

**REPORT TO:** Council

**DATE:** 23 April 2008

**REPORTING OFFICER:** Strategic Director Environment

**SUBJECT:** Mersey Gateway Transport and Works Act Order

**WARDS:** All

## **1.0 PURPOSE OF THE REPORT**

- 1.1 This report relates to the order required to be promoted in order to secure powers to promote the elements of the Mersey Gateway Project (the "Project") that relate to the Mersey Gateway Bridge. It also addresses the other applications and orders required to be promoted for the other elements of the Project to give the overall context. In doing so it also explains the background to the Project.
- 1.2 This report seeks the authority of the Council to promote the proposed Transport and Works Act Order in accordance with the requirements of section 239 of the Local Government Act 1972. In this respect, the Executive Board resolved on 10 April 2008 to recommend to a meeting of the Council that it should resolve to promote an order under s3 of the Transport and Works Act 1992 to authorise interference with public rights of navigation by the construction of a new bridge over the River Mersey comprised in the Project.
- 1.3 Accordingly, this report sets out the basis of the Transport and Works Act Order, what it is intended to achieve, and recommends that the Council should resolve to promote an order under s3 of the Transport and Works Act 1992 to authorise interference with public rights of navigation by the construction of a new bridge over the River Mersey comprised in the Project.

## **2.0 RECOMMENDATION:**

- 2.1 That the Council note the content of this report and have regard to it in considering whether to promote an order under s3 of the Transport and Works Act 1992 authorising the construction of works that interfere with navigation and certain other matters explained elsewhere in this report; and
- 2.2 That in accordance with the terms of s239 of the Local Government Act 1972 as applied by section 20 of the Transport and Works Act 1992 the Council resolve to promote an order under the provisions of s3 of the Transport and Works Act 1992 authorising the construction of works that interfere with navigation

and certain other matters explained elsewhere in this report, for effecting all or some of the following objects and purposes:

- 2.2.1 for statutory authority to construct a new bridge across the River Mersey between Runcorn and Widnes in the Borough of Halton being works which interfere with public rights of navigation;
  - 2.2.1 for statutory authority to construct works that interfere with navigation in the St Helens Canal, the Manchester Ship Canal and the Bridgewater Canal;
  - 2.2.3 to authorise permanent and temporary changes to the highway network in the Borough of Halton;
  - 2.2.4 to authorise the compulsory acquisition of land and rights in land for the purposes of this project;
  - 2.2.5 to authorise the charging, levying, setting and collection of tolls or charges for the use of the works and the creation of summary offences in connection with non-payment;
  - 2.2.6 to authorise the making of byelaws and their enforcement, including the creation of summary offences;
  - 2.2.7 to apply and/or disapply legislation relevant to the works;
  - 2.2.8 to make arrangements for the letting of a concession to operate and manage the works and their construction; and
  - 2.2.9 to authorise such ancillary, incidental and consequential provisions as may be necessary and/or convenient, and such other purposes as may be determined by the Council.
- 2.3 That the Chief Executive be authorised to settle the areas subject to works to be authorised by the Order and the areas to be the subject to powers of compulsory acquisition contained in the Order and also to settle any documentation required for the Order.
- 2.4 That the Operational Director and Monitoring Officer (Legal, Organisational Development and Human Resources) be authorised to make the application for the Order to the Secretary of State and to take all necessary procedural steps prior to and after the making of the application, including the preparation and presentation of the council's case at any public inquiry.
- 2.5 That the Operational Director and Monitoring Officer (Legal, Organisational Development and Human Resources) be authorised to sign and serve any notices or documents necessary to give effect to

these recommendations and to take all other actions necessary to give effect to these recommendations.

- 2.6 That the Operational Director and Monitoring Officer (Legal, Organisational Development and Human Resources) be authorised as soon as the Order is made by the Secretary of State and comes into effect, to take all necessary procedural steps in order to implement the powers of the Council authorised by the Order as made.

### **3.0 SUPPORTING INFORMATION**

- 3.1 The Silver Jubilee Bridge ("SJB") today represents a key vehicular crossing point over the Mersey. It is one of only four main opportunities for road traffic to cross the Mersey between Liverpool and Manchester. From the west, these comprise the two Mersey tunnels, Silver Jubilee Bridge, crossing within Warrington town centre and the Thelwall Viaduct on the M6. As such, the SJB forms a key link in the regional transport network as well as representing the only vehicular and pedestrian link between the Borough towns of Runcorn and Widnes.
- 3.2 The bridge was originally opened in 1961 with one lane in each direction and an opening year traffic flow of 10,000 vehicles per day. The bridge was modified in 1977 to provide for two lanes in each direction. However, these were sub standard (having a total width of just 12.2 m) and lacking in any central divide or current day spacing. Traffic growth on the bridge has since grown but there is no physical scope to provide for additional capacity. The bridge today typically carries circa 83,000 vehicles per day and at peak summer time has been in excess of 93,000. Practical capacity is exceeded for four hours each day and spreading of the morning and evening peak regularly occurs. The bridge has poor facilities for pedestrians, which are rarely used, and no discrete provision for cyclists. Prolonged periods of congestion regularly occur, which affect both regional and local traffic crossing the Estuary as well as causing knock on network effects for local traffic in both Widnes and Runcorn. In addition the public transport routes that do use the bridge for journeys within the Borough cannot rely on journey times or timetabling.
- 3.3 Silver Jubilee Bridge fulfils a pivotal role within the regional highway network. The key north west routes comprise the M62 (linking Merseyside to Manchester and beyond) which runs along the north of the Borough whilst the M56 (linking North Wales with Manchester) skirts along the southern Borough boundary. The only link between the two is the route provided by Silver Jubilee Bridge, which provides for regional movement in and out of Liverpool from Runcorn, Vale Royal, Chester and North Wales. The highway network has sought to maximise this opportunity, with the expressway network in Runcorn providing fast links from Junctions 11 and 12 of the M56 via SJB to Junction 7 of the M62 via the Widnes Eastern bypass. The limiting

factor is the capacity of the bridge rather than the accompanying junction links and network.

