

COMPARISON TABLES

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COMPLETION OF HEYSHAM TO M6 LINK (WESTERN & NORTHERN ROUTES) COMPARISON TABLE 1 – SCHEME DETAILS, LAND & PROPERTY

TOPIC	WESTERN ROUTE	NORTHERN ROUTE	COMMENTS
Route Length	<ul style="list-style-type: none"> 9.9km long between existing A683 Heysham to M6 Link near Oxcliffe and existing A6/M6 Jct 33 roundabout near Hampson Green. 	<ul style="list-style-type: none"> 4.7km long between existing A683 Heysham to M6 Link at Morecambe Rd near Torrisholme and existing A683 Caton Rd/M6 Jct 34 near Croskells Farm. 	<p>* For Route Details of Public Consultation (2001) Scheme refer Appendix 1A as appropriate.</p>
Junctions on Route	<ul style="list-style-type: none"> Oxcliffe Jct : New roundabout on existing A683 with segregated left turn between A683 and route (NE to SE) and incorporating new link to B5273 Mellishaw Lane. Luneside Jct : New roundabout serving the Luneside Industrial Estate with segregated left turn between route and estate (E to N). Stodday Jct : New roundabout with A588 Lancaster Rd (connection to/from A588 South only) incorporating new link to A6 Scotforth Rd. No connection between route and A588 Lancaster Rd (North). Galgate Jct : New roundabout on A6 Preston – Lancaster Rd south of Galgate. 	<ul style="list-style-type: none"> Scale Hall Jct : Signal controlled crossroads replacing existing roundabout at present eastern end of A683 Heysham to M6 Link, including widening of existing approaches along A683 Link, A683 Morecambe Rd and A589 Morecambe Rd. Beaumont Jct : New roundabout west of A6 Lancaster Rd with segregated left turns between route and Lancaster Rd Link (W to N)and for route (E to W). Shefferlands Jct : New roundabout west of Motorway incorporating connection to replacement M6 Northbound Entry Slip Rd as part of replacement of M6 Jct 34 and a Link to Halton Rd together with segregated left turns for route (S to W) and between route and M6 Northbound Entry Slip Rd (W to N). Croskells Jct : New signal controlled crossroads between route and A683 Caton Rd incorporating replacement Northbound Exit Slip Rd as part of replacement of M6 Jct 34. 	
Route Standard	<ul style="list-style-type: none"> Western Route initially designed for the possible ultimate layout of a 2-lane dual carriageway throughout with a wide single carriageway interim layout superimposed on the ultimate layout as appropriate. 	<ul style="list-style-type: none"> Northern Route designed as a 2-lane dual carriageway throughout. 	

COMPLETION OF HEYSHAM TO M6 LINK (WESTERN & NORTHERN ROUTES) COMPARISON TABLE 1 – SCHEME DETAILS, LAND & PROPERTY

TOPIC	WESTERN ROUTE	NORTHERN ROUTE	COMMENTS
Route Standard <i>Cont'd</i>	<ul style="list-style-type: none"> • Oxcliffe Jct to Luneside Jct : 1.5km long 2-lane dual carriageway incorporating 0.79km long viaduct over River Lune Estuary. Speed restricted to 60mph. Footway/cycleway along its southwest side. • Luneside Jct to Stodday Jct : 3.35km long wide single carriageway. NSL (60mph). Footway/cycleway along its west side. • Stodday Jct to Galgate Jct : 4.7km long wide single carriageway incorporating 290m long curved viaduct over River Conder and 100m long viaduct over Lancaster Canal and adjacent features near its junction with Glasson Branch of canal. NSL (60mph). Footway/cycleway along its west/south side. • Galgate Jct to A6 Hampson Green Rbt : 0.35km long dualling of existing A6 Preston-Lancaster Rd. Existing protection of Ethylene pipeline beneath A6 in this section is sufficiently wide for a dual carriageway. Footway/cycleway along its west side. 	<ul style="list-style-type: none"> • Scale Hall Jct to Beaumont Jct : 2.0km long 2-lane dual carriageway incorporating bridges over WCML railway and Lancaster Canal. NSL (70mph). Footway/cycleway along its east/south side. • Beaumont Jct to Shefferlands Jct : 1.7km long 2-lane dual carriageway. NSL (70mph). Footway/cycleway along its south side. • Shefferlands Jct to Croskells Jct : 0.55km long 2-lane dual carriageway incorporating 200m long bridge over River Lune adjacent to west side of Motorway (M6 Lune Bridge). NSL (70mph). Footway/cycleway along its west side. 	<ul style="list-style-type: none"> • On Western Route 720m minimum radius curve incorporated into alignment of south approach to Lune Viaduct to avoid encroaching nearer to Morecambe Bay SPA, cSAC & Ramsar Site (including Lune Estuary SSSI). • On Western Route 720m minimum radius curve incorporated into alignment from north of Conder Green Rd to Lancaster Canal Lodge Hill Viaduct to avoid crossing Glasson Branch of Canal and Shell Chemicals UK Ltd ethylene pipeline. • 720m radius curve one step below Desirable Minimum Radius with Superelevation of 7% for a 70mph (120kph) dual carriageway design. Speed Limit of 60mph (100kph) to be imposed to restrict speed and so achieve Desirable Minimum Radius with Superelevation of 5%.
Connections to Local Road Network	<ul style="list-style-type: none"> • Link to A6 Scotforth Rd : 1.4km long single carriageway connection between Stodday Jct and A6 Scotforth Rd (north) at southern edge of Scotforth with bridges over Lancaster Canal and WCML railway, together with new signal controlled Scotforth Jct connecting link with A6 Scotforth Rd (south). 	<ul style="list-style-type: none"> • Lancaster Rd Link : 0.35km wide single carriageway connection between Beaumont Jct and new signal controlled Lancaster Rd Jct on a diversion of A6 Lancaster Rd. • Halton Rd Link : 0.15km long single carriageway connection between Shefferlands Jct and Halton Rd on west side of M6 Motorway. 	<ul style="list-style-type: none"> • Halton Rd Link significantly improves access between Halton Camp (Army) and M6 Motorway, and between Halton and M6 Jct 34 and A683.

