



Connecting Buchan to the Rail Network

In association with





Campaign for
North East Rail



@CNERail



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Supporting the Just Transition

2.1 Key challenges for industry in Buchan identified in previous studies persist to this day. Snippets from these studies are shown below. This corner of the North East is particularly vulnerable due to the forthcoming necessary transition toward Net-Zero industry. These key challenges must be addressed for Buchan to make a success of the Just Transition by becoming an attractive place to invest in.

“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, Peterhead Port and Fraserburgh Harbour are key attractors and generators of freight.”

Local Industry is Heavily Reliant on Transport

Unreliable Shipping Times = High Costs and Inefficiencies

“For the Oil & Gas Supply and Subsea 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. 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.”

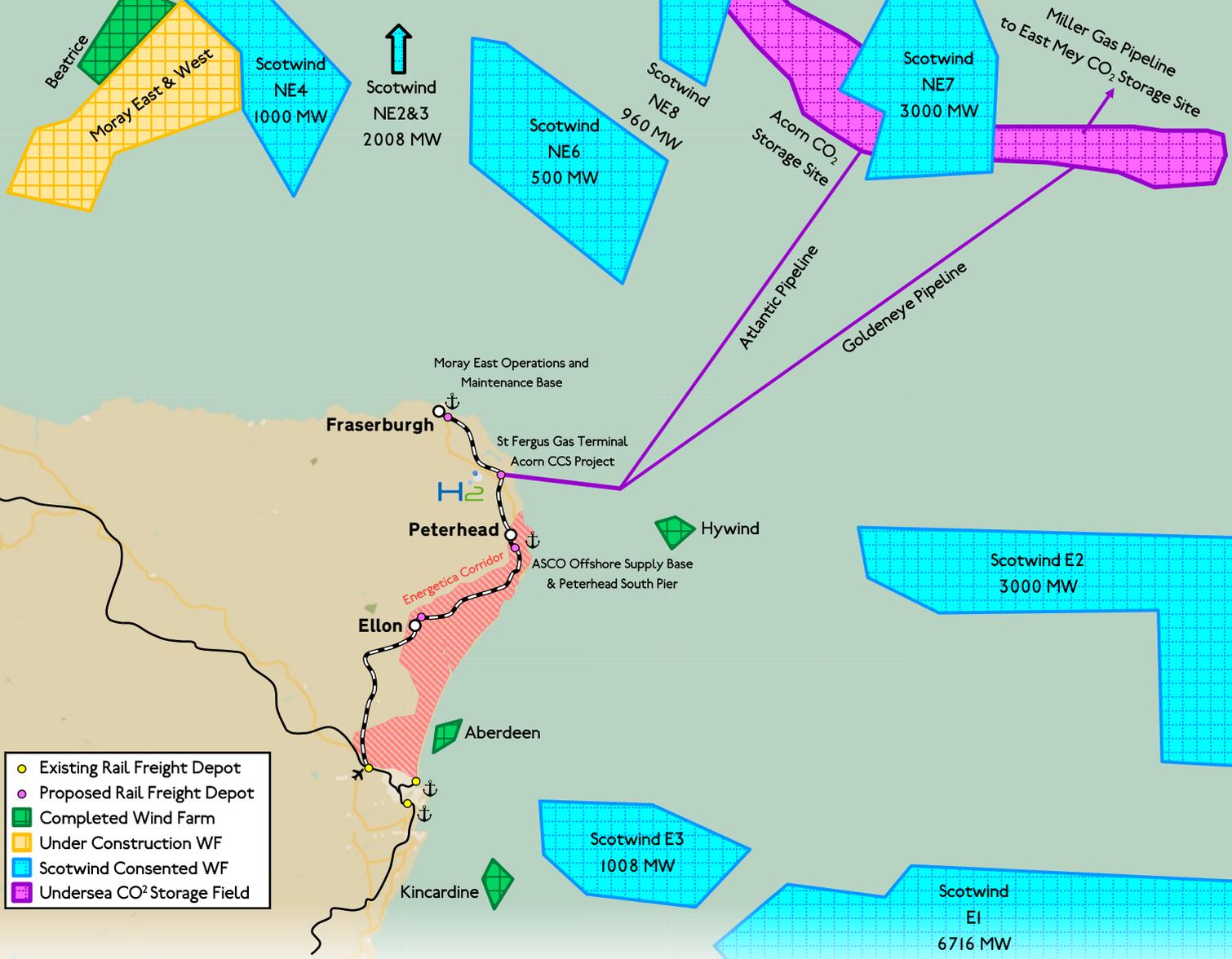
“Delay on the strategic roads in the study area mean trips must be started earlier or later to avoid heavily congested times, making people late for appointments and meetings, and also creating strong feelings of isolation. The proportion and speed of freight traffic on key road routes was a cause of 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.”

Freight Congestion leads to Frustration and Dangerous Roads

And it's Going to Get Worse!

“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.”

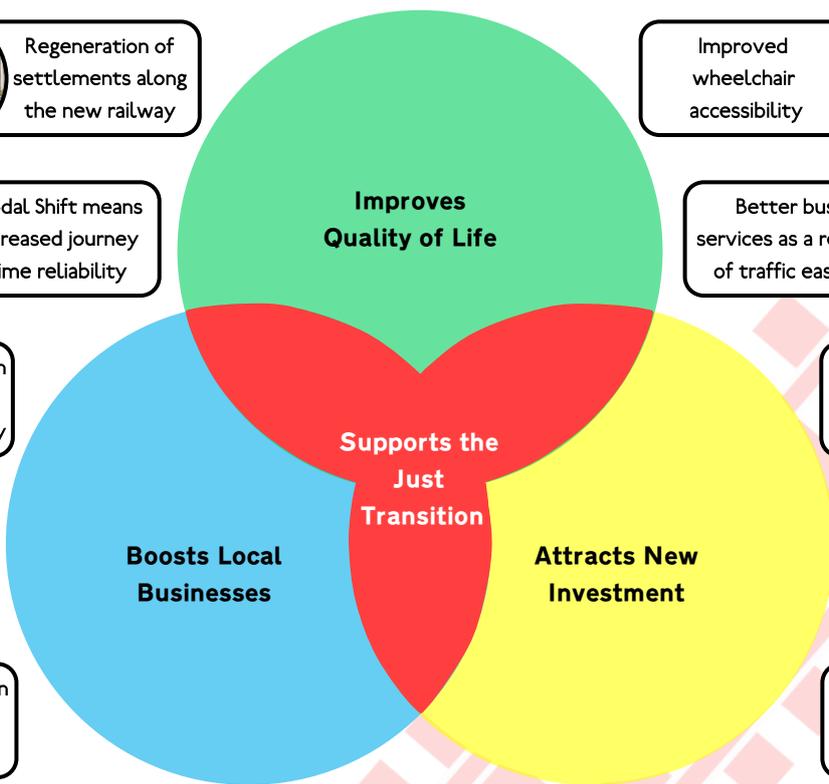
- 2.2 Retaining and attracting skilled workers is a problem for towns such as Fraserburgh. Fraserburgh is the town most reliant on fishing in the entire UK. To evolve towards a low carbon future, utilising the expert technical knowledge that exists within the Oil & Gas industry is fundamental. This problem will persist and worsen across the region if efforts are not made to address them.
- 2.3 A modern rail link would provide a number of benefits across Buchan. Improved connectivity, increased reliability of freight and travel times by road, and act as a catalyst for regeneration; improving the quality of life along the length of the line. Together, these changes will make Buchan a more attractive area to invest in, with ample availability of skilled workers.
- 2.4 Improvements brought by a new rail connection will **simultaneously** support the Just Transition, solve chronic transport issues that plague local businesses, and significantly enhance progress towards our collective goal of Net-Zero.



- Existing Rail Freight Depot
- Proposed Rail Freight Depot
- Completed Wind Farm
- Under Construction WF
- Scotwind Consented WF
- Undersea CO₂ Storage Field

30% of UK CO₂ storage lies within 50km of the St Fergus pipeline corridors. **35%** of all UK gas is processed at St Fergus. Natural gas is key to bulk hydrogen generation.

Each Scotwind site is expected to attract **£1.5bn** of investment in its supply chain.



Regeneration of settlements along the new railway

Improved wheelchair accessibility

Modal Shift means increased journey time reliability

Better bus services as a result of traffic easing

Overall reduction in CO₂ emissions and increased air quality

Reduced feelings of isolation and skilled workforces retained

Increase in local population along the new railway

Railway supports rollout of superfast fibre to rural areas

Significant increase in tourist and leisure travel to area

Ease of access to better connected active travel paths



A Freight Revolution

3.1 The Buchan Coast produces a diverse range of produce including beer, fish, ice cream, grain, and oil and gas materials. Most of these products are perfect candidates for rail freight, they're bulky, are transported regularly, and over long distances. CNER propose freight terminals in Ellon, Peterhead, Fraserburgh and St Fergus. Pictured below is a selection of businesses we believe could benefit directly from the introduction of rail freight to the area.



Peterhead and Fraserburgh are the closest ports in the UK mainland to all Norwegian ports and the Danish straits. Rail connections to these ports will allow import and export trade across the North Sea with the shortest possible over-water journey. Our proposals in Peterhead allow for direct loading and unloading between vessels and freight trains on the railway.

“Sufficient provision of Rail Freight terminals is critical to achieving a significant shift of Freight from Road to Rail. This will improve competition in Scotland’s Supply Chain, and help support the transition to a Net-Zero economy.”

- Strategic Transport Project Review 2 (Scottish Government 2022)



Note: The companies listed below are included as suggested examples of businesses that may be able to make use of rail freight should it be brought to the area. Their inclusion is not necessarily an endorsement of CNER.



Who?	Manufacturers of refrigerated HGV trailers and rigids
What?	£150m sales annually. Rail could import raw materials
Where?	Prefabricated axles and suspension kits etc from Leicester

Who?	Carbon Capture project based at St Fergus Gas Terminal
What?	Compressed CO ₂ imports and blue hydrogen exports
Where?	Rail opens possibility of CO ₂ /H ₂ trade to entire UK network



Who?	One of the largest fishing ports and markets in Europe
What?	150k tonnes of fish annually (plus 21k from Fraserburgh)
Where?	Daily fish exports to London and France

Who?	Busiest private offshore support facility in the world
What?	910k tonnes of oil & gas/renewables material annually
Where?	Engineering support and export facilities UK wide



Who?	Producers of agronomy services and technology
What?	24k tonnes of grain and animal feed
Where?	UK wide

