingham		Teresa Williams	Main Roads
Dean Jones	Acciona	Terri-Anne Pettet	WALGA
Dom Ng		Thomas W Fulham	Suburban Rail Loop
Drew Gaynor	dgaynor.consult	Tim X Augustinus	
Edward Wallis			
Emeile Dawkins	Fulton Hogan		
Fiona (Guest)			
Francis O'Neill	Bicycle NSW		
Geoff Oulton	MAV		
Gregory Dikranian	TfNSW		
Jerome Carslake	NRSP		
Kali A Scott			
Kathy Doukouris	Safe System Solutions		
Kaye Carroll			
Kayla Macneil	TfNSW		
Kim Hassall	CILTA		
Luke Wilby	TfNSW		
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To find out more, or to register your support

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