STRATEGIC TRANSPORT PROJECTS REVIEW

PROTECTING OUR CLIMATE AND IMPROVING LIVES

Appendix I: Recommendation Appraisal Summary Tables

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1. Detailed Appraisal Summary

An 'Appendix I: Recommendation Appraisal Summary Tables (ASTs) Explanatory Note' accompanies this AST.

1.1. Recommendation 44 – Rail freight terminals and facilities

Recommendation Description

STPR2 recommends that Transport Scotland collaborates with industry partners across Scotland in carrying out an updated market study for rail freight growth in Scotland (linked to the 2019 Industry Growth Plan for rail freight. The Industry Growth Plan responded to the specification set by Scottish Ministers for Network Rail[i].

A market study, would examine current and projected rail freight movements and the terminal capacity required to meet this demand. It is for the private sector to bring forward development proposals to the market but there is potential, if appropriate and subject to qualifying conditions, to apply for capital support through the existing freight facilities grant mechanism.

The development of rail freight terminals and related facilities could support the modal shift of freight movements from road to rail, aligning with updates to the Climate Change Action Plan[ii] and the Rail Services Decarbonisation Action Plan[iii].

This recommendation would assist in ensuring that rail freight is the most economically viable and environmentally friendly mode of choice for goods most suited to rail.

1.2. Relevance

Relevant across Scotland

Updating the evidence base and informing future rail freight terminal development is relevant to the continued development of Scotland's strategic transport network, and the transition to sustainable modes. This would have particular benefits for:

- **Businesses and consumers**, who will have additional transport choices to make with regards to the movement of freight by rail;
- **Transport operators**, who will benefit from the agglomeration of industrial traffic around rail freight terminals, thereby allowing for increased freight loads

1.3. Estimated Cost

< £25million

It is difficult to be precise at this time, but the first stage would be to undertake a market study to understand gaps and opportunities for rail freight. Costs would be more fully understood after this study although it is noted that the costs of proposals or schemes to be developed would be borne by the private sector with or without capital support from Scottish Government. The cost of any proposals or schemes that are developed, or subsequent to the completion of the market study are not covered here.

1.4. Position in Sustainable Investment Hierarchy

Targeted infrastructure improvements

This recommendation would contribute to nine of the 12 NTS2 outcomes, as follows:

- Provide fair access to services we need.
- Be easy to use for all
- Help deliver our net-zero target
- Adapt to the effects of climate change
- Promote greener, cleaner choices
- Get people and goods to where they need to get to
- Be reliable, efficient and high quality
- Use beneficial innovation
- Be safe and secure for all

1.5. Summary Rationale

Summary of Appraisal

	TPO					STAG					SIA				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Low Scenario	++	0	+	++	++	+	++	0	++	+	+	0	0	0	0
High Scenario	++	0	+	++	++	+	++	0	++	+	+	0	0	0	0

This recommendation makes a largely positive contribution to the STPR2 Transport Planning Objectives (TPOs) and STAG criteria. This assessment conclusion is based on a wide body of evidence from other locations in the UK and beyond. where similar schemes have been implemented successfully, with considerable benefits realised.

Rail freight terminals particularly contribute to objectives for environmental improvement and can also assist with economic development. A market study to assess the provision of terminals throughout Scotland could assist the private sector in determining where investment is required and result in an increase in product moving by rail.

Details behind this summary are discussed in Section 3, below.