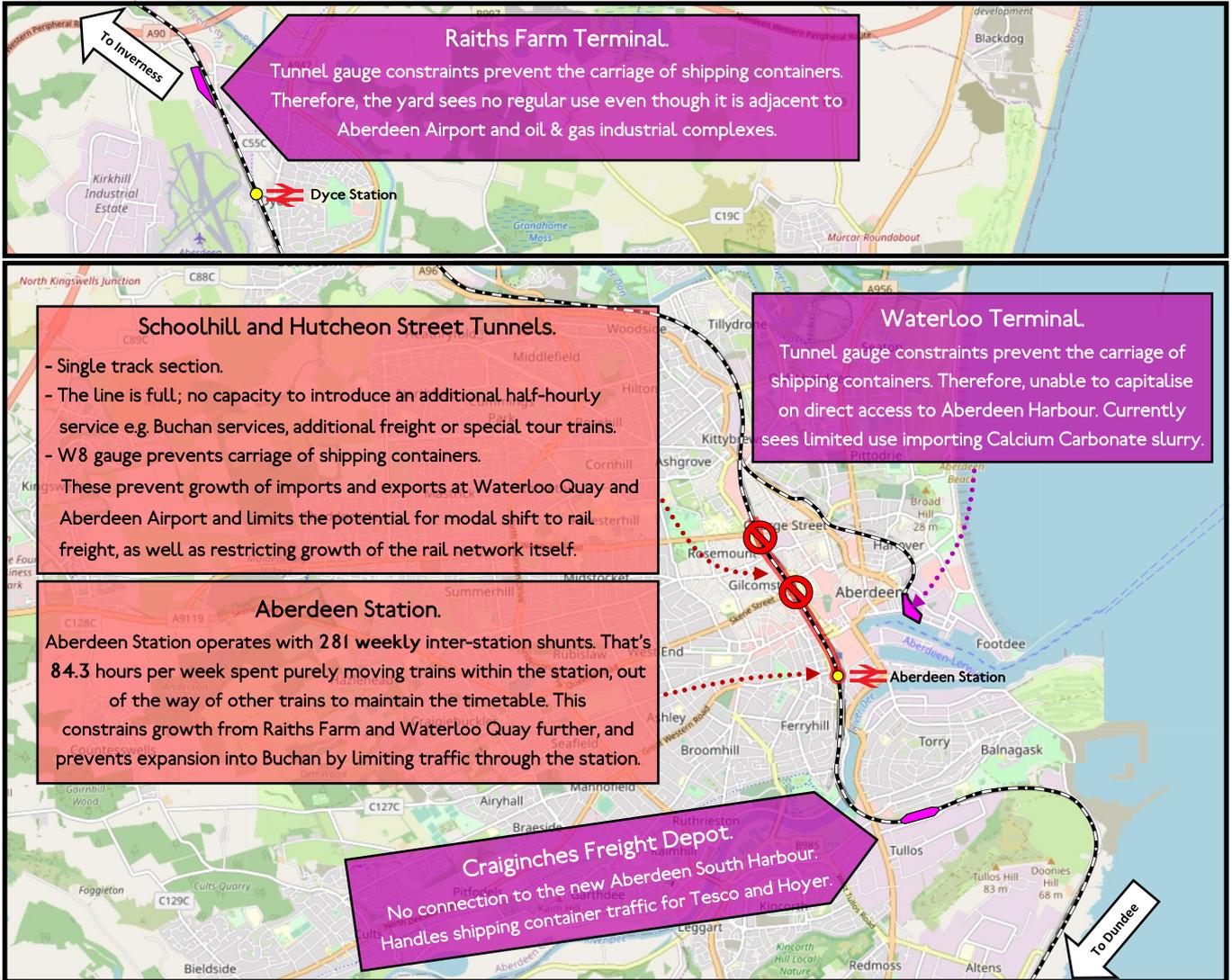
Who?	World famous producers of Craft Beer and Soft Drinks
What?	200 pallets a day (This figure is from 2016, since then, revenue has increased 4 fold)
Where?	Distribution centres in Mossend, Europe and USA



Who?	Fifth biggest sales of ice cream in the UK, #1 in Scotland
What?	11m tonnes of ice cream and snack products annually
Where?	UK wide



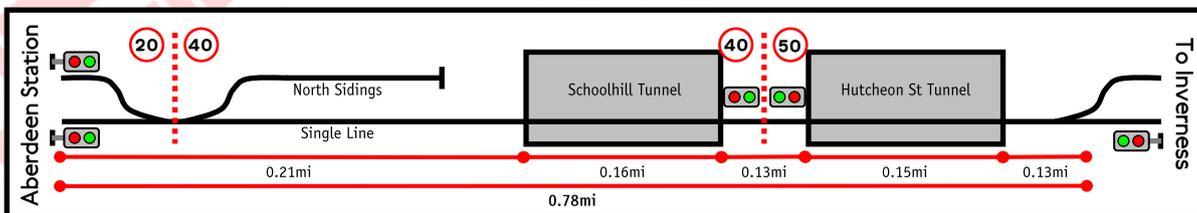
Existing Rail Freight Constraints



- 4.1 STPR2 Recommendation 44, 'Rail freight terminals and facilities' **justify upgrades to correct these issues.** These works involve;
1. **Redoubling** the single line section from Aberdeen Station through the Schoolhill and Hutcheon Street tunnels.
 2. Increasing freight gauge through the tunnels to **W12** to facilitate carriage of shipping containers.
 3. Reinstating **Platforms 2 and 8** to increase capacity through the station for freight, passenger and tour services.
 4. Upgrading the single crossover between Platforms 6 and 7 to a **double crossover** to increase flexibility in timetabling.

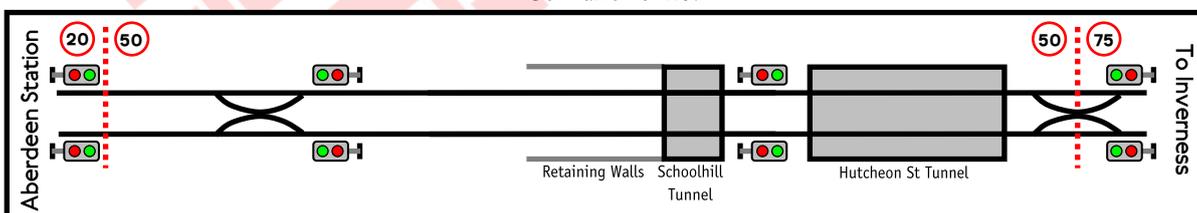
Single Line Section Today

11 Trains Per Hour



'Single Line' Section After Works

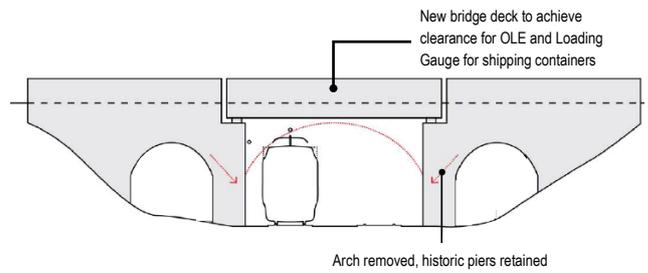
30 Trains Per Hour*



*15tph in each direction. (0:58 travel time plus Network Rail standard safety buffer.)

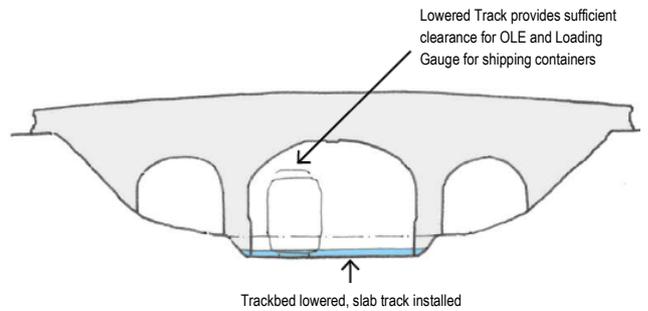
Engineering Solution for the Schoolhill Tunnel

Lowering the trackbed through both tunnels is achievable (Source: Network Rail), however, there may be a more cost effective solution for the Schoolhill Tunnel. Nothing but lawn exists above 54% of this tunnel's length, allowing for the possibility of simply removing the tunnel arch and utilising the existing tunnel piers as retaining walls. The northern 15% of the tunnel is already arch free, leaving only the middle 31% requiring new bridge deck, (pictured). This middle section lies beneath the Woolmanhill roundabout. CNER suggest these works can be completed during electrification preparatory works to minimise disruption, however, it is also possible to carry out this work during construction of the Berryden Corridor road works, utilising already deployed road workers and equipment, reducing cost of replacing roundabout sections.



Engineering Solution for the Hutcheon Street Tunnel

The Hutcheon Street Tunnel lies beneath several industrial units. This makes compulsory purchase necessary if we choose to remove the tunnel arch. Therefore, lowering the trackbed is the most cost effective solution. This tunnel is taller than the Schoolhill Tunnel, and as such a smaller lowering depth is required. Installing slab track, as seen in the Glasgow Queen Street tunnel, further reduces the required depth to achieve our goals.



4.2 Modifications to Aberdeen Station are also required. Namely, reinstating Platforms 8 and 2, and upgrading the single crossover between Platforms 6 and 7 to a double crossover. All of the components to complete this work are "off the shelf"; from track laying to switch replacement and signalling installation. This work will come at minimal cost, will clear the bottle neck by increasing capacity through the station and make way for growth in freight, tour trains, Buchan rail services and any future aspirations.



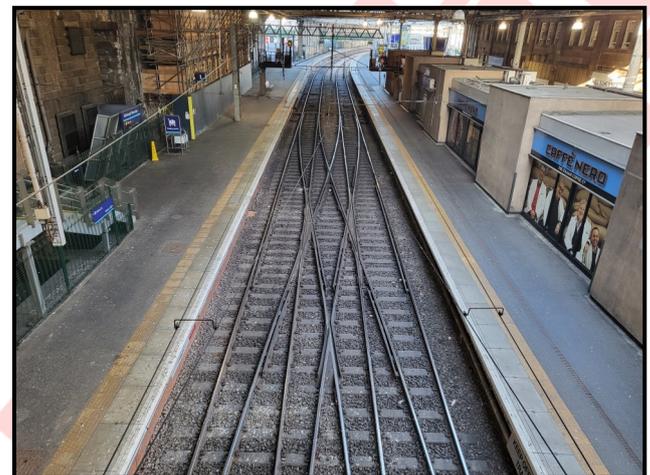
Train Wash Line Platform 8 Platform 7
 (Centred. can be realigned) (Currently unused) (Operational)



Platform 2
 (Not currently for Passenger services)



Single Crossover Platform 6/7 Aberdeen
 (Current configuration)



Double Crossover Platform 19/20 Edinburgh
 (As proposed for Platform 6/7 Aberdeen)

Benefits of Upgrading Schoolhill and Hutcheon Street Tunnels

Increased freight loading gauge will facilitate carriage of shipping containers between Aberdeen, Elgin and Inverness.

Increased freight loading gauge will facilitate the carriage of shipping containers to and from Waterloo Quay.

Increased freight loading gauge will open new opportunities to make use of the underutilised Raiths Farm in Dyce.

Increased freight loading gauge will open new opportunities for reopening other depots, such as Inverurie, Keith and Huntly. The recent success of logging freight trialled in the Far North can be replicated in the North East.

Increased freight loading gauge will allow new larger ships docking in Aberdeen South Harbour to connect to Inverness and beyond by making use of the nearby Craiginches Rail Freight Depot.

Increased capacity from existing theoretical 11 trains per hour (tph), to 30 tph.

A half hourly Buchan service requires 11 tph Aberdeen - Dyce. Excluding the cost of tunnel redoubling from a Buchan Railway feasibility study gives the project the best chance of success. This tunnel upgrade will be required.

Including potential Buchan Railway services, there will be capacity for additional tph, providing paths for all freight aspirations, as well as maintenance vehicles, special touring trains, charters, or more frequent services in future.

Increased capacity gives space for maximum service provision for new stations at Don St, for Aberdeen University, and Bankhead, for TECA.

Redoubled track immediately north of Aberdeen Station provides additional platform capacity by allowing trains to depart to clear a platform for arriving trains approaching.

Vulnerability to disruption is dramatically reduced. Redoubled lines provide redundancy in case of track defects by providing diversionary paths, and the removal of the Schoolhill Tunnel eliminates the possibility of structural failure.

Benefits of Upgrading Aberdeen Station (reinstating platforms 8N, 8S and 2, doubling crossover)

Additional through path increases capacity for freight movements without impacting passenger services.

Additional through path increases capacity and flexibility in scheduling for passenger services.

Two additional platforms servicing through, as well as north and south departing services.

Two additional platforms for overnight station stabling, increasing capacity for morning departures and late arrivals.

One additional double length platform, where a train can utilise both North and South platforms simultaneously. Providing additional capacity for special steam and tour services without impacting regular passenger services.

Double crossover facilitates movement between platforms 7N and 6S, providing yet another through path.

Additional south facing terminus platform 2 allows south departures to be moved from through platforms, further increasing through service capacity on platforms 6,7 and 8.

