

West of England  
 Ashton Vale to Temple Meads Rapid Transit  
 Risk Register - General Scheme Risks  
 AS AT: 2 August 2011

No.	Description	Category	Impact			Prob.	RISK RAG	Proximity (date)	Approach Avoid, Accept, Reduce, Transfer	Mitigation Measures	Workstream	PERSON RESPONSIBLE	DATE OF UPDATE	STATUS	Impact			Prob.	Residual Risk RAG	DATE OF CLOSURE	COMMENTS OR REASON FOR CLOSURE	QRA
			Cost	Time	Performance										Cost	Time	Performance					
<b>Stage 1 - Risks Arising during Preparation and Submission of Best and Final Bid (and applicable to subsequent stages until closed)</b>																						
1.01	Appropriate project governance not in place	Political / Policy	L	M	M	M	3.33	current	Reduce	Joint promotion of agreement Ensure Board approval of updated PID	Project Management	Heads of Legal / Project Board	05/03/2010	Reducing	M	M	M	L	2.00			R2
1.02	Change in regional structure removes clarity of priorities	Political / Policy	M	H	H	M	5.33	current	Reduce	Regular briefing of Members Address incorrect information in public domain Scope in works to address concerns	Project Management	Heads of Transport	01/04/2011	Reducing	M	M	L	M	3.33			
1.03	Change of political balance in the sub-region as a result of local elections	Political / Policy	M	H	M	M	4.67	ongoing	Accept	Aim for cross party support Regular briefing of Members	Project Management	Heads of Transport	01/04/2011	Reducing	M	M	M	L	2.00			R3
1.04	Local policy makers do not perceive benefits, believe adverse impacts not tolerable, or place scheme low priority on agenda	Political / Policy	H	H	M	H	8.00	current	Reduce	Regular briefing of Members Address incorrect information in public domain Scope in works to address concerns	Project Management	Heads of Transport	29/06/2010	Reducing	H	H	H	L	3.00			R3
1.05	Scheme objectives and quality are overly compromised through VE	Political / Policy	L	M	H	H	6.00	current	Reduce	Maintain ongoing review against objectives Ensure Project Board endorsement	Project Management	Project Board (QA)	01/04/2011	No change	L	L	H	M	3.33			
1.06	Reduced local support as a result of perceived project delay or budgetary issues	Acceptability / Objection	L	M	L	M	2.67	ongoing	Reduce	Targeted engagement with key stakeholders Robust Objection Management	Project Management	Project Manager	01/04/2011	No change	L	M	L	M	2.67			
1.07	Adverse press coverage creates negative feeling towards the scheme which impacts on Members	Political / Policy	M	H	H	M	5.33	current	Avoid	Proactive media management Regular briefing of Members Adherence to communications strategy	Project Management	Project Manager	24/11/2010	No change	M	H	H	M	5.33			R3
1.08	Revised appraisal guidance impacts adversely on overall VFM	Business Case	L	M	L	L	1.33	current	Reduce	Early engagement with DfT Ensure robust appraisal	Modelling/Appraisal	Workstream Leader	01/04/2011	Reducing	L	L	L	L	1.00			
1.09	Over-optimistic modelling affects business case or design work	Business Case	M	M	M	L	2.00	current	Reduce	Robust sensitivity testing Independent review	Modelling/Appraisal	Workstream Leader	01/04/2011	No change	M	M	M	L	2.00			R5
1.10	NR Portishead Rail 'GRIP 4 Lite' not delivered in timely manner to inform BAFB	Design (Corridor)	M	M	M	H	6.00	current	Reduce	Proactive engagement with NR Seek prioritisation of key BRT elements to inform design	Project Management	Project Manager	01/04/2011	Reducing	M	L	L	M	2.67			
1.11	NR Portishead Rail study incurs greater cost than anticipated	Design (Corridor)	M	M	L	M	3.33	current	Reduce	Ensure robust design brief Establish clear price basis for work Frequent performance monitoring	Project Management	Project Manager	01/04/2011	Reducing	M	L	L	M	2.67			
