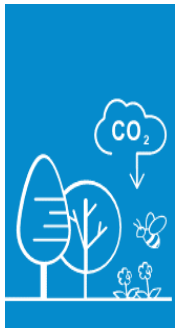
Strategic Procurement Strategy (SPS)
Logistics

Executive Summary

"Logistics is the flow of funds, goods and information between origin and usage. Logistics involves information, material handling, production, packaging, inventory, transportation, warehousing and often security“ **CIPS ‘Right materials at the right place at the right time’**

Current Status:

- Logistics has historically been delivered through Tier 1 main contractor arrangements, with an acknowledged lack of spend data, performance measurement and common metrics.
- Resistance to change - stakeholders cautious as perceived as major Industry step change and latent risk. Lack of Logistics understanding, Strategies, knowledge and empirical evidence required (M4 ‘pilot’ to M3 ‘proof of concept’) to assess, replicate and grow model organically.



Challenges:

- **Safety:** Risk of Safety Alerts due to complexity of Road Safety Standards and lack of rigour and enforcement.
- **Implementation:** Lack of Spend data, evidence and current understanding of potential. Recognising quality, safety and customer impact are all factors.
- **Supply:** Opportunities not necessarily capitalised on and thinking as a collective (NH and supply chain) requires vision and development.
- **Demand:** Currently demand planning is weak offering little useful information to the business or our partners.
- **Carbon Targets:** Risk of not achieving targets unless proactive measures are prioritised, and significant influence for other Categories.
- **Early Engagement:** Early engagement project management & key stakeholders to endorse and promote.
- **Standardisation:** Standardisation is fundamental to transit from baseline understanding to latent scope.
- **Working together:** Establishing working groups across the existing sub-categories, eg Gantries, Pavements and into Major Projects and Operations.

To fully address the challenges and to align with our imperatives, the strategy recommendations are as follows:

- Follow DfT Directive and **deliver Road Safety Standards** Matrix, to reduce WRRR. Improved Safety through strategic alliance between DfBB and Industry Road Safety Schemes.
- Drive **implementation** and prove potential through a Logistics ‘pilot’ scheme to Proof of Concept (PoC) Project, aligned with Innovation ReApplied.
- Work with Industry **Suppliers** to capitalise on latent capability of effective Logistics, LEAN, JIT, through synergy of objectives.
- Effective **demand** planning to unlock market opportunities and plan programmatically, to benefit all investment programmes.
- Increased focus on introducing low **carbon** technology, SIP P3 Carbon Reduction Working Group and other Category dependencies.
- Early **engagement** and development of PoC with Tier1s, and internal/external expertise Logistics expertise.
- **Standardisation** of data, metrics, definitions and methodology, that National Highways would own. Based on MMC and CLPs.
- Collaborative **working** together with Industry expertise to drive and realise efficiencies.

national highways

Key Aims of the Strategy

Alignment in Safety and Risk Reduction (DfBB & CLOCs), and Industry best practice. Reduce Work Related Road Risk.

Improve Innovation by optimising Modern Methods of Construction (MMC), and Construction Logistics Plans (CLPs), capturing asset storage, final mile delivery (Just in Time), compliance, consolidation and optimal vehicle utilisation – projects delivered in shorter timeframes.

Roadmap to Carbon Net Zero aligned to strategy implementation and supplier targets. Reducing CO2 and carbon footprint, year on year, with aligned reduction in environmental impact, noise pollution and an improvement in air quality.

Create Value through programmatic approach to scheme delivery and reduction in delay risk. Drive efficiencies through productivity, cost savings and reduced timescales - aligned to our Customer Maturity Strategy, Strategic Delivery Plan etc.

Standardisation through the Digital Products Catalogue and Innovation Reapplied. Gather intelligence including data, metrics, definitions and methodology - complements our digital transformation ambitions.

Shape the Market through an Industry step change, allowing National Highways to pioneer Safety enhancements, increased productivity, reduced programme risk and improved cost planning/management.

Proposal is to pursue these themes through exploration of Preferred Logistics (PL) suppliers, engaged by Delivery Partners or within Joint Ventures. Market leading Logistical experts providing solutions to Tier 1 & 2 Construction provider *Or, promote, engage, recruit T1 in-house expertise to take ownership of Logistics as a major facilitator.* To counter perceived Risk, strategy will identify a pilot project, to assess viability, risks and potential.

national highways

How will this deliver to the Business Objectives…

The problem statements/challenges addressed within the Logistics Strategy can be summarised in the National Highways core values;
Safety - to reduce Work Related Road Risk/Safety Alerts and align with Government Road Safety Standards.
Customer Service - increase customer satisfaction through reduced road closure time, less noise, better air quality, and a lower carbon footprint.
Deliver Efficiencies - better VfM through Modern Methods of Construction and Construction Logistics Plans providing platforms for programmatic planning, to proactively introduce effective Logistics through programme accuracy/stability, enhanced quality, capturing asset storage, final mile delivery (JIT), compliance, consolidation and optimal vehicle utilisation eradication of malpractices.

Directorate	Benefit/Objectives	Short	Medium	Long term
SES	▪ *Reduce WRRR and Safety Alerts, LTI & KSIs* ▪ *Align with DfT Road Safety Standards matrix, including FORs & CLOCs for Industry parity* ▪ *Deliver to carbon target, through reduction in Logistical activity and associated efficiencies (technology, alternative fuels, programmatic planning)*	▪ *SES engagement with DfT to lead on Road Safety Standards, with pan-Government collaboration* ▪ *Identify NVA activities, reduce and measure carbon reduction*	▪ *Promote matrix to reduce WRRR and associated Safety Alerts* ▪ *Ensure Industry compliance through rigour* ▪ *Contribute to SIP P3 Carbon Reduction process*	▪ *Maximise Safety awareness and minimise Road safety risk* ▪ *Engage and lead Industry on Carbon reduction*
Major Projects	▪ *Deliver to efficiency targets through MMC & CLP to ensure better VfM* ▪ *Promote Programmatic Planning (Control Tower concept) to optimise JIT/LEAN principles, reducing NVA activity and waste* ▪ *Increased data sharing to enable National Highways to become a more intelligent client* ▪ *Standardisation through the Digital Products Catalogue and Innovation Reapplied. Gather intelligence including metrics, definitions and methodology*	▪ *Progress from Logistics 'pilot' to 'Proof of Concept' within SMPA, to assess viability, risks and potential* ▪ *Develop working group with key stakeholders to ensure buy-in* ▪ *Align with HELMA to establish baseline and scope* ▪ *Raise profile and understanding of PoC through Innovation ReApplied*	▪ *Cross Category collaboration to understand Logistics synergy and scope (PID 74)* ▪ *Share best practice from PoC, to enable Project leads to consider latent potential* ▪ *Gather evidence of efficiencies, including; cost, time, safety, carbon* ▪ *Promotion with wider Industry, Tier1 & 2s*	▪ *Replicate areas of best practice across RIP/CIP & LTC* ▪ *Continually promote and pioneer Logistics engagement and planning as fundamental platform for efficiencies* ▪ *Maximise cross Category potential for driving change* ▪ *Consider 3 or 4 PL options for entire projects*
Operations	▪ *Deliver to efficiency targets through Preferred Logistics options to ensure better VfM*	▪ *Provide PoC evidence for consideration in contract phasing & renewal*	▪ *Share best practice to ensure intelligence gained enables informed decisions*	▪ *Work more collaboratively*

The Ask/Request

What is required from the Exec?

Area	Requirement and Accountability
MP	Implementation of Proof of Concept into SMPA and support in promoting and replicating best practice across RIP/CIP & LTC (A&R)
OD	Short to medium requirement is to ensure OD informed of Logistical projects and share best practice and potential efficiencies (I)
SES	Inclusion in WRRR activities to ensure synergy with Logistics Strategy, specifically DfBB and the DfT initiative to produce a Road Safety Standards matrix. Collaboration on Carbon reduction work where Logistics can impact (R)
LTC	Short to medium requirement is to ensure LTC informed of Logistical projects and share best practice and potential efficiencies (I)
C&P	Responsible to ensure these strategies and improvements happen to support the business (R)

Note: A = accountable, R= Responsible, I = Informed, C = Consulted

Snapshot on the future vision

Short-Medium Term

Combine Safety with Logistical Efficiencies

impacts

Shaping the market

- Pioneer **DfT direction to improve Road Safety** through standards matrix, for adoption by Industry. Reduce H&S Logistics related incidents (RTAs, LTI & KSIs) and improve Work Related Road Risk standards. Achieve and promote formal Strategic mutual recognition of DfBB and Industry standards (eg CLOCs/FORs).
- Promote MMC and CLPs, encompassing innovation, standardisation, installation solutions and the sharing of Best Practice.
- Efficient Logistics 'deliver' improved Project timescales, scheme delay risk reduction, enhanced Customer satisfaction and a reduction in CO2.

Medium-Long Term

Change HE Procurement Approach

impacts

Shaping the future

- National Highways to lead on Road Safety, working within pan-Government on initiatives, approach and adoption of rigour. Promoting and championing Best Practise, with a resultant reduction in Safety Alerts.
- Engage Industry expertise through promotion of PL partners. Reduce dependence on Supply Chain and become and Intelligent client, growing competency and capability.
- Evolve the PL model to optimise efficiencies, ensure regulation and understanding to offset risk perception. Grow the model and scale of impact., whilst supporting National Highways initiatives for Net Zero Carbon, innovation and supply chain resilience.

Different aspects developed further with stakeholders across all solutions as the implementation plan progresses.

national highways

Phased high-level implementation plan to deliver key aims

Responds to DfT Direction and deliver Road Safety Standards Matrix, to reduce WRRR

Short-term
(RP2 Year 2)

- Establish Strategy Goals
- Safety focus on Strategic Relationships
- Complete PL Pilot Project and Assess Scope and Risk

From base-line start, develop Logistics category through Industry step change, increasing productivity and reduced risk to programmes. Be an Intelligent client and develop pilot project to Proof of Concept to allay Stakeholder trepidation.

Mid-term
(RP2, Years 2-3)

Phase 1:

Progress DfT actions through DfBB & CLOCs/FORs and deliver enhanced Safety

Phase 2:

Complete PoC and assess Rollout options, including SMP/RDP/LTC

Move away from outsourcing Logistics to greater Industry engagement, and use of subject matter expertise, based on innovation and programmatic planning & delivery. PoC to be evidence template for model growth. Efficiencies and Risks assessed (optimised and reduced).

