

## Report of the Transportation, Design and Planning Director to the meeting of the Executive to be held on 19 September 2006

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### Subject:

**Airedale Transport Improvements**

### Summary statement:

This report outlines the Airedale Transport Improvement Project and in particular identifies indicative routes for the proposed Shipley Eastern Link Road & Canal Road Improvement. The close relationship between these proposals and those for Bradford Canal, the Airedale Masterplan and the Canal Road Masterplan is described. The report also describes the current position with the proposed de-trunking of the A650/A629 through Airedale and advises Members on whether the Council's current objection to de-trunking should be maintained.

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### Portfolio:

**Environment & Culture**

### Overview and Scrutiny Area:

**Environment & Waste Management**



## **1. Summary**

- 1.1 This report outlines the Airedale Transport Improvement Project and in particular identifies indicative routes for the proposed Shipley Eastern Link Road & Canal Road Improvement. The close relationship between these proposals and those for Bradford Canal, the Airedale Masterplan and the Canal Road Masterplan is described. The report also describes the current position with the proposed de-trunking of the A650/A629 through Airedale and advises Members on whether the Council's current objection to de-trunking should be maintained.

## **2. Background**

- 2.1 For over 25 years, good access to national transport systems for Shipley, Baildon, Bingley and Keighley has been seen as essential for the continued economic prosperity of Airedale (see Appendix A). In support of this aim, many major road schemes have been considered for the A650 corridor through the Airedale and the Bradford Beck valley but, east of Cottingley and north of Bradford's Outer Ring Road, none has found a sufficient consensus of public support and/or Government funding to be implemented.

- 2.2 A review of these historic schemes was presented to Executive on 18 September 2003 when it was resolved that any further consideration of the Airedale Route at that time be abandoned in view of the damaging impact it would have on the local environment. However, a transport strategy for the area was requested, to include:

(a) junction improvements at sites experiencing public transport delays;

(b) other local road improvements and enhancements to public transport;

(c) environmental, safety and traffic calming measures on residential roads in the Nab Wood and Saltaire areas;

(d) possible new road construction, excluding major bypasses, to complement other elements of the next Local Transport Plan;

Executive required that this strategy should give considerable weight to measures to reduce traffic along the whole A650 corridor, improvements to public transport, measures for cyclists & pedestrians and the retention of the environment of the Northcliffe area & the World Heritage Site at Saltaire (see Appendix B).

- 2.3 At its meeting on 30 November 2004, Executive approved a District Transport Strategy, as the Council's vision for transport and the basis of the Council's input to the Local Transport Plan to be submitted in July 2005. One of the priorities identified for the next 5 years was the improvement of Canal Road, as part of the strategy for the Aire and Wharfe Valleys. Looking further forward to the 5-10 year period, the strategy suggested that major schemes may need to come forward for Keighley and for a route to the east of Shipley. Beyond that, the strategy suggested that completion of the Airedale route might be the priority.

- 2.4 The Airedale Masterplan was considered by Executive on 14 June 2005 and welcomed for the contribution it could make to the economic development and regeneration of Airedale. It included a Shipley Eastern Link Road as one of the five priority projects. The Transportation, Design and Planning Director was asked to incorporate the proposals for Shipley, including the link road, into the integrated transport strategy for the area. Other associated proposals now include those for Bradford Canal and the Canal Road Masterplan area, a report on which is included

on the agenda for this meeting of the Executive. A comprehensive list of the short & medium-term elements of the proposed transport strategy (the Airedale Transport Improvement Project) is shown in Appendix C. Measures to reduce congestion and the inappropriate use of local roads in Cottingley following the opening of Bingley Relief Road were implemented during 2005.

