

APPRAISAL SUMMARY TABLE - Route Corridor 1

SCHEME		DESCRIPTION		PRESENT VALUE OF COST
Armagh North & West Link		New Link Road	Route Corridor 1	£m
OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE MEASURE	ASSESSMENT
ENVIRONMENT	Noise	This option is set in an urban context. A substantial number of properties are in close proximity to the route and would experience elevated noise levels as a result of this option. This option passes close to a number of sensitive receptors including Longstone Hospital, St Luke's Hospital, Armagh College of Further Education, St Patrick's Cathedral, the Queens University of Belfast at Armagh, St Brigid's High School, Mount St Catherine's Primary School and St Catherine's College Convent of the Sacred Heart.	Properties Counts for distance bands: 0 – 50m 201 50 – 100m 329 100 – 200m 501 200 – 300m 700	Major Adverse
	Local Air Quality	Route Corridor 1 traverses the urban and suburban areas of Armagh City and has the potential to influence air quality at numerous sensitive receptors. There are many residential receptors within 200m of this corridor. Other sensitive receptors within its vicinity include a church, two hospitals, two playschools, two colleges and four schools.	There are 1031 residential properties within 200m of the centre of the route corridor, the greatest concentration of these are situated in the 50 – 100m band, whilst the fewest are located at 0-50m.	Moderate Adverse
	Greenhouse Gases	CO ₂ is considered to be the most important greenhouse gas and therefore it is used as a key indicator for the purposes of assessing the impacts of transport options on climate change. When assessing a proposed road scheme the total amount of emissions associated with a particular route is determined rather than air quality at a specific location.	Not assessed at this stage.	Neutral
	Landscape	Distinctive landscape crossed at the River Callan corridor. Potential for high levels of visual intrusion. Cuttings and embankments may be necessary at the corridors eastern portion.	N/A	Moderate Adverse
	Townscape	Adverse impact on grounds and settings of St Patricks RC Cathedral with potential for deep cutting. Slight adverse impact on City Conservation Area. Moderate Adverse impact on commercial and light industry buildings at Station Road. Potential Slight Beneficial impact from relief of traffic.	N/A	Slight/Moderate Adverse
	Heritage Historic Resources	This option will encroach, impact and thereby likely remove a number of industrial heritage sites, a scheduled standing stone and a recorded trackway (location not defined). In addition the route infringes on an area of conservation at the northern portion of Armagh city core. These sites are located directly on the route and cannot be mitigated other than by excavation/full recording prior to removal.	Direct impact on 8 industrial heritage sites and 2 SMR sites, one of which is a scheduled monument Infringement on Conservation Area Indirect impact on an SMR site and 2 industrial sites (close proximity to route) Potential direct impact on underwater archaeology at river crossing Potential indirect impact on six historic buildings (visual impact), two industrial sites and two SMR sites (potential damage by road construction machinery)	Major Adverse
	Biodiversity	In summary, route corridor 1 passes through varying from low to high local biodiversity interest, and a large portion passes through the urban fabric of Armagh. The old disused railway corridor is an example of an undesignated site of local biodiversity interest, and is ascribed a high local value in line with TAG Unit 3.3.10.	Full survey required at next stage.	Slight Adverse
	Water Environment	The Ballynahone River is directly located in this route corridor. Any road development would have to follow stringent mitigation measures to ensure pollution incidents are prevented. Any detrimental effect upon the Ballynahone River will ultimately affect water quality of the Callan River, an important fisheries river a designated Salmonid watercourse under EC Freshwater Fish Directive (78/659/EEC).	N/A	Slight Adverse
	Physical Fitness	The proposed route may disrupt existing cycle and pedestrian movements. Opportunity exists also to provide new and/or improved cycle and pedestrian facilities.	N/A	Slight Beneficial
	Journey Ambience	The proposed route would improve journeys for travellers by reducing journey times and decreasing frustration.	N/A	Slight Beneficial