**COMPLETION OF HEYSHAM TO M6 LINK (WESTERN & NORTHERN ROUTES)
COMPARISON TABLE 1 – SCHEME DETAILS, LAND & PROPERTY**

TOPIC	WESTERN ROUTE	NORTHERN ROUTE	COMMENTS
<p>Connections to Local Road Network <i>Cont'd</i></p> <p>Changes to Local Road Network</p>	<ul style="list-style-type: none"> • Mellishaw Link : 0.45km long single carriageway connection between Oxcliffe Jct and Mellishaw Jct, a new roundabout on B5273 Mellishaw Lane at the southern edge of White Lund Trading Estate. • Existing A683 Heysham to M6 Link upgraded to dual carriageway standard from wide single carriageway standard for the 0.2km between Oxcliffe Jct and existing A683/B5273 Mellishaw Lane Rbt, A683 Heysham to M6 Link on west side of Oxcliffe Jct widened along its approach. • Existing A683 Heysham to M6 Link/Northgate signal controlled crossroads in White Lund Trading Estate upgraded. • Lancaster Rd at Oxcliffe diverted beneath Lune Viaduct. • Railway Crossing Ln west of Aldcliffe diverted over route. • Walnut Bank Rd near Stodday ETW diverted beneath route. • A588 Lancaster Rd/Ashton Rd near Stodday diverted over route adjacent west side of Stodday Jct. • Tarnwater Lane diverted beneath route. • Conder Green Rd diverted over route. 	<ul style="list-style-type: none"> • Existing A683 Heysham to M6 Link/Northgate signal controlled crossroads in White Lund Trading Estate upgraded. • Hadrian Rd diverted to a new signal controlled Hadrian Junction on widened section of existing A683 Heysham to M6 Link. • B5321 Lancaster Rd, B5321 Torrisholme Rd, Powder House Ln and Barley Cop Ln east of Torrisholme diverted to a single crossing beneath the route north of Cross Hills. • Folly Ln diverted beneath side span of Folly Railway Bridge (WCML). • A6 Lancaster Rd from north of Beaumont College to south of Hest Bank Ln diverted over route. • Green Ln (Black Cat Ln) southwest of Beaumont Grange diverted over route. • Kellet Ln southeast of Beaumont Grange diverted over route. • Halton Rd adjacent northeast edge of Halton Camp (Army) diverted over route 	<ul style="list-style-type: none"> • Signalised crossroads junction between Northern Route and B5321 Torrisholme Rd in Public Consultation (2001) scheme with all turning movements prohibited now removed from 2004 Northern Route scheme. ETW = Effluent Treatment Works

**COMPLETION OF HEYSHAM TO M6 LINK (WESTERN & NORTHERN ROUTES)
COMPARISON TABLE 1 – SCHEME DETAILS, LAND & PROPERTY**

TOPIC	WESTERN ROUTE	NORTHERN ROUTE	COMMENTS
<p>Changes to Local Road Network <i>Cont'd</i></p>		<ul style="list-style-type: none"> Existing A683 Caton Rd widened east and west of M6 Motorway and beneath Caton Rd Bridge and on western approach to Croskells Jct and on eastern approach to Bulk Green Jct as part of replacement M6 Jct 34. 	
<p>Changes to M6 Motorway</p>			
<p>M6 Junction 33</p>	<ul style="list-style-type: none"> M6 Jct 33 Remodelling : Replacement Northbound Exit Slip Rd with Hampson Ln diverted over new slip road, installation of signal controlled junction between existing Southbound and new Northbound Exit Slip Roads. Extension of parallel merges on Southbound and Northbound Entry Slip Roads. 	<ul style="list-style-type: none"> No improvements to M6 Jct 33. 	<ul style="list-style-type: none"> Improvements to M6 Jct 33 as part of the Public Consultation (2001) Northern Route scheme no longer required.
<p>M6 Junction 34</p>	<ul style="list-style-type: none"> No improvements to M6 J34. 	<ul style="list-style-type: none"> M6 Jct 34 Replacement : Rebuilding complete junction to current design standards with new Northbound Entry Slip Rd north of River Lune from Shefferlands Jct and new Northbound Exit Slip Rd south of river connecting into A683 Caton Rd at Croskells Jct. The new Southbound Exit and Entry Slip Rds south of River Lune connect with A683 Caton Rd at Bulk Green Jct, a signal controlled junction replacing the existing junction at this location. Replacement of M6 Jct 34 also requires the replacement of Foundry Ln Bridge over the M6 northwest of Halton and the widening of Caton Rd Bridge over A683 on its east side, together with other associated structures. 	

