

Proposal Details				
Name and address of authority or organisation promoting the proposal:		Scottish Executive		
Proposal Name	Pitfodels Route	Name of Planner	AWPR Managin	g Agent
Proposal Description	Dual two lane carriageway Special Road with grade separated junctions forming a key component of the Modern Transport System as identified in the MTS STAG Part 1.	Estimated Total Public Sector Funding Requirement	Capital Cost Annual revenue support Present Value of costs	£245m to £335m - -
Funding sought from	Scottish Executive (81%) Aberdeen City Council (9.5%) Aberdeenshire Council (9.5%)	Amount of Application	£245m to £335n (Predicted Out-t	





Background Information	
Geographic Context	Aberdeen is the urban centre of North-East Scotland. The existing trunk road network runs through Aberdeen, with the local road network entering the city radially. The existing highway infrastructure in many areas is significantly constrained, with the trunk road bridge across the River Dee being unable to accommodate heavy goods vehicles and the trunk road through Aberdeen having a number of traffic signal controlled junctions and at grade roundabouts. In addition, over much of its length the trunk road is on a steep vertical alignment and is closely bounded by a mix of residential, leisure and commercial premises. These various constraints result in diversion by drivers onto local roads, causing further congestion across the network. The study area straddles the Aberdeenshire/Aberdeen City Council boundary and comprises primarily of Aberdeen's rural hinterland although it passes close to or through several built up areas within the city boundaries. The study area crosses the River Dee Special Area of Conservation and River Don (District Wildlife Site). The study area passes close to Aberdeen Airport and crosses the Aberdeen to Inverness railway line.
Social Context	The study area comprises farmland and urban areas which are primarily industrial or residential. The radial routes which the study area crosses are primarily commuter routes connecting the urban areas to the west of the city centre and west of Aberdeen with the city. The main trunk roads are the A90 which runs from north to south and the A96 which heads west.
Economic Context	Congestion within Aberdeen has become of increasing concern, in terms of both environmental impacts associated with congested traffic and with the economic impact on areas north of Aberdeen. Economic activity within the study area is primarily agricultural. There are industrial estates at Tullos and Altens in the south, Westhill and Kirkhill on the western fringes and Bridge of Don and Blackdog in the north. Aberdeen Airport is located adjacent to Kirkhill Industrial Estate at Dyce in the west of the city. In built up areas, the main economic activity is that associated with residential areas, such as shops, restaurants and hotels. Economic activity is adversely affected due to complex journeys and increasing and unreliable journey times through the city. This affects both Aberdeen City and Aberdeenshire.





Planning Objectives		
Objective	Performance against planning objective	
	G Part 1 Assessments. The AWPR objectives are grouped into the five Government mary. These objectives are grouped into three categories below for assessment as planning	
Acceptability and Participation (Objective AP1)	Public consultation was held in March/April 2005. The results of the consultation are contained in a separate public consultation report.	
Deliverability (Objective D1)	Refer to the Implementability Appraisal and Government Objectives for Transport in this STAG Assessment.	
Reduce Congestion (Objectives EV3, EV4, EA4, IT3, IT4, IT5, AB4)	The Pitfodels Route, being the closest option to the city, attracts city traffic to a greater degree and generally carries some of the highest traffic flows. It is therefore one of the better options for providing relief to the city.	
Improve Economic Activity (Objectives EA3, EA4, IL3, IL4, IP2)	The route provides access between proposed rail freight transfer depots, industrial estates and businesses, Park and Ride car parks, road and air links, to ensure journey times and costs are minimised. This will facilitate the reallocation of road space to more appropriate priority forms of transport and integration with other public transport measures proposed in the MTS. The route provides an attractive link from residential areas on the periphery of Aberdeen and Aberdeenshire to the industrial estates and main employment areas on the periphery of Aberdeen and Aberdeenshire, reducing the need to travel through the city centre. On the North Deeside Road corridor the route is closer to the city centre which attracts traffic from the city centre but requires traffic from the periphery to travel further into Aberdeen to access the route.	
Enhance Safety (SA2, SA3)	A consistent, high quality route is provided with high capacity junctions to maximise user safety. The Pitfodels Route achieves some of the greatest reductions in traffic levels on the existing road networks thereby reducing the risk of accidents.	
Rationale for selection or rejection of proposal		





