

EAST AYRSHIRE COUNCIL

CABINET - 4 JUNE 2008

BRIDGES, TRAFFIC, TRANSPORTATION AND ROAD SAFETY PROGRAMMES 2008/09

Report by the Executive Director of Neighbourhood Services

1. PURPOSE OF REPORT

1.1 The purpose of this report is to advise Cabinet of:-

- (i) the current status of the bridge assessment programme and the significant future investment that will be required to strengthen the Council's bridge stock.
- (ii) the proposal by the Executive Director of Neighbourhood Services to bring forward a ten year bridges investment programme to address the bridge issues taking account of priorities and affordability.
- (iii) the proposed structures, traffic, transportation and road safety Capital programmes for 2008-09.

2. BACKGROUND

2.1 BRIDGES

2.1.1 Bridge Assessment - On the 1st of January 1999 under an EC Directive, domestic legislation was amended to allow 40 tonne vehicles already operating in mainland Europe to travel on roads in this country. All road bridges in the UK are required to be assessed to determine their suitability to carry this new load requirement. Those which fail their load assessment are then required to be strengthened, replaced or permanently weight restricted. Although bridge assessments have been ongoing for sometime it is only over the last three years that the programme has been accelerated and the results of the assessments have been forthcoming.

2.1.2 Bridge Inspections - The regular inspection of the Council's road structures is essential to ensure that they are safe and fit for purpose. Recommendations on the type and frequency of inspection are specified in the "Management of Highway Structures" – A Code of practice and the "Inspection Manual for Highway Structures". The inspections also provide the information needed for the preparation of programmes of remedial action.

2.1.3 General Inspections (GI), which are visual inspections only, are carried out on a two-year cycle. Over 800 structures receive a GI and the programme is currently up to date.

- 2.1.4** A more detailed inspection known as a Principal inspection (PI) is required to be carried out every 6 years. The PI requires a detailed examination of all inspectable parts of a structure. 90 PI's have to be carried out each year to achieve the 6 year cycle.

The requirement for inspections and assessments is set out in the following table.

No. of structures on EAC Database (bridges & culverts with span greater than or equal to 0.9m and walls)	869
No. of structures that receive a General Inspection (all structures)	869
No. of structures that receive a Principal Inspection (bridges & culverts with span greater than or equal to 1.8m and walls)	529
No. of bridges that require load assessed (bridges and culverts with span greater than or equal to 1.8m)	357
No. of bridges that have been load assessed	231
No. of assessments being carried out but not completed	30
No of bridges still to be assessed	96

- 2.1.5** Rail Incursions - The interface of the road and railway networks presents potential hazards and the risk of vehicle incursions onto the railway requires to be managed by both road and rail authorities. The Chief Executive has recently received letters from both the UK Bridges Board and The Scottish Government which highlight the relatively poor national progress on the vehicle incursion issue.

- 2.1.6** At the meeting of 23 April 2008, Cabinet approved an allocation of £465,000 for Bridge Strengthening and Culvert Replacement from the Roads and Transportation capital programme.

- 2.1.7** A further £60,000 has been committed from Departmental reserves to accelerate the bridge assessment programme in 2008-09

2.2 TRAFFIC, TRANSPORTATION AND ROAD SAFETY

- 2.2.1** At the meeting of 23 April 2008 Cabinet approved the allocations for the Roads and Transportation capital programme as listed below:-

Project	Sum	Source
Cycling Walking and Safer Streets	£212,000	Scottish Government
20mph Zones	£125,000	East Ayrshire Council
Capital Road Safety	£140,000	East Ayrshire Council
Disabled Access	£ 10,000	East Ayrshire Council
Rural Route Action Plans	£135,000	East Ayrshire Council
Rural Improvement Schemes	£ 60,000	East Ayrshire Council
Bus Infrastructure Improvements	£ 30,000	East Ayrshire Council
Cumnock Parking Policy	£140,000	East Ayrshire Council

- 2.2.2** Road accident casualties have reduced significantly in recent years and the national targets for road casualty reductions for 2010 have been met. The Road accident statistics recently published by the Scottish Executive for 2006 show that the number of people killed and seriously injured in East Ayrshire reduced by 57% compared to the base-line years between 1994-1998 and child fatal and serious injury casualties were down by 71%. Nonetheless, there continue to be accident problems, particularly on rural single carriageway roads where incidents sometimes result in fatalities or serious injury and in the built up areas where there continues to be significant numbers of pedestrian casualties.

The Roads Division analyses Police accident records in East Ayrshire on an annual basis to identify locations where accidents are occurring. The policy adopted some years ago to prioritise road safety remedial measures to address road accidents involving personal injury is likely to have made a significant contribution to the accident reductions in East Ayrshire.

3. PROPOSALS BRIDGES

3.1 BRIDGE ASSESSMENT PROGRAMME

- 3.1.1** East Ayrshire Council (EAC) has 357 bridges that require assessment of which 315 are owned by the Council. The owners of the remaining 42 structures requiring assessment are Network Rail, BRB (Residuary) Ltd, and other private organisations.
- 3.1.2** The maintenance of privately owned bridges carrying the public road is the responsibility of the owner and not the Council. However, the introduction of the 40 tonne lorry means that the Council is in most cases, responsible for funding the load assessment of these structures and any subsequent strengthening requirements.
- 3.1.3** By the end of March 2008, the Council's bridge assessment programme was approximately 65% complete compared with 88% of structures that have been assessed nationally. In 2008-09 it is proposed to engage consultants to carry out the assessment of 30 bridges at an estimated cost of £95,000 funded from the 2008-09 capital budget and a further 20 bridges with the £60,000 committed from departmental reserves.
- 3.1.4** The Council has a legal obligation to fund the load assessment of road over rail bridges in East Ayrshire. Under the terms of a legal Agreement Network Rail will procure the professional services required to carry out these load assessments. 14 Network Rail bridges have been assessed and 10 rail bridge assessments will be carried out in the year to March 2009 at an estimated cost of £55,000. In the event that Network Rail does not proceed with the assessments in 2008-09 it is proposed that this budget in whole or part be used to further accelerate the assessment programme of Council owned structures.

