



STPR2 Consultation,
AECOM,
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This letter is written in response to STPR2 as published in January 2021 and is intended to expand on our response to the Transport Scotland Online Consultation on STPR2 and explain in full why STPR2 should be amended to include recommendation NE-23.

1. What do we like?

In 2021, Transport Scotland released the latest report on options for the North East region under consideration for STPR2. One recommendation in particular are relevant to our group's stated goal of expanding rail provision in the North East. Namely; NE-23 'Expand the rail network in the North East (to the benefit of both Passenger and Freight users) via new and/or reinstated railway lines. Unfortunately, this recommendation was not advanced to the final draft of STPR2 published in January 2022. In this response we intend to demonstrate how this recommendation satisfies the objectives of STPR2 and that of wider government policy. We intend for this to be sufficient to convince Transport Scotland that NE-23 should be included in the final version of STPR2 such that development of railways in the North East is not left to stagnate for another 20 years.

Firstly, we'd like to begin with positive outcomes of STPR2 for the North East strictly through the lens of rail development. Namely, these are recommendations 27, 'Behaviour change and modal shift for freight', and 44, 'Rail freight terminals and facilities'. In our view, these recommendations justify upgrades to existing infrastructure in the North East such that modal shift of freight can be shifted from road to rail and water. In Aberdeen, there are three rail freight terminals, one at Craiginches, located near the new Aberdeen South Deep-Water Harbour, a second at Waterloo Quay, connecting the rail network directly to berths at Aberdeen's main harbour, and a third at Raith's Farm, near Dyce and Aberdeen International Airport. Further along the line, there is a freight depot at Elgin which often serves heavy military movements from and to RAF Lossiemouth and Kinloss Barracks.

It is clear these depots are strategically located to facilitate freight transfer between sea, air and rail, but currently, freight traffic is low. This is primarily because freight movements are severely limited by the bottleneck that is the Schoolhill and Hutcheon Street tunnels, located immediately to the north of Aberdeen Station. These tunnels are both limited to W7 gauge, meaning that they are not capable of being traversed by wagons carrying standard shipping containers. Further, this section from Aberdeen Station to the Hutcheon Street tunnel is single line, limiting movements to 11 trains per hour. With today's timetable, this means that the section can only accept two further trains per hour, and this is further limited by available platforms in Aberdeen Station. Only two platforms of a total five in Aberdeen Station serve through trains and the line to the north, Platforms 6 and 7, these are subdivided into North and South platforms, providing two additional platforms for passenger trains. Unfortunately, this arrangement means that freight trains often occupy the entire length of Platform 6 or 7, bringing two platforms out of use for passenger services while they spend time in the station. This further constrains capacity and hampers efforts to expand rail freight from the three rail freight terminals in Aberdeen, as well as limiting the prospect of ever opening new freight depots along the Aberdeen-Inverness line, such as Inverurie, for logging, Keith, for Whisky, or in fact, new lines with significant freight potential.

Previously, Network Rail considered dualling these tunnels during the redoubling of Aberdeen to Inverurie in 2018, however, decided against this through fear of further lowering freight gauge. However, it is possible to drastically increase the freight gauge and capacity through this section without fully redoubling the section. This would involve removing the Schoolhill Tunnel entirely, nothing exists above this tunnel for 75% of it's length, and replacing the remaining 25% with a rectangular profile tunnel, providing freight gauge higher than W12. Gauge can be increased through the Hutcheon Street tunnel by centre aligning the track through the tunnel, maximising clearance, this can be enhanced further by installing slab track in this short section. These interventions will increase freight gauge to the point that standard shipping containers can traverse the section (W10 and higher). Once this work is

completed, companies will be able to ship goods in containers from all three depots in Aberdeen across the majority of the rail network, including across the border into England and through the Channel Tunnel to the continent. Raith's Farm in Dyce is ideally suited for air freight from Aberdeen International Airport, as well as the diverse range of large industrial units surrounding the site, including Oil & Gas companies as they transition to a Net-Zero economy, and international engineering firms. Waterloo Quay in Aberdeen's main harbour already handles freight trains carrying slurry from Norway, but upgrades to the tunnels in Aberdeen will allow for containerised freight to be handled in Aberdeen Harbour and transferred directly to the railway, as well as facilitating shipments to vessels in Aberdeen Harbour destined for Scandinavia, England and further afield.

