Executive **23 September 2008**

Report of the Director of City Strategy

Outer Ring Road Improvement Options

Summary

1. This report provides the results of a study into the projected performance of the Outer Ring Road and provides options for improvements to be included in a proposed Access York Phase 2 bid to the Regional Transport Board (RTB) for its inclusion in the Regional Funding Allocation (RFA) programme.

2. Members are asked to approve a recommended option for upgrading the Outer Ring Road and to approve the submission of the Access York Phase 2 bid to the RTB by 10 October.

Background

Drivers for the Report

3. The Council were informed on 14 August 2008 that detailed bids to the RTB for funding of transport schemes up to 2018/19 must be submitted by 10 October. Less detailed bids which identify problems and possible solutions for delivery after 2013/14 have to be submitted in full by 7 November. It is anticipated that the RTB will make its decision early in 2009 and issue advice to Ministers by February 2009 with a response expected later in 2009. Clearly acceleration of the timescales has been a challenge but officers are confident that a bid can be made in time.

4. Limited funds are currently available for allocation in the Regional Transport Programme equivalent to approximately £400m including 20% overprogramming mostly available towards the end of the 2018/19 period. It is known that the Authorities within the Leeds City Region are proposing to submit bids well in excess of the funds which are available. It is therefore likely that the funding will be substantially oversubscribed suggesting that a lower value bid which fits well with Regional polices will have more chance of success.

Evaluation Criteria

5. To ensure that a successful bid is submitted for funding to the RTB it is essential that the key evaluation criteria which will be used to assess the proposal are understood. The following criteria will be used in the evaluation of the bid by the RTB

- Transport

National Transport Policy using the Department for Transport objectives in the Towards a Sustainable Transport System guidelines

Regional Transport Strategy which includes an objective to improve accessibility to York City Centre

The Local Transport Plan which has the objectives to reduce congestion and increase use of public transport and improve accessibility for non-car modes.

Economic Growth

The Regional Spatial Strategy identifies the housing and employment growth for York.

- Financial

Value for Money criteria are provided by the DfT transport appraisal guidelines.

Affordability is determined by the Regional Transport Board against to other regional priorities.

- Environmental

Contribution to Climate Change

Visual/Environmental/Ecological/Archaeological Impact

- Deliverability

RTB Delivery Programme and Project Risk Register

6. The bid will need to satisfy the following questions:

- Does the scheme fit with National, Regional and Local Policy?
- Is the scheme good value for money?
- Does the scheme address the desired traffic objectives (ORR & Citywide travel times and congestion)?
- Is accessibility improved?
- Is the scheme affordable?
- Is the environmental impact of the scheme acceptable?

- Are there other Lowest Cost Alternative schemes?
- Is the scheme deliverable to the required timescale with minimum risk?

Adopted Transport Strategy

7. The strategy in the Local Transport Plan 2006-2011 (LTP2) for tackling congestion and improving the quality of life for York's residents is to build upon the successes already achieved in Local Transport Plan 2001-2006 (LTP 1) and deal with the pressures from the growth in the economy and increasing population in the city. The LTP strategy includes additional Park & Ride sites to intercept traffic on all main radials, provision of an orbital and cross city bus network and manage the demand using parking charges and possibly access restraint on some routes. The key proposals identified in LTP2 are to increase the capacity of the Outer Ring Road (ORR) as an attractor of traffic and therefore to reduce congestion in the city centre and allow reallocation of road space to buses, cyclists and pedestrians.

8. The current LTP allocation is inadequate to fund the major infrastructure elements of the strategy and so the 'Access York' concept was introduced into the plan. The Access York project was included in LTP2 to enable a step change in transport provision for the city to be achieved. In principle, the proposal includes enhancements to the Park & Ride provision, measures to improve sustainable transport in the city centre and improvements to the ORR.

9. Funding for the first phase of the project, Access York Phase 1, to provide 3 Park & Ride sites, with some associated bus priority measures and improvements to the A59/A1237 roundabout was approved by the RTB in April 2008. It is proposed to submit a full Major Scheme Bid for Access York Phase 1 to Members for approval by the end of 2008 prior to issuing it to the Department for Transport for final acceptance of funding (anticipated by June 2009).

10. To reduce congestion and improve air quality in the city centre the number of car trips in the main urban area within the ORR needs to be reduced. The objective of LTP2 and Access York proposal is to encourage these trips to be made by a more sustainable means within the ORR or, if that is not possible, to use a route which has lower environmental impact. Access York Phase 1, which provides the additional P&R sites, reduces the need to travel by car into the city centre and reduces the need to travel on some sections of the ring road but does not significantly affect the number of cross city trips. The linkage of P&R sites on opposite sides of the city is being investigated as an option to reduce the need for cross city car movements.

11. Many of the cross city trips can be reduced by transferring to public transport for medium-distance trips, provided services adequately match desired journey patterns, or, for shorter-distance trips, by increased walking and cycling. However none of these measures will have a significant impact on through trips, where the preference is for these to be via the ORR.

12. Access York Phase 2 compliments the initial phase by creating increased capacity on the ORR to provide a more attractive alternative for some cross-city trips, thereby, reducing the amount of traffic in the city's Air Quality Management Areas. To further promote the redistribution of these trips to the ORR and, more importantly, encourage a transfer of trips to more sustainable modes, such as walking, cycling and use of public transport.