1.12	NR Portishead study not sufficient to remove NR objection	Design	H	M	M	M	4.67	current	Avoid	Maintain clear project objectives Frequent engagement with NR during commission	Project Management	Project Management	01/04/2011	Reducing	L	L	L	M	2.00			
1.13	BCFC design incompatibility	Design (Corridor)	H	H	M	H	8.00	current	Reduce	Integrated design with developer continued negotiation on development planning conditions	Design (Corridor)	Project Manager	29/06/2010	Reducing	H	H	M	M	5.33			R5
1.14	Lack of resources to progress the scheme	Project Management	L	M	L	H	4.00	ongoing	Reduce	Agree resource commitments with Project Board Agree budget commitments from UAs Revise risk assessment	Project Management	Senior Responsible Owner	24/11/2010	Reducing	L	L	L	M	2.00			R1
1.15	Degree of uncertainty in design cost	Design (Corridor) Design (City Centre)	M	L	M	M	3.33	current	Reduce	Early engagement with planners Undertake independent cost review Appropriate allowance in cost estimate	Design (Corridor) Design (City Centre)	Workstream Leaders	05/03/2010	No change	M	L	M	M	3.33			R4
1.16	Significant inflation increases	Project Management	M	L	M	M	3.33	current	Reduce	Consider within QRA and agree assumptions	Project Management	Project Management	02/08/2011	No change	M	L	L	M	2.67			
1.17	Scheme not awarded Programme Entry status	Political / Policy	H	H	H	M	6.00	ongoing	Accept	Regular briefing of Members Strategy of communications with Govt	Project Management	Heads of Transport	01/04/2011	No change	H	H	H	M	6.00			R3
1.18	Delay in DfT decision to reactivate PE impacts on Public Inquiry	Political / Policy	H	M	H	M	5.33	ongoing	Reduce	Regular engagement with DfT Maintain sufficient scope within programme to allow for some slippage	Project Management	Project Manager	01/04/2011	Reducing	M	M	M	L	2.00			
1.19	Lack of clarity in procurement approach	Political / Policy	H	H	H	M	6.00	ongoing	Avoid	Agree approach with WoE on scheme specific and programme level	Project Management	Project Board	01/04/2011	No change	H	H	H	M	6.00			
1.20	Delays through coordination of design in City Centre with NFHP	Design (Corridor) Design (City Centre)	M	M	L	M	3.33	ongoing	Reduce	Agree combined design for AV & NFHP at early stage	Design (Corridor) Design (City Centre)	Project Manager	01/04/2011	Reducing	M	M	L	L	1.67			
1.21	DfT Guidance late or includes significant extra work	Business Case	M	H	L	M	4.00	ongoing	Reduce	Agree additional requirement with DfT at early stage	Modelling/Appraisal	Workstream Leader	01/04/2011	Reducing	M	H	L	L	2.00			
<b>Stage 2 - TWAQ Risks Arising during progress towards and through Public Inquiry (and applicable to subsequent stages until closed)</b>																						
2.01	Abortive costs may be incurred in the event reactivated Programme Entry not achieved	Political / Policy	M	L	H	H	6.00	current	Reduce	Sound Cost Management Prioritisation of key activities Engagement with DfT	Project Management	Senior Responsible Owner	01/04/2011	Reducing	M	L	M	H	5.00			
2.02	Delay to PI results in TWAQ documentation becoming out of date	Project Management	L	M	L	M	2.67	2011	Reduce	Review objections received to focus on key technical issues	Project Management	Project Manager	24/11/2010	No change	L	M	L	M	2.67		Subject to decision by Project Board	
2.03	Delay to PI means key resources unavailable to support PI	Project Management	L	L	M	M	2.67	2011	Reduce	Secure agreement of key staff with advisor team	Project Management	Senior Responsible Owner	24/11/2010	No change	L	L	M	M	2.67		Subject to decision by Project Board	
2.04	Sustainable objections to scheme	Acceptability/ Objection	H	H	H	M	6.00	current	Avoid	Clear communications and clear messages Proactive engagement with objectors Regular and clear member briefings Robust technical case objection management strategy	Project Management	Project Manager	05/03/2010	Reducing	H	H	L	M	4.67			R5

