

Risk portfolio of the software implementation

The probability of occurrence for each identified risk can be assessed as one of the following three categories and should be based on the assessment of the project manager with the input from the project team.

High – Greater than 70% probability of occurrence.

Medium – Between 30% and 70% probability of occurrence.

Low – below 30% probability of occurrence.

The impact of each identified risk can be assessed as one of the following three categories

High –Risk that has the potential to greatly impact the project cost, project schedule or performance.

Medium – Risk that has the potential to slightly impact project cost, project schedule or performance.

Low– Risk that has relatively little impact on cost, project schedule or performance.

Table 1. Key types of project risks

Phase	Type of Risk	Risk ID	Probability	Impact
Development phase	<ul style="list-style-type: none"> • Political will • Regulatory • Permitting • Procurement • Financing 	R01	3	3
		R02	2	8
		R03	4	9
		R04	5	3
		R05	8	8
Implementation phase	<ul style="list-style-type: none"> • Engineering and construction • Changes in market conditions • Security 	R06	3	6
		R07	4	5
		R08	5	5
Operation phase	<ul style="list-style-type: none"> • Traffic • Competing facilities • Operation and maintenance • Financial Default Risk to public agency • Political • Regulatory • Refinancing 	R09	8	2
		R10	8	7
		R11	6	4
		R12	7	9
		R13	8	4
		R14	2	8
		R15	3	10

Based on the probability and impact assessment of each risk, the following mapping of the risks was made, using red/green/yellow color-coding (Fig.1).

A risk matrix with Impact on the vertical axis (H, M, L) and Probability on the horizontal axis (L, M, H). The cells are color-coded: Red (High Risk), Yellow (Medium Risk), and Green (Low Risk). Risk IDs are listed within the cells.

Impact	H	R15 R02 R14	R12 R03	R05 R10
	M	R06	R11 R08 R07	R13
	L	R01	R04	R09
		L	M	H
		Probability		

Figure 1. Map of the risk related to the traffic software development