13. It is proposed to introduce a package of measures around the city to lock-in the consequent benefits of reduced traffic on roads within the ORR to make the non-car based forms of transport more attractive and reliable. These measures will be backed-up by a coordinated 'smarter-choices' programme to make people more aware of the transport options available to them. Many of these measures are being implemented through the LTP2 and projects under the recently introduced 'Cycling City' programme, but current funding is inadequate to implement them sufficiently. Furthermore, the opportunities to introduce these measures are constrained because of the existing and forecast general level of congestion in the absence of improvements to the ORR.

ORR Study Background

14. Improvements to the ORR were the subject of a previous report to the July 2005 Planning & Transport EMAP. The recommendation approved by Members was to tackle congestion on the ORR by undertaking improvements to the junctions.

15. There have been a number of significant changes since 2005 which have impacted on the justification for the previously approved approach. These include:

- Emergence of new developments (British Sugar, Nestle South etc.)
- Adoption of Regional Spatial Strategy (850 Houses &1000 jobs per year)
- Changes to available funding routes (Regional Funding Allocation process)
- Updates to the city's transport models (Public Transport Model now included)
- Delivery Progress (Moor Lane roundabout complete, A59 Roundabout included in Access York Phase 1 Bid for delivery by 2011, Hopgrove Roundabout improvements likely to be delivered in 2009)
- Access York Phase 1 approved (A59 & Wigginton Road P&R Sites)

16. In addition, it was also considered essential to investigate a wider range of solutions including combinations of at-grade and grade-separated junctions (fly overs) and the provision of single and dual carriageway links.

17. There are a wide range of pressures on transport within the city. The approved RSS designates substantial growth for the City where the population has already grown significantly since the mid 1980s when the ORR was built. There is existing congestion in the city centre and on the ORR both during the week and at weekends. The Future York Group Report published in 2007 identifies the major economic pressures and opportunities for the city.

18. The Council's framework engineering consultant, Halcrow, was commissioned to undertake additional transport modelling work to establish the value for money of various possible options for the improvements to the ORR. Further modelling work will need to be undertaken to establish the most appropriate package of measures for introduction in the city centre to encourage sustainable travel and lock in the benefits of the ORR.

Function of the Outer Ring Road

19. Constructed in the mid 1980's, the A1237 acted as a 'city distributor', provided an important 'release valve' for orbital movements within the city and a section formed part of the trunk road network. Since its original construction there have been a significant number of land use changes and new developments, which have increased travel demand. Some of the principal developments include Clifton Moor, York Business Park, Monks Cross and Northminster Business Park as well as Park and Ride sites at Rawcliffe Bar, and Monks Cross. The A1237 performs a multi-functional role connecting communities to major business, employment and Park & Ride sites as well as retaining it's 'city distributor' role. Only 16% of the morning main radial incoming traffic leaves the area on the A64 suggesting that the majority of the traffic has a destination in the York area.

20. To address the increase in travel demand, facilitate access into new developments and address accident blackspots, the A1237 roundabouts have been remodelled on a number of occasions. Changes include new roundabouts at Monks Cross and Moor Lane, and the enlargement of York Business Park, A19 and Wigginton Rd Roundabouts.

21. Despite key trip attractors adjacent to the ring road orbital bus services are extremely limited and the frequency of these services is not at a level that would encourage the use of public transport. The poor bus service provision is highlighted in the 2001 Journey to Work Census data, which indicated that access to the ring road employment sites is characterised, by high car use and low public transport use. However, the data does identify a demand for improved bus, cycle and walking networks. For example, between 13% and 16% of all trips to the ORR employment sites are from communities adjacent to the outer ring road. The 2001 census data also indicates York is a net importer of people travelling for employment purposes i.e. there are more work trips coming to York from the surrounding area than work trips leaving from York.

22. Travel demand data taken from the York traffic model indicates the ring road is used for predominately short trips of less than 5 miles with no vehicles in the model travelling along the whole length between the Copmanthorpe and Hopgrove roundabouts. The busiest section during the morning peak period is between the A19 Shipton Road and York Business Park where the two-way traffic flow is nearly 2,500 vehicles per hour. The majority of junctions on the A1237 operate at or close to capacity during the morning and evening peak periods. The most congested being the A59 and Hopgrove roundabouts.

23. Due to congestion and slow journey times on the ring road traffic diverts onto neighbouring roads and into York City Centre. It is estimated 40% of all traffic

in the centre of York does not have an origin or destination in the city centre. This has a negative impact on air quality.

24. The A1237 also constitutes a substantial physical barrier for pedestrian and cycle movements between the city centre and commuter settlements located to the north and west of the ring road. There is considerable variation in the types of facilities available, ranging from combined pedestrian and cycling underpasses to 'at grade' crossings. Currently a significant number of crossings have no lighting, none have CCTV coverage and footfall is often low. Cycling facilities are of variable quality and suitability along the length of the A1237 Outer Ring Road. Of the twelve roundabouts on the ring road, only those at the A19/A1237 and the Haxby Road/A1237 junctions provide entirely segregated facilities for cyclists in the form of underpasses. The A1237/A59 and A1237/Strensall Road roundabouts both lack sufficient crossing facilities for cyclists, and although some provision is made for pedestrians these are not adequate given the nature of the junctions.