This increase in demand will necessitate an increase in capacity through the single line section and Aberdeen Station. This can be achieved at the same time as gauging work by partially redoubling the line from Aberdeen Station, through the Schoolhill tunnel and to the mouth of the Hutcheon Street tunnel, reducing the single line section from 0.78 miles to 0.28 miles. This alone will increase capacity from 11tph to 17tph, enough for all future timetable and freight aspirations. Finally, to provide enough capacity through Aberdeen Station itself, we recommend relaying track through Platform 8, this will provide an extra through platform for freight and passenger services, and by subdividing the platform akin to the existing Platforms 6 and 7, will provide two additional platforms for passenger train use, freeing up capacity for freight. Additionally, we recommend upgrading the single crossover between Platforms 6 and 7 to a double crossover, an example of which can be found between platforms 1, 2, 19 and 20 in Edinburgh Waverley. This small intervention will drastically increase flexibility for scheduling and resilience to disruption in Aberdeen. Finally we recommend considering bringing Platform 2 back into regular passenger use. This can be achieved with minimal investment as Platform 2 is occasionally used today for special steam services with passengers, and will take nothing more than signage and signalling installation to achieve. Doing so will have the effect of boosting capacity across Platforms 6,7 and 8 for northbound and through services by removing the need for southbound services to depart from these platforms.

We believe this work is justified by recommendations 29 and 44 of STPR2, and provide a step change in freight provision between Aberdeen, the entire rail network and across the North Sea. This can be achieved with a relatively small level of capital investment, and we hope STPR2 leads to the swift upgrade of Aberdeen Station and these tunnels such that the North East can have the best chance of capitalising on the coming transition from Oil and Gas to Renewables and Net-Zero industry by maximising rail freight provision for industry.

Further, we strongly support recommendation 16, Perth-Dundee-Aberdeen Rail Enhancements, and look forward to seeing what projects are advanced by the inclusion of this recommendation.

2. What about the remaining recommendations?

The STPR2 Summary Document makes note that recommendations 2,18,24,42, and 44 will be particularly relevant for the North East region, while recommendations 13 and 16 are specific to the North East Region. We support all of these recommendations, but will comment specifically on recommendation 13, Aberdeen Rapid Transport. In principle, this system is perfectly viable and will certainly help some of the region reach the objectives set out in STPR2. However, as planned ART does not deliver for the majority of Aberdeenshire, and leaves much of the population with no choice but to drive for the next 20 years. ART extends as far north as Ellon, west as Westhill, and south as Stonehaven. The largest towns in the North East, Peterhead, Fraserburgh, Turriff, Huntly, Banff, Kemnay and Macduff are not included in ART. Aberdeenshire extends a further 35km to the north of ART's boundaries, 30km to the south, and 67km to the west, significant population lives within this vast area that will see no additional public transport provision by the implementation of STPR2. We therefore believe that without additional rail provision, ART alone will do little to reduce high car ownership in the North East and in 20 years time, a significant population in the North East will see no meaningful progress towards the five objectives of STPR2.

Further, there is an issue of disproportionate funding. ART is the only rapid transport intervention in the North East Region. It has been publicly stated that the project is expected to cost in the region of £100 million to construct, similar to the cost of a comparable system implemented in Belfast, the 'Belfast Glider'. Aberdeen is the third largest city in Scotland, with a population of 229,060, the surrounding area of Aberdeenshire has a population of 261,470, together, the region is home to nearly half a million people. One of the flagship projects of STPR2 is the Clyde Metro, recently, Cabinet Minister Michael Matheson MSP stated in parliament that this project could cost up to £18 billion to complete. The population of Glasgow and the surrounding area served by the proposed metro is 1.5 million (Source: Glasgow City Council). We therefore find ourselves in a situation where an area with a population 3 times larger than Aberdeen and Aberdeenshire, has been allocated a rapid transport system at a cost 180 times higher. In other words, for the next 20 years, strictly on rapid transport, spending in Glasgow is £12,000 per person, compared to just £208 per person in the North East, even if we tripled the spending estimate in the North East this disparity would remain demonstrably unfair to citizens of the North East. Efforts should be taken to rebalance spending in STPR2 across the entirety of Scotland's population. CNER believe this more than justifies questions of funding for North East railway expansion, and therefore cost is not a valid reason to exclude Recommendation NE-23 from STPR2.