- 3.4 Whilst the wider regional network is reasonably robust, the bottleneck provided by SJB undermines network resilience. In addition to regular congestion associated with normal use, the effects of any incident (accident/breakdown/weather related/maintenance) on either the SJB or its approaches severely undermines the role of the SJB.

### **Mersey Gateway Project**

- 3.5 The provision of a second crossing of the River Mersey has been a long-held aspiration of Halton Borough Council. The traffic bottleneck caused by the SJB has been long acknowledged as social and economic constraint. In 1999 the draft UDP identified that the case for a new crossing had also been acknowledged by the then Minister for Transport, making clear the need to develop a scheme for inclusion in the Local Transport Plan.
- 3.6 Halton Borough Council subsequently began to advance the proposals. The work undertaken by and on behalf of the Council between 2000 and 2003 focused on comparing potential alternatives to address problems associated with congestion in Halton. This work was submitted first to the DfT in 2003 and then resubmitted, accompanied by additional data early in 2006. Through this process, certain regional and local objectives were identified as follows:
- To relieve the SJB, thereby removing the constraint on local and regional development and better provide for local traffic;
  - To maximise development opportunities;
  - To improve public transport links across the River; and
  - To encourage the increased use of cycling and walking.
- 3.7 For any scheme to be successful the Council required it to fulfil as many of the above objectives as possible, to fit its environment and to be economically viable. Throughout the process a range of alternatives were considered. Those alternatives which satisfied the above objectives, fitted their environment and were economically viable were then considered further until a preferred solution was identified.
- 3.8 A number of strategic alternatives with the potential to solve congestion problems in Halton and achieve the Council's objectives as set out above were considered throughout the development of the Project. These included making better use of existing infrastructure and options for increasing transport capacity. The main topics of investigation were as follows:
- Halton Travel Plans and similar demand management initiatives;
  - Road User Charging for using the existing Silver Jubilee Bridge or other roads;

- Dynamic Lane Management to get the best out of the existing road capacity;
- Selective Access to SJB by Vehicle Tagging;
- Road Space Reallocation;
- Park and Ride Facilities;
- Rail Service Improvement;
- New road bridge crossing to the West of the Railway Bridge;
- New road bridge crossing between the SJB and the Railway Bridge;
- New road tunnels to the west and east of the SJB; and
- New road bridge crossing (adjacent to and to the east of the SJB).

- 3.9 Following a thorough assessment of each strategic alternative, it was concluded that a fixed crossing to the east of the SJB represented the only realistic option of delivering improvements in congestion, and achieving the identified scheme objectives.
- 3.10 A series of alternative fixed routes and were then considered to the east of the SJB all of which avoided the more environmentally sensitive lower reaches of the estuary. This concluded that an option known as route 3A lies naturally on the desire line for through traffic and was economic in connecting effectively with the expressway network to the north and south of the river. As a result, it achieved the highest proportion of trip reassignment from the SJB when compared with other routes and therefore provide the strategic and local traffic diversion required. It was found that this option would satisfactorily relieve the SJB and permit its return to local use. The Project alignment also has relatively straightforward junction solutions in comparison to other variations of the route, avoids residential areas, and will have a minimal impact upon industrial areas and the existing highway network.
- 3.11 The discussions with the Department of Transport, leading up to Programme Entry confirmation being granted in March 2006, covered options to fund the project. It was confirmed that Mersey Gateway should be delivered as a tolled road, and a road user charging regime would also extend to the existing SJB in order to deliver the project benefits within the limited funding agreed with Government.
- 3.12 In developing the project, and as an expression of their ongoing corporate support for the project, Halton Borough Council has identified revised strategic objectives for the Mersey Gateway Project as follows (together with a brief explanation):
- To relieve the congested Silver Jubilee Bridge, thereby removing the constraint on local and regional development and better provide for local transport needs;

*The New Bridge would provide an alternative route across the River Mersey that is predicted to attract in the region of 80% of the existing traffic crossing the River by the SJB. As such, provided that both bridges are subject to tolls or charges, the Project will*

*meet this objective, allowing the redeployment of roadspace on the Silver Jubilee Bridge for local traffic, public transport, cycling and walking.*

- ii) To apply minimum toll and road user charges to both the Mersey Gateway Bridge and the Silver Jubilee Bridge consistent with the level required to satisfy affordability constraints;

*The proposed funding arrangements and tolling strategy maximise the opportunity for a private sector partner (the concessionaire) to offer a best value bid to the Council for the design build and operate contract (further explained below). The assumption is that toll levels will be commensurate with those charged for the use of the existing Mersey Tunnels.*

- iii) To improve accessibility in order to maximise local development and regional economic growth opportunities;

