

MUD CAM – Next Steps

- **Background**

- ‘Mud on Road’ a sensitive issue across Area South, attracting attention from HS2
- SCS looking at innovative ways to identify when the levels of mud on roads required attention

- **Current Situation – Area South**

- All 22 SCS Sites have some form of vehicle cleaning/detection systems
- TMs at Entry/Exit conducting vehicle checks
- Wheel wash equipment in place
- DAMs conducting regular patrols of routes
- ‘Mud on Rd’ App on Datascope now issued to DAMs/TMs to improve notification process



'Mud Cam'

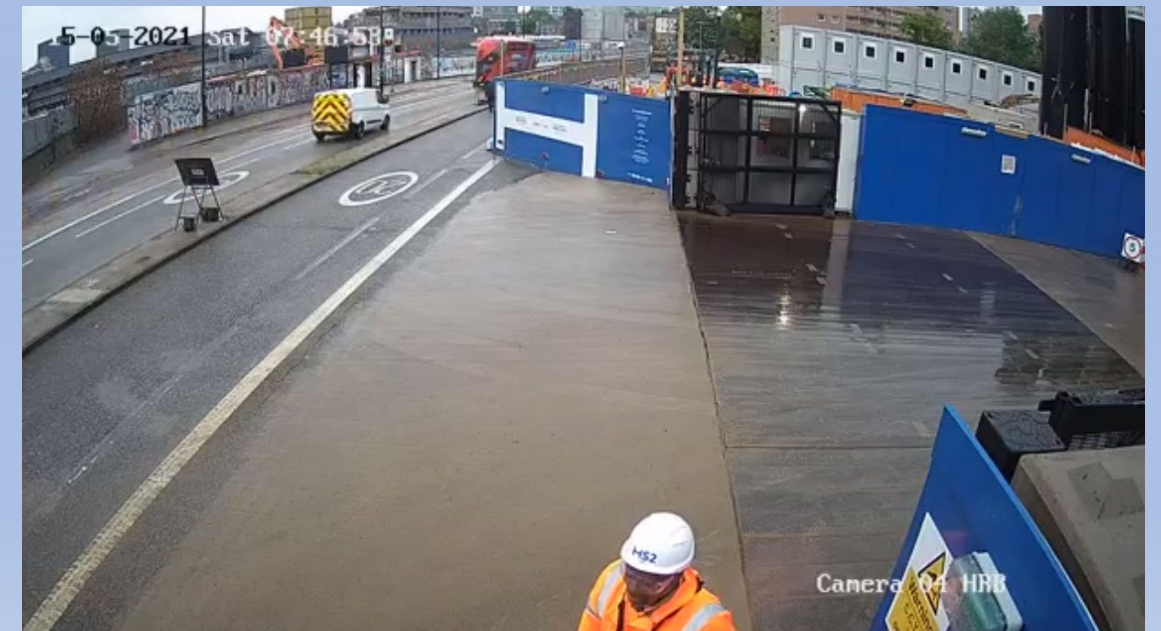
- Why?
 - Provides a 'real time' warning that assesses images and alerts when mud reaches unacceptable levels
 - Adds another element to system of **Detection & Warning**
- What is it
 - AI system that 'learns' as it collects more data
- 6 Stage Project
 - Stage 1 – Initial Investigation & Data Capture - **complete**
 - Stage 2 – Deep Testing/Development – **decision pending**
 - Stage 3 – Real World Testing/Trial - **tbc**
 - Stage 4 – Scope & Brief for System Function - **tbc**
 - Stage 5 – System Model Production - **tbc**
 - Stage 6 - Deployment and Maintenance -**tbc**