Long-term
(beyond RP2, Years 4-5+)

- Champion Best Practice in the Construction Industry
- Follow Construction Playbook, implement MMC & CLPs, with scope for 4PL partner(s)
- Increase Customer Satisfaction and focus on Carbon Net Zero targets

Continued implementation for business as usual in RP3. High performing suppliers monitored and measured for effectiveness. Options for further consolidation (4PL's) considered based on opportunity and merit. Cost benefits and Risk reduction realised.

Aims of Logistics Strategy & Proof of Concept Proposal

Alignment in Safety and Risk Reduction (DfBB & CLOCs), and Industry best practice.

Improve Innovation by optimising Modern Methods of Construction (MMC), and Construction Logistics Plans (CLPs), capturing asset storage, final mile delivery (Just in Time), compliance, consolidation and optimal vehicle utilisation – *reducing CO2 and carbon footprint, year on year*.

Create Value through programmatic approach to scheme delivery and reduction in delay risk. Drive efficiencies through productivity, cost savings and reduced timescales.

Standardisation through the Digital Products Catalogue and Innovation Reapplied. Gather intelligence including data, metrics, definitions and methodology.

Shape the Market through an Industry step change, allowing National Highways to pioneer Safety enhancements, increased productivity, reduced programme risk and improved cost planning/management.

- **Proposal** is to pursue these themes through exploration of Preferred Logistics (PL) suppliers, engaged by Delivery Partners or within Joint Ventures. Market leading Logistical experts providing solutions to Tier 1 & 2 Construction providers. *Or, promote, engage, recruit T1 in-house expertise to take ownership of Logistics as a major facilitator.*
- To counter perceived Risk, strategy will identify a pilot project, to assess viability, risks and potential. Followed by an end-to-end **Proof of Concept** (PoC) on a works project [slide 14], with full visibility and access to progress through a dedicated Working Group.
- The PoC should validate the Logistics Strategy, to measure the latent potential Value Add and to increase the accuracy of potential efficiency outcomes (safety, time, cost, carbon). Then re-assess and build on PL success through organic growth, and collaborative planning.

Executive Summary (2)

- Historically Logistics has been delivered through Tier 1 contractors, with an acknowledged lack of spend data, performance measurement & common metrics. A lack of understanding of the latent potential.
- Resistance to change - stakeholders cautious as perceived as major Industry step change and latent risk. Lack of Logistics understanding, Strategies, knowledge and empirical evidence (M4 'pilot' to 'proof of concept') to assess, replicate and grow model.

OPPORTUNITIES:

Safety

- Introduce standardisation both in terms of Safety, programmatic planning and industry best practice.
- Requirement to align Work Related Road Risk standards and Accreditations eg CLOCs and FORs, through DfBB collaboration with Rail Safety Standards Boards 'equivalency matrix' intent, providing greater rigour and audit to reduce recent Safety Alerts (**35%+** of site vehicles unroadworthy/illegal).
- Reduction in AFR/LTIs by improved methodologies in product delivery and handling.

Customer Service

- Better VfM & Increased Customer Satisfaction- through reduced road closure time, less noise and better air quality.
- Sustainable logistics – **reduced CO2 and carbon footprint**, with new Fleet replacement. >10 % YonY.

Delivery

- Modern Methods of Construction and Construction Logistics Plans provide platform for programmatic planning, to proactively introduce effective Logistics through programme accuracy/stability, enhanced quality, capturing asset storage, final mile delivery (JIT), compliance, consolidation and optimal vehicle utilisation – reducing CO2 and carbon footprint.
- Reduction of spend - Initial Spend estimate is **6-8%** of Project costs, not including tangibles eg Gantries, Drainage. Equates to **£620m+** over RP2, with significant opportunity to reduce through direct synergy with other Categories. Target, **10%+ savings.**

national highways

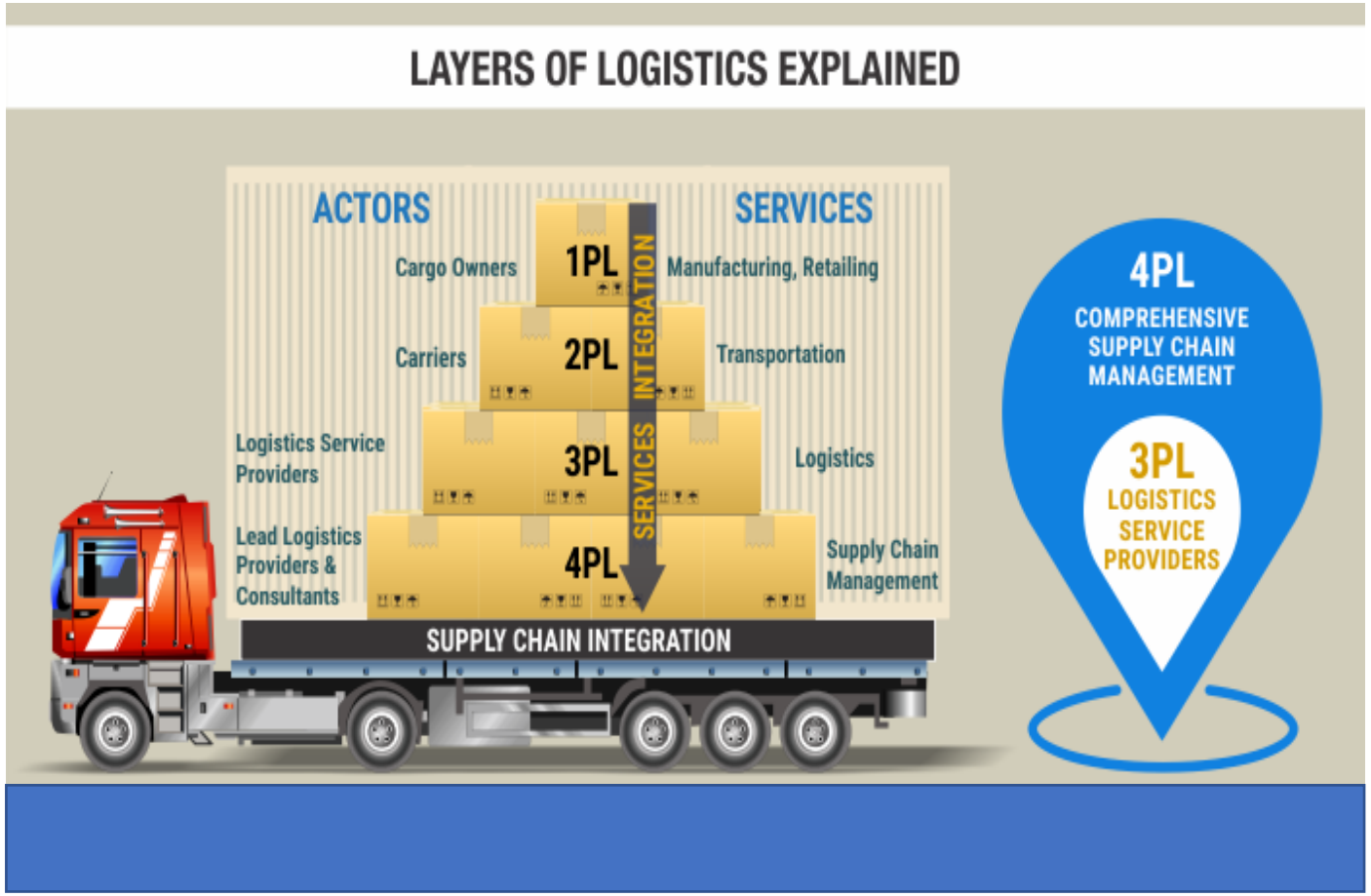
Definition of Logistics;

"Logistics is the flow of funds, goods and information between origin and consumption. Logistics involves information, material handling, production, packaging, inventory, transportation, warehousing and often security“ **CIPS**

Logistics

	Delivery	Safety	Customer/sustainability
Define	Programmatic planning to optimise movement “resources, materials, plant, etc” reduce/eliminate waste “nVA”	Material Fit for Purpose Work Related Risk Reduction RIDDOR (Road Risk,AFR/LTIs)	Anyone impacted by the project: National Highways, contractor, suppliers etc & Public
Inbound (Hub/site) Mobilisation Efficient use of skilled workers	Source to site i.e. gantry JIT “right time, quantity, location” Control tower/Ops room Proactive risk management Clear roles/responsibilities Resource optimisation	Deconflict work streams/ efficient collaboration Effective scheduling Robust control gate Proactive risk management Safe work environment	Reduction of road closure time Utilising hubs to reduce deliveries Consideration of public impact “when/where”
Outbound Demobilisation Waste removal	Landfill opportunities Waste management Recycling/ reuse of surplus material	Robust control gate Proactive risk management Conducive/safe work environment	Continuous customer feedback Snag free/phase
Enablers	Programme stability, Accurate/timely data, Live feed/comms		

Options: 1PL – 4PL (Preferred Logistics)



- Tier1 providers effect the Logistics (4PL) Management, but lack 'control' and incentives.
- Thus the contractual arrangement between Tier1 and subcontractors may not maximise Logistics function to full latent potential, with limited visibility/expertise/management of Tier2/3/4 activity.
- National Highways (NH) have outsourced risk, yet this is aligned with cost factor multipliers as work is sub-contracted.
- NH remain lacking in data, Intel and ownership.
- Eg Drainage:
  - 1PL manufacture
  - 2PL deliver to site
  - 3PL on site use
  - 4PL manage project

Conclusion: Tier 1's currently provide 'unregulated' Logistics services, primarily outsourced. Intent is to drive change, enhance Safety and efficiencies to ensure NH becomes a more intelligent client.

