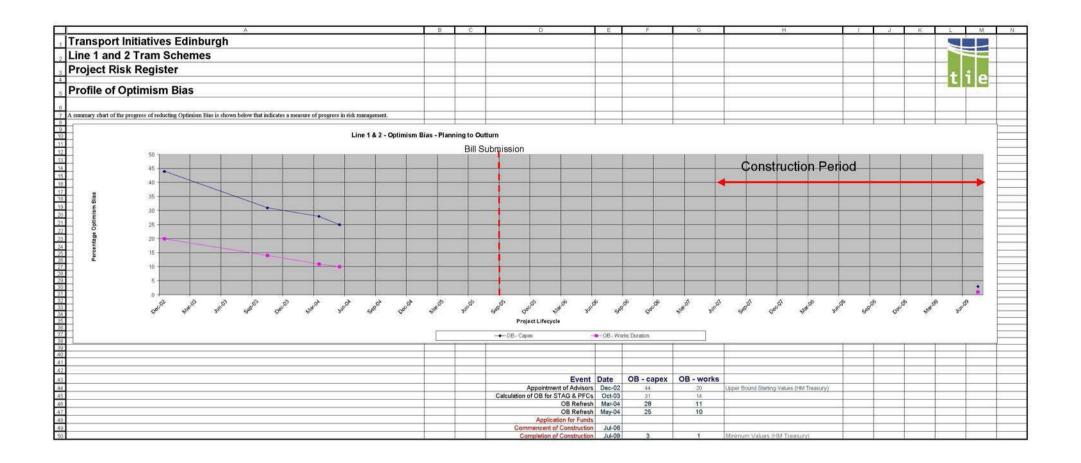
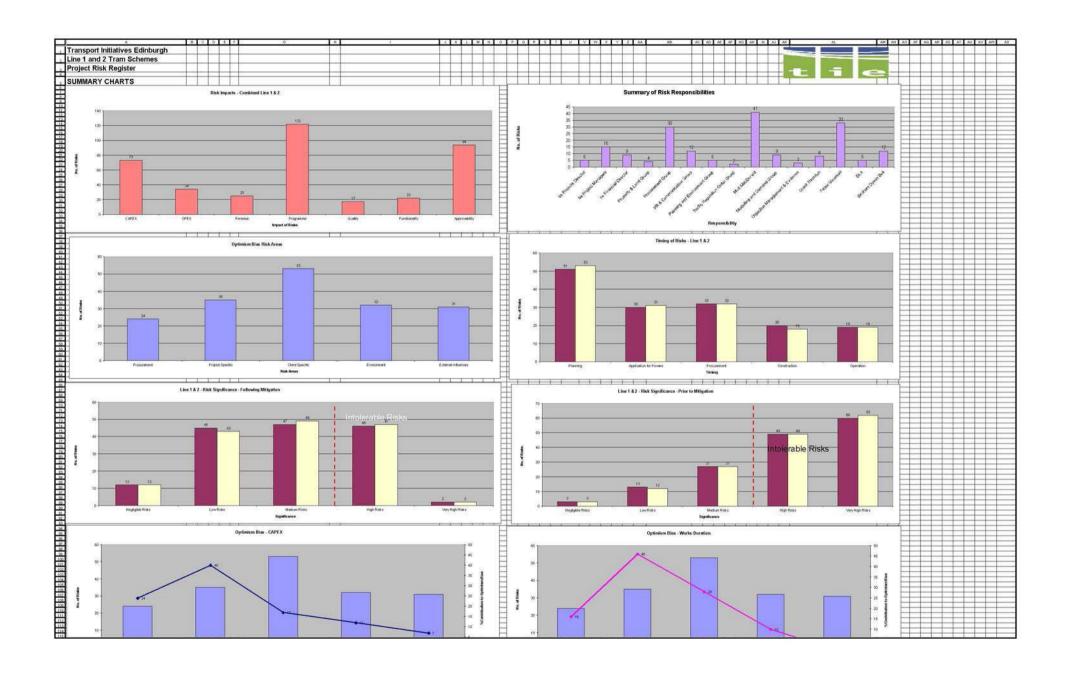
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8	Revision	Date	Prepared By	-				-	Comments
10	Revision	Date	Ргерагей Бу	-		1			Comments
11						1 -			
12	21	25-Mar-04	Mark Bourke						Risks re-referenced according to significance
13									Optimism Bias re-calculated for scheme at March 2004 with comparison against October 2003 Calculation included in STAG and PFCs
14									New worksheet added to indicate profile of Optimism Bias
15				-					
16	22	08-Jun-04	Mark Bourke						Risk mitigations expanded for those risks increased or decreased by proposed InfraCo procurement strategy.
