

MetroWest 2 - Ashley Down

Client cost risk exposure for MW2 project (Advisory)

Network Rail OP Reference: 173483

Version: 1.0

Publication Date: 23/11/2022

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Workshop details

Date of workshop: 22 September 2022, via MS Teams. **Attendees:**

Name	Role	Organisation
Alex White	Junior Project Manager - Rail	West of England Combined Authority
Clare Zubovic'	Sponsor	Network Rail
David Jarman	Rail Programme Manager	West of England Combined Authority
Jason Porter	Project Manager	West of England Combined Authority
Mark Radford	Scheme Project Manager	Network Rail
Orla Dunn	Risk and Value Manager	Network Rail

The objectives of the workshop were to:

- Review the client risk register;
- Identify additional risks to the achievement of the project objectives;
- Provide an output to advise the client on their cost risk exposure for the project.

This report relates solely to WECA-owned risks and excludes risks owned by Network Rail (NR). NR risks are modelled and reported separately.

Each risk was analysed to understand the probability of occurrence and the impact of the risk on the project outcome. The information was provided by the client and has not been verified by NR prior to modelling.

Evaluation was conducted using Monte Carlo analysis, using @Risk software and 10,000 simulations.

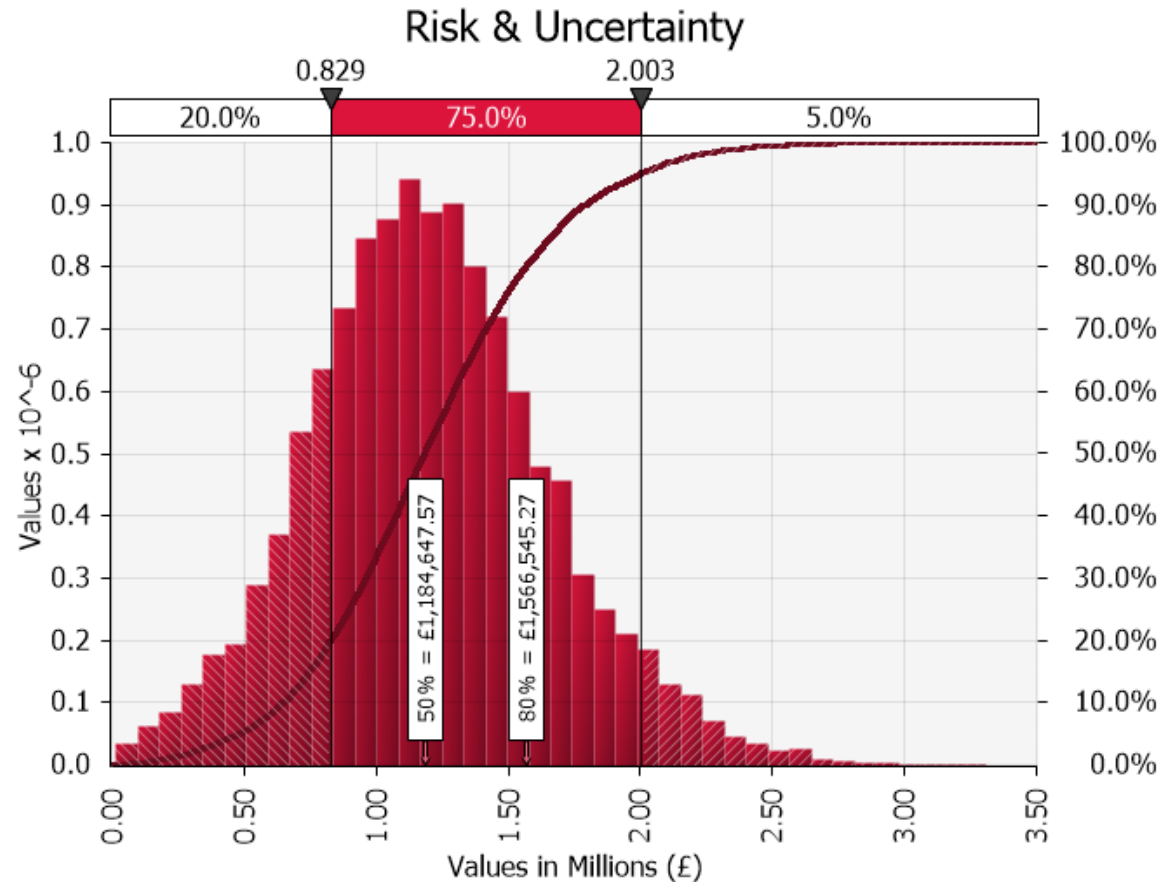
This report is provided to the client on an advisory basis.