Implementability Appraisal	
	The scheme length and earthworks information are provided for the entire route. The other information is provided for the Southern and Western Section where options are being considered.
	Scheme Length 28.5km
	Junctions All directions at Charleston South-facing slips at B9077 North-facing slips at A93 All directions at A944
	Local Routes Passes above B9077, beneath former Deeside Railway Line and A93, along Baird's Brae and Countesswells Road, and above A944.
Technical	Earthworks Likely import of 1,145,755 m3 of acceptable material required. Excavation expected in hard rock at Baird's Brae (c.20m). The main technical/financial risk associated with this route is related to earthworks costs as no ground investigation information is available for the section between Charleston and Countesswells. It is estimated that approximately 2,600,000m <sup>3</sup> of landscape fill requires to be disposed of or reused within the works.
	<b>Structures</b> Likely cable stayed crossing of River Dee and B9077, of total length approximately 525m with main span of approximately 165m. Crossing is approximately 18m above flood plain level. Former Deeside Railway maintained by overbridge. The key technical challenge will be the design and construction of the River Dee crossing in order to avoid impact on the River Dee SAC. No temporary or permanent supports are permitted within the SAC boundary.
	The route is a reasonably conventional greenfield route interfacing with key existing roads at junctions and other roads with access maintained over or under the route, where possible, with bridges. Few departures from standard are anticipated although there are likely to be steep gradients approaching the A93 and B9077 junctions. As indicated above, the junction at the Dee corridor is split with north facing slip roads at the A93 and south facing at the B9077. All other options provide a full junction at the A93.





Implementability Appra	aisal
	There is a risk relating to programme as the route has not been developed to the same level as the Murtle Route. It is anticipated that this will add at least one year to the programme with the earliest completion date being 2011. Any delay beyond this date will affect the scheme cost estimate due to additional construction inflation.
Operational	Operation of the route will be undertaken through the Scottish Executive term contract for management of the trunk road network or by a PPP concession company.
Financial	The scheme is likely to be procured as a Design and Build or Public Private Partnership (eg DBFO) project. Funding of the capital costs will be split between the funding partners Scottish Executive (81%), Aberdeen City Council (9.5%) and Aberdeenshire Council (9.5%). The route will be maintained through the Scottish Executive term contract for management of the trunk road network or by a PPP concession company.
Public	Public consultation was held in March/April 2005. The results of the consultation are contained in a separate public consultation report.





Objective	Assessment Summary	Supporting Information
	River Dee SAC Potential for major cost or negative impact	Crosses the Dee SAC with qualifying species including salmon, otters and the endangered freshwater pearl mussel.
	paol	Crossing over River Dee SAC downstream of Inchgarth Reservoir. Potential impacts on the tributary Burn of Leggart.
		Increased surface water run-off due to impermeable road surface may result in detrimental impacts to water quality/quantity.
Environment		Potential for groundwater impacts through or surface water discharges.
		Potential for pollution to reach the SAC as a result of runoff from accidental spills.
		Potential impacts through noise and vibration, increased sediment flow and potential pollution associated with construction activities.
		Mitigation will include adopting measures and design solutions to control noise and vibration and sediment run off during construction; and ecological mitigation and sustainable drainage systems during operation.
	Special Needs Residential Facilities Potential for moderate cost or	Camphill Beannacher residential facility for young adults 500m east of the route. There are approximately 22 young adults (students) at Beannacher.
	negative impact	Route is approximately at existing ground level as it passes west of the Camphill estate, continuing north to be elevated approximately 18m above ground level as it crosses the River Dee floodplain. Potential impacts due to noise and vibration, visual impacts and during construction.