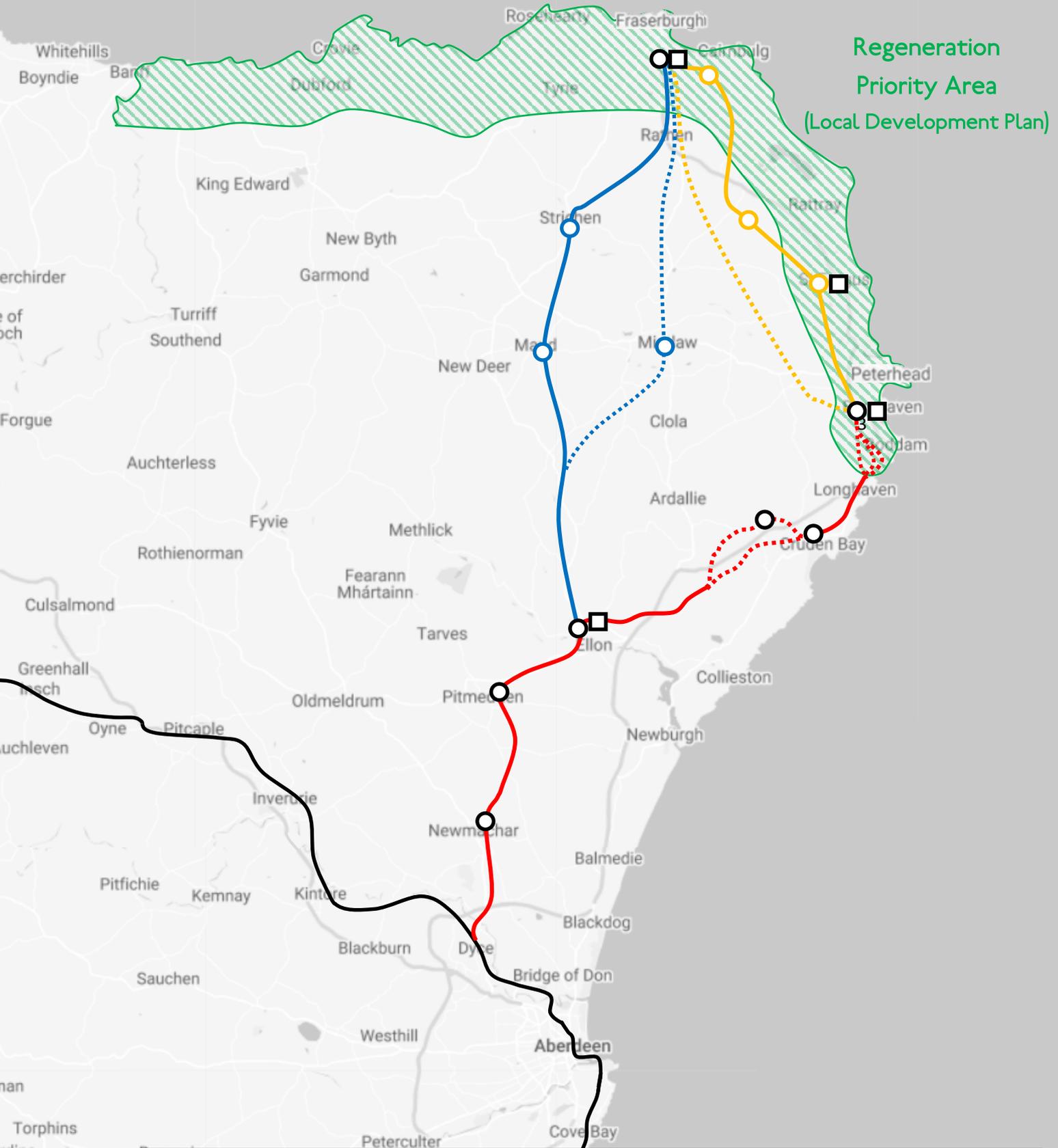
Existing wash road is retained and staff safety is increased by eliminating the requirement to walk on ballast.

Vulnerability to disruption is dramatically reduced, additional through path provides redundancy for track defects.

Additional platforms do not require new equipment to provide equal access, existing lifts serve new platforms.



Route Options



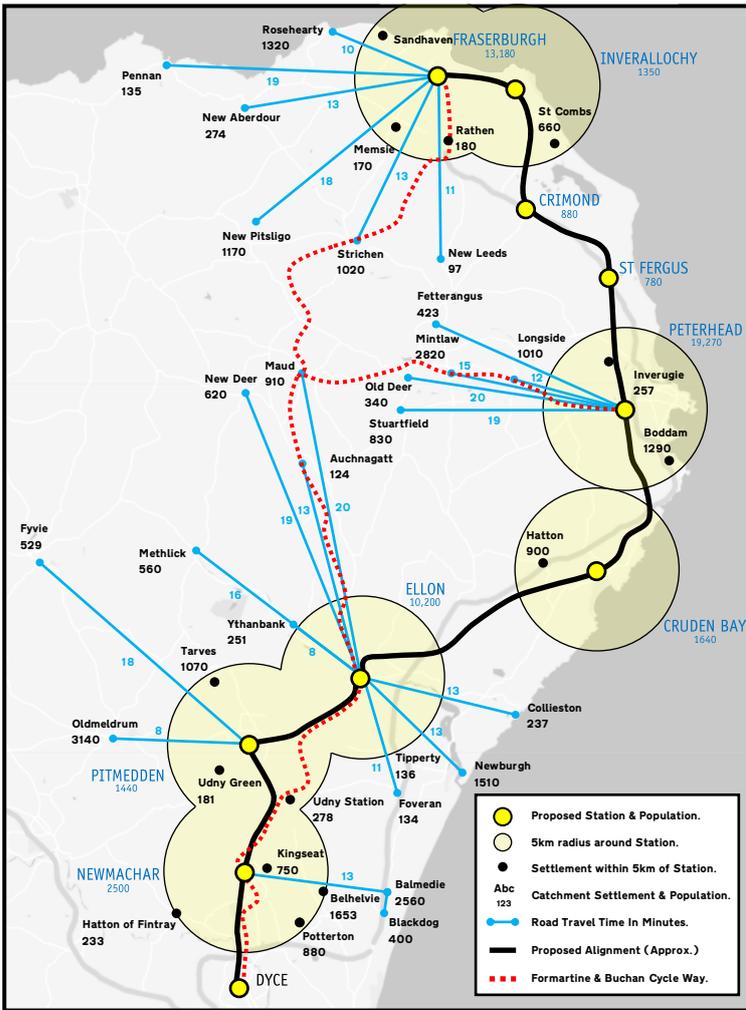
Regeneration
Priority Area
(Local Development Plan)

Key			
	Proposed Freight Terminal		Proposed Station
	Existing Railway		Fraserburgh Option via Peterhead
	Core Route Dyce to Peterhead		Fraserburgh Option branching at Ellon
	Options for the Core Route		Alternative route to Fraserburgh via Mintlaw

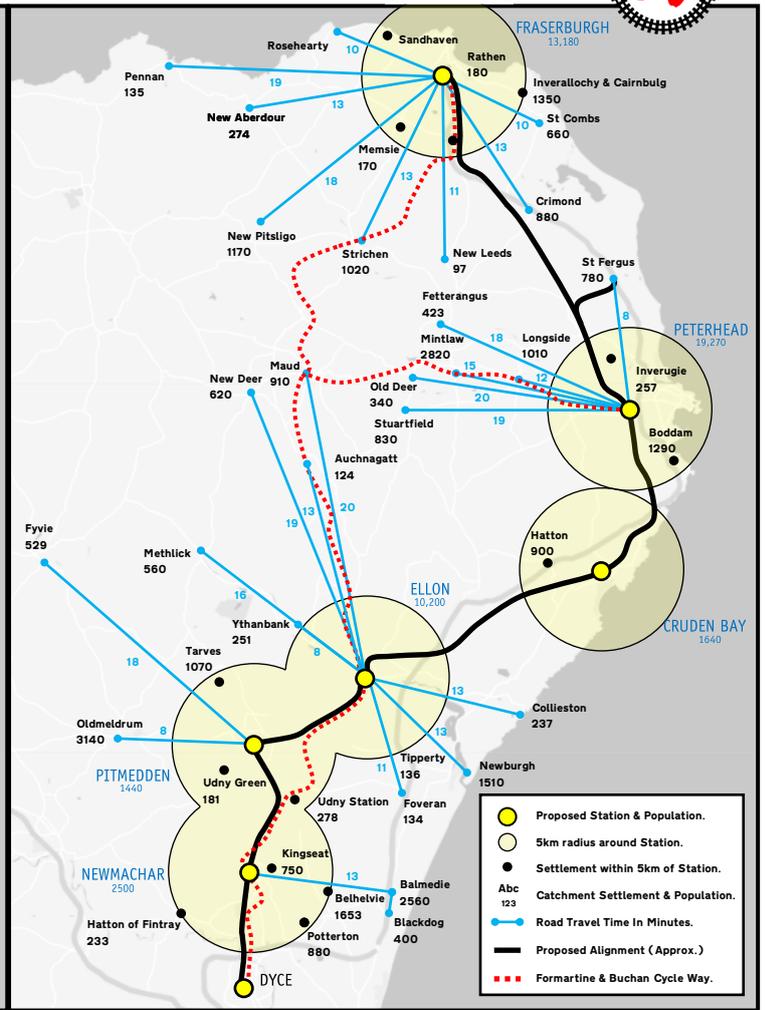
Option A - Fraserburgh via Peterhead	Option B - Branch at Ellon	Option C - Peterhead Park & Ride
		<p data-bbox="1085 246 1468 358">Note: Option C should only be considered if Options A and B are deemed not to be feasible.</p>
<p style="text-align: center;">Advantages</p>	<p style="text-align: center;">Advantages</p>	<p style="text-align: center;">Advantages</p>
<ul style="list-style-type: none"> + Shortest possible railway that serves both Peterhead & Fraserburgh. + St Fergus freight terminal connected with no additional line required. + Facilitates travel between the towns of Fraserburgh and Peterhead. 	<ul style="list-style-type: none"> + Serves highest population. + Natural Schedule, hourly automatically provides 1/2 hourly at Ellon. + All Peterhead station options possible. + Resilience to disruption. 	<ul style="list-style-type: none"> + Shortest possible railway. + All Peterhead station options possible. + Can be built in a single phase, same length as Borders Railway.
<p style="text-align: center;">Disadvantages</p>	<p style="text-align: center;">Disadvantages</p>	<p style="text-align: center;">Disadvantages</p>
<ul style="list-style-type: none"> - No branch at Ellon requires more double tracked sections for crossings. - Assumed higher cost of building brand new railway between Peterhead and Fraserburgh. - High linespeed required to compete with road journey times on A952. 	<ul style="list-style-type: none"> - Much higher track mileage, therefore much higher cost. - Use of the Formartine & Buchan Way requires replacement, increasing cost. - Extension required from Peterhead to serve St Fergus Gas Terminal and the Acorn Project. 	<ul style="list-style-type: none"> - Does not serve Fraserburgh. - Does not alleviate congestion on A952. - Disadvantages Fraserburgh, may increase existing feelings of isolation. - Extension required from Peterhead to serve St Fergus Gas Terminal and the Acorn Project.

- 5.1 Previous studies have examined fully reopening the Formartine and Buchan line, and a railway between Dyce and Ellon only. These found that the Formartine and Buchan route is too circuitous for reaching Peterhead, but competes with road journey time to Fraserburgh. An Ellon only line is unlikely to justify its cost due to the population along the route, reduced social benefits, and smaller modal shift from congested roads north of Ellon such as the A90 and A952.
- 5.2 CNER propose reaching Peterhead by utilising both the former Formartine and Buchan line only as far as Ellon, with deviations at Newmachar to modernise the railway, and at Pitmedden to provide a station. The line will then follow the former Boddam branch line, an unstudied route that is the most direct path between Ellon and Peterhead.
- 5.3 By combining sections of different former railways, and including short deviations of brand new routes, we can build a better railway than ever existed in the past, while reducing overall cost and maximising benefit to the community and business.

