COLERAINE TO DERRY RENEWALS PROJECT RISK REGISTER

ARUP

Chandler KBS
COST & PROJECT MANAGEMENT

R	9
A	36
G	20
N/A	0
Total	**65**

CORDEROY

Note :- Risk Item Ref 11 amended 29 Oct 09
Risk Items 11,21,42,56 & 62 amended 24 Nov 09
Risk Items 5, 11,21,32,42,56,61 & 62 amended 4 Dec 09
Risk Items 74,75 amended August 10 (quantitative to follow workshop Sept 10)

Risk Identification			Risk Prioritisation				Risk Ownership, Mitigation, Etc.		Risk Quantification							
			Risk Matrix Priority Scores			Risk Matrix Priority Ranking			Estimate of Cost			Estimate of Delay				
Risk Item Ref.	Category	Risk Description	Probability (1 to 6)	Probability %	Impact (1 to 4)		Risk Owner	Mitigation	Min. £k	Most Likely £k	Max. £k	Min. weeks	Most Likely weeks	Max. weeks	To Start or Completion	Critical (Y/N)
1	Construction	Unrealistic contract duration causes cost / quality pressures	2	35	3	6	Arup PM	Expert planning input into programming								
2	Construction	Access problems with land owners and neighbours causes delay	2	40	2	4	Translink PM		-	50	100	0	0.5	1		
3	Construction	Inability to obtain materials supplies (ballast, rail and sleepers) in accordance with programme	3	55	3	9	Arup PM	Early engagement with suppliers, possible client supply to be considered by TA team. Linked to 41	-	100	150	0	4	6		
4	Construction	Neighbours encroach on railway land and cause disruption to construction programme	3	55	2	6	Translink PM	Early engagement with landowners via NITHCO	10	30	100					
5	Construction	Non-availability of reliable 1600mm gauge plant (motive power and ballast wagons) to fit in with programme / cost increases	3	55	3	9	Arup PM	NIR decision required on supply. Linked to 41	200	500	1,000					
6	~~Construction~~	~~Work at Coleraine signal cabin and on-going services between Belfast and Coleraine~~	~~0~~	~~0~~	~~0~~	0										
7	Construction	Inadequate client site supervision causes serious delay / disruption to programme	3	50	3	9	Arup PM	Client supervisor as part of design team / external appointment								
8	Cost	Risk of not securing (adequate) funding from DRD / DFP - show stopper	4	75	4	16	Translink PM	Translink / DFP / DRD engaged throughout Stage B				26	26	156	To Start	
9	~~Cost~~	~~S&T design~~	~~0~~	~~0~~	~~0~~	0										
~~10~~	~~Cost~~	~~Signalling scheme budget exceeds conceptual budget as conceptual budget based on 2002 scheme~~	~~0~~	~~0~~	~~0~~	0	Cost Manager	Revised cost estimate completed, see 11								
11	Cost	Signalling scheme definition changes from feasibility budget	5	96	3	15	Cost Manager	Early revised cost estimate to reflect current signalling proposals (Also 56 & 59)	- 3,000	-	3,000	0	2	4		
12	~~Cost~~	~~Setting an accurate and workable project budget~~	~~0~~	~~0~~	~~0~~	0										
13	~~Cost~~	~~Inadequate budget and subsequent scope reduction~~	~~0~~	~~0~~	~~0~~	0										
14	Design	Drainage and ducting routes not sufficiently designed or co-ordinated causes disruption / delays in construction	3	45	2	6	Arup PM	Incorporated into civils design, site surveys. Linked to 18	-	150	400	0	2	4		
15	Design	Ballast retention not sufficiently considered leads to delays / additional cost during construction	2	40	2	4		Consider during design stage	-	100	200	0	1	2		
16	~~Design~~	~~Design and installation of the cable route~~	~~0~~	~~0~~	~~0~~	0		Duplicates 14								
17	~~Design~~	~~Signalling design and specification~~	~~0~~	~~0~~	~~0~~	0		Dupliactes 40								
18	Design	Lack of co-ordination between design disciplines during design stage causes delay / additional cost during construction	2	45	3	6	Arup PM	Appoint multi-disciplinary design team. Linked to 41	-	150	400	0	2	4		
19	~~Design~~	~~Scope creep~~	~~0~~	~~0~~	~~0~~	0										
20	Design	Non compliance of signalling technology with existing NR standards caused delay to project	2	45	3	6	Translink Signalling Team	Costs required for following traditional methods. Linked to 18	-	250	500					
21	Design	Incorrect selection of design consultant compromises project objectives	3	55	4	12	Translink PM	Adequate brief, scope, site survey and selection strategy, responsive during construction, advice from external PM. Linked to 41	-	500	1,000	0	9	13		
22	~~Design~~	~~Signalling specification, design and installation~~	~~0~~	~~0~~	~~0~~	0										
23	~~Design~~	~~Ducted signal route vesus troughing in certain areas~~	~~0~~	~~0~~	~~0~~	0										
24	~~Design~~	~~Introduction of currently developing new technology and systems~~	~~0~~	~~0~~	~~0~~	0										
25	~~Design~~	~~Scope creep or uncontrolled scope changes due to interference by NIR stakeholders~~	~~0~~	~~0~~	~~0~~	0										
26	Design	Inadequate P Way design and specification leads to failure to meet durability requirements and increased cost (if over specified)	2	50	3	6	Arup PM	Selection of designer, site investigation. Linked to 21, 27, 28, 41, 42. Mitigated by introduction of design development stage.	-	250	500					
27	Design	Drainage design not compatible with track alignment, bridges, and embankments causes delay to construction stage	3	50	3	9	Arup PM	P Way designer to design P Way drainage. Linked to 18	-	75	150					
28	Design	Lack of consideration of existing cuttings, embankments and sea defences leads to cost and programme overun	4	80	2	8	Translink Structures Team	Full scope of works required as part of design, condition survey. Considered as part of P-Way design. Link to 21	100	350	500					
29	Environmental	Delays due to environmental issues (flora, fauna, habitats, badgers)	4	55	2	8	Arup PM	Early environmental impact assessment - ongoing	-	200	400	0	2	4		
30	Environmental	Environmental constraints due to ASSI, RAMSAR etc	4	55	2	8	Arup PM	Early environmental impact assessment - ongoing. Feedback discussions from NIEA, ensure in contract documents	-	200	400	0	2	4		