	Disruption Due to Construction	A certain amount of disruption is inevitable during the construction phase of the proposed development. There may be a considerable amount of disruption in this case due to the proximity to a large number of residential receptors.	N/A	Major Adverse
	Policies and Plans	Route crosses the Armagh Green Belt, and the Amenity Open Space at the River Callan. Follows the alignment of the proposed West and North Link as indicated in the Development Plan.	N/A	Major Beneficial
	Land Use	A wide range of land uses will be impacted upon as a result of the proposed corridor including agricultural and residential land. Potential impact may occur in terms of loss of land, demolition of property and severance of land parcels/disruption to operations (agricultural land use).	N/A	Moderate Adverse
SAFETY	Accidents	Potential for increase in accidents and associated casualties between Station Road and Killylea Road due to urban nature of route. Accidents in rural section to be less but more severe due to higher speed limit than that of urban section.		Adverse
	Security	Security along urban section could be perceived as worse due to number of junctions, although mitigating steps proposed to improve road users personal security		Slight Adverse
ECONOMY	Public Accounts	No private developer contributions or Public Transport Revenues.		Neutral
	Economic Efficiency	Results show that Route Corridor 1 has a high NPV with the highest BCR value, suggesting the most beneficial return on investment.	NPV High Growth £262,124 BCR High Growth (COBA) 8.723	Major Beneficial
	Reliability	Modelling outputs predict encouraging 21% of the total city centre trips away from the city centre to the new link road in 2009, reducing to 18% by 2024. This is related to the attractiveness of the link road due to improved journey times.		Slight Beneficial
	Wider Economic Impacts	Economic impacts due to improved local and strategic accessibility leading to significantly improved opportunities for local businesses and job creation	N/A	Beneficial
ACCESSIBILITY	Option Values	No significant additional or reduced values for transport services.	N/A	Neutral
	Severance	Substantial severance in urban section.	N/A	Major Adverse
	Access to the Transport System	No new transport services or improved access to transport services.	N/A	Neutral
INTEGRATION	Transport Interchange	Passenger/Freight interchanges do not form part of this scheme	N/A	Neutral
	Land-Use Policy	Makes most use of existing infrastructure	N/A	Beneficial
	Other Government Policies	Scheme will help implement policies in RTS and RSTN TP	N/A	Beneficial

APPRAISAL SUMMARY TABLE - Route Corridor 2

SCHEME		DESCRIPTION		PRESENT VALUE OF COST
Armagh North & West Link		New Link Road	Route Corridor 2	£m
OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE MEASURE	ASSESSMENT
ENVIRONMENT	Noise	This option is set in a mixture of urban and rural landscape. A significant number of properties are in close proximity to the route and would experience elevated noise levels as a result of this option. This option passes close to a number of sensitive receptors including Longstone Hospital, St Luke's Hospital, Armagh College of Further Education, Desert Lodge Nursery and College Farm Nursery School.	Properties Counts for distance bands: 0 – 50m 48 50 – 100m 157 100 – 200m 465 200 – 300m 477	Moderate Adverse
	Local Air Quality	Route Corridor 2 traverses the urban and suburban areas of Armagh City and has the potential to influence air quality at numerous sensitive receptors. There are many residential receptors within 200m of this corridor. Other sensitive receptors within its vicinity include a church, two colleges, two hospitals, a playschool, and four schools, which may also be sensitive to changes in local air quality.	There are 670 residential properties within 200m of the centre of the route corridor, the greatest concentration of these are situated in the 150 – 200m band, whilst the fewest are located at 0-50m.	Moderate Adverse
	Greenhouse Gases	CO ₂ is considered to be the most important greenhouse gas and therefore it is used as a key indicator for the purposes of assessing the impacts of transport options on climate change. When assessing a proposed road scheme the total amount of emissions associated with a particular route is determined rather than air quality at a specific location.	Not assessed at this stage.	Neutral
	Landscape	Distinctive landscape crossed at the River Callan corridor. Potential for high levels of visual intrusion in mid section and possible need for cutting in landscape. Cuttings and embankments may be necessary at the corridors eastern portion.	N/A	Moderate Adverse
