

# 1

## Scheme Description

The components of  
the Weston Package Phase 1



West of England Partnership

Bath & North East  
Somerset Council



North  
Somerset  
Council

South Gloucestershire  
Council



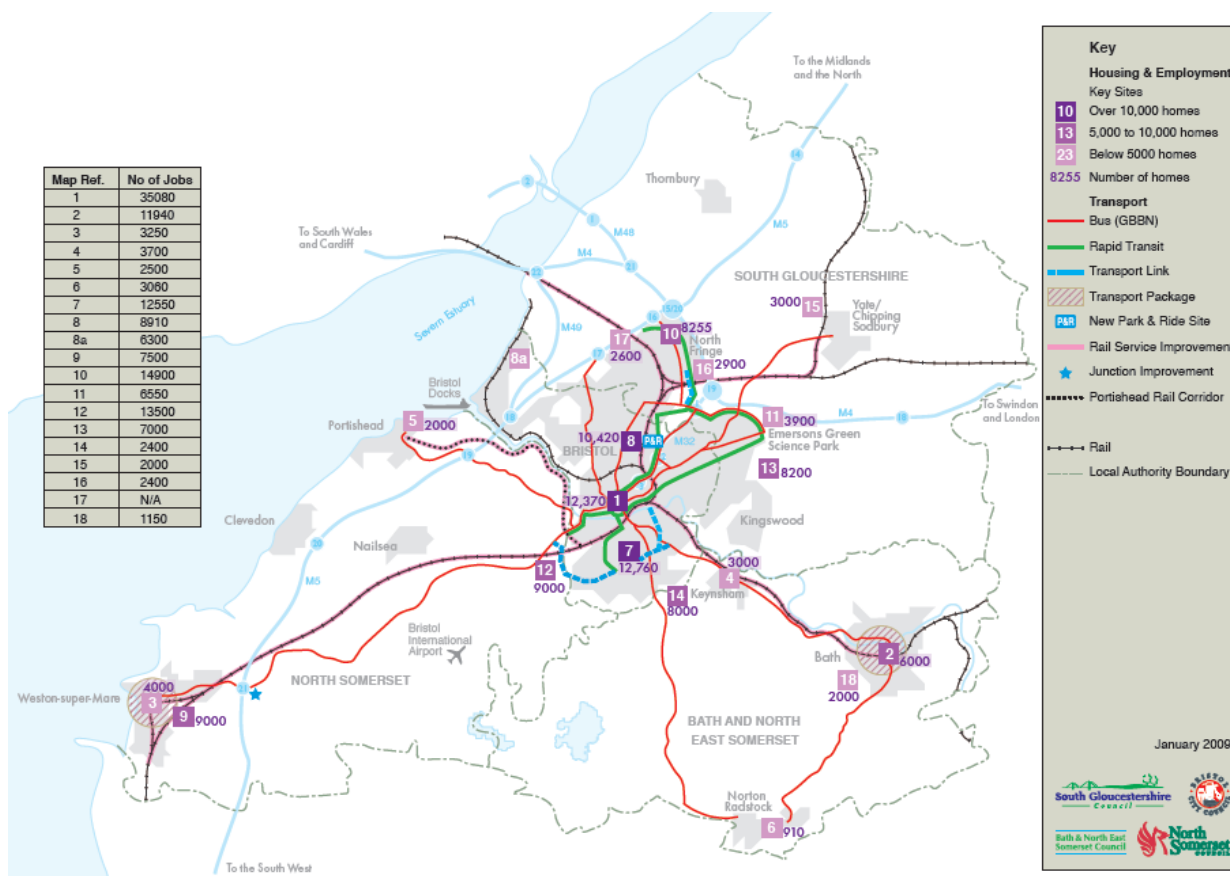
South West RDA



### 1.1 Introduction

The West of England is the economic hub of the South West. The strong economy is set to continue to grow with the South West of England draft Regional Spatial Strategy [RSS] identifying up to 138,500 new dwellings. Forecasts suggest that by 2026 the West of England economy would need to support an additional 138,000 jobs with a population increase of over 200,000 people. The proposed locations for development across the West of England in the draft RSS is shown in Figure 1.1.

Figure 1.1: West of England draft RSS Development Areas and RFA Transport Schemes



The West of England also faces significant transport challenges. Large scale housing growth and economic development over a number of years has not been accompanied by sufficient investment in transport infrastructure and this low level of investment, compounded by an unreliable public transport system, has resulted in high levels of congestion.