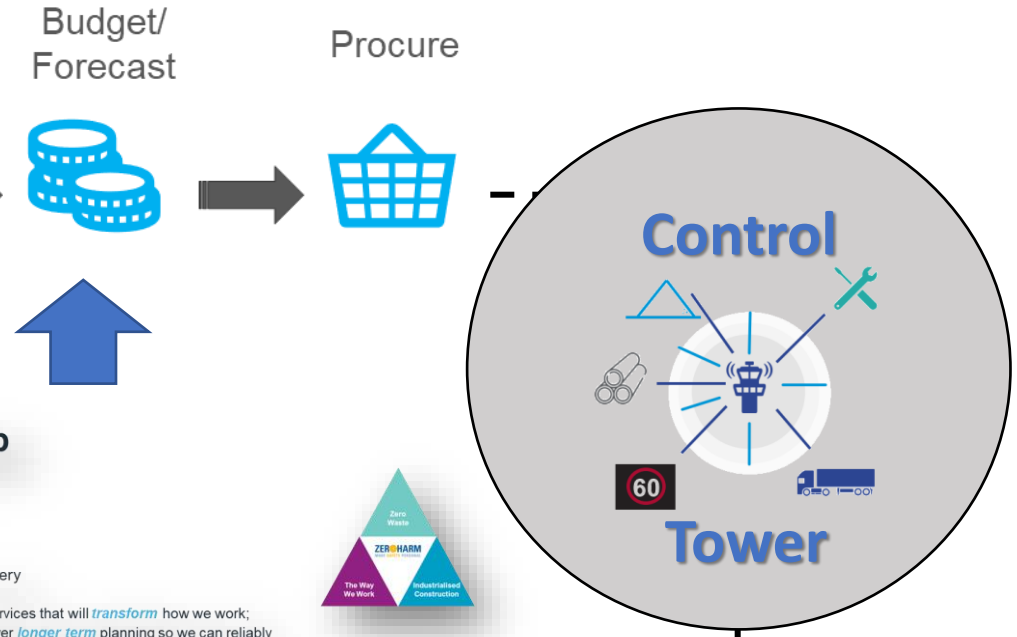
national highways

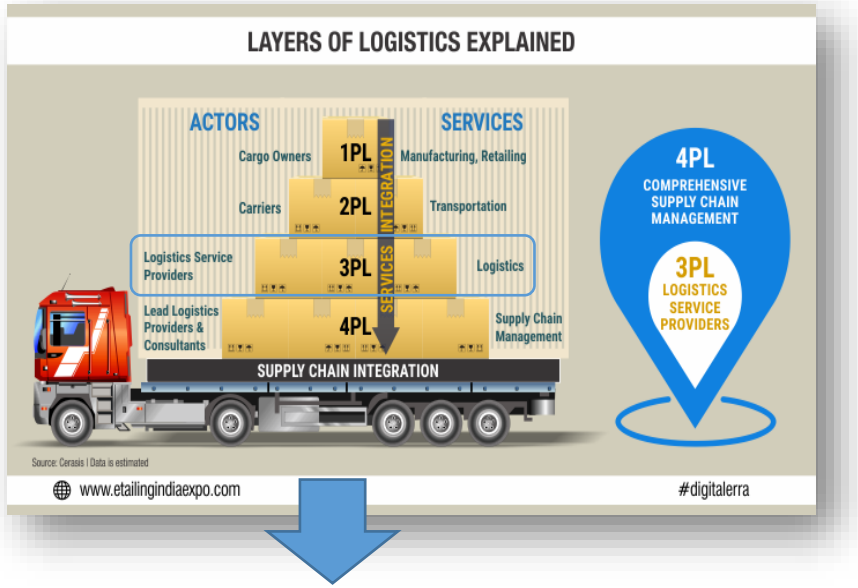
Potential Logistics (3PL) Operating model…Proof of Concept

Demand

Budget/ Forecast

Procure





The Production Hub

Provide | a programmatic approach
Reduce | operating costs
Improve | governance
Drive | consistent processes
Enable | efficient and effective project delivery

Our approach is to provide *three* overarching services that will *transform* how we work; *considerably improve* the day to day; and deliver *longer term* planning so we can reliably innovate to deliver on our customers needs

There are three pillars underpinning everything we do:

Strategy Office	Transformation Office	Project Office
Demand and Operations Planning	*Doing things differently*	*Centralised Services*

Call off/ Requisition

Supply

Install / Consume

Review

Balfour Beatty

Wincanton

national highways

Logistics: high level timeline (critical path)

Scope

- Define Logistics
- Assess status – outsourced via Tier1's
- Seek engagement – high risk
- Supply chain involvement
- Review cross-Category synergy/spend
- Explore 'Pilot Project'
- *Safety focus to mitigate risk*
- *Synergy with DfT, (eg through RSSB for DfBB & CLOCs)*

Implementation

- Implementation plan of Proof of Concept
- Acquire real-time data and metrics
- Expand Construction hub model focus
- Options for delivery partner(s)
- Supplier Development to promote best practice
- PoC, data collection and analysis
- *Integrate Safety Metrics into Logistics thinking*
- Develop Case Studies

Nov 20 | **Apr 21** | **Sep 21** | **Mar 22**

Preliminary options

- Programmatic logistics - CLPs
- Prioritise & analysis Categories
- SMPA – 4 PL opportunity?
- Develop Pilot Project to 'Proof of Concept'
- Tier1 engagement
  - BB/Wincanton project results
  - M4 Control Centre
- *DfBB & CLOCs mutual recognition as Strategic Partners*
- *Reduced on-site Risk and Safety Alerts*

national highways

Rollout of short-medium term solutions

Safety	**Reduce WRRR** • Synergy with DfT, (eg through RSSB for DfBB & CLOCs.) • Support development of Road Safety Standards matrix.	• **Cost Avoidance:** • **Other benefits:** Safer SRN, reduced H&S Logistics related incidents, Lost Time Through Injury, RTAs & KSIs. Pioneer and champion Safety in Industry.
Customer Service	**Reduce Road Closure Time** • Complete Projects quicker. • Lessen Carbon Footprint.	• **Monetary Benefit: £tbc** • **Other benefits:** Decreased HGV/LGV traffic, with diminished impact on local population and environment (noise/air quality).
Deliver Efficiencies	**Increased Productivity** • Implement MMC/CLP efficiencies. • Programmatic approach to capture LEAN and JIT principles.	• **Monetary Benefit: £tbc** • **Other benefits:** Improved strategic approach allowing National Highways to become a more intelligent client, gather intelligence, data metrics and enable leverage of suppliers'.

national highways

Rollout of medium-long term solutions

Safety	**Reduce WRRR** • Synergy with DfT, through RSSB led Road Safety matrix. • Option for fabricators to buy, store, call-off on National Highways behalf.	• **Cost Avoidance:** • **Other benefits:** National Highways to pioneer Safety standards and lead by example. Reduce Safety Alerts and LTI.
Customer Service	**Reduce Road Closure Time** • MMC & CLPs to become standard working norm and sharing of Best Practice. • Reduction in programme delay risk.	• **Monetary Benefit: £tbc** • **Other benefits:** Reduce impact on Public and environment, with a decrease in Carbon footprint.
Deliver Efficiencies	**Increased Productivity** • Pilot Project (with Logistics expertise) to lead to Proof of Concept, to SMPA. • Grow organically through MP, by Tier1 lead or project or geography.	• **Monetary Benefit: £tbc** • **Other benefits:** Synergy with Innovation Re-Applied, Intelligence gathering and Cost reduction identification.

national highways

Next steps

Actions	Timeline
Promote a working group to progress DfBB and CLOCs formal partnership, and continued dialogue with DfT's plan for Safety matrix = reduce Safety Alerts and WRRR/LTI.	July 2021
Progress the Logistics Strategy, with Stakeholder/Sponsor engagement, towards Gate 1 & 2 sign off.	July 2021
Work with Tier1 to assess results of BB/Wincanton 'pilot' (Preferred Logistics partner – 4PL). Seek Stakeholder endorsement, and options for a 'Proof of Concept'. Form Working Group to develop and gain traction, potentially within SMA. Ensure relevant data, costs, risks and efficiencies are recorded to enable HE to become a more Intelligent client.	August 2021
Establish baseline requirements for Cost Planning Team, real Logistics costs V composite rates.	August 2021
Early engagement sessions with ORT, exploring scope with Crown Commercial Services frameworks.	July-September 2021
Start to deliver and demonstrate cost reduction savings solutions as implemented in MP, CIP, RIP or SMA and embedded via Innovation Reapplied into all investment programmes	October 2021

national highways

Category strategy – Carbon zero template

Key drivers of carbon emissions in category	Corporate emission	Maintenance & construction emission	Road user emission	Carbon emissions per year associated with key driver [tons of CO2]
1. Construction Material/Asset Logistics	x			15% of total (Tons tbc)
2. Source to site		x		tbc
3. HGV/LGV/Plant usage			x	tbc

Identified measures to address key drivers in category	Expected impact / CO2 reductions [tons of CO2]	Timescale [by MM/YYYY]	What is needed to implement measure (investment/support, etc)?
1. MMC/CLP promotion	>20%		Directly reduces vehicle usage and movements
2. Programmatic planning (Control Tower concept)	>20%	Start Oct 21	Proof of Concept data, based on MMC/CLPs
3. De-Carbonise HGV scope	>30%		https://apply-for-innovation-funding.service.gov.uk/competition/884/overview
4. Renewal of Fleet with lower emission usage	>10%	Rolling programme	Challenge is HGV's – Construction 'norm' is 44T, yet battery power max is 29T. Hydrogen (Biofuels) or Electric Road System (Conductors) technology unlikely to be available before 2030. (source – HE Head of Energy)

Logistics Category Strategy

Executive Summary

Category Profile

Vision: Building capability in Logistics management will enable National Highways to construct, maintain and operate safer, more efficiently AND more sustainably

Goals:

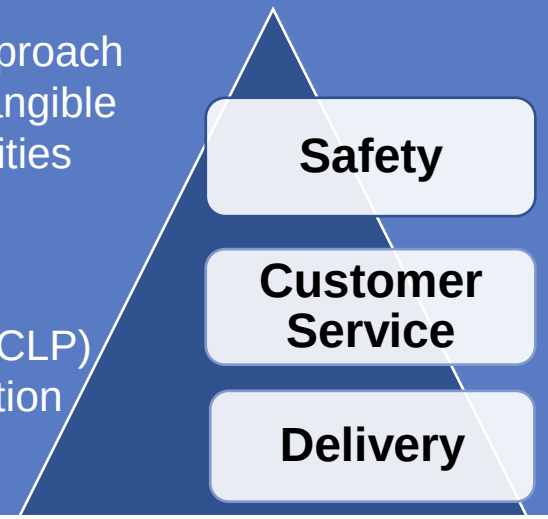
- Optimise warehousing and transport planning/management
- Develop Logistics maturity & improve client intelligence
- Reduce risk to RIS2 capability & capacity

Business Need

Scope: Develop a consistent approach to Logistics, enabling bespoke tangible Category improvement opportunities

Opportunities:

- CLOCs & DfBB Alignment
- Construction Logistics Plans (CLP)
- Modern Methods Of Construction



Landscape:

Construction Logistics in formative stages. Logistics operators with limited construction expertise; Construction operators with limited logistics tools/capability – Risk passed to Tier2/3

Market Analysis

Dominated by Top Tier1's who are extremely cautious of any change in process, which may impose risk or accountability. Emerging PL partners do not yet understand or engage with construction.