3.1.5 The assessment of 10 rail bridges and 50 local road bridges in 2008-09, along with the completion of the 30 assessments currently underway, will bring the assessment programme to approximately 90% completion by March 2009, with the remainder being carried out in 2009-10.

3.2 BRIDGE STRENGTHENING PROGRAMME

3.2.1 Of the 231 completed bridge assessments, 68 were found to be weak. In percentage terms the failure rate to-date is 28% Council and 42% Private. The average failure figures for Scotland are 20% Council and 29% Private.

3.2.2 Of the 68 bridges so far found to be weak, 31 have been re-decked, strengthened or otherwise improved. 8 structures have had weight restrictions imposed and are monitored regularly pending possible remedial measures. The remainder will be subject to interim measures such as, weight restrictions, monitoring, and/or further investigation. The current list of 37 bridges that have failed their assessment and have not been strengthened is shown in Appendix A.

3.2.3 In those cases when bridges fail the 40 tonne assessment, the structures have to be managed in an appropriate manner pending strengthening or replacement. The management strategy can include the application of interim measures comprising weight restrictions, lane restrictions, propping and/or monitoring with or without associated measures. It is proposed that £115,000 is allocated from the capital budget in 2008-09 towards dealing with structures that have failed their load assessment. This will allow interim measures to be implemented as detailed in column 8 of Appendix A. A 10 year programme for bridge strengthening will be the subject of a future report to the Cabinet.

3.2.4 It is proposed that strengthening schemes identified in Appendix A will be prioritised taking account of :-

- Theoretical strength as determined by assessment
- Bridge condition
- Road hierarchy / importance and traffic volume
- Length and suitability of diversion route
- Consequences of bridge failure and risk to public safety
- Social, environmental and economic consequences to local businesses
- Availability of funding and funding availability from external sources
- Suitability and likely duration of monitoring appropriate measures

The prioritisation factors and threshold indicators are set out in Appendix B. The highest priority will be given to dealing with those structures where failure has occurred. Columns 4 and 5 of Appendix A show the remedial action required to strengthen the bridges to the 40 Tonne capacity. The cost of bringing the 37 structures up to the 40 Tonne capacity would be in excess of £6.2m. In the case of boundary bridges, contributions will be sought from neighbouring authorities, reducing the burden on East Ayrshire Council budgets.

3.3 BRIDGE INSPECTIONS

- 3.3.1** A Maintenance Prioritisation Ranking (MPR) score is assigned to each structure following a General and Principal Inspection. MPR values range from 1 to 4 with 1 indicating an acceptable condition and 4 indicates the condition is such that urgent remedial action is required; Appendix C. 12 structures in East Ayrshire have an MPR value of 4, and early action is required. These are identified in Appendix D. Structures in this category, where it is not possible to strengthen with the existing budget, will be monitored regularly. If significant deterioration occurs before remedial action can be implemented, consideration will be given to closure of the bridge or weight restriction. Remedial action will be prioritised on a similar basis as set out above for dealing with bridge assessment failures.
- 3.3.2** It is proposed that £70,000 will be allocated from the capital budget in 2008-09 towards dealing with U59 Treeswoodhead Road Culvert and U42 Grassyards Burn Culvert which are the first and second structures listed on Appendix D. These culverts are in an unacceptable condition and require replacement.
- 3.3.3** The A77 RaithHill Culvert which is also identified in Appendix D requires replaced. Following the de-trunking of this section A77 ownership of this structure was transferred to the Council. Transport Scotland has agreed to fund £120,000 towards its replacement. It is proposed to progress the design and land acquisition in this coming year with a view to implementing the scheme in 2009 -10

3.4 RAIL INCURSIONS

- 3.4.1** Vehicle incursion onto the railway can occur where the road crosses or runs alongside the railway. These sites are generally known as “bridge” and “neighbourhood” sites respectively. Within East Ayrshire there are 29 “bridge” sites and 26 “neighbourhood” sites.
- 3.4.2** Following the incident at Great Heck (near Selby) on 28 February 2001 in which 10 people were killed, the Department for Transport established methods for the assessing of the risk at potential incursion sites and the preparation of mitigation measures. The risk assessment methodology indicates that sites with a risk score greater than 90, should be treated by the provision of vehicle safety fencing or other traffic management measures. For risk assessment scores between 70-90 it is recommended that the highway authority should consider the practicability of improvements.

The risk scores for the East Ayrshire sites are;

Risk Score	No. of Bridge sites	No. of Neighbourhood sites
Less than 70	11	9
70-80 range	9	7
80-90 range	6	9
Greater than 90	3	1

- 3.4.3** There have been 3 vehicle incursion incidents at “bridge” or “neighbourhood” sites in East Ayrshire in recently. Following an incident in December 2007, £35,000 was committed from departmental reserves to provide vehicle safety fencing at

two bridge sites with part funding from Network Rail. It is proposed that all sites scoring greater than 70 should be considered for safety fence protection measures when funds permit. A budget figure for safety fence protection measures at all 35 sites in the 70+ range is £805,000. It is proposed to allocate £10,000 from the 2008-09 capital budget to complete practical remedial measures at those sites with scores greater than 90. A programme of measures will be developed for the sites with a risk score less than 90 and will be brought forward for future consideration.