2. Context

2.1. Problems and Opportunities

This recommendation could help tackle the following problems and opportunities:

Relevant Problem & Opportunity Themes Identified in National Case for Change
▪ **Freight:** whilst recognising the importance of freight within Scotland's economy, a key challenge will be to ensure that the negative impacts generated by the movement of goods vehicles, such as increased emissions from road freight, are tackled. ▪ **Global Climate Emergency:** the Scottish Government committed to an ambitious target of net zero emissions by 2045 and transport needs to play its part. Transport is currently Scotland's largest sectoral emitter, responsible for 37% of Scotland's total greenhouse gas emissions[iv] in 2018[v]. Our transport system needs to minimise the future impacts of transport on our climate. ▪ **Air Quality:** transport, and road transport in particular, remains a significant contributor to poor air quality. Air pollution increases the risks of diseases such as asthma, respiratory and heart disease, particularly for those who are more vulnerable. Air quality is often worse in areas of deprivation and is a health inequality issue. ▪ **Trade and Connectivity:** transport is crucial for trade and competitiveness, within Scotland, across the UK and internationally. ▪ **Reliability:** without intervention, forecast increases in traffic volumes on the road network will impact negatively on reliability through increased congestion and more roadworks as greater pressure is placed on the operational efficiency of the network. Reliability can also be an issue on the rail network[vi].

2.2. Interdependencies

This recommendation has potential overlap with other STPR2 recommendations and would also complement other areas of Scottish Government activity.

Other STPR2 Recommendations
▪ Highland Main Line rail corridor enhancements (15); ▪ Perth-Dundee-Aberdeen rail corridor enhancements (16); ▪ Edinburgh/Glasgow-Perth/Dundee rail corridor enhancements (17); ▪ Behavioural change and modal shift for freight (27); ▪ Major station masterplans (43); and ▪ High speed and cross-border rail enhancements (45);
Other areas of Scottish Government activity
▪ Revised Draft Fourth National Planning Framework (Revised Draft NPF4)[vii]; ▪ Climate Change Plan 2018-2032 Update[viii]

3. Appraisal

This section provides an assessment of the recommendation against:

- STPR2 Transport Planning Objectives (TPOs);
- STAG criteria;
- Deliverability criteria; and
- Statutory Impact Assessment criteria.

The seven-point assessment scale has been used to indicate the impact of the recommendation when considered under the 'Low' and 'High' Travel Behaviour Variant scenarios (which are described in Appendix F of the Technical Report).

3.1. Transport Planning Objectives

1. A sustainable strategic transport system that contributes significantly to the Scottish Government's net-zero emissions target

Low Scenario	High Scenario
++	++

Rail freight is the most sustainable option for the long-haul movement of goods, particularly for trunk haul routes, with each freight train estimated to remove up to 76 HGVs off the road[ix]. This reduces the consumption of fossil fuels produced as part of each freight load, and therefore the overall emissions generated by the strategic – and sometimes local - transport systems.

The 2019 Industry Growth Plan for Rail Freight identified that rail was most effective at transporting high-weight, low/medium-value items, such as aggregates, intermodal and timbers, however, there is a growing demand for rail freight in the whisky and express parcel markets. A market study would identify opportunities where investment can potentially be undertaken by Transport Scotland's industry partners, facilitating transition to a more sustainable mode.

Given the contribution that modal shift to rail can have on reducing carbon emissions, and that rail freight terminals are key to facilitating this through increases in the overall capacity of the strategic transport network, positive impacts would be anticipated against this objective should the market study lead to investment in new facilities.

Overall, by supporting the future development of the rail freight sector, this recommendation is expected to have a moderate positive impact on this objective in both Low and High scenarios

2. An inclusive strategic transport system that improves the affordability and accessibility of public transport.

Low Scenario	High Scenario
0	0

This recommendation is not considered to be of direct relevance to this objective.

This recommendation is therefore expected to have a neutral impact on this objective in both Low and High scenarios.

3. A cohesive strategic transport system that enhances communities as places, supporting health and wellbeing.

Low Scenario	High Scenario
+	+

A rail freight market study would assess how existing infrastructure could be utilised to facilitate sustainable freight traffic growth in nationally significant growth areas, as outlined in the Revised Draft NPF4[x] document, as well as driving redevelopment across urban and rural Scotland.