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31	Interface	Cost effectiveness of interfacing with existing signalling assets due to age / condition	3	50	3	9	Translink Signalling Team	Condition and life expectancy survey required								
32	Interface	Poor interdisciplinary interfaces between stakeholders causes disruption to project. Manage interface at Construction phase between designers to ensure integration / buildability / programme. Lack of integration will lead to disruption.	3	55	4	12	Arup PM	Formalise construction stage relationships incl procurement to minimise number of interfaces. Linked to 41.	200	500	1,000	2	5	15	To start	
33	Strategic	Differing views / drivers within operations contibutes to aspirations for the project not being met	3	50	3	9	Arup / Translink PMs	Single representative / decision making body from operations, assist to clarify their objectives, formal sign-off brief, continue interaction with operations on all key decisions	40	65	150	4	6	13		
34	Operational	Assumptions in timetable model prove incorrect and causes timetable design changes which leads to change of scope and aspirations not being met	3	50	3	9	Arup / Translink PMs	Feasibility study with options costed				0	6	13		
35	Operational	Long term loss of passenger base due to construction taking line out of service for significant durations	2	15	4	8	Arup / Translink PMs	Minimise the duration of closures during constuction stage, optimise programming of closures, communication with general public								
36	Operational	End product is not capable of delivering speed profiles required for new timetable improvements	2	5	4	8	Arup / Translink PMs	Check assumptions in the timetable model with input from signalling and check P-Way geometry / alignment. Linked to 34								
37	Operational	Poor temporary service during closure leads to customers making short term alternative transport arrangements	4	85	2	8	Translink PM / Operations / Marketing	Good alternative services - consider bus / trains in parallel, good PR campaign								
38	Operational	Loss of signalling at Coleraine during closure leads to service disruption from Antrim to Portrush	3	50	3	9	Arup PM / Signalling Team									
39	Operational	Funding constraints leads to Londonderry / Castlerock and Portrush signal cabin not closing	1	5	2	2	Translink PM / Signalling Team		-	50	100					
40	Procurement	Signalling tendering documentation doesn't adequately allow the introduction of future proof new technology	3	45	3	9	Translink PM / Signalling Team	Linked to 41	-	250	500					
41	Procurement	Inappropriate procurement strategy compromises project objectives	3	70	3	9	Arup PM	Ongoing work on procurement strategy, how to procure signalling to ensure objectives met, nomination of signalling subcontractor (also 5, 40, 43 & 18)				0	12	26		
42	Procurement	Poor contract documents compromises project objectives and / or passes increased risk to Translink	3	50	4	12	Arup PM	Linked to 41	-	500	1,500	0	6	13		
43	Procurement	Incorrect approach to contractor quality selection pushes costs too high	3	50	3	9	Arup PM	Market briefing, requirement to benefit local economy, links to procurement strategy, linked to 41 and 42								
44	Procurement	Insufficient tender duration puts contractors off and / or pushes costs up	3	50	3	9	Arup PM	TA recommended 8 weeks minimum								
45	Safety	Major incidents or accidents involving construction workers causes delay	2	10	4	8	Arup PM	Contractor selection, good design,and early contractor involvement, programming allows for front end planning / preparation				0	0	1		
46	Safety	Disruption caused by the operation and usage of UWC's and level crosssings during the construction phase	6	100	1	6	Arup PM	Build into programming	-	50	100	0	0.5	1		
47	Safety	Increased risk of major incident / accidents involving crossing users due to increased line speeds and frequency of trains combined with the number of UWC's	2	10	4	8	Translink PM	Review UWC risk assessments to establish preventative measures, funding restrictions may compromise. Assumption that provisions for UWCs are funded								
48	Safety	Over ambitious programme leading to excessive working hours / increased risks	2	25	4	8	Arup PM	Linked to 1 and 45	50	75	200	0	4	12		
49	Safety	Increased risk of incidents / accidents due to closures requiring night time / winter season working	3	50	2	6	Arup PM	Build into programming								
50	~~Safety~~	~~Remote location in the event of an accident~~	~~0~~	~~0~~	~~0~~	0										
51	~~Safety~~	~~Crossing the CoDA flight path~~	~~0~~	~~0~~	~~0~~	0		See risk 54								
52	Political / Social	Political support for the project deteriorates / changes emphasis	3	50	4	12	Translink PM	Translink to engage with local representatives and positive PR (impact concurrent with 08)								
53	Operational	Increased air traffic at Derry Airport leads to increased frequency of delayed train services	4	55	3	12	Translink PM	Check assumptions in timetable model, written agreement between Translink / airport operator, model to reflect realistic delay; check impact of more trains in system								
54	Interface	Derry Airport doesn't provide access in line with programme causes delay	4	75	2	8	Translink PM	Agreement between operators prior to tender stage, controlled access								
55	Procurement	New modular signalling equipment is not available within project timescales leads non optimal design solution	2	95	2	4	Translink Signalling Team	RRI selected over modular system	-	100	200	0	2	4		
56	Strategic	Differing views / drivers within Translink and other stakeholders contibutes to scope creep	3	45	3	9	Arup PM	Ongoing review of scope against cost, and design against brief, keep down to a core scope that achieves project objectives, prevent creep, ring fence brief, define requirements. Linked to 11	500	1,000	2,000	4	6	8		
57	Design	Problems in acquisition of land at Bellarena cause delay / design change	2	45	2	4	Translink PM	Early engagement with landowners via NITHCO. Linked to 4				0	0	26		