Option A Route Analysis



Direct Line, Stopping Route



Direct Line, No Stops

Station	Population at Station	Population within 5km	Park & Ride Population	Total Served
Fraserburgh	13,180	1,190	4,016	18,386
Inverallochy	1,350	660	-	2,010
Crimond	880	-	-	880
St Fergus	780	-	-	780
Peterhead	19,270	1,547	5,423	26,240
Cruden Bay	1,640	900	-	2,540
Ellon	10,200	-	4,482	14,682
Pitmedden	1,440	1,529	3,669	6,638
Newmachar	2,500	3,516	2,960	8,976
Population Served Directly by this Buchan Railway Option				51,240
Population in Settlements within 5km of Proposed Railway				9,342
Population in Settlements within 20mins of Proposed Railway				20,550
Total Served by Proposed Buchan Railway				81,132

Station	Population at Station	Population within 5km	Park & Ride Population	Total Served
Fraserburgh	13,180	2,540	5,556	21,276
Peterhead	19,270	1,547	6,203	27,020
Cruden Bay	1,640	900	-	2,540
Ellon	10,200	-	4,482	14,682
Pitmedden	1,440	1,529	3,669	6,638
Newmachar	2,500	3,516	2,960	8,976
Population Served Directly by this Buchan Railway Option				48,230
Population in Settlements within 5km of Proposed Railway				9,775
Population in Settlements within 20mins of Proposed Railway				22,870
Total Served by Proposed Buchan Railway				81,132

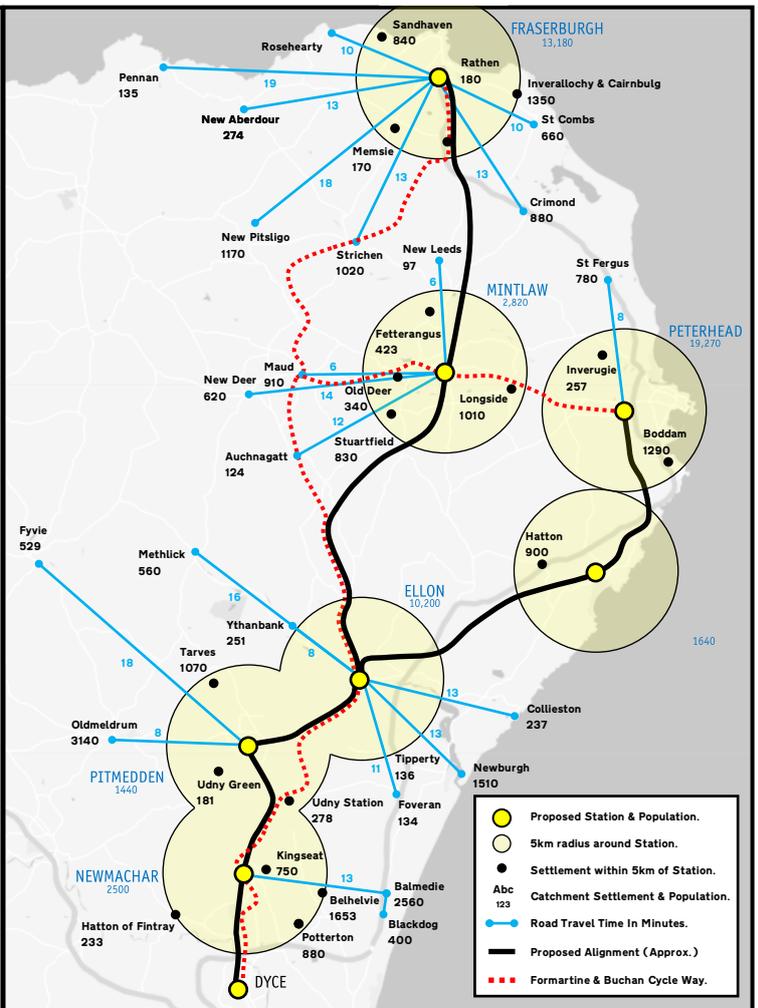
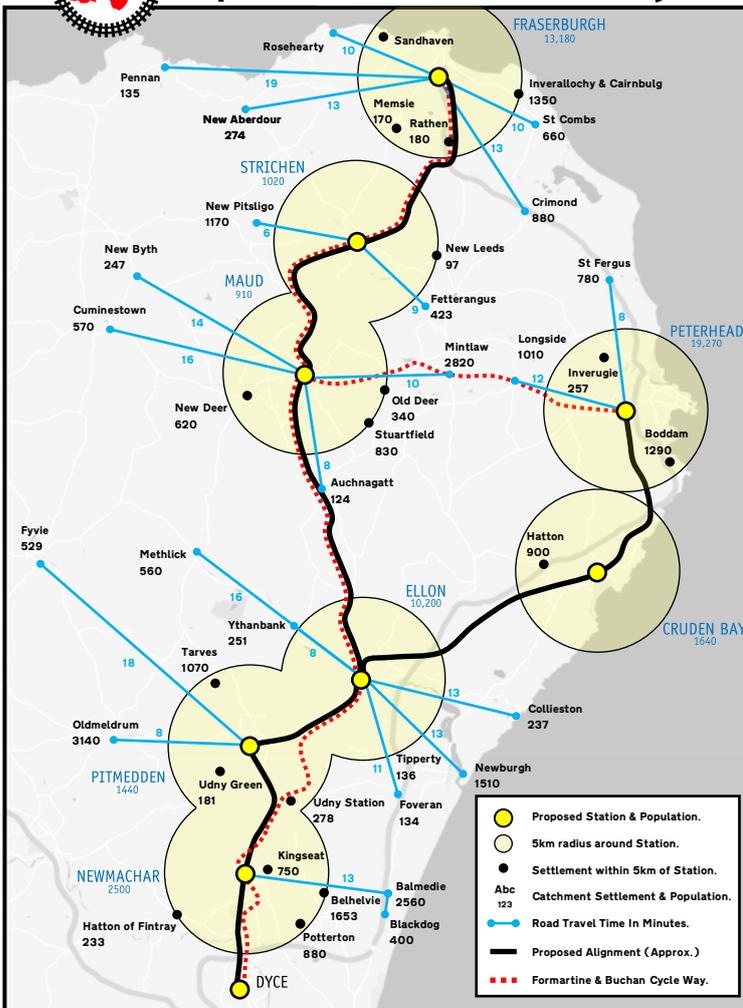
5.4.1 Option A, a single railway line from Dyce to Fraserburgh serves a total population of 81,132. It should be noted that this does not take into account the significant population living outwith towns and villages within the catchment area of stations.

5.4.2 The core railway to Peterhead requires a total of 30.1mi of track. Option A adds an additional 19.3mi in its longest form (stopping), and 13.6mi in its shortest form (direct). Option A requires only 7.1mi of cycle path to be replaced.

5.4.3 Continuing to Fraserburgh after Peterhead minimises total construction required to provide a railway connection to both towns. These options also minimise total length of cycle path that will need to be reconstructed alongside. Line speed must be maximised such that the railway continues to compete with the journey time by road. Consideration will have to be made to double track or passing loops due to the formation of the railway as a single route.



Option B Route Analysis



Branched Line, via Formartine Way

Branched Line, via Mintlaw

Station	Population at Station	Population within 5km	Park & Ride Population	Total Served
Fraserburgh	13,180	2,540	3,269	18,989
Strichen	1,020	97	1,593	2,710
Maud	910	1,790	3,761	6,461
Peterhead	19,270	1,547	1,790	23,607
Cruden Bay	1,640	900	-	2,540
Ellon	10,200	-	2,828	13,028
Pitmedden	1,440	1,529	3,669	6,638
Newmachar	2,500	3,516	2,960	8,976
Population Served Directly by this Buchan Railway Option				50,160
Population in Settlements within 5km of Proposed Railway				11,919
Population in Settlements within 20mins of Proposed Railway				19,870
Total Served by Proposed Buchan Railway				81,949

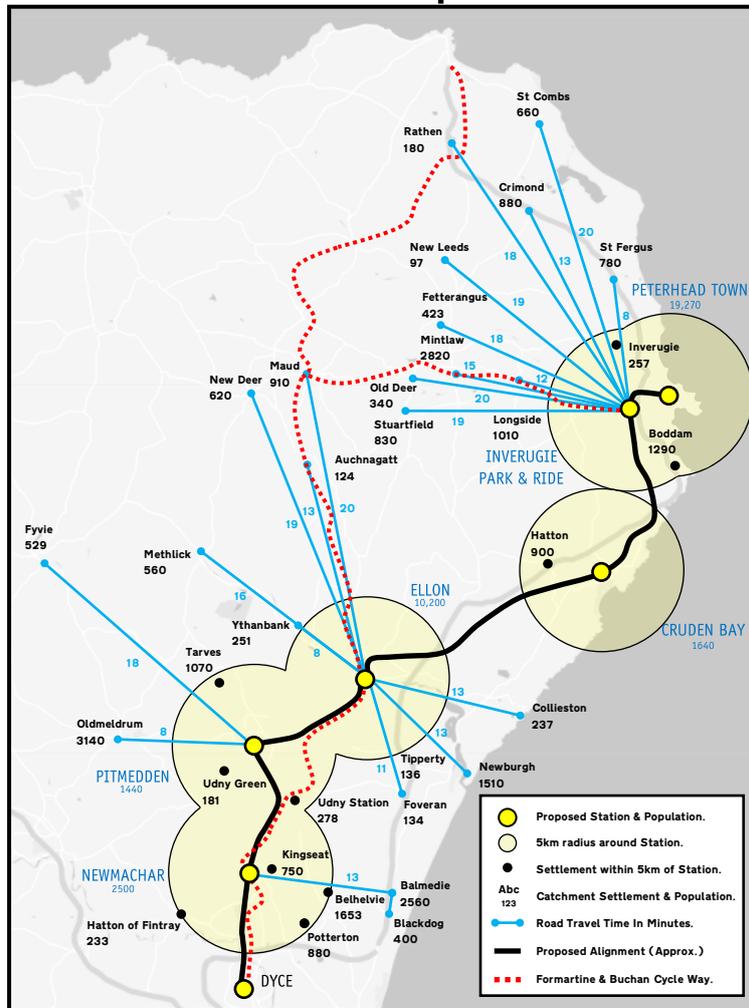
Station	Population at Station	Population within 5km	Park & Ride Population	Total Served
Fraserburgh	13,180	2,540	5,459	21,179
Mintlaw	2,820	2,603	1,751	7,174
Peterhead	19,270	1,547	780	21,597
Cruden Bay	1,640	900	-	2,540
Ellon	10,200	-	2,828	13,028
Pitmedden	1,440	1,529	3,669	6,638
Newmachar	2,500	3,516	2,960	8,976
Population Served Directly by this Buchan Railway Option				51,050
Population in Settlements within 5km of Proposed Railway				12,635
Population in Settlements within 20mins of Proposed Railway				17,447
Total Served by Proposed Buchan Railway				81,132

5.5.1 Option B, a branching railway at Ellon, serves a total population of between **81,132** and **81,949**. It should be noted that this does not take into account the significant population living outwith towns and villages within the catchment area of stations.

5.5.2 The core railway to Peterhead requires a total of **30.1mi** of track. Option B adds an additional **26.9mi** in its longest form (Reopening the Formartine line), and **26.4mi** in its shortest form (via Mintlaw). Option B requires **7.1mi** of cycle path be replaced alongside the core railway to Peterhead, and an additional **26.9mi** of cycle path if the Formartine route is selected to reach Fraserburgh. However, should the line be routed via Mintlaw, the required additional cycle path construction reduces to **10.2mi**.

5.5.3 Branching at Ellon minimises overall requirement for double track and passing loops. The 2016 FFAST Study told us that reopening the Formartine Line between Ellon and Fraserburgh provides a railway that competes with road journey times, however, this requires fully replacing the cycle path alongside. Leaving the Formartine alignment and finding a new route via Mintlaw may provide a railway that better serves the community at a lower overall cost. Mintlaw is a growing town with many attractions, bus and active travel connections, going this way will allow the existing cycle path to remain a quiet rural walk.