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			Cost	Time	Performance										Cost	Time	Performance					
2.05	PI costs exceed budgeted allowance	Project Management	H	M	M	M	4.67	2012	Reduce	Seek to maintain 'in-house' costs where practicable Ensure sufficient cost contingency Identify roles and responsibilities Seek cost saving measures where it will not impact on project performance	Project Management	Senior Responsible Owner / Project Manager	01/04/2011	Reducing	M	M	M	M	4.00			
2.06	VE may necessitate update to key documents	Technical	M	M	L	M	3.33	2011	Accept	Ensure scope of VE minimises impact on TWA0 documents	Project Management	Senior Responsible Owner	01/04/2011	Reducing	M	L	L	M	2.67			
2.07	Cannot identify suitable Exchange Land	Technical	L	M	M	L	1.67	2011	Avoid	Undertake Exchange Land appraisal	Land	Workstream Leader	01/04/2011	Reducing	L	L	L	L	1.00			
2.08	Open Space not considered suitable	Technical	L	M	M	L	1.67	2011	Avoid	Undertake Open Space appraisal	Land	Workstream Leader	01/04/2011	Reducing	L	L	L	L	1.00			
2.09	Inability to access to the Park & Ride - i.e. the risk the lease determines and either lose the right to use half the site or there is an increased cost associated with its use (e.g. renewed more expensive lease)	Operational	M	L	H	M	4.00	2013 onwards	Reduce	Review of contracts and agreements Inclusion P&R access in TWA0 Revision of agreements through TWA0 process and consider buying out or extending the lease if required Strategic approach to wider network procurement	Legal	Workstream Leader	24/11/2010	Reducing	M	L	H	L	2.00			R4
2.10	EA order objection	Environment	M	M	M	M	4.00	current	Reduce	Full FRA Agree mitigation measures with EA Agree flood management plan with EA	Environment	Workstream Leader	05/03/2010	Reducing	M	M	M	L	2.00			R5
2.11	High number of objections received following LBC and CAC Applications	Environment	M	M	L	M	3.33	current	Reduce	Ensure aligned process with TWA0 Proactive Engagement with Objectors	Legal	Workstream Leader	01/04/2011	Reducing	L	L	M	M	2.67			
Stage 3 - Risks Arising after Programme Entry Award and before Full Approval (and applicable to subsequent stages until closed)																						
3.01	Inability to continue scheme development work while awaiting SoS approval	Funding	H	H	M	H	8.00	current	Reduce / Accept	Identify and secure current and future year funding with UAs	Project Management	Heads of Transport	24/11/2010	No change	M	H	L	H	6.00			R1
3.02	Compulsory Purchase Orders successfully resisted by land owners	Acceptability / Objection	M	M	L	M	3.33	2011	Reduce	Clear communications with affected parties Robust technical case for need Third Party agreements	Project Management	Heads of Legal	29/06/2010	Reducing	M	M	L	L	1.67	updated residual risk based on land advisors review		R5
3.03	Failure to secure powers and/or operating rights	Project Management	H	H	H	M	6.00	2011	Reduce	Ensure political support Ensure robust technical case Reduce opposition to the scheme as far as possible Inclusion with TWA0	Legal	Workstream Leader	05/03/2010	Reducing	H	H	H	L	3.00			R5
3.04	SoS may not accept Inspector's recommendation and request new evidence after PI has closed	Legal	M	M	M	M	4.00	2012	Accept	Seek to deal with all issues at Public Inquiry Reopen Public Inquiry in the event SoS disagrees with Inspector Where further information is needed but SoS agrees with Inspector, SoS to circulate letter	Legal	Workstream Leader	01/04/2011	Reducing	M	M	M	L	2.00			
3.05	SoS makes the Order but a challenge to validity of the Order occurs	Legal	L	L	M	L	1.33	2013	Reduce	Scheme progresses towards judicial review	Legal	Workstream Leader	01/04/2011	No change	L	L	L	L	1.00			