17									New risks Ref. 160 to 172, as identified by tie as a result of emerging InfraCo procurement strategy
18									Risk mitigation updated with tie (PAE) & tie (TRO) comments from D&W for risks Ref. 4,5,6,34,130 and 155
19									New risks Ref. 173 to 175, as identified by D&W as a result of objection analysis, management and preparation of evidence
									FM comments on proposed mitigation (Ref. 4, 5, 6, 25 and 148), mitigation factors Ref.
									7,11,13,27,29,34,35,36,37,3959,6281,83,90,100,109,111,113,125,148 and 153) and responsibility for leading and supporting mitigation amended (Ref.25,27,31,35,36,60,81 and
20									127)
									DLA comments on extent of mitigation and closure of DPOF risks added
21									(Ref.1,6,7,13,23,42,43,46,54,55,57,92,93,94,95,96,133,141 and 147)
22									MM comments on mitigation factor and mitigations for Ref. 6,15,25 and 73
23									Due dates for mitigations reviewed and revised for risks due for completion by May 2004
24									OB Calculation Worksheet for May 2004 Added for Line 1 and 2. OB Profile Chart updated
25									Register re-ordered in priority of significance and Charts updated
26	AND THE TOTAL THE TAXABLE THE TAXABLE TO THE TAXABL		William Co.						
27	Optimism Bias Refresh in May 200	4 calcua	Ition - 2	5%	on cap	oital es	timates	an	d 10% on programme estimates

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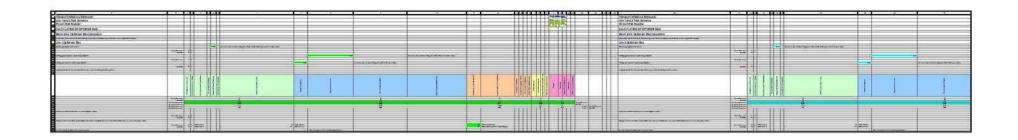
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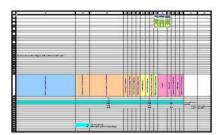




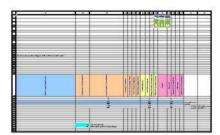
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5	RESPONSIBILITIES		
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7	The responsibilities for ensuring that the actions identified to mitigate the risk exposure have been identified	ed in the risk register, and detialed as follows.	
8			
9	Actionee	Company/Group	Person Responsible
10	tie (TRO)	Traffic Regulation Order Group	Ann Faulds (Dundas & Wilson)
11	tie (PRO)	Procurement Group	lan Kendali
12	tie (PR)	PR & Communication Group	Lesley Clark (Weber Shandwick)
	tie (PMs)	tie Project Managers	Kevin Murray (Line 1) & Geoff Duke (Line 2)
14	tie (PD)	tie Projects Director	Alex Macaulay
	tie (PAL)	Property and Land Group	Matthew Edgar (Colliers CRE)
	tie (PAE)	Planning and Environment Group	Ann Faulds (Dundas & Wilson)
	tie (OME)	Objection Management and Evidence Group	Ann Faulds (Dundas & Wilson)