	Townscape	Slight Adverse impact on grounds and settings of St Patricks RC Cathedral. Avoids encroachment on City Conservation Area. Moderate Adverse impact on commercial and light buildings at Station Road. Major Adverse impacts on residential properties off Cathedral Road. Potential for Slight Beneficial impact due to relief of traffic congestion.	N/A	Slight/Moderate Adverse
	Heritage Historic Resources	This option will encroach, impact and thereby likely remove a number of industrial heritage sites, a scheduled standing stone and a recorded trackway (location not defined). In addition the route infringes on an area of conservation at the northern portion of Armagh city core. These sites are located directly on the route and cannot be mitigated other than by excavation/full recording prior to removal.	Direct impact on 5 industrial heritage sites and 2 SMR sites, one of which is a scheduled monument Infringement on Conservation Area Indirect impact on an SMR site and 2 industrial sites (close proximity to route) Potential direct impact on underwater archaeology at river crossing Potential indirect impact on three historic buildings (visual impact) and a scheduled SMR site (potential damage by road construction machinery)	Major Adverse
	Biodiversity	In summary, route corridor 2 passes mainly through habitats varying from low to high local biodiversity interest and also crosses many surface watercourses, including the Callan and Ballynahone Rivers. This corridor is a mosaic of habitats of negligible to medium local biodiversity interest, and is ascribed a low value in line with TAG Unit 3.3.10.	Full survey required at next stage.	Slight Adverse
	Water Environment	This route corridor crosses the Callan River, an important fisheries river a designated Salmonid watercourse under EC Freshwater Fish Directive (78/659/EEC).	N/A	Moderate Adverse
	Physical Fitness	The proposed route may disrupt existing cycle and pedestrian movements. Opportunity exists also to provide new and/or improved cycle and pedestrian facilities.	N/A	Slight Beneficial
	Journey Ambience	The proposed route would improve journeys for travellers by reducing journey times and decreasing frustration.	N/A	Moderate Beneficial
	Disruption Due to Construction	A certain amount of disruption is inevitable during the construction phase of the proposed development. There may be a considerable amount of disruption in this case due to the proximity to a large number of residential receptors.	N/A	Major Adverse
	Policies and Plans	Several development plan zonings including the Armagh Green Belt, housing, and amenity zonings would be impacted upon by this corridor option. The remainder of the route follows the alignment of the proposed West and North link as indicated in the development plan.	N/A	Moderate Beneficial
Land Use	A wide range of land uses will be impacted upon as a result of the proposed corridor including agricultural and residential land. Potential impact may occur in terms of loss of land, demolition of property and severance of land parcels/disruption to operations (agricultural land use).	N/A	Moderate Adverse	
SAFETY	Accidents	Potential for increase in accidents and associated casualties between Station Road and Killylea Road due to urban nature of route. Accidents in rural section to be less but more severe due to higher speed limit than that of urban section.		Slight Adverse
	Security	Security along urban section could be perceived as worse due to number of junctions, although mitigating steps proposed to improve road users personal security		Slight Adverse
ECONOMY	Public Accounts	No private developer contributions or Public Transport Revenues.		Neutral
	Economic Efficiency	Results show that Route Corridor 2 has the highest NPV with the lowest BCR value, although in terms of COBA is still very positive	NPV High Growth £275,632 BCR High Growth (COBA) 8.125	Beneficial
	Reliability	Modelling outputs predict encouraging 26% of the total city centre trips away from the city centre to the new link road in 2009, reducing to 24% by 2024. This is related to the attractiveness of the link road due to improved journey times.		Beneficial
	Wider Economic Impacts	Economic impacts due to improved local and strategic accessibility leading to significantly improved opportunities for local businesses and job creation	N/A	Beneficial
ACCESSIBILITY	Option Values	No significant additional or reduced values for transport services.	N/A	Neutral