Terminals are used to consolidate loads through inter-industrial centre demand corridors and are usually located strategically to attract new markets and traffic to the sector, shifting supply chains usually transported by road onto rail. Scotland has several industries that are suitable for any increased modal shift and would be noted for future development in the market study. It should be noted that the development of new freight terminals is a commercial decision for private sector organisations.

Given the contribution to reducing unsustainable demand for travel arising from national significant growth areas, and how rail freight terminals can aid this, this recommendation is expected to have a minor positive impact on this objective in both Low and High scenarios.

4. An integrated strategic transport system that contributes towards sustainable inclusive growth in Scotland.

Low Scenario	High Scenario
++	++

Rail freight terminals and facilities strategically located could improve the competitiveness of Scottish businesses in key domestic and international markets. Rail freight terminals allow for the consolidation of loads into a single goods service(s), thereby reducing the cost of operating the service(s) and minimising empty running. Being able to route services directly into industrial areas could reduce overall journey times, reducing the need

to shift back to road freight for longer first/last-mile journeys than would otherwise be the case.

A rail freight market study would assess how current facilities can be used more efficiently, with the possibility of infrastructure improvements being brought forward by Network Rail as part of other areas of STPR2. The study may also recommend the need for new facilities, which may attract new markets and traffic to the sector, although these would be anticipated to be brought forward by the private sector.

Given how rail freight terminals can improve the competitiveness of Scottish business in key markets, by reducing costs, as well as increasing the mode share of freight by sustainable modes, this recommendation is expected to have a moderate positive impact on this objective in both Low and High scenarios

5. A reliable and resilient strategic transport system that is safe and secure for users.

Low Scenario	High Scenario
++	++

Rail freight terminals allow the rail freight industry to provide a reliable and resilient service as part of Scotland's strategic transport system. Rail freight has proven to be a reliable form of transport, particularly when compared to road-based freight, noting that over recent years road freight businesses have been experiencing increased demand, driver shortages and Brexit complexities.

Some businesses, such as Tesco, have continued to increase their distribution by rail across the UK, crediting rail freight operators with keeping their stocks full[xi]. Furthermore, rail's reliability has been reflected statistically, with the ORR GB Rail Freight Delivery Metric recording 92.3% level of punctuality in 2021-22 Q4.[xii]

In general, terminals provide strategic access and appropriate equipment to allow fast transfers from rail to road freight and vice versa, improving the reliability and resilience of supply chain transfers.

In terms of safety and security, the transfer of goods within rail terminals could be more secure than more informal sites, given they are often managed facilities with site perimeters, surveillance measures and lighting, and therefore there less susceptible to crime.

This recommendation is therefore expected to have a moderate positive impact on this objective in both Low and High scenarios.

3.2. STAG Criteria

1. Environment

Low Scenario	High Scenario
+	+

See Strategic Environmental Assessment (SEA) below.

This recommendation is expected to have a minor positive effect on this criterion in both the Low and High scenarios.

2. Climate Change

Low Scenario	High Scenario
++	++

Achieving modal shift to rail is vitally important to meeting Scotland's ambitious net zero carbon target of 2045, as well as a 75% reduction against 1990 emissions levels by 2030.

To achieve these goals, "Decarbonising the Scottish Transport Sector[xiii]," a recent report for Transport Scotland, outlined that 23% of freight goods moved by road must be shifted to rail and ships by 2030. Each freight train movement is estimated to remove up to 76 HGVs off the road, a significant reduction in greenhouse gas emissions when freight is transferred to rail. The reduction in emissions is increased further if the traction used is electrified.

A rail freight market study would assess the suitability of developing new rail freight terminals and facilities and expanding existing ones, attracting new markets and generating traffic for rail freight operators, thereby driving modal shift from road to rail. Future development would be taken forward by Transport Scotland's commercial partners.

This recommendation is unlikely to have any impact against the vulnerability to effects of climate change, as well as the potential to adapt to effects of climate change sub-criteria.