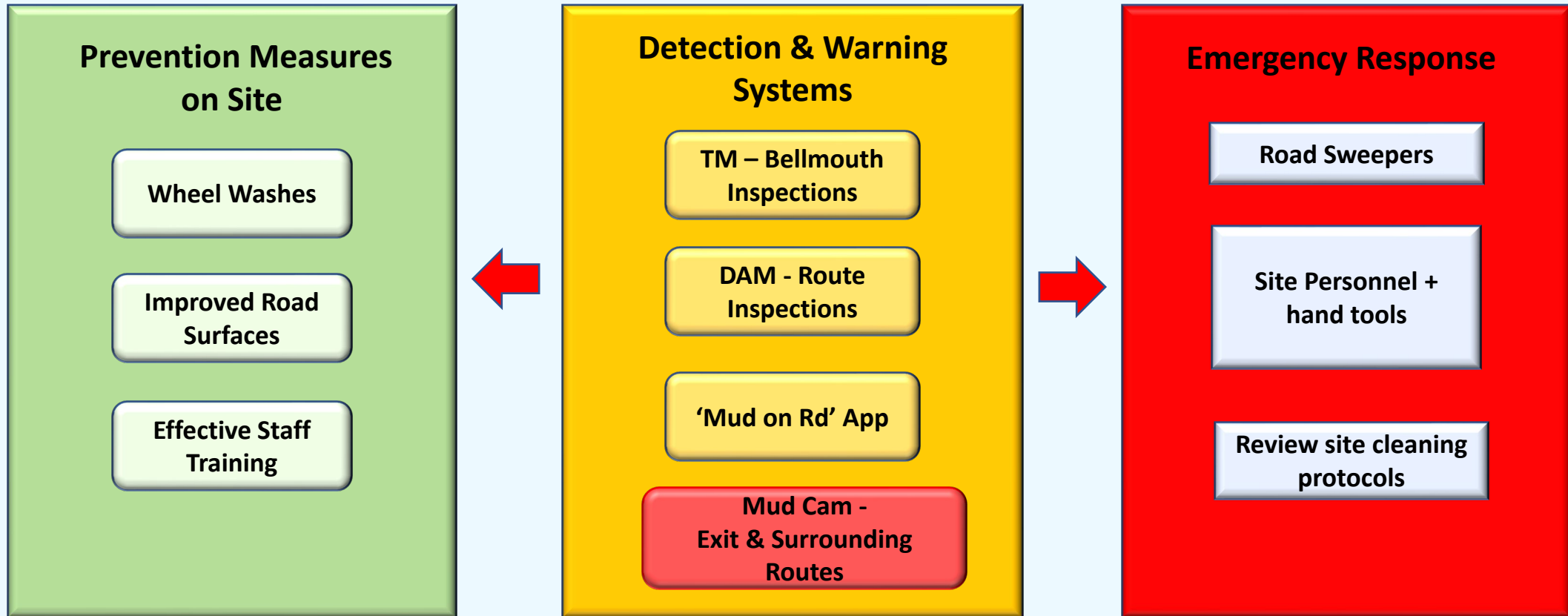
'Mud Cam'

• Where Are We

- **Mar 21.** Initial discussions with SERVEST agreed framework for the Project
- **May 21.** SERVEST/Sites collected images and environmental data so AI system had baseline data – Complete **Stage 1**
- **Jul 21.** SERVEST provide initial findings and provide estimated costs (**£50k**) in order to move to **Stage 2** – Deep Testing/Development
- **Aug 21 onwards.** Look to refine the AI system and deploy trial system onto sites for further evaluation
- Move to **Stages 3 - 6**



