

FACT SHEET

Contingency calculation

Section 6.5 of the Disaster Recovery Funding Arrangements Western Australia 2018 relates to contingency allowance and how it can be applied to projects being undertaken as part of the reconstruction of essential public assets.

A contingency allowance is a provision for risks that may occur and impact project cost.

The DRFA requires asset owners to use an appropriate contingency approach within cost estimates. It states that a deterministic factor based approach will be suitable for most reconstruction projects.

- **What is a deterministic factor based approach?** Simply put, this means that a number of factors are identified that impact on the risk and a value is assigned to each factor to provide an overall contingency for the risks. The risk factors, for roads, are set out in the table below.
- “The aim of this approach is to achieve a realistic contingency allowance by a strategic review of the factors that will influence the project’s ability to manage its cost outcome” (Source: Guidance Note 3B Deterministic Contingency Estimation version 1.0 August 2018, page 10)

How should contingency be calculated?

To determine a suitable contingency allowance, the table below has been developed for road and bridge projects. It identifies high level risk factors that will vary from project to project, depending on the location of the works, the damaged assets, available information, scale and nature of the reconstruction project etc.

Risk factors influencing the estimated reconstruction cost	Available information about the nature of the project on which the estimated reconstruction cost is based
Project scope	A set of well-defined project objectives and, if applicable, related performance criteria. Is the project scope clearly defined and documented? In more complex projects a design report with underlying assumptions and exclusions may be noted. A set of concept drawings covering all of the physical scope and staging could be provided. For smaller projects, clear documentation of the scope is required.
Significant Risk identification	Identified significant risks including access to site and materials, resource availability, permits required, technical or financial issues, any political or community issues. A detailed risk analysis and clear project delivery method may be required.
Constructability	A constructability review to assess any potential difficulties associated with the site and works. A construction timetable, with appropriate start up and handover periods.

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Risk factors influencing the estimated reconstruction cost	Available information about the nature of the project on which the estimated reconstruction cost is based
Key dates	A set of key dates to enable estimated reconstruction costs to be assessed. For large, long term projects the timing of the reconstruction phase may be required for the cost escalation calculation.
Site specific information	Sufficient and documented investigation for concept design including geo-technical, heritage, environmental, technical and hydraulic. Enabling works (works that must be undertaken before you can start your project, e.g. diverting services etc.) and possession access (if working near a railway, you may need to arrange access to the railway which can add significant time).
Project interfaces	External interfaces relates to other parties or stakeholders that have some impact on the project and may present a risk, e.g. shared boundaries, services in the area etc. Project assessment (extended or short site).

This table is replicated in Step 3 of the Unit Rates worksheet, found in the [Cost Estimate Template](#).

To calculate the contingency, each risk factor is given a rating of between 1 and 10. The lower your confidence in the factor, the lower you score that factor. This in turn produces a higher contingency value.

Conversely, if you have a high confidence in your project scope you will give it a higher rating, which produces a lower contingency value.

For most road restoration projects, it is expected that the risk factor ratings given will be high given that project scopes will usually be clearly defined and project footprints are already established.

The table above produces two contingency values:

- A P50 – which means there is a 50% confidence level that the total project cost will not be exceeded.
- A P90 – which means there is a 90% confidence level that the total project cost will not be exceeded.

For most road restoration projects, where the works are not complicated and are without any significant risks, the P50 is considered an appropriate level of contingency.

A separate contingency template is available for local governments and agencies that do not use the DRFAWA Cost Estimate Template. It uses the same table to calculate a contingency value that can be included within the estimate.

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What if the project is more complex or 'high risk'?

If you believe your project is more complex and requires a P90 confidence level, please contact the DFES Disaster Recovery Funding Officers.

In this case, it may be appropriate to use the P90 value or you may be required to undertake a more detailed risk assessment, which identifies the specific risks and uses an alternative approach to calculating contingency.

For more detailed information please refer to the website:

<http://investment.infrastructure.gov.au> and the document Guidance Note 3B Deterministic Contingency Estimation. This provides a more complete list of approaches to developing contingency.

What if the project seeks a market response?

If the project seeks a market response, i.e. goes to tender, the respondents may undertake a risk assessment using a different methodology and producing a different level of contingency.

This can be done but the assessment and resulting contingency value will be reviewed to ensure it meets the requirements outlined in the DRFA.

What if the project is not a road or bridge project?

Please contact DFES Disaster Recovery Funding Officers to discuss the approach to be undertaken.