*The removal of a constraint on transport - both private and public - has been assessed as having real benefits in terms of accessibility and journey reliability. In addition to the Project itself, the Borough council is advancing planning policy designed to seize the advantages offered by the release of land by the project and potential for de-linking of the SJB in Runcorn as well as regeneration opportunities elsewhere in the Borough.*

- iv) To improve local air quality and enhance the general urban environment;

*The environmental impact assessment in respect of the Project has predicted that air quality and noise climates will improve in several locations as a result of the Project. Tolls are expected to constrain traffic growth resulting in reduced greenhouse gases in future years.*

- v) To improve public transport links across the River Mersey;

*At present public transport is reliant on the congested SJB. As a result of the project, public transport will benefit from freer-flowing traffic conditions. In addition, the borough Council is developing a Sustainable Transport Strategy designed to maximise the advantages offered by the Project.*

- vi) To encourage the increased use of cycling and walking; and

*The current, unattractive route between Runcorn and Widnes via the SJB will be markedly improved as a result of the Project. This, alongside the Sustainable Transport Strategy will allow the objective to be met.*

- vii) To restore effective network resilience for transport across the River Mersey.

*Part of the problems associated with the SJB are that as the only link between the Mersey Tunnels and M6 Thelwall Viaduct it has a significant strategic role. When it fails in this role significant problems result. Moreover, when either of the alternative crossings fail the extra traffic diverting to SJB results in chronic congestion. The provision of an alternative route within the Borough of Halton and at a more strategic level will provide greatly enhanced network resilience for all those people and businesses reliant on journeys that cross the River Mersey.*

- 3.13 It can be seen from the above that the Project as described elsewhere in this report will provide substantial transportation, environmental and regeneration benefits. Whereas the environmental statement submitted with planning applications for certain parts of the Project reveals some adverse effects, these are few and - balanced against the benefits of the project - are much more than outweighed by its positive aspects. In light of this, a compelling case exists, in the public interest, for the promotion and delivery of the project, including the acquisition of necessary land.

#### **4.0 CONSULTATION**

- 4.1 To inform the evolution of the Project, two clear strands of consultation have been undertaken over a six year period involving statutory consultees, business stakeholders, landowners, and resident focus groups, including:

- Consultation carried out prior to the Department for Transport confirmation of programme entry for the Project in March 2006 (advised on and managed by MVA Consultancy);
- Consultation after approval by the Mersey Gateway Executive Board on 18<sup>th</sup> June 2007 for 14 weeks between June and September 2007 (advised on and managed by DTW Consultancy) in line with a Consultation Strategy developed specifically for the Project.
- The key stages of pre-application and orders consultation have included the following:
- September-October 2002 - first consultation took place on crossing options in the form of focus group discussions with residents;
- February 2003 – assessment of route options with Resident Focus Groups and Business and Stakeholder workshops;
- July 2004 – following the selection of a preferred route, further consultation was undertaken with residents, major businesses, and 25 local authorities;
- October 2006 – following the initial design of the Project in March 2006, all affected landowners were contacted, advising of the possible impacts of the Project on their landholdings; and

- June-September 2007 – extensive public consultation was undertaken including 15 exhibitions throughout the Borough, editorial in Council publications, a new website, information campaign in local media, monthly e-newsletter, briefing events for local/regional businesses and groups, gateway newsletter, postal/phone/text feedback system and letters to general stakeholders, statutory consultees and regional MP's and MEP's.

## 5.0 THE MERSEY GATEWAY WORKS

- 5.1 In response to the aspirations of the Borough Council, the needs of the highway and transportation network and as a product of the consultation described above it has been possible to advance to a stage where a design for the Project can be identified. This then has certain additional characteristics in terms of other, ancillary aspects that are described in further detail below.
- 5.2 Members will be aware of the nature of the project in broad terms. However, this section of this report explains the scope and extent of the Mersey Gateway Project as it stands today.
- 5.3 The works can be divided into two broad categories:
- 5.3.1 Main Works - these are shown on the plan at **Appendix 1** edged blue and described at 6.11 - 6.37 and will be the subject of the proposed order under section 3(1)(b) of the Transport and Works Act 1992, to authorise the construction of the Mersey Gateway bridge and ancillary works; and
- 5.3.2 Remote Works, including SJB - these are shown on the plan at **Appendix 1** edged red and described at 6.38 - 6.47. These works are the subject of the other applications and orders required for the Project, which are also explained in this report by way of context.

### ***Route Description***

- 5.4 The works that comprise the Project run from the North West of Widnes to a junction with the M56 to the South of Runcorn. They also include the SJB. A scheme has been designed in outline to deliver the objectives of the Project, which is referred to as the "Reference Design". The alignment of the Reference Design is described in greater detail below.
- 5.5 The western extent of the proposed main alignment will be located in Widnes, along the A562 Speke Road to Liverpool, to the west of the existing Ditton Roundabout Junction (Junction of A562 and A533). The alignment will then head eastwards along the line of, and to the south of, Speke Road towards the Ditton Junction. It will then progress, via an embankment, across land currently occupied by industrial units