3.5 BRIDGE PARAPETS

3.5.1 Bridge parapets are regularly damaged by passing vehicles. The Bridge Assessment Programme and Principal Inspections have also shown that many parapets are sub-standard in terms of modern day vehicle containment requirements. The full extent of the need to strengthen and repair bridge parapets will be investigated and the findings will provide the basis of a 10 year programme which will be the subject of a future report to the Cabinet.

3.5.2 In the meantime it is proposed to allocate £35k of the budget for 2008-09 to begin a programme of upgrading parapets to meet current day containment requirements. Priority will be given to replacement of parapets that have been damaged or weakened through accident damage. The budget allocation will allow repairs to be carried out to the C3 Bridgend Bridge, Stair which currently has one parapet completely demolished. (the third scheme in Appendix D)

3.6 OTHER BRIDGES SCHEMES

3.6.1 A70 Welltrees Bridge Realignment; The Welltrees Bridge replacement and road realignment is now completed. The contractor, Carillion, has intimated a claim for an extension of time with associated costs. The claim along with variations and measured items still to be agreed, amounts to over £400k. No detailed substantiation with regards to the claim has been provided to date. It is anticipated that any additional costs which may be payable will be significantly lower than this figure. However, there is likely to be a shortfall in funding to meet potential costs. Bridge schemes to the value of £49k were deferred in 2007-08 to form a contingency to contribute towards the cost of meeting this claim. It is proposed to set aside a further £50k from this year's budget to contribute towards any claims that are agreed.

3.6.2 Bridge Signing; Bridges which have a height or weight restriction require to be appropriately signed and the Roads Division is responsible for the implementation and maintenance of this signing. Within East Ayrshire Council there are currently 8 bridges that have a signed weight restriction. A recent review of the Traffic Regulation Orders relating to bridge weight limits has required new Orders to be made. The current bridge assessment programme indicates that a further 25 bridges may require to be weight restricted. It is proposed that £10,000 will be allocated from the capital budget in 2008-09 for the upgrading of the weight limit signing at these 8 bridges.

3.6.3 The Bonnyton Road Rail Bridge in Kilmarnock has been struck three times in the last 18 months with two of the incidents involving double decker buses. It is proposed to install electronic vehicle actuated warning signs which would highlight to a driver in advance of the bridge that their vehicle is too high to pass under the bridge. The cost of such a system is estimated at £25k. Network Rail have indicated that they will make a contribution of around £5,000. It is proposed that £20,000 will be allocated from the capital budget in 2008-09 to provide for the installation of such a system. Stagecoach has been approached with a view to them making a contribution but we have no response at this stage.

3.6.4 Daldorch Footbridge, Catrine; A consultant was awarded the contract for the feasibility and detailed design of a new footbridge across the River Ayr, in 2007, to replace the existing footbridge which had to be closed due to poor condition. This work is at an early stage although a preferred option has been established subject to planning approval. To meet the cost of the design work and to cover additional hire costs associated with the temporary footbridge, it is proposed to allocate £5,000 from the capital budget for 2008-09. The estimated cost of the footbridge is £220,000. Funding is currently being sought from Strathclyde Partnership for Transport to enable the permanent replacement of the structure to be implemented.

3.7 FUTURE WORKS

3.7.1 There will be additional bridge assessment failures arising from those bridges not yet assessed. A future report will update the Cabinet on these developments and the costs associated with the remedial actions that will be required to bring the capacity of the bridges up to 40 Tonne

3.7.2 The bridge inspections have highlighted many structures with an MPR value of 2 and 3 which indicates that remedial action should be attended to within 6 years. The indicative cost of carrying out remedial action on these structures is £7m. General Inspections of these structures will be carried out every two years and if any deterioration is recorded remedial works will be added to Appendix D, for early action

4. PROPOSALS TRAFFIC, TRANSPORTATION AND SAFETY

4.1 CYCLING WALKING AND SAFER STREETS (£212,000)

4.1.1 The Scottish Government has allocated East Ayrshire Council £212,000 in 2008/2009 to improve facilities for pedestrians, cyclists and other vulnerable road users such as children travelling to and from school.

The following projects have been identified as being beneficial to pedestrians and cyclists :-

Project	Preliminary Estimate
Puffin Crossing Ayr Road, Kilmarnock	£25,000

Darvel Main Street improvements at crossings	£50,000
Stewarton Cycle route (Part Funding)	£30,000
Daldorch to Sorn Cycle route (Part Funding)	£68,000
Cunningham Watt Park Cycle route	£7,000
Bus Boarders in Holehouse Road, Kilmarnock	£16,000
Cycle Route Signs + Markings	£10,000
North Hamilton Street, Kilmarnock - Zebra Crossing	£5,000
Jeffrey Street, Kilmarnock (Signs and Markings)	£1,000
TOTAL	£212,000

The preliminary estimates will be subject to review once detailed designs are carried out.

4.1.2 It is proposed that the projects listed above are implemented in the 2008/2009 financial year up to the limit of the current allocation and will be prioritised in the order presented.

4.1.3 It has been indicated that this will be the final year of the Scottish Government's ring-fenced funding for Cycling Walking and Safer Streets projects. The budget has over the last 6 years allowed East Ayrshire Council to implement pedestrian, traffic calming and road safety schemes in residential areas and in the vicinity of schools which has contributed to the significant improvements in pedestrian and child safety. It is proposed to request the Scottish Government to continue this budget in future years to build on the road safety successes that have been achieved and to encourage walking and cycling as environmentally friendly, sustainable, healthy modes of transport for shorter journeys.