Traffic Modelling

25. The base position and options were modelled by Halcrow using the city's traffic model to assess area wide impacts and a micro-simulation model for detailed operational assessment of the route. For the purpose of the ranking exercise the validated morning peak period model was used. Further modelling will be required for the detailed assessment of the preferred option as the bid is refined. For modelling purposes the analysis includes all projected development to meet the Regional Spatial Strategy allocation of approximately 15,000 new homes and 19,000 new jobs by 2026 (2008 Base approximately. 80,000 homes and 93,000 jobs). The model includes all consented schemes, projected development locations based upon the current local plan including York Central and other emerging sites at British Sugar, Terry's, Nestle South etc.

26. The baseline position was used to validate the model before developing future year scenarios. A Do Nothing position was established using the current network layout with the projected development to determine the impact without any improvement measures on the ORR. A Do Minimum (Option A) network including the current Local Transport Plan proposed improvements, Access York Phase 1 (3 new Park & Ride sites and enhancements to the A59/A1237 roundabout) and the Highways Agency proposed Hopgrove improvement scheme was modelled to establish a projected baseline for the position in 2026. It should be noted that the 2021 model used by Halcrow for option appraisal purposes includes a development scenario which is equivalent to the RSS 2026 allocation.

Consultation

27. Consultation was undertaken on the LTP strategy which included the Access York proposal, and detailed consultation will be undertaken on the project if the funding bid is accepted.

Options Consideration

28. A wide range of options were investigated to establish the most cost effective solution to reduce the amount of traffic in the city centre and tackle congestion on the Outer Ring Road. Options modelled for the Outer Ring Road range from only improving the most congested junctions through to a grade separated dual carriageway over the full length of the A1237. All options include the Access York Phase 1 project and the proposed Highways Agency Hopgrove scheme unless further improvements are identified at these locations in the option. Further modelling work will be required to confirm the city centre measures to be introduced. The options investigated are shown in the following table and schematic representation in Annex 1.

29. The options are split into 4 main bands

- Option B – At grade junction improvements only
- Option C – At grade junction improvements with dualling
- Option D to H -- At grade and grade separated junctions with dualling
- Option I – Relief Road to the north of the existing alignment.

2021 Options Modelled

Option	Description
Do Nothing	Current 2008 Layout
Option A (Do Minimum)	Do Minimum (Planned at grade improvements to A59 & Hopgrove + minor works at Wetherby Road, 3 new Park & Ride sites)
Option B1	Selected at grade improvements (all junctions from Wetherby Rd to Clifton Moor + Haxby Road)
Option B2	Selected at grade improvements (all junctions from Wetherby Road to Strensall Road)
Option B3	At grade improvements at all junctions (Copmanthorpe to Hopgrove (HA Scheme))
Option C1	Selected at grade improvements (all junctions from Wetherby Rd to Strensall Rd) + dual carriageway Wetherby Rd to Clifton Moor
Option C2	At grade improvements at all junctions + dual carriageway Wetherby Rd to Clifton Moor
Option D	Grade separated junctions from A59 to A19 + at grade improvements at all other junctions + dual carriageway Wetherby Rd to Clifton Moor.
Option E	Grade separated junctions from A59 to A19 + at grade improvements at all other junctions + dual carriageway Wetherby Rd to Haxby Rd.
Option F	Grade separated junctions from A59 to Haxby Rd + at grade improvements at all other junctions + dual carriageway Wetherby Rd to Haxby Rd.
Option G	Grade separated junctions from Wetherby Rd to Haxby Rd + at grade improvements at all other junctions + dual carriageway entire length
Option H	Grade separated junctions and dual carriageway to entire length
Option I	Relief road Wetherby Road to Hopgrove. Access to relief road at Wetherby Rd, A59, A19, Wigginton Rd, Hopgrove only

Baseline 2005

30. Modelling of the existing position shows that there are sections of the ring road which operate at over the theoretical capacity of the road layout. The key sections are between Wetherby Road and Haxby Road with a separate section associated with the Hopgrove junction. Journey times are nominally longer for anticlockwise journeys in the morning and clockwise in the evening due to the priorities at the roundabouts and the tidal flow of vehicles into and out of the city. The modelled journey time for the full length of the ORR in the am peak is 18.9 minutes in the clockwise direction and 19.4 minutes in the anti clockwise. The average citywide modelled am traffic speed is 22.3 mph with 36,700 trips and a total travel distance of 230,000 km. Approximately 17% of the citywide morning peak hour travel time is associated with travel in the ring road area.

Projected 2021 (Do Nothing)

31. As a consequence of the projected development the number of trips is projected to increase by 22% to 44,950 and the total travel distance increase by 26% to 290,000km in the city in the am peak hour. Average traffic speed are projected to reduce by 30% to 15.5 mph. Journey times along the ORR are projected to increase by 42% to 27 minutes in the am peak.

Projected 2021 Do Minimum (Option A)

32. The Do Minimum solution including the new Park & Ride sites and improvements to the Hopgrove and A59 junctions which is projected to be delivered by 2012 will reduce journey times on the Outer Ring Road to 25 minutes. A smaller proportion of the citywide travel time is associated with trips in the ORR area (14%) than in 2008.