The West of England authorities are working together to deliver high quality transport infrastructure to reduce congestion and provide alternatives to the car that are a realistic choice for the majority of trips. This will meet the area’s growing needs whilst safeguarding its environmental and economic future. To continue our success and achieve our aspirations for economic,

environmental and social development we require ambitious but realistic visions for our future transport:

Our Future Transport Vision aims to

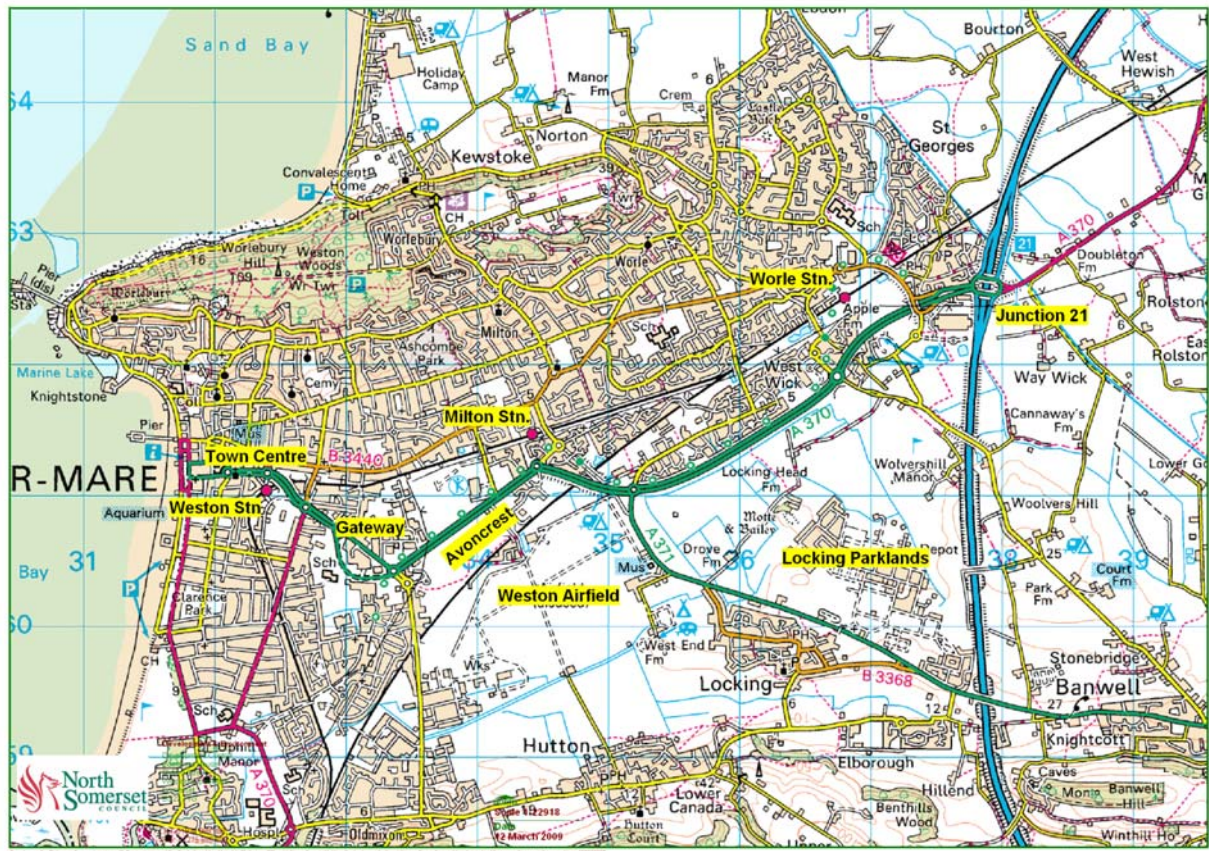
- Improve our quality of life
- Tackle congestion
- Improve road safety
- Improve air quality
- Improve access to job opportunities
- Help us get to work and school efficiently
- Strengthen the local economy

Major transport schemes identified in the Regional Funding Allocation [RFA] would address both existing and future transport issues (see Figure 1.1 above). The Weston Package Phase 1 [WP1] is one of these schemes.

Weston–super–Mare [Weston] lies within North Somerset, one of four unitary authorities in the West of England (the other three are: Bath & North East Somerset; Bristol City and; South Gloucestershire) that have joined together to deliver transport improvements through the Joint Local Transport Plan [JLTP].

Weston has a population of 86,600 and is defined as a Strategically Significant City or Town [SSCT] in the draft RSS. A map of the town is shown in Figure 1.2 below.

