TRANSPORT

Guidelines for Global Strategic Rates for Project Cost Estimating

IPE Infrastructure Management System

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NSW GOVERNMENT

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1 Overview

The cost data in this guide is derived from historical Transport for New South Wales (TfNSW) project data for the construction of road and bridge infrastructure in NSW.

The intention of this guide is not to use the rates to replace estimates prepared using an estimating methodology but to provide broad strategic information on historic costs that might be useful in preparing the first strategic estimate of cost for a new proposal based on historical data or for benchmarking project estimates.

For more specific estimating requirements, TfNSW staff are encouraged to consult the Commercial Performance and Optimisation (CPO) Estimating team.

The listed rates reflect infrastructure project costs where a reasonably efficient route has been selected. For example, one that minimises earthworks and avoids sensitive sites such as SEPP14 wetlands, residential areas, areas of local or aboriginal heritage significance and national parks.

Note: This guide is only to be used for major projects with a total cost of over $10M. The costs have been adjusted to June 2024 costs.

2 Typical strategic rates

2.1 Project management costs

Project management costs are all costs, internal and external to TfNSW, associated with managing the project. Project management costs are incurred at all phases of the project. Further information on these costs can be found in IP-0033-PR01 *Estimating Procedure*.

Table 1 – Total project management cost ranges for a project

Project total cost	Project management % range	
	Urban	Rural
Over $500m	5.0% – 6.5%	6.0% – 7.5%
$200m – $500m	6.0% – 9.0%	7.0% – 10.0%
$50m – $200m	7.0% – 15.0%	8.0% – 15.0%
Less than $50m	9.0% – 20.0%	10.0% – 20.0%

Table 2 – Total project management cost ranges for an urban project in Gate 0 – Gate 5

Project total cost	Project management % range (Urban)				
	Gates 0-2	Gate 3	Gate 4	Gate 5	Overall
Over $500m	~0.8%	~1.2 %	~3.4%	~0.1%	4.0% – 5.5%

Project total cost	Project management % range (Urban)				
	Gates 0-2	Gate 3	Gate 4	Gate 5	Overall
$200m – $500m	~1.0%	~1.5 %	~6.4%	~0.1%	5.0% – 9.0%
$50m – $200m	~2.0%	~2.0 %	~10.5%	~0.5%	7.0% – 15.0%
Less than $50m	~2.5%	~2.5 %	~14.5%	~0.5%	9.0% – 20.0%

Table 3 – Total project management cost ranges for a rural project in Gate 0 – Gate 5

Project total cost	Project management % range (Rural)				
	Gates 0-2	Gate 3	Gate 4	Gate 5	Overall
Over $500m	~1.0%	~1.0 %	~5.4%	~0.1%	6.0% – 7.5%
$200m – $500m	~1.0%	~2.0 %	~6.4%	~0.1%	7.0% – 10.0%
$50m – $200m	~2.0%	~2.0 %	~10.5%	~0.5%	8.0% – 15.0%
Less than $50m	~3.0%	~3.0 %	~13.5%	~0.5%	10.0% – 20.0%

2.2 Strategic and concept development costs

Strategic and concept development costs are all cost associated with activities conducted in project options design and assessment, concept design, investigation, and evaluation up to, and including, Gate 2.

Table 4 – Strategic and concept development costs

Strategic and concept development – Gates 0, 1 and 2			
(a) Route/concept/ environment impact statement	Value of construction (infrastructure costs and utilities)	% of construction costs	
		Urban	Rural
	Over $500m	2% – 3%	3% – 4%
	$200m – $500m	4% – 5%	4% – 5%
	$50m – $200m	6% – 12%	5% – 7%
	Less than $50m	9% – 13%	8% – 10%
(b) Project management services	Refer to Table 1 for project management costs.		
(c) Client representation	10% of project management costs		
(d) Community liaison	Varies: $0 – $60,000 for small to moderate projects $60,000 – $500,000 for moderate to large projects.		
Comments	Community liaison costs can rise significantly where there are large numbers of meetings, workshops, newsletters, and so on.		

2.3 Delivery readiness costs

Delivery readiness costs are all cost associated with activities undertaken for detailed design or reference design, investigation, and development in the delivery readiness, Gate 3, phase of the project life cycle.