Objective	Assessment Summary	Supporting Information
	Land Use (property impacts) Potential for major cost or negative impact	19 properties require demolition. Close proximity to urban areas Passes through Robert Gordon's College playing fields. Passes close to Banchory Devenick School Close proximity and elevated above Banchory Devenick Church Passes close to Hazelhead Park and Golf Course. Impacts on agriculture along the length of the route.
	Noise and Vibration Potential for moderate cost or negative impact	<ul> <li>During operation, traffic movement along the route would result in an increase in traffic noise to properties. This has been estimated as: <ul> <li>18 properties within 50m</li> <li>62 properties within 100m</li> <li>152 properties within 200m</li> <li>248 properties within 300m</li> </ul> </li> <li>Sensitive receptors include Banchory Devenick School which has 44 pupils. Noise reductions along Anderson Drive and other current commuter routes and city streets due to reduced traffic volumes.</li> <li>Mitigation such as low noise surfacing, bunds and noise barriers will be employed where appropriate.</li> </ul>





Objective	Assessment Summary	Supporting Information
	Air Quality Potential for minor cost or negative impact	Potential for localised air quality impacts for some properties along the route, once operational.
		Potential for localised air quality improvements within the city's designated Air Quality Management Zone and along Anderson Drive and other current commuter routes.
	Water Quality, Drainage and Flood defence Potential for minor cost or negative impact	Passes approximately 500m east of Inchgarth Reservoir. Potential impacts on Auchinyell Burn at Braeside and numerous other small burns and field drains.
		Increased surface water run-off due to impermeable road surface may result in detrimental impacts to water quality/quantity.
		Soil compaction, realignment of field drains and ditches, culverting of burns and other works may potentially affect local drainage systems.
		Potential for groundwater impacts through soakaways, disturbance of contaminated land or surface water discharges.
		Potential for pollution to reach local waterways as a result of run off from accidental spills.
		Run-off from road drainage may reach local waterways and may result in detrimental impacts to water quality/quantity.
		Proposed crossings for all affected watercourses may result in changes to local water quantity/flows.





Objective	Assessment Summary	Supporting Information
		Mitigation such as sustainable drainage systems will be employed.
	Disruption Due to Construction Potential for major cost or negative impact	Potential for temporary localised minor decreases in air quality due to dust, plant and equipment during construction.
		Potential for temporary localised increases in noise due to plant, equipment and works during construction.
		Potential significant adverse short term impact on North Deeside Road corridor due to rock excavation and other works within built up area at Cults.
		During construction DMRB recognises that impacts are greatest for properties within 100m of the works. This has been estimated as:
		<ul> <li>18 properties within 50m</li> <li>62 properties within 100m</li> </ul>
		Construction of bridge and smaller proposed crossings could result in short term impact through increased sediment flow and potential pollution associated with construction activities.
		Short term impacts on landscape and visual amenity during construction.
		Mitigation will include adopting measures and design solutions to control noise, vibration and sediment run off during construction.
		Please also refer to the Special Needs Residential Facilities Section.





Objective	Assessment Summary	Supporting Information
	Biodiversity Potential for moderate cost or negative impact	Passes under Deeside Railway Line DWS (moderate). Mitigation could be provided to reduce this impact.
		Traverses the edge of Den Wood District Wildlife Site, some of which (<20%) could suffer direct habitat loss (moderate). Traverses the edge of Pitfodels Castle District Wildlife Site (minor). Mitigation could be provided to reduce this impact.
		Impacts on Pitfodels Conservation Area, Baird's Brae (moderate). Mitigation could be provided to reduce this impact.
		Impacts on long avenue of mature trees along Countesswells Road (moderate). Mitigation could be provided to reduce this impact.
		Disruption of wildlife corridor at Rocklands Road area (moderate). Mitigation could be provided to reduce this impact.
		Traverses West Hatton DWS at Kingswells (major). Compensatory planting would offset, but loss of mature woodland will not be able to be fully mitigated.
		New A96 junction at Craibstone will also result in severe habitat fragmentation for red squirrels and the loss of mature woodland and this will not be able to be fully mitigated
		Small fragments of ancient woodland along the route will be lost (minor). Mitigation could be provided to reduce this impact.





Objective	Assessment Summary	Supporting Information
	Visual Amenity and Landscape Potential for major cost or negative impact	Construction within a landscape which has a generally high sensitivity and quality.
		Significant adverse impact as the route traverses through Pitfodels Special Conservation Area.
		Traverses through an Area of Landscape Significance (in Aberdeenshire Local Plan) for approximately 0.7km.
		Approximately 26.7km (94%) of the route lies within Greenbelt.
		Please also refer to the Special Needs Residential Facilities Section.