Option Results

33. The impact of the proposed options was assessed using the citywide SATURN traffic model and local PARAMICS micro-simulation model. A summary of the results is provided in the table below with more detail in Annex 2. Highlighted cells indicate the options where a step change in improvement takes place. Travel time is the sum of the time travelling by all of the trips in the peak hour.

AM Peak Hour Results						
	Outer Ring Road			Citywide		
	Average Journey time (Full Length)	Average Speed (Full Length)	Area Travel Time	Travel Time	Average Speed	Over Capacity Queues
	Mins	mph	Hours	Hours	mph	Hours
Base (Existing)	19	31.6	1,089	6,432	22.3	269
Do Nothing (2021)	27	22.2	1,687	11,674	15.5	2,862
Option A	26	23.1	1,886	11,314	16.4	2,502
Option B1	24	25.0	1,256	11,091	16.7	2,531
Option B2	22	27.5	*(1,225)*	10,899	17.1	2,155
Option B3	21.5	27.9	1,190	10,851	17.2	2,143
Option C1	17.9	33.6	*(1,200)*	11,013	17.0	2,552
Option C2	17.5	34.3	1,257	10,976	17.0	2,531
Option D	17.5	34.3	1,168	10,064	18.4	1,666
Option E	15.5	38.7	1,115	9,970	18.6	1,582
Option F	14.5	41.4	1,154	9,661	19.0	1,366
Option G	12	50.0	1,186	9,397	19.6	1,274
Option H	11	54.5	1,140	9,381	19.5	1,301
Option I	17	35.3	1,875	10,005	18.9	1,668

(xxxx) Results estimated

Traffic Analysis

34. The modelling shows that journey times, total travel time and queuing are projected to increase across the city in 2021 principally due to the increased number of trips from the anticipated employment and housing developments. The most significant increase, by a factor of over 9, is the time spent in queues caused by the lack of capacity of the network.

35. The results in the table also indicate that while it is possible to reduce journey times on the Outer Ring Road down to below current levels by the provision of substantial improvements it is not anticipated that average speed across the city can be maintained at 2008 levels without other interventions. The principle reason for the lack of citywide impact is the relatively low proportion of the citywide trips which are on the ORR (approx. 15%).

36. The modelling indicates that:

    - The capacity of the junctions is the principle constraining factor on the capacity of the ring road.
    - The links on the sections between Wetherby Road and Clifton Moor are projected to be over capacity with the York Northwest development.

37. Step changes in congestion improvements occur as different levels of infrastructure improvement are introduced. The key changes occur with the introduction of at-grade junction improvements, sections of dual carriageway and grade separated junctions.

38. Option B (At grade junction improvements) substantially improves the travel time in the ORR area but not down to current levels and has a lower citywide effect.

39. Option C (At grade junction improvements + sections of dual carriageway) enables significant journey time reductions for the traffic on the ORR down to current levels and a significant effect across the city. However, there are similar travel times in the full ORR area (including approach roads) to the Option B arrangements as access to the ring road will be restricted by the capacity of the radial routes and the increased traffic on the A1237 itself.

40. Option D (At grade junction improvements + grade separated junctions (A59-A19) + sections of dual carriageway) provides significant journey time savings, similar to Option C, and more significant citywide travel time and queue reductions.

Environmental Impact Analysis

41. The impact of the options for the junctions and the links is identified in the following paragraphs.

42. The ORR junction improvements were subject to a sustainability appraisal as part of the LTP process. The appraisal emphasised that the improvements should not be undertaken in isolation when there would be a risk of additional

private car trips being generated. It is proposed to include other citywide measures are included in the bid to encourage a transfer to more sustainable travel modes. More significant infrastructure construction is appraised as being less sustainable.

43. If the Outer Ring Road is to be improved on the existing alignment there are a number of key environmental constraints to consider such as:

- Climate Change.
- Impact on Landscape
- Air Quality
- Noise.
- Adjacent Properties
- Ecology

44. To combat climate change the number and impact of trips needs to be reduced. The approved RSS includes employment and housing allocations which are projected to generate additional trips in the York area. Smarter transport choices and infrastructure changes will be used within the urban area to promote sustainable and integrated modes. Improvements to the ORR will ensure that traffic is flowing at more efficient speeds with less time in queues.

45. When the Future York Group Report was considered by Council in June 2007 it was resolved to consider the ecological footprint of a dual carriageway solution using the Council's REAP (Resource, Energy Analysis Programme). A report to the Executive on 4 December 2008 included a response to the Future York Group Report and an assessment of the environmental impact of their proposed scenarios (ranging from the impact doubling the economy to improved traffic demand management). In isolation the dualling of the ring road, assuming a 15% increase in the number of trips, gave the worst rise in carbon footprint of all of the scenarios analysed. The Access York Phase 2 proposal includes demand management measures within the city to encourage a transfer to more sustainable travel modes which will offset the potential increase in carbon footprint caused by the improvements.

46. The carbon footprint implication of improving the ORR is difficult to assess as it relies on a number of assumptions on the traffic growth caused by the improvements. The introduction of increased capacity on the ORR will cause the redistribution of trips from the urban area and, depending on the extent of the improvements, the potential for new trips to be generated. The redistribution of trips is likely to mean more efficient use of fuel on the ring road due to the higher speeds. There is a higher risk that interventions which reduce congestion on the ORR significantly will lead to the generation of additional trips. Detailed appraisal of this effect has not been undertaken at this stage but will be a requirement of the modelling for the DfT Major Scheme Bid submission.