- 2.5 Whilst further detailed engineering survey & design work is still required before the most viable routes can be established, Drawing No MH/23557-AA06/CR-3B in Appendix B shows the current indicative alignments for Canal Road Improvement, Shipley Eastern Link Road and Bradford Canal, based on the masterplans and transport strategy development to date. A larger version of this drawing will be available at the time of the Executive meeting. The possible introduction of new or improved rail facilities at Shipley, Frizinghall and Manningham will be taken into account in this further design work, as will the need for measures to assist pedestrians, cyclists & bus passengers. These measures may include a re-alignment of the protected cycle route between Shipley and Bradford. This is dealt with in the Bradford Canal and Canal Road Masterplan report.
- 2.6 The form of the longer-term Airedale route between Bingley Relief Road and Canal Road / Shipley Eastern Link Road still needs to be established but it will be important for early developments not to inhibit potential viable options. The successful integration of all these proposals with the existing highway, rail, canal and utilities infrastructure will be a complex engineering achievement. Incorporation of proposals into the emerging development plan documents for the area will, in time, afford protection for development control purposes and a policy basis for securing contributions through Section 106 obligations. Meanwhile, proposals should, as soon as possible, be published for public consultation (and as a consequence be declared should enquiries of the Council via the land charges system be made on property within 200 metres of known alignments) and drawn to the attention of any proposed developer of land within these limits. This approach will avoid potential abortive work by developers and aid negotiations with any such developers, with a view to securing agreement to the alignment of the proposals and, where appropriate, Section 106 contributions towards their implementation. Until such time as the proposals are fully reflected in the development plan documents, full development control protection cannot be guaranteed but this open approach should be welcomed by developers.

### **3. Other considerations**

- 3.1 As a trunk road, responsibility for the A650/A629 from the District boundary at Steeton to the former County Borough boundary at Frizinghall lies with the Highways Agency, acting for the Government's Department for Transport (DfT). The Highways Agency has for some years planned to de-trunk this road and negotiations on de-trunking arrangements were delegated to the Transportation, Design and Planning Director by Executive at its meeting on 18 February 2003. In view of this and the past history of trunk road proposals considered but not implemented in the area, Executive resolved on 18 September 2003 that an approach be made to Government to contribute funds to the investigation and development of the proposed transport strategy.
- 3.2 At its meeting on 30 November 2004, Executive again considered the Highway Agency's proposals for the A650/A629 and was advised that de-trunking would

mean the Council taking over responsibility not only for maintenance of the road but also for solving the traffic problems which exist in Saltaire and Shipley following the opening of the Bingley Relief Road. Surveys undertaken for the Highways Agency on the A650 at Nab Wood revealed that the two-way average weekday traffic flow at this location increased from 30,900 in 1999 to 38,200 in 2005 – an increase of 24% compared with typical Bradford traffic growth of 1% over the same period. As the remaining stage of the Airedale route was considered to be 10 years away, interim measures were considered necessary, to be funded by the Highway Agency as part of the de-trunking package. It was resolved to maintain an objection to de-trunking as long as there was no prospect of interim improvements in Shipley and Saltaire.

- 3.3 As a result of this position, Highways Agency appointed consultants JMP in 2005 to undertake an A650 Shipley Area Transport Study. Council officers were consulted on the brief for the study, contributed plans, traffic information & historic data to it and made comments on the consultant's findings. The final report was made available to officers earlier this year and has formed the basis of further negotiations with the Highways Agency concerning de-trunking. A summary of the report is included in Appendix D. The “Do Something 2” and “Do Maximum” options for Saltaire roundabout referred to in the report are shown in Appendices E and F, respectively. The full report will not be published by Highways Agency until after Government Ministers have considered the issues raised.
- 3.4 Whilst the report provides a comprehensive overview of the transportation problems of the area, there is little that is entirely new in the recommendations. Many of the measures proposed are already being developed or are under consideration by the Council and its partners (including Metro), such as bus corridor improvements, localised junction improvements, promotion of car sharing and green travel plans. Unfortunately, the study did not complete the comprehensive analysis of the Saltaire area that it stated was necessary or the related in-depth surveys of Saltaire roundabout to assess the existing operation and delays to the movement of people & good at the junction. Nevertheless, the report identified potential short/medium-term changes at the roundabout. It also gave an indication of the expenditure that the Highways Agency could probably justify at the junction. Under the terms of the Government's “New Deal for Trunk Roads in England, 1998”, the Highways Agency is able to promote safety improvements but nothing more extensive on roads which they intend to de-trunk.
- 3.5 The report indicated that whilst the “Do Something 2” option would improve safety, it could increase delays at the junction. The “Do Maximum” option would also improve safety and might reduce delays. However, it is believed that this option, involving the closure of Moorhead Lane except for buses, could have an unacceptable impact on the residential area south of Saltaire where concerns relating to non-local traffic have already been raised. No firm evidence has been provided by the Highways Agency that any of the options put forward by JMP will actually tackle congestion at Saltaire roundabout. The further studies referred to in the report are therefore now required urgently to establish impacts and the delay/safety/public transport aspects of these and other possible junction/link alternatives.
- 3.6 Among the alternatives, a Saltaire Gyratory or Saltaire Tunnel, as considered in the 1980s, may be worthy of re-examination. These were local solutions for the Saltaire area rather than the long Shipley Tunnel subsequently proposed. They