Figure 1.2 Weston-super-Mare

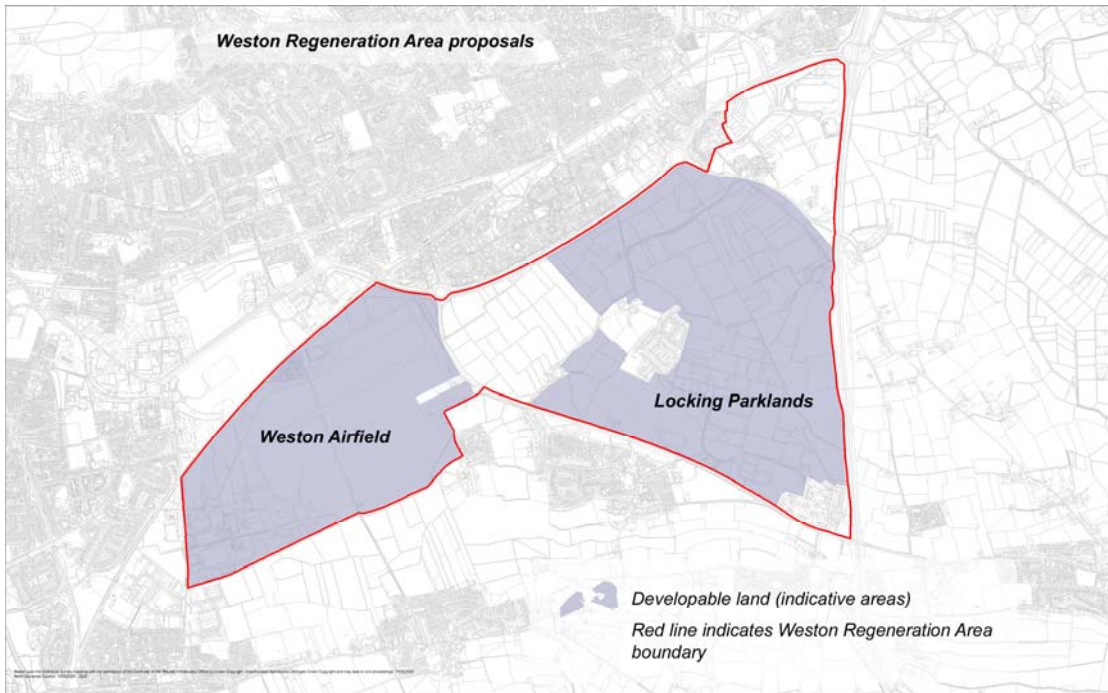


The draft RSS proposes significant development in Weston during the plan period:

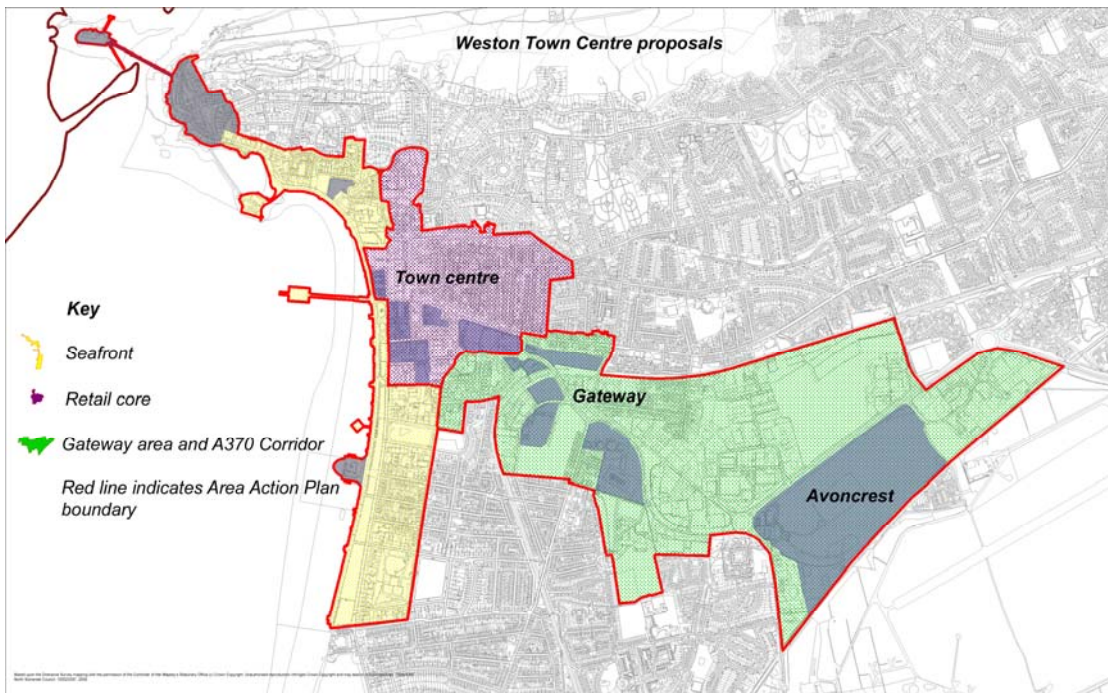
- Approximately 10,000 jobs, including the provision of 34ha of employment land; and
- 12,000 dwellings, of which 9,000 would be accommodated on sites in an area of search to the south-east of the town.