4.2 20mph ZONES (£125,000)

4.2.1 Full time and part time 20mph speed limits have already been provided on roads adjacent to 56 schools in East Ayrshire. Mandatory 20mph speed limits have been introduced in 38 residential areas and there are 45 advisory Twenty's Plenty Zones.

In 2007, the number of pedestrian casualties in areas with a 40mph speed limit or less has reduced by 43% since the baseline years between 1994 and 1998. Nonetheless there continues to be significant numbers of casualties and in 2007, there were 136 people injured in towns and built-up areas 42 of these casualties were pedestrians. Research has shown that pedestrian casualties can be reduced by 67% in 20mph zones. The severity of injuries can also be reduced when accidents occur; 1 in 40 pedestrians struck by a car at 20mph dies compared with 1 in 5 at 30mph.

The questionnaire survey undertaken during the consultations on the forthcoming Local Transport Strategy indicated that 92% of residents in east Ayrshire support reduction in speeds in residential areas. Two thirds of residents that responded supported the use of road humps to help drivers reduce their speed.

70 leading transport, health and planning organisations, including SPT, Sustrans, Cycling Scotland and British Heart Foundation, have recently called on electoral candidates to commit 10% of transport budgets to cycling and walking initiatives to help fight UK's obesity crisis. The signatory organisations of the Take Action on Active Travel have called for several actions which include a 20mph or lower speed limit to be the norm in residential areas.

It is proposed to continue with the programme of introducing 20mph speed limits in residential areas to improve safety, enhance the environment and make it easier for the elderly, disabled people, and young people to move around their residential areas in safety.

4.2.2 Further residential areas have been identified where it is considered that the implementation of a lower speed limit would benefit the local communities.

Project	Preliminary Estimate
Mauchline - Jean Armour drive, Mary Morrison Drive, Hamilton Av	£30,000
Kilmarnock - MacFarlane Drive, (New Farm loch)	£30,000
Auchencar Road, Altonhill	£30,000
Kennedy Drive, Kilmarnock	£25,000
Twenty's Plenty Zones	£10,000
Dalrymple - Primpton Av, Seath Drive, Robertson Place	£30,000
Galston - Belvedere View, Cairn View	£30,000
Muirkirk - Smallburn	£30,000
Dalmellington - Armour Wynd, Park Crescent, Hopes Avenue, Dalton Avenue, Melling Terrace, Castle Croft, Castle Road	£35,000
Auchinleck – Beechwood Avenue, Boswell Drive, Coal Road	£25,000
Fenwick - Rysland Drive and Poles Road	£30,000
Cumnock – John Allan Drive, Murray Court, Kier Hardie Hill, McCall Avenue, Michie Street, Wylie Crescent	£25,000
Newton Street, Catrine	£20,000
Patna - Carnshalloch Av (small cul-de-sac	£10,000
New Cumnock - Holm Road, Castlemain Avenue, Nithsdale Avenue, Westland Drive, Glebe Street	£25,000
Kilmarnock - Newlands Drive, Bringan Road, Glassock Road	£20,000

Twenty's Plenty Zones	£10,000
TOTAL	£400,000

With the budget available it will take 4 years to introduce 20mph limits in the identified residential areas. A ten year programme for 20mph speed limit in all residential areas will be the subject of a future report to Cabinet.

4.2.3 The Roads Division regularly receives requests for residential areas to be made into 20's Plenty areas, and in some cases this is more appropriate than introducing mandatory speed limits. It is therefore proposed that £10,000 is made available for provision of 20's Plenty where this is the preferred approach.

4.2.4 The above table shows preliminary estimates which have been prepared prior to detailed designs being carried out. The estimates exceed the available funding and the works carried out in the 08/09 financial year will be contained within the current budget and will be prioritised in the order presented. Schemes not implemented in this financial year will be undertaken in future years when funding becomes available.

4.3 CAPITAL ROAD SAFETY (£140,000)

4.3.1 East Ayrshire has a statutory duty to analyse the road accidents occurring in the area and the information is used to prepare a programme of road safety schemes to address recurring accident problems.

All of the schemes identified from the annual accident analysis will address existing accident problems and show a significant First Year Rate of Return of almost 300%. In recent years a proportion of the budget has also been set aside to deal with concerns about road safety issues raised by Members and residents of East Ayrshire. The table below is separated into two parts. The upper part lists Road Safety schemes identified from the annual accident analysis. The lower part lists schemes which have been requested by the local community.

Project	Preliminary Estimate
Road Safety schemes identified from the annual accident analysis	
Kilmarnock - St Marnock St/ John Finnie St	£20,000
Kilmarnock - Armour St / Sturrock St	£10,000
Kilmarnock - Queens Drive/ Hurlford Road	£10,000
Newmilns - A71 Loudoun Road/ Main Street	£15,000
Kilmarnock - London Road/ Culzean Crescent	£10,000
Hurlford - A71 Hurlford road between Bellfield Interchange and Cemetery	£10,000
Cumnock - Glaisnock Street/ Hall Terrace	£8,000
Kilmarnock - A71 Moorfield Roundabout	£5,000

Coalhall, A70 / B730	£7,000
Schemes requested by the local community	
B751 Kilmaurs Gateway Feature	£3,000
Barony Road traffic calming, Auchinleck	£35,000
Stewarton Cross anti-skid surfacing	£7,000
A71 Priestland traffic calming	£30,000
Nursery Avenue, Kilmarnock	£15,000
Stewarton Cross anti-skid surfacing	£6,000
Whattriggs Rd/ Lammermuir Rd traffic calming, Kilmarnock	£25,000
Mary Morrison Drive, Hamilton Av traffic calming, Mauchline	£25,000
Knockinlaw Road traffic calming, Kilmarnock	£10,000
Old Kilmarnock Rd/ Kirkford, traffic calming, Stewarton	£30,000
East Main Street speed reduction measures, Darvel	£30,000
Ness Glen traffic calming, Bellsbank	£10,000
Holmes Road traffic calming, Kilmarnock	£20,000
Ochiltree A70/ Mill Street alteration to junction layout including repositioning of monument	£25,000
TOTAL	£364,000

The preliminary estimates will be subject to review once detailed designs are carried out. It is proposed that the road safety schemes identified from the annual accident analysis will be implemented first. The remaining budget will be used to carry out the schemes requested by the local community in the order they are listed above. Any scheme not carried out in the 2008-09 financial year will be considered for implementation in the next financial year.