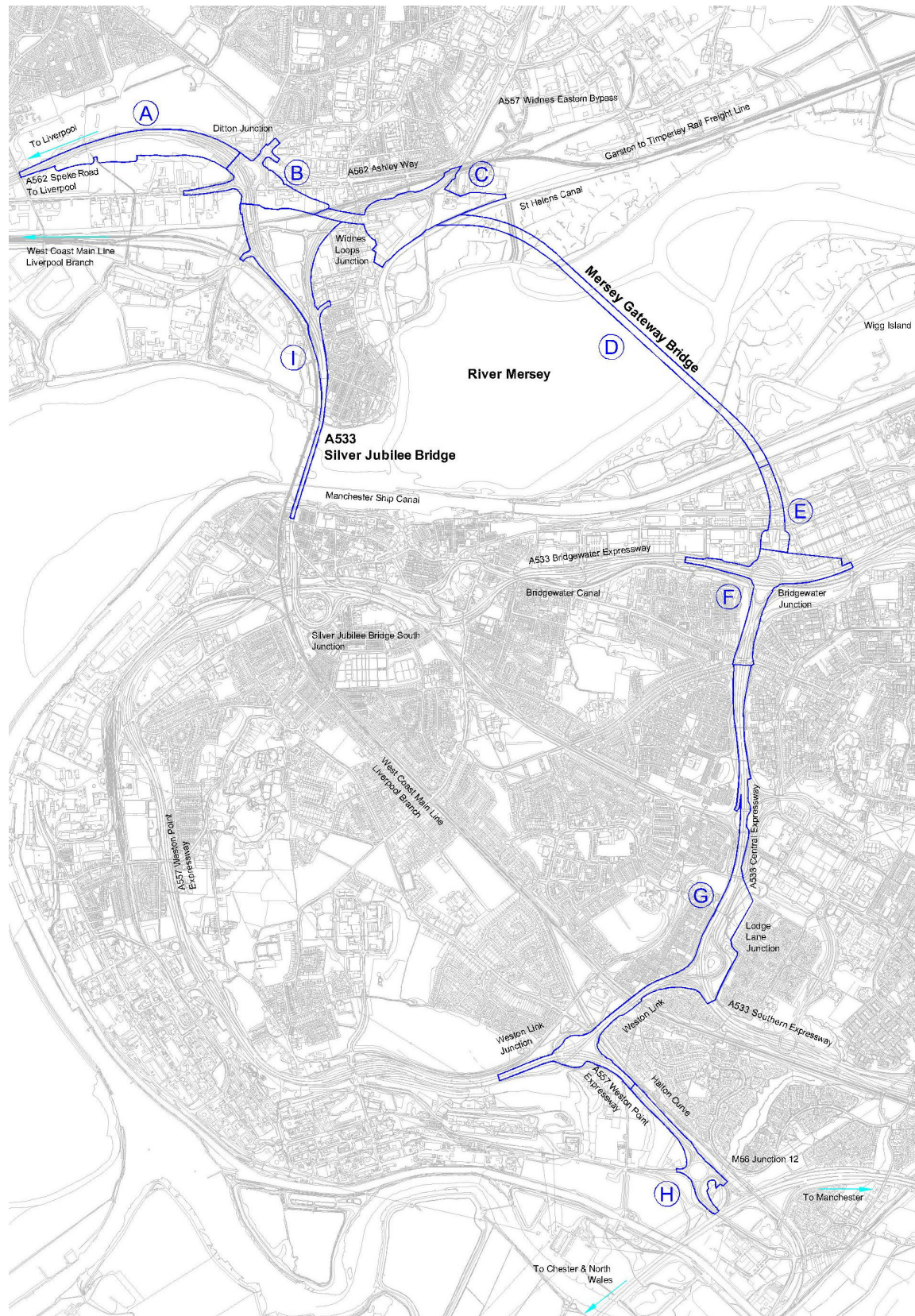


along Ditton Road and over the Garston to Timperley rail freight line, before crossing the alignment of the existing A557 Widnes Eastern Bypass (via a multi-span viaduct), the Catalyst Trade Park and the western corner of the Thermphos Chemical Works.

- 5.6 A new junction (the “Widnes Loops Junction”) will be formed with the A557 at this location. The alignment will then continue south eastward over the St Helens Canal, Widnes Warth Saltmarsh, the River, Astmoor Saltmarsh and Wigg Island, before turning south over the Manchester Ship Canal and Astmoor Industrial Estate. The alignment will then connect into the existing road network in Runcorn at the Junction of the A533 Bridgewater and Central Expressways with the A558 Daresbury Expressway (the Bridgewater Junction).
- 5.7 The route will continue south along the Central Expressway (A533) towards the junctions of the Central/Southern Expressways and the Weston Point Expressway/Weston Link (known respectively as the Lodge Lane Junction and Weston Link Junction). The alignment will finally join the M56 Motorway at Junction 12.
- 5.8 The main application sites for the Project are shown at Appendix 1. The areas shown edged red will comprise works for which planning applications have been made pursuant to the Town and Country Planning Act 1990 - see below. The areas shown edged blue will be the subject of an application under the Transport and Works Act 1992. Together, the areas edged red and edged blue are known as the “Project Area”.
- 5.9 It will be noted that the Project Area is wider than the Construction areas described below. This is because the Project Area includes all land anticipated to be reasonably required at the date of this report for the construction of the Project. This includes not only the land that will be occupied by the works themselves, but also the areas required for construction sites during the construction period. The final extent of these areas will be settled in due course when the final form of the Transport and Works Act 1992 Application is determined. However, all of the land that will be comprised in the final Project Area will be *necessary* for the purposes of the Project.
- 5.10 For the purposes of understanding and describing the works the structural, highway and construction works for the Project have been split into a number of parts (known as “Construction Areas”) (A to I as shown below on Figure 1). The construction areas include the following:
  - Area A – Main Toll Plazas;
  - Area B – Ditton Junction to Freight Line;
  - Area C – Freight Line to St Helens Canal including Widnes Loops Junction;
  - Area D – Mersey Gateway Bridge (the "New Bridge");

- Area E – Astmoor Viaduct;
- Area F – Bridgewater Junction;
- Area G – Central Expressway, Lodge Lane Junction and Weston Link Junction;
- Area H – M56 Junction 12; and
- Area I – Silver Jubilee Bridge and Widnes De-linking.