The area of search for this new development area comprises the former airfield [Weston Airfield] and a former RAF camp [now called the Locking Parklands area] plus adjacent land as shown in Figure 1.3. There are also redevelopment areas in the town, including the Avoncrest site (a former landfill), the Weston Gateway and several sites in the town centre, shown in Figure 1.4.

**Figure 1.3 Weston–super–Mare Potential Development Sites**



**Figure 1.4 Weston Town Centre Potential Development Sites**



**1.1.1 Why is WP1 needed?**

Weston has seen significant residential growth in recent decades, but a reduction in its employment base has led to high levels of out-commuting. North Somerset Council and its partners, including the South West of England Regional Development Agency [SWRDA], have been seeking to regenerate and rebalance the economy of Weston to reduce its reliance on tourism and

redress the loss of employment opportunities. The initiative was called 'A New Vision for Weston' and was published in 2002. The Vision recognised that the town has real strengths, but also a number of problems and issues, one of which was transport.

Whilst Weston's transport networks have been incrementally improved over time, through JLTP and developer funding, this has not kept pace with increasing demand for all modes of transport. These sources of funding would not be sufficient to deal with existing problems and to facilitate the employment-led regeneration. Hence, major scheme funding is required to kick-start major transport improvements in conjunction with funding from development and the JLTP. WP1 is an essential prerequisite to rebalancing the town's economy and delivering the draft RSS policies.

The WP1 major transport scheme comprises a series of improvements to the transport infrastructure of Weston-super-Mare, which would benefit a wide range of users and, of crucial importance, support the employment-led regeneration of Weston as defined in the draft RSS. The scheme has been identified as a regional priority through the Regional Funding Allocation [RFA].

This document comprises the Major Scheme Business Case for WP1 and has been compiled in accordance with the guidance issued by the Department for Transport [DfT], including the supplementary guidance on scheme 'decoupling' of 24 February 2009. The council is seeking Programme Entry for the scheme components contained in the 'Low Cost Option', because the additional scheme components in the 'Preferred Scheme' are reliant on developer contributions, which are delayed due to the impact of the recession; this would permit the Low Cost Option to be implemented as described. The council does, however, seek further guidance from DfT on what is required to progress the remaining elements of the Preferred Scheme.

Both options are described and appraised in full. Further progress on WP1 depends on it securing Programme Entry to the Major Schemes Programme.

WP1 is part of a larger programme of improvements in Weston which has included schemes that have been implemented through the JLTP, SWRDA's 'Civic Pride' initiative and from development. Weston is also benefiting from the Greater Bristol Bus Network [GBBN] major scheme, which includes bus routes between Weston and Bristol.