3. Why should NE-23 be included in STPR2?

NE-23 “Expand the rail network in the North East (to the benefit of both Passenger and Freight users) via new and/or reinstated railway lines”

In this section we will demonstrate why NE-23 should be included in STPR2. Beginning with an overview of the work done in recent years in the area, including a brief description of what has changed since that work was completed, then we will show how NE-23 satisfies the objectives of STPR2 and the National Transport Strategy (NTS2) such that it justifies amendment of STPR2 to include NE-23.

In 2016, the prospect of reopening the former Formartine and Buchan railway in full was examined according to the STAG criteria. For various reasons, including the circuitous nature of the Victorian route leading to higher journey times, this study concluded that such a reopening was not likely to be feasible. CNER have since developed a proposal that provides solutions to all of the issues raised by the 2016 FPASTS Study, and are seeking a new feasibility study to examine these improved proposals. These proposals combine sections of the Formartine and Buchan railway, and the former Boddam branch line to create a railway that meets the needs of the modern North East. The following extracts are from the 2016 FPASTS study:

“There is a clear economic rationale underpinning the need for transport improvement in the study area with analysis highlighting the dominance of the primary industries in the area. These industries are relatively transport intensive, with a heavy reliance on the movement of goods, and Peterhead Port and Fraserburgh Harbour are key freight attractors and generators of freight.”

“For the fishing industry, where stock can depreciate in value quickly, the movement of product is particularly time critical with road delays impacting heavily on businesses in this highly competitive market. For the oil & gas supply and sub-sea industries, where vessels only have limited time at berth in the harbours, ‘slack’ must be built into freight movements, leading to inefficiencies and higher costs.”

“Delay on the strategic roads in the study area, namely the A90(T) and A952 also impact on the general public with road delay meaning trips must be started earlier or later to avoid heavily congested times, and delay making people late for appointments and meetings, and also creating strong feelings of isolation.”

“The proportion and speed of freight traffic on key road routes was a cause of frustration for the public when undertaking day-to-day activities. This frustration at delay on the roads was felt to be the key cause of the high road accident occurrences in the study area. The impact of accidents and the delay they cause was also noted by the business community in terms of the impact on business operations and the difficulty in planning with this element of unreliability and unpredictability in travel times by road.”

“The main bus operators in the area both cited the need to provide slack time in timetables to allow for this element of unpredictability and enable the statutory targets surrounding punctuality and reliability, to be met, leading to occasions where buses are required to wait at stops for long periods to ensure timetables are adhered to. This is particularly unattractive to passengers and detracts from the use of this more sustainable means of travel, where journey times cannot compete with equivalent car journey times, meaning those reliant on public transport have significantly reduced accessibility to key regional services and job opportunities.”

“Modelling of the future transport network with the AWPR and other major [now completed] transport interventions included, as well as the travel demand associated with housing and employment build-out, suggest that by 2023 there will be increased traffic and increased travel time on the road routes north of Ellon.”

“Overall the analysis emphasises that the future ability to efficiently move people and goods is paramount in order to anchor local businesses and employment opportunities in the area – enabling wider access to regional health and social facilities, and reducing the inequalities gap.”

There is a clear need for transport intervention north of Ellon to Peterhead and Fraserburgh. Enough has changed since 2016 to justify a new feasibility study examining a railway in this area, some of these changes are detailed below. CNER believe that our proposed modern railway does not exhibit the issues raised with the 2016 proposal of reopening the Victorian route of the Formartine and Buchan railway, and this should be the focus of the next study.

Borders Railway Year 2 Evaluation is Published

The Borders Railway is directly comparable to the proposed Buchan Railway in terms of population distribution, length and engineering challenges, with the notable difference that Buchan has a significantly higher potential for freight due to the heavy industry in the area and two ports. The Borders Railway was an overwhelming success, performing on average 120% above patronage predictions. However, key for our purposes is the fact that stations furthest from the city outperformed stations closer to the city. To illustrate this, Tweedbank performed 1290% higher than expectations, while stations closest to Edinburgh underperformed. This is

particularly relevant to a Buchan railway as population is highest towards the end of the proposed line, the largest town, Peterhead, has a population of 19,270, compared to the largest town on the Borders Railway, Galashiels, which has a population of 14,632. Galashiels performed 812% higher than predictions, and is the same distance from Edinburgh as Peterhead is from Aberdeen. The second largest town, Fraserburgh is further from Aberdeen, and as such we would expect it to perform higher again. This data was not available at the time of the STAG study, and actively worked against the Ellon terminus railway studied in 2017 due to the length of the line. This data indicates that a new study that factors these results into its methodology would be favourable to a Buchan railway. Further, 52% of people who had moved jobs in the area indicated the railway was a factor, as did 71% of tourists, and 58% of those who have moved home. Overall, modal shift to rail was estimated at 61%. All of this is clear evidence of regeneration as a result of the railway opening, addressing many of the issues raised on the previous page, there is no reason to believe this success would not be replicated in the North East.

