



# CARDIFF'S INTEGRATED TRANSPORT HUB

STAGE 3 FULL BUSINESS CASE STAGE REPORT

Cardiff Council

14/08/2017

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## 1 EXECUTIVE SUMMARY

### 1.1 INTRODUCTION

- 1.1.1 The bus station closed in August 2015. Additional on-street bus stops and accommodation works were undertaken as an interim measure to increase bus stand capacity across the City Centre. Resolution to grant planning permission for Cardiff's Integrated Transport Hub was approved by Cardiff Council's Planning Committee on 1st March 2017. Planning permission is subject to the signing of a Section 106 Agreement.
- 1.1.2 The building that will house the Integrated Transport Hub is being funded through a partnership arrangement with a developer. Capital funding is required for the fit-out of the Integrated Transport Hub, highway accommodation works and supporting highway improvements to ensure that the benefits are fully realised.

### 1.2 STRATEGIC CASE

- 1.2.1 The development of a multi-modal transport hub at Cardiff Central in conjunction with the re-development of Central Square is crucial to the development of the strategic public transport network in Cardiff, the wider region through the Metro project and nationally. It will make a significant contribution towards achieving all five of the Welsh Government's strategic priorities for transport and the outcomes of the Well-being of Future Generations (Wales) Act 2015. It will impact positively towards achieving the transport connectivity required to sustain the economic competitiveness of the Cardiff city region with other UK cities and city regions and maintain its attractiveness to business investors.
- 1.2.2 The regeneration of Central Square is a key Council priority which aims to create a new capital city gateway based around a modern public transport interchange. As part of this, the masterplan for the regeneration of Central Square involves the relocation of the existing bus station. As part of freeing up the site of the existing bus station for development, the Council's aim is to deliver a new interchange with even better connections to Cardiff Central railway station and with better potential to operate effectively during major events and at night on the weekends.
- 1.2.3 The scheme will improve access for all to employment opportunities, services, healthcare, tourism and leisure facilities, and is well integrated with the development of the surrounding area and facilitates easy access to the centre of the city, Cardiff Bay and the Enterprise Zone containing 70,000 jobs.

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## 1.3 TRANSPORT CASE

1.3.1 The benefits of the interchange are as follows:

- Provides a High quality gateway to the Capital and surrounding region;
- Links to Enterprise Zone;
- A Focus for Active Travel and encouraging healthy lifestyles;
- High quality safe and secure facility that supports connections to Cardiff Airport and London via Cardiff;
- Encourage sustainable travel and reduce traffic flows in the City Centre and improve the environment;
- Improve accessibility to employment, business opportunities, education, health, services, leisure, tourism and shopping; and
- Provide short and long term benefits for future capacity and integrated travel needs.

1.3.2 In addition to the qualitative social, environmental and economic benefits that the Integrated Transport Hub will provide, the quantified economic benefits are estimated to be between £123 million and £197 million. The total cost of the fit-out of the Integrated Transport Hub, highway accommodation works and supporting highway improvements is estimated to be approximately £12.2 million. Therefore, the indicative ratio of benefits to costs is estimated to be between approximately 10 and 16.

## 1.4 DELIVERY CASE

1.4.1 Most of the constraints to delivery that were originally identified have been overcome. The residual constraints are the availability of funding for the fit-out of the Integrated Transport Hub, highway accommodation work and supporting highway improvements needed to realise the full benefits. The operation of the Integrated Transport Hub will be subject to contractual arrangements to be procured and the willingness of bus operators to cooperate with the operation management arrangements required to make the facility safe, secure, attractive and efficient.

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## 1.5 FINANCIAL CASE

1.5.1 The building that will house the Integrated Transport Hub is being funded in partnership between Cardiff Council and the developer. The Council's development partner Rightacres Property Ltd has managed to secure a major office headquarters investment to anchor the regeneration scheme on the site of the former bus station. On the 8th June 2014, BBC Cymru Wales announced its decision to relocate Broadcasting House from Llandaff to the city centre to anchor the Central Square regeneration scheme (circa £170 million investment). In October 2015, Legal & General announced a £400m funding deal with Rightacres Property Limited to support the development of Central Square. Funding to the sum of £12.2 million is required for the fit-out of the Integrated Transport Hub, highway accommodation works and supporting highway improvements needed to realise the full benefits.

## 1.6 COMMERCIAL CASE

1.6.1 The Integrated Transport Hub is intended to be operated on a contractual basis with a private operator. The management of the facilities will be procured. The revenue generated from the facility will be used to fund the ongoing running costs including staffing, cleaning, maintenance and security.

## 2 INTRODUCTION

### 2.1 STAGE ONE: STRATEGIC OUTLINE CASE

2.1.1 The Stage One appraisal was undertaken when the original bus station was in operation and was completed in December 2010 in accordance with WelTAG Guidance dated June 2008. The bus station closed in August 2015.

2.1.2 The process of developing and agreeing options has been subject to review through the Cabinet (Review Group as described in the WelTAG 2017 Guidance) reporting process and oversight of the Environmental Security Committee. Stakeholders have been involved in workshops held as part of the WelTag procedure. Those attending included relevant officers of the Council with planning, project management and transportation expertise and external stakeholders represented by:

- Bus Users UK Cymru;
- Confederation of Passenger Transport Cymru;
- Passenger Focus;
- Sustrans;
- Traveline Cymru; and
- Welsh Assembly Government.

2.1.3 A workshop was also held with Cardiff Council's Access Focus group, which includes representatives from:

- Cardiff and Vale Coalition of Disabled People;
- Cardiff Institute for the Blind;
- Environment Agency;
- Guide Dogs;
- Older Person's Group;
- Cardiff Young People First representatives; and
- Welsh Assembly Government.

2.1.4 A separate workshop was held with bus operators, attended by representatives from:

- Cardiff Bus;
- Confederation of Passenger Transport Cymru;
- First Cymru;
- National Express;
- Newport Transport;

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- Stagecoach in South Wales; and
  - Welsh Assembly Government.
- 2.1.5 A paper was distributed in advance of each of the workshops, which provided a brief summary of the WelTAG process and draft options for discussion. Each workshop was independently facilitated and followed the same format. The facilitator was responsible for recording the discussions at each of the workshops.
- 2.1.6 The workshops comprised a mixture of small group and whole group discussions and covered the following aspects:
- Introduction and context;
  - Analysis of problems, constraints and opportunities;
  - Development of Transport Planning Objectives (TPOs);
  - Discussion of future development options; and
  - Testing options against the TPOs.
- 2.1.7 The problems, constraints and opportunities of the study area are the drivers for a transport intervention and provide the evidence base for the development of the TPOs. At each workshop the problems (existing and future) and constraints of the study area, as well as the potential opportunities within the transport and land-use system were discussed in small groups. The outcomes were then fed back to the whole group for further discussion.
- 2.1.8 The TPOs establish the context of the study by stating clearly what is to be achieved. The appraisal of options against the TPOs provides sufficient detail to compare options and identify the options that best address the problems. The outcomes of the Welsh Assembly Government's Wales Transport Strategy and the Welsh Assembly Government's strategic priorities for transport informed the development of the TPOs in each workshop
- 2.1.9 In each of the workshops the TPOs were developed in small groups and were then presented to the whole group for further discussion. A shortlist of objectives was then agreed by the whole group.
- 2.1.10 An extensive public consultation was also carried out, as a standalone exercise targeting bus users and via Ask Cardiff to capture non bus user views. Almost 3000 responses were received.
- 2.1.11 The Problems, Constraints and Opportunities identified are summarised in the tables below (see **Table 1:** Summary of the Problems, **Table 2:** Summary of the Constraints and **Table 3:** Summary of the Opportunities).

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**Table 1: Summary of the Problems**

<b>Problem 1</b>	Negative image and perception of public transport
<b>Problem 2</b>	Passengers find the current system difficult to use
<b>Problem 3</b>	The bus station is in a poor condition. There are particular issues with disabled access, safety and security (especially at night)
<b>Problem 4</b>	Commuting into Cardiff continues to grow. Public transport passenger numbers in the future are projected to grow by between 25-50% (approximately 42% over 25 years from 2008 to 2033, Source: StatsWales Population Projections).
<b>Problem 5</b>	Bus services are perceived to be unreliable and infrequent
<b>Problem 6</b>	Integration between transport modes in the city centre is difficult, especially as not all bus services use the bus station

**Table 2: Summary of the Constraints**

<b>Constraint 1</b>	Land ownership e.g. Network Rail own land south of the railway line
<b>Constraint 2</b>	Political and public acceptability
<b>Constraint 3</b>	Little influence on bus and rail operators
<b>Constraint 4</b>	Few available development sites
<b>Constraint 5</b>	Land values in the city centre
<b>Constraint 6</b>	Rail line divides north and south areas
<b>Constraint 7</b>	Constrained by surrounding buildings, commercial leases and planning applications
<b>Constraint 8</b>	Event days
<b>Constraint 9</b>	Capacity of the road network

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<b>Constraint 10</b>	Availability of funding
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**Table 3: Summary of the Opportunities**

<b>Opportunity 1</b>	Catalyst for wider urban redevelopment and investment
<b>Opportunity 2</b>	Cater for future demand
<b>Opportunity 3</b>	Reduce disruption on Event days
<b>Opportunity 4</b>	Make public transport an attractive option and reduce use of the car
<b>Opportunity 5</b>	Improve bus reliability and restrict car use in the city centre
<b>Opportunity 6</b>	Create a state of the art gateway to Cardiff and change first impressions of the city
<b>Opportunity 7</b>	Interchange for all modes in one location, with drop-off and taxi facilities, which is especially important for those with disabilities
<b>Opportunity 8</b>	Interchange could offer other services e.g. retail, meeting rooms and leisure
<b>Opportunity 9</b>	Facility that is accessible for all, welcoming, well-lit, safe, clear information in a range of formats using technology(e.g. audio systems), safe, clean, comfortable, CCTV and DDA compliant and with a covered waiting area
<b>Opportunity 10</b>	Sustainable development that uses green technology
<b>Opportunity 11</b>	Improved linkages between north and south of the railway

2.1.12 The majority of Transport Planning Objectives (TPOs) identified by the stakeholders were not SMART (specific, measurable, attainable, relevant, timed), which is a requirement of the WelTAG guidance. The decision was made to write SMART TPOs based on the TPOs proposed at the workshops (see **Table 4: SMART Transport Planning Objectives** below). This enabled the options to be tested.

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**Table 4: SMART Transport Planning Objectives**

<b>TPO 1</b>	Ensure interchange within a 5 minute walk of each transport mode.
<b>TPO 2</b>	Ensure disabled drop-off/ pick-up facilities are available within a maximum of 25 – 50m of both the bus and railway stations.
<b>TPO 3</b>	Increase the number of people travelling to work by sustainable transport modes to 48% by the end of 2013.
<b>TPO 4</b>	Reduce traffic flows within the city centre cordon.
<b>TPO 5</b>	Provide positive steps to avoid the need for the declaration of an Air Quality Management Area on Westgate Street.
<b>TPO 6</b>	Ensure key pedestrian desire lines both to and from the bus station are free from conflict.

- 2.1.1 The SMART TPOs will also be used to monitor and evaluate the success of the scheme in the future.
- 2.1.2 The seven point scale recommended in WelTAG to draw out the most significant effects has been used throughout the appraisal process.

**Table 5: WelTAG Seven Point Scale of Impacts**

Large beneficial	+++
Moderate beneficial	++
Slight beneficial	+
Neutral	0
Slight adverse	-
Moderate adverse	--
Large adverse	---

- 2.1.3 The SMART TPOs are then related to the problems and constraints in the following **Table 6: Transport Planning Objectives Related to the Problems and Constraints.**

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**Table 6: Transport Planning Objectives Related to the Problems and Constraints**

		P1	P2	P3	P4	P5	P6	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
<b>TPO 1</b>	Ensure interchange within a 5 minute walk of each transport mode.	++	+++	++	++	+	+++	++	++	++	+	0	+++	+++	++	0	0
<b>TPO 2</b>	Ensure disabled drop-off/ pick up facilities are available within a maximum of 25 – 50m of both the bus and railway stations.	++	++	+++	0	0	+++	+	0	+	+	+	++	++	+++	0	0
<b>TPO 3</b>	Increase the number of people travelling to work by sustainable transport modes to 48% by the end of 2013.	+++	+++	+++	+++	+++	+++	0	0	+++	0	0	0	0	0	++	+++
<b>TPO 4</b>	Reduce traffic flows within the city centre cordon.	+++	+++	+++	+++	++	++	0	0	0	0	0	0	0	0	+++	+++
<b>TPO 5</b>	Provide positive steps to avoid the declaration of an Air Quality Management Area on Westgate Street	++	++	++	+++	++	++	0	0	0	0	0	0	0	0	+++	+++
<b>TPO 6</b>	Ensure key pedestrian desire lines both to and from the bus station are free from conflict.	++	++	++	0	0	+++	0	0	0	0	0	+++	++	0	0	0

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2.1.4 The following **Table 7**: Transport Planning Objectives related to the Welsh Transport Strategy Outcomes shows how the objectives link to the Wales Transport Strategy outcomes.

**Table 7: Transport Planning Objectives related to the Welsh Transport Strategy Outcomes**

Wales Transport Strategy Outcomes	Relevance of the Outcomes	TPO	TPO2	TPO3	TPO4	TPO5	TPO6	
Improve access to healthcare	Medium	++	++	++	+	0	+	Social
Improve access to education, training and lifelong learning	Medium	++	++	++	+	0	+	
Improving access to shopping and leisure facilities	High	++	++	++	+	0	+	
Encourage healthy lifestyles	Medium	+++	++	+++	+++	+++	+	
Improve the actual and perceived safety of travel	High	++	+++	+++	+++	0	+++	
Improve access to employment opportunities	High	++	++	++	+	0	+	Economic
Improve connectivity within Wales and internationally	High	+++	++	+++	++	0	0	
Improve the efficient, reliable and sustainable movement of people	High	+++	+++	+++	+++	+++	+++	
Improve access to visitor attractions	High	++	++	++	+	0	++	
Increase the use of more sustainable materials	Medium	0	0	0	0	0	0	Environmental
Reduce the contribution of transport to greenhouse gas emissions	Medium	++	+	+++	+++	0	0	
Adapt to the impacts of climate change	Medium	++	+	+++	+++	0	0	
Reduce the contribution of transport to air pollution and other harmful emissions	High	++	+	+++	+++	+++	0	
Improve the impact of transport on the local environment	High	+	0	+++	+++	++	0	
Improve the impact of transport on our heritage	Low	0	0	0	++	+	0	
Improve the impact of transport on biodiversity	Low	0	0	0	0	0	0	

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2.1.5 The following **Table 8:** Transport Planning Objectives related to Strategic Priorities for Transport shows how the objectives relate to Welsh Government's strategic priorities for transport.

**Table 8: Transport Planning Objectives related to Strategic Priorities for Transport**

Strategic Priorities	Relevance Priorities	Transport Planning Objectives					
		TPO1	TPO2	TPO3	TPO4	TPO5	TPO6
Reducing greenhouse gas emissions and other environmental impacts from transport	Medium	++	+	+++	+++	+++	0
Integrating local transport	High	+++	+++	+++	++	0	+++
Improving access between key settlements and sites	High	++	++	++	+	0	+
Enhancing international connectivity	Medium	++	0	0	0	0	0
Increasing safety and security	High	++	+++	+++	+++	0	+++

## Sustainable Development Principle

2.1.6 The Well-Being of Future Generations (Wales) Act 2015, places a duty on public bodies to apply the sustainable development principle in everything they do, through the five ways of working. The following **Table 9:** The Wellbeing Five Ways of Working describes how the Council has followed the five ways of working in the development and appraisal of the proposal.