Option C Route Analysis



Peterhead Terminating Route

Station	Population at Station	Population within 5km	Park & Ride Population	Total Served
Peterhead Town	19,270	1,290	-	20,560
Inverugie Park & Ride	-	257	8,020	8,277
Cruden Bay	1,640	900	-	2,540
Ellon	10,200	-	4,482	14,682
Pitmedden	1,440	1,529	3,669	6,638
Newmachar	2,500	3,516	2,960	8,976
Population Served Directly by this Buchan Railway Option				35,050
Population in Settlements within 5km of Proposed Railway				7,492
Population in Settlements within 20mins of Proposed Railway				19,131
Total Served by Proposed Buchan Railway				61,673

- 5.6.1 Option C, a single railway to Peterhead serves a total population of **61,673**. It should be noted that this does not take into account the significant population living outwith towns and villages within the catchment area of stations.
- 5.6.2 The core railway to Peterhead requires a total of **30.1mi** of track. Option C requires no additional track. Option C requires only **7.1mi** of cycle path be replaced along its length on the Formartine and Buchan Way to Ellon.
- 5.6.3 **Constructing a railway to Peterhead via the former Boddam Branch connects the largest town in Aberdeenshire to the rail network. This route is direct and competes very well with the road journey on the A90. Terminating in Peterhead allows for a central town station on the site of the historic railway terminus. This is possible because Peterhead Academy, which was constructed on the site, is due to be demolished in 2025. A second station on the edge of Peterhead, near Inverugie, brings a significant population within driving distance and allows Park & Ride access to the railway without increasing traffic in Peterhead Town Centre. Freight terminals in Ellon and Peterhead will provide excellent links for the many industries in Buchan. This option leaves the majority of the cycle path intact. However, this option does not connect Fraserburgh to the rail network, nor does it bring the town within a 20 minute drive.**



Detailed Alignment Proposals

6.1 Core Railway Dyce - Peterhead

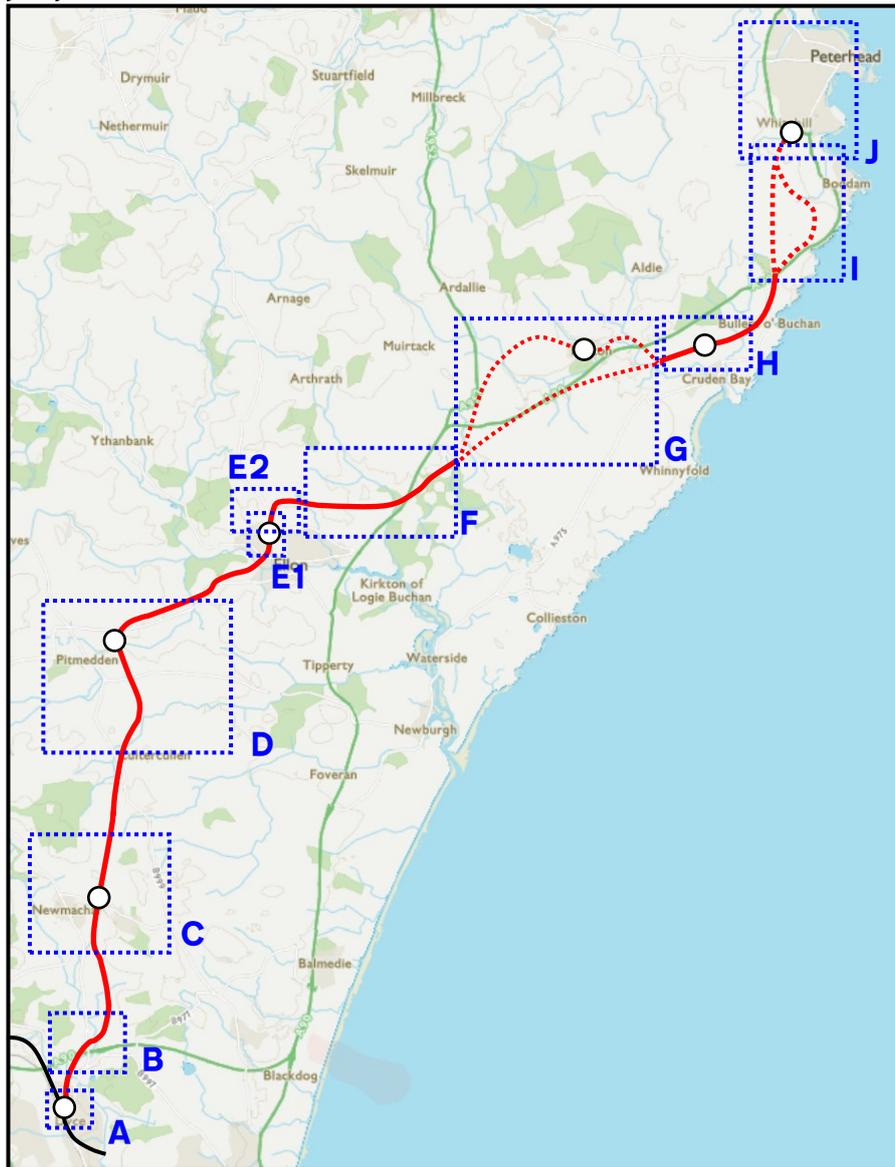


Fig 6.1.1

- 6.1.1 This railway follows the Formartine and Buchan line to Ellon, with deviations at Newmachar and Pitmedden, then the never studied Boddam Branch Line to Peterhead. Detailed maps are available at the following address:
<https://www.google.com/maps/d/u/0/edit?mid=19q8rIGtTvLKKOpnx6Tab-XYQ5UpE3TAA&usp=sharing>
- 6.1.2 Options at Bogbrae and Boddam deviate from the historic Boddam branch to provide an option which may be a better solution for a modern railway.
- 6.1.3 This railway produces competitive journey times with the A90 to Peterhead at any reasonable speed, CNER recommend this route be constructed to at least 90mph standard, for two reasons. Firstly to maximise the activeness of the railway and thus increase modal shift, and secondly to give Option A the best chance of feasibility compared to journey times on the A952.
- 6.1.4 90mph is achievable on this entire proposal with a few very short sections near stations such as Pitmedden, Ellon and Hatton.
- 6.1.5 Class 158 trains operated in Aberdeen have a max speed of 90mph, Class 170 trains have a top speed of 100mph.
- 6.1.6 This entire project should be designed in line with the Transport Scotland's 2035 Decarbonisation Action Plan. This document commits to electrifying to Inverurie by 2035, and as such a Buchan Railway should be constructed with electrification on day one.
- 6.1.7 If the Decarbonisation Action Plan has not been enacted as far as Aberdeen or Inverurie by the time the Buchan Railway goes ahead, then the Buchan Railway should be constructed with electric traction in mind, in line with plans for the Levenmouth Rail Link.
- 6.1.8 Enough double track should be provided to allow for a half hourly passenger service with slack for regular freight movements from Ellon and Peterhead. CNER have no specific proposal for how much and defers this to the planning stage.

6.1A Dyce Station

6.1.9 In 2015 NESTRANS commissioned an appraisal of a prospective new car park for Dyce Railway Station, this was to address the growing popularity of the station with commuters and the inadequacies of its car parking facilities.

6.1.10 Figure 6.1.2 shows a modified Option 1A car park proposal from this appraisal document.

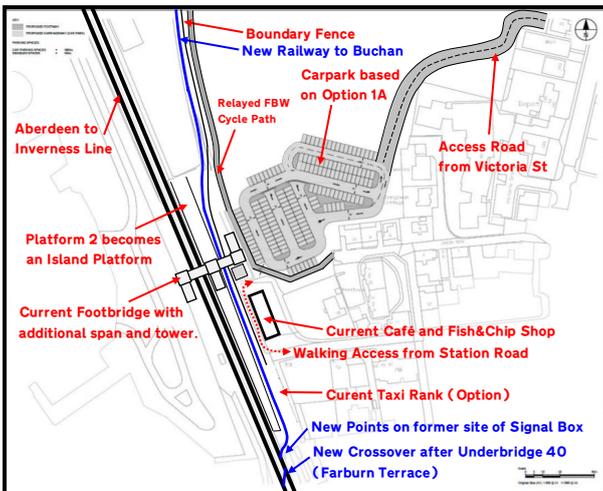


Fig 6.1.2 Dyce Station Proposal

6.1.11 It is for a future study to determine the appropriate size of car park required, we have included this option for illustrative purposes.

6.1.12 The new rail alignment will remove the current car park, making road access from Station Road not suitable. Therefore we recommended an access road be built through disused land from Victoria Street.

6.1.13 There is ample space for walking access to be maintained between Station Road and Union Row.

6.1.14 To access the platforms from the car park the current footbridge will need to be modified with the addition of a lift tower.

6.1.15 The Buchan Line will leave the Aberdeen to Inverness line through the former site of Dyce Signal Box, crossover points will bring trains across from the Down line after Overbridge 70.

Benefits of this alignment

- ✔ No land take required from local businesses.
- ✔ Traffic removed from narrow Station Road.
- ✔ Walking access maintained between Station Road, Union Row and local businesses.

- ✔ Car park access provided from the main thoroughfare in Dyce (Victoria Road).
- ✔ Buchan bound trains removed from Aberdeen to Inverness line before Dyce Station stop, keeping capacity high on main-line and allowing Buchan trains returning to Aberdeen to wait for passing trains from Inverness or Inverurie if required.



Fig 6.1.3 Dyce Station from Current Taxi Rank

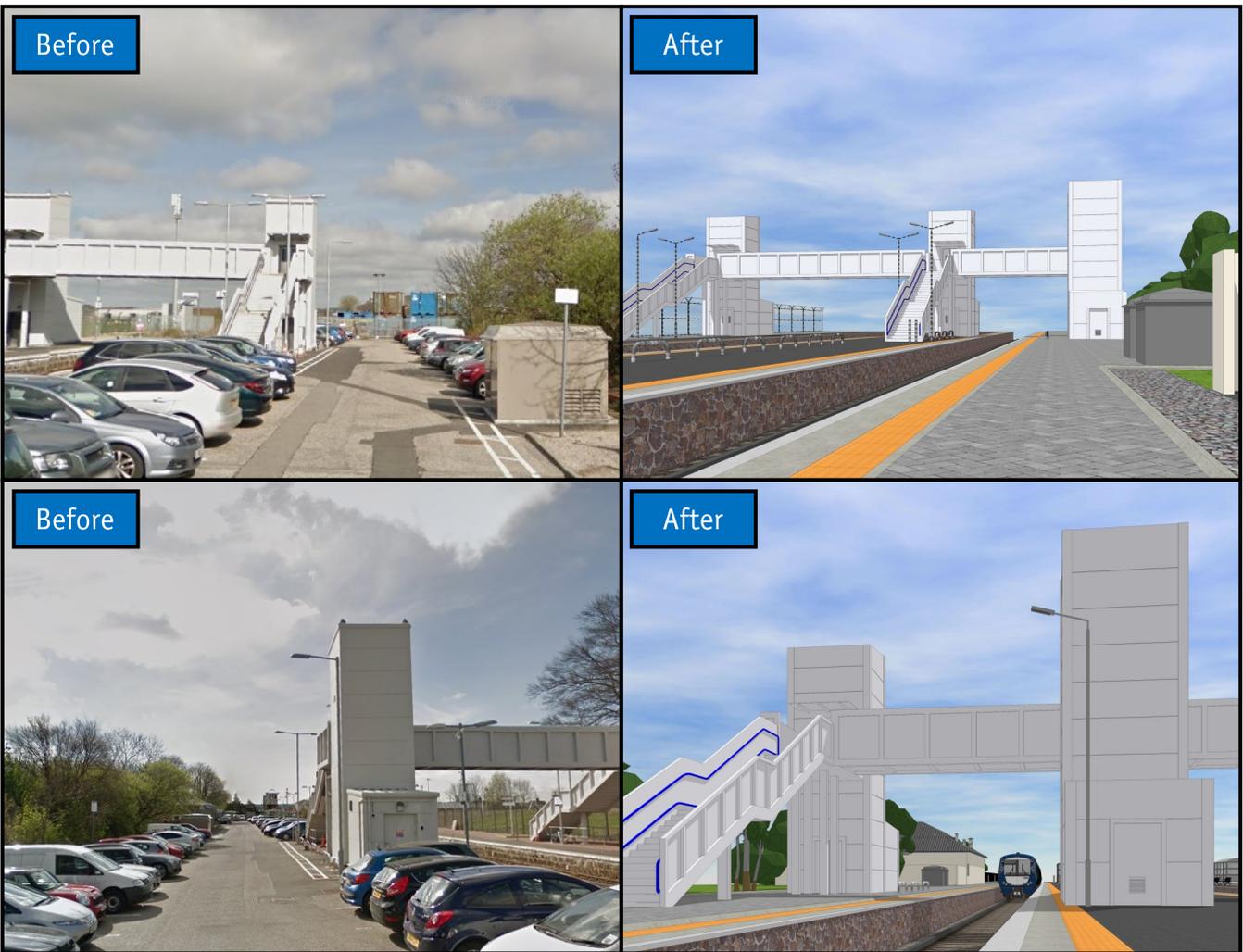


Fig 6.1.4 New Footbridge Access to Platforms from Car Park



Fig 6.1.5 New Road Access from Victoria Road

6.1.16 The following images show a mock up of Dyce station after the opening of the Buchan Line. Please note this model does not include our proposal for a new carpark, and leaves room for the current taxi rank to be retained in its current location. This render includes a headshunt or siding at the south end of the Buchan-bound platform, this was considered earlier in the project, but upon visiting the site it is clear there is not enough space for any useful length of track.