47. All of the improvements will have an impact on the landscape however the grade separated and dualling options will be significantly more intrusive due to the provision of elevated sections and structures. Where possible excavated

underpass construction would be considered to minimise the visual impact. To combat the impacts further factors such as maximising the use of local resources and landscape enhancement schemes will also be considered.

48. Reducing congestion on the outer ring road is a key priority for the Air Quality Action Plan. The re-allocation of road space in the city centre facilitated by the increased capacity on the ORR will be used to deliver the walking, cycling and public transport schemes necessary for significant modal shift and air quality improvement. The improved ring road would also provide a viable alternative route for dirtier streams of traffic should the introduction of some form of Low Emission Zone become necessary at a later date. Option D has a more significant impact on the city centre and therefore likely to lead to an improvement in Air Quality provided measures are introduced to reallocate road space are introduced.

49. Increasing capacity on the outer ring road has the potential to increase emissions close to residential properties on the outer ring road. Despite the possibility of increased emissions it is not anticipated that further properties will be put at risk of breaching the air quality objectives due to;

- increased opportunity for pollutant dispersal in the more open environment around the outer ring road
- lower existing concentrations of key pollutants than in the city centre
- improved flow and average vehicle speeds

50. The proposed improvements to the ring road and city centre measures are likely to marginally reduce noise levels in the main urban area. The increased flows on the ORR may increase the impact of noise in the immediate area but mitigation measures such as well designed landscaping will be provided to overcome these effects. Option D with grade separated junctions is likely to have more noise impact.

51. There will be significant impact on adjacent properties from the improvements as additional road space is required. The area available for improvements is particularly tight at the A59, Wigginton Road and Strensall Road. Grade Separated Junctions and the provision of dual carriageway will have more significant impact on adjacent properties due to the larger land take requirements.

52. No sites of special scientific interest or other significant ecological impacts have been identified by a preliminary review of the proposed improvements. It is likely that the hedgelines and landscaping introduced during the construction of the road in the 1980s will be severely effected, particularly at the junctions. The ecological and landscape impacts of the grade separated and dualling options would be significantly greater than the localised junction improvement options.

Junction Options

53. One of the key objectives is to improve the flow at the junctions to reduce the conflict between radial and orbital movements. Providing priority for public

transport movements which are principally radial is difficult without signalisation which would significantly reduce the capacity on the ring road. Options for junction improvement therefore range from increasing roundabout diameter and exit arrangements to full grade separation. The main increase in the capacity of the roundabouts is achieved by the provision of 2 lane entries and exits on the A1237 merging down to single lanes over approximately 100m. These could be extended to form a dual carriageway route if justified in the future. Grade separated junctions are substantially more expensive (>5x) with more land take and environmental impact than at grade solutions. A sequential improvement of a junction up to grade separation provision is unlikely to be achievable due the different layout requirements for the roundabout types. The principal advantages and disadvantages of the junction improvement options are detailed in the table in Annex 3.

Link Options

54. Modelling suggests that in most areas the existing single carriageway links between roundabouts have adequate capacity to accommodate predicted traffic flows up to at least 2021. However the busiest sections of the ring road between Wetherby Road and Clifton Moor (when traffic from the York Northwest developments is included) exceed the theoretical optimal capacity of the links and therefore the provision of dual carriageway sections are beneficial in reducing journey times on the ring road. The principal advantages and disadvantages of the single carriageway and dual carriageway options are identified in the table in Annex 3. Twin ahead exits and entries are required to achieve the required capacity at the junctions.

55. Due to the lower level of intervention option B will have a lower environmental impact than option C or D however the availability of road space for city centre measures which would improve air quality will be highest with option D.

Deliverability

56. The RTB must be assured that the proposed scheme is deliverable to the identified programme and with minimal risk. Options which involve substantial structures, land purchase and planning requirements such as the grade separated and dual carriageways involve more programme and cost risk.

57. The length of the construction programme is dependent on approved option. Grade separated junctions and the significant structures for the dual carriageway options will take up to 1-2 years to construct at each location. To minimise the traffic delays it would be proposed to undertake works to a limited number of sections at any one time. It is anticipated that the earliest commencement date would be 2012/13 to avoid A59 roundabout works and to allow consents to be obtained. Overall construction periods could range from 3-4 years for at grade roundabout options and 5-6 years for grade separated/dual options.

Financial Analysis

58. The option estimates undertaken by Halcrow have a scheme outturn cost range from £22m to £264m at a 2014 price base. The wide range is due to the high cost of the dualling or grade separation options with extensive additional structures, embankments and land take required. The options include the provision of new subways at Wigginton Road and Strensall Road (except option B1) to cross the ORR but do not include provision of a possible orbital cycle route or other citywide measures. Outturn costs for the ORR works , assuming a midpoint delivery year of 2014 (construction inflation at 4.5% per year) and including an allowance for risk but excluding Optimism Bias are indicated in the following table.