**Table 9: The Wellbeing Five Ways of Working**

<p><b>Long Term</b> – please describe how you have considered long term needs. What are the impacts of your proposal on future generations?</p> <p>(Continued)</p>	<p>The development of a multi-modal transport hub at Cardiff Central in conjunction with the re-development of Central Square is crucial to the development of the strategic public transport network in Cardiff, the wider region through the Metro project and nationally.</p> <p>The benefits of the interchange are as follows:</p> <ul style="list-style-type: none"> <li>• Provides a High quality gateway to the Capital and surrounding region</li> <li>• Links to Enterprise Zone</li> <li>• A Focus for Active Travel</li> <li>• High quality facility that support connections to Cardiff Airport and London via Cardiff.</li> </ul> <p>The scheme will improve access for all to employment opportunities, services, healthcare, tourism and leisure facilities, and is well integrated with the development of the surrounding area and facilitates easy access</p>
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<p><b>Long Term</b> – please describe how you have considered long term needs. What are the impacts of your proposal on future generations?</p>	<p>to the centre of the city, Cardiff Bay and the Enterprise Zone containing 70,000 jobs.</p> <p>The scheme will facilitate transfer between national, regional and local rail and bus services and is essential for Cardiff to fulfil its role as a growing capital city and an employment and service centre for a major city region. There is currently an over reliance on anti-clockwise bus movement around the city centre, buses are circumnavigating the core city centre area and some bus stops on street experience overcrowding such as Westgate Street (176 buses per hour).</p> <p>The Interchange will enable bus services to arrive and depart from both the southern and northern accesses of the bus station. This will enable an improved balance of bus routing in the city centre will reduce bus flow on some roads e.g. Westgate Street, where there is currently an Air Quality Management Area (AQMA). This will impact positively on air quality and noise issues.</p>
<p><b>Prevention</b> – please describe how you considered options to prevent the problem from getting worse or occurring in the first place.</p>	<p>The bus station had become increasingly unfit for purpose and was perceived in user surveys to be uncomfortable and unsafe (particularly at night).</p> <p>Refurbishment of the facility was considered, however the arrangement of stands was such that conflict between pedestrians and bus movements could not be avoided. A new operating layout was therefore necessary, and different options were considered as part of the WelTAG and associated processes.</p>
<p><b>Integration</b> – please describe how you have considered the wider impacts of your proposal.</p>	<p>Analysis carried out to inform the Local Development Plan shows that the provision of a central public transport interchange to facilitate transfer between national, regional and local rail and bus services is essential for Cardiff to fulfil its role as a growing capital city and an employment and service centre for a major city region. It will impact positively towards achieving the transport connectivity required to sustain Cardiff's economic competitiveness with other UK cities and city regions and maintain its attractiveness to business investors.</p>
<p><b>Collaboration</b> – please describe who you collaborated with and how, in the development and appraisal your proposal. (Continued)</p>	<p>The Stage One Strategic Outline Case involved four separate workshops with:</p> <ul style="list-style-type: none"> <li>• Internal officers on 22nd June 2010;</li> <li>• External stakeholders on 1st July 2010;</li> <li>• Bus and coach operators on 8th July 2010; and</li> <li>• Cardiff Council Access Focus Group on 28<sup>th</sup> July 2010.</li> </ul>

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<p><b>Collaboration</b> – please describe who you collaborated with and how, in the development and appraisal your proposal.</p>	<p>The workshops comprised a mixture of small group and whole group discussions and covered:</p> <ul style="list-style-type: none"> <li>• An analysis of problems, constraints and opportunities;</li> <li>• Development of Transport Planning Objectives (TPOs);</li> <li>• A discussion about the options; and</li> <li>• Testing options against the TPOs.</li> </ul> <p>A number of draft options were presented at the workshops for discussion. These options were not an exhaustive list but were a starting point for discussion. At the workshops there was an opportunity to recommend additional options and amend the options presented.</p> <p>At the internal officer, external stakeholder and operator workshops the attendees were asked to score each of the options discussed against the TPOs agreed at the workshop using a seven point scale. Following an analysis of the scores a short list of preferred options was drawn up.</p>
<p><b>Involvement</b> – please describe who you have involved and how, in the development and appraisal of your proposal</p>	<p>The process of developing and agreeing options has been subject to review through the Cabinet reporting process and oversight of the Environmental Security Committee. Stakeholders have been involved in workshops held as part of the WelTAG procedure. Those attending included relevant officers of the Council with planning, project management and transportation expertise and external stakeholders represented by Access Groups, bus operators and other interested parties.</p> <p>The process of option evaluation has also been subject to independent consultant review.</p>

2.1.7 In accordance with the WelTAG guidance, the TPOs have been verified and analysed to determine how well they contribute to:

- Resolving the identified problems and satisfy the constraints;
- Achieving the Welsh Transport Strategy outcomes; and
- Achieving the Welsh Assembly Government’s strategic priorities for transport.
- The seven point scale (see **Table 5: WelTAG Seven Point Scale of Impacts** recommended in WelTAG to draw out the most significant effects has been used throughout the appraisal process).

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2.1.8 WelTAG guidance states that the development process must enable a wide range of options to be investigated (against the “business as usual” scenario) and enable preferred options to be identified and taken forward to the Stage 1 appraisal, provided they are broadly viable and address the objectives and problems.

2.1.9 A range of draft options was distributed to all attendees in advance of the workshops. The draft options were not an exhaustive list but were a starting point for discussion. The attendees of each workshop were given the opportunity to recommend additional options and amend the options presented in light of the problems, constraints, opportunities and the TPOs identified at the workshop.

2.1.10 The options drafted in advance of the workshops were:

- Business as usual – Bus box arrangements as is
- Option 1 – Bus box arrangements with reduced Central Bus Station Footprint
- Option 2 – Bus box arrangements with bus station north and south of the railway
- Option 3 – Bus box arrangements with bus station south of the railway only
- Option 4 – Bus box arrangements with bus station facility on Marland House
- Option 5 – Option of bus box with satellite stations
- Option 6 – Bus box with satellite stations and terminal interchange
- Option 7 – Phased option
- Option 8 – Central Square
- Option 9 – Bus box arrangements with bus north and south of the railway (at Callaghan Square)
- Option 10 – Bus box arrangements with bus station south of the railway only (Callaghan Square)

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2.1.11 The ten do-something options and the option of business as usual (bus box arrangements as is) are appraised in **Table 13**: Option 0, Stage 1 Option Appraisal, **Table 14**: Option 1, Stage 1 Option Appraisal, **Table 15**: Option 2, Stage 1 Option Appraisal, **Table 16**: Option 3, Stage 1 Option Appraisal, **Table 17**: Option 4, Stage 1 Option Appraisal, **Table 18**: Option 5, Stage 1 Option Appraisal, **Table 19**: Option 6, Stage 1 Option Appraisal, **Table 20**: Option 7, Stage 1 Option Appraisal, **Table 21**: Option 8, Stage 1 Option Appraisal, **Table 22**: Option 9, Stage 1 Option Appraisal and **Table 23**: Option 10, Stage 1 Option Appraisal below along with schematic representations.

2.1.12 At each of the workshops the strengths and weaknesses of each option were discussed. The ten options were not presented at all four workshops, as the options were sifted as the Planning Stage progressed. The options considered in each of the workshops were:

- Internal Officers: Options 1 – 10
- External Stakeholders: Options 1 – 8
- Bus and Coach Operators: Options 1 – 8
- Cardiff Council Access Focus Group: Options 2, 4 and 8

2.1.13 The business as usual option was considered at each of the workshops. At the operator workshop, an addition option (Option 1b), business as usual with a replacement terminal building was added to the list of options for consideration.

2.1.14 At the internal, external and operator workshops attendees were asked to score each of the options presented against the TPOs agreed at the workshop. The seven point scale (see **Table 5**: WelTAG Seven Point Scale of Impacts) was used to score the options against the TPOs. For simplicity, at the workshops the attendees were asked to score each option against the objectives using 1 to 7, where 1 was large adverse and 7 was large beneficial.

2.1.15 The risks of each option included in the tables below have been appraised according to the Council's Risk Matrix and assessment criteria given below (see **Table 10**: Cardiff Council Risk Matrix).

2.1.16 **Table 11**: Cardiff Council Risk Likelihood Assessment Criteria and **Table 12**: Cardiff Council Risk Consequences Assessment Criteria).

**Table 10: Cardiff Council Risk Matrix**

		Consequences			
		1 - Major	2- Significant	3 - Moderate	4 - Minor
Likelihood	A – very likely	A1	A2	A3	A4
	B - likely	B1	B2	B3	B4
	C – unlikely	C1	C2	C3	C4
	D – very unlikely	D1	D2	D3	D4

# CARDIFF'S INTEGRATED TRANSPORT HUB

**Table 11: Cardiff Council Risk Likelihood Assessment Criteria**

Description	Probability	Indicators
A – very likely	More than 75% chance of occurrence	<ul style="list-style-type: none"> <li>Is expected to occur in most circumstances</li> <li>Circumstances frequently encountered - daily/ weekly/ monthly/ annually</li> <li>Imminent/near miss</li> </ul>
B - likely	51% - 75% chance of occurrence	<ul style="list-style-type: none"> <li>Will probably occur in many circumstances</li> <li>Circumstances occasionally encountered but not a persistent issue (e.g. once every couple/few years)</li> <li>Has happened elsewhere within the UK in the last decade.</li> </ul>
C – unlikely	10% - 50% chance of occurrence	<ul style="list-style-type: none"> <li>Not expected to happen, but is possible (once in 3 or more years)</li> <li>Not known in this activity</li> </ul>
D – very unlikely	Less than 10% chance of occurrence	<ul style="list-style-type: none"> <li>May occur only in exceptional circumstances</li> <li>Has rarely / never happened before</li> </ul>

**Table 12: Cardiff Council Risk Consequences Assessment Criteria**

Description	1 - Major	2 - Significant	3 - Moderate	4 - Minor
Implications for Service and / or Achievement of Key Targets /Objectives	Major loss of service, including several important areas of service and / or protracted period. Service Disruption 5+ Days. Major impact on achievement of several key targets / objectives.	Complete loss of an important service for a short period Significant effect to services in one or more areas for a period of weeks. Service Disruption 3-5 Days. Significant impact on achievement of a key target / objective or some impact on several.	Moderate effect to an important service for a short period. Adverse effect to services in one or more areas for a period of weeks. Service Disruption 2-3 Days. Moderate impact on achievement of one or more targets / objectives.	Brief disruption of service Minor effect to non-crucial service. Service Disruption 1 Day. Minor impact on achievement of targets and objectives.
Reputation	Adverse and persistent national media coverage. Adverse central government response, involving (threat of) removal of delegated Powers. Officer(s) and / or Members forced to resign.	Adverse publicity in professional / municipal press, affecting perception / standing in professional / local government community. Adverse local publicity of a significant and persistent nature.	Adverse local publicity / local public opinion. Statutory prosecution of a non-serious nature.	Contained within Directorate. Complaint from individual / small group, of arguable merit.

# CARDIFF'S INTEGRATED TRANSPORT HUB

Description	1 - Major	2 - Significant	3 - Moderate	4 - Minor
Health & Safety	Fatality (ies)	Incidents reportable to the HSE i.e. major injuries, over three days lost from work injuries, specified work related diseases and specified dangerous occurrences. Cases of other illnesses (not reportable to HSE).	Minor injuries. No time lost from work	No injuries but incident has occurred.
Failure to provide statutory duties / meet Legal Obligations	Multiple Litigation	Litigation	Ombudsman	Individual claims
Financial	Corporate Budget realignment	Budget adjustment across Directorates	Contained within Directorate	Contained within Section / Team
Implications for Partnership (e.g. objectives / deadlines)	Complete failure /breakdown of partnership	Significant impact on partnership or most of expected benefits fail	Adverse effect on partnering arrangements	Minimal impact on partnership
Implications for the Community or the Environment	Extensive, long-term impact. Major public health / environmental incident or loss of significant community facility.	Long-term environmental or social impact such as a chronic and / or significant discharge of pollutant.	Short-term, local environmental or social impact such as a major fire.	No lasting detrimental affect on the environment or the community e.g. noise, fumes, dust etc.
Stakeholders	Stakeholders would be unable to pursue their rights and entitlement and may face life threatening consequences.	Stakeholders would experience considerable difficulty in pursuing rights and entitlements.	Some minor effects on ability of stakeholders to pursue rights and entitlements, e.g. other sources or avenues would be available to stakeholders.	The interests of stakeholders would not be affected.

# CARDIFF'S INTEGRATED TRANSPORT HUB

Figure 1: Option 0, Business as Usual



Table 13: Option 0, Stage 1 Option Appraisal

OPTION 0		
Description	Business as usual	
How the problems would be addressed	Current problems would not be addressed	
<b>IMPACTS</b>		
Social and Cultural	Existing bus station does not meet customers' facilities requirements and would continue to discourage potential bus users.	---
Environmental	Existing bus station would not encourage the modal shift needed to accommodate growth and support sustainable development.	---
Economic	Would not contribute to wider economic development of area	---
<b>KEY ISSUES</b>		
Delivery Case	No issues	0
Financial Case	Increasing maintenance and security costs	---
Commercial Case	Reducing revenue from operators using the facility less	---
<b>OBJECTIVES</b>		
Overall	TPOs would in the main not be met	---
Objective 1	Interchange would remain within 5 minute walk of all modes	0

# CARDIFF'S INTEGRATED TRANSPORT HUB

Objective 2	Disabled and drop off/pick up would remain within 25-50m of bus and rail stations	0
Objective 3	Would not increase use of sustainable modes	--
Objective 4	Would not reduce traffic flows in city centre	--
Objective 5	Would have no effect on improving Air Quality in Westgate St	-
Objective 6	Would have no beneficial effect on pedestrian desire lines	-
<b>KEY RISKS</b>		
Risk 1	Unattractive bus station remains, contributing to continuing decline in bus use. No simple mitigation possible.	A2
Risk 2	Continuing problem of pedestrians conflicting with buses when accessing the bus station and stands. No simple mitigation possible.	A2
<b>ADVERSE IMPACTS</b>		
User Experience	Unattractive bus station remains, contributing to continuing decline in bus use. Continuing conflict between pedestrians and buses. Failure to meet council's sustainable travel targets. Area remains undeveloped and unattractive.	--
<b>CONSTRAINTS</b>		
Stakeholders	Continuing public and bus operator dissatisfaction with current facility.	--
<b>DEPENDENCIES</b>		
	Operators and public continue to use the facility. Revenue funding in place to continue to maintain facility. Progress on Central Square redevelopment. Improvement to city centre bus circulation.	N/A

# CARDIFF'S INTEGRATED TRANSPORT HUB

Figure 2: Option 1, Bus Box Arrangements with Reduced Central Bus Station Footprint



NOTE: Option 1b was an additional option suggested by stakeholders described as business as usual with replacement terminal building. This option was not included in the original option testing during the stage 1 WelTAG process. It is included as Option H in the Stage 2 WelTAG assessment.

Table 14: Option 1, Stage 1 Option Appraisal

OPTION 1		
Description	Bus box arrangement with reduced Central Bus Station footprint	
How the problems would be addressed	Would increase interchange and network accessibility and help to maximise commercial viability of land in the area. Help with economic sustainability of interchange. Retains existing system.	
IMPACTS		
Social and Cultural	Little change to customers' requirements.	0
Environmental	Little change to encouraging modal shift and supporting sustainable development.	0
Economic	Increases commercial viability of interchange and surrounding land.	++
KEY ISSUES		
Delivery Case	No issues	0
Financial Case	Slightly reduced maintenance and security costs	-
Commercial Case	Reduced revenue from smaller facility	-

# CARDIFF'S INTEGRATED TRANSPORT HUB

OBJECTIVES		
Overall	Broadly neutral	0
Objective 1	Interchange within 5 minute walk of each transport mode	+++
Objective 2	Disabled drop-off/pick up facilities may not be within 25-50m of bus and rail	++
Objective 3	Not likely to Increase sustainable mode share to work	-
Objective 4	No effect on traffic flows within city centre cordon	-
Objective 5	No effect on Air Quality Management Area	-
Objective 6	No beneficial effects on pedestrian desire lines	-
KEY RISKS		
Risk 1	Reduced footprint is insufficient to provide for passenger and bus service demand	B2
Risk 1 Mitigation	Discussions with operators to identify additional arrangements to mitigate risk at particular times of day.	B3
ADVERSE IMPACTS		
User Experience	Increased use of on-street stops, bus congestion and insufficient footway space leading to conflicts with pedestrians. Congestion in the interchange.	---
CONSTRAINTS		
Operational	Operator opposition, non-operation on Stadium Event days.	N/A
DEPENDENCIES		
	Willingness of operators to adapt to new arrangements. Public acceptance of new arrangements. Provision of information on new arrangements. Development plans for Central Square.	N/A

# CARDIFF'S INTEGRATED TRANSPORT HUB

Figure 3: Option 2, Bus Box Arrangements with Bus Station North and South of the Railway



Table 15: Option 2, Stage 1 Option Appraisal

OPTION 2		
Description	Bus box Arrangements with Bus Station North and South of the Railway	
How the problems would be addressed	Would enable development of improved facilities. However would split services, making it more difficult to integrate services and more complicated for users	
IMPACTS		
Social and Cultural	Overall increases complexity of public transport offer, unlikely to encourage switch to sustainable modes	---
Environmental	Use of southern approach to city centre may reduce use of Westgate St and have positive impact on Air Quality.	+
Economic	Reduces the development potential of the available land.	-
KEY ISSUES		
Delivery Case	Additional land to secure could be difficult. Construction on more than one site at the same time could make delivery more difficult.	---
Financial Case	Land and construction costs are likely to be significantly higher and less likely to be funded by private development.	---
Commercial Case	Operating separate sites would significantly increase operational and maintenance costs and may not generate an appropriate level of revenue.	---
OBJECTIVES		