	tie (MAD)	Modelling and Demand Group	Jeff Knight
19	tie (FD)	tie Financial Director	Graeme Bissett
	tie (CEO/Chair)	tie Chief Executive/Chairman	Michael Howell
	MM	Mott MacDonald	Gary Turner
22	GT	Grant Thornton	John Watt
23	FM	Faber Maunsell	Doug Blenkey
	DLA	DLA	Andrew Fitchie
	BDB	Bircham Dyson Bell	lan McCulloch
26		-	
27	For Distribution Purposes it is noted that MM/FM request the additional distribution, as follows.		
28			
	Andrew Oldfield, MM Project Manager (line 1)		
	Gavin Murray, FM Project Manager (line2)		
31	Michael Lax, FM Project Manager (line 3)		

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Step 3: Identify Project Risks															ALL			
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Step 4: Confirm the CAPEX/Programme Impact									+						MM & FM		1	
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Step 7: Review Implementation of Risk Management							-								tie (PD/RM)			
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Step 8: Allocate Risks to Optimism Bias			-	1	+	+ + + + + + + + + + + + + + + + + + + +	-	-	+	\perp					tie (RM)	-	\vdash	_
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This will allow review of the identified risks for each of the risk areas identified by Optimism Risk. This shall be carried out by the Risk Manager			=	4 4	Ŧ		-		Ŧ		_		=				=	=
Step 9: Review Scope of Risk Register			\exists							\Box					tie (RM)		\Box	
The scope of risks identified shall be reviewed to determine if further risks require to be considered.			=	al J	-		-1-	1 1	J.		-4-	ш	- 1/2	L. J.		-1-	\Box	=
This review shall be carned out by the Risk Manager relative to published qualance and historic protect risk registers. Additional risks shall be subject to the above steps.	1		=		1		-		1						1 -	_	=	=
This review shall be carried out by the Pisis Mesoper relative to published published publishes and fristnis project mix registers. Additional risks shall be rusted to the above steps,			=		+		-		+	\vdash			-				=	_
Step 10: Assess Project Type			-	1	1		-	$\overline{}$	+		-	\vdash			tie (RM)	-	\vdash	_
A review of the "breinst here" is possified to allocate the scheme to a Project Dies and determine starting volume for rink. Solvenion below the Med MacConset of the 'conset Levi' of it consistent that the Train Projects are a "Startage cold engineering project."																	\equiv	
Following review by Mott Max Consid of the 'trollect feet' d is considered that the Tram Protects are a "Standard civil engineering project"																		
Step 11: Determine Starting Values															tie (RM)		\Box	
	1 3		=	1 1	1	1 1		1 1	1			\perp	- 10		100		Ħ	=
Table 4 within the guidance reports the following "indicative" lower and upper lossed volkes for optimism bias levels for "Standard" civil engineering projects.			-	Oodenism Blas (%) Works Ducation					1				\equiv				\Box	=
			7	Works Duration	2	E E			+								\Box	_
				8	Boss	8 8												
				etn	Lerwer	Low						\sqcup						
				20	1 4	Standard Crid Engineering											\pm	
Table 16 within the moldance recommends that we adon't the samer bound value for softman bias a 'startlest value', and someosts the following distribution of inteners.	0000		=			PROJ. SPECIF.		-	+					EWE 7007			=	
	IPROC.		_	-	-	IPROJ. SPECIF.	-	CLIENT SPECIF.	-	-	-	ENV.	_	L LEXT, INFL			-	-

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39	Complexity of Contract	Law Contractor Inc. Design	Poer Contractor Capabilities	Disyste & China Occurred	Information Management	Other Procument Areas	Deniga Complexity	Digres effaner clea.	Enricemental Impact	Other Project Specific Areas	Insdequacy of the Business Case	Large Number of Stababiliers Funding Availability	Preject Management Team	Pear Project landigence	Other Client Specific Areas	Public Relations	Permin, Commun & Approvale	Other Em ironmental Areas	Political	Economic	Legislation & Regulation Technology	Other External Influences	
100 Works Dur abor DOI CAPO	×		15.						45 22	18	8	- 4		7		9 1	0		- 4	- 7			7
CAPO It is notice that these foures recreases contact accordance of the Uccordionan Ban foures						-																	
Step 12: Determine the Mitigation Factor per Risk																				ALL			
100 Determine the Mileation Factor for each of risks identified in the Risk Register 100		1			11			1-		+			+		+	+	1						
Mission Facto		Description Risks are not mitigated								-						+			-			=	
00 to 12 to		Parkal mitigation of risks All risks are fully mitigated											\pm		\pm							\pm	
Observative the Militagetion Factor for each of risks strentified in the Risk Register Militagetion Factor for each of risks strentified in the Risk Register Militagetion Factor for each of risks strentified in the Risk Register Militagetion Factor for each of risks strentified in the Risk Register (In the Militagetion Factor should be reported for each risk strentified by the Presson Responsible for each of the organisations and groups who are responsible for militageting each risk as 0.0, 2, 9, 6, 8, 2, 8, 18, 12, 17, 17, 17, 17, 17, 17, 17, 17, 17, 17	greater th	e mitigation factor the less the	overal C	ptimism Blas	++	-	_			+			+		+	+	+	-	_		-	\pm	