2020 Transport Scotland Rail Services Decarbonisation Plan is Published.

One of the problems raised in 2016 was the assumed diesel traction of units that would operate on a new Buchan railway, which negatively affected the environmental score of the project in terms of the STAG criteria. With the publication of this document, we can now see that any Buchan railway would be entirely decarbonised on the day of, or shortly after opening, thus dramatically increasing the environmental score against the STAG criteria, and the overall benefits of the proposal. It is possible that the so called 'sparks effect' may further increase patronage. This also increases journey time performance versus road as electric traction is lighter and acceleration is much higher than diesel trains. It is widely thought that alternative traction such as BEMU and HMU units will perform comparatively to modern electric units, meaning this benefit will stand regardless of whether a Buchan line is electrified or not.

2021 Scottish Government Cooperation Agreement (Shared Policy Programme)

The historic agreement signed between the SNP and Scottish Greens to form the Scottish Government for the duration of the current parliamentary term included some key commitments relevant to rail in the North East. Key among these is the commitment to "[work] on the feasibility of a rail link between Dyce and Ellon and further north to Peterhead and Fraserburgh." This alone should be enough to allow for NE-23 to be advanced to the final draft, even without the rationale detailed already and below. This agreement also committed to "invest over £5 billion in maintaining, improving and decarbonising Scotland's rail network" in this parliamentary session, providing a clear source of funding should Buchan rail be feasible.

2022 Scottish Government Route Map to Reduction in Car Journeys

The Scottish Government now has a clear target to reduce car use in Scotland by 20% before the end of the decade. There are four methods for achieving this, but included is "switch to walking, wheeling, cycling or public transport where possible". Car ownership in the North East is higher than the national average. A major cause of this is the lack of availability of reliable public transport. As detailed above, a new railway would achieve a major modal shift to rail, contributing significantly to this goal.

All of these changes increase the likelihood that a Buchan Railway will be found to be feasible should a new study be conducted on CNER's proposals. On the next page, we will show how Recommendation NE-23 satisfies the strategic objectives of STPR2 and NTS2 such that it should be advanced and included in the final version of the document.

STPR2 was commissioned to identify transport projects to support the second National Transport Strategy (NTS2). STPR2 has 5 Transport Planning Objectives (TPOs) against which to measure transport projects. NTS2 has 4 key priorities linked to key policy areas, below we discuss how NE-23 satisfies these priorities:

Reducing Inequalities

Transport inequality leads to the inaccessibility of opportunities such as developing social capital, acquiring goods, and using services. This in turn can lead to social exclusion. For example, lack of transport is a key barrier to employment for many residents living in low-income neighbourhoods, as inadequate infrastructure means the poorest areas of towns and cities are disconnected from their wider labour market areas. (Crisp et al, 2018)

Aberdeenshire is poorly served by rail. Aberdeen is the third largest city in Scotland, yet has the least rail connections of all seven. In Aberdeenshire, only stations that happen to be on intercity routes are lucky enough to have access to rail. Only five of the region's 15 largest settlements have a railway station, together Aberdeen and Aberdeenshire have a population of nearly 490,000 people. Tragically, it was only a few years after the closure of the region's lines when the Oil and Gas industry took off, the opportunities rail could have brought were missed.

The loss of local rail has contributed to a deep sense of isolation felt in all corners of Aberdeenshire today. North East communities feel forgotten about, and disconnected from even the rest of Aberdeenshire. Both towns have been recognised as a regeneration priority in the Scottish Government's Strategic Development Plan. **These towns comprise the largest population, the farthest from a train station anywhere in the entire UK.** The only public transport option available in this corridor is the bus. Recent investment by Stagecoach has seen 'Buchan Link' buses improved, providing large, comfortable and modern buses provided on these routes. However, this has failed to deliver a significant modal shift, due to the unpredictable nature of the journeys. The A90 and A952 north of Ellon are busy single carriageway roads, therefore, no bus priority measures can be implemented to improve the public transport provision in the corridor. Introducing rail to Buchan will connect the largest towns in Aberdeenshire to the network, alleviating the most significant barrier to public transport uptake in Buchan, as identified by the 2016 FPASTS study, transport modal choice. Rail will alleviate pressure on the roads, increasing the reliability of the bus services, and allowing for rescheduling of services to better connect smaller towns and villages that are currently missed by the direct services between Fraserburgh, Peterhead, Ellon and Aberdeen. This will also remove significant quantities of freight from the road, further reducing congestion and providing much safer and more reliable journeys for those who are incapable of using public transport.