Strategic Approach

Objectives	Year 1	Year 2-3	Year 4+
Develop CLP Methodology	Define requirements aligned to investment programmes	Build CLP template and pilot	CLP implementation as BAU
Develop Logistics Maturity, inclu Safety	Define/standardise metrics and KPI's required	Gather/develop client intelligence and tools	Grow use of Construction hubs
JV, Preferred partners or 4PL	Embed Best Practice and share learning SDT	Define 4PL scope and assess market capability	Pilot and assess 4PL implementation risks

national highways

Statement of Need

http://share/share/llisapi.dll?func=ll&objaction=overview&objid=88461255

1
Statement of Need
Define the outcome needed by the business and what is needed to deliver it

A Safer Network

Reduced HGV/LGV journeys on SRN and associated health and safety risks/incidents (RTA's, KSIs)
Increase use of LEAN/JIT technology to reduce the human error factor

Improving Customer Satisfaction

Scheme delay risk reduction with improved timescales/efficiencies for deliverables
Reduction in road closure/diversion requirements
Reduced CO2 and carbon footprint by optimal vehicle utilization

Delivering the RIS

Aligned to HE2025, making HE become a more intelligent client, growing competency and capacity
Increase standardisation, adopting Industry Best Practice of MMC, CLPs,
Allowing HE to be more engaged and genuinely motivate suppliers

The Requirements

- To define the scope and support of internal and external stakeholders
- identify a strategic category approach that will meet the demands of all NH investment programmes whilst delivering the safest and most efficient solutions
- Promote collaboration, continual improvement and efficiencies across the whole of NH business and the market sector, including MMC and CLPs

The Objectives

- Standardisation of Logistics metrics, data and definitions to enhance Intelligence and knowledge baseline
- To evolve an effective strategy, derived from detailed analysis and empirical evidence to offer a holistic approach to risk and opportunity identification
- To offer solutions to maximise opportunities, based on MMC and CLPs, through Regional or Project driven partners, 4PL or 3PL

The Challenges

- Immaturity of the Logistics Category and KEY supporting data, spend, risk, knowledge
- Disruptor to Tier1 providers (threat/ownership) and reluctance of HE engagement (Risk V benefits)
- Significant risk of implementation V unknown benefits (KFC!)
- (Trial outcome will provide insight)

The Outcomes

- Improved Health & Safety by sharing of best practise through collaboration and innovation with Industry
- Increased productivity, through improved cost planning/management and reduced risk
- Decreasing dependence on Supply chain
- Greater synergy with related integral categories (eg Operations, Groundworks, TTM, etc)

Conclusion: For National Highways, Logistics is in the concept or inceptive stage, with historically all work undertaken under the Operational scope and passed to Tier 1 providers to manage, both risk and benefit. This is the construction industry norm, with Construction operators having limited logistics tools/capability and Logistics operators having limited construction expertise. Joint ventures and preferred partners have evolved organically, but there remains a disparate array of standards, methodology, data metrics and clear cost analysis. The vision is to build National Highway's capability in logistics management, understanding and intelligence to enable National Highways to construct, maintain and operate faster, cheaper, with less risk and more sustainability. This must include Modern Methods of Construction, Construction Logistics Plans, SES accredited standards (FORS, CLOCS) and may be delivered through 4PL, 3PL, or greater use of JV's eg SMP.

Business Requirements and Objectives

Requirement	Low Importance	1	2	3	4	5	High Importance
Assurance of supply	Disruption to supply has a minor impact on operations and / or brand perception					X	Security of supply is critical: disruption will affect safety and damage reputation
Quality	Quality issues have minimal impact on operations and/or				X		Quality performance has a major impact on operations and/or brand
Regulatory, Ethical, Environmental	Compliance to ethical, environmental or regulations have a minimal impact on operations or brand					X	Compliance to regulatory, ethical and environmental issues has high impact on operations and/or brand
Service	Flexibility in delivery dates and service levels can be accommodated with minimal impact					X	Late deliveries / poor service has a major impact on operations / brand
Cost	Cost competitiveness is not a major requirements					X	Cost competitiveness is critical for HE as is the ability to understand costs drivers of product / service
Innovation	R&D capability or investments in innovation has minimal impact on operations and/ or brands				X		Excellent R&D / product engineers and investments to innovate are critical to operations and/or brand

Conclusion: Risk reduction and cost efficiencies of service should be realised through a more intelligent understanding of Logistics methodology and incremental Operational maturity. Business needs of Safety, Customer Service and Delivery will benefit directly with an intrinsic link to positive environmental action in aiding carbon reduction priorities.

HE Directorate	Specific Objectives
Operations	• Planning and Programme Optimisation focussing on best practise nationally • Intelligent Contracting, providing tools to hold Supply Chain to account • Increased Maintenance Productivity with efficient scheduling and asset recovery
Major Projects	• Supporting the development of whole life asset strategies • Providing Logistics options framework • Support the DIPs Sustainability Hub model with intelligence, logistics planning and management • Embed/ learn from Logistics element within Smart Motorways Alliance (key function in Production Hub)
Commercial & Procurement	• Support “Intelligent Client” agenda by building unit cost data associated with logistics operations • Drive accurate cost forecasting with tighter, accurate logistics planning • Embed logistics methodology into contract scope/design

national highways

Case for Change

Construction Logistics Plans (CLP's)	Links to Modern Methods of Construction (MMC)	HE Logistics Chain Optimisation
▪ Framework for understanding and managing construction logistics activity on any given scheme ▪ **Standardisation** of data, metrics, definitions and methodology, that National Highways would own and provide templates for ▪ Enable a **programmatic approach** to scheme delivery and develop National Highways intelligence/competency surrounding Logistics challenges ▪ CLP implementation shown to **reduce vehicle movements** to/from site by 20% ▪ Reduce carbon footprint ▪ Reduce congestion on SRN ▪ **Safety** - CLP's contributed to 40% reduction in on-site casualty rate *when* adopted alongside CLOCS standards ▪ Review of SES bench line standardisation with industry; CLOCS, FORs V Driving for Better Business (opportunity for Safety Standards matrix?)	▪ Optimisation of MMC relies on effective Logistics; asset storage, final mile delivery (**J**ust **I**n **T**ime), shrinkage and compliance, consolidation and vehicle utilisation, RFID (Radio Frequency Identification) tagging ▪ Increased Logistics capability would allow National Highways to introduce best practise stock control and throughput methodology against Modular assets ▪ CLP's easily adaptable as a way to manage supply, demand (including advanced production planning) and throughput capabilities ▪ Offsite manufacturing, standardisation and modular construction are key areas of focus for the DfT Transport Infrastructure Efficiency Strategy (HE signed up to TIES Challenge 7)	▪ Highlighted by **HE2025 Capability Map**, "Manage Logistics" is a risk category that is acknowledged as requiring capability development and as a candidate for outsourcing ▪ Sector Development System (Supplier Development Team) workstream already in progress across Tier 1s, designed to increase HE maturity (data, practice, knowledge) - promoting greater use of: ▪ **Joint Venture's** encourage collaborative partnerships (eg SMPA) & Balfour/Wincanton project ▪ **3PL** (Industry current Best Practice) providers assigned to specific logistics functions: 1) Warehousing 2) Bulk/Hub Transport 3) Final Mile fulfilment OR ▪ **4PL** (Tier 1 role?) could act as a centralised logistics management function, covering the complete end to end supply of logistics functions across National Highways Value Chain

Value Chain Analysis - Safety

Logistics - Safety	Value Factors	Current Situation	Changes Needed
Health & Safety • Driving for Better Business (DfBB) • Construction Logistics and Community Safety (CLOCs) • Fleet Operator Recognition Scheme (FORs) • Rail Safety Standards Board (RSSB)	• A safer network through reduced HGV/van journeys on the SRN • A decrease in the number of incidents relating to Logistics, RIDDORs, RTAs, KSI's • Improved site efficiency with fewer vehicle movements/delays • HE assurance of a minimum Logistics safety standard, promoting Best Practice • Inherent overlap with other Categories • Improved customer assurance and reduced NH reputational risk exposure • Environment – reduced vehicle movements will reduce Carbon footprint	• Reliance and risk passed to Suppliers, T1,2,3 as required – Assumptions made that compliance is assured • Safety Alerts data (gathered with Police on site roadworthy checks) provides contradictory evidence = 40% of vehicles legally deemed unroadworthy • DfBB aware of latent risk in system and working proactively to address asap • DfBB uses 'signposts' to refer to CLOCs/FORs but without audit • CLOCs acknowledges DfBB, as assurance scheme without rigour • Mtg facilitated between both parties to progress	• Parity with industry Best Practice, DfT, RSSB etc • Implementation and enforcement of a Logistics Driving Standard 'equivalency matrix', based on legal requirements (Operators Licence, roadworthy vehicles) and a minimum acceptable safety standard • Audit trail for Safety best practice • Contracts inclusive of key minimum requirements and Tier1's to apply and enforce as required

Conclusion: Recent Safety Alerts indicated >40% of on-site vehicles were unroadworthy and 'illegally' on Public roads. This indicates a lack of rigour in the DfBB scheme which is based on assurance rather than Legal basis, audits and evaluation. Scope to align with the RSSB 'equivalency matrix' and CLOCs/FORs will provide rigour. Work in progress to facilitate DfBB/CLOCs mutual recognition and acceptance.