Step 13: Review of Evidence			Н																	tie (RM)		\blacksquare	
113 A review of the evidence to justify the advised Mitigation Factor is to be carried out to independently-verify proposed reductions.													+		_	_				40000			
A notice of the evidence to justify the advised Mitigation Factor is to be carried out to independently verify proposed reductions. It is proposed that he Risk Manager carries but this tenew with support from the tel Project Managers.	-	-			13	- 10			=	+			-		-	+	_		_			-	
Step 14: Determine the Mitigation Factor per Risk Area	-			-	-	-			-	-			+		+	\pm	+	-	-	tie (RM)		+	=
123 October 144. Determining the mitrigation Factor per Krisk Aried 128 129 The Mitigation Factor for each area contributing to Optimion Bias shall be determined by the Risk Manager for Works Duration and CAPEX.						_				1			+							na (sem)		\pm	
The Militagetion Factor for each area committeding to Optimisorin Blass shall be determined by the Risk Manager for Works Duration and CAPEX. This will be accounted as an operative value of the confidence Militageon Factors for each Proced Risk Area.				1												\pm						=	
Step 15: Determine the Optimism Bias	=	_	H		++					+			+		#	+	+	-		di (mas)		+	
137 STEP 13: Determine the Optimism Blas. 138 139 130 The above audiched unlicather Universit University of Outbrishin Blas shall be modified by the Mithaudion Factor per Risk Area (our example) 139 130 130 130 130 130 130 130 130 130 130						_				+			+		+	\pm				tie (RM)		\pm	
124 THE GOING REMOVED REMOVED UNKNOT DOWNER THANKED THE "ACCUST GRANCE" OF CHARTEST CLASS STAND BY THE MERINDRICK DOT FOR A AFCEL LOSE CALAMBERS. 124 125 126 127 128 128 128 128 128 128 128	PROC					PROJ. S				1	IT SPECIF.		\pm		EN				KT. INFL.			\pm	
128	Complexity of Contract	Law Contracts for Deliga	Pour Contractor Capabilities	Diques & Chains Occurred	maries Management	Other Procurement Areas	Design Complexity	Degree effene stie		Other Preject Specific Areas	Insdequery of the Business Com-	Large Number of Stababalders Funding August Hit	Project Management Trans	Pear Project faielligence	Other Client Specific Areas	Sile Characteristics	nds & Approvals	Other Emilionmental Areas	Pelifest	1	Legislation & Regulation Technology	Other External Influences	
We by Dur stein 481 Aven agai Miliogation i relia Peleduction in Optimismo Illia Peleduction in Optimismo Illia			0.4 6.4						0.4		0.4	8	2 2	0.6		8	2					+	Assumed 39 E
The above imbasition factors and the Storonics calculations are for tillustrative success over The above imbasition factors and the Storonics calculations are for tillustrative success over The above imbasition factors are the same that approximately 60% claim of the feedbackers in systems black has been managed. This shares approximately 60% of the potential typer bound systems than on Wolf and the shares approximately 60% of the potential typer bound systems to on Wolf and the potential typer bound systems to on Wolf and the shares approximately 60% of the potential typer bound systems to on Wolf and the shares approximately 60% of the potential typer bound systems to on Wolf and the shares approximately 60% of the potential typer bound systems to on Wolf and the shares approximately 60% of the potential typer bound systems to on Wolf and the shares approximately 60% of the potential typer bound systems to one Wolf and the shares approximately 60% of the potential typer bound systems to one Wolf and the shares approximately 60% of the potential typer bound systems to one Wolf and the shares approximately 60% of the potential typer bound systems to one Wolf and the shares approximately 60% of the potential typer bound systems to one Wolf and the shares approximately 60% of the potential typer bound systems to one Wolf and the shares approximately 60% of the potential typer bound systems to one Wolf and the shares approximately 60% of the potential typer bound systems to one Wolf and the shares approximately 60% of the potential typer bound systems to one Wolf and the shares approximately 60% of the potential typer bound systems to one Wolf and the shares approximately 60% of the potential typer bound systems to one would share approximately 60% of the potential typer bound systems to one would share approximately 60% of the potential typer bound systems to one would share approximately 60% of the potential typer bound systems to one would share approximately 60% of the potential typer bound systems to one wo																							