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58	Strategic	Bann Bridge doesn't secure funding and causes significant disruption and compromises project objectives	3	45	1	3			-	50	100	0	2	4		
59	Strategic	Requirement to make bridge improvements on Coleraine to Derry line (separate project) impacts renewals scope/ programme	3	50	2	6	Translink Structures Team	Early feedback from structures assessments, prioritise early information on Faughan and Roe Bridge, Stage B will have to make an assumption. Linked to 11	400	500	600	4	5	6		
60	Strategic	Relocation of Derry station causes changed brief, with cost and programme impact	3	45	3	9	Translink Infrastrucure Exec	Translink to reach early agreement with ILEX / DCC. Linked to 11. Board approval required to remove risk required								
61	Construction	Non-availability of reliable 1600mm gauge plant (tamper) to fit in with programme / cost increases	3	55	3	9	Translink PM	Explore options for supply of tampers from NIR other sources. Linked to 41	250	500	2,000	4	6	8		
62	Cost	Estimate proves incorrect in terms of quantity and price due to stage in design development	4	75	3	12	Cost Manager	Include effect (quantity and price) in risk register	- 750	-	1,500					
63	Construction	Bridge Works impact on main programme	3	50	3	9	Arup PM		-							
75	Operational	Passenger numbers do not increase in line with predictions in the Booze Allen Hamilton report.	3	50	2	6	Translink Operations			TBC						
76	Operational	"Do nothing" approach or delay to other approaches will have negative impacts in terms of maintenance downtime and safety with increased maintenance costs.	4	45	3	12	Translink Infrastrucure Exec			TBC						