national highways

Value Chain Analysis – Cross Category

Value Chain	Value Factors	Current Situation	Changes Needed
• Drainage • Gantries/Steel Structures • TTM • Earthworks • Concrete Structures • General Civil • Road Markings • Road Restraint Systems • Pavements • Construction Management/Accommodation	• Efficiency – MMC and CLPs provide structure for cross Category synergy, efficiencies and value • Efficiency - savings from standardised design, bulk procurement and mass production opportunities, through Construction hubs • Quality - improved consistency through mass production • Safety - reduced time on site & lower accident frequency rates (WRRR & LTIs) • Efficiency - reduced installation time through efficient methods • Efficiency – Programmatic Planning based on JIT and LEAN, reduces wastage and non-value add activities • Customer satisfaction – reduce road closure time, and HGV/LGV traffic • Environment – reduce carbon footprint and impact	• No formal Logistics methodology or framework • Procured by individual delivery partners through Tier 2 or 3 providers on a scheme by scheme basis • Limited or No Programmatic planning • Minimal Construction hub usage • Repeated design resulting in over-complicated, non-standardised, bespoke designs which can vary from scheme to scheme • Safety Alerts require urgent focus and action • No common Road Safety approach to WRRR or standards equivalency • Inconsistent approach to Carbon impact • Components and technology connections not standardised	• Adopt MMC and CLPs, through Tier1s and contractors • Comply with Safety Standards matrix, through DfBB & CLOCs, driven by DfT • Develop a strategy to enable programmatic planning (‘control centre’), to maximise JIT & LEAN concepts in reality, reducing waste and non-value add activities • Enhance Customer Satisfaction and focus on reducing local and environmental impact, including Carbon footprint • Investigate potential savings and safety benefits with Industry Logistics experts, PL partners or internal process analysis • Prioritise Logistics and allow NH to become an Intelligent client

Conclusion: Logistics has historically been outsourced and delivered through Tier 1 ‘s and subcontractors, with an acknowledged lack of spend data, performance measurement and common metrics. Yet, Logistics is critical to the cross Category efficiency of all works projects and is intrinsic to risk, spend and progress. By recognising this criticality, and maximising the opportunities, there is significant scope to improve Safety, increase Customer Satisfaction and realise genuine efficiencies.

national highways

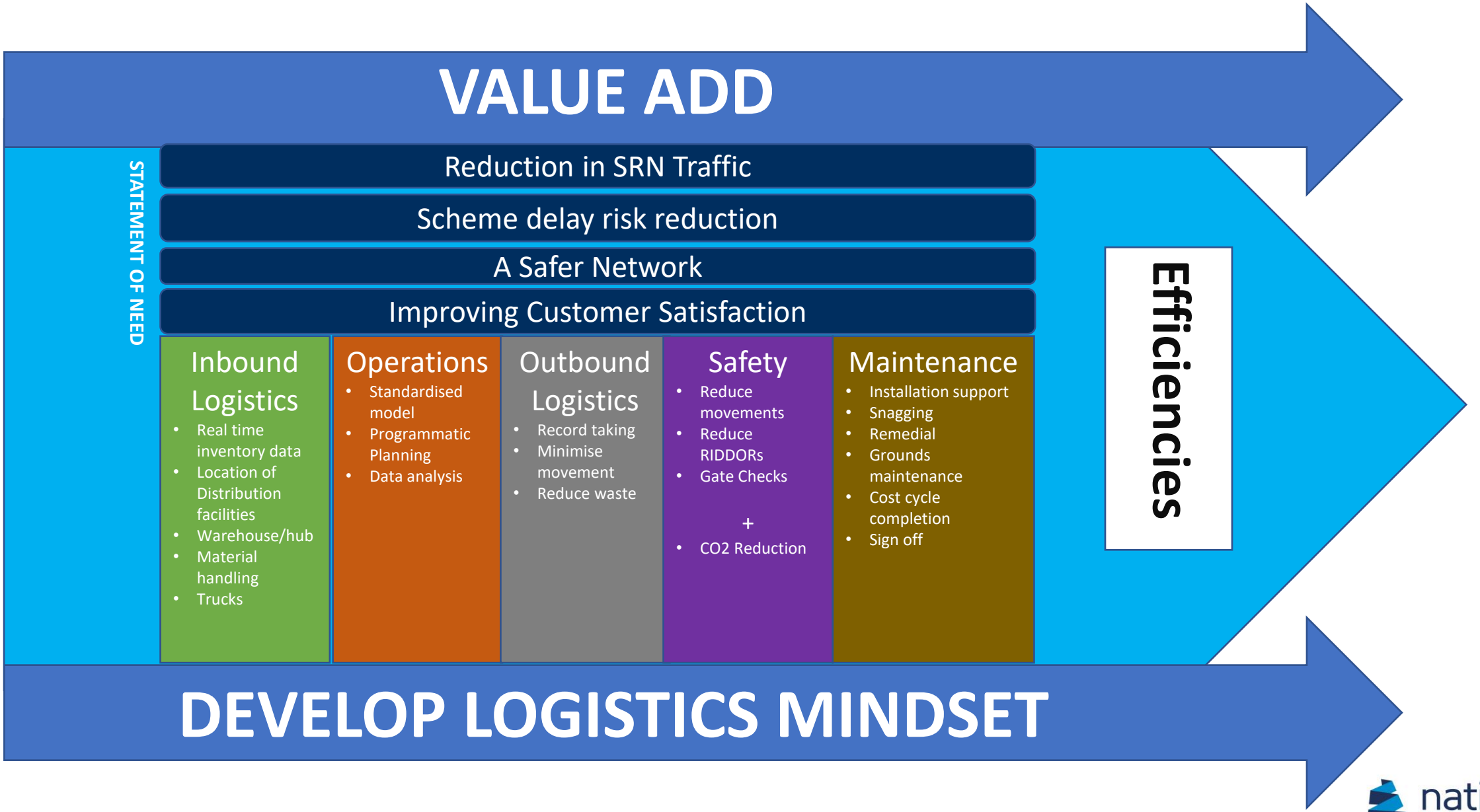
Mapping of category connections - matrix for Logistics

A dependency matrix for Logistics, to identify and map the relationships, dependencies and synergies between categories.

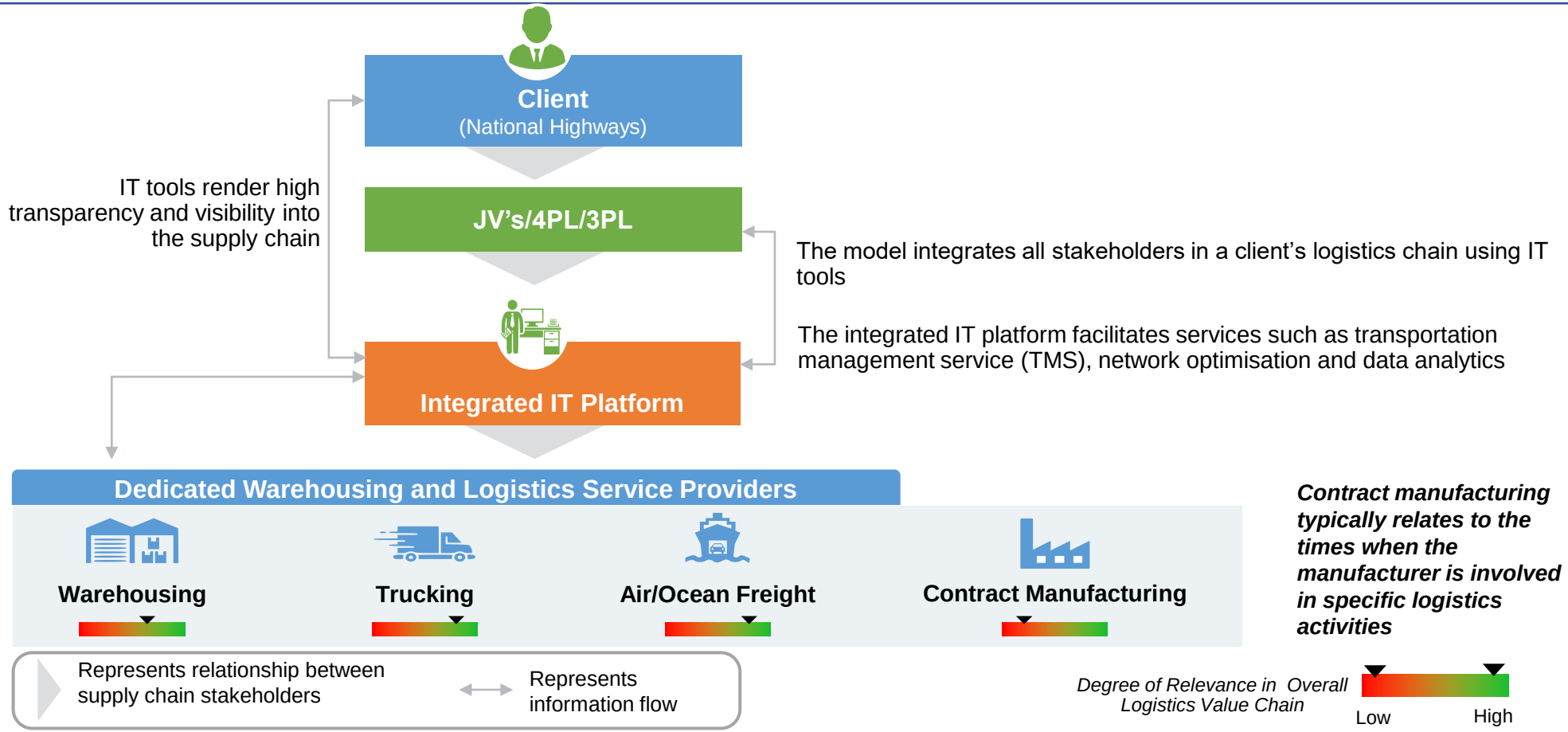
		Steel Structures	Road Restraint Systems	Concrete Structures	Pavement	Specialist Surface treatment	Road marking	General Civil	Drainage	TTM	Site preparation	Construction management	Design services	Survey	Logistics	Enterprise Systems	Infrastructure Services	Operational Roadside Technology	Operational Systems	Facilities and Business Goods & Services	Delivery	ICT	HR, L&D and Communications	Professional Services	Public Bodies
Structures	Steel Structures																								
	Road Restraint Systems																								
	Concrete Structures																								
Roadworks	Pavement																								
	Specialist Surface treatment																								
	Road marking																								
General Enabling Works	General Civil																								
	Drainage																								
Prelim	TTM																								
	Site preparation																								
	Construction management																								
Design & services	Design services																								
	Survey																								
	Logistics	1	2	1	3	2	2	4	1	2	5	5	6												
IT Commercial	Enterprise Systems														7										
	Infrastructure Services														8										
	Operational Roadside Technology														1										
	Operational Systems																								
Corporate Services	Facilities and Business Goods & Services																								
	Delivery														9										
	ICT														8										
	HR, L&D and Communications																								
	Professional Services																								
	Public Bodies																								
		Steel Structures	Road Restraint Systems	Concrete Structures	Pavement	Specialist Surface treatment	Road marking	General Civil	Drainage	TTM	Site preparation	Construction management	Design services	Survey	Logistics	Enterprise Systems	Infrastructure Services	Operational Roadside Technology	Operational Systems	Facilities and Business Goods & Services	Delivery	ICT	HR, L&D and Communications	Professional Services	Public Bodies
		Structures			Roadworks			General Enabling		Prelim			Design & services			IT Commercial				Corporate Services					