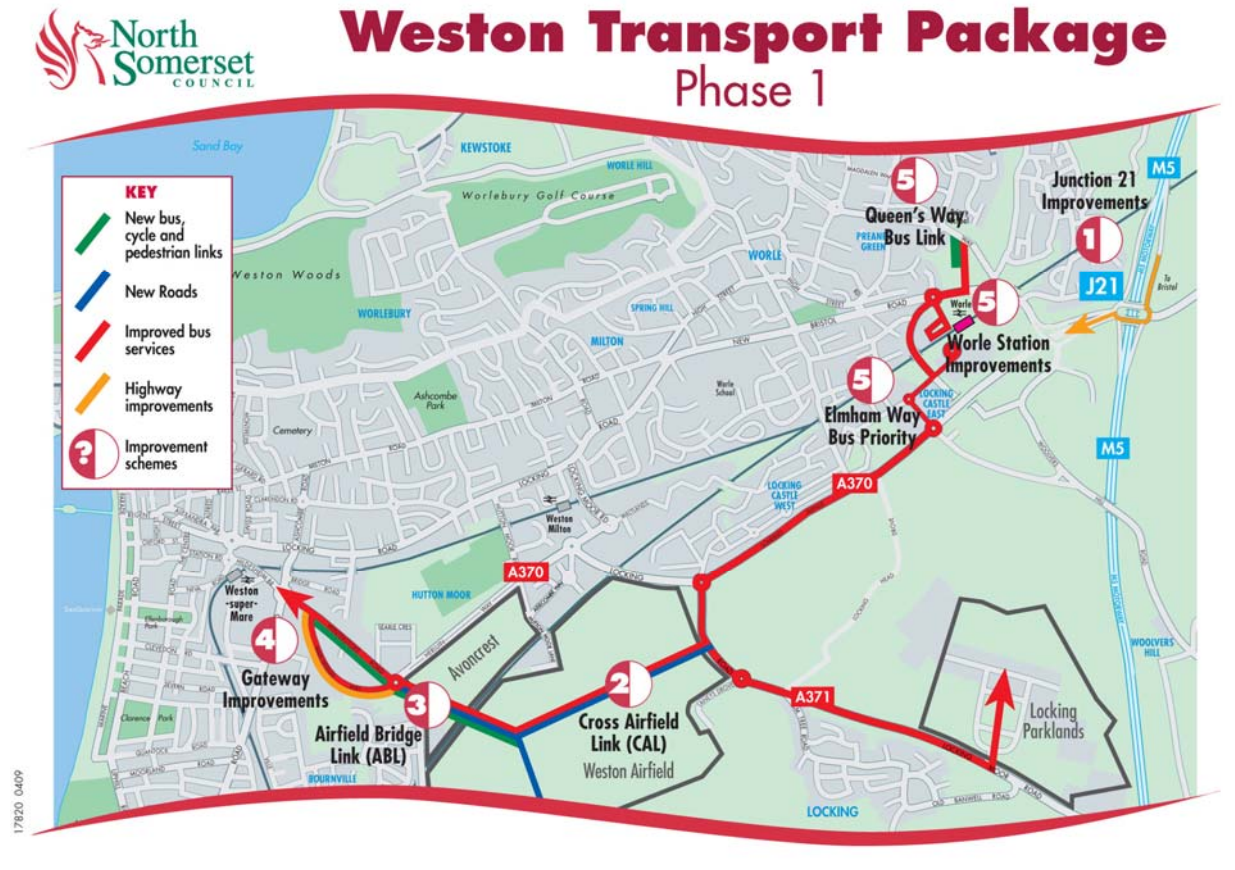
## **1.2 Scheme Description**

### **1.2.1 Preferred Scheme**

WP1 seeks to enhance the existing transport networks to address both existing and future issues. A summary plan of WP1 is shown in Figure 1.5

and described below. Detailed scheme drawings are in Appendix 1.1 of this submission.

Figure 1.5: The Weston Package Phase 1



The five component parts of WP1 are:

*1 – M5 Junction 21*

The proposed scheme is shown in Drawing CTRABN/001.

Congestion at M5 Junction 21 (A370) is a significant barrier to movement, both to and from Weston and along the M5 itself. This congestion is a constraint on existing businesses in Weston and is perceived as a deterrent to businesses moving to Weston. There is particular concern regarding the potential for tailbacks onto the M5. WP1 would provide targeted capacity improvements, namely:

- Widening 170m of the southbound off-slip from 2 to 3 lanes;
- Widening 70m of the A370 (east) approach from 2 to 3 lanes;
- Widening and/or marking out 3 lanes on the roundabout and on into Weston on 180m of the A370; and

- New traffic signals on the M5 off-slips and the A370 (east) approaches to the J21 roundabout.

All these improvements are within the highway boundary and the existing bridge structures can carry 3 lanes, although additional embankment support works are required on the south-west corner of the interchange.

This scheme would reduce queues on the M5 off-slips (northbound and southbound) and A370, especially in the PM peak period and it would reduce the incidences of queuing back onto the M5 itself. The scheme is supported by the Highways Agency (see Appendix 4.6), in light of both the safety benefits and because it supports employment led development in Weston. The scheme would reduce the risk of queuing back onto the M5 and therefore benefit the strategic road network in support of draft RSS policy TR2 (the M4 and M5). It would also support the draft RSS policy SR2 to promote employment-led growth in Weston, by addressing the concern of businesses about congestion at Junction 21.

## *2 - The Cross-Airfield Link [CAL]*

The CAL and the ABL are both shown together in overview in Drawing CTRABN/30/012 and in more detail in CTRABN/30/012/1 to CTRABN/30/012/10.

The CAL would provide a new highway across Weston Airfield, the western most part of the proposed new regeneration area that is described previously. The CAL would connect Winterstoke Road and the A371 Locking Moor Road and provide a strategic transport link between Somerset, south and west Weston and the M5 Junction 21. The CAL would also provide access to the Airfield regeneration site and relief for the increasingly congested sections of the A370.

The CAL has outline planning approval (April 2008) as part of the first phase of employment development on the site, subject to agreement of a Section 106 agreement.

The approval is for a single carriageway road 2.4km in length, four roundabout junctions and parallel shared-use foot and cycle ways. The proposed CAL is 7.3m wide single carriageway. A 3.0m wide segregated shared pedestrian and cycleway will be provided along the northern side of the new road with a 3.0m footway along its southern edge. Both the cycleway and the footway will be segregated from the carriageway by 5.0m verges which are to be planted with trees to create a boulevard along the road's length. The scheme design includes Toucan crossings in strategic locations.

A proposed new 'showcase' bus service would use the CAL, which would initially be funded by developers until commercially viable. As with similar

GBBN funded showcase bus services, the route will benefit from bus priority, low-floor buses, high quality passenger information including Real Time Information (RTI), and high quality passenger waiting facilities. The wide verges offer the potential for the creation of additional bus lanes in the future.