# CARDIFF'S INTEGRATED TRANSPORT HUB

Overall	Does not meet majority of objectives	-
Objective 1	May ensure interchanges are within 5 minute walk, depending on access through Central Station	-
Objective 2	Disabled Drop off/pick up could be within 25-50m of bus and rail stations	+
Objective 3	Unlikely to increase mode share of sustainable transport	--
Objective 4	Due to need to access two pick-up/drop-off locations it will not reduce traffic flows in city centre	-
Objective 5	Use of southern approach could reduce bus movements on Westgate St and benefit Air Quality	+
Objective 6	Likely to increase conflict with pedestrian desire lines as there will be more of them	-
<b>KEY RISKS</b>		
Risk 1	Land south of railway station is owned by Network Rail. Transfer of network Rail land is a lengthy legal process, which may not be realisable within the timeframe of the project. Unlikely to be mitigated.	A1
Risk 1 Mitigation	Obtain funding and enter into negotiations with third parties.	B1
<b>ADVERSE IMPACTS</b>		
User Experience	Splitting of bus interchange north and south of the railway station increases complexity of public transport offer, will make interchange (particularly bus/bus) potentially more difficult. May increase traffic within city centre. Would increase walking distance for some users.	--
<b>CONSTRAINTS</b>		
Land	Ownership of some of the land required by a third party i.e. Network Rail	N/A
Bus Access	Double-decker buses cannot get beneath the railway bridge on Penarth Road. The alternative route would be via Lower St Mary Street which may be a minor inconvenience. Lowering Penarth Road to mitigate this inconvenience as indicated in the WelTAG dated December 2010 may not be appropriate given the potential costs, disruption and impact on other access requirements.	N/A
<b>DEPENDENCIES</b>		
	Willingness of operators to adapt to new arrangements. Public acceptance of new arrangements. Provision of information on new arrangements. Development plans for Central Square, and Network Rail's land south of the railway station.	N/A

# CARDIFF'S INTEGRATED TRANSPORT HUB

Figure 4: Option 3, Bus Box Arrangements with Bus Station South of the Railway Only



Table 16: Option 3, Stage 1 Option Appraisal

OPTION 3		
Description	Bus Box Arrangements with Bus Station south of the Railway only	
How the problems would be addressed	Provision of a single high quality interchange adjacent to Central Station, providing for full access on Stadium event days.	
IMPACTS		
Social and Cultural	Would provide good bus and rail interchange, but takes the bus station further from the city centre, increasing walking distances for some users.	-
Environmental	Use of southern approach could reduce bus movements on Westgate Street and benefit Air Quality	+
Economic	Would free up land north of railway station for development	++
KEY ISSUES		
Delivery Case	The time to secure third party land owned by Network Rail would be uncertain and involve a complex legal process.	---
Financial Case	Less likely to be funded by private development.	-
Commercial Case	Risk to revenue to fund ongoing operational and maintenance costs if the site is not accessible enough for bus users as bus operators may use the station less.	-
OBJECTIVES		

# CARDIFF'S INTEGRATED TRANSPORT HUB

Overall	Broadly neutral, but unlikely to increase mode share by sustainable modes due to additional walking distance to city centre amenities.	-
Objective 1	Bus/rail Interchanges within 5 minute walk,	++
Objective 2	Disabled Drop off/pick up could be within 25-50m of bus and rail stations	++
Objective 3	Unlikely to increase mode share of sustainable transport	-
Objective 4	May not reduce traffic flows in city centre due to need to travel south of railway station	-
Objective 5	Use of southern approach could reduce bus movements on Westgate St and benefit Air Quality	+
Objective 6	Broadly neutral with respect to pedestrian desire lines, although some users will have further to walk.	0
<b>KEY RISKS</b>		
Risk 1	Land south of railway station is owned by Network Rail. Transfer of network Rail land is a lengthy legal process which may not be realisable within the timeframe of the project. Unlikely to be mitigated.	A1
Risk 1 Mitigation	Obtain funding and enter into negotiations with third parties.	B1
Risk 2	Operators have expressed opposition to this site, may not wish to use it. Unlikely to be mitigated.	A2
<b>ADVERSE IMPACTS</b>		
Access	Increased walking distance from city centre amenities.	--
Sustainability	May increase traffic in city centre to access south of railway station. Unlikely to increase mode share by sustainable transport.	--
<b>CONSTRAINTS</b>		
Land	Ownership of the land required by a third party i.e. Network Rail	N/A
Bus Access	Double-decker buses cannot get beneath the railway bridge on Penarth Road. The alternative route would be via Lower St Mary Street which may be a minor inconvenience but this will depend on bus routing and bus service operational requirements. Lowering Penarth Road to overcome this constraint as indicated in the WeITAG report dated December 2010 may not be appropriate given the potential costs, disruption and impact on other access requirements.	N/A
<b>DEPENDENCIES</b>		
	Lack of improvement to city centre bus circulation making southern approach difficult Willingness of operators to adapt to new arrangement Public acceptance of new arrangements Provision of information on new arrangements Development plans for Network Rail's land south of the railway station.	N/A

# CARDIFF'S INTEGRATED TRANSPORT HUB

Figure 5: Option 4, Bus Box Arrangements with Bus Station Facility on Marland House

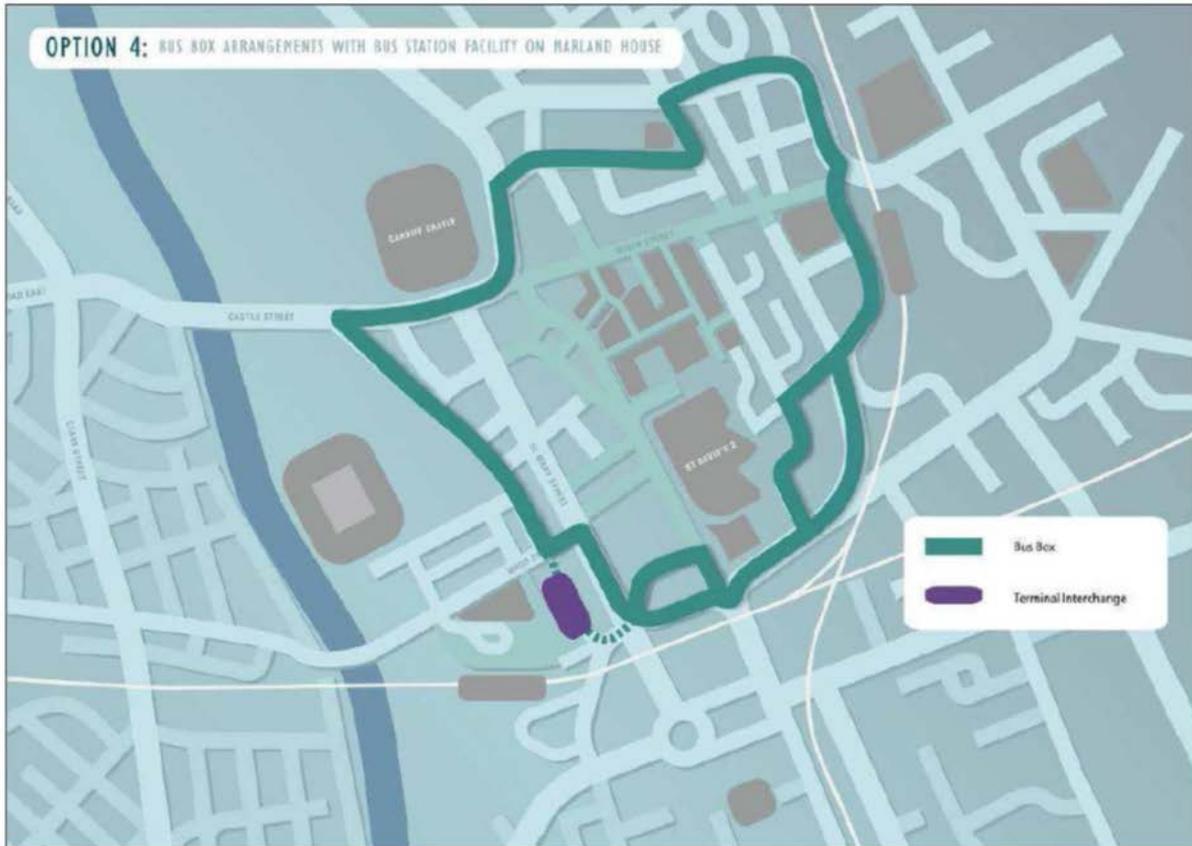


Table 17: Option 4, Stage 1 Option Appraisal

OPTION 4		
Description	Bus Box Arrangements with Bus Station facility on Marland House	
How the problems would be addressed	Provision of a single high quality interchange adjacent to Central Station, providing for access on Stadium event days, close to the existing bus station site	
IMPACTS		
Social and Cultural	Would provide good bus and rail interchange, maintaining existing pedestrian routes to city centre amenities	+
Environmental	Use of southern approach could reduce bus movements on Westgate St and benefit Air Quality	+
Economic	Could act as catalyst for redevelopment of the existing bus station site	++
KEY ISSUES		
Delivery Case	Resolution of long-term leases within Marland House. Significant utility services may need relocation especially given there is an electricity sub-station on the site. These matters could delay delivery and increase costs significantly.	---
Financial Case	Potential opportunities for funding the bus station from development.	++
Commercial Case	Risk to revenue to fund ongoing operational and maintenance costs if the size of the site and/or design does not enable enough bus stands to be provided.	-
OBJECTIVES		

# CARDIFF'S INTEGRATED TRANSPORT HUB

Overall	Broadly positive.	+
Objective 1	Interchanges within 5 minute walk of each transport mode,	++
Objective 2	Disabled Drop off/pick up could be within 25-50m of bus and rail stations	++
Objective 3	Likely to increase mode share of sustainable transport by providing attractive facility	+
Objective 4	May not reduce traffic flows in city centre unless combined with other measures.	-
Objective 5	Use of southern approach could reduce bus movements on Westgate St and benefit Air Quality	+
Objective 6	Redevelopment of bus station should enable improvement of pedestrian routes.	+
<b>KEY RISKS</b>		
Risk 1	Marland House is owned by a third party and it may not be possible for the Council to acquire it. Unlikely to be mitigated.	<b>A1</b>
Risk 1 Mitigation	Obtain funding and enter into negotiations with third parties.	<b>D1</b>
Risk 2	Risk to revenue to cover ongoing operational and maintenance costs if the size of the site and/or design does not enable enough bus stands to be provided.	<b>A1</b>
Risk 2 Mitigation	Detailed consideration of design solutions to maximise the number of stands.	<b>C1</b>
<b>ADVERSE IMPACTS</b>		
Size of Site	Site may not be large enough to cope with anticipated demand.	-
<b>CONSTRAINTS</b>		
Land	Third party ownership of a building on the land required.	N/A
Utilities	Electricity sub-station on the site.	N/A
Size of Site	Smaller footprint than the current bus station will require detailed consideration of design solutions to maximise the number of stands.	N/A
<b>DEPENDENCIES</b>		
	Operator acceptance of new arrangements Public acceptance of new arrangement Development of Central Square Wider city centre schemes to improve city centre bus circulation.	

# CARDIFF'S INTEGRATED TRANSPORT HUB

Figure 6: Option 5, Operation of Bus Box with Satellite Stations



Table 18: Option 5, Stage 1 Option Appraisal

OPTION 5		
Description	Bus Box Arrangements with Satellite Stations	
How the problems would be addressed	Provision of a number of small high quality interchanges located on the bus box Some of the satellite stations could operate on Stadium event days.	
IMPACTS		
Social and Cultural	No single interchange point provided. Walking distances to some city centre amenities would be affected depending on location of satellite stations	---
Environmental	Use of satellite stations could reduce bus movements on Westgate St and benefit Air Quality	+
Economic	Would free up land north of railway station for development	++
KEY ISSUES		
Delivery Case	No land constraints if the satellite stations are located within the adopted highway. Could take longer to implement due to number of locations needing to be constructed.	-
Financial Case	Lower cost improvements could be funded from multiple developer contributions.	+
Commercial Case	No revenue to fund the operational and maintenance costs.	---
OBJECTIVES		

# CARDIFF'S INTEGRATED TRANSPORT HUB

Overall	Negative, unlikely to increase mode share by sustainable modes due to additional walking distance to some city centre amenities, and lack of single interchange point	---
Objective 1	Bus and Rail Interchanges would not be within 5 minute walk,	---
Objective 2	Disabled Drop off/pick up would not be within 25-50m of bus and rail stations	---
Objective 3	Unlikely to increase mode share of sustainable transport due to reasons stated above.	-
Objective 4	May not reduce traffic flows in city centre due to travel south of railway station	-
Objective 5	Use of satellite stations could reduce bus movements on Westgate St and benefit Air Quality	+
Objective 6	Some users will have further to walk to city centre amenities.	---
<b>KEY RISKS</b>		
Risk 1:	Scheme is unacceptable to public due to increased walking distances, lack of single interchange point, leading to decline in sustainable mode use.	B2
Risk 1 Mitigation	Possibly mitigated by much increased information provision	B3
<b>ADVERSE IMPACTS</b>		
Access	Increased walking distance from city centre amenities. Unlikely to increase mode share by sustainable transport	---
<b>CONSTRAINTS</b>		
Sites Available	Lack of suitable additional sites around city centre.	N/A
<b>DEPENDENCIES</b>		
	<ul style="list-style-type: none"> <li>Willingness of operators to adapt to new arrangement</li> <li>Public acceptance of new arrangements</li> <li>Provision of information on new arrangements.</li> <li>City Centre development plans</li> <li>Wider city centre schemes to improve city centre bus circulation</li> </ul>	

# CARDIFF'S INTEGRATED TRANSPORT HUB

Figure 7: Option 6, Bus Box with Satellite Stations and Terminal Interchange



Table 19: Option 6, Stage 1 Option Appraisal

OPTION 6		
Description	Bus Box Arrangements with Satellite Stations and Terminal Interchange	
How the problems would be addressed	Provision of a single high quality interchange adjacent to Central Station, together with satellites offering further interchange opportunities around the city centre.	
<b>IMPACTS</b>		
Social and Cultural	Would provide good bus and rail interchange, and opportunities for bus/bus interchange without travelling to a central point.	+
Environmental	Use of satellite stations could reduce bus movements on Westgate St and benefit Air Quality	+
Economic	Could free up some land north of railway station for development if a smaller interchange footprint needed.	+
<b>KEY ISSUES</b>		
Delivery Case	No land constraints if the satellite stations in addition to the terminal interchange are located within the adopted highway. Could take longer to implement due to number of locations needing to be constructed.	-
Financial Case	Lower cost improvements could be funded from multiple developer contributions.	+

# CARDIFF'S INTEGRATED TRANSPORT HUB

Commercial Case	Lower level of revenue to fund the operational and maintenance costs.	---
<b>OBJECTIVES</b>		
Overall	Negative, unlikely to increase mode share by sustainable modes due to additional layer of complexity for users.	-
Objective 1	Not all Interchange points within 5 minute walk of each transport mode	---
Objective 2	Disabled Drop off/pick up could be within 25-50m of bus and rail stations at central interchange, but not satellite stations	-
Objective 3	Unlikely to increase mode share of sustainable transport	-
Objective 4	May not reduce traffic flows in city centre depending on location and use made of satellite stations.	0
Objective 5	Use of satellite stations could reduce bus movements on Westgate St and benefit Air Quality	+
Objective 6	Some users of satellite stations will have further to walk to city centre amenities.	-
<b>KEY RISKS</b>		
Risk 1	Willingness of operators to use satellite stations and public acceptance of new arrangements.	B2
Risk 1 Mitigation	Could be mitigated slightly by provision of improved information	B3
<b>ADVERSE IMPACTS</b>		
Access	Increased walking distance from city centre amenities for some satellite locations.	-
User Experience	Unlikely to increase mode share by sustainable transport due to increased complexity of the bus network and what is offered to public transport users.	---
<b>CONSTRAINTS</b>		
Sites Available	Limited space available in the city centre for satellite stations.	N/A
<b>DEPENDENCIES</b>		
	Willingness of operators to adapt to new arrangement Public acceptance of new arrangements Provision of information on new arrangements. City Centre development plans Wider city centre schemes to improve city centre bus circulation	