Key	
Synergy	Considering both categories together will give greater overall benefits
Strong relationship	Changes in one category will strongly affect the other
Relationship	Changes in one category will affect the other moderately or slightly
No direct relationship	Changes in one category are unlikely to affect the other

Notes	
1	Design, storage and delivery should be considered to optimise warehouse/transport considerations. Efficient on-site logistics will enable productivity gains for installation of modular asset types
2	Storage and delivery of physical components/materials to be considered
3	High volumes of vehicle movements associated with Pavement. Optimisation of the working window paramount to efficient delivery
4	Potential for Earthworks Reverse Flow considerations (as demonstrated and prioritsed by HS2)
5	Scheduling and utilisation considerations critical to the optimisation of the working window and staff safety
6	Design considerations for MMC (bulk component storage, transport, reverse flow) to mitigate logistics issues further down the Value Chain
7	Logistics focussed metrics (& KPI's) must be considered with enterprise systems to understand the impact on programme. SMA "Production Hub" functionality reliant on efficient logistics considerations
8	Maintenance and repair considerations (eg stockingholding, leadtimes and throughput of critical repair compenents) for whole life value management
9	4PL considerations - centralised logistics management will require co-ordination across multiple disciplines for optimal throughput


VALUE ADD
STATEMENT OF NEED
Reduction in SRN Traffic
Scheme delay risk reduction
A Safer Network
Improving Customer Satisfaction
Inbound Logistics
Real time inventory data
Location of Distribution facilities
Warehouse/hub
Material handling
Trucks
Operations
Standardised model
Programmatic Planning
Data analysis
Outbound Logistics
Record taking
Minimise movement
Reduce waste
Safety
Reduce movements
Reduce RIDDORs
Gate Checks
+
CO2 Reduction
Maintenance
Installation support
Snagging
Remedial
Grounds maintenance
Cost cycle completion
Sign off
Efficiencies
DEVELOP LOGISTICS MINDSET

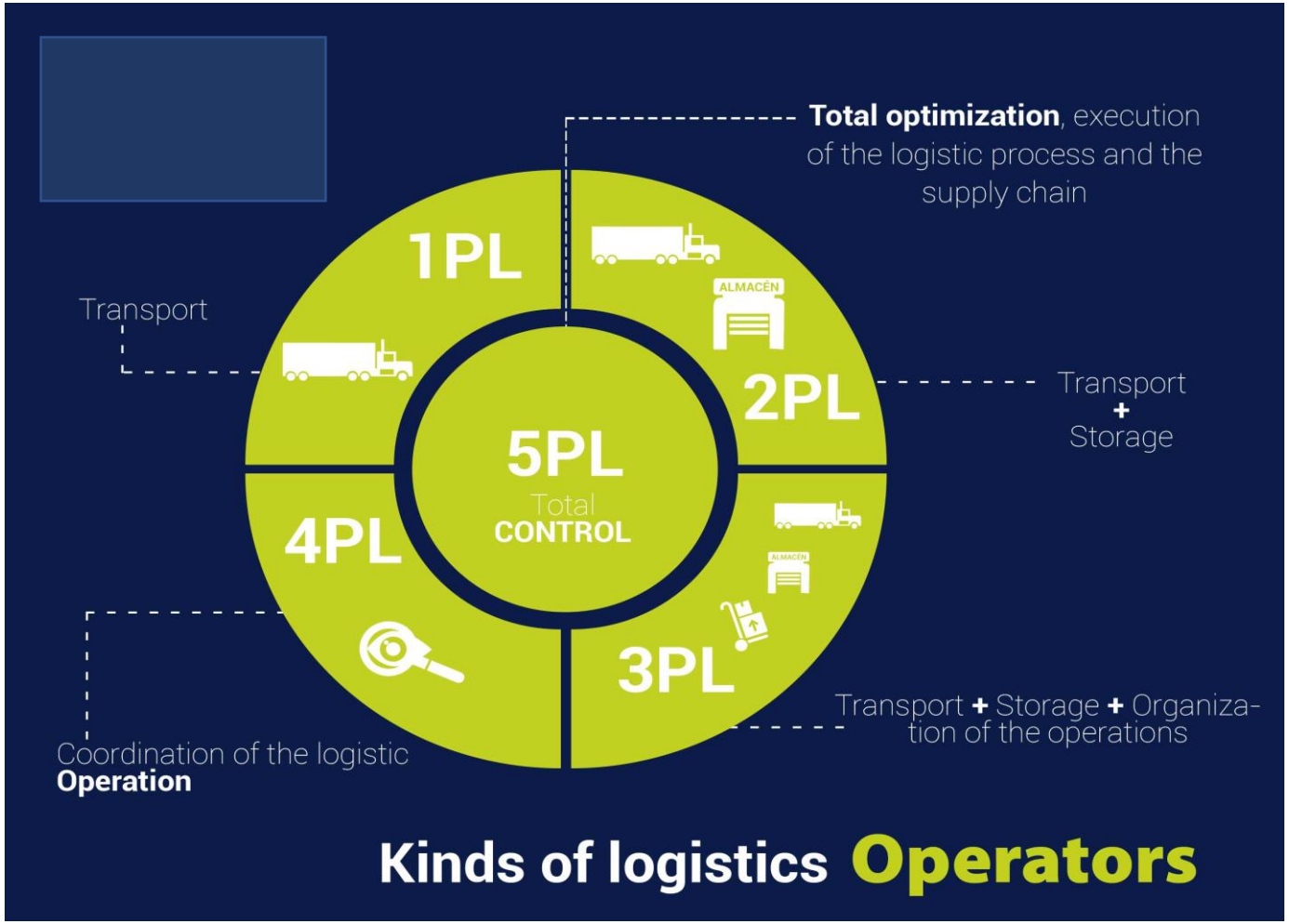
Value Chain Mapping



- JV's are a base-line for current working practices, but much progress can be achieved with greater client/Tier1 integration, as per the Supplier Development Model.
- Clients typically engage with a 4PL service provider for medium–long term duration (3–5 years); the 4PL further engages with dedicated logistics service providers such as warehousing, trucking and air/ocean freight service providers (as per the requirement)

national highways

Options: 1PL – 4PL



- National Highways Optimization = 4PL.
- Tier1 providers have limited visibility/expertise of Tier2/3 Logistics
- Eg Drainage:
  - 1PL manufacture
  - 2PL deliver to site
  - 3PL on site use
  - 4PL manage project, on behalf of National Highways
- Supplier Development and engagement should ensure greater sharing of data, best practice and intel.
- Number of providers reduces risk but may be project or geographically driven.
  - 5PL - a future vision?

Product Description – Future Software Solutions

Service Delivery Technique	Description – Software solutions offered by suppliers/4PLs
Route Optimisation Algorithms	Big data and predictive analytics are being leveraged to optimise shipping routes; software – developed using these technologies – generate accurate digital maps and identify a suitable carrier for delivery, based on parameters such as vehicles' location and road restrictions
Integrated Platforms for SCM	These integrated platforms have different functional user interfaces and are used to manage multiple entities (e.g., transporters and freight forwarders) in a supply chain; the implementation of these platforms improve visibility and operational efficiency while reducing the need for additional software/platforms for supply chain management (SCM) at different steps
Real-time Shipment Tracking Tools	A majority of 3PLs/4PLs and supply chain service providers are adopting IT-enabled tools that utilise data captured by sensors (e.g., location, acceleration and temperature sensors), telematics and RFID readers for real-time shipment tracking; these tools help in ensuring timely delivery by providing shippers with timely information to take remedial action in case of unexpected delays or any discrepancies
Geofencing Technology for Shipment Tracking	Numerous 3PLs/4PLs leverage geofencing technology that involves capturing GPS coordinates of trucks/shipments as these cross a predefined boundary (e.g., geographical location, supplier's warehouse and manufacturing facility, and point of delivery); the captured location details are automatically shared with supply chain entities (e.g., transporter, shipper and warehouse staff), enabling them in taking informed decisions in case of any delays
Blockchain for Supply Chain Management	Technology giants and niche players are building blockchain-based platforms to improve visibility and transparency across supply chains; these secure and tamper-proof platforms can be used to store shipments' data and enable transactions through smart contracts while eliminating chances of fraud across different levels in a supply chain
AI-/ML-enabled[2] Demand Planning	Multiple technology developers are building AI-/ML-enabled software to analyse warehouse data (e.g. order frequencies, historical purchase data and inventory status), and accordingly identify the optimum quantity of goods to be ordered/stored; these advanced tools can optimise the inventory management function by reducing overstocking scenarios

national highways

Product Description – Future Software Solutions

Service Delivery Technique	Description - Technologies that require warehouse infrastructure changes
ML-enabled Picking Robots	▪ Warehouse automation service providers and niche players are developing robots that have advanced ML-enabled gripping and sensing capabilities; these intelligent robots determine grasping points of different types of products, pick them without causing structural damage and significantly reduce labour requirements in a warehouse
Robot- and drone-enabled Product Tracking	▪ Robots and drones are being equipped with RFID readers and cameras that automatically capture data pertaining to products stored in a warehouse; these solutions, primarily developed by niche technology developers, can be leveraged for cycle counting of goods and enable product tracking in 'difficult-to-reach' locations of a warehouse
Warehouse Management Systems	▪ Cloud-based warehouse management systems are being integrated with AI and ML algorithms to optimise warehouse operations, e.g., picking and sorting, monitoring staff performance and identifying continuous improvement opportunities (e.g., loading/unloading time) to reduce the overall cost

national highways

Logistics

Supply Chain…

National Highways

Tier 1 – Design Suppliers

ATKINS
Member of the SNC-Lavalin Group
JACOBS
amey

Tier 1 – Management Suppliers

A one+ Integrated Highway Services
Balfour Beatty VINCI
McCann Delivering Infrastructure Solutions
Connect Plus
COSTAIN
KIER
Balvac
Balfour Beatty
mitie
Interserve
GallifordTry
bmJV
RINGWAY
AGGREGATE INDUSTRIES

Tier 2 – Work Contractors

Eddie Stobart
ups
Wilson James
DSV
XPO Logistics
GEODIS
We logistic your growth
DHL
csb LOGISTICS
Wincanton
SEKO
SCALA
FOCUS Logistics, Inc.
noatum logistics
accenture
3T Logistics and Technology Group
ceva LOGISTICS

Tier 3 – Material / Product Manufacturers

M.A.C. CONTRACTING LTD
J.C.Balls & Sons Est.1963

PD PORTS
JCB
DAVID STANLEY
SPECIALIST TRANSPORT & LIFTING SERVICES
DAF
SHAUN BURTON TRANSPORT
SPECTRUM FREIGHT LTD
SPECIALISTS IN CRANE LOADING VEHICLES
Walsh
walkers TRANSPORT
PORT OF DOVER
LEYLAND TRUCKS
A PACCAR COMPANY
DFDS LOGISTICS
JS FORWARDING

Market Analysis…

4PL or 5PL model represents significant step change

Adoption of 4PL or 5PL services in the UK highways construction industry is currently very low but can be applied from other sectors.