4.3.2 It is proposed that the road safety measures for Holmes Road, Kilmarnock are not progressed at this time due to significant lighting improvements being required to allow the scheme to proceed.

4.4 RURAL ROUTE ACTION PLANS (£135,000)

4.4.1 A significant proportion of the most serious and fatal road accidents in East Ayrshire occur on rural single carriageway roads. Rural Route Action Plan measures are designed to assist drivers to be aware of the alignment of the road and help drivers adjust their speed to an appropriate level for the conditions ahead. The action plan measures include road markings, verge marker posts, warning signs and chevron signs. These are provided at bends along the route in a graduated manner to help drivers maintain the appropriate speed when approaching the various hazards. Reflective bollards are provided at accesses and minor roads in conjunction with enhanced signage, when necessary, to alert

drivers of the possibility of turning traffic. New road studs and lining will also be provided, as required.

4.4.2 Rural route action plan measures were implemented on the A713 and A70 between 2004 and 2005. Analysis of the Police accident records for the 5 year period before implementation compared with the 3 year period after, indicate that overall casualties have reduced by 16% since the works were implemented and that the numbers killed or seriously injured have reduced by 24%. There were 8 fatalities on the A713 in the 5 years before the measures were implemented and 1 fatality in the subsequent 3 year period.

4.4.3 The 'A' class roads are largely complete and significant progress has been made on the 'B' class routes. This budget is being used to progress works on the remaining rural routes in East Ayrshire as detailed in the table below.

Rural Route	Length	No. Injury Accidents	Injury Accidents/km	Estimated Cost
Completion of outstanding works on 'A' class routes	N/A	15	3.8	£8,000
Completion of outstanding works on the B751 Kilmaurs to Fenwick	7km	18	2.6	£4,000
Completion of outstanding works on the B778, Stewarton to Fenwick	4km	15	3.8	£7,000
B769 Stewarton to Glasgow	7km	13	1.9	£50,000
B778, A736 to Stewarton	5km	6	1.2	£45,000
B743 Mauchline to A70 Junction (Phase 1)	15km	14	0.9	£21,000
B743 Mauchline to A70 Junction (Phase 2)	15km	14	0.9	£104,000
B741 New Cumnock to Dalmellington	14km	8	0.6	£120,000
TOTAL				£302,000

It is proposed that the works will be prioritised on the basis of the accidents per kilometre on each route, in order to maximise the benefits in terms of road safety. The accident statistics in the above table are based on the most recent five year period.

4.4.4 It is proposed that Rural Route Action Plan measures will be implemented on routes B778, B751(completion of lining works), B769 and a section of the B743 in 2008-09. It is proposed that works on the B741 and completing the B743 will be carried out in subsequent financial years.

4.5 RURAL IMPROVEMENT SCHEMES (£60,000)

4.5.1 The major strategic routes, maintained by East Ayrshire Council, are the A71 and A70. The A71 provides a link to the M74 for the north part of East Ayrshire and the A70 a link to the M74 for the south. Both roads are single carriageway which have been treated with Rural Route Action Plan measures. Traffic on these routes are subject to delays during peak periods due to slow traffic such as agricultural vehicles and also road works. Improvements are needed eg. Carriageway widening or bend improvements, improved overtaking opportunities. These will provide benefits for essential service and goods delivery vehicles, and facilitate economic activity which is particularly important for the regeneration of Cumnock. Improvements to the A70 will support objectives with respect to the Cumnock Town Centre Regeneration, Local Plan objectives regarding housing for Mauchline and Cumnock, and also enhance the viability of tourist facilities such as Dumfries House and the Barony 'A' Frame.

4.5.2 The B778 is the main link between Stewarton and the M77. The route is below the desirable standard with poor geometry and narrow road and verge widths. It also has a poor accident record. A route improvement study was carried out by a transport consultant which identified short term route action plan measures as well as medium to longer term schemes which could be coordinated to form a Route Improvement Plan. The short term route action plan measures have largely been completed. The longer term schemes include the possible realignment of the tighter bends on the road. It is proposed that £30,000 is allocated to the introduction of further lower cost improvements which do not require additional land, such as local widening, rumble strips, anti-skid surfacing and to progress the preliminary design of the Route Improvement Plan measures.

4.5.3 The opportunities to carry out larger scale works to realign or widen sections of the B778 in the short term are likely to be limited by the significant costs involved in such works and also the need to acquire adjacent farmland. It is proposed to set aside £5,000 to allow the Roads Division to progress land acquisition at selected locations. In addition, it is proposed that contributions are sought for funding for longer term improvements on the route by developers where proposals are likely to generate additional traffic.

4.5.4 The A71 is the main non-trunk route which provides connectivity between the employment locations in the north of East Ayrshire and the M74 leading to markets in the south. It is proposed that £25,000 will be allocated to carry out preliminary design of improvements, such as road widening, realignments and overtaking sections, on the A71 between the Bellfield Interchange and the boundary with South Lanarkshire to enhance safety and accessibility on the route.