Taking Climate Action

Achieving modal shift from private car to public transport is an essential goal of NESTRANS and the Scottish Government. This is our most powerful tool in the fight against the Climate Emergency. In Aberdeenshire, this is not effectively achievable by road and bus improvements alone. Particularly in the Peterhead and Fraserburgh corridor we can see this clearly demonstrated, Stagecoach already provide buses of excellent quality, they have plush leather seating, at-seat charging points, and are much larger than the buses serving the rest of Scotland. Despite this, people still overwhelmingly choose to drive into Aberdeen. The car is both the largest emitter of CO² on the road, at 58.9%, and the vast majority of mode choice in Aberdeenshire, with 66% choosing to drive over all other modes. Almost half of Aberdeenshire residents travel further than 10km to work. This is an increasing trend - since 2011, total vehicle kilometres travelled annually in Aberdeenshire has increased 8%, compared to 5% nationally. A particular challenge is the perceived unattractiveness of public transport in the area, this was identified in the 2016 FPASTS Study:

“Perceptions of public transport are often poor with it seen as an unattractive option due to long and unreliable journey times compared to the car and lack of quality interchanges. Confidence in the reliability of bus services and the disproportionate impact on buses when there is any form of network disruption is off-putting for many potential bus users.”

At sufficient speeds, trains can dramatically lower travel times in a way that road vehicles simply cannot compete with. The perceived unattractiveness of public transport options can also be solved with a new rail connection. Travel times by bus are especially long from Fraserburgh and Peterhead to Aberdeen, significantly longer than the equivalent car journey time. Disruption on the road network has a disproportionate impact on buses because diversionary routes in the area are long and winding. This is a major factor in the perception that bus travel is unreliable and unpredictable. A new rail option would provide a mode of travel entirely unaffected by road disruption. Trains are by far the most environmentally friendly method of transport available today.

CNER proposals also leave the Formartine and Buchan Way long distance cycle path intact, intersecting with it at stations and running parallel with it in places. This will encourage the carriage of bicycles on the new railway, facilitating active first mile/last mile journeys. Further, large sections of the Formartine and Buchan Way will not be utilised by our proposed railways, meaning cyclists will be able to make use of the railway to travel to the beginning of a section of the path. This makes it easy for people to visit popular attractions by bicycle, such as Aden Park and Pitfour Lake. Further, all of our proposed stations are close to the centre, or popular areas of towns with stops, most attractions are within walking distance from stations. Finally, modern railway stations include many electric car chargers in their car parks, encouraging sustainable journeys even for those who drive.

With decarbonisation coming to the rail network by 2035, a Buchan railway will be zero carbon very early in its lifespan. Electric trains are the single most efficient method of travel, they're quieter, faster and encourage more people to use the railway in the first place, this is called the 'Sparks Effect'. Even if electrification does not come to the Buchan railway from the start, rail is transformative for freight emissions. A single locomotive can haul a train of trailers half a mile long, removing 12-15 HGVs from the road, and replacing them with a single diesel engine. As time progresses these locomotives will be replaced by decarbonised locomotives running alternative fuel sources, be it electric, battery or hydrogen. Buchan is brimming with freight ideal for rail transportation, cargo that is heavy, bulky, long distance and regular. CNER calculated that connecting Peterhead alone to the railway will remove more than 32 kilotons of CO² equivalent annually, more if Fraserburgh and St Fergus are connected.

