

Detailed Appraisal		Intervention E8: New Rail Line between Perth and Inverkeithing						
Estimated total Public Sector Funding Requirement:		<i>Capital Costs/grant</i>		£500m - £1bn				
		<i>Annual Revenue Support Present</i>		-				
		<i>Value of Cost to Govt</i>		£250m - £500m				
		<i>BCR/PVB</i>		<0.75 / £100m - £250m				
Summary Impact on STAG Criteria	Environment Safety Economy Integration Accessibility and Social Inclusion	---	--	-	0	+	++	+++
(Judgement based on available information against a 7pt. scale.)								
Intervention Description:								
This intervention supports the objective of promoting public transport journey time reductions between Inverness, Perth and Edinburgh.								
The intervention would consist of a direct dual-track rail link between Perth and Inverkeithing, providing a more direct rail service to Edinburgh.								
Summary: Rationale for Not Recommending								
A direct line between Perth and Inverkeithing would reduce the distance between Edinburgh, Perth and Inverness by approximately 25 per cent resulting in a journey time saving of 35 minutes. However, forecasts show a limited transfer of trips from road to rail in this corridor.								
There are potential adverse effects on the water environment, biodiversity, and notably cultural heritage, where there could be a major adverse impact to the setting or integrity of nationally important sites such as Scheduled Monuments and Historic Gardens and Designed Landscapes.								
The cost of this intervention is relatively high compared to the benefits. This intervention would therefore not provide value for money. In addition, there are significant technical and environmental constraints which would impact on the delivery of this intervention. Intervention D31 (Inverkeithing to Halbeath Rail Line) represents greater value for money through improved access to Rosyth and journey time reductions between Inverkeithing and Halbeath, north Fife and beyond.								

Table E8.1.1 STPR Objectives

STPR Objectives	
<p><u>STPR Objective 1:</u></p> <p>To reduce Edinburgh to Perth public transport journey times and increase opportunities to travel by public transport.</p>	<p>1: Strongly Positive – A new rail route between Perth and Inverkeithing would provide better public transport accessibility and partially increased capacity for passengers. The service would provide a more direct link between Perth and Fife thereby providing significant reductions in journey time from 1hour 15 minutes to 40 minutes. As a result there would be a significant increase in the volume of passengers using Perth and Inverkeithing stations, with annual patronage levels forecast to increase by 420, 000 and 150, 000 respectively in 2022. This represents an increase of approximately 25 per cent and 10 per cent respectively at these two stations.</p> <p>2: Neutral – A direct rail link would provide an attractive rail service and encourage modal transfer from other modes of transport. However, due to the volume of road based traffic on this corridor the impact on accident rates is likely to be negligible.</p> <p>3: Positive – The proposed direct rail link would result in a significant reduction of 35 minutes in rail journey time between Edinburgh and Perth, and would give a similar reduction in journey times between Edinburgh and Inverness.</p> <p>4: Slightly Positive – A direct rail line between Inverkeithing and Perth would provide a more direct route and greater network flexibility thereby enhancing the efficiency and effectiveness of the transport network. This would in turn assist the development and implementation of the proposed national developments at Rosyth, and Edinburgh Airport.</p> <p>5: Neutral – Although this intervention would result in an increase in the number of passengers using Perth and Inverkeithing stations, the impact on traffic flows on the M90 and Replacement Forth Crossing are likely to be negligible. It is forecast that there will be less than a 1 per cent change in traffic flow on the M90 between Perth and Inverkeithing in the morning peak hour as a result of this intervention.</p>
<p><u>STPR Objective 2:</u></p> <p>To promote continuing reduction in accident rates and severity rates across the strategic transport network.</p>	
<p><u>STPR Objective 3:</u></p> <p>To promote journey time reductions between the Central Belt and Aberdeen/Inverness primarily to allow business to achieve an effective working day when travelling between these centres.</p>	
<p><u>STPR Objective 4:</u></p> <p>To promote efficient and effective transport links to support the development and implementation of the proposed national developments at Rosyth, Forth Crossing and Edinburgh Airport identified in the NPF2.</p>	
<p><u>STPR Objective 5:</u></p> <p>To improve the efficiency of the M90/A90 during periods of peak demand with a focus on reducing the conflict between longer distance and local traffic</p>	

Table E8.1.2 STAG Criteria

STAG Criteria		
Criteria:	Assessment Summary:	Supporting Information:
Environment:	Major negative impact / Minor benefit	<p>This intervention is expected to result in a 1 per cent shift from car to rail along the M90, particularly in peak hours, with potential direct and indirect benefits to local air quality, on the M90 and the Perth Air Quality Management Area.</p> <p>Despite these minor positive effects, there are also potential major adverse effects on the water environment, biodiversity, and notably cultural heritage, where effects to the setting or integrity of nationally important sites such as Scheduled Monuments, Historic Gardens or Designed Landscapes may be impacted. However, these effects would be highly dependent on the location of the final works.</p>
Safety:	Neutral	Although this intervention would help encourage modal shift, thereby removing some trips from the road network to the rail