4.6 STRATHCLYDE PARTNERSHIP FOR TRANSPORT (SPT), A70 ROUTE IMPROVEMENTS (£80,000)

4.6.1 A previous study identified a number of potential improvement schemes on the A70 including the Mote Toll improvement and the Mansfield to Wee Torhill realignment. It is now proposed to commence preliminary design work and land acquisition for these two schemes as well preliminary design work on other

identified schemes to enable a prioritised Action Plan of improvement schemes to be drawn up for the route for implementation as funding becomes available.

- 4.6.2** It is proposed to invite the Transport Minister to East Ayrshire to consider the essential upgrades needed for both the A70 and A71 to provide improved connectivity between East Ayrshire and the M74 corridor leading to markets in the South.

4.7 CUMNOCK PARKING POLICY (£140,000)

- 4.7.1** It is intended to develop a parking strategy to cater for the existing town centre parking demand as well as the parking demand arising from the future town centre regeneration proposals, which include retail and office developments.

- 4.7.2** It is proposed to defer this project pending the outcome of the feasibility study on Decriminalised Parking Enforcement that is due to be completed in the summer of 2008, and the outcome of the Cumnock town centre regeneration proposals.

- 4.7.3** A parking strategy for Cumnock town centre will be developed in conjunction with the Joint Development Partnership, and will be the subject of a future report to Cabinet.

5. FINANCIAL IMPLICATIONS

5.1 BRIDGES

- 5.1.1** The proposed programme of works will be funded from the £465,000 Bridge Strengthening and Culvert Replacement allocation from the Roads and Transportation Capital budget for 2008-09 and is summarised as follows;

Project	Allocation
Bridge Assessment Programme(Including Departmental Reserves)	£210,000
Bridge Strengthening Programme	£185,000
Rail Incursions	£10,000
Bridge Parapet Upgrading	£35,000
Other Schemes	£85,000
Total	£525,000

- 5.1.2** Principal Inspections and Bridge Assessments which have been completed to date indicate £6.8m is required to strengthen structures to meet present day loading standards. As the results of further bridge assessments are received this figure will increase. At present investment levels, it will take almost 20 years to address the known issues which require urgent attention. The budget for 2008-09 has been set and proposals for interim measures have been accommodated within this. However in future budget setting processes consideration will require to be given to increased allocations to establish a prioritised programme for bridge strengthening works to enable the issues to be addressed in the short to medium term. A ten year bridge investment programme will be brought forward for

consideration.

5.2 TRAFFIC, TRANSPORTATION AND ROAD SAFETY

5.2.1 The traffic, transportation and road safety programmes will be funded from the various budgets as stated in paragraph 2.2.1

5.2.2 There will be additional maintenance costs arising from the need to maintain traffic calming measures, cleanse and maintain new road signs and cleanse new bus shelters on a regular basis.

5.3 Whilst the Roads Division will endeavour to keep within the budget allocations set out above, the individual programmes will be adjusted as necessary to take account of variations in price following tendering processes.

6. LEGAL IMPLICATIONS

6.1 Under the Roads (Scotland) Act 1984, Roads Authorities have a duty to manage and maintain public roads. This duty includes the proper maintenance of all structures carrying or supporting the road.

6.2 Traffic Regulation Orders will be required to be promoted for the introduction of mandatory 20 mph speed limits and bridge weight limits. When required, an Order will be promoted in accordance with the requirements of the appropriate legislative Act. The Statutory process for promoting an Order includes extensive consultation and a period of advertisement during which the public has the right to make objections.

6.3 A Road Humps Notice will be processed under the terms of the Road Scotland Act 1984 when required

7. POLICY IMPLICATIONS

7.1 The respective programmes have been designed to meet the Council's Local Transport Strategy objectives in terms of reducing road accidents, encouraging cycling & walking, increasing the usage of public transport and improving access for communities and vulnerable road users, as appropriate.

8. COMMUNITY PLANNING IMPLICATIONS

8.1 The Bridge Assessment, Strengthening and Replacement programmes will provide benefits to communities throughout East Ayrshire by maintaining access to employment and educational opportunities and improving safety.

8.2 The projects within the traffic, transportation and road safety programmes support the delivery of the outcomes of the East Ayrshire Community Plan in particular Improving Health, Improving Opportunities and Improving Community Safety and Improving the environment. The projects also support the delivery of the East Ayrshire Council Local Transport Strategy.

9. RECOMMENDATION

9.1 It is recommended that the Cabinet:-

- (i) note the current status of the bridge assessment, strengthening and replacement programmes and the significant future investment that will be required to upgrade the Council's bridge stock.
- (ii) agrees that the Executive Director of Neighbourhood Services will bring forward a ten year investment programme to address the bridge issues taking account of priorities and affordability.
- (iii) agrees that the Leader of the Council shall write to the Transport Minister requesting that funding for Cycling, Walking and Safer Streets shall be continued after March 2009 and inviting the Minister to visit East Ayrshire to consider essential upgrades to the A70 and A71 corridors.
- (iv) approve the proposed bridges, traffic, transportation and road safety Capital programmes for 2008-09 as outlined in sections 3 and 4 of the report.

William Stafford
Executive Director of Neighbourhood Service

19/5/08
KO/AEI/NB

LIST OF BACKGROUND PAPERS - BRIDGES

- 1. Roads Capital Programme 1997-1998, Bridge Strengthening Development Services Committee – 3 June 1997.
- 2. Structural Assessment of Road Bridges owned by Railtrack Development Services Committee – 3 June 1997.
- 3. Structural Assessment and Strengthening of Road Bridges. Development Services Committee – 26th January 1999.
- 4. Structural Assessment and Strengthening of Road Bridges. Development Services Committee – 3rd August 1999.
- 5. Structural Assessment and Strengthening of Road Bridges. Development Services Committee – 11th April 2000.

