

**Department for Infrastructure
Transport and Road Asset Management CoPE**

Case Studies 2023/24

Supply Chain Resilience

PPN 03/21 Supply Chain Resilience

PPN 03/21 emphasises the need to consider supply chain resilience for critical products within our supply chain. DfI TRAM are currently responsible for the maintenance of over 25,000km of public roads, together with about 9,700km of footways, 5,800 bridges and approximately 290,000 street lights. It also has responsibility for the development of the transport network and a range of transport projects designed to improve network safety, sustainability and efficiency.

We recognise that supply chains are stronger when they are short and encourage the use of alternative products which are manufactured or produced locally. This is key to ensuring the consistency in supply needed to maintain and improve these valuable assets.

Road Asset Management Frameworks

Following completion of the market consultation exercise held in late 2022, the Department developed a new procurement strategy for roads construction, road maintenance activities and other related transport/civils works valued up to £5 million which was published in spring 2023. This new strategy, known as the Procurement Enhancement Programme, has now commenced the implementation phase and will be delivered through a series of Road Asset Management (RAM) Frameworks.

The RAM Frameworks have been developed to provide an efficient and value for money procurement route to DfI for the management of road assets across Northern Ireland. With a market containing an already strong local supply base, the Procurement Enhancement Programme included key aims designed specifically to enhance supply chain resistance, such as:

- introducing flexible procurement and contract arrangements to facilitate changing work priorities, ensuring that these reflect DfI Roads' Corporate Plans;
- supporting greater flexibility, by utilising appropriate packaging and contracting strategies, including framework contract options;
- improving confidence within the Northern Ireland construction industry in Department's ability to deliver a sustainable procurement strategy, recognised as being best practice and which reduces the potential for legal challenges.
- maintaining a strong, competitive, and sustainable roads maintenance and construction industry in Northern Ireland, taking account of main contractors,

sub-contractors, materials suppliers, and specialist Small and Medium Enterprises (SMEs).

- promoting a collaborative and non-adversarial approach in procurement and in the management and delivery of contracts, and support collaboration across the maintenance community.
- introducing opportunities for early contractor involvement into the design, planning and programming of maintenance and works projects to achieve efficiency, productivity, and social value improvements;
- identifying and incorporating opportunities and requirements for social value policies and objectives into the procurement strategy and procedures.

Regular market engagement throughout the development of the Procurement Enhancement Programme provided the local construction industry a voice during consultation of the final strategy and the opportunity to develop their own strategies to maximise their involvement in future contracting exercises. The Procurement Enhancement Programme is now being rolled out by the Department, with the first RAM framework procurement opportunities available from autumn 2024.

Critical Products

In addition, following assessment of items within our contracts we recognised several items which are deemed critical. That is, a good which if disrupted, would have an impact on health and safety or well-being of citizens or where an organisations ability to deliver services would be significantly impacted.

1. Winter Services – Salt Supply

In the 23-24 winter season DfI TRAM spread 53,700 tonnes of salt across the road network. To ensure that we maintain a reliable and consistent supply of salt on the network we have built in several processes to ensure resilience.

- At the start of each season the department will have stock of 55,000 tonnes of rock salt at storage depots and 20,000 tonnes in strategic reserve to give a total of 75,000.
- Winter service policy introduced within the department requires depots to reorder salt when capacity drops to 90% ensuring the supply is topped up to 100%. This policy is relevant until January 1st meaning that we have 75k tonnes of salt in storage at 1st January, usually more than enough to last the whole winter.