have the potential to offer congestion and public transport improvements greater than those likely to be offered by the 'Do Maximum' option recommended by JMP but they could result in greater adverse impact on the local built environment. A gyratory in particular may be considered to have an excessively adverse impact on the World Heritage Site, whilst a short tunnel safeguards this site but does not provide either a short/medium-term solution or a full resolution of the traffic problems of the wider A650 corridor in Shipley. The Saltaire Project Team, which is a multi agency partnership that assists in the delivery of the Saltaire Management Plan, should be consulted on the various options, as should English Heritage.

- 3.7 The cost of evaluation and works for these options would be significantly higher than the £565,000 identified for the "Do Maximum" option. Consequently, a figure of £800,000 has been suggested to the Highways Agency to represent these evaluation costs plus a likely upper limit on the proportion of works costs that could be attributable to safety measures. It is believed that this represents a realistic figure to implement interim improvements in Shipley and Saltaire as part of a de-trunking package. In principle, if such funding were forthcoming, it would be reasonable for the objection to de-trunking to be withdrawn. However, if a scheme that tackles congestion as well as road safety is to be delivered, additional funding could be required. In normal circumstances on a non-trunk road the Council would be able to fund such a scheme through the Local Transport Plan (LTP), provided proposals comply with the national shared priorities for transport, which include measures to tackle congestion. Provision of further funding to cover the additional maintenance costs that would fall to the Council on de-trunking has been agreed in principle with the Highways Agency.
- 3.8 Other funding sources which have been identified or are being sought for transport improvements in the Shipley area of Airedale are outlined below:-
- a) The Airedale Masterplan is a key regeneration catalyst for the area and the Airedale Transport Improvement Project is identified in the emerging Leeds City Region Development Plan as being a major contributor to the connectivity of the City Region. The Project could, therefore, potentially be eligible for future City Region and 'Northern Way' funding streams, subject to the necessary criteria being met. Any major scheme development such as Shipley Eastern Relief Road and Canal Road Improvement would require the support of DfT and a business case would need to be submitted for consideration once detailed schemes have been developed and consulted upon.
  - b) A total of £650,000 has been allocated within the 2<sup>nd</sup> West Yorkshire Local Transport Plan for the improvement of bus priority and traffic management measures. These will be focussed on short-term achievable measures on the District's existing network that will complement future work on the section of the A650 which is currently trunk road.
  - c) A bid is being prepared for submission to Yorkshire Forward for match funding to enable the development of the first stage of the "Airedale Greenway", which is intended to be a high quality cycling and walking link between Shipley, Bingley and Keighley, using the Leeds & Liverpool Canal as its spine

- d) Metro are developing network improvements in the Shipley area including improved timetable, bus stop and shelter provision and possibly real time information displays at key bus stops.

#### 4. Options

- 4.1 Members may wish to continue with the de-trunking objection and to request the Highways Agency to commission a further study and detailed assessment of conditions & potential solutions to problems on the A650 trunk road between Frizinghall and Bankfield Roundabout. It would then be necessary to try and influence future Highways Agency spending. In addition, this approach could result in a possible public inquiry or similar procedure to consider the objection and this would require significant staff and financial resources to present the Council's case.
- 4.2 Provided at least £800,000 plus maintenance funding is offered, the alternative would be for the Council to accept grant from the Highways Agency, withdraw the de-trunking objection and take over control of A629/A650 at the earliest opportunity. This would mean that decisions concerning its operation become more locally determined and that responsibility for the necessary further studies and implementation of any findings would pass to the Council.