	Severance	Severance occurring at several residential developments within the area	N/A	Adverse
	Access to the Transport System	No new transport services or improved access to transport services.	N/A	Neutral
INTEGRATION	Transport Interchange	Passenger/Freight interchanges do not form part of this scheme	N/A	Neutral
	Land-Use Policy		N/A	Slight Beneficial
	Other Government Policies	Scheme will help implement policies in RTS and RSTN TP	N/A	Beneficial

APPRAISAL SUMMARY TABLE - Route Corridor 3

SCHEME		DESCRIPTION		PRESENT VALUE OF COST
Armagh North & West Link		New Link Road	Route Corridor 3	£m
OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE MEASURE	ASSESSMENT
ENVIRONMENT	Noise	This option is set in a rural context on the north and west fringe of Armagh City. A relatively small number of properties are in close proximity to the route and would experience elevated noise levels as a result of this option. This option passes close to a number of sensitive receptors including Fairlawns Residential Home and Tullyelmer House.	Properties Counts for distance bands: 0 – 50m 4 50 – 100m 47 100 – 200m 244 200 – 300m 301	Slight Adverse
	Local Air Quality	Route Corridor 3 traverses the greenbelt which surrounds Armagh conurbation for much of its length. This corridor has the potential to impact upon sensitive receptors by influencing local air quality due to changes in traffic related pollutants in the area.	There are 295 residential properties within 200m of the centre of the route corridor, the greatest concentration of these are situated in the 150 – 200m band, whilst the fewest are located at 0-50m.	Slight Adverse
	Greenhouse Gases	CO ₂ is considered to be the most important greenhouse gas and therefore it is used as a key indicator for the purposes of assessing the impacts of transport options on climate change. When assessing a proposed road scheme the total amount of emissions associated with a particular route is determined rather than air quality at a specific location.	Not assessed at this stage.	Neutral
	Landscape	Distinctive landscape crossed at the River Callan corridor. More westerly route corridor than 1 or 2 crossing agricultural fringe landscape with lower potential for visual intrusion. Cuttings and embankments may be necessary at the corridors eastern portion.	N/A	Moderate Adverse
	Townscape	Marginal limited impact on the townscape of Armagh City. Is located on urban/rural fringe.	N/A	Slight Beneficial
	Heritage Historic Resources	This option will encroach, impact and thereby likely remove an industrial heritage site consisting of a quarry with lime kiln. This site is located directly on the route and cannot be mitigated other than by full recording prior to removal.	Direct impact on 1 industrial heritage site Indirect impact on 1 industrial site (close proximity to route) Potential direct impact on underwater archaeology at river crossing Potential indirect impact on three SMR sites, one of which is a scheduled and 1 industrial site (potential damage by road construction machinery)	Slight Adverse
	Biodiversity	In summary, route corridor 3 passes habitats varying from low to high local biodiversity interest and crosses a small tributary of the Callan River in the west, and then crosses the Callan River north of the city. This corridor crosses more field boundary trees and hedgerows than the other corridors. This corridor is a mosaic of habitats of low to medium local biodiversity interest, and is ascribed a low-medium value in line with TAG Unit 3.3.10.	Full survey required at next stage.	Moderate Adverse
	Water Environment	This route corridor crosses the Callan River and its tributaries. The Callan River is an important fisheries river a designated Salmonid watercourse under EC Freshwater Fish Directive (78/659/EEC).	N/A	Major Adverse
	Physical Fitness	The proposed route would cause little disruption to existing cycle and pedestrian movements. Opportunity exists to provide new and/or improved cycle and pedestrian facilities.	N/A	Slight Beneficial
	Journey Ambience	The proposed route would improve journeys for travellers by reducing journey times and decreasing frustration.	N/A	Major Beneficial
	Disruption Due to Construction	A certain amount of disruption is inevitable during the construction phase of the proposed development. There may be a considerable amount of disruption in this case due to the proximity to a large number of residential receptors.	N/A	Moderate Adverse