**COMPLETION OF HEYSHAM TO M6 LINK (WESTERN & NORTHERN ROUTES)
COMPARISON TABLE 1 – SCHEME DETAILS, LAND & PROPERTY**

TOPIC	WESTERN ROUTE	NORTHERN ROUTE	COMMENTS
<p>Connection with Luneside Industrial Estate</p>	<ul style="list-style-type: none"> • Connection with route via Luneside Jct. New internal road network serving the estate (Phase 1 of the Luneside West Industrial Area) and connecting to Luneside Jct required as part of the redevelopment of the estate. Access/egress to/from the estate via Luneside Jct only with use of New Quay Rd, St Georges Quay and Lune Rd to/from Lancaster city centre prohibited by “bus gate”. Secure boundary around Luneside Industrial Estate required to prevent traffic movements between estate and adjoining residential areas of Marsh and Abraham Heights. • Possible connection between Lancaster (city centre, bus and rail stations etc) and Morecambe/Heysham peninsula for a public transport route only via Luneside Jct and “bus gate” on New Quay Road. 	<ul style="list-style-type: none"> • New Luneside Link between Morecambe Rd at its junction with Scale Hall Ln and New Quay Rd/St Georges Quay with a bridge over the River Lune providing connection between route and Luneside Industrial Estate. The Link crosses the sports fields of Salt Ayre Sports Centre along an area of landscape mounding between existing pitches. Some changes to pitch layouts and alterations to cycle track required to maintain usage. • Immediate access to Phase 1 of the Luneside West Industrial Area at eastern end of site. Access/egress to/from the estate via Luneside Link and New Quay Rd only with access to/from Lancaster city centre via St Georges Quay and Lune Rd prohibited by “bus gate”. Secure boundary around Luneside Industrial Estate required to prevent traffic movements between estate and adjoining residential areas of Marsh and Abraham Heights. • Luneside Link includes:- <ol style="list-style-type: none"> 1. Enlarged signal controlled crossroads on Morecambe Rd with maintenance of facilities for bus priority. 2. Replacement access to Derwent Court. 3. Improved access to Salt Ayre Sports Centre also suitable for new bus route. 4. Enhanced connection between Lancaster (city centre, bus and railway stations etc) and Morecambe/Heysham peninsula for public transport services with a dedicated route via new St George’s Quay Link avoiding Skerton Bridge and Greyhound Bridge. 	<ul style="list-style-type: none"> • Potential for “park and ride” facility within Luneside area with public transport between site and Lancaster via “bus gate”. • St Georges Quay Link on south side of River Lune extending eastwards from Luneside Link to incorporate a “bus gate” restricting access to public transport and emergency service vehicles, pedestrians and cyclists.

**COMPLETION OF HEYSHAM TO M6 LINK (WESTERN & NORTHERN ROUTES)
COMPARISON TABLE 1 – SCHEME DETAILS, LAND & PROPERTY**

TOPIC	WESTERN ROUTE	NORTHERN ROUTE	COMMENTS
Farmland Affected	131 Ha	70 Ha	
Property Affected			
Demolition and Acquisition of Dwellings	<ul style="list-style-type: none"> • Route and Connections = 0 • M6 Jct 33 Remodelling = 0 	<ul style="list-style-type: none"> • Route and Connections = 0 • M6 Jct 34 Replacement = 1 demolished & 2 possible acquisitions • Luneside Link = 0 	<ul style="list-style-type: none"> • “Woodend” demolished for new Northbound Exit Slip Road in M6 Jct 34 Replacement. • “Cottam’s Farm” and “Croskells” isolated between new Northbound Exit Slip Road and existing M6.
Dwellings close to Scheme	<ul style="list-style-type: none"> • Route and Connections <ol style="list-style-type: none"> 1. Within 50m = 30 2. 50m to 100m = 49 • M6 Jct 33 Remodelling <ol style="list-style-type: none"> 1. Within 50m = 9 2. 50m to 100m = 4 	<ul style="list-style-type: none"> • Route and Connections <ol style="list-style-type: none"> 1. Within 50m = 53 2. 50m to 100m = 85 • M6 Jct 34 Replacement <ol style="list-style-type: none"> 1. Within 50m = 1 2. 50m to 100m = 5 • Luneside Link <ol style="list-style-type: none"> 1. Within 50m = 13 2. 50m to 100m = 43 	

**COMPLETION OF HEYSHAM TO M6 LINK (WESTERN & NORTHERN ROUTES)
COMPARISON TABLE 2 – NATURE CONSERVATION & ECOLOGY**

TOPIC	WESTERN ROUTE	NORTHERN ROUTE	COMMENTS
<p>NATURE CONSERVATION</p> <p>Effect on Statutory Sites</p> <p>Morecambe Bay SPA, cSAC and Ramsar Site</p> <p>Lune Estuary SSSI</p>	<ul style="list-style-type: none"> Route crosses River Lune Estuary on low level viaduct adjacent to this international site. Not possible to be certain scheme will not affect site and its integrity. Construction causeways extending into river from north and south banks causing damming effect altering tide levels around viaduct site producing changes to the wetting and drying regime on the estuary salt marches. Deep scouring of the river bed in the centre of the narrowed main river channel between the two causeways with possible consequential increase in erosion/accretion process in the protected area. To remove possibility of affecting site's integrity the application of the "precautionary principle" likely to be deemed necessary by European Commission. Availability of satisfactory alternative which will not effect site makes selection of Western Route difficult to justify at EU and domestic level at a public inquiry. SSSI lies within the Morecambe Bay SPA, cSAC and Ramsar Site area and effects as outlined above. 	<ul style="list-style-type: none"> No effect on European Protected Site. Bridge on Luneside Link over River Lune some 1.5km up-river of site. No effect on SSSI. 	<p>* Refer Appendix 2A as appropriate</p> <ul style="list-style-type: none"> Morecambe Bay Special Protection Area (SPA) and candidate Special Area of Conservation (cSAC) designated under European Habitats (92/43/EEC) and Birds (79/409/EEC) Directives. These Directives, transposed into UK Law in The Conservation (Natural Habitats & c) Regulations 1994, provide stringent, international, legally binding obligations. Site also protected by the Ramsar Convention on Wetlands of International Importance (1972) where non-compliance is secured by the prospect of international disapproval due to failure to meet obligations and commitments. High profile scheme affecting European Protected Site requires high confidence level of no significant impact on integrity of site. <p>EU = European Union</p>