#### 5. Financial and resource appraisal

##### FINANCIAL

- 5.1 Potential funding sources for projects being developed are indicated above. Specifically, the Executive, at its meeting on 21 March 2006, allocated £100,000 of LTP capital funding to major scheme development work for Airedale and £250,000 to bus priority and traffic management measures for the Shipley area in 2006-07. The Council is also contributing, through the Yorkshire Bus Project, to bus priority improvements on the non-trunk section of the A650 between Drewton Road and Frizinghall. The LTP funding profile for the Shipley area bus priority and traffic management measures is as follows:

Year	Shipley Area Bus Priority	Traffic Management including cycle & walking facilities
2006/7	£100,000	£100,000
2007/8	£75,000	£75,000
2008/9	£100,000	£50,000
2009/10	£75,000	£50,000
2010/11		£25,000

##### STAFF RESOURCES

- 5.2 The Airedale Transport Improvement Project can be delivered through a combination of existing staff resources and outsourced specialist survey, design & development services, managed within existing base budgets and capital/grant funding. Robust cost estimates will be required for any future funding bids and early contractor involvement will help to provide the necessary cost certainty for schemes to progress.

## **6. Legal appraisal**

- 6.1 The status in law of the Shipley Eastern Link Road, Bradford Canal and the Canal Road Masterplan proposals and the degree to which they carry weight in the determination of any planning applications on or close to their alignments is set out in paragraph 2.6 above. The development of the District Transport Strategy and Airedale Transport Improvement Project would require the exercise of legal powers available to the Council as Highway Authority. If the Council's objection to the de-trunking of the A650 is not withdrawn, then ultimately a public inquiry may have to be held to resolve the objection. Such an inquiry would require legal input as described at paragraph 4.1 above.

## **7. Other implications**

### **7.1 Equal Rights**

- 7.1.1. The West Yorkshire Local Transport Plan (LTP) has been developed to promote equal access to transport systems for all users and one of the key themes is social inclusion. The District Transport Strategy and Airedale Transport Improvement Project would be developed in compliance with that theme as well as the Council's Equal Rights statement.

### **7.2 Sustainability implications**

- 7.2.1. The LTP and District Transport Strategy include the development of sustainable transport modes (public transport, cycling and walking) and associated traffic management improvements. Any highway construction would seek to enhance the existing network to allow further development of public transport.

### **7.3 Community safety implications**

- 7.3.1. LTP and District Transport Strategy schemes would aim to control traffic movements within the community and to enhance safety for vulnerable road users. Any highway construction would be designed to remove conflicts between vehicles and vulnerable road users.

### **7.4 Human Rights Act**

- 7.4.1. There are no direct Human Rights implications arising from this report.

### **7.5 Trade Union**

- 7.5.1. There are no Trade Union implications arising from this report.

## **8. Not for publication documents**

- 8.1 None

## **9. Recommendations**

- 9.1 That the Transportation, Design and Planning Director be given delegated authority to develop further the indicative alignments for Canal Road Improvement and Shipley Eastern Link Road shown on Drg No MH/23557-AA06/CR-3B, in

conjunction with the design of the Bradford Canal and other components of the Canal Road Masterplan and Airedale Masterplan.

- 9.2 That until such time as proposals for Canal Road Improvement and Shipley Eastern Link Road are incorporated into Development Plans for the area, the intentions for those schemes be reported annually in the Local Transport Plan performance review, declared within all Local Authority Searches on property within 200 metres of their indicative alignments (& any subsequent development of them) and drawn to the attention of any proposed purchasers of land within these limits.
- 9.3 That the Council's local planning authority is requested, where appropriate, to negotiate with proposed Developers with a view to securing agreement to the proper alignment of highway infrastructure proposals and contributions under Section 106 of the Town and Country Planning Act 1990 towards the cost of implementation.
- 9.4 That the current objection to de-trunking the A650/A629 be withdrawn, provided a formal commitment is received from the Department of Transport/Highways Agency to grant negotiated maintenance funding and a contribution of at least £800,000 towards studies & works to improve traffic conditions in the Shipley/Saltaire area.
- 9.5 That these studies mentioned in 9.4 be undertaken with support from external specialist consultants as soon as possible following the securing of funding from the Highways Agency and that the findings be reported back to the Executive.
- 9.6 That the Transportation, Design and Planning Director be authorised to involve a contractor in the development of the proposals.
- 9.7 That a progress report on this scheme be reported to the Saltaire Project Team and the Shipley Area Committee, and that the proposals be published for public consultation through Neighbourhood Forum meetings.
- 9.8 That the Transportation, Design and Planning Director promotes any Traffic Regulation Order required for the delivery of the Local Transport Improvements (referred to in Appendix C) and that any objections to these be submitted to the relevant Area Committee for consideration, other than those in connection with Canal Road Improvement and Shipley Eastern Link Road, shall be referred for consideration to an appropriate meeting of this Executive.