6. Review of Road Bridge Assessments/Strengthening and Funding Requirements
Development Services Committee – 12th October 2005

For further information on this report please contact Keith Orton, acting Chief Engineer,
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1 Route & Bridge No.	2 Bridge Name	3 Assessed Capacity Tonnes	4 Remedial Action Required	5 Indicative Cost £, 000	6 Prioritisation Factor								7 Assigned Priority	8 Interim Measures Proposed 2008/09	9 Indicative Cost £, 000
					1	2	3	4	5	6	7	8			
A71/280/ C22	Manse Br. Galston	18	Slab replacement	92	✓	✓	✓	✓	✓	✓	✓	✓	1	Monitor	0
B743/141 C90	Slot Burn Br. Nr. Muirkirk	13	Replace Culvert	92	✓	✓	✓	✓	✓	✓	✓	✓	2	Lane restrictions and monitor	23
B741/70	Muck Br. Dalmellington	3	Replace Bridge	288	✓	✓	✓	✓	✓	✓	✓	✓	3	Implement 3 Tonne weight limit and monitor	1
B730/10	Littlemill Br. Rankinston	Preliminary Fail	Replace bridge	172	✓	✓	✓	✓	✓	✓	✓	✓	4	Restrictions / Weight Limit and monitor	1
U22/10	Burnfoot Br. Nr. Darvel	Preliminary Fail	Armco sleeve	57	✓	✓	✓	✓	✓	✓	✓	✓	5	Monitor	0
B706/90	Black Burn Br. Dunlop	18	Slab replacement	81	✓	✓	✓	✓	✓	✓	✓	✓	6	Lane restrictions and monitor	22
B730/30	Taiglum Burn Br. Drongan	Preliminary Fail	Slab replacement	126	✓	✓	✓	✓	✓	✓	✓	✓	7	Monitor	0
B7082/10	Townhead Br. Kilmarnock	7.5 (Footways)	Containment kerbs	34	✓	✓	✓	✓	✓	✓	✓	✓	8	Monitor	0
B778/20 C36	Kilbride Culvert, Nr. Stewarton	7.5 (verge)	Slab replacement to verge	12	✓	✓	✓	✓	✓	✓	✓	✓	9	Monitor	0
U758/10	Skeldon Br. Nr. Dalrymple	7.5	Replace Bridge	250 **	✓	✓	✓	✓	✓	✓	✓	✓	10	Reduce existing 10T weight limit to 7.5 Tonne and monitor	0
U/LOGA/10	Old Lugar Br. Lugar	10	Strengthen	TBC	✓	✓	✓	✓	✓	✓	✓	✓	11	Monitor, further investigation	0
U52/00 C86	Downie's Burn Culvert, Newmilns	?	Slab replacement	52	✓	✓	✓	✓	✓	✓	✓	✓	12	Implement temporary weight limit	1
B741/80	Doon Br. Dalmellington	13	Replace bridge	750	✓	✓	✓	✓	✓	✓	✓	✓	13	None - existing weight limit and monitor	0
B751/30	Rail Br. Kilmaurs	3 (south footway)	Containment kerbs	20 *	✓	✓	✓	✓	✓	✓	✓	✓	14	Vehicle containment kerbs, permanent solution	22
U740/10	Barbieston Br. Drongan	3	Replace Bridge	265 **	✓	✓	✓	✓	✓	✓	✓	✓	15	Locally strengthen & Implement 18 Tonne weight limit	15
U741/10	Millmanoch Br. Drongan	7.5	Replace deck/strengthen	290 **	✓	✓	✓	✓	✓	✓	✓	✓	16	Locally strengthen & Implement 18 Tonne weight limit	15
U/NEWM/C	Isles Burn Culvert, Newmilns (5 structures)	3	Slab replacement	575	✓	✓	✓	✓	✓	✓	✓	✓	17	Monitor	0
C127/10	Low Ashyard Rail Br. Nr. Galston	7.5	Remove bridge/infill	115 *	✓	✓	✓	✓	✓	✓	✓	✓	18	None - existing weight limit and monitor	0
C104/20	Windyhill Rail Br. Newmilns	7.5	Replace deck	105	✓	✓	✓	✓	✓	✓	✓	✓	19	None - existing weight limit and monitor	0
C85/10	Fenwick Br. Fenwick	13	Strengthen	TBC	✓	✓	✓	✓	✓	✓	✓	✓	20	Monitor, further investigation	0
U/NEWM/20	Institute Br. Newmilns	10	Strengthen	60	✓	✓	✓	✓	✓	✓	✓	✓	21	Monitor	0
U26/10	West Clerkland Br. Nr. Stewarton	10	Armco sleeve	57	✓	✓	✓	✓	✓	✓	✓	✓	22	Implement 10 Tonne weight limit	1
U12/10	Watermeetings South Br. Nr Chapelton	7.5	Strengthen	TBC	✓	✓	✓	✓	✓	✓	✓	✓	23	Monitor, further investigation	0
U64/00 C37	Gardrum Mill Culvert Nr. Fenwick	7.5	Strengthen	23	✓	✓	✓	✓	✓	✓	✓	✓	24	Implement 7.5 Tonne weight limit	1
U10/10	Carmel Water Br. Knockentiber	3 (deck extension)	Slab replacement	23	✓	✓	✓	✓	✓	✓	✓	✓	25	Lane restrictions and monitor	6
U730/10	Dippol Burn Br. Nr. Auchinleck	7.5	Slab replacement	63	✓	✓	✓	✓	✓	✓	✓	✓	26	Monitor	0
U44/10	Bruntland Br. Nr. Waterside	7.5	Strengthen	TBC	✓	✓	✓	✓	✓	✓	✓	✓	27	Implement 7.5 Tonne weight limit	1
U731/10	Laigh Wellwood Br. Nr. Muirkirk	0	Replace Bridge	173	✓	✓	✓	✓	✓	✓	✓	✓	28	Close to vehicular traffic	3
U749/10	Sorn Old Br. Sorn	3	Strengthen/widen	TBC	✓	✓	✓	✓	✓	✓	✓	✓	29	None - existing weight limit and monitor	0
U/GALS/20 C	Cemetery Road Br. Galston	0	Replace Bridge/deck	70	✓	✓	✓	✓	✓	✓	✓	✓	30	Close to vehicular traffic	3
C50/20	Brackenhill Rail Br. Nr. Ochiltree	17	Strengthen	57 *	✓	✓	✓	✓	✓	✓	✓	✓	31	None - existing weight limit and monitor	0
B730/40	Stair Br. Stair	13	Strengthen/widen	2,300 **	✓	✓	✓	✓	✓	✓	✓	✓	32	None - existing weight limit and monitor	0
U759/10D	Loch Doon Dam Nr. Dalmellington	18	Strengthen	TBC *	✓	✓	✓	✓	✓	✓	✓	✓	33	None - existing weight limit and monitor	0
TOTAL =				6202										TOTAL =	115