Overall, this recommendation is expected to have a moderate positive impact on this criterion in both Low and High scenarios.

3. Health, Safety and Wellbeing

Low Scenario	High Scenario
0	0

A rail freight market study could assess the degree to which modal shift from road freight to rail freight is possible due to the development of terminals and facilities. If this facilitated a subsequent increase in product moving by rail, it would allow a reduction in accident rates to be quantified monetarily, as the reduction in HGV kilometres could result in a reduction in accidents between road users and HGVs.

Depending on the location and nature of the terminals and facilities, there is potential for negative impacts on visual amenity during construction and operation of this recommendation, however, rail freight terminals are often located within areas of industrial agglomeration (e.g., Mossend, Grangemouth), and therefore the effect should be minimised for residential and commercial parties.

In terms of health and access to health and wellbeing infrastructure, the recommendation is unlikely to have any impacts against this sub-criterion.

Overall, this recommendation is expected to have a neutral impact on this criterion in both Low and High scenarios.

4. Economy

Low Scenario	High Scenario
++	++

Rail freight is a key component in the rail sector's contribution to the Scottish economy; in 2018/19, generating an estimated £105 million in total benefits (£45 million customer benefits and £60 million societal benefits)[xiv].

A rail freight market study could further quantify the benefits that private sector investment in specific rail freight sites and facilities would bring to the Scottish economy. It would be anticipated that investment would enhance economic growth and trade, through improved connectivity for Scottish goods.

Rail terminals can act as a catalyst for additional private sector investment in warehousing and other related industries, leading to industrial agglomerations. Recent examples of investments are Mossend International Rail Freight Park, Highland Spring's facility at Blackford and at the Port of Grangemouth (operated by Forth Ports).

Furthermore, rail freight facilities allow for the consolidation of loads into a single goods service, thereby reducing the cost of operating the service and minimising empty running. Being able to route services directly into industrial areas could reduce overall journey times, reducing the need to shift back to road freight for first/last-mile journeys. Development of terminals and facilities can also help support the continued growth in intermodal freight traffic.

Given the potential benefits in terms of journey time savings and industrial agglomeration that could be gained, this recommendation is expected to have a moderate positive impact on this criterion in both Low and High scenarios.

5. Equality and Accessibility

Low Scenario	High Scenario
+	+

A rail freight market study would identify gaps within Scotland's transport network where modal shift to rail is currently challenging for freight operators, and thereby assess where private sector investment would be most effective for the Scottish economy.

Rail freight site development could support improved accessibility through access to goods facilities in rural areas of Scotland, providing the opportunity for increased service frequencies, and potentially reduced costs through establishing new supply chains.

New rail freight facilities could provide opportunities for improved transportation of Scotland's exports, providing a more competitive market for suppliers across the country.

This recommendation does not provide improved network coverage or access to public transport or active travel for the Scottish population. This recommendation would not impact on affordability.

Also refer to EqIA/ICIA/FSDA/CRWIA Assessment below.

Overall, this recommendation is expected to have a minor positive impact on this criterion in both Low and High scenarios.

3.3. Deliverability

1. Feasibility
This recommendation is initially focused on taking forward a market study and updating the evidence-base. As this would build on previous Government and private sector work to develop the 2019 Industry Growth Plan for Rail Freight, no feasibility issues would be anticipated. Any future new or expanded terminals/facilities would be subject to commercial investment decisions undertaken by private sector partners and would vary on a case-by-case basis given the site-specific nature, with cost, timescale and deliverability risks needing to be considered. Rail terminals and freight facilities are tried and tested methods of operation which can be enhanced with appropriate investment. Recent examples of terminal developments in Scotland, driven by private sector investment, include significant upgrades to the Port of Grangemouth rail freight facility, expanding its capability from handling 200metre trains to a full 750metre trains, as well as the Highland Spring rail freight terminal at Blackford which was supported with Freight Facilities Grant funding.