## **10. Appendices**

- 10.1 Appendix A:  
Bradford – Airedale Economic Area (Plan)
- 10.2 Appendix B:  
Airedale Transport Improvement Project – Major Components  
(Drg No MH/23557-AA06/CR-3B)
- 10.3 Appendix C:  
Airedale Transport Improvement Project – All Components (Table)
- 10.4 Appendix D:  
A650 Shipley Area Transport Study – Executive Summary

10.5 Appendix E:  
A650 Shipley Area Transport Study – Saltaire Roundabout “Do Something 2” (Plan)

10.6 Appendix F:  
A650 Shipley Area Transport Study– Saltaire Roundabout “Do Maximum” (Plan)

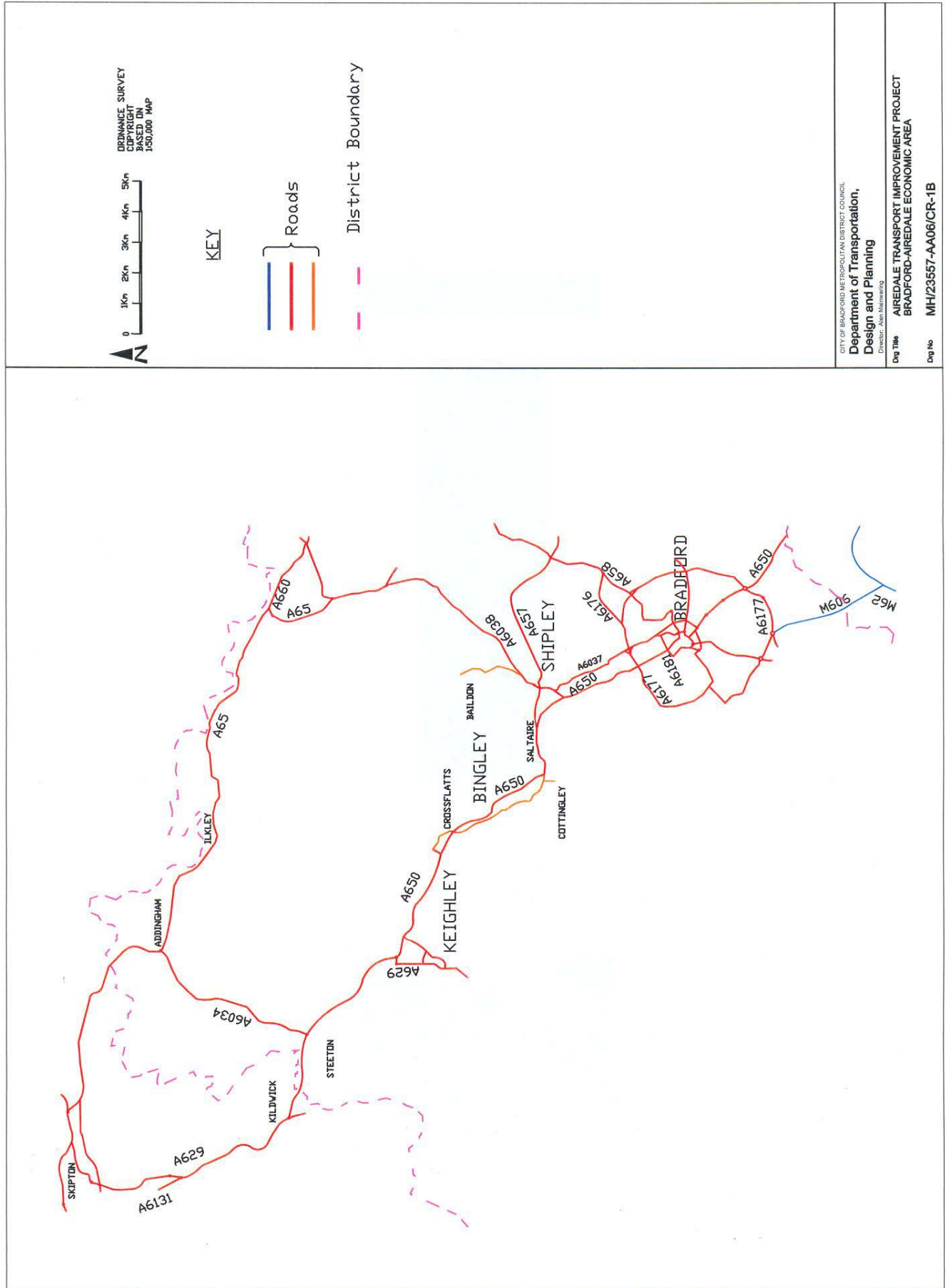
**11. Background documents**

11.1 Report to Executive 18 February 2003:  
The Detrunking of the A65/A660 and A650/A629

11.2 Report to Executive 18 September 2003:  
Aire Valley Transport Strategy

11.3 Report to Executive 30 November 2004:  
District Transport Strategy

11.4 Report to Executive 14 June 2005:  
Airedale Masterplan





**Airedale Transport Improvement Project  
All Components**

	<b>ELEMENT UNDER CONSIDERATION</b> (Note: all of the schemes listed below are at feasibility stage and some may not be progressed to consultation / implementation)	<b>FEASIBILITY / DESIGN WORK BEING UNDERTAKEN 2006/7</b>
	<b>Local Transport Improvements</b>	
1	Leeds Road HOV Lane	Yes
2	Otley Road HOV Lane / Bus Priority	Yes
3	Leeds Road / Carr Lane Junction Improvements	Yes
4	Carr Lane Pedestrian Refuge	No
5	Fox Corner Pedestrian Improvements/ Bus Priority	Yes
6	Otley Road / Green Lane Bus Priority	Yes
7	A650 Manningham Lane / Keighley Road Improved Bus Priority	Yes
8	Bus Access Improvements	Yes
9	Accessible Footway Improvements including Crag Rd / Shipley Station Link	No
10	Cycle Infrastructure Improvements (Greenway)	Yes
11	Nab Wood Traffic Calming / Restraint	No
12	Saltaire Through Traffic Restraint & Saltaire Rd / Victoria Rd Signals	Yes
13	Shipley Station Bus Turning Circle	Yes
14	Otley Road (Valley Rd - Branch) Minor Widening	Yes
15	Otley Road / Market Street - Bus Priority	Yes