* Private Bridge, costs should be shared with relevant Private body

** Boundary Bridge, costs should be shared with South Ayrshire Council

TBC To be confirmed - Remedial cost for these structures have not yet been determined.

A permanent weight restriction may be the accepted solution at these structures.

Isles Burn Culvert, Newmilns is shown once above but actually comprises 5 separate structures

Appendix A - Bridge Assessment Failures

Prioritisation Factor	Threshold Indicator
(1) Theoretical strength as determined by assessment.	Does the bridge require strengthened to achieve 40T capacity ?
(2) Bridge condition	Is MPR score > 4 from inspection? Refer Appendix C
(3) Route hierarchy / importance and traffic volume	Is bridge on A or B route?
(4) Length and suitability of diversion route	Is diversion route > 5 km or considered unsuitable ?
(5) Consequences of bridge failure and risk to public safety.	Is bridge on a route to a main settlement as defined in the Local transport Strategy ?
(6) Social, environmental and economic consequences to local businesses and communities	Is bridge on a Strategic road, or bus route, as defined in the LTS or the sole means of access to a business or community?
(7) Availability of funding and funding availability from external sources if applicable	Has a third party agreed to contribute to funding ?
(8) Suitability and likely duration of monitoring interim measures	Will interim measures be in place for > 5 years ?

APPENDIX B

Prioritisation Methodology for Bridge Strengthening

MAINTENANCE PRIORITISATION RANKING (MPR)	
1- INSIGNIFICANT	Nothing to worry about. Leave for further examination at next PI. Not likely to deteriorate significantly within 6 years.
2 – MINOR	Nothing to worry about, but likely to deteriorate significantly within 6 years.
3 – UNACCEPTABLE	Should not be left for 6 years until next PI. Rapid deterioration and escalation of repair cost inevitable if left unrepaired. Could become severe to affect integrity of structure.
4 – SEVERE: ACTION NEEDED	Currently affecting the integrity of the structure. Essential to repair at an early date. Could become hazardous if left. Cost of repair/ damage to structure escalating rapidly.

Appendix C

Maintenance Prioritisation Ranking as used in Inspections

Route & Bridge No.	Structure Name	MPR	Remedial Action Required	Indicative Cost £, 000	Remedial Action Prioritisation Factors							Priority for 2008/09	Comment	
					1	2	3	4	5	6	7			
U59/00 C28	Treeswoodhead Road Culvert, Nr Kilm	4	Replace culvert	35	✓	✓		✓	✓				1	Currently overlain with a steel plate. Requires immediate attention.
U42/00 C56	Grassyards Burn Culvert, Nr Moscow	4	Replace culvert	35	✓	✓			✓				2	Currently overlain with a steel plate. Requires immediate attention.
C3/10	Bridgend Br, Stair	4	Extensive masonry & concrete repairs	35	✓	✓		✓					3	One parapet completely demolished. Requires immediate attention
A70/175 C54	Powharnal Burn Culvert, Nr Muirkirk	4	Extensive masonry repairs & replace collapsed pipe extension	25	✓	✓	✓	✓	✓	✓			4	
A735/60 C38	Brackenburn Br. Nr Kilmaurs	4	Possible replacement	55	**	✓	✓	✓	✓	✓	✓		5	
A77/550 C57	RaithHill Culvert, Nr A77/B764 junction	4	Replace culvert	130		✓	✓	✓	✓	✓	✓	✓	6	
B705/20 W11	Puddock Burn wall, Nr Catrine	4	Partial replacement	225	✓	✓	✓	✓	✓	✓			7	
U52/00 C86	Downie's Burn Culvert, Newmilns	4	Slab replacement	45	✓	✓		✓	✓	✓			8	
U724/00/C01	Wood Burn Culvert	4	Masonry repairs	10	✓	✓		✓		✓			9	
C125/30 W35	Straightbow Wall, Dunlop	4	Extensive masonr repairs	55	✓	✓			✓				10	
U33/00 C78	Harlotknowe Culvert, Nr Newmilns	4	Replace culvert	40	✓	✓							11	
U744/10	Oxenshaw Br, Nr Mauchline	4	Extensive masonry repairs	15	✓	✓							12	
			Total =	670										

** Boundary Bridge, costs should be shared with North Ayrshire Council

Appendix D - Structures with a Maintenance Prioritisation Ranking score of 4