**Fig1: Mersey Gateway Project Construction Areas**



- 5.10 The following section of this Report provides a summary of the highway and structural design for the Project within each of these construction areas.

### ***Area A - Main Toll Plaza***

- 5.11 The Main Toll Plaza provides the location of where tolls may be collected for crossing the New Bridge. As the Project must provide for barrier tolling technology it is necessary to provide an area sufficiently large for vehicles to slow, wait and pass through barriers without having a detrimental effect on traffic flows. Toll plazas are situated on the North side of the Mersey only, because this minimises land-take, allows concentration of necessary resources and means that this type of work can be restricted in the extent and location of any of its effects. The toll plaza will require approximately four hectares of land to accommodate the northbound and southbound tollbooths and will be at or just above existing ground level. No major earthworks are envisaged because the land at this location is already relatively flat. Where the Toll Plaza is above ground then fill will be imported. Tolling structures will be required, which are likely to comprise canopies providing sufficient headroom over tollbooths and their equipment for normal traffic use.
- 5.12 Extended link roads to the north and south of the Main Toll Plaza carriageway that bypass the tollbooths will be provided to allow access from Speke Road to Ditton Junction for vehicles not wishing to use the New Bridge. The northern edge of the north link road will coincide with the northern edge of the existing southbound carriageway of Speke Road.
- 5.13 Stewards Brook and a public footpath pass beneath the existing Speke Road to the west of the proposed tolling areas. This brook is contained within a culvert which will need to be extended in length to the south to accommodate the increased width of the carriageway at that location. The public footpath will be diverted around St Michaels Road. Balancing ponds may be formed to the south of the new carriageway on either side of Stewards Brook to control the drainage water outfall flow rate into the brook.

### ***Area B – Ditton Junction to Freight Line***

- 5.14 Ditton Junction will be changed from a roundabout to a signal-controlled junction. The new carriageway will increase in level on an embankment as it approaches the new grade separated junction and will be taken over the new ground level link, between Ditton Road and Moor Lane South, on a new, two span bridge. The southbound on-slip and the northbound off-slip will also feature toll collection facilities.
- 5.15 An embankment of up to 9m high will be formed. This crosses land currently occupied by industrial buildings and a scrap metal yard and it

is assumed that these areas will require treatment (owing to contamination) prior to construction of the embankment.

- 5.16 Ditton Road is a long established corridor for services and many of these will need to be diverted to accommodate the revised highway alignment. These will include diversions of electricity, gas, water, sewage and telecommunications mains. The Scottish Power Manweb electricity substation adjacent to the Anglo Blackwell compound on Ditton Road will require relocation.

### ***Area C – Freight Line to St Helens Canal***

- 5.17 The following new structures and earthworks will be required in this section of the works:
- The Freight Line Bridge - a single-span bridge over the Garston to Timperley Rail Freight Line.
  - Victoria Road Viaduct - a high level, multi-span viaduct connecting the Freight Line Bridge to the edge of the Widnes Loops Junction including the crossing of Victoria Road.
  - Two bridges over the new Widnes Loops Junction carriageways.
  - Embankments carrying the new carriageway at high level.
  - A bridge to carry the Widnes Loops Junction southbound on-slip over itself.
  - Toll plazas connecting the Mersey Gateway to the Widnes Eastern Bypass.
  - The St Helens Canal Bridge - the high level bridge crossing the potential development corridor to the north of the St Helens Canal and the crossing of the St Helens Canal itself, which would then land on the north abutment of the Mersey Gateway Bridge.
- 5.18 This area forms the link between the New Bridge and the existing A557 Widnes Eastern Bypass that connects with Junction 7 of the M62 to the north. It will be formed primarily by substantial earthworks. The new road between the Freight Line and the Widnes Loops Junction will be carried on a multi-span reinforced concrete structure. The structures within the Widnes Loops Junction will either be portal or box structures in reinforced concrete constructed within the earthworks.
- 5.19 The new carriageway will be taken over the St Helens Canal on a new, reinforced concrete structure, integral with the north abutment of the New Bridge. It will be formed at a height sufficient to permit a further structure to be constructed under it to carry a future light rapid transit system (or similar) at a level to match the possible running surface within the New Bridge and still preserve the required headroom of 5m for craft that may at some future time use the canal.
- 5.20 During construction of the New Bridge, it is expected that the St Helens Canal area will form the main reception/transition area for the main bridge units that will form the decks. As such, it is assumed that it will

be necessary temporarily to infill the canal (maintaining its drainage water transfer function) to provide a working area. On completion, the canal will be reinstated with some minor changes to the alignment.