Fig 6.1.6 Dyce Station Renders
Credit: Fouad Khan



6.1B AWPR and A947 Crossings

6.1.17 Concerns were raised in previous studies over the impact of the AWPR which was under construction at the time. Now that the AWPR is completed and open, we can see that the original Formartine and Buchan Way remains clear of obstructions.

6.1.18 Visible in satellite imagery, underpasses were provided for the Formartine and Buchan Way to cross the AWPR and A947. Both of these underpasses are sufficiently tall and wide to allow trains to pass through unobstructed.

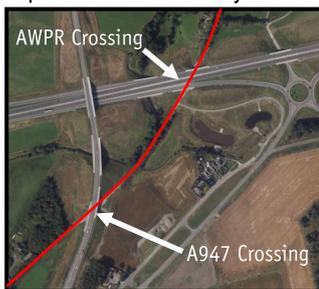


Fig 6.1.7 AWPR and A947 Underpass'



Fig 6.1.8 A947 Underpass



Fig 6.1.9 AWPR Underpass

6.1C Newmachar Diversion and Station

6.1.19 The Ellon Rail Study recommended a deviation from the original Formartine and Buchan Way alignment to eliminate two tight curves, and provide a station equidistant from Newmachar and Kingseat. We echo this recommendation, but begin the deviation further south to avoid the need for unnecessary compulsory purchase and demolition, and recommend placing the station along the existing street-lit Newmachar-Kingseat path to allow excellent active travel access.



Fig 6.1.10 Curve realignment at Newmachar in Ellon Rail Study



Fig 6.1.11 Curve realignment at Newmachar recommended by CNER

6.ID Pitmedden Diversion and Station

6.1.20 CNER recommend a deviation from the historic route to provide a station stop at Pitmedden. This requires construction of approximately 4 miles of brand new railway instead of 3 miles on the existing groundwork. The shown alignment is indicative.

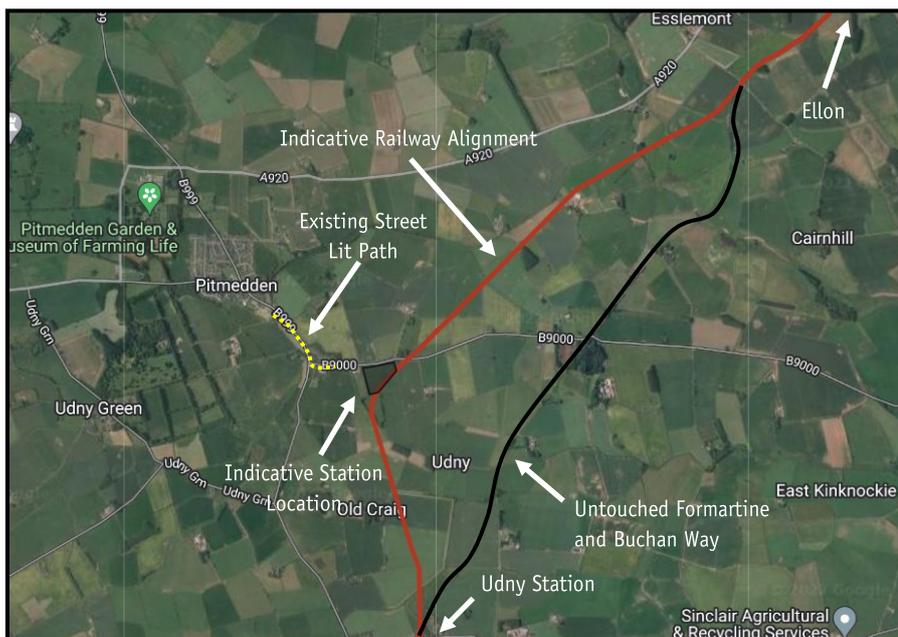


Fig 6.1.12 Indicative Realignment at Udny for Pitmedden Station

Benefits of this Proposal

- ✓ Pitmedden station serves 1440 directly, 5198 indirectly.
- ✓ Station is located on the B9000, this site can be connected an existing pavement from Pitmedden providing active travel access with only a short new path.
- ✓ Formartine and Buchan Way Udny Station - Ellon retained with minimal cost.
- ✓ Pitmedden station becomes the farthest west station on the Buchan Railway, increasing the overall population within a 20 minute catchment zone, including Fyvie and Oldmeldrum.
- ✓ Protected site OP4 in LDP is retained.

6.IE1 Ellon Station

6.1.20 The Aberdeenshire Local Development Plan specifies land set aside and safeguarded for a potential railway, including space for a car park, Figure 6.1.13 shows this area highlighted in blue, with station site labelled 'R2'.

6.1.21 This site is located north of the historic station site, and is currently in use as an Aberdeenshire Council Depot. It is well placed in the centre of the town, providing good access to attractions and amenities on foot.

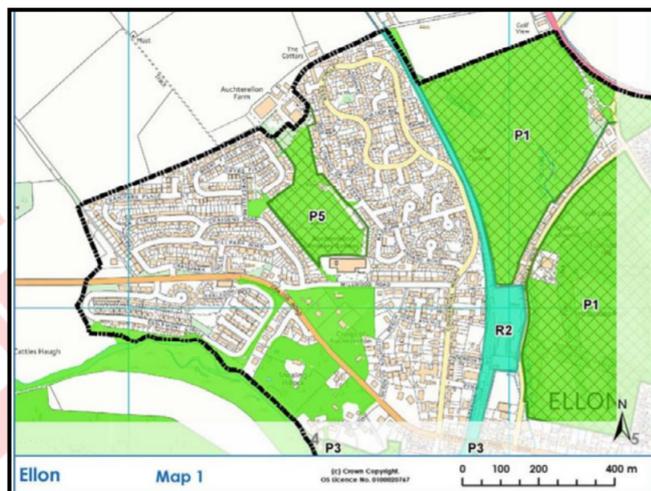


Fig 6.1.13 Aberdeenshire Local Development Plan - Ellon Map 1



Fig 6.1.14 Ellon Station Satellite Imagery

6.IE2 Ellon Junction

6.1.22 Since its closure in 1950, the Boddam branch junction has been developed upon. To build the Buchan Railway along this alignment would require purchase and demolition of 15 homes and industrial land. Therefore a new junction to the north will be required.

6.1.23 Two options for a new Boddam Branch connection are shown in Red and Blue in Figure 6.1.14.

6.1.24 Each option has advantages and disadvantages, and both will require a short section of reduced speed while the curve is traversed. However, this should not impact greatly on overall journey times as trains in this area will be accelerating or decelerating in preparation for reaching Ellon Station.

6.1.25 Both options are indicative and have been aligned to avoid the site of the planned new Ellon graveyard.

6.1.26 A freight depot has been provided at Ellon to cater for freight shipments from Brewdog's Ellon Brewery, as well as any other freight which is produced in the surrounding area such as logging, cereals or animal feed.

6.1.27 If Option B is taken forward, this curve will become a junction, with Fraserburgh bound trains heading north on the Formartine and Buchan Way and Peterhead bound trains heading west on the Boddam Branch.

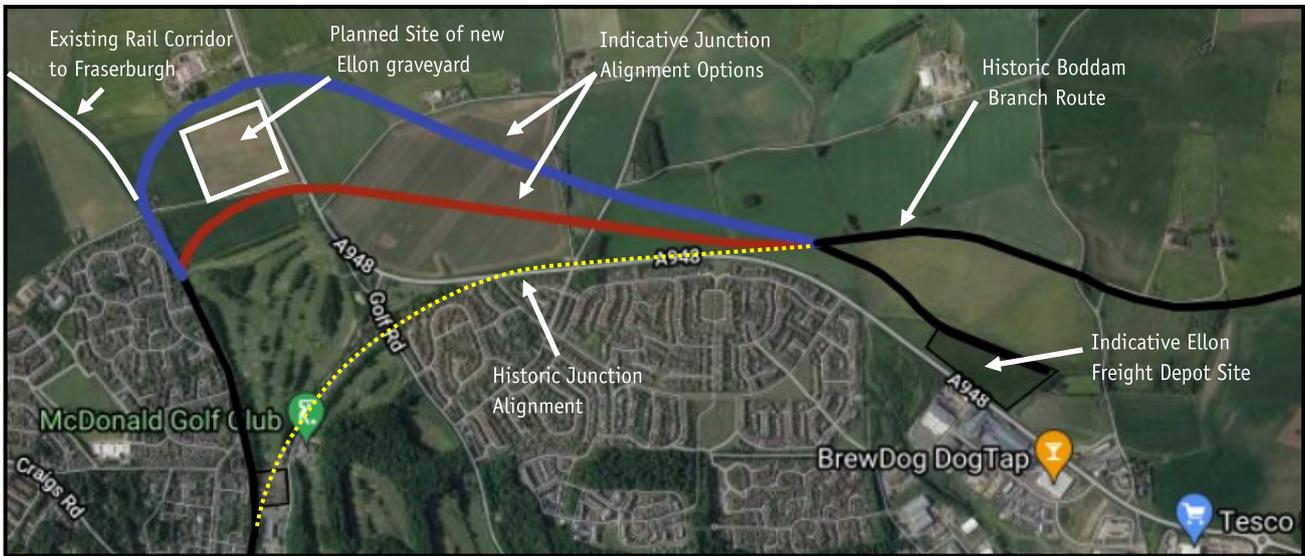


Fig 6.1.15 Ellon Junction Options

6.1F Auchmachoy

6.1.28 Much of the historic alignment of the Boddam branch line remains unobstructed and can be rebuilt with minor adjustments.

6.1.29 In this first section a slight realignment moves the new railway a few metres to the side of farm roads that have been built on the Boddam Branch solum. Work involves constructing one mile of new track with two user worked or Red/Green level crossings to maintain access to the private homes. No significant engineering challenge exists along this section.

6.1.30 The railway will need to cross over the A90 by means of a new overbridge. Raised embankments are still present on either side of the road, minimising groundwork required. If road dualling Ellon - Toll of Birness goes ahead as planned in NESTRANS 2040 Regional Transport Strategy, then work on this crossing can be completed in line with those road closures, minimising disruption.

6.1.31 After this crossing, the next 3 miles of track is completely unobstructed, no station is required at Auchmachoy.



Fig 6.1.16 Ellon to Auchmachoy

6.1G Bogbrae

6.1.32 Between the area of Bogbrae and Cruden Bay, an entirely new alignment may prove a better option than the historic alignment.