	Policies and Plans	Several development plan zonings including a major impact on the Armagh Greenbelt, housing, industrial/commercial and open space zonings would be impacted upon by this corridor option.	N/A	Moderate Adverse
	Land Use	This route corridor impacts almost exclusively upon agricultural land use; impact is likely to occur in terms of loss of land, severance of land parcels and disruption to operations.	N/A	Major Adverse
SAFETY	Accidents	The rural nature of the road reduces the probability of accidents, but the high speed limit means that accidents occurring on this road would be more severe than in an urban environment.		Adverse
	Security	Low sense of personal security for vehicle users due the sense of isolation and absence of substantial lighting, although emergency call facilities with lighted areas may mitigate against this to a certain degree.		Slight Adverse
ECONOMY	Public Accounts	No private developer contributions or Public Transport Revenues.		Neutral
	Economic Efficiency	Results show that Route Corridor 3 has the lowest NPV with second the lowest BCR value, although, again, in terms of COBA is still very positive	NPV High Growth £209,660 BCR High Growth (COBA) 8.232	Beneficial
	Reliability	Modelling outputs predict encouraging 21% of the total city centre trips away from the city centre to the new link road in 2009, reducing to 21% by 2024. This is related to the attractiveness of the link road due to improved journey times.		Slight Beneficial
ACCESSIBILITY	Wider Economic Impacts	Economic impacts due to improved strategic accessibility leading to improved opportunities for local businesses and job creation	N/A	Slight Beneficial
	Option Values	No significant additional or reduced values for transport services.	N/A	Neutral
	Severance	Effect of severance on Armagh communities negligible.	N/A	Neutral
INTEGRATION	Access to the Transport System	No new transport services or improved access to transport services.	N/A	Neutral
	Transport Interchange	Passenger/Freight interchanges do not form part of this scheme	N/A	Neutral
	Land-Use Policy	Falls entirely outside development limit for Armagh. Rural area affected	N/A	Slight Adverse
	Other Government Policies	Scheme will help implement policies in RTS and RSTN TP	N/A	Beneficial

APPRAISAL SUMMARY TABLE - Route Corridor 4

SCHEME		DESCRIPTION		PRESENT VALUE OF COST
Armagh North & West Link		New Link Road	Route Corridor 4	£m
OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE MEASURE	ASSESSMENT
ENVIRONMENT	Noise	This option is set in a mixture of urban and rural landscape. A significant number of properties are in close proximity to the route and would experience elevated noise levels as a result of this option. This option passes close to a number of sensitive receptors including Longstone Hospital, St Luke's Hospital, Armagh College of Further Education and a cemetery	Properties Counts for distance bands: 0 – 50m 20 50 – 100m 135 100 – 200m 403 200 – 300m 514	Moderate Adverse
	Local Air Quality	Route Corridor 4 traverses the urban and suburban areas of Armagh City and has the potential to influence air quality at numerous sensitive receptors. There are many residential receptors within 200m of this corridor. Other sensitive receptors within 200m of the route include two hospitals, a college, playschool and a high school.	There are 558 residential properties within 200m of the centre of the route corridor, the greatest concentration of these are situated in the 150 – 200m band, whilst the fewest are located at 0-50m.	Slight Adverse
	Greenhouse Gases	CO ₂ is considered to be the most important greenhouse gas and therefore it is used as a key indicator for the purposes of assessing the impacts of transport options on climate change. When assessing a proposed road scheme the total amount of emissions associated with a particular route is determined rather than air quality at a specific location.	Not assessed at this stage.	Neutral
	Landscape	Most remote route from city crossing agricultural landscape for entire length. Distinctive landscape crossed at the River Callan corridor. Potential for low levels of visual intrusion. Significant cuttings and embankments necessary at the corridors eastern portion.	N/A	Slight Adverse
	Townscape	Most remote from Townscape of Armagh City and no loss of townscape features. Potential for slight beneficial impact due to relief from traffic congestion	N/A	Slight Adverse