3.06	Safety legislation changes requiring significant design amendments	Safety	H	M	L	L	2.00	ongoing	Reduce	Monitoring of relevant legislation during project Engagement of qualified consultants and contractors Identify safety and access audits	Design (Corridor) Design (City Centre)	Workstream Leaders	05/03/2010	No change	H	M	L	L	2.00			R9
3.07	Project requirements are not protected through development control and negotiations with developers	Project Management	H	H	M	M	5.33	ongoing	Reduce	Close engagement with UAs and developers Third party agreements	Legal	Project Manager	05/03/2010	No change	H	H	M	M	5.33			R4
3.08	Land access issues	Technical	L	M	L	M	2.67	current	Reduce	Ongoing communications with all land and property interests	Land	Workstream Leader	05/03/2010	Reducing	L	M	L	L	1.33			R5
3.09	Late delivery of ES	Project Management	L	L	L	M	2.00	Current	Reduce	Ensure scheme design freeze to programme Clarify structure of ES Provide front end sections in process	Environment	Workstream Leader	15/10/2009	Reducing	L	L	L	L	1.00			R5
3.10	BCFC application approved but delivery delayed	Third Parties	M	M	M	H	6.00	2011	Reduce/Transfer	Consider with development/delayed development scenario in project planning Appraisal of programme scenarios in ES Third party agreement with developer	Project Management	Project Manager	05/03/2010	No change	M	M	M	H	6.00			R5
3.11	BCFC appeal TVG SoS decision which affects timely delivery of inspectors report and BRT scheme progress	Third Parties	H	H	M	H	8.00	2012	Reduce	Maintain dialogue with BCFC Ensure ongoing legal advice Present robust Public Inquiry Case	Legal	Legal	01/04/2011	Reducing	H	H	L	H	7.00			
3.12	Funding package (sufficient for capital costs)	Political / Policy	H	H	M	M	5.33	current	Reduce	Forward funding programme	Project Management	Heads of Transport	05/03/2010	Reducing	M	H	M	L	2.33	Subject to decision by Project Board		R4
3.13	Failure to secure developer contributions (matched funding) are not secured or sufficient	Funding	M	H	M	H	7.00	2011 to 2014	Reduce	Identification of sources of funding Early agreement with developers on contributions Underwritten by LAs	Project Management	Senior Responsible Owner	05/03/2010	Reducing	M	M	M	H	6.00			R4
3.14	Delay to complementary developer funded elements or funding	Funding	M	H	M	H	7.00	2011 to 2014	Reduce / Transfer	Early agreement with developers on protected alignments Inclusion of land parcels in book of reference Assessment of development delay scenarios in ES	Project Management	Senior Responsible Owner	15/10/2009	No change	M	H	M	H	7.00			R4

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			Cost	Time	Performance										Cost	Time	Performance					
3.15	Tender price exceeds cost estimate	Funding	H	H	H	H	9.00	current	Reduce	Robust major scheme bid Strict change control processes independent review of costs	Project Management	Project Manager	05/03/2010	Reducing	H	H	H	M	6.00			R4
3.16	Complex procurement strategy	Delivery	H	H	H	M	6.00	current	Reduce	Ensure robust procurement strategy Discussion/test with private party providers/partners	Project Management	Senior Responsible Owner	05/03/2010	Reducing	H	H	H	L	3.00			R4
3.17	Environmental legislation changes requiring significant design amendments and designations	Environment	M	M	M	L	2.00	ongoing	Reduce	Monitoring of relevant legislation during project Engagement of qualified consultants and contractors	Environment	Legal	05/03/2010	No change	M	M	M	L	2.00			R4
3.18	Delay in commencing procurement work	Project Management	M	M	L	M	3.33	2010	Reduce	Resource and fund procurement work starting in early 2010	Commercial	Workstream Leader	29/06/2010	Reducing	M	M	M	M	4.00			R4