# CARDIFF'S INTEGRATED TRANSPORT HUB

Figure 8: Option 7, Hybrid Option

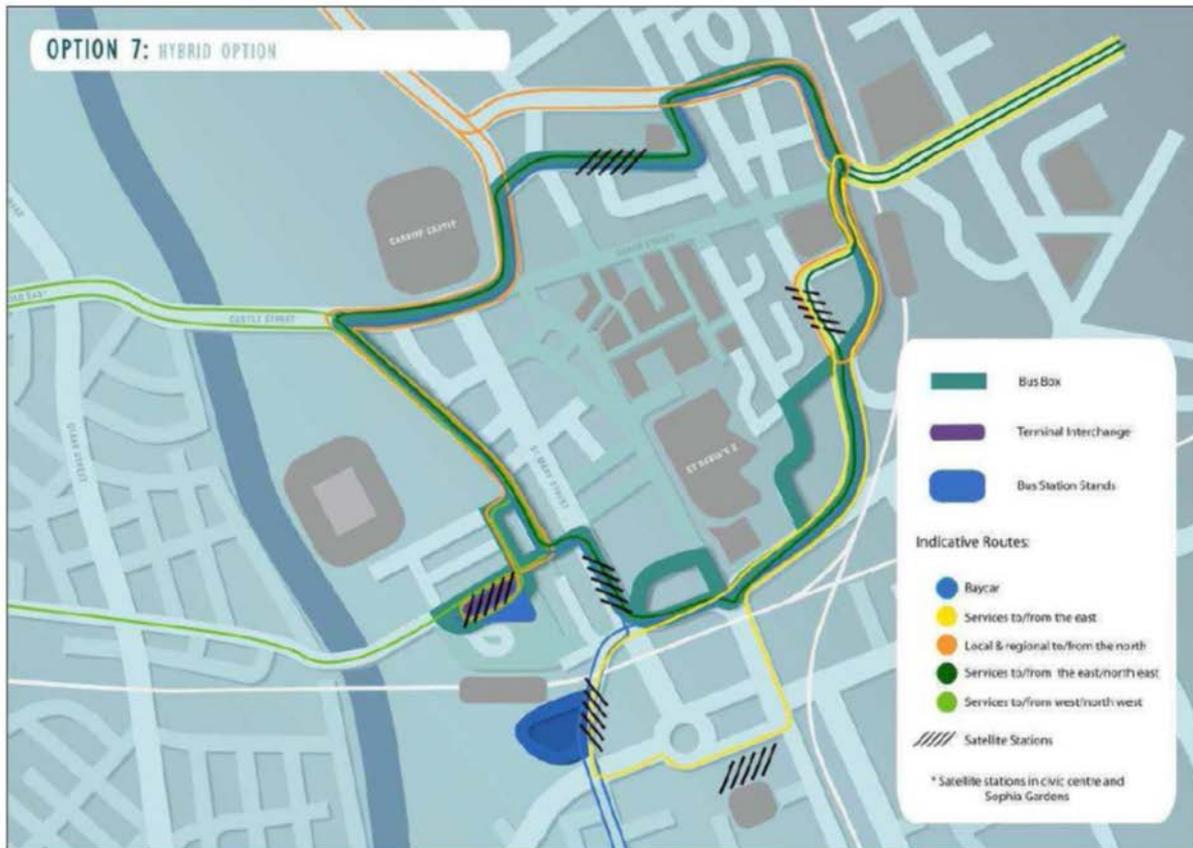


Table 20: Option 7, Stage 1 Option Appraisal

OPTION 7		
Description	Phased Option	
How the problems would be addressed	Operate in similar fashion to current event mode, with buses terminating at points in the outer city centre (Tudor St, Greyfriars Rd, Churchill Way). Future provision of a high quality interchange adjacent to Central Station, with additional facilities on the south side.	
IMPACTS		
Social and Cultural	Initially takes interchange further from the railway station. Also increases walking distances to some city centre amenities for some users.	-
Environmental	Use of event style mode could reduce bus movements on Westgate St and benefit Air Quality	+
Economic	Phasing could lead to uncertainty over development	-
KEY ISSUES		
Delivery Case	The time to secure third party land owned by Network Rail would be uncertain and involve a complex legal process. Could take longer to implement due to number of locations needing to be constructed.	---
Financial Case	Less likely to be funded by private development.	---
Commercial Case	Operating separate sites would significantly increase operational and maintenance costs and may not generate an appropriate level of revenue.	---
OBJECTIVES		

# CARDIFF'S INTEGRATED TRANSPORT HUB

Overall	Negative, unlikely to increase mode share by sustainable modes due to additional walking distance to city centre amenities, added complexity of operation and uncertainty over future facilities	-
Objective 1	Initially in event mode bus/rail Interchanges would not be within 5 minute walk	-
Objective 2	Disabled Drop off/pick up would not be within 25-50m of bus and rail stations initially	-
Objective 3	Unlikely to increase mode share of sustainable transport due to added complexity and future uncertainty	-
Objective 4	May not reduce traffic flows in city centre	-
Objective 5	Use of event mode operation could reduce bus movements on Westgate St and benefit Air Quality	+
Objective 6	Broadly neutral with respect to pedestrian desire lines, although some users will have further to walk to city centre amenities	0
<b>KEY RISKS</b>		
Risk 1	Funding may not be available for a phased approach which will take some time. Land south of railway station is owned by Network Rail. Transfer of network Rail land is a lengthy, cumbersome legal process, which may not be realisable within the timeframe of the project. Unlikely to be mitigated.	A1
Risk 1 Mitigation	Obtain funding and enter into negotiations with third parties.	B1
Risk 2	Willingness of operators to use satellite stations and public acceptance of new arrangements.	B2
Risk 2 Mitigation	Could be mitigated slightly by provision of improved information	B3
<b>ADVERSE IMPACTS</b>		
Access	Increased walking distance from city centre amenities.	-
User Experience	Unlikely to increase mode share by sustainable transport due to increased complexity of the bus network and what is offered to public transport users.	--
Sustainability	May increase traffic in city centre to access south of railway station.	--
<b>CONSTRAINTS</b>		
Land	Ownership of some of the land required by a third party i.e. Network Rail	N/A
Sites Available	Limited space available in the city centre for satellite stations.	N/A
<b>DEPENDENCIES</b>		
	<ul style="list-style-type: none"> <li>Willingness of operators to adapt to new arrangements</li> <li>Public acceptance of new arrangements</li> <li>Provision of information on new arrangements</li> <li>City Centre development plans</li> <li>Wider city centre schemes to improve city centre bus circulation</li> </ul>	

# CARDIFF'S INTEGRATED TRANSPORT HUB

Figure 9: Option 8, Central Square



Table 21: Option 8, Stage 1 Option Appraisal

OPTION 8		
Description	Central Square	
How the problems would be addressed	Provision of a single high quality interchange adjacent to Central Station. Possible future closure of Wood St to general traffic. Larger footprint for bus station and development.	
IMPACTS		
Social and Cultural	Would provide good bus and rail interchange. Could create more public space.	+
Environmental	Future closure of Wood St to general would benefit Air Quality	+
Economic	Would free up land north of railway station for development	++
KEY ISSUES		
Delivery Case	Potential opposition to the closure of Wood Street.	-
Financial Case	Larger footprint for development and potential to fund the bus station.	++
Commercial Case	May not provide enough capacity and result in reduced revenue to fund operational and maintenance costs.	-
OBJECTIVES		
Overall	Broadly positive	++
Objective 1	Bus/rail Interchanges would be within 5 minute walk	++

# CARDIFF'S INTEGRATED TRANSPORT HUB

Objective 2	Disabled Drop off/pick up could be within 25-50m of bus and rail stations	++
Objective 3	Likely to increase mode share of sustainable transport	+
Objective 4	May not reduce traffic flows in city centre due to need to travel south of railway station, unless other measures are also put in place	-
Objective 5	Future closure of Wood St to general would reduce traffic on Westgate St and benefit Air Quality	+
Objective 6	Larger foot print would enable better pedestrian links to be designed	+
<b>KEY RISKS</b>		
Risk 1	Potential opposition to closure of Wood Street	B1
Risk 1 Mitigation	Design of alternative access routes and extensive consultation	B4
<b>ADVERSE IMPACTS</b>		
Sustainability	Could affect traffic movements in Grangetown	-
Events	Could not operate on Stadium event days	---
<b>CONSTRAINTS</b>		
Size of site	There may not be enough space to provide the number of bus stands needed	N/A
<b>DEPENDENCIES</b>		
	<ul style="list-style-type: none"> <li>Operator acceptance of new arrangements</li> <li>Public acceptance of new arrangements</li> <li>Development of Central Square</li> <li>Wider city centre schemes to improve city centre bus circulation</li> <li>New facility more attractive to operators and passengers</li> <li>Better use of modal interchange, with increased use of sustainable modes</li> <li>Contribution to development of Central Square</li> </ul>	

# CARDIFF'S INTEGRATED TRANSPORT HUB

**Figure 10: Option 9, Bus Box Arrangements with Bus Station North and South of the Railway (at Callaghan Square)**



**Table 22: Option 9, Stage 1 Option Appraisal**

OPTION 9		
Description	Bus box Arrangements with Bus Station North and South of the Railway (at Callaghan Square)	
How the problems would be addressed	Would enable development of improved facilities. However would split services, making it more difficult to integrate services and more complicated for users	
IMPACTS		
Social and Cultural	Less effective bus and rail interchange and takes the southern facility further from the city centre increasing walking distances for some users, and adding complexity to public transport arrangements. Reduced impact on bus services on event days.	-
Environmental	Use of southern facility could reduce bus movements on Westgate St and benefit Air Quality.	+
Economic	Would free up land north of railway station for development. However the Callaghan Square site is on prime land with premium office rentals which could be affected.	-
KEY ISSUES		
Delivery Case	Land at Callaghan Square is subject to a Private Finance Initiative. Callaghan Square is a public square and changing it to a bus station may result in opposition.	---
Financial Case	Funding the bus station from development contributions may be more difficult.	-

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Commercial Case	Operating separate sites would significantly increase operational and maintenance costs and may not generate an appropriate level of revenue.	--
<b>OBJECTIVES</b>		
Overall	Negative. Unlikely to increase mode share by sustainable modes, due to additional walking distance to city centre amenities for some users, and adding complexity to public transport arrangements.	-
Objective 1	Bus rail Interchanges not within 5 minute walk,	-
Objective 2	Disabled Drop off/pick up would not be within 25-50m of bus and rail stations	--
Objective 3	Unlikely to increase mode share of sustainable transport	-
Objective 4	May not reduce traffic flows in city centre due to need to travel south of railway line	-
Objective 5	Use of southern facility could reduce bus movements on Westgate St and benefit Air Quality	+
Objective 6	Better pedestrian links could be provided, but some users will have further to walk.	0
<b>KEY RISKS</b>		
Risk 1	Proposed site is part of PFI which has seven years left to run. Agreement to use site likely to be difficult to achieve before term ends. Unlikely to be mitigated without financial ramifications before term ends	A1
Risk 2	Potential opposition to loss of public square. Limited opportunity to mitigate due to the availability of alternative land for public open space.	A1
<b>ADVERSE IMPACTS</b>		
Access	Increased walking distance from city centre amenities for some users.	-
Sustainability	May increase traffic in city centre to access south of railway line. Unlikely to increase mode share by sustainable transport due to added complexity of public transport operation and separation from central railway station	-
<b>CONSTRAINTS</b>		
Size of site	The land available at Callaghan Square may not provide enough bus stands.	N/A
<b>DEPENDENCIES</b>		
	<ul style="list-style-type: none"> <li>Willingness of operators to adapt to new arrangements</li> <li>Public acceptance of new arrangements</li> <li>Provision of information on new arrangements</li> <li>Development plans for Callaghan Square</li> <li>Wider city centre schemes to improve city centre bus circulation</li> </ul>	

# CARDIFF'S INTEGRATED TRANSPORT HUB

Figure 11: Bus Box Arrangements with Bus Station South of the Railway Only (Callaghan Square)



Table 23: Option 10, Stage 1 Option Appraisal

OPTION 10		
Description	Bus Box Arrangements with Bus Station south of the Railway only	
How the problems would be addressed	Provision of a single high quality interchange providing for full access on Stadium event days.	
IMPACTS		
Social and Cultural	Would provide good bus interchange, but increases distance from railway station. Reduced impact on bus services on event days.	-
Environmental	Use of southern facility could reduce bus movements on Westgate St and benefit Air Quality.	+
Economic	Would free up more land north of the railway station for development. However the site is on prime land with premium office rentals which could be affected.	+
KEY ISSUES		
Delivery Case	Land at Callaghan Square is subject to a Private Finance Initiative. Callaghan Square is a public square and changing it to a bus station may result in opposition.	---
Financial Case	Funding the bus station from development contributions may be more difficult.	-
Commercial Case	The land available at Callaghan Square may not provide enough bus stands. This may impact on the revenue needed to fund the operational and maintenance costs.	---
OBJECTIVES		

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Overall	Broadly neutral, but unlikely to increase mode share by sustainable modes due to additional walking distance to some city centre amenities.	-
Objective 1	Bus/rail Interchanges not within 5 minute walk	-
Objective 2	Disabled Drop off/pick up would not be within 25-50m of bus and rail stations	-
Objective 3	Unlikely to increase mode share of sustainable transport due to reduced opportunities for bus/rail interchange.	-
Objective 4	May not reduce traffic flows in city centre due to need to travel south of railway line	-
Objective 5	Use of southern facility could reduce bus movements on Westgate St and benefit Air Quality	+
Objective 6	Broadly neutral with respect to pedestrian desire lines, although some users will have further to walk.	0
<b>KEY RISKS</b>		
Risk 1	Proposed site is part of PFI which has seven years left to run. Agreement to use site likely to be difficult to achieve before term ends. Unlikely to be mitigated without financial ramifications before PFI ends.	A1
Risk 2	Potential opposition to loss of public square. Limited opportunity to mitigate due to the availability of alternative land for public open space.	A1
<b>ADVERSE IMPACTS</b>		
Access	Increased walking distance from city centre amenities.	-
Sustainability	May increase traffic in city centre to access south of railway station. Unlikely to increase mode share by sustainable transport.	-
<b>CONSTRAINTS</b>		
Size of site	The land available at Callaghan Square may not provide enough bus stands.	N/A
<b>DEPENDENCIES</b>		
	Willingness of operators to adapt to new arrangements Public acceptance of new arrangements Provision of information on new arrangements Development plans for Callaghan Square Wider city centre schemes to improve city centre bus circulation.	

2.1.17 Options 9 and 10 were sifted following the internal officers workshop because neither option was considered to be deliverable, as Cardiff Council does not own the land and the land is subject to a Private Finance Initiative, which is on a long-term agreement. Neither Option 9 nor 10 were presented at the other three workshops.

2.1.18 Options 1 – 8 together with the business as usual option were presented to the external stakeholder and operator workshops. Following the testing of options against the TPOs identified at each workshop, Options 2, 4 and 8 were identified as the preferred options and were presented to the Cardiff Council Access Focus Group for discussion.

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- 2.1.19 Following a meeting with Network Rail and Arriva Trains Wales (19<sup>th</sup> August 2010) Option 2 was sifted, as land to the south of Central Station is owned by Network Rail and development of Option 2 would prejudice Network Rail's long term aspiration to deliver a mixed-use commercial development that had already been master planned. Option 3 was sifted for the same reason.
- 2.1.20 In addition, Network Rail on behalf of the Welsh Assembly Government and Department for Transport are delivering improvements to Cardiff Central Station and the wider Cardiff area to increase capacity and frequency of trains on the rail network. This project is known as Cardiff Area Signalling Renewal (CASR) and will provide an additional platform, platform 8, at Cardiff Central Station. These works preclude any proposals being considered to the south of Cardiff Central until 2017.
- 2.1.21 Also, railway estate and station lease areas cannot be released for other uses without a lengthy clearance process (particularly if there were objections) and the station change procedure (if any changes are proposed to existing station facilities) is also a lengthy exercise. Proposals would need to be supported by all railway stakeholders, including Network Rail, Arriva Trains Wales, Department for Transport and Office of Rail Regulation (ORR). Network Rail would require any proposed changes to the south of Cardiff Central to be demonstrated on the basis of an improvement/ enhancement of the railway.
- 2.1.22 Option 4 was sifted at this stage because it was considered to be undeliverable. Cardiff Council owns the freehold of Marland House, but the units are subject to long term leases. The purchase of long term leases would be an expensive and lengthy process. In addition, the NCP Wood Street Car Park would also have to be compulsory purchased. Furthermore, Network Rail/ Arriva Trains Wales have a 44 space car park on the site, use of this land would require the clearance process and the station change procedure to be undertaken before this land could be considered.
- 2.1.23 The WelTAG guidance states that future options must be investigated against the business as usual. Option 8 was also selected because it was prioritised by both the external stakeholders and operators. Even though Options 6 and 7 were prioritised by the internal officers, they were not selected because the external stakeholders and operators scored the options poorly against the TPOs. Option 5 also scored poorly against the TPOs.
- 2.1.24 The short-list of options to be appraised in more detail against the Stage 1 appraisal criteria are:
- Option 8 – Central Square;
  - Business as usual; and
  - Option 1b - Business as usual, with a replacement terminal building.