16	Central Avenue / Market St - Changed Priorities/ Mini Rbt	Yes
17	Market St/ Kirkgate - Measures to assist bus egress	Yes
18	Otley Rd nr Kirkgate - Improved Pedestrian Linkage to Station	Yes
19	Negotiations/works to secure Inter City rail links to Airedale	Yes (negotiations)
	<b>Masterplan Projects</b>	
19	Shipley Eastern Relief Road	Yes
20	Canal Road Improvement, Bradford Canal and cycle route	Yes
21	Shipley Interchange	No
22	Shipley Market Square Redevelopment	No
23	Saltaire Pedestrian / Cycle Bridge	No
24	Bingley Town Centre Improvements	Yes
25	Bingley Interchange	No
26	Keighley Town Centre Improvements	No
27	Dalton Lane Link (assuming development contribution)	No
28	Worth Valley Footway/Cycleway	No
29	Steeton - Airedale Hospital Bus/Cycle Link Road	No
30	Silsden Cycleway	No
31	Steeton Gateway Pedestrian/Cycle Bridge	No
32	Hard Ings Road Improvement	No
33	Airport Rail Link	No
	<b>Trunk Road Improvements</b>	
34	Improvement measures on the current A650 trunk road will also be required in addition to the above elements	

# A650 Shipley Area Transport Study

## Executive Summary

### Background

The Highways Agency has established a system for "virtual de-trunking" of those non-core trunk roads identified by Government in 'A New Deal for Trunk Roads in England' (DETR 1988). The Agency continues to maintain and manage the routes until formal de-trunking is agreed with the relevant local highway authority. The Agency will also implement improvement schemes listed in the new Targeted Programme of Improvements (TPI), however, they will only consider promoting further improvements where they are warranted on safety grounds.

The A650 in Bradford has been identified as a non-core route suitable for de-trunking. The Agency has proposed that de-trunking take place following the opening of the Bingley Relief Road. Hence the Agency and the City of Bradford Metropolitan District Council have been in discussions in respect of the proposed de-trunking.

