

Contingency

Contingency is typically included in an estimate as an allowance for the level of engineering design completed or to address imperfections in estimating methods that are associated with a project's development stage. Contingency, in the statistical sense, is the estimated percentage by which a calculated value may differ from its true or final value. The contingency allowance is used to account for those items of work (and their corresponding costs) which may not be readily apparent or cannot be quantified at the current level of design, such as unknown project scope items, or a potential project change resulting from public/political issues or environmental or technical requirements. For the purposes of this estimating program, contingency will be assigned into two major categories – allocated and unallocated.

Allocated contingency will be used for projects where the engineering design level is determined to be less than 30 percent complete. Because of the level of design information available for individual items of work, as well as the relative difficulty in establishing unit prices for these items, a contingency allowance, in the range of 5 percent to 35 percent, will be allocated based on the FTA construction or procurement cost categories. The exact percentage selected for each cost category is based on professional judgment and experience related to the cost variability typically seen for items of work within a particular cost category. The percentages shown in **Table 1** are the values that will normally be used; however, slightly higher or lower values may be used if a project specific condition warrants.

Unallocated contingency is the second category to be used. The reasons for applying this contingency are similar to those for allocated contingency, primarily as an allowance for the level of engineering design completed. Once a project reaches the engineering design level of 30 percent or greater, there is generally sufficient details on which to base both quantity and unit price development. The percentages shown in **Table 2** are the values that will normally be used. In the case of estimates prepared in the planning stage (< 30% design completion), the allocated and unallocated contingencies are applied separately but the total contingency is the result of their combined effects. Estimates prepared in the design stage (> 30% design completion) would only include unallocated contingency.

Table 1 Allocated Contingency Percentages for Planning Estimates

FTA Category No.	Description	Allocated Contingency Percentage
10	Guideway and Track Elements	
	Guideway Elements – At grade or above	25
	Guideway Elements – Below grade	35
	Track Elements	15
20	Stations, Stops, Terminals, Intermodals	15
30	Support Facilities: Yards, Shops, Admin Buildings	15
40	Sitework & Special Conditions	
	Demolition, Clearing, Earthwork	25
	Site Utilities, Utility Relocation	30
	Hazardous materials, contaminated soil removal/mitigation, ground water treatments	30
	Environmental mitigation, e.g. wetlands, historic /archaeological, parks	30
	Site structures including retaining walls, sound walls	25
	Pedestrian / bike access and accommodation, landscaping	25
	Automobile, bus, van access including roads, parking lots	25
50	Systems	15
60	Right-of-way, Land, Existing Improvements	50
70	Vehicles	5

Table 2 Unallocated Contingency Percentages for Estimates

Estimate Type	Description	Unallocated Contingency Percentage
Planning	Design less than 30%	10
Design		
	Preliminary Engineering (30%)	20
	Final Design (60% - 100%)	15
	Construction (Bidding)	5