Option	2014 Outturn ORR Scheme Cost (£k)
Option B1	21,659
Option B2	36,657
Option B3	45,290
Option C1	61,654
Option C2	70,287
Option D	127,225
Option E	133,022
Option F	173,182
Option G	208,856
Option H	264,883
Option I	187,083

Option Comparison -- Value for Money

59. To obtain funding the schemes must be good value for money. One of the key measures is an assessment of the scheme benefits relative to the costs. Halcrow have used a simplified version of the 60 year appraisal mechanism approved by the Department for Transport to establish the benefit to cost ratio (BCR) for the options. For the option choice exercise the benefits have been focussed on the travel time savings for the Outer Ring Road area. It may be possible to include additional benefits from citywide effects and safety improvements when the preferred scheme is progressed.

Option	Present Value of Transport Benefits (£k)	Present Value of Cost to Government (£k)	NPV (£k)	BCR	Value for Money
Option B1	69,272	15,734	53,537	4.40	High
Option B2	69,772	26,630	42,641	2.60	High
Option B3	76,450	32,928	43,521	2.32	High
Option C1	69,120	43,285	25,835	1.60	Medium
Option C2	69,120	48,580	20,540	1.42	Low
Option D	78,924	88,112	-9,187	0.90	Poor
Option E	84,753	92,418	-7,664	0.92	Poor
Option F	80,420	120,666	-40,246	0.67	Poor
Option G	76,880	148,168	-71,288	0.52	Poor
Option H	81,956	187,957	-106,001	0.44	Poor
Option I	1,203	131,252	-130,049	0.01	Poor

60. It is proposed to include a range of citywide measures in the bid to the RTB to encourage travellers to transfer to more sustainable modes. Additional modelling work will be required to determine the most effective combination of city centre interventions. The measures to be developed further will be informed by the findings of the Traffic Congestion Ad-Hoc Scrutiny Committee. For bidding purposes a package of measures is proposed which would include:

- Reallocation of road space to cyclists and pedestrians, particularly at junctions to remove pinch points on the cycle network in accordance with the principles of the Cycling City status, and generally improve the walking environment.
- Provision of bus priorities on remaining routes e.g. A19 Shipton Road
- Expansion of the bus stop infrastructure programme
- Provision of sections of an Orbital bus route (including interchanges)
- Orbital Cycle Route adjacent to Ring Road (Strensall Rd to Wigginton Rd)
- Improved/additional pedestrian/cycle crossings over the Ouse
- Access restrictions to certain areas/routes such as Ouse Bridge.
- Extension to the 'footstreets'
- Expansion of 'virtual bus priority' using Bus Location and Information Sub-System
- Further development of demand management measures such as the use of car parking charges
- Development of the Urban Traffic Management Control system to lock-in benefits of reduced traffic.
- Other improvements to ease the flow of public transport.

61. It is proposed to include an allowance of £4m (2008 prices) to enable some/all of these complementary measures to be included in the Access York Phase 2 bid. Further investigation is required to establish the monetary benefits of these

schemes however the maximum effect will be a reduction in the BCR of the overall scheme as indicated in the following table.

Access York Phase 2 Benefit to Cost Ratios

Option	Access York Outturn Cost	Local Contribution Requirement	Access York BCR	Access York Value for Money
	£000s	£000s		
Option B1	26,288	2,628	3.51	High
Option B2	41,857	4,186	2.46	High
Option B3	48,021	4,802	2.07	High
Option C1	66,646	6,664	1.43	Low
Option C2	75,253	7,525	1.31	Low
Option D	125,769	12,576	0.86	Poor
Option E	132,927	13,292	0.88	Poor
Option F	174,597	17,459	0.65	Poor
Option G	214,588	21,458	0.51	Poor
Option H	259,794	25,979	0.43	Poor
Option I	184,180	18,418	0.01	Poor

62. The DfT have a general policy to fund the following projects:

- no projects with poor VfM (BCR less than 1.0)
- very few projects with low VfM (BCR 1.0 –1.5)
- some, but by no means all, projects with medium VfM (BCR 1.5 – 2.0)
- most, if not all, projects with high VfM. (BCR greater than 2.0)

63. Improvement of junctions at grade (Options B1, B2 & B3) have High BCRs which are more likely to be acceptable when bidding for funding. Improvements which include dualling (Options C1, C2) have a low BCR which would be more difficult to progress through the funding process. It would not be possible to progress the options which include grade separation (Options D to I) due to the BCR being below 1.0.

Affordability Analysis

64. Limited funds are currently unallocated in the Regional Transport Programme equivalent to approximately £400m including 20% overprogramming mostly available towards the end of the 2018/19 period. It is known that the Authorities just within the Leeds City Region are proposing to submit bids well in excess of the funds which are available. It is therefore likely that the funding will be substantially oversubscribed suggesting that a lower value bid which fits well with Regional Policies may have more chance of success. Option C and D represent a substantial proportion of the available funding and are therefore thought to be less likely to be successful.

65. The Council does not have the resources to deliver any of the ORR improvement options without obtaining the principal funding from other

sources. Funding for Major Transport Schemes (above £5m) is ultimately controlled by the DfT with advice from the RTB used to determine priorities.