Helping to Deliver Inclusive Economic Growth

Aberdeenshire is vast and has a varied economy. Historically it's economy was based on fishing, forestry and farming, but for decades now has overwhelmingly relied on Oil and Gas production. Fraserburgh and Peterhead to the north are well known for their reliance on the fishing industry, however Peterhead has benefitted from the Oil and Gas Industry much more than Fraserburgh has. Aberdeen itself has all but ceased landing fish since the rise of Oil and Gas. Between Fraserburgh and Aberdeen lies Ellon, home to two Global businesses, both of which were founded in Fraserburgh. One of these, Powerjacks, at the time of their move said "Our new geographical location will also give us access to new skills pools, helping us overcome the recruitment issues we have faced in recent years.". Today their facility has been bought by the second international business which moved away from Fraserburgh to be closer to Aberdeen, BrewDog. It is clear these towns struggle to attract skilled workers, and as such have lost businesses to areas closer to the workers they need. With the coming decline in the Oil and Gas Industry, and without significant investment in alternative industries, citizens of these towns will increasingly look towards the City of Aberdeen and further afield for job opportunities. This will increase the pressure on the already insufficient transport corridor to Aberdeen, and hamper efforts to reduce carbon emissions as overall journeys made will increase. NTS2 favours investment in reducing the need to travel and investing in sustainable modes, the former requires investment in new industry to retain jobs in Peterhead and Fraserburgh, and that can be aided by the latter, investing in rail in the North East.

The STPR Case for Change stated;

"The number of goods vehicle trips, if left unchecked, is forecast to increase by 44% between 2014 and 2037, which will negatively impact on journey times and peak period delays. Given the economic importance of Scotland's freight haulage industry, these factors will impact on the performance of the economy if not tackled."

CNER have engaged with businesses and the Aberdeen Grampian Chamber of Commerce and have found that the prospect of rail connection is received positively by the business community. Opportunities for freight in the North East are plentiful. The Buchan Coast produces a diverse range of produce, from beer, fish, ice cream, grain through to Oil and Gas materials. Most of this freight is perfect for rail, it's bulky, long distance and regular. CNER have provided in our proposals freight terminals in Ellon, Peterhead, Fraserburgh and St Fergus Gas Terminal if this route is selected, in Peterhead it is possible to connect the railway to the South Pier, meaning vessels would be able to load directly from sea to rail. Peterhead is home to the largest fish port in Europe as well as the busiest offshore support facility in the world. Brewdog's brewery in Ellon supplies beer for destinations across the UK and Europe, connecting the brewery to the railway would mean a direct rail link from production in the North East, to distribution in Mossend, where there is already a huge rail freight facility. Public data indicates that in 2016, BrewDog were shipping 721 tonnes of beer from their site in Ellon using over 1500 HGV trips to do it. Since then, Brewdog's revenue has increased ten fold, and the brewery itself has more than tripled in size. ASCO, who operate an offshore support facility on the south pier of Peterhead port, handle 910,000 tonnes of goods annually. Their vehicles are a ubiquitous when travelling by road in Aberdeenshire. Oil and Gas freight can often be large and not suitable for rail, but a significant portion of freight from this port is perfectly suited to rail and transferring this off of the roads will make an incredible difference to congestion in the area, improving bus services and journey times.

Peterhead Port is also home to the largest fishing port in Europe. In 2019, almost 150,000 tonnes of fish were landed in the port. The market is surrounded with large merchants who process, pack and ship the fresh fish. This freight potential was dismissed by the 2016 study as unlikely due to the short shelf life and fast pace nature of the business. However, CNER have engaged with the fishing industry and have found agreement that most fish could be transported by train, particularly considering more than half of the produce heads south to Manchester, London and France. Today, HGVs tend to leave in the late afternoon for next morning delivery, and departure times are fixed, meaning these processing companies work to a deadline. This system is exactly transferable to the railway, since the train will depart at a fixed time, and processing companies will work to meet the deadline as they do today. Shorter journey times by rail also means this deadline can be later in the day while still ensuring next morning delivery, allowing more time for processing companies to work, which will therefore lead to growth in production.

Fraserburgh Fishing Port lands over 21,000 tonnes annually. Fraserburgh is recognised as the community most dependant on the fishing industry in Scotland. Efforts are being made to diversify the industry in the area, with some success, for example a base has been opened in the town to serve the development of Moray East Offshore Wind Farm, soon to be the largest of it's type in Scotland. However, as we previously mentioned, efforts in diversification can be hampered by the perceived isolation of the town. Fraserburgh has lost two international businesses to better connected Ellon in recent years, BrewDog and Powerjacks, and will continue to struggle to attract a skilled workforce and thus new industry to the area without intervention. A railway would change this perception immediately, helping firms to attract and retain labour to the area. A freight terminal would transform opportunities for development in Fraserburgh and allow the town to compete with Aberdeen, Peterhead and Montrose for future renewables industry over the coming years.