- 5.21 A corridor for the Trans-Pennine Trail cycle and footpath will be maintained throughout the works.
- 5.22 Upon completion of the Project a landscaping scheme will link the new earthworks with the leisure facilities offered by Spike Island, the St Helens Canal and the Trans-Pennine Trail.

### ***Area D – Mersey Gateway Bridge***

- 5.23 The New Bridge will have a total length of around 2.13km from abutment to abutment. The New Bridge will consist of approximately 550m of approach spans from the north abutment to the edge of Widnes Warth Saltmarsh, and 580m from the edge of Astmoor Saltmarsh, over part of Wigg Island, over the Manchester Ship Canal and onto the south abutment within the Astmoor Industrial Estate.
- 5.24 The New Bridge over the Estuary itself will consist of 1,000m of cable-stayed bridge, consisting of up to four spans supported by three towers. The towers will be circular with a diameter of about 10m at water level, but will taper and include architectural features throughout their height.
- 5.25 Typical span lengths of the approach viaducts are 70-100m with an overall deck depth of around 6m. Both approach viaducts are twin, separate structures supported on their own independent substructure. There will be a total of 30 piers on the saltmarshes. Each pier will be of reinforced concrete of about 2m by 5m and the height would vary between 12m (north) and 23m (south) to suit the vertical profile of the deck.
- 5.26 The three towers of the cable-stayed spans are assumed to be concrete below deck level and steel above. The overall height of the towers will be around 120 -140m above the River level. The decks of the cable-stayed spans will be twin parallel decks, similar in form to the approach viaducts, connected at positions of cable stay attachment. The cable stays are arranged in pairs in a harp (i.e. parallel) configuration.

### ***Area E - Astmoor Viaduct***

- 5.27 The new carriageway crosses the Astmoor Industrial Estate at a height of approximately 24m above existing ground level. The area will need to be cleared of existing light industrial buildings. On completion of the works, the area below the viaduct may very well be available for future development.

- 5.28 The area between the south abutment of the New Bridge and Bridgewater Junction will comprise a high-level, multi-span viaduct called Astmoor Viaduct. This will cross the existing industrial park at considerable height, linking the high level crossing of the Manchester Ship Canal with the new crossing of Bridgewater Junction.
- 5.29 This elevated structure will vary in width up to a maximum of 60m before the southbound slip road splits off onto a separate alignment. The structure splits again at the point where the northbound on-slip road merges with the main line. The main line of the New Bridge will remain at high level while the two slip roads will reduce in level to the south to allow the slip roads to tie in with the roundabout at Bridgewater Junction.
- 5.30 The northern end of Astmoor Viaduct will land on the southern side of the south abutment of the New Bridge. The south abutment of the Astmoor Viaduct will be approximately 85m wide and will be at three levels. The abutment wall will retain the end of the embankment up to Bridgewater Junction.
- 5.31 The viaduct will be 340m long and will comprise 12 spans; 20m end spans and 30m intermediate spans. The deck will be supported by reinforced concrete plate piers, approximately 2m long by 5m wide, with four separate piers at each bent (line of support).

#### ***Area F – Bridgewater Junction***

- 5.32 Like the Widnes Loops Junction, the Bridgewater Junction is a complex of structures and slip roads that provide grade separation and access to and from the Central Expressway (running north to south) and the Daresbury/Bridgewater Expressways (running east to west). The existing route through Daresbury/Bridgewater Expressway will be closed and brought into the new roundabout.
- 5.33 A two-level interchange is proposed with east-west movements at the lower level and the new road linking to the Central Expressway at the higher level. The lower level will contain the gyratory system, linking slip road movements. The upper level structure is likely to be a five-span steel and concrete viaduct. Similar construction materials will be used for the construction of the new slip road bridges over the Bridgewater Canal. The existing bridges over the Bridgewater Canal will be removed. However, the existing bridges over the Daresbury/Bridgewater Expressway will be retained, although they will no longer span a live carriageway.
- 5.34 The construction can be phased to coincide with routine winter closures of the canal. Retaining walls are also proposed so that adjacent slip roads at different levels to the main carriageway can be

kept tight within the junction without the need for an embankment therefore limiting land take.

- 5.35 Traffic management of the existing traffic flows during the construction phase will affect construction methods and materials. A major feature of the works in this area will be the requirement for demolition of the existing structures. Otherwise, the works are essentially self-contained and can therefore be undertaken independently from the other work areas.
- 5.36 The five-span high level viaduct will be about 150m long and 27m wide. The substructure will be of piled foundations and reinforced concrete piers. The superstructure will be of prefabricated steel or prestressed concrete beams to allow erection to fit in with the phased traffic management regime that will be required to maintain traffic flows during the works.
- 5.37 High abutment structures will be required at both ends of the New Bridge. The south abutment will be on the south bank of the Bridgewater Canal.
- 5.38 The two existing slip road bridges will need to be replaced with two new slip roads bridges on the new alignment of the slip road off the new roundabout. These will be single span bridges with prefabricated steel or pre-stressed concrete beams used to form the decks over the canal.
- 5.39 The existing highway alignment will be re-configured to incorporate the New Bridge and to change the priority of the existing expressways. The free flow link between the Bridgewater and Daresbury Expressways will be removed and replaced by linking into the new roundabout that will be formed at the centre of the junction.
- 5.40 The embankments between this junction and the Central Expressway will be modified for the alignment of the New Bridge and the re-aligned slip roads. This tie-in between the new carriageway and the existing Central Expressway will be at Halton Brow.