**COMPLETION OF HEYSHAM TO M6 LINK (WESTERN & NORTHERN ROUTES)
COMPARISON TABLE 2 – NATURE CONSERVATION & ECOLOGY**

TOPIC	WESTERN ROUTE	NORTHERN ROUTE	COMMENTS
<p>Effect on European Protected Species <i>Cont'd</i></p> <p>Bats <i>Cont'd.</i></p> <p>Great Crested Newts</p> <p>Otters, Lamprey & Bullhead</p>	<ul style="list-style-type: none"> • Activities disturbing bats, their roosts or resting places require a licence from Defra. • Availability of satisfactory alternatives which will not effect bats. Issuing of licence difficult to justify at EU and domestic level at a public inquiry and may be contrary to UK's obligation under EU Law. • Route severs breeding pond cluster (Berry's Farm and Sellerley Farm Ponds BHS) with:- <ol style="list-style-type: none"> 1. Divisions of genetically related and interactive population (metapopulation). 2. Separated populations become isolated. 3. Removal by route of habitat (hedgerows, rough grasslands etc) used by newts for hibernation and movement for much of their lives. • Mitigation measures include translocation of great crested newts which require a licence from Defra. Availability of satisfactory alternative which will not effect great crested newts likely to prohibit the issuing of licence and therefore selection of Western Route difficult to justify. • Otters likely to be present on River Lune, River Conder, Lancaster Canal and its Glasson Branch and larger streams. Lamprey and Bullhead present in River Lune and River Conder. • Incorporating appropriate mitigation measures and adopting best practice for the highway construction it is anticipated that the risk to these European Protected Species would be minimised. 	<ul style="list-style-type: none"> • No great crested newts found in area of route, therefore no impact and licence not required. • Otters likely to be present on River Lune, Lancaster Canal and larger streams. Lamprey and Bullhead present in River Lune. • Incorporating appropriate mitigation measures and adopting best practice for highway construction it is anticipated that the risk to these European Protected Species would be minimised. 	<p>3. The proposal is necessary to preserve public health or public safety or other imperative reasons of overriding public interest.</p> <p>UK = United Kingdom EU = European Union</p> <ul style="list-style-type: none"> • Mitigation measure for otters include: <ol style="list-style-type: none"> 1. Bridges over rivers, canals and streams with sufficient clearance above water level not to impede movement. 2. Culverts on small watercourses suitable for otter use. 3. Appropriate fencing at locations to prevent otters crossing the route. • Adopting the best practice in highway construction and management would avoid impacting Lamprey and Bullhead.

**COMPLETION OF HEYSHAM TO M6 LINK (WESTERN & NORTHERN ROUTES)
COMPARISON TABLE 2 – NATURE CONSERVATION & ECOLOGY**

TOPIC	WESTERN ROUTE	NORTHERN ROUTE	COMMENTS
Effect on Nationally Protected Species			
Badgers & Barn Owls	<ul style="list-style-type: none"> Western Route affects badger setts and severs foraging areas requiring significant mitigation. Significant increase in road casualties predicted. Barn Owl recorded in the Western Route area and increase in fatalities resulting from road kills likely. 	<ul style="list-style-type: none"> No evidence of badgers in Northern Route area, therefore no impact. Barn Owls not recorded in Northern Route area, therefore no impact. 	
Effect on BAP Species/Habitats			
Birds	<ul style="list-style-type: none"> Loss of pasture under large scheme footprint affecting Lapwing and Skylark. Loss of large number of hedgerows will influence breeding success of Grey Partridge, Linnet and many other small birds. 	<ul style="list-style-type: none"> Loss of pasture and hedgerows under scheme footprint will affect a few bird species and their breeding success. 	<ul style="list-style-type: none"> Area of Western Route contains greater ecological diversity with more species and variety of habitats than Northern Route area. Footprint of Western Route approximately twice that of Northern Route .
Brown Hare	<ul style="list-style-type: none"> Significant negative impact on brown hares from loss of large area of pasture etc, isolation of population and road kills. Additional habitats created through mitigation measures will have some positive effect. 	<ul style="list-style-type: none"> Negative impact on brown hares from loss of area of pasture etc, isolation of population and road kills. Additional habitats created through mitigation measures will have some positive effect. 	<ul style="list-style-type: none"> Relative magnitude of impacts of the two routes greater than the scale of their footprints.
Fungi	<ul style="list-style-type: none"> Fungi of Conservation Concern not recorded in the Western Route Area. 	<ul style="list-style-type: none"> Fungi of Conservation Concern (Pink Wax Cap) present in grassland in Northern Route area requiring mitigation measures. 	