Perfect competition market structure in logistics

Presence of both asset and non-asset-based suppliers that are consolidated at the top and fragmented at the bottom.

Buyers can influence market due to over-supply

High value-based competition & increased use of technology to differentiate services is restricting new entrants to the market.

Increased demand due to rise of e-commerce

New business models emerging, with greater price focus to attract volume and respond to more customised delivery requirements.

Marginal financial landscape across supply chain

Covid challenges, the volatility of clients stockpiling goods due to Brexit & changes in freight forwarding docs has strained cashflows.

Fast-pace of innovation, particularly in “last-mile”

Tech developments are enhancing client visibility & automating solutions to differentiate from the traditional service model.

Supply Chain Mapping – value and objectives

1 Statement of Need
Define the outcome needed by the business and what is needed to deliver it

Logistics covers the movement of material & components via air, sea, road or rail; managing any import/export regulations to satisfy project time expectations.
The supply chain is under duress, with revenue from Road Freight, in particular, expected to drop by **12.4%** this year due to the Covid outbreak (*source: IbisWorld*).

- Organisations with expertise in delivery solutions, particularly in terms of satisfying regulatory standards & maximising whole-life costing by applying design principles.
- Construction industry has 1.6% of the total road freight sector, which is likely to be £26.3bn in 2020-21. Design consultants build logistics solutions around this model.
- Have a more holistic role in determining the control model of managing material from source-to-site; including the viability of 4 or 5PL options.

- Tier 1 primarily work as integrators, by managing projects & sub-contracting work to category-specific Tier 2 suppliers.
- They will commission dedicated logistics contractors to move material to site to meet project time deliverables & quality levels.
- With the supply chain predominantly UK-based, the majority of freight is moved by road; with public haulage operators being 59% of HGV tonne km in 2019*.
- 45% of the logistics sector is delivered by articulated lorries (2020-21), where demand is growing at a faster rate to other modes.
- Freight carried by light-goods-vehicles (<3.5t), such as small trucks/vans are fore-cast to account for 23% of market (2020-21)

- The primary delivering organisations for source-to-site logistics.
- They provide fleet, operating labour & customer-facing tracking capability.
- Road freight activity can be split between own account operators & public haulage operators (latter having largest share: 59% of HGV tonne km in 2019)
- The diversified range of industries serviced by logistics operators has cushioned those in the sector from large market fluctuations over recent years.
- Low level of concentration is mainly due to the low barriers to entering the industry, which facilitates the entry and exit of small businesses.

- Enabling subcontractors or suppliers of components or services to support logistical provision.
- Providers of procedural or legislative services, such as customs clearance.
- Some logistics suppliers will insource transportation solutions where there is insufficient capacity or capability.
- Warehousing & storage facilities will supply ongoing services to facilitate logistics or manage inventory.
- Vehicle suppliers & maintainers will ensure the logistics fleet are capable of delivering services to meet client need.

The four largest companies in the industry are estimated to control just 13.6% of the market in 2020-21. This is expected to increase in the current year, as **XPO Transport Solutions UK** purchases a significant proportion of Kuehne + Nagel's industry-related activities..

national highways

* Source: DfT

Market Insight and Landscape

- Road-based logistics accounted for 79% of all goods moved in the UK during 2019, with 13% being transported by water and 9% by rail.
- Revenue is expected to fall in the current year, compounded by the end of the EU-UK transition period (which is likely to have a dragging effect).
- Demand is expected to fall in the current year by 12.4% due to COVID-19, negatively affecting profit margins.
- Government efforts to reduce emissions may reduce the industry's competitiveness in the coming years.
- The industry is highly competitive & fragmented, with only DHL Supply Chain accounting for a market share >5%.

Threat of New Entrants	Bargaining Power of Suppliers	Rivalry in the Industry	Bargaining Power of Buyers	Threat of Substitutes
Low – High	Low – High	Low – High	Low – High	Low – High
Few set-up costs beyond transport & labour, which attracts start-ups (+)	It is a very congested market, so HE have a range of options. (-)	Demand across market has increased due to online behaviours (+)	Minimal service diversity & low switching costs(+)	Rise of e-commerce & digital opportunities is changing client needs (+)
New suppliers can under-cut mature competitors on cost by cutting quality (+)	Digital-based suppliers offer unique value that offers them an edge (+)	Margins driven lower by increased competition (-)	Increasingly customised logistical needs of HE restricts suitable buying options (-)	Technological advances can be very costly to set in place in short-term (-)
Price-conscious clients easily switch allegiance (+)	More technically-based logistics enable seller to integrate with HE's systems (+)	Market concentrated by merger, acquisition and bankruptcy (-)	Fixed costs, such as fuel & labour, make pricing less negotiable (-)	Disrupters gaining profile by taking advantage of low differentiation.(+)
Asset-light start-ups able to adopt latest innovations to compare favourably (+)	4PL Providers align with HE's values & act on their behalf (+)	Low differentiation leads to suppliers competing on price & quality (-)	High competition in a busy marketplace offers HE a strong position due to pipeline of demand (+)	Innovation is enabling suppliers to become more service-focused than product centred.(+)
Clients value trust & certainty when selecting logistics partners (-)				

Conclusion: Increasing demand pressures are driving new buying behaviours & clients insist upon greater traceability & techno-logically efficient platforms. Suppliers also seek to differentiate themselves in terms of an often homogenous product or service.

Key statistics: Road Freight Logistics

£26.3BN REVENUE
Annual Growth 2016–2021: -2.0%
Annual Growth 2021–2026: 3.5%
Annual Growth 2016–2026

51,034 BUSINESSES
Annual Growth 2016–2021: 4.6%
Annual Growth 2021–2026: 2.1%
Annual Growth 2016–2026

£2.0BN PROFIT
Annual Growth 2016–2021: -13.1%
Annual Growth 2016–2021

7.6% PROFIT MARGIN
Annual Growth 2016–2021: -6.2pp
Annual Growth 2016–2021

289K EMPLOYMENT
Annual Growth 2016–2021: 3.7%
Annual Growth 2021–2026: 2.6%
Annual Growth 2016–2026

£7.0BN WAGES
Annual Growth 2016–2021: -0.3%
Annual Growth 2021–2026: 3.2%
Annual Growth 2016–2026

Key External Drivers

% = 2016–21 Annual Growth

-0.9% Business confidence index	-1.3% Industrial production index	0.9% Real private consumption expenditure
0.9% Fuel prices	-4.5% Demand from freight rail transport	1.0% Demand from sea and coastal freight water transport

Key Supplier Risks

Risk type	Risk Description	Impact	Priority	Mitigation/Action
Supply Chain	▪ Although fuel duty was frozen throughout the period, the industry continues to lobby for a reduction in duty, as the British tax on fuel is one of the highest in the European Union. ▪ Changing Government policy in favour of less fuel-intensive modes, such as rail or inland water, is currently indistinct with the potential for tax levies for more efficient alternatives. Network Rail estimates that rail transport is nearly three times more fuel efficient than road transport.	▪ Fuel costs continue to dictate high proportion of service expenditure. ▪ Modal shifts will impact demand, operating models & cost.	High	▪ The freeze in fuel duty has provided the industry with some stability over the past five-year period. Broaden modal options or Driverless technology could reduce fuel consumption / emissions, as well as limit road congestion. ▪ Broaden investment in alternative logistics modes to be well prepared for any modal shifts that are legislated.
Innovation	▪ Logistics operators are increasingly investing in fleet telematics & tracking systems to make their service provision more transparent and customer-centred. This increases the reliance upon systems and procedures. ▪ Driverless technology is another major source of technological development, which could lead to public criticism of NH due to a wider uncertainty around safety & ethics.	▪ A wholly data-driven service loses focus upon key values in representing NH. ▪ Reduced labour costs but possible reputational damage.	High	▪ Encourage integration with NH's own systems to increase logistical visibility while adopting the value & behaviours of the host. ▪ Seek full assurance of safety case before adopting driverless technology & support a public-focused media campaign to influence a more positive perception.
Capacity	▪ The increase in demand from online services has encouraged new entrants to the market, which may not be sustainable if buying behaviour recedes significantly post-Covid. ▪ Logistical processes have been made more complex by Covid restrictions & End of EU Transition, such as constraints in the no. of drivers in cabs and customs clearance .	▪ Increased competition & more marginal gains as suppliers seek to differentiate. ▪ Creating time & cost pressures..	Medium	▪ Clearly set out sustainability requirements in tender opportunities to ensure successful bidders are resilient to market changes and offer a stable proposition. ▪ Encourage technology solutions to overcome challenges (such as those in Innovation section) & monitor efficiency.

Conclusion: Step changes in how logistics is delivered through technology advances, innovations & more efficient processes is making it more feasible to promote a fully integrated solution, whose expertise enables goods & materials to travel efficiently from source to site.