- The salt supply contract states that at least 15,000 tonnes of salt is to be delivered per month. This is half of the salt mines' overall salt production and would equate to an additional 60,000 tonnes of salt available to the Department from January to April, on top of the 75,000 tonnes we are required to have in storage at 1st January. Therefore, a minimum of 135,000 tonnes of salt will be available for use January through April. The average winter gritting season uses approximately 65,000 tonnes of salt.
- DfI TRAM uses a mixture of both white salt which is sourced from the Mediterranean and rock salt which is supplied locally from Carrickfergus Salt Mines. Having a local supplier gives us the possibility of collecting our supply from the mines in the event of a haulage strike.
- Since the 2022/23 Winter season our DBFO contractors have used a pre-wet gritting method on their network (Motorways / A1 etc). This means both white salt and rock salt can be used on this part of the network, creating additional resilience in the supply.
- Using a 'pre-wet' mix for gritting could lead to a reduction in the usage of rock salt by approximately 20%, reducing reliance on the rock salt contract and potentially providing a new salt supply contract. This will also have positive impacts environmentally given the reduced usage of a mined product.

Additionally, DfI TRAM still plan to undertake trials of the pre-wet mix in the 2024/25 winter season. This has been delayed for a few seasons now due to industrial action but could see this method being used across the network therefore continuing to reduce the quantities of rock salt required.

The combination of the above factors ensures that we have cost effectively mitigated against the risk of gritting salt supply shortages.

2. Traffic Control System and Equipment

An integrated system is used to control the system of signs, signals and cameras across the road and motorway network. The following actions have been taken to increase the supply chain resilience:

- Redesign of communications platform to reduce dependencies on a single supplier type.

- Review of IT Security procedures/information required for new contracts to ensure the most up to date requirements are requested. Specifically, increased communication resilience to critical infrastructure on the network.
- Movement of some aspects of the motorway control system onto an open platform to increase the number of equipment suppliers.
- Progression of the IP to the roadside project to make the end equipment open source and increase availability of potential suppliers.
- Increase of spare holdings for critical equipment held by Dfl, along with the requirement for suppliers to increase their inventory of spares.
- Regular review meetings with the entire supply chain to review market availability and ensure sufficient products to meet their annual contractual commitments.
- Purchase of equipment from one supplier, for free issue to another contractor if essential.
- Increased period in which equipment is ordered in advance of being used. Equipment such as traffic signal heads, normally ordered 6 weeks prior to installation is now ordered 4 months prior, to ensure availability when required.
- Ongoing work with signal company to redesign some integral elements to reduce dependence on hard to source circuit boards due to ongoing demand within the automotive industry.

3. Strangford Ferry and specialist equipment

Any disruption to the Strangford Ferry service would cause significant disruption to the public. To ensure that we mitigate against this possibility as much as possible Dfl TRAM have implemented a number of mitigation measures. These include:

- Holding additional stock of routine parts, including spare drive units for both ferries.
- Direct Award Contracts are in place with all main specialist suppliers for strategic equipment and plant.

General Roads Construction Operations

1. Construction Products – Infrastructure Projects, Maintenance and In-House Operations & Maintenance

- *Supply chain vulnerability* – Good visibility and transparency of supply chain is achieved across many functions via the use of Sector Schemes. A bespoke certified quality management system for organisations working on the UK road network. There is almost no reliance on a single supplier across the organisation. Additional resilience is to be built into contracts through the next tender cycles.
- *Industry collaboration and demand planning* – Regular correspondence with the industry through the Construction Employers Federation (CEF) and Mineral Products Association NI (MPANI) and across other CoPEs through the Heads of Procurement Meetings.

DfI TRAM CoPE continues to work across the relevant sectors to develop local supplier capability and capacity as well as helping them achieve the necessary quality and regulatory standards.

All DfI TRAM term contracts include bespoke, monthly indexation using industry standard indices to ensure fluctuations in the market are immediately reflected in rates during the operation of the contracts.

- *Standardisation* – DfI TRAM has minimal reliance on sole suppliers from other countries for critical materials and products. Use of standard specifications across projects allows more flexibility in sourcing from suppliers, to drive up quality standards and reduce total costs.
- *General materials* – Northern Ireland is a key supplier of quality road construction materials across the UK and as such we have local access and short supply chains to the majority of products required for road construction.