COMPLETION OF HEYSHAM TO M6 LINK (WESTERN & NORTHERN ROUTES) COMPARISON TABLE 2 – NATURE CONSERVATION & ECOLOGY

TOPIC	WESTERN ROUTE	NORTHERN ROUTE	COMMENTS
Effect on Hedgerows	<ul style="list-style-type: none"> • Significant loss of hedgerows within large footprint of Western Route. 1. Removal of 14km of hedgerows. 2. 94% of hedgerows protected under Hedgerows Regulations. 	<ul style="list-style-type: none"> • Loss of hedgerows within footprint of Northern Route. 1. Removal of 11km of hedgerows. 2. 87% of hedgerows protected under hedgerow Regulations. 	<ul style="list-style-type: none"> • Hedgerows represent one of the most significant wildlife habitats for plant species, insects, birds, animals etc as a feeding resource and for protection, hibernation, navigation and breeding.
Cumulative and Indirect Impacts	<ul style="list-style-type: none"> • Significant loss of food plants for many invertebrates due to large loss of hedgerows. • Invertebrate food source for wide range of small mammals, birds etc during day and bats at night severely depleted by significant loss of hedgerows. • Consequential loss of small mammals as a food source for owls, stoats, weasels and kestrels. • Severing of the existing mosaic of hedgerows, woods, ponds, pastures etc significantly affects overall ecological resource, particularly extensive micro-ecology dependent on continuous existence of hedgerow network. • Significant severing of foraging routes and reduction of foraging areas for a range of mammals. • English Nature concerned about increase in visibility from Lune Viaduct of recreational use of River Lune near Snatchems (Golden Ball Inn), ie. water-skiing, jet-skiing etc. Increased use of the estuary within the European Protected Site anticipated to have a damaging effect on Morecambe Bay SPA, cSAC and Ramsar Site. 	<ul style="list-style-type: none"> • Loss of food plants for invertebrates due to loss of hedgerows. • Invertebrate food source for range of small mammals birds etc during day and bats at night depleted by loss of hedgerows. • Consequential reduction in small mammals as a food source for owls, stoats, weasels and kestrels. • Severing of hedgerows, woodland, pasture etc affects overall ecological resource, particularly micro-ecology dependent on continuous existence of hedgerow network. • Some severing of foraging routes and reduction of foraging areas for a few mammals. 	

COMPLETION OF HEYSHAM TO M6 LINK (WESTERN & NORTHERN ROUTES) COMPARISON TABLE 3 – TRAFFIC FORECAST

TOPIC	WESTERN ROUTE	NORTHERN ROUTE	COMMENTS
<p>Forecast Traffic Flows on Route</p> <p>Opening Year (OY) 2010 and Design Year (DY) 2025</p>	<p>1. Oxcliffe Jct to Luneside Jct (Now proposed as a 2-lane dual carriageway across River Lune) OY 34500 AADF DY 37900 AADF</p> <p>2. Luneside Jct to Stodday Jct (Wide single carriageway) OY 27000 AADF DY 30000 AADF</p> <p>3. Stodday Jct to Galgate Jct (Wide single carriageway) OY 23000 AADF DY 24400 AADF</p> <p>4. Dualled Section of A6 South of Galgate Jct OY 30500 AADF DY 32300 AADF</p>	<p>1. Scale Hall Jct to Beaumont Jct (2-lane dual carriageway) OY 39500 AADF DY 43200 AADF</p> <p>2. Beaumont Jct to Shefferlands Jct (2-lane dual carriageway) OY 34900 AADF DY 38200 AADF</p> <p>3. Shefferlands Jct to Croskells Jct (2-lane dual carriageway across River Lune) OY 33700 AADF DY 36800 AADF</p>	<p>* Refer Appendices 3A, 3B, 3C & 3D as appropriate.</p> <p>AADF – Annual Average Daily Flow:</p> <ul style="list-style-type: none"> • TA 46/97 : Traffic Flow Ranges for Use in the Assessment of New Rural Roads recommends 2-lane dual carriageway all-purpose standard for traffic flows between 11000 AADF and 39000 AADF and wide single carriageway standard for traffic flow between 6000 AADF and 21000 AADF at Opening Year. • In accordance with TA 46/97 the practical capacity of a wide single carriageway Western Route is assessed as 30800 AADF. The practical capacity of a 2-lane dual carriageway is around 70000 AADF. • Forecast flows at OY on Western Route, Sections 1 to 4 are 64%, 30%, 19% & 22% greater respectively than flows on Public Consultation (2001) Scheme. (Refer Appendix 1A). • Forecast flows at OY on Northern Route Sections 1 to 3 are 35%, 37% & 35% greater respectively than flows on Public Consultation (2001) Scheme. (Refer Appendix 1A) • Forecast flows at OY on Western Route Sections 2 & 3 above TD 46/97 recommended traffic flow threshold of 21000 AADF by 29% & 10% respectively. Section 2 is at 97% of TD 46/92 assessed practical capacity of 30800 AADF for a wide single carriageway at DY.
<p>Operational Effectiveness of Route</p>	<ul style="list-style-type: none"> • Congestion on the wide single carriageway sections, particularly at peak times, could be expected creating some operational difficulties. 	<ul style="list-style-type: none"> • Operational difficulties not expected on a dual carriageway. 	