Recommendations

- 1) The client holds responsibility for some key exclusions and risks, including the integration of NR's project plans with those of the developer at Henbury. It is recommended that key assumptions and risks are regularly reported within integration meetings to ensure early visibility and support in preventing those risks impacting the project, as far as is reasonably practicable.
- 2) For most of the last 20 years, inflation has been about 2% (source: www.bankofengland.co.uk). As of 15 November 2022, inflation is 10.1%. The Bank of England expect inflation in the UK to fall sharply from the middle of next year, but uncertainty and the impact on prices of goods and services remains uncertain. It is recommended that the client reviews inflation risks regularly.

Client cost risk exposure (Advisory) – Ashley Down

Results	P20	P50	Mean	P80	P90
Exposure	£829,385	£1,184,648	£1,204,681	£1,566,545	£1,793,011



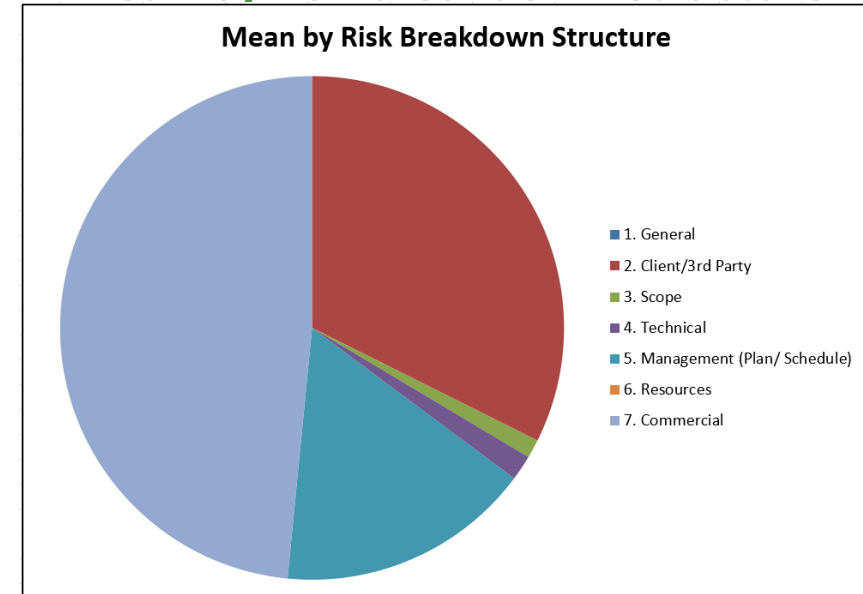
Client cost risk exposure (Advisory) – Ashley Down

Risk mean by probability grouping



Probability	Number of Risks	Mean exposure
Issues (100%)	0	£0
91% to 99%	0	£0
81% to 90%	1	£496,544
71% to 80%	0	£0
61% to 70%	0	£0
51% to 60%	2	£98,445
41% to 50%	0	£0
31% to 40%	4	£276,682
21% to 30%	3	£32,123
11% to 20%	9	£281,933
0% to 10%	9	£18,955
Totals	28	£1,204,681

Mean by risk breakdown structure



Risk Breakdown Structure	Mean exposure
1. General	£0
2. Client/3rd Party	£389,961
3. Scope	£14,462
4. Technical	£19,505
5. Management (Plan/ Schedule)	£197,122
6. Resources	£0
7. Commercial	£583,631
Total	£1,204,681

Client cost risk exposure (Advisory) – Ashley Down

Top 10 threats by cost (estimated mean value)