Roundabout junctions would be built where the CAL joins the existing highways (Roundabouts 1 and 4). These would be constructed first to allow access to the site and are included in the Do Minimum and are not therefore part of WP1. In addition, two smaller roundabouts (Roundabouts 2 and 3) would be provided in the middle of the new route, which allows a 90-degree change of direction to accommodate the most efficient site layout. The northern most of these internal roundabouts (Roundabout 3) would be modified to accommodate the Airfield Bridge Link. A number of minor accesses to the development site would be provided along the CAL.

The scheme design will address a number of issues posed by the site conditions. The significant issues are contaminated land through the industrial estate, flood risk, the existing runway pavement, statutory undertakers' equipment and ecology.

The scheme design mitigation features will include provision of a network of rhynes and wetland areas to manage flood risk and water quality, and will also support semi-natural habitats. Road levels will be elevated on embankment above 1 in 100 year flood levels and there will be on site recycling of the runway pavement and avenue tree planting.

The site geology consists of marine and estuarine alluvium with some silts and sands up to 14m thick. The alluvium has a desiccated crust of between 1m and 2m thickness. Settlement of roads can be expected and will be taken into account in the design, particularly where the route crosses onto the pre-consolidated ground beneath the runway.

The varied previous land uses, in particular the industrial area to the south-western corner of the site, will require the development of a contamination remediation strategy to make use of the land and fill in a sustainable way.

### *3 – The Airfield Bridge Link [ABL]*

Figure 1.2 shows that the main railway is a barrier to movement between the existing town and the regeneration area. The ABL is the key to overcoming this barrier by providing a new route between the Airfield, the wider regeneration area and the town centre. Without this link, users would have to use more circuitous routes via Winterstoke Road or the A371 /A370 Herluin Way, on which congestion would increase. Similarly, the effectiveness of the proposed new bus service between the town and the regeneration sites would

be reduced because it would have to use existing, longer and congested routes.

The scheme consists of a new all purpose highway and bridge linking the CAL and Winterstoke Road via the Avoncrest redevelopment site. The land required on the north of the railway is owned by the council (but with a long-term lease to a developer) or is owned by the British Rail Board. The land to the south of the railway is part of the Airfield redevelopment site. The owners of the development sites through which the ABL would pass have indicated support for the ABL in principle, but further detailed negotiations would be required.

The main 0.75km section of the ABL across the railway is a 7.3m single carriageway with 3.0m foot and cycle ways on both sides. At the northern end, the road is widened to provide space for additional lanes and signal junctions, including an access to the Avoncrest redevelopment site and a new junction with Winterstoke Road, which would replace the two small existing roundabouts (see drawing CTRABN/30/012/8).

Much of the ABL is on embankments in order to cross the railway. The preferred route crosses the Avoncrest site, which is an old waste disposal tip and known to be producing gas and effluent emissions. A settlement risk is associated with the tip which, when combined with the weak and highly compressible alluvium and peat deposits would require an extensive piled foundation over most of the route north of the railway section. This approach, which would also be required for the bridge over the railway, would ensure that future maintenance costs are minimised and allow adequate gas migration control measures to be included. The embankment to the south of the railway would be constructed on a load transfer platform piled to bedrock.

#### *4 – Weston Gateway*

The proposals are shown in Drawings CTRABN/30/008 and CTRABN/30/005 and consist of (a) works in the Gateway and (b) at Drove Road roundabout.

The Weston Gateway is an area astride the A370 between the town centre and the regeneration area. Through the Gateway, the A370 is split into two one-way carriageways with two lanes in each direction, which start/finish at large roundabout junctions with Winterstoke Road/Herluin Way and Drove Road. The roads not only provide the main traffic route to/from the town centre and the seafront, but also access to adjacent retail units and businesses.

In the Gateway area, WP1 proposes widening the westbound highway (Marchfields Way) from two to four lanes, with associated intermediate junctions (one signal, one roundabout) and crossings. Marchfields Way would

become the route for through traffic in both directions. The existing eastbound highway (Winterstoke Road) would be remodelled as a local access route and a route for buses and cyclists with a bus-only section to prevent its use by potential through traffic.

A new roundabout would be required at the junction of Marchfields Way and Winterstoke Road (adjacent to the gasworks redevelopment site). The existing Winterstoke Road signal controlled gyratory would be modified to accommodate the traffic arriving from the new layout. All the land for this scheme is within council ownership.

In addition to these improvements the existing Drove Road roundabout would be geometrically modified, to accommodate the increased flows, whilst a town-bound bus lane is provided on Winterstoke Road. A small element of third party land (from the gasworks) may be required for this part of the scheme.