COMPLETION OF HEYSHAM TO M6 LINK (WESTERN & NORTHERN ROUTES) COMPARISON TABLE 3 – TRAFFIC FORECAST

TOPIC	WESTERN ROUTE	NORTHERN ROUTE	COMMENTS
Forecast Traffic Flow Changes to A683 (Opening Year 2010) Existing Heysham to M6 Link	1. A589 Middleton Rd to Moss Rd 9900AADF (+18% from 8400 AADF)	1. A589 Middleton Rd to Moss Rd 11300 AADF (+35% from 8400 AADF)	Percentage changes in traffic flows from Do Minimum Opening Year 2010 Forecast } + = increase } - = decrease • Sections 1 and 2 (including 2a and 2b) existing wide single carriageway rural sections of link. • Sections 3 and 4 existing 2-lane dual carriageway urban sections of link.
	2a. Moss Rd to Oxcliffe Jct (Western Route) 12600 AADF (+21% from 10400 AADF)	2. Moss Rd to B5273 Mellishaw Ln 13700 AADF (+32% from 10400 AADF)	
	2b. Oxcliffe Jct to B5273 Millishaw Ln 32000 AADF (+208% from 10400 AADF)		
	3. B5273 to Northgate 24100 AADF (+338% from 5500 AADF)	3. B5273 to Northgate 15100 AADF (+175% from 5500 AADF)	
	4. Northgate to A589 Morecambe Rd 24400 AADF (+69% from 14400 AADF)	4. Northgate to A589 Morecambe Rd 26100 AADF (+81% from 14400 AADF)	
Historic Local Roads	5. A589 Morecambe Rd to B5273 Ovangle Rd 19300 AADF (unchanged)	5. A589 Morecambe Rd to B5273 Ovangle Rd 17100 AADF (-11% from 19300 AADF)	
	6. B5273 to Scale Hall Ln 23300 AADF (-20% from 29200 AADF)	6. B5273 to Scale Hall Ln 26000 AADF (-11% from 29200 AADF)	
	7. Scale Hall Ln to Skerton one-way System 21700 AADF (-27% from 29800 AADF)	7. Scale Hall Ln to Skerton one-way system 22700 AADF (-24% from 29800 AADF)	
	8. Skerton Bridge (Eastbound) 18700 AADF (-28% from 25800 AADF)	8. Skerton Bridge 19600 AADF (-24% from 25800 AADF)	
	9. Greyhound Bridge (Westbound) 12000 AADF (-38% from 19200 AADF)	9. Greyhound Bridge 13600 AADF (-29% from 19200 AADF)	
	10. Caton Rd (Bulk gyratory system) 18300 AADF (-25% from 24300 AADF)	10. Caton Rd (Bulk gyratory system) 21200 AADF (-13% from 24300 AADF)	
	11. Caton Rd (Kingsway to Lansil Way) 23200 AADF (-11% from 26200 AADF)	11. Caton Rd (Kingsway to Lansil Way) 19900 AADF (-24% from 26200 AADF)	
	12. Caton Rd (Lansil Way to M6 Jct 34) 22200 AADF (-13% from 25400 AADF)	12. Caton Rd (Lansil Way to M6 Jct 34) 21200 AADF (-17% from 25400 AADF)	

COMPLETION OF HEYSHAM TO M6 LINK (WESTERN & NORTHERN ROUTES) COMPARISON TABLE 3 – TRAFFIC FORECAST

TOPIC	WESTERN ROUTE		NORTHERN ROUTE		COMMENTS
Significant (over 25%) Forecast Traffic Flow Changes on Important Local Urban Roads (Opening Year 2010)	A589 Morecambe Rd	27900 AADF (+35% from 20700 AADF)	A589 Morecambe Rd	29100 AADF (+41% from 20700 AADF)	Percentage changes in traffic flows from Do minimum Opening Year 2010 Forecast <div style="display: inline-block; vertical-align: middle; margin-left: 10px;"> } <ul style="list-style-type: none"> + = increase - = decrease </div>
	B5321 Torrisholme Rd	4600 AADF (-47% from 8700 AADF)	B5321 Torrisholme Rd	3300 AADF (-62% from 8700 AADF)	
	A6 City Centre Gyratory Northbound	13500 AADF (-30% from 19300 AADF)	A6 in Carnforth	7700 AADF (-58% from 18400 AADF)	
	Southbound	14200 AADF (-24% from 18700 AADF)	A6 in Bolton-le-Sands	12400 AADF (-46% from 22900 AADF)	
	A6 South Rd	19500 AADF (-30% from 28000 AADF)	A5105 in Hest Bank	5400 AADF (-69% from 17600 AADF)	
	A6 in Galgate	9400 AADF (-48% from 18100 AADF)	A5105 Marine Dr East	4600 AADF (-73% from 16800 AADF)	
Strategic Traffic to and from the Morecambe / Heysham Peninsula Forecast to use the Route at Opening Year (2010)	Peninsula to/from:-		Peninsula to/from:-		Forecast Opening Year (2010) Strategic traffic between Peninsula and: <ul style="list-style-type: none"> • North = 10500 to 11000 AADF • East = 32000 to 3400 AADF • South = <u>11600 to 11800 AADF</u> <u>Total = 25500 to 26000 AADF</u> <ul style="list-style-type: none"> • Strategic traffic considered as the long distance traffic between the peninsula (West of West Coast Main Line railway) and: <ul style="list-style-type: none"> - Areas north of M6 Jct 35 (via M6, A6 etc) - Areas east of M6 Jct 34 (via A683 etc) - Areas south of M6 Jct 33 (via M6, A6 etc) • Proposed route principally a link between the peninsula and M6 Motorway for long distance traffic to avoid travelling through Lancaster.
	• North	0	• North	10100 AADF	
	• East	0	• East	3300 AADF	
	• South	11800 AADF	• South	10900 AADF	
	<ul style="list-style-type: none"> • Under half of the Strategic traffic (11800 AADF) attracted to Western Route with more than half continuing to use existing local roads. 		<ul style="list-style-type: none"> • Large majority of the strategic traffic (24300 AADF) attracted to Northern Route with small proportion continuing to use existing local roads. 		