Objective	Assessment Summary	Supporting Information
	Cultural Heritage Potential for moderate cost or	Crosses to the west of area of consumption dykes near junction with A90.
	negative impact	Passes 150m west of Drumgarth Windmill (C (S) Listed)
		Passes 15m west of St Devenick's on the Hill complex (Grade B and C listed).
		Passes 100m east of Banchory Devenick Kirk and school complex at the B9077 South Deeside Road (Grade B and C listed).
		Passes through curtilage of Inchgarth House, 15m from main buiding (Grade C listed).
		Passes 40m west of Woodbank including walled garden (Grade C listed).
		Passes 100m east of Craigton March Stones (10 & 11) (Grade B listed).
		Passes 250m east of Quakers (Friends) Burial Ground at Kingswells. (Grade C listed).
		Passes close to Kingswells House (Grade B listed) and Kingswells Consumption Dyke SAM. This impact has been agreed with Historic Scotland.
		Passes 230m to east of Whin Cottage (C (S) Listed)





Objective	Assessment Summary	Supporting Information
	Pedestrians, Equestrians, Cyclists and Community Effects Potential for moderate cost or negative impact	On the basis of currently available information, there is potential for recreational pathways (including bridleways and cycleways) to be directly impacted through severance or indirectly affected through visual and noise disturbance. There is also potential for pedestrian and cycleway access to community facilities to be disrupted. The design will maintain pathways as far as practicable.
	Vehicle Travellers Potential for minor benefit	Less than half of the route is bordered by cutting which severely inhibits views. Views available are varied and include an open panorama across the Dee valley and the City of Aberdeen, medium-range views of attractive wooded farmland and occasional enclosure from mature woodland and roadside cutting. Based on the traffic flows provided, driver stress is estimated to be low.





Objective	Assessment Summary	Supporting Information		
	Geology and Soils Potential for moderate cost or negative impact	There are no sites of geological interest identified and although some rock cutting will be required the associated impact would be considered as negligible.		
		The potential for made ground contamination is expected to be restricted to the numerous infilled sand pits scattered across the relevant areas of drift deposits beneath the route. The significance of any impact will depend mainly on the specific nature of the infill at each pit.		
		The route is known to cross peat deposits and the integrity of these may be affected by impact on the quality and /or quantity of their water, if not appropriately mitigated by road construction design.		
		Groundwater is expected to be at shallow depth in the vicinity of significant watercourses and below other areas of low lying ground. Where road cutting is required in these areas, such that the water table is intercepted, there will be a local reduction in water table levels. This may be significant if local vegetation and habitat, or private water supplies, are dependent on groundwater.		
	Policies and Plans Does not comply with Local Plans	This route does not comply with the line in the draft Aberdeen City Council and Aberdeenshire Council local plans. Both local plans anticipated that the WPR would proceed as the Murtle Route, no other route has this benefit.		
Safety	Accident Savings (PV1) Minor Benefit	There are slight differences between the routes but the order of savings across all routes is approximately £4m per annum at 2025.		





Objective	Assessment Summary	Supporting Information			
Economy	Traffic volumes (2010 AADT)	AWPR 2010 Flows A90 (S) – B9077 B9077 – A93 A93 – A944 A944 – North Kingswells North Kingswells – A96 A96 – A947 A947 – A90 (N)	24600 23500 32300 35200 39200 13100 17400		
		Existing Roads	Without AWPR	With AWPR	
		King Street at Bridge of Don	33900	29700 (-12%)	
		Market Street	28100	24800 (-12%)	
		Bridge of Dee	32000	26000 (-19%)	
		Auchmill Road	41300	33300 (-19%)	
	Journey time savings (PV2)	Netherley Road £1,131,985,000	3400	300 (-91%)	
	Vehicle Operating Costs (PV3)	-£27,222,000			
	User Charges (PV4)	-£749,000			
	Private Sector Revenue Impact (PV5)	£122,000			
	Public Sector Investment Costs (PV6)	£229,651,000			
	Public Sector Operating Costs (PV7)	£6,474,000			
	Taxation impacts (PV8)	-£1,225,000			
	Present Value of Benefits				
	(PV1+PV2+PV3+PV4+PV5)	£1,104,136,000 (Note: Accident Savings PV1 are not included)			
	Present Value of Costs				
	(PV6+PV7+PV8)	£234,900,000			
	Net Present Value (PVB-PVC)	£869,236,000			
	Benefit to Cost Ratio (PVB/PVC)	4.7			