3.19	Planning conditions impose greater design scope	Design (Corridor) Design (City Centre)	M	L	M	M	3.33	2011 to 2014	Accept	Early engagement with planners Appropriate allowance in cost estimate	Design (Corridor) Design (City Centre)	Workstream Leaders	05/03/2010	No change	M	L	M	M	3.33			R4
3.20	Lack of market sentiment for bus operators	Operational	M	M	H	M	4.67	2011	Reduce	Progress measures identified Marketing plan Continue engagement with potential operator(s)	Commercial	Workstream Leader	05/03/2010	Reducing	M	M	H	L	2.33			R9
3.21	DFT CA requirements not met in relation to progressing bus operator agreements with the scheme	Business Case	M	M	H	M	4.67	2011	Reduce	Understand DFT requirements Efficient judgements when requirements are unclear Progress service procurement programme	Commercial	Workstream Leader	05/03/2010	Reducing	M	M	H	L	2.33			R4
<b>Stage 4 - Risks Arising During Construction</b>																						
4.01	Land costs higher than predictions escalate scheme costs or additional CPO costs.	Costs	M	M	L	H	5.00	current	Accept/Reduce	Ensure robust initial estimate Identify all rights required Early buy-out of required properties	Land	Workstream Leader	29/06/2010	Reducing	M	M	L	M	3.33			R8
4.02	Cost of statutory undertakers diversions escalates	Costs	M	M	L	H	5.00	current	Reduce	Identify services Early engagement of utility companies	Design (Corridor) Design (City Centre)	Project Manager	05/03/2010	Reducing	M	M	L	M	3.33			R20
4.03	Construction inflation exceeds allowance	Costs	H	M	M	M	4.67	from Nov 08	Accept/Reduce/Trans fer	Ensure cost estimates include best up to date forecasts on construction inflation Include in QRA	Project Management	Project Manager	05/03/2010	No change	H	M	M	M	4.67			INFL
4.04	Compensation claims (noise, disturbance etc.)	Costs	H	M	L	M	4.00	2011	Reduce/Transfer	Minimise impacts on properties in design Fully assess impacts Ensure appropriate mitigation measures included in the scheme Construction contract	Project Management	Project Manager	05/03/2010	Reducing	H	M	L	L	2.00			R13
4.05	Contractor experiences financial difficulties and cannot complete construction	Delivery	H	H	M	L	2.67	2011	Reduce/transfer	Contractual transfer of risk Reduce bespoke elements where possible Discussion/test with private party providers/partners Robust procurement strategy	Project Management	Project Manager	15/01/2010	No change	H	H	M	L	2.67			R10
4.06	Contaminated land identified	Design (Corridor)	M	M	L	H	5.00	2010	Reduce/Accept	Ensure adequate ground investigations Specific site surveys of high-risk areas	Design (Corridor)	Project Manager	05/03/2010	Reducing	M	M	L	M	3.33			R13
4.07	Potential of archaeological surveys (and finds), impacting on time, cost, route option	Environment	M	M	L	H	5.00	2009	Reduce/Accept	Ensure adequate ground investigations and ES scoping Specific site surveys of high-risk areas	Environment	Project Manager	05/03/2010	Reducing	M	M	L	M	3.33			R13
4.08	Unforeseen ground conditions	Design (Corridor)	H	L	L	H	5.00	2009	Reduce	Ensure adequate ground investigations Specific site surveys of high-risk areas	Environment	Project Manager	05/03/2010	Reducing	H	L	L	M	3.33			R13
4.09	Seasonal mitigation requirements impact on programme	Environment	M	H	L	L	2.00	2009	Reduce	Ensure works undertaken early in programme Application ES mitigation	Environment	Project Manager	05/03/2010	No change	M	H	L	L	2.00			R19
4.10	Compliance with planning obligations different to those expected	Environment	H	M	L	H	6.00	2009	Reduce	Ensure adequate ES scoping and assessment Ensure build in adequate mitigation measures Specific site surveys of high-risk areas Progress design in detail for sensitive sections Established Design Guide with wide buy-in	Environment	Project Manager	05/03/2010	Reducing	H	M	L	L	2.00			R9