	Heritage Historic Resources	This option will encroach, impact and thereby likely remove a number of industrial heritage sites, a scheduled standing stone and a recorded trackway (location not defined). In addition the route infringes on an area of conservation at the northern portion of Armagh city core. These sites are located directly on the route and cannot be mitigated other than by excavation/full recording prior to removal.	Direct impact on 6 industrial heritage sites and 2 SMR sites, one of which is a scheduled monument Infringement on Conservation Area Indirect impact on an SMR site and 2 industrial sites (close proximity to route) Potential direct impact on underwater archaeology at river crossing Potential indirect impact on two historic buildings (visual impact) and a scheduled SMR site (potential damage by road construction machinery)	Major Adverse
	Biodiversity	In summary, route corridor 4 passes through habitats varying from low to high local biodiversity interest. It also crosses many surface watercourses, including the Callan and Ballynahone Rivers. It passes through a large section of the old disused railway corridor AEC and an area of mature woodland associated with the Desert Lane Cemetery which are both examples of undesignated sites of local biodiversity interest, and is ascribed a low-medium value.	Full survey required at next stage.	Slight/Moderate Adverse
	Water Environment	This route corridor crosses the Callan River and its tributaries. The Callan River is an important fisheries river a designated Salmonid watercourse under EC Freshwater Fish Directive (78/659/EEC).	N/A	Moderate Adverse
	Physical Fitness	The proposed route may disrupt existing cycle and pedestrian movements. Opportunity exists also to provide new and/or improved cycle and pedestrian facilities.	N/A	Slight Beneficial
	Journey Ambience	The proposed route would improve journeys for travellers by reducing journey times and decreasing frustration.	N/A	Moderate Beneficial
	Disruption Due to Construction	A certain amount of disruption is inevitable during the construction phase of the proposed development. There may be a considerable amount of disruption in this case due to the proximity to a large number of residential receptors.	N/A	Moderate Adverse
	Policies and Plans	Several development plan zonings including the Armagh Greenbelt, housing, and amenity zonings would be impacted upon by this corridor option. The remainder of the route option follows the alignment of the proposed West and North Link as indicated in the development plan.	N/A	Slight Beneficial
	Land Use	A wide range of land uses will be impacted upon as a result of the proposed corridor including agricultural and residential land. Potential impact may occur in terms of loss of land, demolition of property and severance of land parcels/disruption to operations (agricultural land use).	N/A	Moderate Adverse
SAFETY	Accidents	Potential for increase in accidents and associated casualties between Station Road and Cathedral Road due to urban nature of route. Accidents in rural section to be less but more severe due to higher speed limit than that of urban section.		Slight Adverse
	Security	Security along urban section could be perceived as worse due to number of junctions, although mitigating steps proposed to improve road users personal security		Slight Adverse
ECONOMY	Public Accounts	No private developer contributions or Public Transport Revenues.		Neutral
	Economic Efficiency	Results show that Route Corridor 4 has the second lowest NPV with the second highest BCR value, although in terms of COBA is still very positive	NPV High Growth £224,872 BCR High Growth (COBA) 8.454	Beneficial
	Reliability	Modelling outputs predict encouraging 23% of the total city centre trips away from the city centre to the new link road in 2009, reducing to 21% by 2024. This is related to the attractiveness of the link road due to improved journey times.		Beneficial
	Wider Economic Impacts	Economic impacts due to improved local and strategic accessibility leading to significantly improved opportunities for local businesses and job creation	N/A	Beneficial
ACCESSIBILITY	Option Values	No significant additional or reduced values for transport services.	N/A	Neutral
	Severance	Limited Severance in residential areas as route corridor is outside existing residential developments.	N/A	Slight Adverse
	Access to the Transport System	No new transport services or improved access to transport services.	N/A	Neutral
INTEGRATION	Transport Interchange	Passenger/Freight interchanges do not form part of this scheme	N/A	Neutral
	Land-Use Policy		N/A	Slight Beneficial
	Other Government Policies	Scheme will help implement policies in RTS and RSTN TP	N/A	Beneficial