Rank	Risk ID	Risk Title	Mean
1	541600	ASHLEY DOWN - Materials price increases. (Contractor priced at September market rates. WECA to hold the inflation risk.)	£495,833
2	541597	ASHLEY DOWN - Current planning restriction enforced resulting from section 61 requirements	£106,667
3	541601	ASHLEY DOWN - Availability of NR Plant / Long lead supply items for blockade. (NR will make reasonable endeavours to secure in line with known lead times)	£90,000
4	541322	ASHLEY DOWN - Station site work delay relating to Sustrans agreements	£83,333
5	541276	ASHLEY DOWN - Bristol City Council (BCC) cannot implement diversionary route in time for Network Rail site mobilisation	£78,000
6	541588	ASHLEY DOWN - Adverse weather (Greater than 1 in 10-year event)	£60,000
7	541595	ASHLEY DOWN - Changes to requirements resulting from local planning authority (LPA) feedback	£54,000
8	541326	ASHLEY DOWN - Higher than anticipated inflationary pressures. (Excludes station contractor materials prices - see risk 541600.)	£50,000
9	541325	ASHLEY DOWN - Delay to Public Right of Way (PRoW) application approval by BCC PRoW team	£35,667
10	541594	ASHLEY DOWN - Network Rail underestimate the cost impact of the platform widening. (Based on current design, priced by contractor September 2022).	£33,667

Client assumptions – Ashley Down

The following client assumptions underpin the risk register.

Assumption ID	Ashley Down Station - assumptions	Aligned to risk ID or retained?
AD1	Funding / Full Business Case approval is received by the end of January 2023.	Retained as an assumption.
AD2	Unhindered access for the contractor in the 16-day blockade in June 2023.	NR risk.
AD3	A 52hr disruptive possession is agreed by train and freight operators prior to the 16-day blockade.	Retained as an assumption.
AD4	11 No. 14hr non disruptive possessions are agreed by train and freight operators between July-September 2023.	Retained as an assumption.
AD5	No working time restrictions imposed on the construction works.	541597
AD6	Bristol City Council designing and delivering the Public Realm works and PROW diversionary route works.	541325
AD7	<u>Sustrans</u> agree to transfer the necessary land (of Concorde Way) to Network Rail and Bristol City Council to support the works.	541322
AD8	Bristol City Council and <u>Sustrans</u> agree a Freehold agreement to enable the public realm construction works.	541323

Client assumptions – Ashley Down

The following client assumptions underpin the risk register.

Assumption ID	Ashley Down Station - assumptions	Aligned to risk ID or retained?
AD9	No ecological, environmental, archaeological or contaminated land issues exist that could impact the proposed programme of works.	541332 (ecology), 541536 (environmental). Remainder retained as an assumption.
AD10	Land access licences agreed to support compound and material storage requirements.	523837, 541567
AD11	The gabion wall structure behind Concorde Way does not fail catastrophically as a result of a structural issue unrelated to the project.	Retained as an assumption.
AD12	Updates to Network Rail's GRIP 5 design (to reflect the platform widening) is signed off and design remains as per currently proposed in principle.	541594
AD13	DfT agree a deviation with Network Rail for the platform width non-compliance around the footbridge.	Retained as an assumption.
AD14	The project is able to positively respond to all planning conditions.	541595, 541580
AD15	Critical resources (materials and personnel) are available to support key activities (e.g. signalling commissioning).	NR risk

Client assumptions – Ashley Down

The following client assumptions underpin the risk register.

Assumption ID	General assumptions	Aligned to risk ID or retained?
Gen1	Future station operating costs (post opening) are to be funded by GWR/DfT rather than the project.	Retained as an assumption.
Gen2	The operation of the new rail services will be funded by DfT after the first 3 years.	Retained as an assumption.
Gen3	The transition from Network Rail / GWR to Great British Railways does not impact the project.	Retained as an assumption.
Gen4	The supply chain has the capacity and capability to deliver in line with the proposed programmes of work.	Retained as an assumption.
Gen5	Inflation is assumed at 11 % for 2022/23 and 23/24 and 4 % for future years after that.	541326, 541600