4.11	Identification protected species	Environment	M	M	L	M	3.33	2009	Reduce	Ensure adequate ES scoping and assessment Ensure build in adequate mitigation measures Specific site surveys of high-risk areas Pre-walk over surveys	Environment	Workstream Leader	05/03/2010	Reducing	M	M	L	L	1.67			R13
4.12	Water contamination	Environment	H	M	L	M	4.00	2009	Reduce	Ensure adequate ES scoping and assessment and build in adequate mitigation measures Specific site surveys of high-risk areas Progress design in detail for sensitive sections Draft and implement CEMP and ensure contractor signed up to Engagement with EA	Environment	Workstream Leader	05/03/2010	Reducing	H	M	L	L	2.00			R13
4.13	Impact on habitats	Environment	H	M	L	M	4.00	2009	Reduce	Ensure adequate ES scoping and assessment Specific site surveys of high-risk areas Progress design in detail for sensitive sections Bower Ashton SNCI mitigation	Environment	Workstream Leader	15/10/2009	Reducing	H	M	L	L	2.00			R13

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			Cost	Time	Performance										Cost	Time	Performance					
4.14	General industry shortage of resources	Project Management	M	H	L	M	4.00	2011	Accept/Reduce/Transfer	Ensure programme takes resource issues in to account Consultation with potential contractors	Project Management	Project Manager	05/03/2010	No change	M	H	L	M	4.00			R8
4.15	Contractor fails to keep to programme leading to late completion	Project Management	H	H	M	M	5.33	2011	Reduce/Transfer	Contractual commitment with contractor and penalty clauses	Project Management	Project Manager	28/05/2008	No change	H	H	M	M	5.33			PRGM
4.16	On-street measures not in place when needed	Project Management	L	L	H	M	3.33	2013	Reduce	Early programme identification of measures and agreement with LAs	Project Management	Project Manager	28/05/2008	Reducing	L	L	H	L	1.67			R15
4.17	Technical problems with structural / civil works come to light during construction	Technical	H	H	M	H	8.00	2013	Reduce/Transfer	Ensure appropriate provision made in scheme cost estimate (QRA) Contractual transfer of risk to contractor Independent review of cost allowances Progress detailed design work on high risk items	Design (Corridor) Design (City Centre)	Project Manager	28/05/2008	Reducing	H	H	M	M	5.33			R14
4.18	Insufficient level of provision of segregation in city centre. On street measures not in place where needed.	Operational	L	L	H	M	3.33	2013	reduce	Appropriate modelling and design work. Use of experienced advisors and BCC officers.	Design (City Centre)	Project Manager	22/06/2009	No change	L	L	H	M	3.33			R15
4.19	Weather related delays	Environment	H	M	L	M	4.00	2013	Reduce	Construction programme to take into account tides and other seasonal requirements	Environment	Workstream leader	05/03/2010	Reducing	H	M	L	L	2.00			R20
4.20	Wrong construction methodology	Project Management	L	H	L	L	1.67	2013	Reduce	Understand DFT requirements Efficient judgements when requirements are unclear	Project Management	Project Manager	05/03/2010	No change	L	H	L	L	1.67			R20
4.21	Stop/guideway interface causes problems with existing operations	Quality	M	M	M	M	4.00	2013	Reduce	Advance survey and design work Review of design and issues from other schemes	Design (City Centre)	Workstream leader	05/03/2010	Reducing	L	M	M	M	3.33			R20
4.22	BCFC and NR interface causes problems with existing operations	Technical	H	H	M	H	8.00	2013	Reduce	Agreement with BCFC to cover integration issues Integrated development and RT construction programme Early programming of works Continue liaison with BCFC and NR	Design (Corridor)	Workstream leader	05/03/2010	Reducing	M	L	M	M	3.33			R20
4.23	FEPA license not obtained in time for works	Third parties	M	H	L	M	4.00	2013	Reduce	Advance work required for FEPA license	Legal	Workstream leader	05/03/2010	Reducing	M	H	L	L	2.00			R10