The fourth freight terminal we propose is St Fergus Gas Terminal. This site is the only one of its kind, with pipeline connections to over 20 Oil and Gas fields, and an overland pipeline to Grangemouth. Acorn CCS is a project that can repurpose existing gas pipelines to take CO² directly to CO² storage sites in the North Sea. This is one of the projects working on establishing critical CO² transport and storage infrastructure required to transition the country to a Net-Zero future. Future phases of this plan include Hydrogen production and the import of CO² to St Fergus from ships at Peterhead Port. A rail connection at St Fergus can allow this to happen without any road transport, Peterhead freight terminal can be constructed so vessels can load directly to rail on the South Pier near ASCO's facility. Connecting St Fergus to the wider UK network also bolsters the Acorn project with the carriage of materials to and from the site, and by facilitating CO² to be brought to the site from anywhere in the UK in gas carrying rail wagons. Designated a European Project of Common Interest (PCI) Acorn is an important catalyst for clean growth opportunities in Scotland and in regions where CO₂ transport and storage is limited, Acorn can help transform our carbon intensive industries into low carbon industries and sustain jobs. The project is funded and supported by industry partners (Storegga, Shell, Harbour Energy and NSMP), the UK and Scottish Governments and the European Union.

Aberdeenshire and Buchan in particular is a significant producer of grains and animal feed. Last year a total of 21,000 tonnes were produced in the area. This is shipped all across the UK by HGV. Farms that produce grain and large processing firms such as Agrii in Mintlaw will be able to make use of rail freight terminals in Fraserburgh, Peterhead and Ellon, shifting their long haul haulage to rail, significantly reducing emissions while still supporting local live-stock farms by road. There are many other major businesses in Formartine and Buchan that will be able to make use of rail freight that we have not mentioned, for example, Mackies of Scotland, located 10 miles west of Ellon produces over 11 million litres of Ice Cream annually. The firm is now the number one ice cream to take home in Scotland and produces the fifth biggest sales of premium ice cream in the UK.

Rail will also facilitate imports to Formartine and Buchan from the entire UK. Gray and Adams are the largest employer in Fraserburgh, whose refrigerated rigid LGVs and HGV trailers are a familiar sight on roads throughout the UK, has manufacturing sites in Dunfermline, Doncaster and Newtownabbey. In the last period the firm sold over £150m of their products, and predict growth in the future. This large manufacturing site requires significant import of heavy raw materials, particularly aluminium, electronics and pre-fabricated components including axles, suspension systems, brakes, and locking systems. One of the largest suppliers of these parts to Gray and Adams is based in Leicester, again showing an example of heavy, regular and long distance freight that is suited to rail transport.

Finally, we can consider the strategic importance of Peterhead and Fraserburgh ports in a wider North Sea context. Fraserburgh is ideally located for supporting work in the Moray Firth, which will be increasingly important in the near future as the largest offshore windfarm in the UK is constructed, as well as the significant amount of decommissioning activity that will be required over the coming decades. This harbour is suited to transporting cargo between ports in the Far North and Northern Isles, as well as ports such as Buckie and Macduff that already support offshore wind. Peterhead is the closest port in the UK to major ports in Norway, such as Bergen, Stavanger, and Kristiansand, as well as major European ports such as Esbjerg, Gothenburg and Hamburg. It is also the closest UK port to the Danish Straits, connecting the North Sea to the Baltic Sea, this facilitates trade with northern ports in Germany, such as Lübeck, Rostock and Wismar (which has a rail terminal), Poland, such as Szczecin and Gdańsk, as well as ports in Lithuania, Latvia, Estonia and Finland. Connecting Peterhead to the rail network connects all of these ports directly to the UK rail network with the shortest possible journey by sea.

There will of course be additional benefits to a new railway. One such 'hidden benefit' is the laying of fibre optic cables as part of the GSM-R radio system that carries railway communications, these can double up as high speed fibre broadband cables and facilitate rapid rollout to rural areas. Similar projects have been achieved elsewhere in the UK and have been successful. Establishing ultrafast full fibre broadband in rural areas is key to meeting STPR2 Objectives and helps towards the roadmap to the target of a 20% reduction in car miles by 2030 by reducing the need to travel in the first place. The Scottish Government's National Strategy for Economic Transformation (NSET4) also commits significant resources to rolling out rural full fibreoptic broadband, and railways can accelerate that.