Table 5 – Delivery readiness costs – Gate 3

Delivery readiness – Gate 3		
(a) Investigation and design	**Value of construction (infrastructure costs and utilities)**	**% of construction costs**
	Over $500m	5% – 8%
	$200m – $500m	6% – 10%
	$50m – $200m	8% – 12%
	Less than $50m	9% – 15%
(b) Project management services	Refer to Table 1 for project management costs.	
(c) Client representation	10% of project management costs.	
Comments	For D&C projects, the design cost will be at the lower end. However, an additional cost will be incurred in infrastructure costs associated with design and verification. For alliance contracts, add an additional 2% to 3% of the construction cost for alliance preliminary costs.	

2.4 Property acquisition

The below indicative rates are only for Sydney region. Please consult the appropriate branch in TfNSW for current market rates and contingency to be allowed.

Table 6 – Property acquisition rates

Property acquisitions					
(a) Acquire property	**Sydney region property services – Indicative strategic/concept rates for property acquisition**				
	Location $/sqm	**Rec parks $/sqm**	**Rural $/sqm**	**Residential $/sqm**	**Industrial $/sqm**
	Prime location	N/A	N/A	20,000	8,500
	Inner urban	1,000	N/A	7,500	6,500
	Outer urban	500	N/A	3,000	3,000
	Future development	N/A	250	500	500

Property acquisitions	
	Key: • Prime location – a high quality, sought-after location where values are at a premium for the relevant property categories, that is, residential, industrial, and commercial. • Inner urban – Inner suburban locations. • Outer urban – Outer suburban locations. • Future development – Largely undeveloped locations that have been identified as future urban (growth areas). Notes: • The purpose of the rates is to provide an approximate budgetary allowance for the purpose of high-level strategic route analysis. • It is strongly recommended that a request is made to the appropriate branch for a detailed estimate of acquisition cost for any project that is being considered for development by TfNSW. • It is important to appreciate that the above rates should not be considered as representing an accurate basis for determining estimated property acquisition costs.
(b) Professional services for property	7% of property acquisition costs (as provided in this table).
(c) Project management services	Refer to Table 1 for project management costs. Include only % of professional services (b).
(d) Client representation	10% of project management costs.

2.5 Utilities adjustment

Utility adjustment includes all associate cost for temporary or permanent diversion, relocation, or protection of public utilities such as:

- water supplies, sewerage, gas, electricity, including HV and LV, above or below ground
- communications, such as data, telephone, broadcasting networks and the like, above or below ground
- relocation of major public utility infrastructure, such as substations, pump stations, and other fixed utility assets, to enable the main works to proceed.

Table 7 – Utilities adjustment

Utilities adjustment	
(a) Adjust utilities	• 5% – 10% of infrastructure costs in mainly rural areas • 15% – 30% of infrastructure costs in urban areas.
(b) Project management services	Refer to Table 1 for project management costs.

Utilities adjustment	
(c) Client representation	10% of project management costs.
Comments	Where major utilities obviously require relocation, please consult utility owner.

2.6 Delivery costs

Table 8 – Delivery costs – Infrastructure construction of roads

Infrastructure construction of roads (excluding bridges, retaining walls and utilities adjustments)			
Category	**Sub-category**	**L – Length of the road (proposed development in a single stage)**	
		L <2km	**L >2km**
Urban – Two/Four lanes Growth centre roads similar to Prospect Highway Upgrade, Memorial Avenue Upgrade, Denmark Link Road	**Flat**	$6.5 million/lane-km	$5.2 million/lane-km
	Undulating landscape Cut/fill maximum 2m	$7.2 million/lane-km	$5.7 million/lane-km
	Floodplain Cut/fill up to 5m including drainage layer	$10.5 million/lane-km	$9.5 million/lane-km
Urban – Add lane to road	**Flat**	$7.0 million/lane-km	$5.0 million/lane-km
	Undulating landscape Cut/fill maximum 2m	$7.7 million/lane-km	$5.5 million/lane-km
	Floodplain Cut/fill up to 5m including drainage layer	$8.5 million/lane-km	$7.2 million/lane-km
Rural – Two/Four lanes Major highway similar to Pacific Highway, Great Western Highway, Princes Highway and Hume Highway	**Flat**	$7.0 million/lane-km	$6.3 million/lane-km
	Flat/Undulating landscape Cut/fill maximum 2m	$7.7 million/lane-km	$6.9 million/lane-km
	Floodplain Cut/fill up to 5m including drainage layer	$8.5 million/lane-km	$7.5 million/lane-km
	Mountainous Cut/fill average 6m including retaining wall/ slope treatment	$10.5 million/lane-km	$9.5 million/lane-km
Rural – Add lane to road	**Flat**	$5.0 million/lane-km	$4.0 million/lane-km
	Undulating landscape Cut/fill maximum 2m	$5.5 million/lane-km	$4.4 million/lane-km
	Floodplain Cut/fill up to 5m including drainage layer	$6.0 million/lane-km	$5.0 million/lane-km