### ***Area G – Central Expressway, Lodge Lane Junction and Weston Link Junction***

- 5.41 Improvements will be required to the alignment of the Central Expressway to bring it up to current geometric standards and to manage its interface with the New Bridge. These should not involve significant earthworks and will be undertaken generally within the existing highway boundary.
- 5.42 The distance between existing junctions along the Central Expressway is too close to meet current merging and weaving standards. The current carriageway configuration will be modified so that the alignment



passes through this corridor with connections only at Bridgewater Junction and Lodge Lane Junction. This will be achieved by converting the existing hard shoulders into distributor lanes with no direct connection to the New Bridge at Halton Brow and Halton Lea Junctions. The existing hard shoulders will need to be strengthened to carry full highway loading and road markings and barriers will be added to prevent merging movements.

- 5.43 Existing footbridges will be replaced and/or reconfigured. To the south of the Halton Lea Junction the existing busway bridge will be replaced with a new bridge on an altered alignment.
- 5.44 Lodge Lane Junction will be modified to change the priority of traffic flow from the Southern Expressway to the Weston Link. The junction will be modified to make provision for dual two lanes of through traffic from the Central Expressway to the Weston Link with single lane slip roads for traffic movements to and from the Southern Expressway. These works will comprise the construction of a new single span bridge, along with modifications to the earthworks and highway alignment.
- 5.45 Weston Link Junction will be modified to change the priority of traffic flow from the northbound to the southbound section of the Weston Point Expressway. These works will use most of the existing junction layout. However, a new slip road will be constructed on the north side of the existing Weston Link Slip Road to allow traffic to slip onto the New Bridge from the northern section of the Weston Point Expressway.

#### ***Area H – M56 Junction 12***

- 5.46 The existing roundabout to the north of the M56 Junction 12 will be modified to include a signal controlled link directly across the centre of the existing roundabout for the main line of the new highway, leaving the outer roundabout segments for local turning traffic and for eastbound access to the M56 Junction 12. The works will comprise carriageway realignment and the installation of new traffic signals. A new retaining wall will be required to support the carriageway realignment on the south side of the roundabout.

#### ***Area I – Silver Jubilee Bridge and Widnes De-linking***

- 5.47 The opening of the Project will result in a significant reduction in traffic flow on the SJB. This will allow the downgrading of the carriageway on the existing bridge from two lanes in each direction to a single lane in each direction. This in turn will release space on the deck of the bridge to re-introduce footpaths and to provide a dedicated cycle path. These works will require the re-configuration of the deck layout and will involve kerbing, re-surfacing and the provision of new road markings.

- 5.48 The substandard footpath cantilevered on the eastern side of the SJB could then be closed, although its structure would be retained to support services.
- 5.49 A tolling plaza will be constructed on the existing carriageway of Queensway approximately 330m to the north of the SJB. The embankment and viaduct linking to the Widnes Eastern Bypass will be removed. The link to Ditton Junction will be downgraded to comprise just the existing slip road. The main carriageway and structures will be removed between the Queensway tollbooths and Ditton Junction.
- 5.50 The main link between the SJB and Ditton Junction (after passing through the tolling plaza) will be along the existing northbound slip road. This would be a two-lane single carriageway. A new signal controlled junction will be needed to replace the one-way off and on slips. The remainder of the existing dual carriageway to Liverpool will be closed to traffic and demolished.

## **6.0 TWA ORDER - MAIN WORKS**

- 6.1 In order to obtain authority to carry out the Main Works described above, an order made under s3 of the Transport and Works Act 1992 (the "TWA Order") will be required. The Main Works are described in section 5 above and are shown edged blue on the plan at Appendix 1. For ease of reference, these works comprise:
- 6.1.1 the main toll plaza and associated highway works (Area A);
  - 6.1.2 the highway works from Ditton Junction to the Garston to Timperley Rail Freight Line (Area B) and from the Freight Line to the St Helen's Canal (Area C);
  - 6.1.3 the Mersey Gateway Bridge (Area D);
  - 6.1.4 the new Astmoor viaduct (Area E); and
  - 6.1.5 works to the Bridgewater Junction (Area F).
- 6.2 The Main Works will interfere with rights of navigation in the River Mersey both in terms of the construction work required to build the Main Works and also the permanent structures that will be retained in the River, such as the towers for the bridge. Such works require specific statutory authority pursuant to s3 Transport and Works Act 1992.
- 6.3 The Main Works will also interfere with three other waterways (the St Helen's Canal, the Manchester Ship Canal, and the Bridgewater Canal) and a railway line (the Garston to Timperley Rail Freight Line), all of which require special powers. The TWA Order would confer such authority.