Improving Our Health and Wellbeing

A Buchan Railway connecting Ellon, Peterhead and Fraserburgh will increase the quality of life for those of us living in the area. The isolated Buchan Coast will be connected to the entire rail network, which means direct connections to Glasgow, Edinburgh, London and further afield. Not only will it be easier to get around the North East, but we will see modal shift from road to rail, meaning quieter roads, more punctual buses, and better air quality. Quiet roads are safer than busier roads, which leads to an increase in cycling as confidence increases. The railway will cater to cyclists by linking in with the Formartine and Buchan Way at multiple stations, encouraging active travel to final destinations. As was seen in the Borders Railway, towns along the line will grow, homes will be built, investment will be attracted, and businesses will thrive. All of these quality of life improvements will make it easier for industry to attract and retain a skilled workforce, and will bolster the North East as it begins to transition to a more diversified economy.

Peterhead is home to HMP YOI Grampian, this facility is capable of up to 500 offenders including youths. This nearly new facility is also the worst connected prison in all of Scotland by public transport. Statistically, families of offenders tend to be on lower incomes, these lower income families are also the most likely cohort to utilise public transport (Source: Joseph Rowntree Foundation). Research shows that shows that prisoners who receive regular visits from a family member are 39% less likely to reoffend. Visits can break the pattern of intergenerational crime, and can dramatically improve quality of life, mental and physical health of prisoners (Source: Ministry of Justice).

Our proposed railway will also cause a reorganisation of local bus timetables and routes to connect to the brand new stations. This will improve connections across the entire Formartine and Buchan area, and help to build a cohesive transport system where people choose to take public transport. All of the proposed station sites along the line have active travel connections already, meaning walking, wheeling and cycling will be the dominant choice for walking, wheeling and cycling.

STPR2 was commissioned to identify transport projects to support the NTS2's priorities. We believe that we have now demonstrated how recommendation NE-23 satisfies these priorities. STPR2 has 5 Transport Planning Objectives (TPOs) against which to measure transport projects. NE-23 fulfils these Objectives, but much of what has been said already will be repeated if we were to perform the same exercise as we did previously. Therefore, below we demonstrate briefly how these objectives are met by NE-23, and refer back to the previous section for elaboration.

Net-Zero Emissions	
More Green Transport Options	Rail is the most efficient mode of transport. The railway will be decarbonised by 2035. Cycling is made easier by connecting to railway, buses will improve.
Less Pollution	Buchan Rail has the potential to remove more than 32 kilotons of CO ² annually through modal shift of passenger and freight loads from road to rail.
Affordable and Accessible Public Transport	
More Choice	Fraserburgh and Peterhead are the largest population the furthest from a railway station anywhere in the UK. Rail will increase choice drastically.
Easier Access	Rail is excellent for access by delivering passengers directly to town and city centres. All Buchan stations link with other public transport and cycle paths.
Places, Health and Wellbeing	
Better Community Environments	Modal shift from road to rail will reduce congestion, thus improving air quality.
More Healthier Options	Trains facilitate the carriage of bicycles, connected paths and central stations encourage walking and wheeling for first mile and last miles journeys.
Sustainable Inclusive Growth	
Access to key services and jobs	Rail connects residents to health facilities in Aberdeen. Investment will be attracted, thus Fraserburgh and Peterhead will retain and create jobs in the area.
Connections to key markets	Buchan and Formartine will be connected to the entire UK rail network, from Thurso to London. Ports will connect the rail network to Europe and Norway.
Safe and Resilient	
Safer travel	Railways are safer than all other transport modes, except commercial aviation. Mode shift improves the safety of the roads by reducing traffic and frustration.
More reliable journeys	Modal shift reduces traffic, improving bus and road reliability. Railways are resilient to road disruption and vice versa, providing alternatives and reliability.

We have now demonstrated that Recommendation NE-23 satisfies the priorities of the second National Transport Strategy, NTS2, and the Transport Planning Objectives of STPR2. We have also identified that there is a disparity in funding allocation for mass transit systems between regions, and that funding has been promised for rail in the Scottish Government Cooperation agreement that can be utilised for a project such as this. We have also identified the need locally for new transport solutions, as well as a desire for rail connection from the general public and business. Finally, we demonstrated the need for investment in this recognised regeneration priority area, particularly in the face of economic changes on the horizon for the Oil and Gas industry, and explored how a railway would help. CNER therefore believe we have made a strong case that Recommendation NE-23 should be included in STPR2.