Objective	Assessment Summary	Supporting Information	
	Overall Economy Assessment	Highest BCR achieved. Capital expenditure exceeds lowest by £35m -	
	Major Benefit	£55m.	
	Transport Integration	The route provides access between proposed rail freight transfer depots,	
	Major Benefit	industrial estates and businesses, Park and Ride car parks, road and air	
		links. The route will facilitate the reallocation of road space to more	
		appropriate priority forms of transport and integration with other public	
		transport measures proposed in the MTS.	
	National Transport Targets	The AWPR is a key element in an integrated set of transport measures called	
Integration	Complies to a greater degree	the Modern Transport System (MTS). The objectives of the MTS endeavour	
		to ensure that the package of measures proposed comply with National	
		Transport Policies. The AWPR is in accordance with Aberdeen and	
		Aberdeenshire's Local Transport Strategies. The route attracts some of the	
		higher traffic flows from the city and as such provides greater opportunities to	
		implement other public transport improvements. However, the route does not	
		constrain traffic growth on the trunk road corridor.	
	Accessibility and Social Inclusion	Supports development of public transport improvements as proposed within	
	Major Benefit	Modern Transport System.	
	Change in Severance – Global Impact	Route reduces severance within city, and reduces severance between	
Accessibility and Social Inclusion	Major Benefit	destinations currently reached via Aberdeen.	
	Change in Severance – Local Impact	Closes Baird's Brae and Countesswells Road. Introduces severance at	
	Moderate Negative Impact	Baird's Brae.	





### Aberdeen Western Peripheral Route Objectives

#### **Acceptability and Participation**

**AP1** The strategy will be developed through public participation and be endorsed by the Community.

### Deliverability

**D1** The strategy will be achievable, both practically and financially, and demonstrate best value.

### **Environmental Objectives**

EV3 - To reduce the impact of traffic, including in particular HGV traffic, on Aberdeen and the surrounding area whilst incurring minimal damage to the natural environment.

EV4 - To contribute towards reducing air pollution problems, particularly in the city centre where the problems are greatest.

### **Economic Objectives**

EA3 - To provide access between proposed rail freight transfer depots, industrial estates and businesses, Park and Ride car parks, road and air links, to ensure journey times and costs are minimised.

EA4 - To reduce congestion and remove the bottleneck in the Trans European Network thereby increasing the reliability of journey times through and around the City, helping to limit the effects of peripherality nationally and internationally.

### Safety Objectives

SA2 - To provide a consistent, high quality, efficient and effective route with a minimal number of high quality, high capacity junctions to maximise user safety.

SA3 - To reduce the traffic levels on the existing road networks thereby reducing the risk of accidents.

### **Integration Objectives**

IT3 - To produce a consistent standard of route that will bypass the city from A90 (North) to A90 (South) and attract nonessential traffic away from Aberdeen and inappropriate minor routes.

IT4 - To allow the reallocation of road space to more appropriate priority forms of transport.

IT5 - To provide access between proposed Park and Ride car parks.

IL3- To provide good accessibility to the land required for the sustainable development of Aberdeen

IL4- To provide an attractive link from residential areas on the periphery of Aberdeen and Aberdeenshire to the industrial estates and main employment areas on the periphery of Aberdeen and Aberdeenshire, reducing the need to travel through the city centre.





Aberdeen Western Peripheral Route Alternative Routes STAG Part 1 Assessment Pitfodels Route

IP2- To produce a route which will improve access to employment and generate job opportunities thereby contributing to the social inclusion policies of both Councils.

# **Accessibility Objectives**

AB4- To significantly reduce the level of traffic in Aberdeen without reducing accessibility to or within the city.