.

national highways

Supplier Analysis

2
Market Options
Produce options and provide recommendations as inputs to the strategy/plan

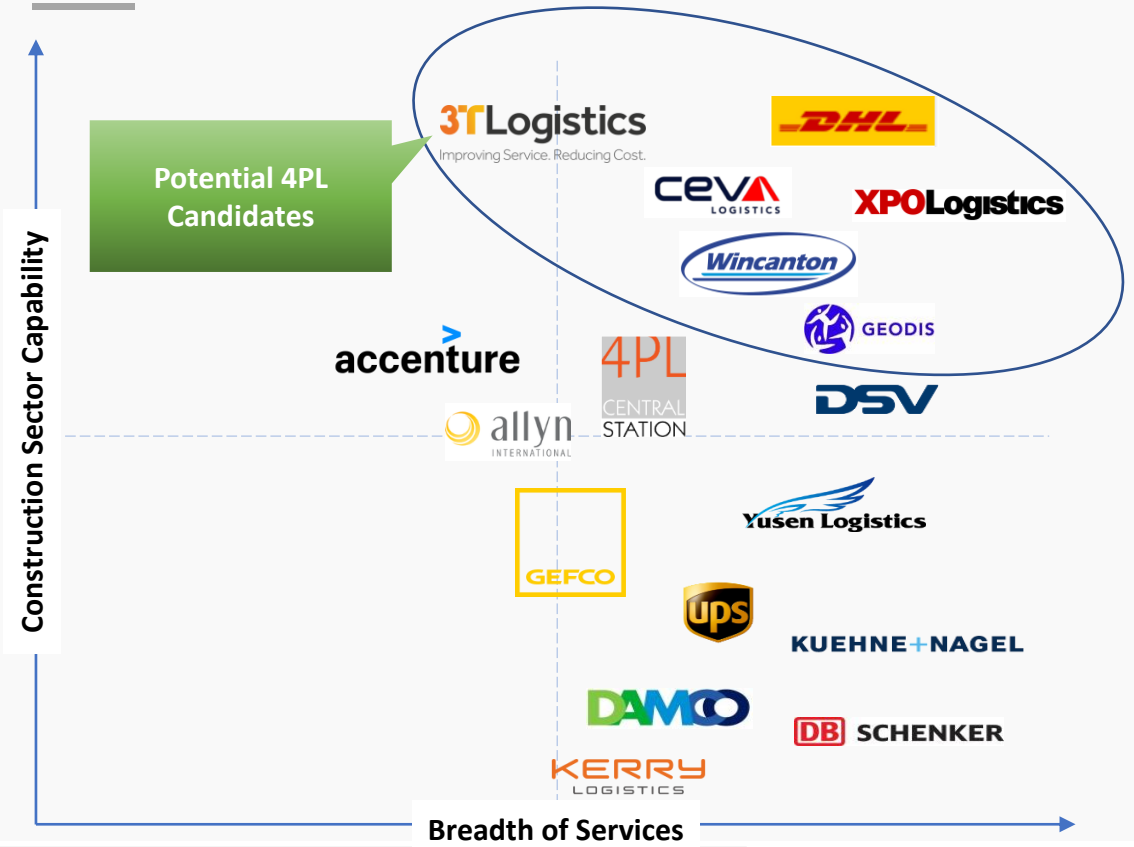
4PL Adoption

- Adoption of 4PL services in the UK highways construction industry is very low, and could be a significant step change for UK construction
- The adoption of a 4PL model would generate keen interest from the UK infrastructure community in tackling a shared productivity challenge

Supplier Landscape

- NH can look to engage with an asset-based 4PLs as its outbound logistics will be limited to the UK and its supply chain will be less complex than cross-border logistics operations; however, in case it lacks the required IT capabilities, it should look for an IT-intensive non-asset-based supplier
- NH can look to partner with DHL, XPO, Wincanton, CEVA and Geodis (leading asset-based vendors); 3T Logistics and GEFCO (non-asset based 4PL)
- Relationship with recommended asset-based supplier already exists in NH (XPO, based at West Hallam, focused on technology storage/management). Non-asset based suppliers focussed on IT capability could provide enhanced platform for data management, supporting us in becoming a more intelligent client

Supplier Landscape

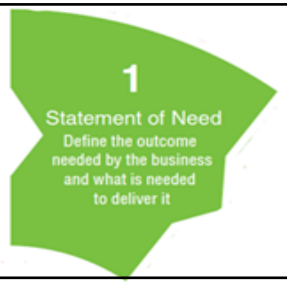


Conclusion:

Opportunity exists for a Industry step change and NH to pioneer and lead. Results include; improved Safety, enhanced Customer satisfaction and latent efficiencies (spend, time, CO2). Logistics expertise will add real value to all Projects and across the majority of Categories, PLUS enable NH to become a more intelligent client, by gaining data and proactively driving change with partners.

national highways

Logistics Opportunities

	**SAFETY;** • Cross functional work with SES team to counter Safety Alerts and 'align' DfBB with CLOCs to improve SAFETY • Engage with RSSB to support the 'equivalency matrix' for Public Sector • Ensure Contractual compliance with Tier1s, to action and implement (Task to Finish) • Improve Highways sector Health & Safety maturity
	**CUSTOMER SERVICE;** • Greater Customer Satisfaction through reduction of roads closure time due to work • A safer network through reduced HGV/Van journeys for site delivery & support • Promotion of Programmatic Planning to optimise condensed deliveries • Use of Construction Hubs to reduce impact on local population and environment – supporting off-site production • Reduction of CO2 impact and carbon footprint • Minimise waste transfer
	**DELIVERY;** • Work with SCD on the Supplier Development System – Category focus via Tier1 & 2+ • Engage with Category Managers to assess synergy eg Gantries, Drainage, TTM • Quantify associated Categories Logistics spend, risk and scope for efficiencies • Explore SMP/SMA opportunity etc – integrated Logistics based on Programmatic Planning (Control Tower concept) • Learn from Balfour Beatty/Wincanton pilot project – scope, scalability, return. Share results as a PoC • Work within SMA to facilitate Integrated Logistics, with Fluor having primacy • Work with ORT to explore market for contract renewal and efficiency opportunities

national highways

Recommendation

Benefits Strategy	Description	Recommendation
Safety	**NH complies with DfT initiative to introduce standardisation both in terms of Safety, and Industry Best Practice, by:** • Requirement to align DfBB and CLOCs/FORs through Rail Safety Standards Boards 'equivalency matrix' intent, providing greater rigour and to reduce Safety Alerts. • Reduction in WRRR/LTI by improved methodologies in product delivery and handling.	• Comply with DfT initiative • Align DfBB & CLOCs • Reduce WRRR/LTI
Customer Service	**NH provides better Customer Service, by:** • Use of MMC & CLPs to reduce Project duration and optimise off-site production + construction hubs. • Reduce HGV/LGV traffic through Programmatic Planning of work. • Focus on Sustainable Logistical solutions, reducing CO2 and environmental impact.	• Embed MMC & CLPs • Reduce traffic on SRN • Promote Sustainable Logistics
Delivery	**NH directly promotes MMC & CLPs, through Tier 1's, subcontractors and partners, delivering a Programmatic approach to Logistics, by:** • Focus on 'Control Centre' model, through evolution of pilot project to a 'Proof of Concept' deliverable, potentially including SMP. • Effective Logistics through programme accuracy/stability, capturing asset storage, final mile delivery (JIT), consolidation and optimal vehicle utilisation. • Reduce Project spend through efficiencies – 10% of £620m+ over RP2.	• Promote MMC & CLPs through SDT and Supplier Maturity delivery • Assess scope of 'Proof of Concept' • Grow model organically, geographically or by Tier1 engagement
Cross Category Synergy	**NH stimulates cross Category workstreams, by:** • Scope PID57 potential. • Ensure robust communications to coordinate work rather than allow unproductive silo ventures. • Work with ORT to scope CCS framework for IT Logistics.	• Align Strategies to optimise efficiencies • Use Innovation ReApplied to ensure synergy • Support ORT led CCS potential

national highways

Strategy

Logistics Strategy	Description	Benefit	Action
LS01: Pioneer Public Sector Road Safety	• Pioneer DfT direction to improve Safety through road standards matrix. • Promote MMC and CLPs, to standardise methodology, share Best Practice and maximise opportunity.	• Reduce H&S Logistics related incidents (LTI, RTAs, KSIs) and improve Work Related Road Risk standards. • Provide rigour for audit to reduce Safety Alerts, and reduce risk to Projects.	• Work with RSSB to produce 'safety matrix', for introduction/implementation in Construction Industry. • Ensure CLPs and NH contracts specific minimum Road Safety Standards for compliance.
LS02: Scope Preferred Logistics (PL) Potential	• Pilot PL between T1 and T2 providers, to explore opportunities, efficiencies and risks. • Assess Pilot results and engage to progress to 'Proof of Concept', on project end to end. • Provide visibility to key stakeholders to gain intelligence and share learnings. • Improve alignment between our supply chain (Tier 1-3) and NH goals and outcomes. • Grow understanding of Logistics and real latent potential.	• Create a real-time learning platform to counter stakeholders risk perception. • Share data, metrics, opportunities and potential. • Use PL to promote JIT/LEAN and reduce non-value add activity. • Ensure capability & capacity to deliver RIS2. • Real opportunity & value delivered through early engagement approach.	• Manage PL project from outset – lead Industry step change. • Turn lessons learned into best practice through strong SRM. • Share/Use empirical evidence to grow PL model organically, SMP, Regional or Project driven. • Greater supply chain collaboration to share innovation and drive efficiencies.
LS03: Cross Category & Team Synergy	• Maximise the value return of Innovation Re-Applied. • Use PID57 as platform to promote latent added-value of Logistics with other Categories. • Scope other Category Logistics spend and dependencies. • Work with other Teams, eg Cost Planning & Cost Intelligence to provide real data. • Collaborate with ORT to facilitate a contract tender, potentially through CCS.	• Reflects Strategic Procurement goals and cross Category engagement • Removal/reduction in silo working or lack of understanding of impact and benefits. • Sharing of Best Practice and innovation. • Wider adoption of MMCs and understanding of CLPs. • Promote Cost Reduction generically, rather than in isolation. • Change NH Procurement approach.	• Establish Innovation Re-Applied support and use combined strength to promote effective Logistics. • Work with Category leads to reduce non-value add activities and waste. • Agree and baseline cost reduction targets. • Rollout wider cost reduction potential to increase PL utilisation, as specialists adding real value.

national highways

Glossary & Annexes – Useful Links [SHARE link to index of full documentation]

AFR – Accident Frequency Rate
CLOC – Construction Logistics & Community Safety
CLP – Construction Logistics Plans
DfBB – Driving for Better Business
DfT – Department for Transport
FORs – Fleet Operator Recognition Scheme
KSI – Killed or Seriously Injured
LTI – Lost Time Through Injury
MMC – Modern Methods of Construction
nVA – non Value Add
RSSB – Rail Safety Standards Board
ORT – Operational Roadside Technology
PL – Preferred Logistics
PoC – Proof of Concept
RIDDOR – Reporting of Injuries Diseases & Dangerous Occurrences Regulations
WRRR – Work Related Road Risk

Stakeholder Engagement

Risk Register

Cross Category Logistics Spend

national highways