2. Affordability
This recommendation is initially focused on the development of an updated market study. Any subsequent development of terminals or facilities would be led by the private sector and based on commercial decisions. The Scottish Government could support these developments with grant funding subject to the application satisfying the criteria and budget availability.

3. Public Acceptability
Overall, modal shift of freight to rail is viewed as positive[xv] due to its environmental benefits, and the industry further enhanced its reputation during the COVID-19 pandemic, mitigating supply chain challenges. The market study would further help to highlight the benefits of modal shift of freight from road to rail.

3.4. Statutory Impact Assessment Criteria

1. Strategic Environmental Assessment (SEA)

Low Scenario	High Scenario
+	+

The future development of rail freight terminals by private sector partners has the potential to result in positive effects on SEA objectives related reducing greenhouse gas emissions (Objective 1) and improving air quality (Objective 3), particularly in relation to the achievement of a reduction in transport related air pollution and carbon emissions, as it seeks to improve the use of sustainable modes of transport through modal shift of freight from road to rail; reducing the number of freight vehicles and the associated congestion. It is also likely to have a positive effect on the safety on the transport network (Objective 7).

The recommendation would also potentially result in a positive effect on the sustainability of the transport network (Objective 8) as it would promote a more sustainable use and management of the existing transport network.

There are possible positive effects on the SEA objectives relating to the water environment, biodiversity and soil (Objectives 10, 11 and 12 respectively) as a result of a reduction in diffuse pollution on key receptors; however, the significance of these effects are uncertain at this stage.

Depending on the source and type of materials/natural resources used to construct any new infrastructure, there is potential for negative effects on natural resource requirements (Objective 9). As such, it is recommended that further environmental assessment be undertaken as the recommendation develops to identify areas for re-use of construction materials, adhering with circular economy principles.

Depending on the location and nature of the terminals and facilities, there is potential for negative environmental effects during construction and operation of the improvements, particularly on water, biodiversity, soil, cultural heritage and landscape and visual amenity (Objectives 10 to 14). It is therefore recommended that further environmental assessment is undertaken when the locations of new infrastructure are identified in order to identify potentially significant location-specific environmental effects and mitigation where appropriate.

The recommendation has no (or negligible) clear relationship to the achievement of Objective 2 (climate change adaptation), Objective 4 (quality of life), Objective 5 (noise and vibration) or Objective 6 (high quality places).

Overall, this recommendation is expected to have a minor positive effect on this criterion in both the Low and High scenarios.

2. Equalities Impact Assessment (EqIA)

Low Scenario	High Scenario
0	0

The future development of rail freight terminals by private sector partners has the potential to encourage modal shift from road freight to rail. This is turn may contribute to a reduction in harmful transport emissions and improved local air quality. This would benefit public health, particularly for vulnerable groups such as children, disabled people, older people and pregnant women.

However, this recommendation could lead to increased traffic in the vicinity of new rail terminals and therefore the impact on protected characteristic groups should be considered when siting.

This recommendation is expected to have a neutral impact on this criterion in both Low and High scenarios.

3. Island Communities Impact Assessment (ICIA)

Low Scenario	High Scenario
0	0

The future development of rail freight terminals by private sector partners has the potential to encourage modal shift from road freight to rail. Benefits could be felt by island communities if new rail terminals are sited at island ferry gateways, as this would facilitate competitive transport access to key markets and improve access to goods for island residents and businesses. The provision of modal shift opportunities for goods to / from the islands to move for part of their journey by rail is beneficial particularly to assist with the carbon impact of supply chains.

At this stage, as the outcomes of the market study are unknown in terms of where new rail freight terminals and facilities could potentially be located, this recommendation is expected to have a neutral impact on this criterion in both Low and High scenarios.

