

# 15.0 Recommendations

## Summary

- This section summarises the Strategy recommendations by sector.
- The recommendations in the Strategy have been developed to be realistically affordable and capable of being delivered.
- The new projects and programs recommended by Infrastructure NSW are estimated to cost approximately \$30 billion over 20 years. The indicative funding mix comprises \$20 billion in Government funding and \$10 billion in user funding.
- The cost to Government of Infrastructure NSW’s recommendations averages \$1 billion per annum, out of a total Government capital spending envelope of around \$15 billion per annum.
- In all cases, Infrastructure NSW’s recommendations will be subject to future planning work, business cases and NSW Government approval.
- Section 16 outlines a funding and delivery strategy for implementing the recommendations.

## 15.1 Introduction

The Strategy’s recommendations are those projects and other actions that will best deal with identified infrastructure deficiencies, as required by the Infrastructure NSW Act 2011.

Infrastructure NSW’s recommendations reflect a “first things first” approach. Priority has been given to those projects that:

- address the most pressing deficiencies identified in Section 2
- have the most impact on NSW productivity and economic growth over the next 20 years
- support the attractiveness of NSW as a place to live and work
- prioritise incremental projects that yield substantial benefits and address critical pinch points early
- make better use of existing assets wherever possible.

The Strategy reflects the objectives and goals in NSW 2021 – A Plan to Make NSW Number One. Its recommendations will be considered by the Government alongside the Draft Transport Master Plan and the Draft Sydney Metropolitan Strategy.

## 15.2 Recommendations

The recommendations made by Infrastructure NSW in Sections 6 to 14 are listed in Table 15.2.

Recommendations are classified by delivery timeframe: 2012-17 (0 – 5 years), 2017-22 (5 – 10 years) and 2022-32 (10 – 20 years). Recommendations are also in six distinct types as defined in Table 15.1.

**Table 15.1 Recommendation Types**

<b>Major Project</b>	Single capital investment of over \$100 million
<b>Program</b>	Bundled works costing over \$100 million in aggregate
<b>Asset Utilisation</b>	Proposals to make better use of latent capacity in existing infrastructure assets
<b>Review</b>	Further work proposed under the Infrastructure NSW Act – sectoral strategy or project plan as appropriate
<b>Corridor</b>	Identification and preservation of land for future infrastructure project
<b>Planning</b>	Development work on infrastructure pipeline

Infrastructure NSW has also noted the cost and funding implications of each recommendation. This approach has been adopted to provide the Government with confidence that the overall strategy is capable of being delivered based on realistic assumptions regarding the quantum of Government and user funding available. This issue is examined further in Section 16.

Two distinct terms are used to provide capital cost guidance:

- “*Estimate*” is an assessment of the expected cost of the infrastructure elements of a project, where a concept project solution is available
- “*Scoping*” is used to set an indicative expectation of appropriate expenditure to achieve a particular set of benefits and objectives. It is a top down measure to assist in the efficient allocation of capital. This concept recognises that there are many infrastructure proposals which are desirable, but not at any price.

In all cases, Infrastructure NSW’s recommendations must be subject to detailed planning and business case preparation prior to procurement.

The cost of implementing the recommendations is summarised in Table 15.3. The cost of each project is analysed by funding source and by proposed delivery timetable. The costs are estimates and scoping developed by Infrastructure NSW and reviewed by Evans & Peck.

Table 15.3 excludes projects which are already included in agency plans and capital forecasts, such as the North West Rail Link and Pacific Highway duplication.

It also excludes projects which are expected to be sponsored by the private sector, or fully funded by users, for example energy sector projects.

