

Takaanini Level Crossings Project

Appendix M - Risk register

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Document Status

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Contents

1	Introduction.....	1
1.1	Risk management process	1
1.2	Identification.....	1
1.3	Analysis	1
1.4	Evaluation.....	3
1.5	Treatment.....	3
2	Programme-wide risks.....	3
3	Project specific risks	9

Tables

Table 1-1 :	Likelihood risk or opportunity rating.....	1
Table 1-2 :	Semi-quantitative threat criteria.....	2
Table 1-3:	Threat rating matrix	3
Table 1-4:	Opportunity rating matrix	3
Table 3-1:	Project specific risks	9

1 Introduction

1.1 Risk management process

Risk management has been undertaken throughout the development of this Takaanini level crossings Detailed Business Case (DBC) in accordance with the Te Tupu Ngātahi Supporting Growth Alliance's (SGA's) 'Risk and Opportunity Management Plan' which comprises of the following stages:

- Risk (threat and opportunity) identification – relative to context.
- Risk analysis – likelihood and consequences based upon current control measures.
- Risk evaluation – scoring of the risk to determine it's relative magnitude.
- Risk treatment – to eliminate or reduce the consequences or likelihood of the risk occurring.

The remainder of Section 1 of this Risk Register outlines the process that has been followed in each of these stages. Section 2 then summarises Programme-wide risks and Section 3 summarises Project-specific risks.

1.2 Identification

Threat and opportunity identification has been a continuing process throughout the development of the DBC and has included the following:

- Initial risk workshops to identify threat and opportunities at the start of the DBC.
- Regular identification (and update) at the project team meetings based upon the DBC's development and subsequent feedback from the team and partners/stakeholders.
- Specific risk workshops throughout the development of the design.
- Ad-hoc emails/conversations with team members.

Identified risks were captured within the Takaanini DBC SharePoint risk register, Risk Owner assigned and subsequent analysis undertaken (as detailed below).

1.3 Analysis

The likelihood of occurrence and consequence of the risks have been analysed using the criteria identified in Table 1-1 and Table 1-2 below based upon the current control measures.

Table 1-1 : Likelihood risk or opportunity rating

Likelihood Risk or Opportunity Rating		Likelihood of Risk or Opportunity Occurring	%
5	HIGHLY LIKELY	May occur in next 12 Months	> 85
4	LIKELY	May occur in the next >1 to 2 years	55 – 85
3	POSSIBLE	May occur in next >2 to 6 years	30 – 55
2	UNLIKELY	May occur once in >6 to 10 years	5 – 30
1	RARE	May occur once in 10 years	< 5

Table 1-2 : Semi-quantitative threat criteria

Semi-Quantitative Threat Criteria							
Rating Scale	Reputation			Performance			
	Stakeholders	Public / Media	Legal / Compliance	Project Delivery	Project Cost	Health & Safety	Environmental
Severe	<p>Disruption to stakeholder relationship slowing progression of nationally strategic activity, and/or</p> <p>Loss of route availability of a national strategic high-volume highway</p>	<p>Sustained national and/or international media coverage</p> <p>AT/Waka Kotahi NZ Transport Agency and the PAB do not envisage any exposure in reputational risks at this level</p>	<p>High profile prosecution(s) with potential for custodial sentence</p>	<p>Programme slippage resulting in late delivery by more than 180 days</p>	<p>Negative financial impact of more than \$25M</p>	<p>Loss of life, permanent disability or injury, or multiple serious injuries</p>	<p>Permanent pollution damage or other environmental damage</p>
Major	<p>Disruption to stakeholder relationship slowing progression of regionally strategic activity, and/or</p> <p>Loss of route availability of a national strategic highway</p>	<p>Sustained media coverage</p> <p>(weeks) Possible Ministerial inquiry leading to loss of Ministerial confidence/formal enquiry by OAG or statutory agency</p> <p>Widespread and significant community concern and/or high-profile community concerns raised</p>	<p>Individual prosecution</p> <p>Potential prosecution with maximum fine / imprisonment</p> <p>High profile legal challenge or prosecution with heavy fines</p>	<p>Programme slippage resulting in late delivery by between 90 and 180 days</p>	<p>Negative financial impact between \$10M to \$25M</p>	<p>Serious injury (injuries) requiring specialist medical treatment or lost time greater than three weeks</p>	<p>Significant and widespread pollution or other environmental damage, with long term effects</p>
Moderate	<p>Disruption to stakeholder relationship slowing progression of regional activity, and/or</p> <p>Loss of route availability of a regional strategic highway</p>	<p>Short term (days) media coverage</p> <p>Parliamentary/Ministerial questions or 3rd party investigation</p> <p>Community complaints</p>	<p>Breach with legal rebuke / abatement notice/restrictions</p> <p>Some legal constraints imposed, minimal fines</p>	<p>Programme slippage resulting in late delivery by between 30 and 90 days</p>	<p>Negative financial impact between \$2M to \$10M</p>	<p>Injury requiring medical treatment or lost time of one day to three weeks</p>	<p>Pollution or other environmental damage at a localised level, with medium term effects</p>
Minor	<p>Disruption to stakeholder relationship slowing progression of site-specific activity, and/or</p> <p>Loss of route availability of a regional connector highway</p>	<p>Local media coverage for 1-5 days</p> <p>Official information request. Negative feedback from Minister</p> <p>Reputation within industry is damaged</p> <p>Some community complaints</p> <p>Marginal impact on stakeholder confidence.</p>	<p>Breach with letter from authority requesting action</p>	<p>Programme slippage resulting in late delivery by between 7 and 30 days</p>	<p>Negative financial impact between \$0.5M to \$2M</p>	<p>Injury requiring short term medical treatment and workplace absence less than one day</p>	<p>Minimum pollution or other environmental damage. Short term effects only</p>
Insignificant	<p>Disruption to stakeholder relationship, and/or</p> <p>Loss of route availability of a regional distributor highway</p>	<p>Local media coverage for 1-day</p> <p>Reputation intact</p> <p>Internal knowledge only</p> <p>Minimal impact on stakeholder confidence</p>	<p>Breach managed at a regional level</p>	<p>Programme slippage resulting in late delivery by less than 7 days</p>	<p>Negative financial impact of less than \$0.5M</p>	<p>Injury requiring short-term first-aid care and no absence from the workplace</p>	<p>Small scale pollution or other environmental damage is localised with no resultant effects. Contained locally</p>