12. From the above example, it can be seen that approximately 40% (Sum of the Reduction in optimism blay) has been managed. This leaves approximately 40% of the potential upper bound optimism bias on Wo	rks Durat	ion Le. 12% Optimism Dias to I	e consid	ored.	1 7								1			1	1						
(1) If the works duration was 10 months, then there is an upper bound works Duration Collection likes of 6 months (20%). The above assimple illustrates that this would reduce to just over 1.5 months (12%) after imple (4).	menting ri	sk mitigation strategies to achi	eve the a	ove Mitgation Factors.	T	-						H	1		-	Ť				San California		=	
Step 16: Lower Bound Check A check that the CAFXKProw armen invacts have not been reduced below the levers bound values as reported above is to be carried out by the Risk Manager.																			-	tie (RM)		+	
151 A Check that the CAPEXP our amme impacts have not been reduced beow the lawer locality values as resorted above is to be carried out in the 19sk Manager, 153 153 154 155						-				-			\pm		1	+						+	
Step 17: Final Estimated Optimism Bias with Risk Management			П										1			1			112	tie (RM)		\perp	
Combine the cost of risk management and articipated Optimism Bias on CAPEX.	1								=	+			1			Ť			-				
Step 18: Check CAPEX/Programme Risk Allowance			Н										+							tie (RM)		+	
100 103 A Check on the articipated risk potential from the financial and programme gradings shall be carried out as a check. 103 104 105 105 105 105 105 105 105 105 105 105										1/2						1							
Step 19: Decision to Proceed					+	_				-			+		-	+	-			ata (MB)		+	
160 STEP 19: Decision to Proceed 130 Annual of the odged shall be undertaken by the Projects Director and a decision made whether to proceed or instruct further miligation.						_							+							tie (PD)		\perp	
1999 A LONG THE GROUP WAS THE STREET ARMS BY THE THEORY OF SECTION AND A DECISION THROUGH WHERE TO PROCEED OF INSTRUCT NUMBER TRESPASORS. 1.0.1 1.0.1 1.0.1 1.0.1 1.0.1 1.0.1 1.0.1 1.0.1 1.0 1.0					H							Н	1									\blacksquare	
Step 20: Financial Model																T			-	GT			
The CAPEX including Optimism Bas and Risk Management shall be considered in the Financial Model. The CAPEX including Optimism Bas and Risk Management shall be considered in the Financial Model. The Association of ORB to be Financial Model in this be present studies (codes Excodes additions and requirement). OT to desirt or page 10 how the Optimism Plaser is to be been because. Of to arrange market		1		SI.	13	10				-		10 0				1					D 0		
13 The application of OB to the Financial Model is to be reviewed retailine Scotlish Executive quidelines and requirements. GT to develop asset on how the Optimism Placer is to be taken boward. GT to arrange meeting	D.WITH SE																						

	A	В	С	I D I	Е	T F
1	Transport Initiatives Edinburgh					
2	Line 1 and 2 Tram Schemes					
-	Project Risk Register					
3						
5	DEFINITIONS					
6	The significance of each risk will be classified by means of a 5-point AS/NZS system for combini	ing 'impact' and 'likelihood' as	spects of each risk in o	order to prioritise actions.		
7	• • • • • • • • • • • • • • • • • • •					
8						
9	The following financial and programme tolerances are proposed.					
10	Level	Impact	CAPEX (£)	OPEX/ Life-cycle/ Revenue (£ per annum)	Programme	
11	1	Insignificant	Up to £25k	Up to £25k	Up to 1 week	
12	2	Minor	>£25k to £100k	>£25k to £100k	>1 week to 2 weeks	
13	3	Moderate	>£100k to £500k	>£100k to £500k	>2 weeks to 1 month	
14	4	Significant	>£500k to £1m	>£500k to £1m	>1 month to 3 months	
15	5	Major	>£1m	>£1m	>3 months	
16						
17	The following range of likelihoods are proposed					
18	Level	Likelihood				
19	1	Remote				
20	2	Unusual				
21	3	Possible	-2			
22	4	Probable				
23	5	Expected				
24						
25	The likelihood of risks and impacts can be combined in a 2-dimensional table as follows					
26		NAME OF A CONTROL			2004/2006 ATEXAS (45.00)	12/02/70/07
27	Likelihood/Impact	Insignificant	Minor	Moderate	Significant	Major
28 29	Remote	1	2	3	4	5
30	Unusual Possible	3	6	6	8	10
31	Probable	4	8	12	12	15
32	Expected Expected	5	10	15	20	25
33	Expected		10	10		
	The following significance of risk has bee adopted.					
35	The state of the s					
36	Significance	Range	Colour			
37	Negligible Risk	>=0 <4	WHITE			
38	Low Risk	>=4 <8	WHITE			

	A	В	С	D	E	F
39	Medium Risk	>=8 <12	ORANGE			
40	High Risk	>=12 <16	ORANGE			
41	Very High Risk	>=16	RED			
42	*\ \$\ \$\ \$\ \$\ \$\ \$\ \$\ \$\ \$\ \$\ \$\ \$\ \$\					
43						
44	Mitigation Factor	Description				
45	N N	A				
46	0.0	Risks are not mitigated				
47	0.0 to 1.0	Partial mitigation of risks		Risk Type		
48	1.0	All risks are fully mitigated		1 Generic TIE Stra	tegic Risk	
49				2 Generic TIE Proje 3 Generic Tram Pro	ect Risk	
50				4 Specific Tram Pro	oject Risk	
51				4 Specific Halli I	Josephiak	
52						
53						