### *5 – Worle Station*

The proposals for Worle station have three elements: (a) a new station car park (Drawing CTRABM/050/G2); (b) a bus way at Queen's Way (Drawing CTRABN/30/006-2) and; (c) bus priority and traffic management on Elmham Way (Drawing CTRABN/30/002).

Worle station is served by both local and inter-city rail services and a summary of services is contained in Section 2.2.3. Worle caters for residents and businesses that have grown up around the station in recent years. Until last year, the only access and car parking for Worle station was from the north platform, despite ongoing development to the south. In 2008 however, a new footpath access to the south platform was opened by the council in partnership with Network Rail and First Great Western.

Demand for the current (193 space) north side car park often exceeds supply on weekdays and parking overflows into nearby residential streets and the business park. Although the north side car park has a defined bus stop and turning area it is not currently used, hence Worle is not well served by local bus services, the nearest stop being over 300m distant.

WP1 would complement the new southern access by providing a new 320 space car park, a bus interchange, a drop off and pick up point and motorbike and cycle parking on council owned land south of the station. In addition, facilities in the existing north side car park would be improved, including a bus interchange, together with improved passenger waiting facilities on the station itself. There would also be improvements to passenger information, including guidance signage for different bus services from each platform.

The south side bus interchange facilities would be used by a new service to the eastern redevelopment site, which includes the Locking Parklands area. The north side would be served by extending existing local bus services to the station.

Bus priority on routes to and from the station would be provided, namely:

- 80m bus only link along the old Queen's Way road to help buses get to the station from an existing suburban terminus at Sainsbury's (Drawing CTRABN/30/006-2); and
- 180m of bus lanes on Elmham Way to assist southbound buses from the station (Drawing CTRABN/30/002). This section of road suffers from tailback queues from the A370. The scheme will also assist local movements to the Morrison's supermarket, provide new and improved traffic signal control facilities benefiting all road users and provide improved pedestrian and cycle facilities including additional crossing facilities.

#### *Bus Services Facilitated by the Package*

WP1 would facilitate improvements to both existing and anticipated bus services in Weston. The existing network is shown in Figure 2.4 in Section 2.2.3 and the proposed services are shown in Figure 1.5 and summarised as follows:

- The existing 'showcase' service 7 (every 10 minutes) would be extended into Worle station north bus interchange via the WP1 Queen's Way bus link;
- The existing developer funded service 16 (hourly) would use the WP1 bus lanes on Elmham Way;
- The anticipated (pump primed with developer funding) 'showcase' bus service (every 15 minutes) between the town centre – Gateway – Weston Airfield – Locking Parklands area would utilise the WP1 schemes in the Gateway, the ABL and the CAL; and
- The anticipated (pump primed with developer funding) bus service (half hourly) between Locking Parklands area – Weston Airfield – Worle would utilise the CAL, Elmham Way bus lanes and Worle station south bus interchange.

### **1.2.2 Low Cost Option**

The WP1 Low Cost option comprises all of the Preferred Scheme elements described above except the CAL and the ABL. The frequency of the new bus route between the town centre – Weston Airfield – Locking Parklands area

would be reduced from every 15 minutes to every 30 minutes because its route would be lengthened without the CAL/ABL.

### 1.2.3 Summary of Schemes

Table 1.1 below summarises the elements of WP1 in each of the Preferred Scheme and the Low Cost Option described in the sections above.

**Table 1.1: Elements of WP1 in each Option**

| Element                         | Preferred Scheme | Low Cost Option |
|---------------------------------|------------------|-----------------|
| 1 – M5 Junction 21 Improvements | ✓                | ✓               |
| 2 – Cross Airfield Link         | ✓                | ✗               |
| 3 – Airfield Bridge Link        | ✓                | ✗               |
| 4a – Town Centre Gateway        | ✓                | ✓               |
| 4b – Drove Roundabout           | ✓                | ✓               |
| 5a – Worle Station Improvements | ✓                | ✓               |
| 5b – Queen’s Way Bus Link       | ✓                | ✓               |
| 5c – Elmham Link Bus Priority   | ✓                | ✓               |

### 1.2.4 Phasing and Construction Proposals

#### *Impact of the Recession on Phasing*

The recession has had a significant impact on WP1. At the early stages of WP1 development in 2007 it was expected that the Airfield developer would provide the CAL by 2016. The CAL has outline planning approval (April 2008) as part of the first phase of employment development on the site although this is subject to agreement of a Section 106. Since the approval was granted, the declining economic situation has meant that agreement on the Section 106 has been delayed. As a result the timetable for completion of the CAL could not be guaranteed to coincide with the proposed timetable for WP1.