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2.1.25 Option 1b 'business as usual' option with a replacement terminal building was also selected because it was favoured by the bus and coach operators. Option 1b was also discussed and positively received at the stakeholder workshop (although not included in the option testing in Stage 1).

2.1.26 See **Table 24: Summary Stage 1 Option** that compares the performance of each option against the ranking criteria.

**Table 24: Summary Stage 1 Option Assessment**

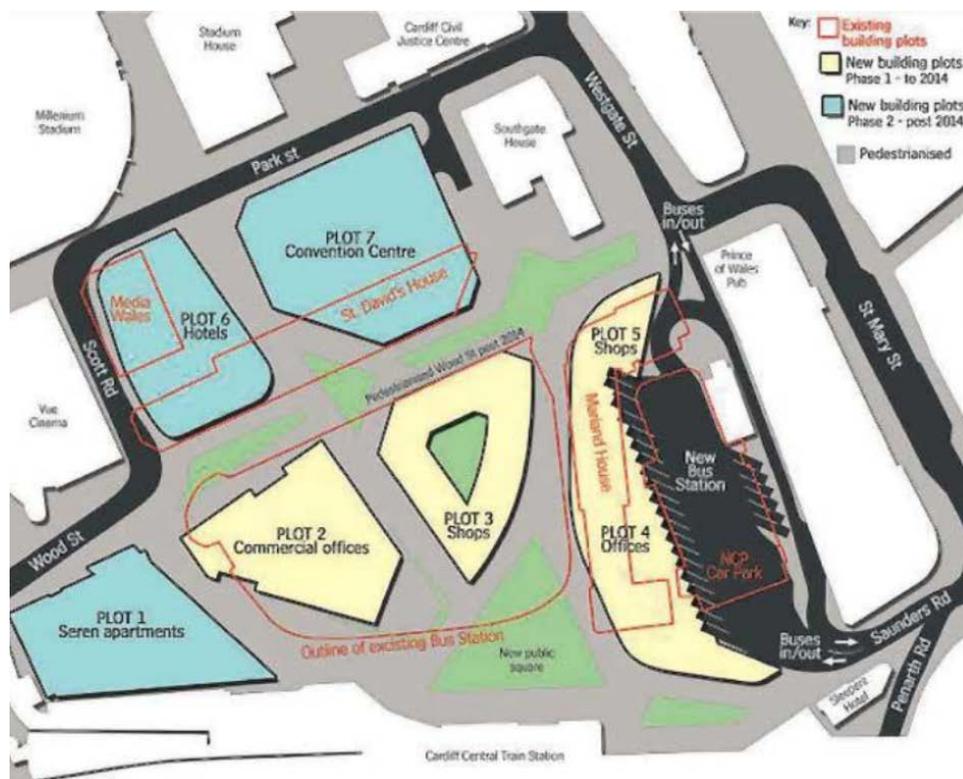
Ranking Criteria	Option 0	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9	Option 10
Ability to solve the problem/s	XXX	✓	X	✓	✓✓	X	X	X	✓	X	X
Ability to meet the objectives	XX	0	X	X	✓	XX	X	X	✓✓	X	X
Short term impacts	XX	0	X	✓	✓✓	XX	✓	X	✓	X	✓
Long term impacts	XX	✓	XX	✓✓	✓✓✓	XX	✓	X	✓✓	X	✓
Deliverability	XX	X	XXX	XXX	XXX	X	X	XXX	X	XXX	XXX
Robustness to uncertainty/Risks	XXX	X	XXX	XXX	X	X	X	XX	✓	XXX	XXX
Workshop combined Scores (lower better)	18	18	14	16	12	24	18	16	10	n/a	n/a
Combined Rankings	9	7	4	5	2	10	8	6	1	n/a	n/a
Short listed Options	Do-nothing Option	Possible	Discounted	Discounted	Discounted	Discounted	Discounted	Discounted	Possible	Discounted	Discounted

2.1.1 The Stage 1 WelTAG Appraisal (2010) includes an Equality Impact Assessment and Health Impact Assessment (see accompanying Impacts Assessment Report).

2.1.2 In the light of changing circumstances concerning the redevelopment (see **Figure 12: Proposals for Redevelopment of Central Square**) Central Square, AECOM Consultancy were commissioned in 2011 to carry out the appraisal and wrote a report for submission (Cardiff Bus Options Appraisal Report). An Appraisal of options was undertaken against two separate sets of criteria:

- The WelTAG Transport Planning Objectives (TPOs as outlined above); and
- A set of design requirements.

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**Figure 12: Proposals for Redevelopment of Central Square**

2.1.3 In addition to the TPOs discussed above a number of additional design requirements have been identified to ensure the proposals are fit for purpose and are not at odds with the wider transport and spatial planning aspirations for Cardiff city centre. These design requirements have been established based upon AECOM's understanding of Cardiff Council's wider aims for the city centre as well as a review of the constraints identified at the WelTAG planning stage (Stage 1).

2.1.4 The following design requirements have been identified:

- Ensure bus station operation and safe and efficient city centre pedestrian and traffic flow during event day operations.
- Option facilitates least disruption to bus passengers during Friday/Saturday evening road closures.
- Facilitate Drive in Reverse Out (DIRO) bus operations.
- Able to accommodate existing bus demand plus 15% growth in normal services and 50% growth in national coaches.
- To facilitate the partial/full pedestrianisation of Lower St Mary Street and between Wood Street and Penarth Rd.

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- To facilitate additional clockwise movements of bus services around the city centre bus box.
- Ensure bus station plans fit with the wider plans for the CBD.

2.1.5 As a result of AECOM's report it was decided that another five options would be included in the Stage 2 appraisal, the total list of the original and additional options were as follows (see **Figure 13**: Options within the Central Square Footprint):

- A: Marland House (previously Option 4 of WelTAG Planning Report)
- B: Original Stride Plan (variant of previous Option 8 in WelTAG Planning Report)
- C: Flipped Stride Plan (variant of previous Option 8 in WelTAG Planning Report)
- D: Do Nothing (Business as usual)
- E: St David's House (new option)
- F: Urban Solutions Site (new option)
- G: Media Wales Site (new option)
- H: Do Nothing – plus new terminal building (previously Option 1b in WelTAG Planning Report)



**Figure 13: Options within the Central Square Footprint**

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2.1.6 The following **Table 25**: Revised Options Referenced to Options Appraised in the WelTAG Planning Stage references how the revised options for appraisal in Stage 1 relate to those identified in the WelTAG Planning Stage (Stage 1).

**Table 25: Revised Options Referenced to Options Appraised in the WelTAG Planning Stage**

Ref	Revised Options for Appraisal in Stage 1	Options Appraised in Stage 1 (WelTAG Planning Stage)
A	Marland House	Option 4
B	Original Stride Plan	Option 8 variant
C	'Flipped' Stride Plan	Option 8 variant
D	Do Nothing	Business as usual
E	St David's House	Not Assessed
F	Urban Solutions Site	Not Assessed
G	Media Wales Site	Not Assessed
H	Do Nothing – plus new terminal building	Option 10

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2.1.7 The appraisal was undertaken in a manner consistent with the WelTAG Planning Stage to ensure consistency with the previous work undertaken. The results are provided in the following **Table 26: Stage 1 Option Appraisal of Revised Options**.

**Table 26: Stage 1 Option Appraisal of Revised Options**

		A. Marland House	B. Original Stride Plan	C. Flipped Stride Plan	D. Do Nothing	E. St David's House	F. Urban Solutions Site	G. Media Wales Site	H. Do Nothing plus new terminal building	
Combined non-weighted score		37	20	20	4	19	14	18	10	
Transport Planning Objectives	<b>TPO 1</b> Ensure interchange within a 5 minute walk of each transport mode.	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓✓	✓	✓✓✓	
		Facilitates walkway integration	Very short walk distance between rail and bus stations			Slightly longer walk distance	Facilitates walkway integration	Longer walk distance		
	<b>TPO 2</b> Ensure disabled drop-off/ pick-up facilities are available within a maximum of 25 – 50m of both the bus and railway stations.	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	
		Current arrangements meet this requirement. It is assumed that all future options could also be designed to meet this requirement.								
	<b>TPO 3</b> Increase the number of people travelling to work by sustainable transport modes to 48% by the end of 2013.	✓✓✓	✓✓✓	✓✓✓	○	✓✓	✓	✓✓	✓✓	
		These options are close to the rail station and CBD, promoting growth in sustainable travel			Maintains current levels	Option away from rail station, discouraging interchange	Option away from CBD and rail station	Option further from rail station, discouraging interchange	New station building will encourage some additional use	
<b>TPO 4</b> Reduce traffic flows within the city centre cordon.	✓✓✓	✓✓	✓✓	○	✓✓	✓✓	✓✓	✓✓		
	Allows closure of Lower St Mary Street	Promotes mode shift towards sustainable travel		Maintains current levels						
<b>TPO 5</b> Provide positive steps to avoid the need for the declaration of an Air Quality Management Area on Westgate Street	✓✓✓	✓✓	✓✓	○	✓✓	✓✓	✓✓	✓✓		
	Allows buses to travel in from both directions	Promotes mode shift towards sustainable travel		Maintains current levels						
<b>TPO 6</b> Ensure key pedestrian desire lines both to and from the bus station are free from conflict.	✓	✓✓✓	✓✓✓	✗	✓✓✓	✓✓✓	✓✓✓	✗		
	Option crosses some desire line between stations and city centre	Few conflicts anticipated		Current arrangements cause some conflicts						
Design Requirements	Ensure bus station operation and safe and efficient city centre pedestrian and traffic flow during event day operations.	✓✓✓	✗✗✗	✗✗✗	✗✗✗	✗✗✗	✗✗✗	✗✗✗	✗✗✗	
		Option can function with street closures	Options would have to close on event days due to street closures.							
	Option facilitates least disruption to bus passengers during Friday/Saturday evening road closures.	✓✓✓	✗	✗	✗	✗	✗	✗	✗	
		Some disruption is likely during evening closures								
	Facilitate Drive in Reverse Out (DIRO) bus operations.	DIRO	DIRO	DIRO	Not DIRO	DIRO	DIRO	DIRO	Not DIRO	
	Able to accommodate existing bus demand plus 15% growth in normal services and 50% growth in national coaches = <b>14 stands required minimum</b>	✓✓✓	✓✓	✓✓	✓✓✓	✓✓✓	✗✗	✓✓✓	✓✓✓	
		19 stands	14 stands	14 stands	22 stands	20 stands	11 stands	22 stands	22 stands	
To facilitate the partial/full pedestrianisation of Lower St Mary Street and between Wood Street and Penarth Rd.	✓✓✓	○	○	○	○	○	○	○		
	Allows road closure	Does not facilitate road closures								
To facilitate additional clockwise movements of bus services around the city centre bus box	✓✓✓	○	○	○	○	○	○	○		
	Allows services to enter clockwise as well as anticlockwise	Services can enter from the anticlockwise direction only								
Ensure bus station plans fit with the wider plans for the CBD.	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓		
	All options appear to fit with publicly available plans.									

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2.1.8 By converting the tick/cross scoring system from the above table into numbers (from +3 to -3) and comparing the scores across all the appraisal criteria, the options can be ranked according to how well they meet the full set of TPOs and design criteria. This does assume however that all TPOs and design criteria are given the same weighting. This ranking exercise shows in the following **Table 27**: Ranking of Revised Options that the Marland House Option A performs best at meeting the appraisal criteria.

**Table 27: Ranking of Revised Options**

Rank	Option	Score
1	A. Marland House	37
2	B. Original Stride Plan	20
3	C. Flipped Stride Plan	20
4	E. St David's House	19
5	G. Media Wales Site	18
6	F. Urban Solutions Site	14
7	H. Do Nothing plus new terminal building	10
8	D. Do Nothing	4

2.1.9 This ranking exercise shows that the Marland House Option A performs best at meeting the appraisal criteria. The summary appraisal of the revised options is provided in **Table 28**: Summary Stage 1 Appraisal of Revised Options below.

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**Table 28: Summary Stage 1 Appraisal of Revised Options**

Ranking Criteria	Option A	Option B	Option C	Option D	Option E	Option F	Option G	Option H
Ability to solve the problem/s	✓✓✓	✓✓✓	✓✓✓	XXX	✓✓	✓✓	✓	X
Ability to meet the objectives	✓✓✓	✓✓	✓✓	✓	✓	✓	✓✓	✓
Short term impacts	✓	✓	✓	0	✓	✓	✓	✓
Long term impacts	✓✓✓	✓	✓	XXX	X	X	X	X
Deliverability	✓✓✓	X	X	✓✓✓	X	X	X	✓✓
Robustness to uncertainty/Risks	✓✓	X	X	✓✓✓	X	X	X	X
Overall/Total	1	2=	2=	8	4	6	5	7
Short listed Options	Possible	Possible	Possible	Discounted	Discounted	Discounted	Discounted	Discounted

## 2.2 STAGE TWO: OUTLINE BUSINESS CASE

2.2.1 The shortlisted options A (Marland House), B (Original Stride plan, adjacent to bus station) and C (Flipped Stride plan-on existing site) scored the highest in the approval against both the Transport Planning Objectives and the Design Requirements.

### TPO 1

- All the short listed options would be within 5 minutes of each transport mode, with Option A being able to facilitate walkway integration with Central Railway Station

### TPO 2

- All options would meet the 25-50m distance criterion for disabled drop off/pick-up facilities

### TPO 3

- All options are close to the railway station facilitating and promoting growth in sustainable travel.

### TPO 4

- All options would reduce traffic flows through encouraging mode shift. In addition, the Marland House option would offer the potential closure of Lower St Mary St because bus access could be retained through the site.

## TPO 5

- The Marland House option allows access to the bus station from both north and south which could reduce movements on Westgate St and positively impact on Air Quality.

## TPO 6

- Options B and C would lead to fewer conflicts on key pedestrian desire lines than the Marland House option.

## 2.3 IMPACTS OF SHORT LISTED OPTIONS

### 2.3.1 Option A - Marland House - Short Term

- Enable operation on Stadium Event days.
- Facilitate interchange between sustainable modes of bus, rail, cycle, walk and increase sustainable mode share.
- Provide an opportunity to reduce bus movements on Westgate St, contributing to improving Air Quality, by using clockwise operation of the bus box to access the facility.

### 2.3.2 Option A - Marland House - Long Term

- Facilitate possible future pedestrianisation of Lower St Mary St.
- Facilitate future physical integration with redeveloped Central Railway Station.

### 2.3.3 Options B and C - Short Term

- Proximity to Central Railway Station facilitates interchange between sustainable modes.
- Closure of facility on Stadium Event days would continue.
- Does not facilitate clockwise operation of the bus box, so opportunity to reduce bus movements on Westgate St and impact positively on Air Quality is limited.

### 2.3.4 Options B and C - Long Term

- Continues to facilitate mode shift to sustainable travel.

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## 2.1 REVIEW GROUP DECISIONS AND STAKEHOLDER ENGAGEMENT

- 2.1.1 In July 2013, Cardiff Council Cabinet (the “Review Group” as defined in WelTAG 2017 Guidance) agreed to establish a partnership approach to the development of a new Integrated Transport Hub in Central Cardiff. Authority to acquire unencumbered freehold ownership of long leasehold interests in the vicinity of Cardiff Central Station to secure the development of a modern integrated transport hub was obtained in September 2013. Approval was granted in May 2014 to acquire the head leasehold interest in Wood Street NCP Car Park to progress the redevelopment of Central Square.
- 2.1.2 In July 2014, Cardiff Council Cabinet was informed of the partnership arrangements for the redevelopment of Central Square and options for locating the Integrated Transport Hub. The two potential sites suitable to deliver the city’s aspiration for a new bus interchange were identified as:
- Marland House/NCP Car Park site (north of the railway line); and
  - Network Rail Car Park site (south of the railway line).
- 2.1.3 Both sites have immediate proximity to Cardiff Central Railway Station and both offer the potential to keep the bus interchange open on major event days and for weekend night services - by providing access from areas that will not be subject to road closures.
- 2.1.4 The Council acquired full control of the Marland House / NCP Car Park site following the Cabinet decision in May 2014. The other site is in the full ownership of Network Rail, a key partner of the Council in delivering the regeneration of the areas north and south of the railway line, including the upgrade of Cardiff Central Railway Station
- 2.1.5 The following key principles were agreed by the Cabinet:
- The new facility needs to be located adjacent to the railway station and preferably where it can enable the delivery of an Integrated Transport Hub, providing shared facilities for passengers and transport operators possibly ‘under one roof’ and enabling seamless transition between modes.
  - The new facility needs to deliver a ‘European quality’ architecture and public realm ‘gateway’ solution.
  - The location needs to align with the potential expansion of the high quality city centre core – and the removal or minimization of through traffic movements – aligning with proposals to enhance the city centre highway network and to maximize environmental / public realm quality. It should also seek to minimize air quality issues including a reduced requirement for layover.