Infrastructure construction of roads (excluding bridges, retaining walls and utilities adjustments)			
Category	**Sub-category**	**L – Length of the road (proposed development in a single stage)**	
		L <2km	**L >2km**
	Mountainous terrain Cut/fill average 6m including retaining wall/ slope treatment	$10.0 million/lane-km	$8.9 million/lane-km
Motorway – Four lanes (two lanes two way)		$8.5 million/lane-km	
Motorway – Add lanes to existing motorway		$8.8 million/lane-km	
Comments	When using lane-km rates, make an allowance for turning lanes, slip lanes, and so on.		

Table 9 – Delivery costs – Infrastructure construction of interchanges and intersections

Infrastructure construction of interchanges and intersections		
Type	**Category**	**Rate range**
Motorway	Interchange	$60 million
Grade separated intersection	Motorway/major highways	$30 million
Highway	Traffic signal (intelligent transport systems only)	$750,000 – $950,000/each

Table 10 – Delivery costs – Construction preliminary/establishment

Construction preliminary/establishment		
Category	**Sub-category**	**% range of infrastructure construction cost**
Urban	Construction preliminary/establishment	6%
Rural	Construction preliminary/establishment	6%

Table 11 – Delivery costs – Traffic management and temporary works

Traffic management and temporary works		
Category	**Sub-category**	**% range of infrastructure construction cost**
Urban	Traffic management and temporary works	13%
Rural	Traffic management and temporary works	10%

Table 12 – Delivery costs – Environment measures

Environment measures		
Category	**Sub-category**	**% range of infrastructure construction cost**
Urban	Environment measures	4%
Rural	Environment measures	4%

Table 13 – Delivery costs – Drainage works

Drainage works		
Category	**Sub-category**	**% range of infrastructure construction cost**
Urban	Drainage works	10%
Rural	Drainage works	8%

Table 14 – Delivery costs – Earthworks

Earthworks		
Category	**Sub-category**	**% range of infrastructure construction cost**
Urban	Earthworks	17%
Rural	Earthworks	22%

Table 15 – Delivery costs – Pavements

Pavements		
Category	**Sub-category**	**% range of infrastructure construction cost**
Pavements	Flexible pavement	18%
Pavements	Rigid pavement	19%

Table 16 – Delivery costs – Intelligent transport systems

Intelligent transport systems		
Category	**Sub-category**	**Rate range**
Closed-circuit television (CCTV) system installation	N/A	Allow $30,000/each (include conduit, cabling, mast, installation and documentation)
Variable message signs	N/A	Allow $250,000 – $350,000 per sign (depending on type (A-C) and location

Table 17 – Delivery costs – Bridge construction

Bridge construction		
Category	**Sub-category**	**Rate range/sqm of bridge deck**
Prestressed concrete plank bridges	Short span (up to approximately 18m)	$4,000 – $5,000
Prestressed concrete plank bridges (over water)	Short span (up to approximately 18m)	$5,500 – $7,000
Super T bridges (pre-stressed concrete girders or post-tensioned concrete voided slabs)	Short to medium span (approximately 18m – 40m)	$5,000 – $6,500
Super T bridges (pre-stressed concrete girders or post-tensioned concrete voided slabs)	Medium span (approximately 40m – 60m)	$5,000 – $7,000
Box girder bridges (post-tensioned concrete box girder)	N/A	$8,500 – $11,000
Balanced cantilever bridges	For span up to 55m	$9,500 – $12,000
Incremental launch bridges	For longer span up to 79m	$10,000 – $12,000
Steel bridges	Steel truss bridge with steel or concrete girder	$10,000 – $15,000
Footbridge (across 6 lane highway)	Lift	$20,000 – $22,000 (total for 6 lanes – $1.8 million) Add $250,000 for lift installation, per lift
Footbridge (across 6 lane highway)	Ramp	$20,000 – $22,000 (total for 6 lanes – $1.8 million) Add $100,000 – $200,000 for ramp installation
Replacement of bridges over motorway or rail network infrastructure		$10,000 – $12,000 (If other contractors are using the possession at the same time) Otherwise add $250,000 – $350,000 for each track possession as an allowance to the total bridge construction cost
Bridge piling (includes excavation, concrete, casing, reinforcement, and so on)	600mm diameter	$1,950/m
	750mm diameter	$2,450/m
	900mm diameter	$3,000/m
	1200mm diameter	$5,800/m
Notes:	For widening of existing bridges, add a further 25%.	