**COMPLETION OF HEYSHAM TO M6 LINK (WESTERN & NORTHERN ROUTES)
COMPARISON TABLE 3 – TRAFFIC FORECAST**

TOPIC	WESTERN ROUTE	NORTHERN ROUTE	COMMENTS
Forecast Journey Times and Changes (Opening Year 2010)			
Heysham Port to:-			With Scheme journey times derived from average of 2-way journeys. Changes (Reductions/Increases) derived from Do Minimum average of 2-way journey times.
M6 J33	13.4 mins (Reduction from 25.4 mins)	15.5 mins (Reduction from 25.4 mins)	
M6 J34	15.3 mins (Reduction from 18.6 mins)	9.4 mins (Reduction from 18.6 mins)	
M6 J35	22.6 mins (Reduction from 25.3 mins)	13.3 mins (Reduction from 25.3 mins)	
Morecambe (Town Hall) to:-			
M6 J33	14.2 mins (Reduction from 23.6 mins)	13.3 mins (Reduction from 23.6 mins)	
M6 J34	13.3 mins (Reduction from 16.7 mins)	7.2 mins (Reduction from 16.7 mins)	
M6 J35	17.2 mins (Reduction from 17.7 mins)	11.1 mins (Reduction from 17.7 mins)	
White Lund Estate to:-			
M6 J33	10.5 mins (Reduction from 21.9 mins)	11.9 mins (Reduction from 21.9 mins)	
M6 J34	11.4 mins (Reduction from 15.0 mins)	5.7 mins (Reduction from 15.0 mins)	
M6 J35	18.6 mins (Reduction from 21.8 mins)	9.7 mins (Reduction from 21.8 mins)	
Luneside West to:-			
M6 J33	8.7 mins (Reduction from 18.9 mins)	16.9 mins (Reduction from 18.9 mins)	
M6 J34	12.4 mins (Increase from 12.1 mins)	10.7 mins (Reduction from 12.1 mins)	
M6 J35	20.0 mins (Increase from 18.8 mins)	14.7 mins (Reduction from 18.8 mins)	
Lancaster City Centre to:-			
M6 J33	11.8 mins (Reduction from 13.3 mins)	11.8 mins (Reduction from 13.3 mins)	
M6 J34	6.9 mins (Reduction from 8.3 mins)	7.2 mins (Reduction from 8.3 mins)	
M6 J35	14.1 mins (Reduction from 15.0 mins)	11.8 mins (Reduction from 15.0 mins)	

**COMPLETION OF HEYSHAM TO M6 LINK (WESTERN & NORTHERN ROUTES)
COMPARISON TABLE 4 – ESTIMATE OF COSTS, BENEFITS & SAFETY**

TOPIC	WESTERN ROUTE	NORTHERN ROUTE	COMMENTS
<p>Current Estimate of Costs</p> <p>Total Scheme</p>	<p align="center">£113m</p> <p>Increase in current cost estimate from Public Consultation estimate due to:-</p> <ul style="list-style-type: none"> • Around a third increase in construction costs (including introduction of Aggregate Tax) between 1st Q 2000 and 4th Q 2003. • Substantially larger Lune Viaduct (36% longer & 50% wider) for dual carriageway route across extensive poor ground conditions of Lune Estuary former flood plains. • Remodelling of Stodday Junction (A588) and Link to A6 Scotforth Rd. • Pedestrian and cycling provision along full length of route with 3 additional subways and 4 wider bridges. • Extra drainage details (SUDS and culverts). • Inclusion of design costs and all land costs. 	<p align="center">£92m</p> <p>Increase in current cost estimate from Public Consultation estimate due to:-</p> <ul style="list-style-type: none"> • Around a third increase in construction costs (including introduction of Aggregate Tax) between 1st Q 2000 and 4th Q 2003. • Remodelling of local road network east of Torrisholme and link across route. • Remodelling of Beaumont Junction (A6) and diversions of A6 Lancaster Rd. • Lower route profile (deeper cutting) east of Kellet Ln to facilitate low level bridge crossing of River Lune. • Remodelling of Shefferlands Junction north of Lune Bridge incorporating Link to Halton Rd. • Enlarging A683/Northgate junction. • Extra drainage details (SUDS and culverts). • Inclusion of design costs and all land costs. 	<ul style="list-style-type: none"> • All current estimates based on 4th Quarter 2003 prices and includes all land costs. • Public Consultation estimates at 1st Quarter 2000 prices (excluding design costs, property costs and Part 1 Claims) were:- <ol style="list-style-type: none"> 1. Western Route Scheme (wide single carriageway standard) = £59.4m 2. Northern Route (dual carriageway standard) = £62.1m • Estimate for Luneside Link as part of Northern Route Scheme based on 1st Quarter 2000 prices (excluding design costs, property costs and Part 1 Claims) was approx £7.6m. • SUDS = Sustainable Urban Drainage Systems (DETR document CIRIA C522) Design Manual for England and Wales detailing modern efficient and effective techniques for the catchment and long term management of highway drainage in an environmentally sustainable way.

**COMPLETION OF HEYSHAM TO M6 LINK (WESTERN & NORTHERN ROUTES)
COMPARISON TABLE 4 – ESTIMATE OF COSTS, BENEFITS & SAFETY**