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- The new facility needs to be located where disruption to operation caused by major events and the weekend night-time economy is minimised.
- The new facility needs to provide a much improved clean, safe and managed environment for passengers that minimises the potential for conflict between vehicles and pedestrians.
- The new facility needs to be easily/safely accessible from the city centre and inclusive to all.
- The new facility should provide an improved management scenario, through potential mixed uses that have the potential to provide a more financially viable operating solution to the Council.

2.1.6 The Cabinet also approved the next steps towards delivery including development proposals for the BBC (including contractual arrangements with Rightacres Property Company Limited), developing interim arrangements during construction and public consultation on the location and specification of the Integrated Transport Hub.

2.1.7 A consultation with the public was held from 8 August to 3 October 2014, and the views of the public including both users and non-users were sought in a variety of ways:

- Electronic survey distributed to c4,500 members of the Cardiff EPanel;
- Links to the survey tweeted via the Council's twitter account;
- Pages on the Council's website with links to the online survey;
- Paper survey forms and drop boxes at Council buildings; and
- Face to face on street surveys using i-pads.

2.1.8 The outcome of the consultation was reported to Cardiff Council Cabinet in December 2014. The results are summarised below:

- A total of 3,702 responses were received;
- Almost 70% were in favour of new facilities being located to the north side of Central station;
- Over half used the bus once a week or more;
- One in five used the train once a week or more;
- Almost half used either the bus station or Central Station once a week or more; and
- Two thirds of respondents indicated that they would make greater use of a redeveloped bus station.

2.1.9 In terms of facilities at a new interchange, the most popular were:

- Real Time Electronic Information;

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- Toilets;
- Seated waiting area;
- Staffed presence; and
- 24/7 opening times.

2.1.10 In terms of access, the most popular requests were:

- Easy access to trains;
- Convenient interchange between bus services;
- Easy access for pedestrians;
- Easy access for car/taxi pickup/drop off;
- Easy access to long distance coaches; and
- Easy access for those with mobility impairments.

2.1.11 Both sites have immediate proximity to Cardiff Central Railway station and both offer the potential to keep the bus interchange open on major event days. The results of the public consultation exercise clearly show that the public overwhelmingly favour a location north of the railway line.

2.1.12 As part of the consultation exercise, the Council and the developer have also engaged with bus operators and user groups to test the preferred location of the new bus interchange and the preferred layout design.

2.1.13 Again there was a clear preference from bus operators and user groups for the new bus interchange to be located north of the railway line. In terms of layout, the 'drive in reverse out' approach is preferred by users as it has the advantage of completely segregating passengers from moving buses. It also presents the best opportunity to provide a single concourse passenger waiting area which helps to improve way-finding and passenger security (particularly at night). Bus operators also support the segregation of bus movements from passengers as it provides for a safer driving environment. However, they require reassurance that adequate space will be provided to enable safe reversing of buses out of stands.

2.1.14 Cabinet approved the recommendation for:

- The new bus interchange to be located as part of the development of the Marland House/NCP Car Park site at Central Square (Referred to as Option A above in **Table 28:** Summary Stage 1 Appraisal of Revised Options);
- Delegated authority to Cardiff Council Directors for the development of a detailed proposal for the delivery of a new bus interchange; and
- Interim arrangements for the required enabling works.

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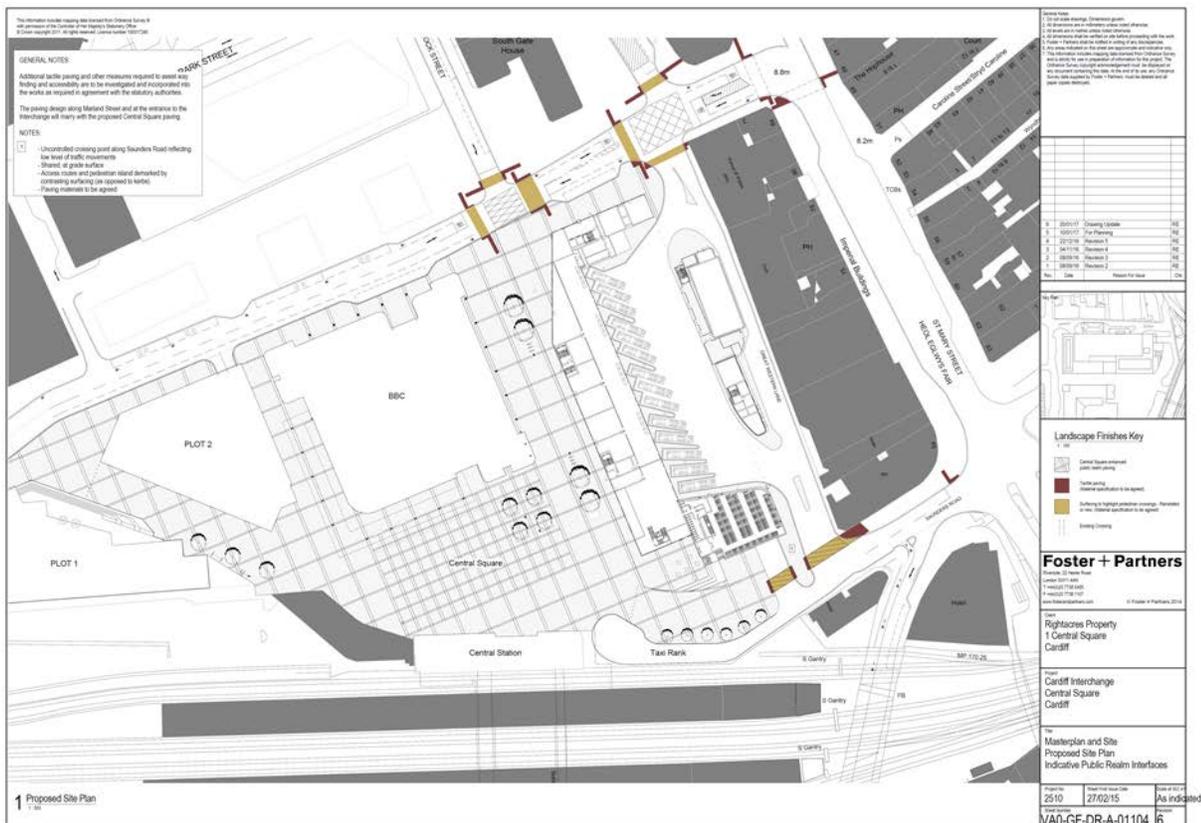
## 3 STAGE THREE: FULL BUSINESS CASE

### 3.1 INTRODUCTION

3.1.1 Following the Cabinet Decision in December 2014, detailed proposals for the delivery of a new bus interchange, interim arrangements and development master planning was undertaken including further stakeholder engagement. The bus station was closed in August 2015.

3.1.2 Resolution to grant planning permission for Cardiff's Integrated Transport Hub was approved on 1<sup>st</sup> March 2017 (Planning Application Reference 16/02731/MJR). The description of the planning application states that the development is for the "Erection of a transport interchange with an associated concourse and ancillary retail/commercial units (use classes a1/a2/a3), 195 residential apartments (use class c3), 12,052 sq m (gia) office floor space (use class b1), a 227-space car park and a cycle hub, public realm and related infrastructure and engineering works." The area includes, "Land to the north of Cardiff Central railway station and Saunders road, south of Wood Street and west of Great Western Lane, Cardiff". **Figure 14** illustrates the indicative layout and public realm interfaces.

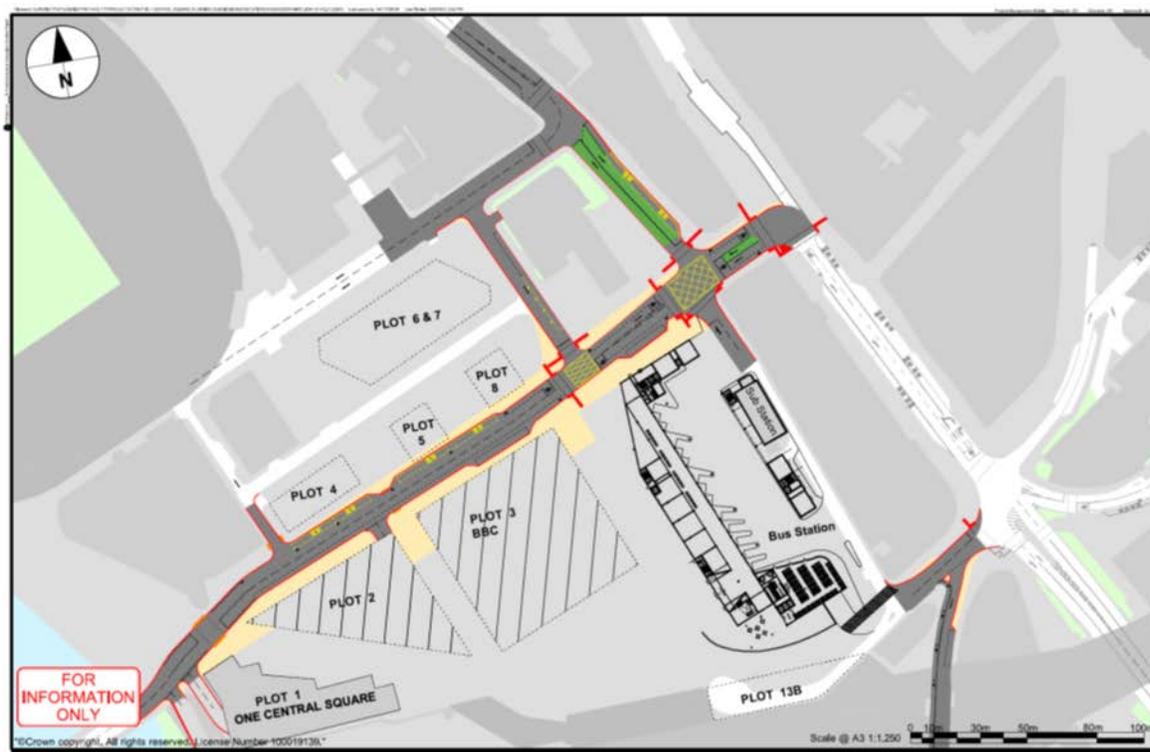
**Figure 14: Indicative Layout of the Integrated Transport Hub and Public Realm Interfaces**



# CARDIFF'S INTEGRATED TRANSPORT HUB

- 3.1.3 Planning permission is subject to the signing of the Section 106 Agreement.
- 3.1.4 The buildings on the Marland House site have been demolished and the site has been cleared in preparation for the future development. The construction programme and completion dates will be subject to funding. This information will be included in the Full and Final Business Case in accordance with the WelTAG 2017 Guidance.
- 3.1.5 This report will be accompanied by a separate “WelTAG Impacts Assessment Report” that will set out the technical details of the underlying analysis and accompanying reference documents.
- 3.1.6 The development will be constructed in partnership between Rightacres Property Company Limited and Cardiff Council. The details of the commercial arrangements are confidential. However, further information may be made available upon request on a confidential basis to support this bid if required.
- 3.1.7 As reported to Cardiff Council Cabinet in December 2015, further funding is required for the fit-out of the Integrated Transport Hub facilities, highway accommodation works (see concept drawing **Figure 15**) and supporting highway improvements that will that will help to ensure that the benefits of the Integrated Transport Hub are fully realised.

**Figure 15: Highway Accommodation Works (Concept Drawing)**



Cardiff Central Square

Cardiff ITH Local Enabling Works

AECOM

Date: 2015-09-08

Figure 3.1

# CARDIFF'S INTEGRATED TRANSPORT HUB

Note: Alternative highway design options and opportunities for cycling and pedestrian improvements within the accommodation works will be developed as the design progresses.

- 3.1.8 The detailed supporting analysis for the Stage 3 appraisal will be included in the accompanying "WeITAG Impacts Assessment Report". The analysis has been undertaken using WeITAG 2017 (Draft Consultation Document published in December 2016) and Department for Transport WebTAG guidance. The economic analysis was undertaken using WebTAG Databook, March 2017 Release v1.7. Sensitivity testing has been undertaken.

## 4 THE STRATEGIC CASE

- 4.1.1 The Interchange is one phase in masterplan regeneration scheme for Central Square and the surrounding area and replaces the old Cardiff Bus Station with a modern facility. The old Cardiff Bus Station facilities had become run down and difficult to keep safe. It was not fit for purpose, being dilapidated, with an outmoded design leading to bus/pedestrian conflict and perception of lack of personal security, particularly at night partly due to the lack of a single, easily monitored concourse. There was poor information provision and pedestrian links to the Central Railway station. In addition the facility had to close on Stadium Event days. A new transport interchange and gateway to the city, created at the heart of the transport network, is a key priority of Cardiff Council.
- 4.1.2 The principles of the problems identified in **Table 1: Summary of the Problems** remain relevant although the bus station has now closed and the site is being redeveloped for the BBC.
- 4.1.3 Most of the constraints identified in **Table 2: Summary of the Constraints** have been overcome. However, there remains a shortfall in funding for the fit-out of the bus station and on-street capacity is still an issue.
- 4.1.4 The specific measures in Transport Planning Objectives TPO3 and TPO5 highlighted in blue in **Table 29: SMART Transport Planning Objectives** are out of date because:
- The target of 48% travelling by sustainable transport to work has subsequently been revised through the Corporate Plan process on an annual basis following an ongoing monitoring programme and reconsideration of realistic targets and alignment with the Local Development Plan (current Corporate Plan target is 45.1% by 2017/18, LDP target is 50% by 2026); and
  - Westgate Street was incorporated into the St Mary Street AQMA on 1<sup>st</sup> April 2013 (now named Cardiff City Centre AQMA).
- 4.1.5 However, the principles of increasing the number of people travelling to work by sustainable transport and improving air quality in the objectives are still relevant.

# CARDIFF'S INTEGRATED TRANSPORT HUB

**Table 29: SMART Transport Planning Objectives**

<b>TPO 1</b>	Ensure interchange within a 5 minute walk of each transport mode.
<b>TPO 2</b>	Ensure disabled drop-off/ pick-up facilities are available within a maximum of 25 – 50m of both the bus and railway stations.
<b>TPO 3</b>	Increase the number of people travelling to work by sustainable transport modes to 48% by the end of 2013.
<b>TPO 4</b>	Reduce traffic flows within the city centre cordon.
<b>TPO 5</b>	Provide positive steps to avoid the need for the declaration of an Air Quality Management Area on Westgate Street.
<b>TPO 6</b>	Ensure key pedestrian desire lines both to and from the bus station are free from conflict.

4.1.6 The relationships between the Transport Planning Objectives and the Welsh Government Transport Strategy Outcomes, Strategic Priorities for Transport and the Wellbeing Five Ways of Working are provided in **Table 7**: Transport Planning Objectives related to the Welsh Transport Strategy Outcomes, **Table 8**: Transport Planning Objectives related to Strategic Priorities for Transport and **Table 9**: The Wellbeing Five Ways of Working respectively.

4.1.7 The development of a multi-modal transport hub at Cardiff Central in conjunction with the re-development of Central Square is crucial to the development of the strategic public transport network in Cardiff, the wider region through the Metro project and nationally. The benefits of the interchange are as follows:

- Provides a High quality gateway to the Capital and surrounding region;
- Links to Enterprise Zone;
- A Focus for Active Travel;
- High quality facility that support connections to Cardiff Airport and London via Cardiff; and
- Exemplar of Public Transport in Wales.

4.1.8 The WelTAG Assessment work has helped inform the objectives for the development proposals. The planning application for Cardiff's Integrated Transport Hub includes the following objectives:<sup>1</sup>

**“To assist with the regeneration of Central Square, through the provision of a new bus station and transport interchange, the provision of this facility aims to:**

<sup>1</sup> Planning Application 16/02731/MJR, “Interchange Wellbeing Goals Document”, 15 Feb 2017

# CARDIFF'S INTEGRATED TRANSPORT HUB

- Contribute to the growth of the Cardiff City, Region and National economy through the enhanced accessibility for industry and commerce, tourism and leisure and in turn job creation.
- Ensuring the Interchange is a future proofed and robust development, through key stakeholder engagement, sustainable build methodologies, technology and the ability to cater for future capacity and need.
- Encourage people to use active methods of transport, by making the Interchange inclusive and accessible people will walk/cycle to bus the station rather than relying on the private car.
- Provision of a safe, inclusive and accessible Interchange providing a range of facilities will encourage diverse and cohesive use of the building and its amenities.
- The Interchange message will be one that represents the Welsh Language through its provision of information, marketing, branding and communication.
- Consideration and consultation will be key in the delivery of a facility that not only encourages environmentally sustainable working and initiatives but also recognises its responsibility to social and economic sustainability.”