Client risk register – Ashley Down

Risk ID	Risk Title	% Probability	Minimum	Most likely	Maximum	Estimated mean value
541600	ASHLEY DOWN - Materials price increases. (Contractor priced at September market rates. WECA to hold the inflation risk.)	85%	£250,000	£500,000	£1,000,000	£495,833
541597	ASHLEY DOWN - Current planning restriction enforced resulting from section 61 requirements	20%	£100,000	£500,000	£1,000,000	£106,667
541601	ASHLEY DOWN - Availability of NR Plant / Long lead supply items for blockade. (NR will make reasonable endeavours to secure in line with known lead times)	60%	£50,000	£100,000	£300,000	£90,000
541322	ASHLEY DOWN - Station site work delay relating to Sustrans agreements	40%	£25,000	£100,000	£500,000	£83,333
541276	ASHLEY DOWN - Bristol City Council (BCC) cannot implement diversionary route in time for Network Rail site mobilisation	40%	£5,000	£80,000	£500,000	£78,000
541588	ASHLEY DOWN - Adverse weather (Greater than 1 in 10-year event)	40%	£20,000	£30,000	£400,000	£60,000
541595	ASHLEY DOWN - Changes to requirements resulting from local planning authority (LPA) feedback	40%	£5,000	£100,000	£300,000	£54,000
541326	ASHLEY DOWN - Higher than anticipated inflationary pressures. (Excludes station contractor materials prices - see risk 541600.)	20%	£50,000	£200,000	£500,000	£50,000
541325	ASHLEY DOWN - Delay to Public Right of Way (PRoW) application approval by BCC PRoW team	20%	£5,000	£30,000	£500,000	£35,667
541594	ASHLEY DOWN - Network Rail underestimate the cost impact of the platform widening. (Based on current design, priced by contractor September 2022).	20%	£5,000	£100,000	£400,000	£33,667
541332	ASHLEY DOWN - Unforeseen ecological issue (Assuming appropriate and timely surveys conducted by Network Rail)	15%	£2,000	£50,000	£500,000	£27,600
541552	ASHLEY DOWN - Unforeseen ground obstructions (excluding buried services)	30%	£5,000	£40,000	£150,000	£19,500
541323	ASHLEY DOWN - Delay to BCC freehold with Sustrans	20%	£15,000	£25,000	£150,000	£12,667

Client risk register – Ashley Down

Risk ID	Risk Title	% Probability	Minimum	Most likely	Maximum	Estimated mean value
523837	ASHLEY DOWN - Conflict between BCC public realm and Network Rail station site construction programmes	25%	£5,000	£20,000	£100,000	£10,417
541596	ASHLEY DOWN - Additional works required for right of way diversion (Muller Road)	60%	£2,000	£10,000	£30,000	£8,400
541580	ASHLEY DOWN - Delay due to need to discharge WECA/BCC specific planning conditions	20%	£5,000	£30,000	£80,000	£7,667
541536	ASHLEY DOWN - Unforeseen environmental issue (e.g. Japanese knotweed/ Himalayan Balsam) (Assuming appropriate and timely site surveys have been conducted by Network Rail)	20%	£2,000	£20,000	£75,000	£6,467
541567	ASHLEY DOWN - Delay to WECA/BCC land agreements	10%	£20,000	£40,000	£80,000	£4,667
541301	ASHLEY DOWN - Change in WECA governance/assurance requirements	5%	£500	£10,000	£250,000	£4,342
541324	ASHLEY DOWN - Failure to agree land-take with Sustrans for cycle parking entrance area	5%	£5,000	£5,000	£200,000	£3,500
541604	ASHLEY DOWN - Incorrect OPEX provision for GWR	5%	£20,000	£85,000	£85,000	£3,167
541574	ASHLEY DOWN - Higher cost of BCC/WECA temporary land agreements	30%	£2,000	£5,000	£15,000	£2,200
541559	ASHLEY DOWN - potential road closures needed for utilities works	5%	£1,000	£20,000	£75,000	£1,600
541591	ASHLEY DOWN - Infrastructure damage (related to BCC works)	15%	£500	£5,000	£10,000	£775
541575	ASHLEY DOWN - Unexploded ordnance identified on site	1%	£6,000	£25,000	£200,000	£770
523839	ASHLEY DOWN - Land and noise claims	5%	£500	£1,000	£20,000	£358
541309	ASHLEY DOWN - Legal fees are higher than expected	5%	£1,000	£5,000	£15,000	£350
541557	ASHLEY DOWN - Direct action by protestors related to the works	2%	£500	£1,000	£15,000	£110