4. Children's Rights and Wellbeing Impact Assessment (CRWIA)

Low Scenario	High Scenario
0	0

The future development of rail freight terminals by private sector partners has the potential to encourage modal shift from road freight to rail. This in turn could have positive impacts for children and young people. Children and young people are particularly vulnerable to the effects of poor air quality. Transferring road freight to rail would contribute to a reduction in harmful NOx emissions, which would benefit this group. By reducing the

volume of road traffic, safety could also be improved which would benefit children who are more vulnerable to fear of road danger.

However, it should be noted that the recommendation could lead to increased localised traffic, which could negatively impact air quality and road safety for children depending on where the rail terminals are located.

This recommendation is expected to have a neutral impact on this criterion in both Low and High scenarios.

5. Fairer Scotland Duty Assessment (FSDA)

Low Scenario	High Scenario
0	0

The future development of rail freight terminals by private sector partners has the potential to encourage modal shift from road freight to rail. Rail freight is a key component of the rail sector's contribution to Scotland's economy. The potential future development of rail freight terminals and facilities could enhance economic growth and private sector investment, thereby creating employment opportunities and potentially reducing socio-economic disadvantage.

This recommendation is expected to have a neutral impact on this criterion in both Low and High scenarios.

References

[i] High Level Output Specification for Control Period 6, high-level-output-specification-hlos-for-control-period-6-final.pdf (transport.gov.scot)
[ii] Scottish Government, Securing a green recovery on a path to net zero: climate change plan 2018–2032 – update, 2020 https://www.gov.scot/publications/securing-green-recovery-path-net-zero-update-climate-change-plan-20182032/
[iii] Transport Scotland, Rail Services Decarbonisation Action Plan, 2020 https://www.transport.gov.scot/publication/rail-services-decarbonisation-action-plan/
[iv] Greenhouse gas emissions encompass CO_2 emissions
[v] 20% reduction in car km by 2030 (no date) Transport Scotland. Available at: https://www.transport.gov.scot/our-approach/environment/20-reduction-in-car-km-by-2030/#:~:text=Transport%20is%20Scotland's%20biggest%20contributor,use%2C%20therefore%20cannot%20be%20overlooked.
[vi] ORR, Public Performance Measure – Table 3113, 2020-21 Q1, https://dataportal.orr.gov.uk/statistics/performance/passenger-rail-performance/table-3113- public-performance-measure-by-operator-and-sector/
The Public-Performance-Measure (PPM) is the standard industry measure for reporting performance. It counts all trains which arrive within 5 minutes of the scheduled performance time (ten minutes for the long-distance Train Operating Companies), compared with the number of trains planned to run. The Office of Rail and Road's data reported for Scotland are for the ScotRail franchise only, which covers 95 percent of the trains run in Scotland.
[vii] (Revised Draft at time of writing) https://www.transformingplanning.scot/national-planning-framework/
[viii] Scottish Government, Securing a green recovery on a path to net zero: climate change plan 2018–2032 – update, https://www.gov.scot/publications/securing-green-recovery-path-net-zero-update-climate-change-plan-20182032/
[ix] https://media.raildeliverygroup.com/news/rail-freight-steps-in-to-support-supermarket-shoppers-amidst-hgv-driver-shortage
[x] (Revised Draft at time of writing) https://www.transformingplanning.scot/national-planning-framework/draft-npf4/
[xi] https://www.theguardian.com/business/2021/oct/06/tesco-profits-double-as-shelves-stay-stocked-despite-supply-chain-problems
[xii] https://dataportal.orr.gov.uk/media/2049/freight-rail-usage-and-performance-2021-22-q3.pdf
[xiii] https://www.transport.gov.scot/media/50354/decarbonising-the-scottish-transport-sector-summary-report-september-2021.pdf
[xiv] https://www.transport.gov.scot/news/rail-s-670m-contribution-to-scotland-s-economy/
[xv] https://bettertransport.org.uk/media/30-june-2017-yougov-freight-poll