In September 2003 the Council's Executive considered a report by the Head of Service (Major Works) in respect of the Aire Valley Transport Strategy: Re-evaluation of Historic Road Construction Proposals. The report to Council was set in the context of the imminent opening of the Bingley Relief Road TPI scheme, current conditions, Bradford's strategic transport objectives and the government's desire to de-trunk the A650/A629 in Bradford.

The Executive resolved that, in view of the past history of trunk road proposals but not implemented, an approach be made to Government to contribute funds to the investigation and development of the Aire Valley Transport Strategy. It was in this context that the Agency requested JMP Consulting to undertake the A650 Shipley Area Transportation Study.

### Study Area

The study area is situated to the north of the city centre and encompasses the areas of Shipley, Saltaire and Baildon. The area, which is bisected by a prominent railway system, comprises:

- A650 between the southern end of Bingley Relief Road and Frizinghall,
- A6037 Valley Road,
- The local highway network parallel to the A650 that is used to avoid congestion on the A650,
- A657 Leeds Road east of Shipley (Crag Road), and
- A6038 Otley Road to Baildon Bottom.

The A650 corridor through Shipley, Saltaire and North Bradford is a congested arterial link through the Aire Valley connecting Airedale with Bradford and Leeds. The study has collated information on existing travel patterns and behaviour both within and beyond the study area, much of this being provided by the Council.

### Physical Constraints

There is a lack of space in the Aire Valley for new or improved transport infrastructure, which will ultimately determine the nature of any interventions that may be proposed. A key constraint is the designated Saltaire World Heritage Site and its zone of influence. Any interventions and / or improvements along the A650 / A657 corridors will need to be sympathetic to the setting and local environment of the World Heritage Site.

### Traffic Conditions

The opening of the Bingley Relief Road, whilst removing traffic from Bingley Main Street, has had consequences for traffic levels in the Saltaire / Shipley Area. Increased traffic levels along A650 at Nab Wood to the west of Saltaire have increased congestion at the A650 / A657 Saltaire Roundabout. Lack of capacity at this location has constrained traffic movement forward from this point, creating a 'bottleneck'.

From the network / traffic movement data it appears that:

- Some 60% of traffic entering / leaving the study area has both origins and destinations beyond the study area and some 40% is attracted to or generated within Saltaire / Shipley.
- The main peak period traffic movement through the study area is between the A6038 Otley Road and A6037 Valley Road. The majority of these movements are local trips.
- Whilst the A650 trunk road to the west of Saltaire Roundabout has the second highest two-way traffic flow in the AM peak (third highest in the PM peak), south of Saltaire Roundabout the trunk road carries less traffic than the other principal 'local' roads.
- There is no evidence to suggest that the A650 carries a significant amount of long distance strategic traffic, indeed the majority of trips are less than 20 miles and have an origin / destination in Bradford.

- Localised rat-running to avoid congestion at Saltaire Roundabout, through Saltaire Village, has been identified, although this is not as prevalent as suspected although it has increased following the opening of the Bingley Relief Road.
- HGV traffic within the study area is lower than the national average.
- The modal split within the study area appears to be relatively poor, with a high proportion of car use (high single occupancy and low multiple occupancy) and relatively low bus use.

The conclusions drawn from the travel information are:

- That the Highways Agency is justified in classifying the A650 as no longer being of national strategic importance and hence pursuing detrunking;
- Resolution of traffic and safety conflicts at Saltaire should be given high priority in any emerging transport strategy for this section of the Airedale Corridor; and
- There appears to be substantial scope for interventions that could influence modal transfer from car to public transport.

### Options for Saltaire Roundabout

An examination of the issues at Saltaire Roundabout has been undertaken. This confirms that the roundabout is a conflict point of two main traffic routes in the study area; the A650 and the A657. Traffic flows in both directions change little between the AM and PM peak hour and the flow along A650 Bingley Road through the junction is the primary flow. Since the opening of the Bingley Relief Road it is apparent that whilst traffic has a quicker journey time to Saltaire, the roundabout impedes further progress.

The presence of six arms and uncontrolled pedestrian crossings, in addition to inadequate signing and lining at the roundabout exacerbate the congestion by confusing drivers and reducing capacity on the major arms. In addition, some of the turning movements are unbalanced and do not assist roundabout operation. The Puffin crossing at Gordon Terrace causes delays to traffic leaving the roundabout and thus affects the operation of the junction.