1.4 Evaluation

Based upon the likelihood and consequence outcomes from the risk analysis, the risks have been evaluated using Table 1-3 and Table 1-4 to identify their Class from A to E. The significance of a Class A threat is 'very high' to Class E which is considered 'very low'. Likewise, for opportunities.

Table 1-3: Threat rating matrix

RISK RATINGS LIKELIHOOD x CONSEQUENCE						
Likelihood	5 Highly Likely (May occur this year) >85%	Class B (5)	Class B (10)	Class A (15)	Class A (20)	Class A (25)
	4 Likely (May occur once in the next 2 years) 55-85%	Class C (4)	Class C (8)	Class B (12)	Class A (16)	Class A (20)
	3 Possible (May occur once in the next 2-5 years) 30-55%	Class D (3)	Class C (6)	Class C (9)	Class B (12)	Class A (15)
	2 Unlikely (May occur once in 5-20 years) 5-30%	Class D (2)	Class D (4)	Class D (6)	Class C (8)	Class C (10)
	1 Rare (May occur once in 20 years) <5%	Class E (1)	Class E (2)	Class E (3)	Class D (4)	Class C (5)
	1 Insignificant	2 Minor	3 Moderate	4 Major	5 Severe	
	Consequence					

Table 1-4: Opportunity rating matrix

Likelihood	5 Highly Likely (May occur this year) >85%	Critical Opportunity (25)	Critical Opportunity (20)	High Opportunity (15)	Medium Opportunity (10)	Low Opportunity (5)
	4 Likely (May occur once in the next 2 years) 55-85%	Critical Opportunity (20)	Critical Opportunity (16)	High Opportunity (12)	Medium Opportunity (8)	Low Opportunity (4)
	3 Possible (May occur once in the next 2-5 years) 30-55%	Critical Opportunity (15)	High Opportunity (12)	Medium Opportunity (9)	Medium Opportunity (6)	Low Opportunity (3)
	2 Unlikely (May occur once in 5-20 years) 5-30%	High Opportunity (10)	Medium Opportunity (8)	Medium Opportunity (6)	Low Opportunity (4)	Low Opportunity (2)
	1 Rare (May occur once in 20 years) <5%	High Opportunity (5)	Low Opportunity (4)	Low Opportunity (3)	Low Opportunity (2)	Low Opportunity (1)
	5 Severe	4 Major	3 Moderate	2 Minor	1 Insignificant	
	Consequence					

1.5 Treatment

Risk Owners were responsible for identifying and then undertaking 'planned risk treatment' actions appropriate to the risk score identified during the evaluation. These actions were reviewed regularly in project team meetings to capture updates and identify further treatment actions where appropriate. Risks were also closed once further investigation into the risk found that the initial threat or opportunity was no longer a consideration.

2 Programme-wide risks

The table overleaf summarises the programme-wide risks for the Alliance, which are typically relevant.