66. The RTB is tasked with providing advice to Ministers by February 2009 on the funding priorities for the region up to 2018/19. The DfT is expecting detailed advice to be provided for schemes for delivery before 2014 and provisional advice for problems to be tackled between 2013/14 and 2018/19. It is proposed to submit a bid to the RTB by the deadline date of 10 October to enable the scheme to be delivered from 2012/13 onwards. A refreshed update of the Access York Phase 1 bid will also be submitted by 10 October for review and confirmation of approval.

67. The Council will need to fund the following elements of a successful bid to the RTB from local sources:

- 100% of the preparatory costs up to Programme Entry approval from the DfT. Estimated to be at least £500k (Revenue)
- 50% of the preparatory costs following Programme Entry up to Final Approval. Estimated to be at least £1m for Option B scheme (Capital)
- 10% (Minimum) of the implementation costs (Local Contribution). The DfT may be prepared to accept a maximum local contribution of the Annual Integrated Transport settlement (Approx. £3m).
- 100% of the risk costs above an agreed level

68. The local contribution could come from the LTP, Council Resources or developer contributions. It may be possible to use Growth Area funding for the York Northwest development, if confirmed, but it would not count for the purposes of calculating the 10% local contribution.

69. If the funding bid to the RTB is unsuccessful alternative funding sources for the scheme may be available including the Transport Innovation Fund which would need to include an element of demand management (possibly road user charging) to encourage travellers to use public transport.

70. The higher cost interventions nominally require a more significant local contribution which will be more difficult to fund without using external resources. Confirmation of the source of the local contribution is not required at this stage but would need to be confirmed as the Major Scheme Bid process progresses. A higher than minimum local contribution could be proposed to increase the affordability of the scheme within the regional programme, however unrealistic contributions may lead to rejection of the scheme. A lower than 10% contribution in line with 100% of the LTP settlement may be acceptable to the DfT but would be less affordable to the RTB. The level of local contribution will not affect the value for money of the scheme. The DfT would not contribute to poor value for money schemes even if the majority of funding is provided from other sources.

71. Option B1 at the lowest cost is the most affordable option. Option B2 is more expensive but may be affordable due to the additional benefits provided. It is likely that option C1 and D would not be affordable to the Region without a much higher local contribution than the 10% specified. Additional funding may

be available from developments in the area but would have to be underwritten by the Council.

Policy Fit Analysis

72. For the scheme to receive funding through the Regional Funding Allocation the project must fit with regional and national policy. National policy is currently under review to enable the results of the Eddington and Stern reports to be incorporated. The Department for Transport's emerging policy is provided in the 'Towards a Sustainable Transport System (TaSTS)' documents. TaSTS identified five broad goals of transport policy: climate change; competitiveness and productivity; equality of opportunity; health, safety and security; and quality of life. Transport and development policies for the Yorkshire and Humber region is set down in the recently approved Regional Spatial Strategy (RSS). York is identified as the key city within its own sub-area and also part of the Leeds City Region.

73. The Regional Transport Strategy key policy (T1) is to reduce personal travel and encourage modal shift away from the private car. Policy T9 (Transport Investment and Management Priorities) identifies improved accessibility to York city centre and investment opportunities of sub area significance in the York sub area as one of the Category B priorities for the Region.

74. The RSS identifies significant growth for the York area over the next 20 years. Improved transport infrastructure will be required to provide the capacity for this growth to be delivered. In particular improvements to the Outer Ring Road are critical to enable the successful development of the regionally significant York Northwest employment and housing site. It is anticipated that a significant proportion of the growth proposed in the RSS would be delivered by the York Northwest brown field development site.

75. The modelling work undertaken includes an allowance for traffic from the York Northwest developments. The additional traffic generated (approx 15% increase in projected flows on the ORR) by these developments means that the anticipated demand flows for the links between the A59 and Clifton Moor exceed the theoretical optimal design capacity of a single carriageway. A substantial contribution is anticipated to be received for transport measures from the York Northwest developments. Additional contributions would assist in the affordability of the scheme but would not affect the value for money assessment.

76. Leeds City Region has its own Transport Vision to enable the city region to function as a single economic space by providing a high quality transport system. Improvements to the Outer Ring Road are specifically identified to enable economic growth at York Central.

77. The Future York Group Report of June 2007 presented an independent strategic review of the York Economy which highlighted heavy congestion on the ORR as the biggest single issue for York in transport terms. The group's view was that dualling of the ORR is not only necessary to support the well-

being of the existing business economy, but also to enable the successful development of the York North West site.

78. Option B2, which minimises the construction of new road capacity and improves the accessibility to the city centre, fits with the regional transport policy better than Option C1 or D. However Option C1 and D are likely to accommodate the additional traffic from the projected development with lower impact on the city centre.

Corporate Priorities

79. The Access York project supports the sustainable city element of the Corporate Strategy. **Increase the use of public and other environmentally friendly modes of transport.** The new Park & Ride services, bus priorities and city centre measures combined with the improvements to the ORR reduces the need for car trips in the city centre.

80. The improvements to the transport provision will help to enable the projected development and employment growth included in the Regional Spatial Strategy and meet the Corporate Priority **to improve the economic prosperity of the people of York with a focus on income differentials.**

Implications

81. The Access York Phase 2 proposal will have a significant impact on the future development and quality of life in the City.