		network, the impact on accidents rates would be negligible. Personal security would be affected.
Economy:	Minor Negative Impact	<p>Transport Economic Efficiency (TEE): This intervention would offer a faster rail journey from Perth to Edinburgh than current routes providing significant journey time savings. Station usage at Perth is forecast to increase by approximately 420,000 passengers and station usage at Inverkeithing is forecast to increase by 150,000 per annum in comparison with the reference case, indicating that journey time savings would benefit a significant number of passengers. However, despite these increases in patronage levels the benefit cost ratio is forecast to be <0.75, indicating poor value for money.</p> <p>Wider Economic Benefits (WEBs): The improved links between Perth and Inverkeithing would provide enhanced links between a number of locations along the corridor, including Edinburgh, Perth and Dunfermline. Improved journey times would be likely to improve efficiency and productivity for business travellers using the route. TMFS data indicates that the number of business passengers using Perth rail station would be 16 per cent higher in 2022 than in the reference case.</p> <p>Economic and Location Impacts (EALIs): This development would not have a significant impact on the location of economic activity, although the enhanced connectivity between communities would open up greater opportunities for employment and trade. Businesses located at key areas of economic activity such as Central and West Edinburgh, Rosyth and Perth are likely to benefit from improved connectivity and access to skilled staff.</p>
Integration:	Minor benefit	<p>Transport Integration: Transport integration would be improved through the provision of a higher quality rail service between Perth and Edinburgh.</p> <p>Land Use Transport Integration: Land use integration would depend on the final alignment of the route.</p> <p>Policy Integration: This intervention would integrate well with relevant regional policies by providing greater connectivity between Perth and Inverkeithing and improving rail journey times.</p>
Accessibility and Social Inclusion:	Minor benefit	<p>Community Accessibility: This intervention would provide a higher quality public transport rail link than currently exists, thereby assisting accessibility. Localised severance issues might arise depending on the final alignment of the route. Station usage at both Perth and Inverkeithing is forecast to increase, suggesting a greater level of accessibility.</p> <p>Comparative Accessibility: It is anticipated that there would be no significant impact on comparative accessibility from the measure proposed.</p>

Table E8.1.3 Key Strategic Outcomes

Key Strategic Outcomes (KSO's)		
Objective:	Assessment Summary:	Supporting Information:
Improve Journey Times and Connections:	Moderate Benefit	A new rail line between Inverkeithing and Perth would provide a step change reduction in journey times between Edinburgh and Perth by providing a higher speed alignment along a shorter route, and would therefore enhance connections between Perth and Edinburgh.
Reduce Emissions:	Minor Benefit	This intervention is likely to encourage some modal shift from road to rail and subsequently relieve some traffic congestion on the M90. This could result in a slight reduction in CO ₂ e emissions. Perth has a designated Air Quality Management Area extending directly up to the ring road leading to the M90, and this intervention could therefore contribute to local air quality improvements. It is however, unlikely to have any noticeable impact on national CO ₂ e levels.

Improve Quality, Accessibility and Affordability:	Moderate Benefit	Provision of a new rail service would improve the quality of travel between Perth and Edinburgh, with improved accessibility and capacity for passengers.
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Table E8.1.4 Scottish Government's Strategic Objectives

Scottish Government's Strategic Objectives		
Objective:	Assessment Summary:	Supporting Information:
Safer and Stronger:	Minor benefit	This intervention would improve the quality and accessibility of public transport between Perth and Edinburgh. However, modal shift from road to rail is unlikely to result in any noticeable reduction in road accidents.
Smarter:	Neutral	This intervention would have no impact on access to education centres for those living along this corridor.
Wealthier and Fairer:	Moderate benefit	This intervention would provide greater choice for public transport travel thereby assisting with social inclusion and accessibility issues, and providing greater choice to travellers. Improved journey times between Perth and Edinburgh would also provide a benefit.
Greener:	Minor benefit	A new rail line would result in a national modal shift of 1 per cent to rail along this corridor, and lead to improving local air quality and reducing emissions along the route.
Healthier:	Neutral	The modal shift arising from this intervention may encourage increased walking / cycling to access the new services. It would be unlikely to have a significant impact on access to health services and other community services.

Table E8.1.5 Implementability Appraisal

Implementability Appraisal	
Technical:	<p>It is proposed that this intervention would follow the disused railway where possible and in general n general, no untried techniques would be required when implementing any aspects of this intervention. However, as the design stages progress, localised issues may arise which require increased technical capabilities to overcome.</p> <p>Construction of this line would also include a bridge over the M90 and there may be some disruption to road users.</p>
Operational:	<p>Running additional rail services places extra pressure on the rail network and can increase the risk of delays. However, it is expected that these issues would be mitigated by ensuring that the works included within the intervention have sufficient capacity for the proposed service levels. No significant operational impacts are anticipated from this intervention.</p>
Public:	<p>There has been no specific detailed consultation on this individual intervention. However, it is expected that any measure which promotes modal shift to more sustainable transport would achieve general public support.</p>