The importance of the CAL to Weston is such that it has been incorporated into WP1 the Preferred Scheme and fully appraised on the basis of it being implemented within the RFA window. The funding for the CAL and its preparation is assumed to come in full from developer contribution. That being said, at the time of writing, this contribution is not secured but negotiations are ongoing.

In consequence, the council, in accordance with the DfT's guidance on 'decoupling' dated 24 February 2009, wishes to promote the Low Cost Option as a first phase, with the remaining elements in the Preferred Scheme in a second phase to be agreed with the South West of England Regional Assembly and DfT.

The Low Cost Option has been fully appraised and could be implemented within the RFA window. It would be fully funded by a combination of council capital, the RFA and secured (i.e. with Section 106 agreement) contributions. This, plus the council's contribution to the preparation costs and the value of land, would provide the requisite local contribution to WP1 Low Cost Option.

### *Phasing*

Whilst it is not currently anticipated that the CAL and ABL could be completed before 2016, for the purposes of a consistent appraisal, the Preferred Scheme has set aside the impact of the recession and assumes the following outline programme:

- September 2009 – Programme Entry;
- March 2011 – bid for Conditional Approval;
- June 2011 – Conditional Approval;
- March 2012 – bid for Final Approval;
- April 2012 – Final Approval;
- May 2012 – construction start;
  - M5 Junction 21, September 2012 – December 2014;
  - CAL, February 2013 – January 2015;
  - ABL, February 2013 – January 2015;
  - Gateway and Drove Roundabout, September 2012 – December 2014;
  - Worle Station, Elmham Way and Queen's Way Link, May 2012 – April 2013; and
- January 2015 – programme complete.

A more detailed programme is shown in Appendix 4.1.

The following outline programme for the Low Cost Option is considered realistic in the current economic environment:

- September 2009 – Programme Entry;
- December 2010 – bid for Conditional Approval;
- April 2011 – Conditional Approval;
- December 2011 – bid for Final Approval;

- January 2012 – Final Approval;
- February 2012 – construction start;
  - M5 Junction 21, September 2012 – December 2014;
  - Gateway and Drove Roundabout, September 2012 – December 2014;
  - Worle Station, Elmham Way and Queen’s Way Link, February 2012 – January 2013; and
- December 2014 – programme complete.

A more detailed programme is shown in Appendix 4.1.

### *Construction*

Construction of the Junction 21 scheme would require traffic management works including temporary lane closures and possibly overnight slip-road closures which would be agreed with the Highways Agency. There would be no construction work or traffic restrictions during the summer moratorium on works on the M5 and lane closures would not be permitted during other holiday periods.

As a new off-line link, construction of the CAL would have a minimal impact on existing travellers. Site access traffic would use the new roundabouts at either end of the CAL, as provided by the developer separate to the WP1. The ABL would be accessed from Winterstoke Road at its northern end and via the CAL as it is completed. The junction of the ABL with Winterstoke Road would be reconstructed from a roundabout to a signal junction and this would require traffic management, as Winterstoke Road would need to remain open.

With regard to the Weston Gateway scheme, the widening of the A370 Marchfields Way would largely be constructed parallel to the existing road with occasional lane closures required. The new and improved junctions would require traffic management works, including occasional lane closures. Lane restrictions would not be permitted during summer and other holiday periods.

Construction of Worle station car park and Queen’s Way bus link would not have an adverse impact on road users, other than the movement of construction vehicles to and from the sites which is not anticipated to be significant. The works on Elmham Way would require traffic management, including some off-peak lane closures, and access to the adjacent retail centre would be maintained at all times.

### 1.3 Do Minimum

The Do Minimum transport networks include only committed traffic management schemes, all of which are of a minor nature. Accesses to development sites include the CAL roundabouts on the A371 and Winterstoke Road for Weston Airfield and a signal junction on the A371 for Locking Parklands area.

The only major transport scheme is the GBBN, which will be completed by 2011 and covers the routes of Bristol – Weston bus services X1, 350, 351, 352 and 353 (bus routes are shown in Figure 2.5 in Section 2). The main features of GBBN comprise upgrading existing traffic signal junctions to MOVA, bus stop improvements, a westbound set-back bus lane on the A370 approach to Junction 21, Bus Detection and Real Time Information systems.

Network Rail is planning to re-double Worle Junction in 2010/11, this is the junction between the main line and the Weston Loop. This should improve the reliability of services in Weston, but is not anticipated to result in a significant change in the pattern of services.

The bus services are assumed to remain as at present (February 2009) with the addition of the following developer funded routes:

- The anticipated developer funded showcase bus service (every 30–minutes) between the town centre – Gateway – Weston Airfield – Locking Parklands area; and
- The anticipated developer funded bus service (half-hourly) between Locking Parklands area – Weston Airfield – Morissions car park.

## Chapter 1 – APPENDICES

### 1.1 Scheme Drawings