Mud on Road – The Prevention System



'Mud Cam'- Limitations/Opportunities

• Limitations

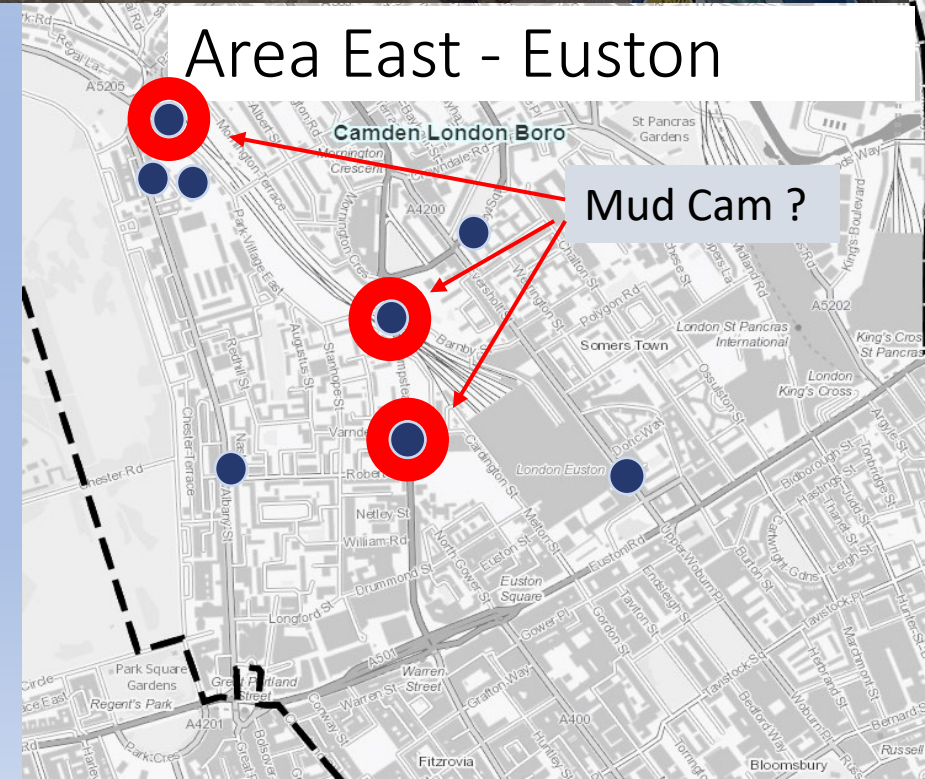
- Fixed point camera has limited field of view
- Bellmouth Area already covered by TMs/DAMs visual checks

• Opportunities

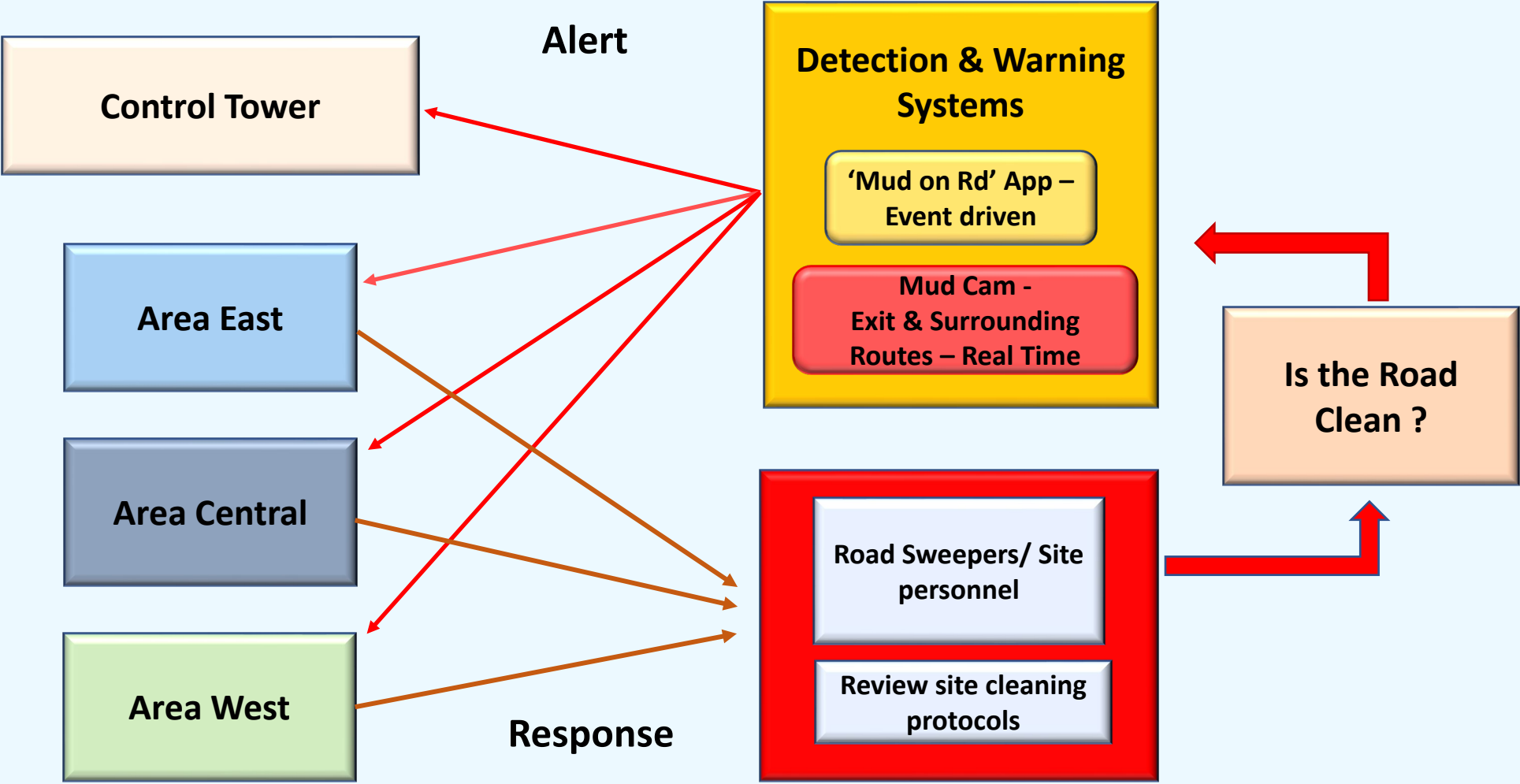
- Highest risk of mud deposits occur as vehicles pull away from sites; could be 200/300m from Bellmouth
- Propose that Mud Cam is placed alongside selected ANPR cameras on mud sensitive routes
- Mud Cam feed linked to CT and Sites to provide a 'real time' alert of mud on highway
- 'Real time' alerts provide improved response times vs current system of bellmouth/route checks