Bus services through Saltaire are afforded very little priority. This would affect the potential for modal shift to any increased frequency or new services that might be introduced. Bus stops at Saltaire Roundabout are not located optimally and some rationalisation of the stops in the immediate area may be required. Solutions will be required to maintain existing service levels and to improve bus priority where possible in line with the City of Bradford Metropolitan District Council and Metro's objectives.

Clearly the problems within the Saltaire Area are complex and inter-linked. Having regard to the constraints there is no single definitive solution, consequently compromises between capacity, environment and safety will be needed, with safety being the prime concern. Options considered for Saltaire Roundabout include:

- A minor intervention to improve signing and lining at the roundabout. This could only be seen as an interim measure pending a more permanent solution being agreed and implemented.
- A 'Do something' option would convert the roundabout to signal control with pedestrian facilities and close two local access roads into Saltaire Village. Primarily this would be a safety scheme probably with a loss in capacity for the main traffic routes.
- A 'Do maximum' option would be similar to the 'Do something' option plus the closure of Moorhead Lane except for buses. Again primarily a safety scheme but this option would also seek to improve on the capacity situation.
- In addition, CBMDC requested that JMP look at two further options; the provision of a gyratory and a tunnel option beneath Saltaire. Clearly, these two options seek to remove the main traffic conflict and improve safety, however the cost of such options may be prohibitive.

The final solution will be a compromise between capacity, safety and the provision of bus priority and will most likely be influenced by local public opinion through the consultation process. Because of the limitations on traffic information at present none of the options considered can be compared in detail to assess capacity against the existing roundabout operation, nor can the redistribution of traffic around the area be accurately predicted without further survey data. Therefore the effect of the options on delays, queuing, public transport and traffic redistribution cannot be ascertained at this stage.

The Do Maximum option suggests the provision of signalled junctions at Nab Lane and Grosvenor Road, both to rationalise access to the residential areas of Nab Wood and Moorhead. These signals could also be used to introduce traffic gating or the provision of bus gates and / or bus lanes through Saltaire. Consequently, there will be a number of signalled junctions in succession along the A650.

In order to progress any design further, a comprehensive study of the roundabout and the surrounding area would be needed to assess the access requirements of and movements around Saltaire Village and the Nab Wood / Moorhead residential areas. The study would also need to undertake in-depth surveys of Saltaire

Roundabout to assess the existing operation and capacity of the roundabout. There would need to be a public consultation exercise to gauge local opinion prior to preparing detailed designs for implementation. The broad order costs for addressing the Saltaire Roundabout issues with the 'Do Maximum' option are estimated as:

**Item Cost (£)**

Surveys, detailed study, analysis and consultation	60,000
Signals / works at Saltaire Roundabout	125,000
Signals / works at Grosvenor Road, Nab Lane and Victoria Road	180,000
Design / supervision fees	90,000
Contingencies	60,000
<b>Total cost</b>	<b>£565,000</b>

**ShIPLEY Area Transport Strategy**

We set out a Transport Strategy for the Saltaire / Shipley Area that incorporates a wide range of measures and interventions to be examined in detail, consulted upon, designed and implemented, within short (5 years), medium (5 to 10 years) and longer-term (10 to 15 years) timescales. We have also identified the authorities that will have responsibility for taking those interventions forward.

The Strategy includes a diverse range of schemes and interventions including *inter alia*:

- Localised junction improvements, primarily for safety,
- Quality Bus Corridor for the A650,
- Environmental traffic management,
- ITB / Smart Choices initiatives throughout the area,
- Bradford parking provision and pricing policies,
- Additional Park and Ride,
- Walking and cycling routes, and
- Major highway scheme in support of economic regeneration.

Further studies will be required to be undertaken by City of Bradford Metropolitan District Council and Metro as appropriate to address these elements and take them forward as part of the wider Aire Valley Transport Strategy.

**Recommendations**

We recommend that:

- The proposed Shipley Area Transport Strategy be considered by the Highways Agency, City of Bradford Metropolitan District Council and Metro as a way forward to resolving the local transport issues in Saltaire and Shipley as well as contributing to a wider Transport Strategy for the Aire Valley.
- The Highways Agency and City of Bradford Metropolitan District Council negotiate a contribution by the Agency for safety improvements to Saltaire Roundabout that will lead to agreement on the de-trunking of the A650 in Bradford in the short term.