TOPIC	WESTERN ROUTE	NORTHERN ROUTE	COMMENTS
<p>Current Estimate of Costs <i>Cont'd</i></p> <p>Total Scheme <i>Cont'd</i></p> <p>Route</p> <p>Motorway Junction Improvements</p>	<p align="center">£108m</p> <ul style="list-style-type: none"> • M6 Jct 33 Remodelling : £5m <p>Increase in current cost estimate from Public Consultation estimate due to:-</p> <ul style="list-style-type: none"> • Around a third increase in construction costs (including introduction of Aggregate Tax) between 1st Q 2000 and 4th Q 2003. • Revision of layout of remodelled junction. • Extra drainage details (SUDS and culverts). • Inclusion of design costs and all land costs. • Traffic Management on M6. 	<p>Increase in costs offset by a reduction due to:-</p> <ul style="list-style-type: none"> • Low level Lune Bridge over river west of M6 with less visual impact on M6 Lune Bridge and nearby properties. • Re-use of all excavated material within the scheme for embankments, land forming/landscaping etc (No off-site land-fill costs & charges). <p align="center">£66m</p> <ul style="list-style-type: none"> • M6 Jct 34 Replacement : £19m <p>Current estimate based on:-</p> <ul style="list-style-type: none"> • 4 replacement slip roads (one north of river and 3 south of Lune). • Associated structures (bridge replacement and widenings, retaining walls etc.). • Traffic Management on M6. • Re-using all excavated material within Northern Route scheme (No off-site land-fill costs & charges). • 4th Q 2003 prices (including introduction of Aggregate Tax) which have increased by around a third since 1st Q 2000. • Extra drainage details (SUDS and culverts) • Inclusion of design costs and all land costs. 	<ul style="list-style-type: none"> • Public Consultation estimates at 1st Q 2000 prices for routes (excluding design costs, property costs and Part 1 Claim) were: <ol style="list-style-type: none"> 1. Western Route = approx £56.4m 2. Northern Route = approx £51.8m • Public Consultation estimate at 1st Q 2000 prices for remodelling of M6 Jct 33 for the Western Route was approx. £3m (excluding design costs, property costs and Part 1 Claims). • Public Consultation estimate at 1st Q 2000 prices for the replacement of slip roads at M6 Jct 34 as part of the Northern Route scheme was approx. £9.1m (excluding design costs, property costs and Part 1 Claims). • Public Consultation estimate at 1st Q2000 prices for nominal replacement M6 Jct 34 was approx £9.7m (excluding design costs, property costs and Part 1 Claims).

**COMPLETION OF HEYSHAM TO M6 LINK (WESTERN & NORTHERN ROUTES)
COMPARISON TABLE 4 – ESTIMATE OF COSTS, BENEFITS & SAFETY**

TOPIC	WESTERN ROUTE	NORTHERN ROUTE	COMMENTS
<p>Current Estimate of Costs <i>Cont'd</i></p> <p>Motorway Junction Improvements <i>Cont'd</i></p> <p>Connection with Luneside Industrial Estate</p>	<ul style="list-style-type: none"> • Cost of link up to boundary of estate included in Western Route cost estimate. <p>Redevelopment of Industrial Estate to include for costs of:</p> <ul style="list-style-type: none"> • Internal road network (as appropriate) with connection to link at boundary of estate. • Secure boundary to estate so all traffic to/from estate via Luneside Jct on Western Route (No vehicular movements between estate and adjoining residential areas of Marsh and Abraham Heights). • Restricted vehicular access to/from New Quay Rd (installation of bus gate). 	<ul style="list-style-type: none"> • M6 Jct 33 Improvements not now required. <p>Luneside Link : £7m</p> <p>Luneside Link includes costs of:-</p> <ul style="list-style-type: none"> • Enlarging A683/Morecambe Rd/Scale Hall Ln signal controlled junction. • Replacement access to Derwent Court. • New access to Salt Ayre Sports Centre. • Modifications to sports fields and cycle track to maintain usage. • Subways for Lancashire Coastal Way (footway/cycleway along former railway line) and for Salt Ayre Sports Centre cycle track. • Luneside Bridge (6 span lower cost bridge). • New Quay Rd. Link to Luneside Industrial Estate. • St Georges Quay Link incorporating a “bus gate” restricting access to Lancaster via St Georges Quay and Lune Rd. • Design costs and all land costs. 	<ul style="list-style-type: none"> • Public Consultation estimate at 1st Q 2000 prices for improvements to M6 Jct 33 for the Northern Route was approx. £1.2m excluding design costs, property costs and Part 1 Claims. • Report on Completion of Heysham to M6 Link of December 2001 included the preliminary estimated cost of £5m to £8m at 1st Q 2000 prices for a Lune Mills Crossing (nearest equivalent to current Luneside Link). The range in cost dependent upon type of bridge. • The estimate at 1st Q 2000 prices for a Lune Mills Crossing with a 3 span bridge was approx £7.6m excluding design costs, property costs and Part 1 Claims.

**COMPLETION OF HEYSHAM TO M6 LINK (WESTERN & NORTHERN ROUTES)
COMPARISON TABLE 4 – ESTIMATE OF COSTS, BENEFITS & SAFETY**

TOPIC	WESTERN ROUTE	NORTHERN ROUTE	COMMENTS
Current Estimate of Costs <i>Cont'd</i>			
Connection with Luneside Industrial Estate <i>Cont'd</i>		<p>Redevelopment of Industrial Estate to include for cost of:-</p> <ul style="list-style-type: none"> • Internal road network (as appropriate) with connection to New Quay Rd. • Secure boundary to estate so all traffic to/from estate via Luneside Link (No vehicular movements between estate and adjoining residential areas of Marsh and Abraham Heights). 	
Comparison of Benefits to Costs			<p>* Refer Appendix 4A</p>
Present Value of Costs (PVC)	£97m	£79m	<ul style="list-style-type: none"> • Manual calculation of costs and benefits using Highways Agency's Project Appraisal Report (PAR) methodology following guidance and worksheets for "Full PAR 3.1"
Present Value of Benefits (PVB)	£463m	£451m	
Net Present Value (NPV = PVB-PVC)	£366m	£372m	<ul style="list-style-type: none"> • BCR (Northern Route) approximately 19% higher than BCR (Western Route).
Benefit to Cost Ratio (BCR = PVB/PVC)	4.8	5.7	
Road Safety			<p>* Refer Appendix 4B</p>
Predictive Annual Casualty Savings	<ul style="list-style-type: none"> • Fatal & Serious Injuries – marginal casualty savings • Slight Injuries – marginal casualty savings 	<ul style="list-style-type: none"> • Fatal & Serious Injuries –casualty savings of around 4 • Slight Injuries – casualty savings of around 25 	