• To note

- SERVEST have confirmed that ANPR/Mud Cam are different technology's so would need to have separate 'Mud Cam' fit alongside ANPR



Mud Cam-The Data/Response



• Next Steps

- Decision needed whether to move to Stage 2 - **£50k**
or
- Stop 'Mud Cam' and look to Invest in other capabilities

• Further Areas for Consideration – 'Mud Cam'

- All SCS sites have a fixed life – 2026?
- Next 18-24 months will see the highest Mud on Rd risk – then possible reduction in vehicles
- Cost of deploying 'Mud Cam' to site up to **£6K** per camera – see **Costs Slide**
- Deploy on Priority Sites/routes only?

• Possible Courses of Action

• Do Nothing

- Maintain current system in place –Existing cleaning kit/DAM checks/App

• Enhance Wheel Wash Equipment

- Provide more equipment (e.g Drive Thro bath hire £475 per week) to high risk sites

• Increase No of Staff

- Employ more staff to check/clean vehicles and/or routes

• Improve Road Surfaces on Sites

- Improve site road surfaces thereby reducing probability of vehicles collecting mud

• Other Considerations

- Mud Cam could be offered up for wider employment across HS2 sites
- Positive messaging – HS2 working to developing innovative solutions to resolve 'Mud on Rd'



Mud Cam - Costs

Option A – Site with No Existing CCTV – 1 x Camera			
Items	Cost (Inc VAT)	Total Cost	Comment
Equipment/Installation	£2362.32		
Licences			
- Ultinous	£3463.20	£5825.52	
- IntuVision	£3221.40	£5583.72	
Option B – Site with Existing CCTV – 1 x Camera			
Equipment/Installation	£1629.12		
Licences			
- Ultinous	£3463.20	£5092.32	
- IntuVision	£3221.40	£4850.52	
Option C – Site Off Grid with no Existing Set Up (Power/Accommodation) CCTV – 1 x Camera			
This Option also includes monthly rental of generator at £165 per unit + £60 gas			
Equipment/Installation	£2674.32		
Licences			
- Ultinous	£3463.20	£6137.52	
- IntuVision	£3221.40	£5895.72	
Costs for Stages 3- 6			
Ultinous	£34,320	£34,320	
Intuvision	£14,495	£14,495	

All of the options above (excluding Option B) will require a monthly rental for a Sim Card to allow the alarms from the Mud on Road Camera to be received in the Bread Bin. Monthly rental for 10GB Sim is £100 +VAT per month if internet cannot be provided on site