4.24	Legal powers inadequate	Legal	M	H	L	M	4.00	2013	Reduce	Amendments to draft Order Future amendment Order if required	Legal	Workstream leader	29/06/2010	Reducing	M	H	L	L	2.00			R10
4.25	Unable to provide temporary access to Trading Estate during construction	Third parties	M	M	L	M	3.33	2013	Reduce	Option 1 - Temporary structure across level crossing and onto Barons Close Option 2 - Use existing but narrow Babcock Access onto Ashton Road (only suitable for vehicles no larger than a transit van)	Land	Workstream leader	24/11/2010	Reducing	M	M	L	L	1.67			R20
<b>Stage 5 - Risks Arising During Operation</b>																						
5.01	High ongoing maintenance costs for LAs	Costs/Funding	M	L	L	M	2.67	2011	Reduce/Transfer	Consider access charge pegged to maintenance costs Consider maintenance costs in design work Agree procurement regime	Design (Corridor)	Senior Responsible Owner	05/03/2010	No change	M	L	L	M	2.67			
5.02	On-street bus lanes not properly enforced	Delivery	L	L	H	L	1.67	2014	Reduce	Ensure effective programme in pace with BCC and NS	Project Management	Project Manager	28/05/2008	No change	L	L	H	L	1.67			
5.03	Delays in supply or ordering buses not ready for service on opening day	Delivery	L	M	L	L	1.33	2014	Reduce	Ensure robust procurement strategy Discussion/test with private party providers/partners Early agreement with partners re requirements	Project Management	Project Manager	28/05/2008	No change	L	M	L	L	1.33			
5.04	Insufficient space in city centre for stops and services through city centre	Delivery	L	L	H	M	3.33	2014	Reduce	Ensure robust design and modelling of proposed stops	Design (City Centre)	Project Manager	30/04/2009	No change	L	L	H	M	3.33			
5.05	Failure to provide services that are accessible for all	Operational	L	L	L	L	1.00	2009	Reduce	Ensure appropriate design standards are adhered to Consult with disabled groups	Design (Corridor)	Project Manager	28/05/2008	No change	L	L	L	L	1.00			
5.06	Negative response to rapid transit by competitor operators	Operational	M	M	M	M	4.00	2014	Reduce	Review service procurement options Continue engagement with potential operator(s)	Project Management	Senior Responsible Owner	05/03/2010	Reducing	M	M	M	L	2.00			
5.07	Failure to co-ordinate services and integrate timetables could dilute benefits	Operational	L	L	H	H	5.00	2014	Reduce	Ensure delivery of integrated system (operationally)	Project Management	Project Manager	28/05/2008	Reducing	L	L	H	M	3.33			
5.08	Unspecified operating regime - fares, frequencies, services, competition	Operational	H	H	H	L	3.00	current	Reduce	Ensure delivery of integrated system (operationally)	Project Management	Project Manager	28/05/2008	No change	H	H	H	L	3.00			
5.09	Service operator does not maintain reliability or quality standards	Operational	L	L	H	L	1.67	2014	Reduce/Transfer	Contractual commitment with bus operator	Project Management	Project Manager	28/05/2008	No change	L	L	H	L	1.67			
5.10	Market unable to supply required vehicles	Operational	L	L	L	L	1.00	2014	Reduce/Transfer	Contractual commitment with bus operator Early engagement	Project Management	Project Manager	05/03/2010	No change	L	L	L	L	1.00			
5.11	Infrastructure not maintained to high standard	Operational	M	L	M	L	1.67	2014	Reduce/Transfer	Contractual commitment with bus operator	Project Management	Project Manager	28/05/2008	No change	M	L	M	L	1.67			

No.	Description	Category	Impact			Prob.	RISK RAG	Proximity (date)	Approach Avoid, Accept, Reduce, Transfer	Mitigation Measures	Workstream	PERSON RESPONSIBLE	DATE OF UPDATE	STATUS	Impact			Prob.	Residual Risk RAG	DATE OF CLOSURE	COMMENTS OR REASON FOR CLOSURE	QRA
			Cost	Time	Performance										Cost	Time	Performance					