- 6.4 A TWA Order may also authorise works that are ancillary to any interference with navigation. This would include the Area A and Area B works that do not directly interfere with navigation themselves but are related to the elements of the Main Works that do interfere with navigation.
- 6.5 An order giving statutory authority is made by the Secretary of State on application by a promoter. In order to promote the TWA Order a local authority like the Borough Council must first obtain authority to do so by way of a resolution of the Council, passed by a majority of members eligible to vote. This is a requirement of s239 of the Local Government Act 1972 in respect of the promotion of or opposition to Bills, which also applies to the promotion of a TWA Order by s20 of the TWA 1992. It is recommended to the Council that it should resolve to promote a TWA Order for the purposes described in this report.
- 6.6 The Main Works will require planning permission. However, in this case it is not necessary to make an application to the Borough Council as local planning authority in the normal way. The Secretary of State may confer deemed planning permission pursuant to s90(2A) of the Town and Country Planning Act 1990 at the same time as making the TWA Order.
- 6.7 The works will require the acquisition of land owned by third parties and the TWA Order would confer powers of compulsory acquisition in respect of land and rights over and in land.
- 6.8 The New Bridge must also be the subject of tolls, which is described below. This would be secured by the TWA Order as well. The relevant provisions would comply with the Strategic Outline Business Case for the project approved by the Mersey Gateway Executive Board meeting on 7 April (report attached at Appendix 2). Officers are continuing to work up proposals in accordance with that strategy and subject to legal and financial advice.
- 6.9 The changes to the highway network required within the Main Works area would be authorised by the TWA Order.
- 6.10 The TWA Order will contain extensive additional provisions designed to secure the construction, maintenance and operation of the Main Works as part of the Project.

## **7.0 REMOTE WORKS AND SJB**

- 7.1 The statutory authority in relation to these works will be sought as follows:

7.1.1 Planning applications were made in respect of the Remote Works and SJB on 31 March 2008.

- 7.1.2 A Listed Buildings Consent application was made in respect of works to the Grade II listed Silver Jubilee Bridge on 31 March 2008.
- 7.1.3 The SJB must be the subject of tolls as described above. This would be secured by a scheme and order made under Part 3 of the Transport Act 2000 - a Road User Charging Order. The relevant provisions would comply with the Strategic Outline Business Case for the project approved by the Mersey Gateway Executive Board meeting on 7 April (report attached at Appendix 2). Officers will continue to work up proposals in accordance with that strategy and subject to legal and financial advice.
- 7.1.4 Compulsory Purchase Orders will be needed to secure third party property required for these works. Authorisation to promote these was given by the Executive Board on 10 April, the report in relation to which is attached at Appendix 3. (Note: the minutes relating to this meeting will be published during the course of this week and a hard copy will be provided for Members at the Council meeting.)
- 7.1.5 Where the existing highway network and private accesses are affected by these works Side Road Orders will be required under s14 Highways Act 1980. Authorisation to promote these was given by the Executive Board on 10 April, the report in relation to which is attached at Appendix 3.
- 7.1.6 In relation to both sets of works, certain land owned by the Council will be needed that is or may be public open space. To ensure that this can be used for the purposes of the Project it is necessary to *appropriate* the land. This means that instead of the land being held by the Council for one purpose, it will instead be held for another - that of the Project. Again, authorisation to promote these was given by the Executive Board on 10 April, the report in relation to which is attached at Appendix 3.

## **8.0 FINANCE**

- 8.1 It is anticipated that the Project will be procured as a Design Build Finance and Operate (DBFO) scheme. This means that an organisation, known as a concessionaire, will be responsible for the detailed design and for the construction maintenance and operation of the scheme. The concessionaire will also have to obtain finance that allows it to construct, operate and maintain the scheme for a defined period. They will repay the finance that they have raised over the period of the contract that they have agreed to, known as the concession period. For schemes of this nature the concession period is typically 30 to 40 years. Although the DfT is contributing funding to the Project, in the form of PFI Credit, the scheme will be funded mainly through the Private Finance Initiative (PFI). This means that the

concessionaire will have to raise the money through private finance methods, such as a loan from a bank, supported by PFI credit payments from the DfT.

- 8.2 Consequently, the finance for the Project would rely on revenue recovered from users of the Project through tolling and road user charging. To ensure robust revenue forecasts and to ensure that the Project will ease local congestion it is proposed that tolls / charges will be levied for use of both the New Bridge and the SJB (as explained in the Strategic Outline Business Case summary at Appendix 2). The tolling / charging regimes will also provide a mechanism to manage demand, so that free flow traffic conditions are maintained on the New Bridge and the SJB. This is intended to achieve demonstrable service reliability and standards.

## **9. POLICY IMPLICATIONS**

- 9.1 The project is a key priority for the Council which will deliver benefits locally and across the wider region.

## **10.0 IMPLICATIONS FOR THE COUNCIL'S PRIORITIES**

- 10.1 The implementation of Mersey Gateway will have significant benefits for all Council priorities.

## **11.0 RISK ANALYSIS**

- 11.1 The specific risks are reported in a detailed project risk register linked to the Council's corporate risk management regime.

## **12.0 EQUALITY AND DIVERSITY ISSUES**

- 12.1 Mersey Gateway provides an opportunity to improve accessibility to services, education and employment for all.

## **13.0 REASON(S) FOR DECISION**

- 13.1 The recommended decisions are required to support the delivery of Mersey Gateway.

## **14.0 ALTERNATIVE OPTIONS CONSIDERED AND REJECTED**

- 14.1 Alternative options for securing the powers to construct, maintain and operate, including tolling, the MG project have been assessed and rejected.

## **15.0 IMPLEMENTATION DATE**

- 15.1 The recommended decisions are required before the next phase of the statutory process takes place in May 2008.

**16.0 LIST OF BACKGROUND PAPERS UNDER SECTION 100D OF THE LOCAL GOVERNMENT ACT 1972**

- 16.1 Files maintained by the Mersey Gateway Project Team and by the Highways and Transportation Department