Bridge construction		
Category	**Sub-category**	**Rate range/sqm of bridge deck**
	Bridge rate includes approach slabs but excludes retaining walls and any temporary works. To determine the total cost of a bridge, the deck area (excluding approach slabs) is to be multiplied by the rate provided above.	

Table 18 – Delivery costs – Noise treatments

Noise treatments		
Category	**Sub-category**	**Rate**
Noise wall	Masonry	$1,350/sqm
	Perspex	$1,350/sqm
	Precast	$1,100/sqm
	Timber	$680/sqm
	Additional panel – Masonry	$750/sqm
	Additional panel – Perspex	$750/sqm
	Additional panel – Precast	$580/sqm
	Additional panel – Timber	$350/sqm
Noise attenuation	At-house treatment	$35,000/house

Table 19 – Delivery costs – Retaining walls

Retaining walls		
Category	**Sub-category**	**Rate**
Retaining wall >2m	Block wall	$950 – 2,000/sqm (includes excavation)
	Concrete	$3,500/sqm (includes excavation, concrete, reinforcement, and so on)
	Reinforced earth	$3,500/sqm
	Concrete with pile	$4,500/sqm

Table 20 – Delivery costs – Tunnels

Tunnels		
Category	**Sub-category**	**Rate**
Tunnels	Two-lane tunnel	$90 million/km
	Three-lane tunnel	$150 million/km
	Exhaust stack	$90 million/exhaust stack (includes ventilation, electrical, mechanical, services, and so on)
	Mobilisation and/or demobilisation	$25 million

Table 21 – Delivery costs – Work-as-executed drawings

Work-as-executed drawings	
Type	**Rate**
Work-as-executed drawings	1% of infrastructure costs

Table 22 – Delivery costs – Principal arranged (PA) insurance

PA insurance	
Type	**Rate**
PA insurance (works and professional indemnity)	0.55% of (infrastructure + utility costs) for contracts ≤$50m 1% of (infrastructure + utility costs) for contracts >$50m

2.7 Finalisation costs

Table 23 – Finalisation delivery costs

Finalisation	
(a) Refurbish old route for handover to local authority	Determine costs associated with refurbishment of local roads
(b) Project data and post completion review	1.0% of infrastructure costs
(c) Project management services	Refer to Table 1 for project management costs.
(d) Client representation	10% of project management costs
Comments	Estimator should list all the assumptions in IP-0033-TL06 *Standard Estimate Summary Sheet* and IP-0033-TL08 *Standard Estimate Summary – All disciplines* with reference to all the documents used.

2.8 Escalation factors for calculation of outturn dollars

For guidance on escalation factors, refer to the *Transport for NSW Road & Rail Cost Escalation Indices* for state funded projects or *NSW PCB Template for federal funded projects and joint state and federal funded projects*.

2.9 Indirect cost recovery (ICR)

A 2.7% ICR is to be applied on the total project cost including escalation.

3 Further information

3.1 Terms and definitions

A list of standard definitions of terms can be found on the **TfNSW Asset Management Branch (AMB) Glossary**.

3.2 Abbreviated terms

The following abbreviated terms have been used in this document:

Abbreviated term	Expanded form
CPO	Commercial Performance and Optimisation
ICR	indirect cost recovery
D&C	design and construct
HV	high voltage
LV	low voltage
PA	principal arranged
SEPP14	State Environmental Planning Policy No 14

3.3 References

The following documents and other materials are referenced in the text:

- **IP-0033-PR01 Estimating Procedure**
- **IP-0033-TL06 Standard Estimate Summary Sheet**
- **IP-0033-TL08 Standard Estimate Summary – All disciplines**
- Transport for NSW Road & Rail Cost Escalation Indices (available from the **Transport for NSW internet site**)
- NSW Project Cost Breakdown (PCB) Template by Department of Infrastructure, Transport, Regional Development, Communications and the Arts (available on Transport portal **TechInfo – Templates and forms** page)

4 Document history

Version	Published date	Summary of changes
1.0	1 November 2015	First issue.
1.1	18 September 2018	Minor update.
2.0	October 2023	Review, and updated. Renumbered from ILC-MI-TP0-601-G02.
2.1	May 2024	Update to Table 7 caption and reapply IMS template
3.0	March 2025	Reviewed and updated.

5 Feedback and help

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