5.12	Vandalism	Operational	M	L	M	H	5.00	2014	Accept/Reduce	Ensure sufficient commitment made to maintenance of the system (infrastructure and vehicles)	Project Management	Project Manager	28/05/2008	Reducing	M	L	M	M	3.33			
5.13	Breakdowns on the busway	Operational	L	L	H	M	3.33	2014	Reduce	Good maintenance arrangements Ensure adequate provision is made for recovery areas in design Ensure adequate provision is made for recovery in costs	Project Management	Project Manager	28/05/2008	No change	L	L	H	M	3.33			
5.14	Additional risk to pedestrian/cyclist safety from bus lanes	Safety	L	L	M	L	1.33	2013	Reduce	Ensure design meets safety standards	Design (City Centre)	Project Manager	28/05/2008	No change	L	L	M	L	1.33			
5.15	Serious accidents on opening of the scheme	Safety	L	L	L	L	1.00	2013	Reduce	Ensure CDM requirements are adhered to Safety audits to be undertaken for scheme	Design (Corridor) Design (City Centre)	Project Manager	28/05/2008	No change	L	L	L	L	1.00			
5.16	Design cannot facilitate access for planned or emergency access	Safety	H	H	L	L	2.33	2013	Reduce	Ensure appropriate design standards are applied. Site specific access plans Engagement with emergency services	Design (Corridor) Design (City Centre)	Project Manager	28/05/2008	No change	H	H	L	L	2.33			
5.17	Bus stop locations provide insufficient space for passengers and pedestrians	Safety	M	L	H	L	2.00	2013	Reduce	Ensure appropriate design standards are applied. Site specific access plans	Design (City Centre)	Project Manager	28/05/2008	No change	M	L	H	L	2.00			
5.18	Inappropriate number of spaces provided at P&R sites	Technical	M	M	H	M	4.67	2013	Reduce	Appropriate modelling of demand for P&R	Modelling/Appraisal	Project Manager	28/05/2008	Reducing	M	M	H	L	2.33			
5.19	Use of busway by cars, pedestrians and cyclists	Safety	L	L	H	M	3.33	2013	Reduce	Ensure appropriate design measures Awareness campaign	Design (Corridor)	Workstream Leader	05/03/2010	No change	L	L	H	M	3.33			
5.20	Route floods	Operational	L	L	H	M	3.33	2013	Reduce/Accept	Agreed design with EA Appropriate flood management plan in place with maintenance and operators	Design (Corridor)	Workstream Leader	05/03/2010	No change	L	L	H	M	3.33			
5.21	P&R service continuity until scheme start date	Technical	M	M	H	H	7.00	2012	Avoid	Amend current contracts of P&R	Project Management	Project Manager	05/03/2010	No change	M	M	H	H	7.00			
5.22	Patronage fails to meet forecast	Operational	H	L	H	M	4.67	2014	Reduce	Accurate modelling in business case Active PTP and marketing campaign prior to opening	Project Management	Project Manager	05/03/2010	No change	H	L	H	M	4.67			
5.23	BCFC matches or other events impacts on operations	Operational	L	L	M	M	2.67	2014	Avoid / Reduce	Agree event management plan	Project Management	Project Manager	05/03/2010	No change	L	L	M	M	2.67			
5.24	Line 3 interface - integrating major scheme	Technical	M	M	M	M	4.00	2014	Reduce	Integrated design and planning including design team City centre scheme design to fit with longer-term network requirements	Project Management	Project Manager	05/03/2010	Reducing	M	M	M	L	2.00			
5.25	Technical teething problems	Technical	M	M	H	H	6.00	2014	Reduce / Accept	Allow sufficient time in programme for driver training, and systems testing. Consider 'soft' launch Manage pressure to open before system is ready.	Project Management	Project Manager	05/03/2010	Reducing	M	M	H	M	4.00			

Categories

- Political / Policy
- Environment
- Technical
- Operational
- Acceptability / Objection
- Quality
- Project Management
- Safety
- Cost
- Business Case
- Third parties

	L	M	H
Rating	10%	30%	50%
descrip	Unlikely	Possible	Likely
Cost	1%	5%	10%
Emillion	0.48	2.40	4.80
Programme	1-4 months	4-6 months	>6 months