4.1.9 The key risks, constraints and dependencies are provided in **Section 6**, The Delivery Case.

# CARDIFF'S INTEGRATED TRANSPORT HUB

## 5 THE TRANSPORT CASE

5.1.1 The following sections quantify indicative monetised social and cultural, environmental and economic transport related impacts wherever possible. Qualitative assessment has been undertaken using the WelTAG seven point scale where quantitative information is not available. Full details of the methods used and the evidence will be provided in the WelTAG Impact Assessment Report. The range of impacts using sensitivity testing is summarised in the following **Table 30: Sensitivity Test of Impacts**.

**Table 30: Sensitivity Test of Impacts**

Lower Range Sensitivity Test	Upper Range Sensitivity Test	Type of Impact	Description of Impacts
<b>Social and Cultural Impacts</b>			
+	++	Physical Activity	Focus for Active Travel
+	++	Journey Quality	Westgate Street Bus Journeys
£8,500,000	£ 11,600,000	Journey Quality	New interchange impact on bus users
£12,600,000	£17,000,000	Journey Quality	On-screen Display Real-time Passenger Information impact on bus users
+	++	Accidents	Road safety benefit from mode shift
£7,300,000	£14,700,000	Accidents	Road safety benefit on Westgate St
£2,200,000	£3,900,000	Accidents	Road safety benefit on Bute Terrace
£24,700,000	£33,400,000	Security	CCTV impact on bus users
£2,000,000	£5,000,000	Security	Cycle Parking
++	+++	Access to Employment	Access to City Centre, Cardiff Bay, Enterprise Zone, Regional and National
+	++	Access to Services	Access to services, healthcare, shopping, tourism, culture and leisure
0	0	Affordability	No change expected
0	0	Severance	Neutral impact long term
++	+++	Option and Non-Use Values	Impacts on visitors and tourism
£65,000,000	£110,000,000	Option and Non-Use Values	Benefits attributed to having the facility available even if they do not use it
<b>Environmental Impacts</b>			
+	++	Noise	Noise pollution on Westgate Street
0	+	Noise	Noise pollution on Bute Terrace
++	+++	Air Quality	Air quality on Westgate Street
+	++	Air Quality	Air quality on Bute Terrace
++	+++	Greenhouse Gases	Greenhouse gases on Westgate Street
+	++	Greenhouse Gases	Greenhouse gases on Bute Terrace
0	0	Landscape	No landscaping opportunities

# CARDIFF'S INTEGRATED TRANSPORT HUB

Lower Range Sensitivity Test	Upper Range Sensitivity Test	Type of Impact	Description of Impacts
++	+++	Townscape	Environment for pedestrians and cyclists using the Integrated Transport Hub
++	+++	Townscape	Environment for pedestrians and cyclists using Westgate Street
+	++	Townscape	Environment for pedestrians and cyclists using Bute Terrace
0	0	Historic Environment	No significant changes
0	0	Biodiversity	No significant changes
0	0	Water Environment	No significant changes
<b>Economic Impacts</b>			
++	+++	Journey Time	Bus journey time on Westgate Street
£1,100,000	£1,600,000	Journey Time	Bus journey time on Bute Terrace
++	+++	Journey Time Reliability	Bus journey time reliability on Westgate Street
++	+++	Journey Time Reliability	Bus journey time reliability on Bute Terrace
0	0	Transport Costs	No significant changes
+	++	Accidents	Road safety benefit from mode shift
£7,300,000	£14,700,000	Accidents	Road safety benefit on Westgate St
£2,200,000	£3,900,000	Accidents	Road safety benefit on Bute Terrace
++	+++	Changes in Productivity	Impacts on commercial investment and agglomeration effects
++	+++	Changes in Productivity	Impacts on employment
+	++	Changes in Productivity	Impact on access to Cardiff International Airport
+	++	Changes in Productivity	Impact on access to London
+	++	Changes in Productivity	Impact on access to South Wales Valleys
+	++	Changes in Productivity	Impact on wider investment in Transport in the Region
+	++	Local Economy	Impacts on commercial investment
+	++	Local Economy	Impacts on residential investment
++	+++	Land	Impacts on residential investment
£12,200,000	£17,600,000	Capital Costs	To Public Sector
Confidential	Confidential	Capital Costs	To Private Sector (commercially confidential)
£0	£0	Revenue Costs	To Public Sector (subject to tender)
<b>£123,400,000</b>	<b>£197,200,000</b>	<b>Total Economic Benefit</b>	<b>Total Quantified Monetary Value of Benefits (excluding duplications above)</b>

# CARDIFF'S INTEGRATED TRANSPORT HUB

## 5.2 SOCIAL AND CULTURAL IMPACTS

### Physical Activity

- 5.2.1 The scheme will be a focus for active travel facilitating transfer between sustainable modes of national, regional and local rail and bus services, making these modes more attractive. The interchange will be a vital part of the Metro project.
- 5.2.2 A cycle hub will be provided to encourage cycle/bus, cycle/rail modal interchange.
- 5.2.3 It is envisaged that these improvements will increase the levels of active travel and contribute positively towards improving health. The benefit is estimated to be in the range of slight to moderate.

### Journey Quality

- 5.2.4 The new interchange will significantly benefit users by providing a dry, pleasant environment with attractive clean, safe and secure facilities and secure cycle parking for bus or rail. The range of quantified benefits is estimated to be between £8,500,000 and £11,600,000 (using WebTAG equivalent generalised minutes).
- 5.2.5 The new interchange will significantly benefit users by providing on-screen display real-time passenger information. This will include real-time rail information within the Integrated Transport Hub. The range of quantified benefits is estimated to be between £12,600,000 and £17,000,000 (using WebTAG equivalent generalised minutes).
- 5.2.6 The highway improvements on Westgate Street will improve bus passenger comfort as the road will be reconstructed resulting in an even surface. The benefit is envisaged to be slight to moderate.

### Accidents

- 5.2.7 It is envisaged that the mode shift associated with increased bus and cycle use associated with the Integrated Transport Hub will result in a range of safety benefits from slight to moderate.
- 5.2.8 The analysis of collisions on Westgate Street indicate that the highway improvements could potentially reduce the accidents by 25 to 50%. The range of quantified benefits is estimated to be between £7,300,000 and £14,700,000 (using WebTAG COBALT).

# CARDIFF'S INTEGRATED TRANSPORT HUB

5.2.9 The analysis of collisions on Bute Terrace indicate that the highway improvements could potentially reduce the accidents by 50 to 100%. The range of quantified benefits is estimated to be between £2,200,000 and £3,900,000 (using WebTAG COBALT).

## Security

5.2.10 The new interchange will significantly benefit users by providing CCTV to ensure the safety and security of the facilities. The range of quantified benefits is estimated to be between £24,700,000 and £33,400,000 (using WebTAG equivalent generalised minutes).

5.2.11 The new interchange will significantly benefit cycle users by providing a secure cycle hub. The range of quantified benefits is estimated to be between £2,000,000 and £5,000,000 (using WebTAG estimates of benefits per user).

## Access to Employment

5.2.12 The scheme will improve access for all to employment, commercial and business opportunities and services and will be well integrated with the development of the surrounding area and facilitates easy access to the centre of the city, Cardiff Bay and the Enterprise Zone.

5.2.13 The scheme will facilitate transfer between sustainable modes of national, regional and local rail and bus services improving access to facilities and services for communities within the City Region. The access to employment benefits are estimated to range from moderate to large.

## Access to Services

5.2.14 The scheme will improve access for all to services, healthcare, shopping, tourism, culture and leisure facilities and will be well integrated with the development of the surrounding area and facilitates easy access to the centre of the city, Cardiff Bay and the Enterprise Zone.

5.2.15 The scheme will facilitate transfer between sustainable modes of national, regional and local rail and bus services improving access to facilities and services for communities within the City Region.

# CARDIFF'S INTEGRATED TRANSPORT HUB

5.2.16 The City Centre Mobility Assistance is an electric vehicle scheme for those who need help accessing the city centre. The vehicles can carry up to 3 passengers each and travel around the city centre on a flexible route, Mon-Fri 11am-3pm and can be booked in advance. This service can provide access from the Integrated Transport Hub to the shop mobility centre in the St David's Shopping Centre. However, opportunities to provide a shop mobility centre at or near the Integrated Transport Hub may also be explored in the future. The business case would need to consider the commercial feasibility as it is likely to require sponsored subsidy.

5.2.17 The access to employment benefits are estimated to range from slight to moderate.

## **Affordability**

5.2.18 There is no intended change to the cost of travel to users.

## **Severance**

5.2.19 There is no expected severance issues associated with the Integrate Transport Hub.

5.2.20 Traffic access restrictions associated with the supporting highway improvements on Westgate Street may result in traffic diverting to alternative routes. However, access by sustainable modes will become more attractive. It is envisaged that the long term impact will be neutral.

## **Option and Non-Use Values**

5.2.21 The Integrated Transport Hub provides an opportunity to provide a high quality and attractive gateway to the Capital and surrounding region. It will support continued investment, tourism, access to London, access to Cardiff International Airport.

5.2.22 There are significant benefits even if people in Cardiff don't use it. Survey results from 2014 (3,702 responses) indicates that 61% of those that rarely use the bus (22% of respondents) and 40% of those that never use the bus (6% of respondents) think that the bus would encourage greater use. In combination, it is estimated that approximately 16% of households value the Integrated Transport Hub even though they don't or rarely use the bus. The range of quantified benefits is estimated to be between £65,000,000 and £110,000,000 (using WebTAG opportunity benefits per household per year).

# CARDIFF'S INTEGRATED TRANSPORT HUB

## 5.3 ENVIRONMENTAL IMPACTS

### Noise

- 5.3.1 It is envisaged that the level of noise pollution on Westgate Street would reduce if there is a reduction in traffic between 15 to 40%. The noise pollution benefits are estimated to range from slight to moderate.
- 5.3.2 There is potential for the level of noise pollution on Bute Terrace to reduce if there is a reduction in traffic. The noise pollution benefits are estimated to range from neutral to slight.

### Air Quality

- 5.3.3 It is expected that the Integrated Transport Hub and supporting highway improvements and cycle hub will result in significant mode shift from private car travel. Some of the options for bus priority on Westgate Street may also remove between 15 and 40% of through traffic. There is also potential for Bute Terrace to experience an improvement in air quality.
- 5.3.4 There is a condition of the planning permission that requires any increase in the number and/ or frequency of bus services using the interchange in relation to the approved plan of operation shall be accompanied by an air quality assessment (details of the extent and scope of the assessment to be agreed with the Council) that demonstrates that there is no significant adverse impact on air quality arising from buses using the Interchange on Westgate Street and at the Westgate Street/ Castle Street junction, within the interchange, or on the Saunders Road access. The reason is to control potential air pollution arising from an increase in bus movements to and from the Interchange in the interests of public safety and amenity.
- 5.3.5 The air quality benefits on Westgate Street are estimated to range from moderate to large.
- 5.3.6 The air quality benefits on Bute Terrace are estimated to range from slight to moderate.

### Greenhouse Gases

- 5.3.7 It is expected that the Integrated Transport Hub and supporting highway improvements and cycle hub will result in significant mode shift from private car travel. Some of the options for bus priority on Westgate Street may also remove between 15 and 40% of through traffic. There is also potential for Bute Terrace to experience a reduction in traffic and corresponding reduction in greenhouse gases.
- 5.3.8 The greenhouse gases benefits on Westgate Street are estimated to range from moderate to large.

# CARDIFF'S INTEGRATED TRANSPORT HUB

5.3.9 The greenhouse gases benefits on Bute Terrace are estimated to range from slight to moderate.

## Landscape

5.3.10 Due to the limited space available there are no significant landscape improvement opportunities associated with the Integrated Transport Hub, highway accommodation works or supporting highway improvements.

## Townscape

5.3.11 The Integrated Transport Hub provides an opportunity to significantly improve the townscape. It will complement the development of Central Square and provide attractive facilities for pedestrians and cyclists. The townscape benefits are estimated to range from moderate to large.

5.3.12 The supporting highway improvements will significantly improve the townscape on Westgate Street by removing through traffic and improving facilities for pedestrians, cyclists and bus passengers. The townscape benefits are estimated to range from moderate to large.

5.3.13 The supporting highway improvements will on Bute Terrace will improve the townscape for pedestrians and cyclists. The townscape benefits are estimated to range from slight to moderate.

## Historic Environment

5.3.14 **Figure 16** illustrates the conservation areas, listed buildings and archaeologically sensitive areas within the study area. There are no significant changes that would affect historic environment areas. However, the design of the streetscape will need to be a specification that is appropriate for the public realm expected within the relevant historic environments.

# CARDIFF'S INTEGRATED TRANSPORT HUB

Figure 16: Conservation Areas, Listed Building and Archaeologically Sensitive Areas



## Biodiversity

5.3.15 There are no expected impacts on biodiversity.

## Water Environment

5.3.16 There are no expected impacts on water courses.

## 5.4 ECONOMIC IMPACTS

5.4.1 The value for money assessment has been undertaken for a base date of 2016. Inflation adjustments to relevant values have been based on the Retail Price Index on the Office of National Statistics website. The quantified economic benefits have been discounted into the future years by applying the discount factors over 60 years in accordance with WebTAG Guidance.

### Journey Time Changes

5.4.2 The preferred bus priority improvements on Westgate Street include removal of through traffic and allowing access only. Vehicles will still be able to access properties and car parks but only from one direction. It is envisaged that approximately 30 to 40% of the through traffic on Westgate Street could be removed. This could significantly improve the journey times for buses. Further modelling work will be required to quantify the journey time benefit to buses. However, the range of benefits is expected to be moderate to large.

5.4.3 The bus priority improvement proposed for Bute Terrace includes conversion of an eastbound traffic lane to a bus lane and improved cycle lane provision. This would significantly improve the journey times for buses so that they experience less congestion and delay because they do not need to queue in general traffic. The journey time savings per passenger per year are estimated to be approximately 2 hours, 4.5 hours and 1.1 hours in the morning, evening weekday and Saturday peak periods. The economic benefit discounted over 60 years is estimated to be between approximately £1,100,000 and £1,600,000. The upper range of this benefit assumes that bus patronage doubles but 2026.

### Journey Time Reliability Changes

5.4.1 It is envisaged that the supporting highway improvements on Westgate Street and Bute Terrace will improve bus journey time reliability. Further modelling work will be required to quantify the journey time reliability benefits. The range of benefits is expected to be moderate to large.

### Transport Costs

5.4.2 There are no expected changes in costs for users. However, there may be costs to users of the cycle hub depending on the type of operating model that is adopted. The costs to users would be significantly lower than the value of the benefits offered by the provision of safe, secure and managed facilities.

# CARDIFF'S INTEGRATED TRANSPORT HUB

## Accidents

- 5.4.3 It is envisaged that the mode shift associated with increased bus and cycle use associated with the Integrated Transport Hub will result in a range of safety benefits from slight to moderate.
- 5.4.4 The analysis of collisions on Westgate Street indicate that the highway improvements could potentially reduce the accidents by 25 to 50%. The range of quantified benefits is estimated to be between £7,300,000 and £14,700,000 (using WebTAG COBALT).
- 5.4.5 The analysis of collisions on Bute Terrace indicate that the highway improvements could potentially reduce the accidents by 50 to 100%. The range of quantified benefits is estimated to be between £2,200,000 and £3,900,000 (using WebTAG COBALT).

## Changes in Productivity

- 5.4.6 An additional 10,000 jobs are forecast to be created within the Central Cardiff Enterprise Zone<sup>2</sup>. The Integrated Transport Hub provides significant improvements to support access to jobs and businesses securing and building upon existing transportation links – locally, regionally and nationally. It will enhance the economic benefits and advantages offered by the wider Cardiff Capital Region and help generate prosperity for the Region. This includes improved transport connectivity between Cardiff and London, Cardiff International Airport and the South Wales Valleys. The improvements will also complement the wider public transport investment planned for the region (e.g. Metro and City Deal). The range of these benefits is expected to be moderate to large.

## Local Economy

- 5.4.7 **Table 31** provides a summary of the growth expected in Cardiff over the 10 year period from 2016 to 2026. The benefits of this growth to the local economy will be enhanced by the Integrated Transport Hub and supporting infrastructure by providing improved high quality transport access to investment and commercial opportunities, jobs, education, healthcare, services, culture, leisure, tourism and shopping. The range of these benefits is expected to be slight to moderate.