82. **Financial Implications** (See Affordability section above)

83. **Human Resources (HR)** There are no Human Resource implications for staff employed by the Council. If the bid was successful a separate project team would need to be established.

84. **Equalities** There are no equalities implications.

85. **Legal**. There are no legal implications at this stage in the project. There would be considerable legal and procurement issues to address as the scheme progresses.

86. **Crime and Disorder** There are no crime and disorder implications.

87. **Information Technology (IT)** There are no IT implications.

88. **Property** There are no property issues at this stage. Significant land purchase and compensation issues will need to be resolved if the scheme is progressed.

89. **Other** None.

Risk Management

90. In compliance with the Council's risk management strategy the main risks that have been identified in this report are those which could lead to financial loss,

non-compliance with legislation, damage to the Council's image and reputation and failure to meet stakeholders' expectations. The risk/s associated with the recommendation of this report are recorded in the council's risk register and are assessed at a net level of 16 or above. The principal risks relate to the significant impact on future development in the city if the funding bid was not successful.

Conclusion

91. There are a wide variety of conflicting objectives which the proposals are aimed at delivering. A single option does not meet all of the objectives without some less desirable consequential implications. The key items which need to be considered are identified in the following table with a subjective relative score allocated for the main evaluation criteria. The table only includes the main options. Options E to I all have high environmental impact and value for money assessments below the minimum DfT requirement and are therefore not considered further.

Evaluation Summary

Evaluation Criteria	B1	B2	C1	D
Regional Transport Policy	✓✓	✓✓	✓✓	✓✓
Local Transport Policy	✓✓✓	✓✓✓✓	✓✓✓	✓✓
ORR Journey Time	✓✓	✓✓✓	✓✓✓✓	✓✓✓✓
ORR Area Travel Time	✓✓✓	✓✓✓	✓✓✓✓	✓✓✓✓
Citywide Travel Time	✓✓	✓✓	✓✓✓	✓✓✓✓
Citywide Queues	✓✓	✓✓	✓✓	✓✓✓✓
Regional Economic Policy	✓✓	✓✓	✓✓✓	✓✓✓✓
Environmental Impact (ORR)	***x***	***x***	***xx***	***xxx***
Environmental Impact (City Centre)	✓	✓	✓✓	✓✓✓
Climate Change	***✓/x***	***✓/x***	***x***	***xx***
Deliverability	✓✓✓	✓✓✓	✓✓	✓
Value for Money (including BCR)	✓✓✓✓	✓✓✓	✓	***xx***
Affordability	✓✓✓✓	✓✓✓	✓	***xxxx***

92. Option D (At Grade and grade separated junctions & dual carriageway) has a BCR below 1.0 which would not be approved by the DfT and is estimated to cost £126m which is unlikely to be accepted by the RTB. This higher intervention scheme would reduce journey times significantly on the ORR and surrounding area and would provide greater scope for reallocation of road space in the city centre. The increased capacity on the ORR is likely to encourage new trips to be made by car and increase green house gas emissions.

93. Option C1 (including sections of dual carriageway) has low BCR and is therefore less likely to be successful at the RTB and DfT compared to B1, B2, B3 (at grade roundabout options) as lower cost alternatives have to be submitted as part of the major scheme appraisal process. A scheme which includes dual carriageway sections may become more affordable if additional funding is contributed from other sources.

94. The benefit to cost ratios of the at grade junction improvement options (Options B1, B2 & B3) are high and are therefore more likely to proceed through the approvals process. The environmental impact is also lower for these localised improvement options than the other proposed interventions. Option B1 is likely to be the Low Cost Alternative which the DfT would use as a comparison for all other options.

95. Option B2 which includes roundabout improvements and subways at Wigginton Road and Strensall Rd is a high value for money scheme with additional benefits relative to Option B1. The additional roundabout (Wigginton Rd & Strensall Rd) improvements will enable the severance of communities in the area caused by the ORR to be addressed. As part of the bid it is proposed to provide subways crossing the ORR at these locations and a new orbital cycle route along the side of the ring road connecting the communities of Earswick, Wigginton, Huntington & Haxby to the employment area at Clifton Moor.

Recommendations

96. Members are asked to:

    i. Approve the submission of an Access York Phase 2 bid for funding to the Regional Transport Board based upon a package of citywide measures and the option B2 improvements to the ORR (at grade improvements to all roundabouts from Wetherby Rd to Strensall Rd) for a total outturn cost of approximately £42m.

       Reason: To enable funding to be obtained for improving the transport provision in York.

    ii. Note the requirement for preparatory costs of approximately £500k and a local contribution of approximately £5m if the scheme was approved by the RTB and DfT.

Reason: To enable the commitment to be included in future budgetary considerations.

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Bill Woolley
Director of City Strategy

Report Approved ✓ **Date**

Damon Copperthwaite
Assistant Director City Development and Transport

Report Approved ✓ **Date** *11 September 2008*

Specialist Implications Officer(s)
Patrick Looker
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Wards Affected: *List wards or tick box to indicate all* **All** ✓

For further information please contact the author of the report

Annexes
Annex 1 Schematic Options Table
Annex 2 Option Results
Annex 3 Junction and Link Options Advantages & Disadvantages
Annex 4 Outer Ring Road Report Executive Summary

Background Papers:
Outer Ring Road Study: Report to July 2005 Planning & Transport EMAP