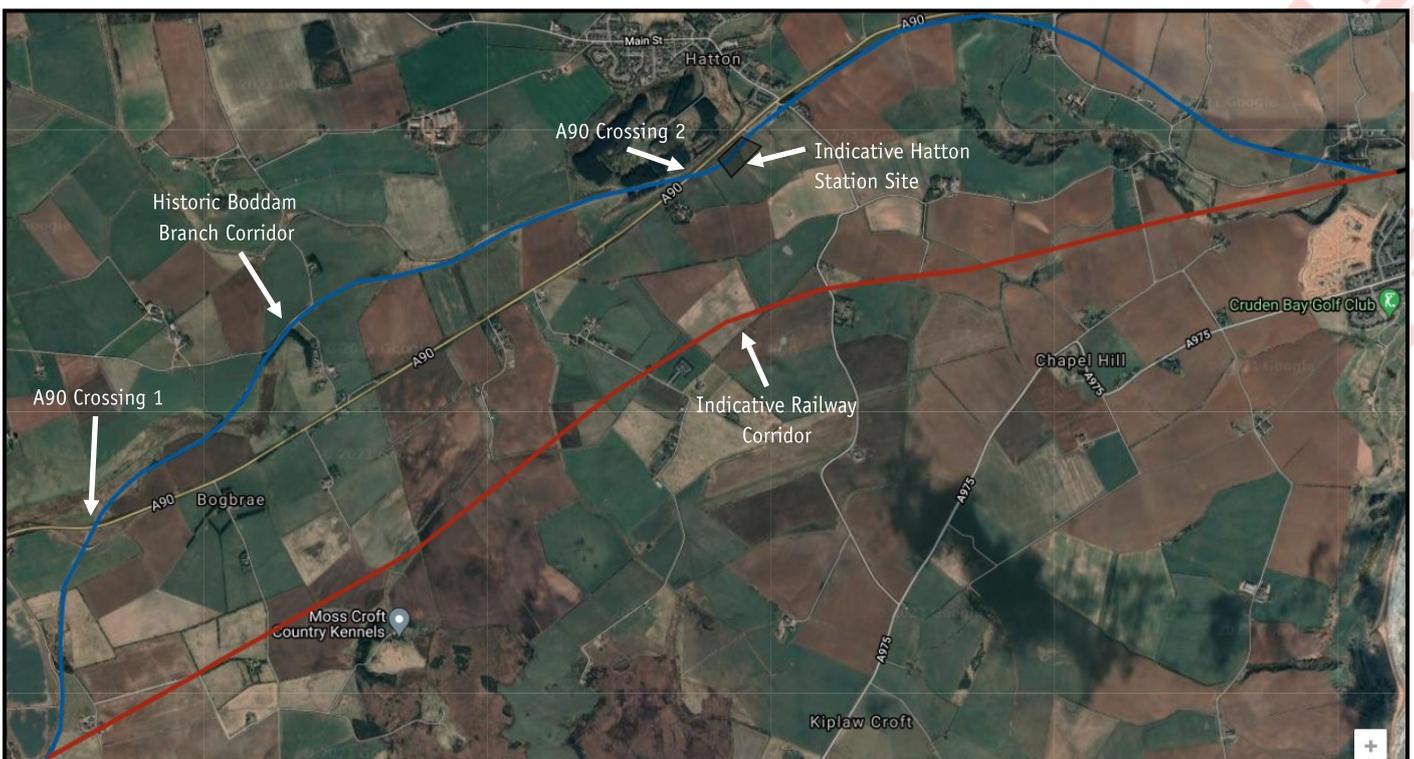


Fig 6.1.17 Bogbrae Realignment Options

Option 1 - Historic Boddam Branch Alignment

- 6.1.32** Option 1 is following the historic railway alignment from Bogbrae to Cruden Bay, including a station at Hatton.
- 6.1.33** Option 1 requires two crossings of the A90, both of these crossings will have to be grade separated, meaning that either the railway will have to be raised over the road, or the road will have to be raised over the railway.
- 6.1.34** Much of the Boddam Branch infrastructure is still in place, including bridges, bridge supports, cuttings and embankments. Reusing these will reduce the overall cost of construction, only incurring the cost of bringing them up to modern standards.
- 6.1.35** After crossing back over the A90, trains will stop at Hatton station before immediately passing over a level crossing on Station Road. This Station Road level crossing will be located very close to the A90 Junction, making queues on the road likely, as possibly creating a dangerous situation for cars from the north. An investigation and redesign of this section of road junction may be required.



Fig 6.1.18 Historic Alignment - A90 Crossing 1

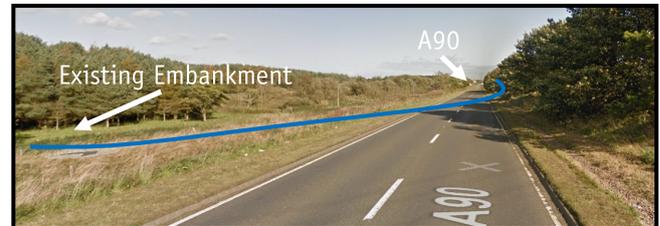


Fig 6.1.19 Historic Alignment - A90 Crossing 2



Fig 6.1.20 Hatton Station Road Crossing

Option 2 - New Alignment

- 6.1.36** Option 2 is finding an entirely new alignment from Bogbrae to Cruden Bay, without a station halt at Hatton.
- 6.1.37** The final alignment will be chosen based on various factors such as cost, gradient, signal sighting, land take and other factors.

Speed	A brand new railway designed from the ground up can potentially achieve a higher linespeed than sticking to an old route.
Crossings	Building a new alignment avoids the problem of creating two grade separated A90 crossings at great expense.
Disruption	This alignment will also prevent possible problems and road disruption caused by a Station Road level crossing in Hatton.
Cost	While a new railway is generally thought to be more expensive than re-opening, this option may prove to be more cost effective. This is because we save on building 3 road crossings, several bridges, and Hatton station and car park.
Patronage	Patronage may suffer through the loss of a direct station at Hatton (Pop 900). However, decreased travel time and the proximity of Hatton to Cruden Bay (5min road, 7min bus) may offset this loss. It is worth noting there is no significant catchment area for a potential Hatton station that is not also covered by a Cruden Bay station.
Travel Time	A new line will be shorter than the old alignment, coupled with a higher linespeed, and no stop at Hatton, travel time on the overall route will benefit. This will make rail more competitive with road, and increase the overall appeal of the line.

Tab 6.1 Proposed Benefits of Bogbrae to Cruden Bay Realignment (Option 2)

6.1H Cruden Bay Viaduct and Station

- 6.1.38** Near Cruden Bay stand three piers of the historical Cruden Bay viaduct which once spanned the Water of Cruden.
- 6.1.39** To reinstate this railway crossing either this embankment will need to be rebuilt, or a new viaduct spanning the valley will be required.
- 6.1.40** The alignment through Cruden Bay has is safeguarded for a railway line. Planning permission for 220 homes on our proposed station site (the former brick works) was granted in 2015, this has since lapsed.



Fig 6.1.21 Cruden Bay Viaduct Remains



Fig 6.1.22 Cruden Bay Viaduct and Station Location

6.11 Stirling Hill Diversion

6.1.41 After Cruden Bay the Boddam Branch continues along the coast, this line now remains unobstructed for its remaining length.

6.1.42 The historic station site has been developed upon, and to continue the railway to Peterhead would require some tricky engineering. To avoid this, CNER propose three options.



Fig 6.1.23 Stirling Hill Option A in blue, Option B in red and Option C in yellow.

6.1.43 Option A makes use of the historic Peterhead Prison Railway alignment. The line crosses the A90 by means of a new Rail-over-Road bridge and then proceeds towards the existing quarry entrance where the former railway once terminated. Despite the look of the hill from the road, max gradient is only 1.5%.

6.1.44 Option B follows the historical path further before crossing over the A90 as it begins to head downhill. The line then passes behind some properties before around the hill at constant elevation. This path not only makes use of the surviving groundworks from the Boddam Branch and will offer spectacular views across the Longhaven cliffs and boost the scenic attraction of the line as a result.

6.1.45 Option C continues along the path of the Boddam Branch as far as possible before passing under Rockley Drive. Compulsory purchase of land owned by three homes may or may not be necessary. The line will then cross the A90 using a site protected for a railway crossing in the Aberdeenshire Local Development Plan 2020 (P5) before continuing towards Peterhead. This is the only option that realistically provides for the possibility of a Boddam Station.

6.1J Peterhead Station

6.1.46 There are many options for a Peterhead station, all with advantages and disadvantages. Some are only compatible with a Peterhead terminus, i.e. Railway Options B and C.

6.1.47 Figure 6.1.32 below shows all the possible station options we propose for Peterhead. It is expected only one of these sites will be selected, with the exception of Option 3, which has the capability of being configured as a Park & Ride halt if Railway Option C is the option taken forward, allowing for a second station in the centre of Peterhead itself.

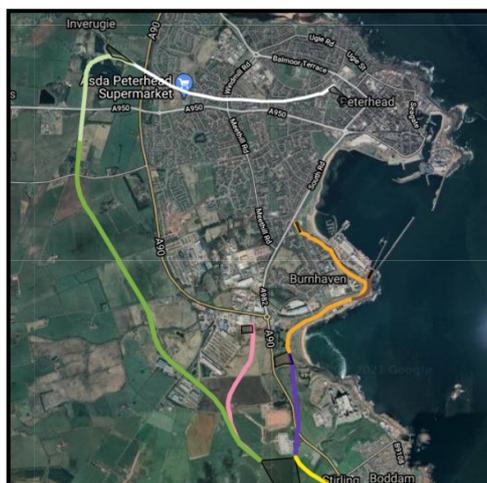


Fig 6.1.24 Peterhead Option 1A in purple, Option 1B in orange and Option 2 in pink, Option 3 in green, Option 4 in white.

- Option 1A** In Purple, this option follows the Peterhead Prison Railway across the Rail-over-Road bridge near Boddam Sub Station, then crosses the A90 again and terminates the line on the southern edge of Peterhead. A Station on the southern edge of Peterhead with views across Sandford Bay. A sizeable car park will be required to accommodate commuting traffic from nearby settlements as well as first mile/last mile journeys from Peterhead itself. Ironically this site will likely see more walking users from Boddam than Peterhead. Paved walkways line the A90 from Peterhead and Boddam providing excellent walking access.
- Option 1B** In Orange, Continuing from Option 1A along the ridge of Sandford Bay, the line crosses South Base road, then continues around the perimeter of HMP Grampian on empty land. Adjacent to Mackenzie Crescent the line will have to be supported above or on the existing embankment by a bridge like support or by constructing a step in the embankment. The line terminates on a flat plateau above the Lido building that houses the Scottish Maritime Academy. This extension brings the line further into the town of Peterhead to serve more of the community by foot, and will provide unique views over Sandford Bay and Peterhead Bay, again boosting the scenic attraction of the route. The tight corners on this routing does mean that this short section of the line would have to run at a slower speed. Option 1 allows us to provide a freight connection to the existing ASCO terminal at Peterhead Bay, directly connecting the railway to the south breakwater and pier.
- Option 2** In Pink, Option 2 avoids crossing the A90 a second time, instead leaves the historic alignment of the Peterhead Prison Railway west of the new Boddam substation. A station on the Southern edge of Peterhead within a popular retail park. Excellent walking and cycling access to the Station despite being quite far out from the centre of town.
- Option 3** In Green, land is safeguarded for a station as part of the 2016 masterplan. This site can be used as a terminus that has the same advantages and disadvantages as Option 2, while being within walking distance of a greater proportion of Peterhead's population. This site also has the added benefit of connecting directly with the Formartine and Buchan Way cycle path. If Option 4 is progressed, this site can be used as a halt, providing two excellent station stops serving Peterhead. The town centre site will serve the population of the town itself, while this site will provide an excellent park n ride facility for rail users from surrounding settlements such as Fraserburgh and Longside, removing the risk of Option 4 increasing urban traffic in Peterhead.
- Option 4** In White, Peterhead Academy is scheduled for demolition in 2025 due to replacement by a new school on another site. This academy sits on the historic site of Peterhead Railway Station and this may present the perfect opportunity to reopen the station where it originally was. The line follows the Formartine and Buchan Way into the heart of Peterhead, and since this is in the town of Peterhead the cycle path does not necessarily need to be replaced alongside the railway as safe cycling provision can be provided on nearby quiet streets. This site is in the heart of Peterhead, within easy walking distance of all Peterhead attractions and residential areas, as well as the town centre itself. This fact makes this option the most likely to aid in town centre regeneration efforts. The site is large enough for a two platform station and a sizeable car park.

6.2 Option A Peterhead to Fraserburgh

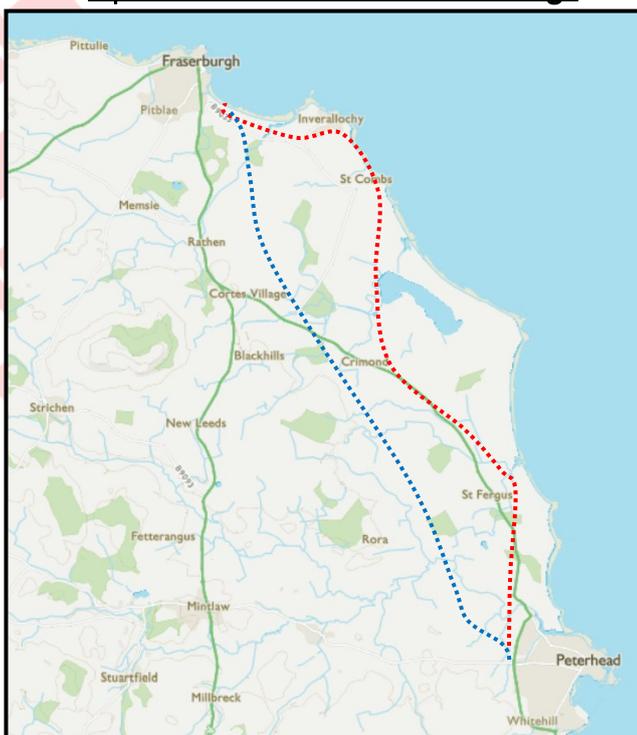


Fig 6.2.1 Indicative alignment options Peterhead to Fraserburgh

- 6.2.1** A direct railway between Peterhead and Fraserburgh has never existed.
- 6.2.2** A number of alignments are possible, each optimised for preferred outcomes. Figure 6.2.1 shows two of these possible alignments.
- 6.2.3** Despite the low population on this stretch of land, there are settlements that will benefit from a station. The indicative alignment in red maximises the station stops between Peterhead and Fraserburgh. St Fergus, Crimond, and Inverallochy & Cairnbulg are all connected to the railway.
- 6.2.4** The indicative alignment shown in blue cuts a direct line between Peterhead and Fraserburgh, minimising journey time and increasing competitiveness with the road journey both on the A90 and A952.
- 6.2.5** Both of these alignments can make partial use of former railway solutions. The red alignment can utilise the former Fraserburgh - St Combs branch, and the blue alignment can make use of a short section of the Formartine and Buchan Way to clear Inverugie, then rejoin the Formartine and Buchan Way near Rathen.
- 6.2.6** Either of these alignments, or anything in between are possible, CNER defer this determination to the planning stage.