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<sup>2</sup> See <http://gov.wales/topics/businessandconomy/growing-the-economy/enterprisezones/central-cardiff/?lang=en>  
Updated July 2017

# CARDIFF'S INTEGRATED TRANSPORT HUB

**Table 31: Local Economy Growth Forecasts in Cardiff**

LOCAL ECONOMY	2016	2026	% CHANGE
Population	361,468	403,684	11.7%
Housing	154,978	177,845	14.8%
Dwellings	159,445	180,150	13.0%
Jobs	213,600	233,600	9.4%

## Land

5.4.8 The proposals do not impact on agricultural land but does provide significant opportunity to make better use of valuable land in the Central Cardiff Enterprise Zone. The Central Square regeneration scheme is progressing at an unprecedented pace. Over 620,000 sq ft of Grade A\* office accommodation is now either built or under construction. This represents one of the fastest programmes of commercial development in the UK regional market. This progress has been fuelled by one of the largest commercial property deals in the UK (outside of London) between Rightacres and Legal & General. The range of these benefits is moderate to large.

## Capital Costs

5.4.9 The Capital Costs to the Public Sector of the Integrated Transport Hub facilities, highway accommodation works and supporting highway improvements are estimated to be approximately £12.2 million. The cost estimates are indicative and some allowance for uncertainty and variance has been included (e.g. approximately 30% for the highway accommodation and supporting highway improvements). Applying an optimism bias of 44% would result in a cost estimate of approximately £17.6 million. Further detailed cost analysis will be undertaken as the proposals are progressed to preliminary and detailed design.

5.4.10 The Capital Costs to the private sector are part of an agreement with the developers which provides for construction of the building that will house the Integrated Transport Hub. The details of the financial arrangements are commercially confidential. Therefore, they are not reported in this document but can be made available to answer specific questions necessary for the decision of funding.

## Revenue Costs

- 5.4.1 The Integrated Transport Hub is intended to be operated on a contractual basis with a private operator. The management of the facilities will be procured. The revenue generated from the facility will be used to fund the ongoing running costs including staffing, cleaning, maintenance and security.

# CARDIFF'S INTEGRATED TRANSPORT HUB

## 6 THE DELIVERY CASE

6.1.1 Resolution to grant planning permission has been approved (Ref 16/02731/MJR). The current site for the new bus station has been cleared. The developer of the site has appointed designers and is in a position to deliver the construction of the bus station once funding has been secured.

6.1.2 The key risks, constraints and dependencies for the delivery of the preferred option (Option A) are provided in **Table 32: Preferred Option Key Risks, Constraints and Dependencies** and **Table 33: Constraints and Dependencies**. The risks have been identified using the categories of risk in, “The Green Book: appraisal and evaluation in central government”, HM Treasury, Updated 11<sup>th</sup> November 2016.

**Table 32: Preferred Option Key Risks, Constraints and Dependencies**

Type of Risk	KEY RISKS	
Business Risk	The risk that the lack of funding to deliver the fit-out, highway accommodation works and supporting highway improvements will prevent achievement of the outputs, objectives and outcomes.	A1
Business Risk mitigation	Secure funding for the fit-out, highway accommodation works and supporting highway improvements.	D1
Reputational Risk	The risk that the lack of funding to deliver the fit-out, highway accommodation works and supporting highway improvements on public perception and prevents achievement of the outcomes.	A1
Reputational Risk Mitigation	Secure funding for the fit-out, highway accommodation works and supporting highway improvements.	D1
Service Risk	The risk of bus services and the services that support the facility not being attractive, effective and efficient.	C1
Service Risk Mitigation 1	Engagement with operators to ensure they are involved in the specification of what they need to make their services operate effectively and efficiently.	D1
Service Risk Mitigation 2	Engagement with user groups to ensure they are involved in the specification of what is needed to make the fit-out of the bus station attractive.	D1
Service Risk Mitigation 3	Secure funding to provide the highway accommodation works and supporting highway improvements to ensure bus routes into and out of the bus station operate efficiently.	D1
Design Risk	The risk of the design not delivering the services to the required quality standards	C1
Design Risk Mitigation 1	Ensure the designers are competent in accordance with Contract, Design and Management Regulations.	D1
Design Risk Mitigation 2	Ensure the design process involves relevant stakeholders and user groups.	D1
Planning Risk	The that the implementation of the Integrated Transport Hub fails to adhere to the terms of the planning permission or that detailed planning permission cannot be obtained; or if obtained, can only be implemented at costs greater than in the original budget	C1

# CARDIFF'S INTEGRATED TRANSPORT HUB

Type of Risk	KEY RISKS	
Planning Risk Mitigation	Secure funding to ensure the planning permission terms are deliverable.	D1
<b>Build Risk</b>	<b>The risk that the construction of physical assets is not completed on time, to budget and to specification</b>	<b>C1</b>
Build Risk Mitigation 1	Ensure the project managers, designers, contractors and sub-contractors are competent in accordance with Contract, Design and Management Regulations.	D1
Build Risk Mitigation 2	Ensure the design process involves relevant stakeholders and user groups.	D1
Build Risk Mitigation 3	Ensure the funding allows for construction risks and contingencies.	D1
<b>Project Intelligence Risk</b>	<b>The risk that the quality of initial intelligence (for example, preliminary site investigation) will impact on the likelihood of unforeseen problems occurring.</b>	<b>C1</b>
Project Intelligence Risk Mitigation 1	Ensure the project managers, designers, contractors and sub-contractors are competent in accordance with Contract, Design and Management Regulations and that information used to inform the planning and design includes site investigations, utility services information, local knowledge and best practice.	D1
<b>Decant Risk</b>	<b>The risk arising in accommodation projects relating to the need to decant staff/clients from one site to another</b>	<b>A3</b>
Decant Risk Mitigation	Ensure arrangements for decanting staff/clients are planned in consultation with those involved.	D3
<b>Environmental Risk</b>	<b>The risk that the nature of the project has a major impact on its adjacent area and there is strong likelihood of objection from the general public</b>	<b>C1</b>
Environmental Risk Mitigation	Ensure commitments to mitigate any environmental risks are adhered to and supported with the necessary funding.	D1
<b>Procurement Risk</b>	<b>The risk that can arise from the contractual arrangements between two parties – for example, the capabilities of the contractor/ when a dispute occurs.</b>	<b>C1</b>
Procurement Risk Mitigation	Ensure the form of contract/s includes appropriate procedures for the resolution of disputes.	D1
<b>Operational Risk</b>	<b>The risk that operating costs vary from budget and that performance standards slip or that a service cannot be provided.</b>	<b>C1</b>
Operational Risk Mitigation 1	Procure the operation of the Integrated Transport Hub. Ensure the terms and conditions include service quality standards and account for contingency plans if the appointed operator does not fulfil their duties.	D1
Operational Risk Mitigation 2	Establish a contractual agreement with bus operators for the use of the Integrated Transport Hub and associated facilities.	D1
<b>Availability and Performance Risk</b>	<b>The risk that the quantum of service provided is less than that required under the contract.</b>	<b>C1</b>
Availability and Performance Risk Mitigation	Ensure the terms and conditions of the procurement include service quality standards and account for contingency plans if the appointed operator does not fulfil their duties.	D1

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Type of Risk	KEY RISKS	
Demand Risk	<b>The risk that the demand for a service does not match the levels planned, projected or assumed. As the demand for a service may be partially controlled by the public body concerned, the risk to the public sector may be less than perceived by the private sector.</b>	<b>C2</b>
Demand Risk Mitigation	The Integrated Transport Hub will be constrained to 14 stands. The allocation of stands will be included in the contractual agreement with operators. If the demand from bus operators to use the Integrated Transport Hub is higher than expected and some operators are under-utilising their allocation, it will be necessary to renegotiate the agreement with bus operators to maximise the efficient operation of the stands. Appropriate terms and conditions will be included in the agreement.	<b>D2</b>
Volume Risk	<b>The risk that actual usage of the service varies from the levels forecast.</b>	<b>C1</b>
Volume Risk Mitigation	A review of services and operations will be undertaken if user demand is lower than anticipated. The review will identify actions to increase use.	<b>D1</b>
Occupancy Risk	<b>The risk that a property will remain untenanted – a form of demand risk</b>	<b>C1</b>
Occupancy Risk Mitigation	A review of services and operations will be undertaken if footfall is lower than anticipated and retail units within the Integrated Transport Hub remain untenanted. The review will identify actions to increase use and footfall and/or change use of the untenanted units.	<b>D1</b>
Maintenance Risk	<b>The risk that the costs of keeping the assets in good condition vary from budget</b>	<b>C1</b>
Maintenance Risk Mitigation	Ensure that the procurement of the operation and maintenance of the Integrated Transport Hub accounts for how variance in maintenance costs will be managed.	<b>D1</b>
Technology Risk	<b>The risk that changes in technology result in services being provided using sub-optimal technical solutions.</b>	<b>C2</b>
Technology Risk Mitigation	Upgrades in technology be included in the contractual arrangements to avoid equipment and systems becoming obsolete.	<b>D2</b>
Funding Risk	<b>The risk that the availability of funding leads to delays and reductions in scope as a result of reduced monies.</b>	<b>A1</b>
Funding Risk Mitigation	Secure funding to deliver what is needed to realise the benefits and outcomes identified in the business case.	<b>D1</b>
Residual Value Risk	<b>The risk relating to the uncertainty of the values of physical assets at the end of the contract period.</b>	<b>A2</b>
Residual Value Risk Mitigation	Ensure that the procurement of the operation and maintenance of the Integrated Transport Hub includes appropriate terms and conditions that relate to the quality of the assets at the end of the contract period.	<b>D2</b>
External Non Systematic and Catastrophe Risks	<b>The risks that affect all society, and are not connected directly to the project. These risks are accounted for in the discount rate and include for example policy and technological disruption risks.</b>	<b>A1</b>
External Non Systematic and Catastrophe Risk Mitigation	Ensure revenues are high enough to cover operational and maintenance costs and allow for the accumulation of a contingency to minimise the impact of idiosyncratic risk events. Ensure that an appropriate insurance policy is secured for the facility and its operation.	<b>D1</b>
Policy Risk	<b>The risk of changes in policy direction leading to unforeseen change</b>	<b>D1</b>
Policy Risk Mitigation	Ensure revenues are high enough to cover operational and maintenance costs and allow for the accumulation of a contingency to minimise the impact of unexpected changes in policy that might impact on the statutory requirements and/or costs of operating the Integrated Transport Hub.	<b>D4</b>

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Type of Risk	KEY RISKS	
Technological Disruption Risk	The risk of new techniques emerging that completely transform the way things are done, such as the appearance of affordable internet downloading and data sharing.	C2
Technology Disruption Risk Mitigation	Upgrades in technology be included in the contractual arrangements to ensure equipment and systems remain up to date and effective. Ensure revenues are high enough to cover operational and maintenance costs and allow for the accumulation of a contingency to minimise the impact of unexpected changes in technology that might impact on the operation of the Integrated Transport Hub.	D4

**Table 33: Constraints and Dependencies**

	CONSTRAINTS
Number of stands available	Bus operators will need to work within the operational requirements to ensure that the 14 stands available are used efficiently.
	DEPENDENCIES
	<p>Willingness of operators to adapt to new arrangements.</p> <p>Public acceptance of new arrangements.</p> <p>Provision of information on new arrangements.</p> <p>Development plans for Callaghan Square.</p> <p>Wider city centre schemes to improve city centre bus circulation.</p>

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## 7 THE FINANCIAL CASE

- 7.1.1 The Council's development partner Rightacres Property Ltd has managed to secure a major office headquarters investment to anchor the regeneration scheme on the site of the former bus station. The development that will incorporate the Integrated Transport Hub also includes residential, retail and office which is being delivered by the developer in partnership with Cardiff Council. The details of the financial arrangements are commercially confidential. Therefore, they are not reported in this document but can be made available to answer specific questions necessary for the decision of funding.
- 7.1.2 The current agreement with the developers provides for the building of the Transport Interchange. Additional funding will be required for the transport interchange elements of the facility. In the past, Welsh Government funding has been made available for other bus station redevelopments in South Wales, including Newport (£5.5m), Swansea (£5.2m) and Bridgend (£2.3m) and Port Talbot Parkway (£5.3m).
- 7.1.3 In order to achieve the standard of facility required, the fit-out of the Integrated Transport Hub and the supporting infrastructure are estimated to cost approximately £12.2m. These costs will be refined as detailed design progresses but is made up of key elements listed the cost breakdown in **Table 34: High Level Indicative Cost Breakdown**.

**Table 34: High Level Indicative Cost Breakdown**

Description of Cost Element	Indicative Cost Estimate
General fit out costs	£3m
RTI and associated information and wayfinding	£1m
Public Realm	£1m
Bike Hub	£0.3m
Highway Accommodation Works	£2.9m
Westgate St Supporting Highway Improvements (including optimism bias of 44%)	£3.6m
Bute Terrace Supporting Highway Improvements	£0.4m
Total	£12.2m

Note: The estimates assume that shell is delivered fully serviced including ducting and fixing points.

- 7.1.4 The aforementioned cost estimates will continue to be worked up in more detail but provide an indication of the quantum required for such an important city and regional destination point.

## 8 THE COMMERCIAL CASE

- 8.1.1 The Integrated Transport Hub is intended to be operated on a contractual basis with a private operator. The management of the facilities will be procured. The revenue generated from the facility will be used to fund the ongoing running costs including staffing, cleaning, maintenance and security.

# CARDIFF'S INTEGRATED TRANSPORT HUB

## 9 MONITORING AND EVALUATION PLAN

9.1.1 Before and after studies will include monitoring related to achievement of the SMART Transport Planning Objectives as listed in the Monitoring Plan in **Table 35: Monitoring Plan**. An evaluation of how well the objectives have been achieved and what actions might be needed to improve the effectiveness of the Integrated Transport Hub if required will be undertaken using the data collected and a review of external .

**Table 35: Monitoring Plan**

<b>TPO 1</b>	Ensure interchange within a 5 minute walk of each transport mode.
<b>Monitoring</b>	<ul style="list-style-type: none"> <li>• Footfall</li> <li>• User surveys</li> </ul>
<b>TPO 2</b>	Ensure disabled drop-off/ pick-up facilities are available within a maximum of 25 – 50m of both the bus and railway stations.
<b>Monitoring</b>	<ul style="list-style-type: none"> <li>• User surveys</li> </ul>
<b>TPO 3</b>	Increase the number of people travelling to work by sustainable transport modes to 48% by the end of 2013.
<b>Monitoring</b>	<ul style="list-style-type: none"> <li>• User surveys</li> <li>• Footfall</li> <li>• Bus Patronage</li> <li>• Boarding and alighting at stands</li> <li>• Cycle counts</li> <li>• Cycle stand occupancy</li> </ul>
<b>TPO 4</b>	Reduce traffic flows within the city centre cordon.
<b>Monitoring</b>	<ul style="list-style-type: none"> <li>• Traffic Counts on the City Centre Cordon</li> </ul>
<b>TPO 5</b>	Provide positive steps to avoid the need for the declaration of an Air Quality Management Area on Westgate Street.
<b>Monitoring</b>	<ul style="list-style-type: none"> <li>• Air Quality Monitoring of the City Centre Air Quality Management Area</li> </ul>
<b>TPO 6</b>	Ensure key pedestrian desire lines both to and from the bus station are free from conflict.
<b>Monitoring</b>	<ul style="list-style-type: none"> <li>• User surveys</li> <li>• Footfall</li> </ul>

# CARDIFF'S INTEGRATED TRANSPORT HUB

## 10 SUMMARY AND NEXT STAGES

### 10.1 SUPPORTING ON-STREET ACCOMMODATION WORKS

10.1.1 Buses using the road network to access the Integrated Transport Hub It has been identified that in order to realise the benefits of the bus station the following supporting on-street accommodation works will be needed:

### 10.2 APPROVALS

10.2.1 Planning permission for the development including the Integrated Transport Hub is subject to signing of the s106 Agreement.

10.2.2 Stage 1, Stage 2 and Stage 3 WelTAG assessments will be undertaken for the highway improvements on Westgate Street and Bute Terrace including stakeholder and public consultation. Traffic regulation orders will also be required.

### 10.3 PROCUREMENT

10.3.1 The fit-out and operational management of the Integrated Transport Hub will be procured to coincide with the completion of construction of the building.

### 10.4 STAKEHOLDER ENGAGEMENT

10.4.1 Further stakeholder engagement will be undertaken in developing the specification for the fit-out and operation of the Integrated Transport Hub. This will include user groups and transport operators.

### 10.5 PROGRAMME MANAGEMENT

10.5.1 The programme will be managed in partnership with the developer. Progress will continue to be reported to Cardiff Council Cabinet.

(Continued)

## 10.6 TIMESCALES AND REPORTING

10.6.1 The timescales for the Integrated Transport Hub are subject to the timing of the construction of the development proposals that are currently being planned. The buildings on the site have been demolished and the site has been cleared. Once construction begins, it is expected that it will take approximately 6 months to excavate the site including the set-up and piling. Typically a building of this type will take 18 to 24 months for full completion. Progress will continue to be reported to Cardiff Council Cabinet. The supporting highway improvements will be programmed to be completed in time for the opening of the bus station.