6.3 Option B Ellon to Fraserburgh

6.3.1 If Option B is selected then the railway will follow the Formartine and Buchan Way to Fraserburgh after branching at Ellon.

6.3.2 This route is entirely unobstructed, but the cycle path will have to be replaced along its entire length.

6.3A Maud Station

6.3.3 Maud station was the branch junction for the historic Formartine and Buchan Railway. The line continued north towards Strichen and Fraserburgh, and branched east to Mintlaw, Longside and Peterhead. To accommodate this, Maud station was built to have four platforms, two stand alone and one island.

6.3.4 These platforms are in remarkable condition, thanks to the 'Friends of Maud' preservation group, who have looked after the station and established a Museum in the old station building. Since we are not making use of the historic Peterhead branch, we can see Maud being popular with users of the Formartine and Buchan Way, for those who wish to visit Old Deer Abbey, Mintlaw, Aden Country Park, Pitfour lake and the various ancient monuments accessible via this short stretch of the shared use path.

6.3.5 The restoration of the Buchan Railway through Maud will benefit the village enormously. Maud has a larger population in catchment settlements than any other station on this new railway, as such we have included proposals for a large car park at Maud station.

6.3.6 CNER propose the railway makes use of both Fraserburgh bound platforms, leaving the Peterhead bound platforms free for use by the railway Museum to showcase their restored historic carriages.



Fig 6.3.1 Maud Station Proposal

6.3B Strichen Station

6.3.7 The historic site of Strichen station is not suitable for a modern railway station. This is because the station house and platform are now a private home, and all nearby land is in other use, including a public park.

6.3.8 CNER propose a station be built along Brewery Road, near a field suitable for a sizeable car park. This positions the station immediately adjacent to popular walks around Strichen Lodge, although a footbridge would be required to cross the railway to access these walks. If a new route to Fraserburgh is selected, an alternative site is possible on the west side of the village.

6.3.9 The sites are both within walking distance of Strichen Village centre along an existing pavement.



Fig 6.3.2 Strichen Station and Car Park

6.3C Mintlaw Alternative

- 6.3.10 Mintlaw was originally connected to the Formartine and Buchan Railway on the route between Peterhead and Maud. It is not feasible to make use of this solum due to the circuitous nature of the route.
- 6.3.11 Rather than making use of the Fomartine and Buchan Way in its entirety between Ellon and Fraserburgh, we have an opportunity to provide a modern railway that maximises benefit to the communities it serves. This route leaves the FBW to the north of Ellon, calling at Mintlaw and Strichen before heading directly to Fraserburgh.
- 6.3.12 Mintlaw is a popular and growing village with many tourist attractions within walking distance such as Aden Park, Pitfour Lake, Deer Abbey, Happy Plant and is within easy cycling distance of Maud and Longside on the Formartine and Buchan Way.
- 6.3.13 CNER propose a Mintlaw station on the east side of the village, sandwiched between the Formartine and Buchan Way for cycling and walking access, and the A950 for road access.

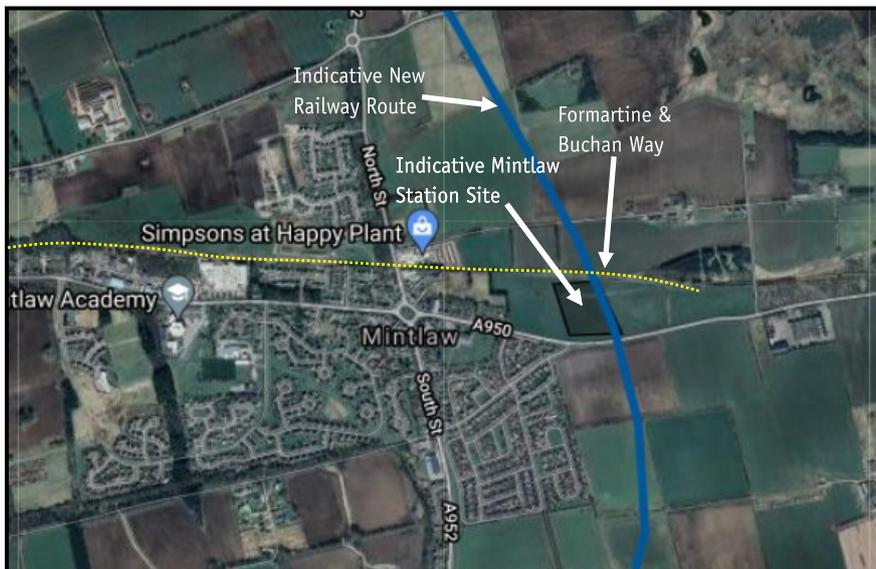


Fig 6.3.3 Mintlaw Station Site

6.3C Fraserburgh Station

- 6.3.14 The historic site of Fraserburgh station has now been developed upon. Today this site is in use by fish processing companies, and the original path from the outskirts of the town to the station site is now the busy Beach Road, the main thoroughfare for freight into and out of Fraserburgh.
- 6.3.15 CNER propose Fraserburgh station and car park be built on disused ground near the current retail park, a large site exists along the path of the railway corridor that is suitable for both a station and a sizeable car park. Placing the station on this site south of the historic terminus serves Fraserburgh well while avoiding crossing roads and significant works to reach the town centre.
- 6.3.16 This site is within walking distance of local facilities, harbour, and popular beach area, as well as connecting to paved paths.
- 6.3.17 Fraserburgh Golf Club is the 7th oldest in the world, the railway terminus being so close to the club will encourage tourists to make use of the railway .

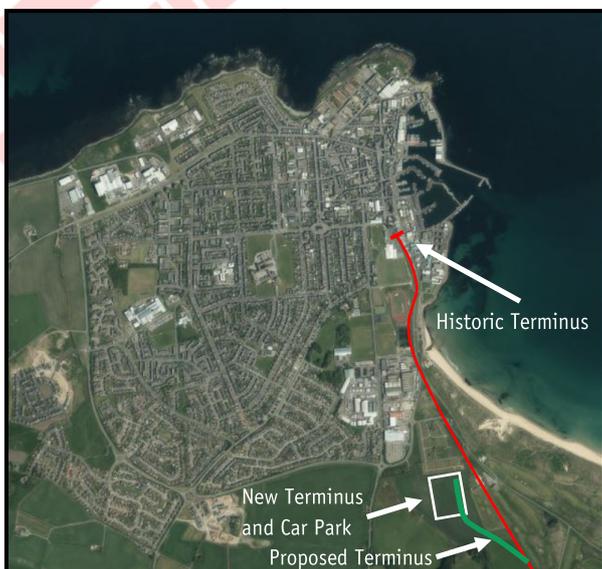


Fig 6.3.4 Historic Fraserburgh Alignment

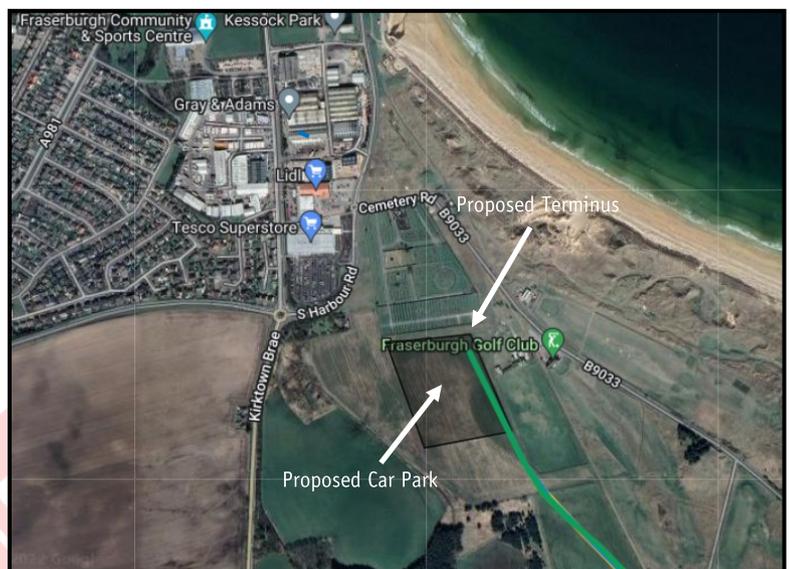


Fig 6.3.5 Proposed Fraserburgh Station and Car Park

Study Design Overview



The Next Buchan Railway Feasibility Study Should Examine:

- A core railway Dyce-Peterhead. Following the Formartine and Buchan Way to Ellon, with diversions at Newmachar and Pitmedden, then following the Boddam Branch line to Peterhead.
- Comparison of options at Bogbrae, following the historic line, or, a new alignment.
- Advantages and disadvantages of three presented options for connecting the Boddam Branch to Peterhead at Stirling Hill near Boddam.
- Connecting Fraserburgh to the rail network:
 - Option A - Continuing the core railway to Fraserburgh from Peterhead with stations possible at St Fergus, Crimond, and Inveralloy & Cairnbulg. Alternative Option A: Direct to Fraserburgh non stop.
 - Option B - Branching from the core railway at Ellon, reaching Fraserburgh by following the Formartine and Buchan Way with stations at Maud and Strichen. Alternative Option B: Stop at Mintlaw instead.
- Only if Options A and B are not feasible:
 - Option C - Core railway to Peterhead with additional Park & Ride at Inverugie development.
- Retain the existing active travel corridors by constructing path alongside railway where use of the Formartine and Buchan Way is required (7.1 miles Dyce-Ellon). If this is the only option preventing feasibility, investigate alternative methods of funding through Scottish Government active travel schemes.
- Rail Freight Terminals at Ellon, Fraserburgh, Peterhead, and St Fergus.
(Extension required from Peterhead to St Fergus if branched railway (Option B) is selected.)
- Provide electrification from day one in line with Transport Scotland's 2035 decarbonisation plan. This is particularly important for decarbonised freight carriage.
- Provide platforms long enough for special tour services as was successful the Borders.

As a result of STPR2 Recommendations 27 and 44:

- Increase freight gauge Aberdeen - Dyce to W10 or W12 to facilitate shipping container carriage from a Buchan line, as well as Waterloo Quay and Raith's Farm.
- Increase capacity Aberdeen - Dyce by redoubling the Schoolhill and Hutcheon St tunnels.
- Increase capacity through Aberdeen Station to facilitate an increase in passenger and freight traffic by recommissioning Platforms 8 and 2, and upgrading the interplatform crossover.
- Do not attribute costs of these upgrades to a Buchan Railway project.
- Ideally complete works alongside electrification preparatory works or Berryden Corridor construction to minimise disruption and reduce cost.



How can you help ?

Politicians

Pledge your support to funding a full and fit-for-purpose feasibility study.
Lobby colleagues to adopt Cross-Party consensus.

Business owners

Get in touch, have a discussion on how this will help your business.
Contribute to the feasibility study when it launches in favour of the proposals.

Community leaders

Organise a public meeting in your community to raise awareness
and canvas opinion. Approach us about providing a speaker.

Local residents and supporters

Visit the Campaign for North East Rail website and sign up to our mailing list.
Contact your locally elected political representatives and tell them you want them to support our campaign.

Media

In addition to press releases we are happy to provide media
comment upon request. We are a community group and can
provide radio and television comment and written copy.

Email info@campaignfornortheastrail.org

Facebook Campaign for North East Rail

Twitter @CNERail

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