**Table 15.2 Summary of Recommendations**

<b>Recommendations</b>		<b>Years</b>	<b>Type</b>	<b>Cost and Funding Implications</b>
<b>Section 6 Urban Roads</b>				
1	WestConnex: planning and delivery of initial phases	0 – 5	Major project	Target estimate of \$10 billion. Modelling indicates a government funding requirement of \$2.5 billion
2	Pinch points program around Parramatta and other growing centres	0 – 5	Program	Scoping of \$300 million
3	Identify and preserve corridor for Outer Western Sydney Orbital	0 – 5	Corridor	Cost of corridor preservation is not material. No assessment of land acquisition costs has been made
4	Construct F3-M2	0 – 5	Major project	Proposal assumes private sector solution via current unsolicited proposal
5	WestConnex project completion Includes: Parramatta Road urban regeneration	5 – 10	Major project	Target capital cost of WestConnex included above. Regeneration will be through private investment – assume no net cost to Government
6	Roll-out Managed Motorways program to increase effective capacity	5 – 10	Asset utilisation	Scoping of \$300 million
7	Identify and preserve corridor for new sub-surface motorway links west of the CBD (Airport – Gladesville – M2)	10 – 20	Corridor	Cost of corridor preservation is not material. No assessment of land acquisition costs has been made
8	Construct F6 Extension	10 – 20	Major project	Scoping of \$3 billion assumes use of existing F6 transit corridor and surface construction. Assumption of two-thirds user funding
<b>Section 7 Bus and Light Rail</b>				
9	Develop and construct Anzac Parade Light Rail from Central to Moore Park and University of NSW	0 – 5	Major project	Scoping of \$500 million based on Gold Coast Light Rail. Assumes surface construction and no user contribution to capital costs
10	Reform CBD bus routing to reduce congestion	0 – 5	Asset utilisation	Operational reform – no capital works proposed
11	CBD Transit Improvement Plan: Construct underground Bus Rapid Transit	5 – 10	Major project	Scoping of \$2 billion for a tunnel option from the Harbour Bridge to the Town Hall area and development of Wynyard and Town Hall bus/rail interchanges. Potential opportunities for value capture exist
12	Pedestrianise central part of George Street	5 – 10	Major project	Cost included in Recommendation 11
13	Incremental bus priority measures for Parramatta and strategic corridors	5 – 10	Program	Scoping of \$200 million
14	Northern Beaches bus corridor improvement plan incorporating Spit Bridge augmentation and priority lanes	5 – 10	Program	Scoping of \$200 million
15	Develop and construct transitway from Parramatta to Epping/Macquarie Park	10 – 20	Major project	Scoping of \$400 million assumes a bus T-Way option

Recommendations		Years	Type	Cost and Funding Implications
<b>Section 8 Passenger Rail</b>				
16	Start construction of North West Rail Link	0 – 5	Major project	Existing Government commitment
17	Mainline Acceleration Program Wollongong – Sydney pilot scheme	0 – 5	Program	Emphasis will be on operational improvements, supported by a scoping of \$100 million for targeted works on speed restrictions and pinch points. Does not allow for major civil works, line resignalling or new rollingstock
18	Turn-up-and-go express train service between Sydney CBD and Parramatta across the day	0 – 5	Asset utilisation	Operational reform – no capital works proposed
19	Improve CBD rail off-peak price incentives	0 – 5	Asset utilisation	Assume overall outcome is revenue neutral
20	Mainline Acceleration Program Target one hour express service Wollongong-Sydney and Gosford-Sydney	5 – 10	Program	Continuation of pilot program from Years 0 – 5. Scoping estimate of \$1 billion for capital works
21	Unlock City Circle spare capacity to relieve CBD congestion	5 – 10	Asset utilisation	Scoping of \$1 billion allows for reconfiguration of junctions and associated works outside Central to allow more services to access the City Circle. It does not include resignalling of the City Circle
22	Modernise Wynyard and Town Hall stations	5 – 10	Major project	Transport costs included within CBD Transit Improvement Plan (refer Recommendation 11)
23	Rapid transit extension from NWRL to CBD and Inner West, and release of additional capacity on Main West Lines	10 – 20	Major project	Scoping of \$5 billion assumes resignalling of existing North Shore, Harbour Bridge and Inner West lines and new rollingstock. Works include capacity upgrades between Chatswood and North Sydney and junction works at Central
24	Develop extension of Eastern Suburbs Railway to Randwick and Maroubra	10 – 20	Planning	Cost of planning work is not material
25	Mainline Acceleration Program Target two hour express service Newcastle – Sydney	10 – 20	Program	Continuation of previous program. Scoping of \$500 million for capital works
<b>Section 9 International Gateways</b>				
26	Port Botany-Sydney Airport Roads pinch points program	0 – 5	Program	Estimate of \$330 million
27	Reduce or remove Airport Stations usage fee	0 – 5	Asset utilisation	Assume that the cost of this measure can be offset by a mix of alternative airport funding sources, passenger growth and adjustments to other fares
28	Expand bus services to Sydney Airport	0 – 5	Asset utilisation	Operational reform – no major capital works proposed
29	Moorebank Intermodal Terminal: site development	0 – 5	Major project	Terminal to be funded by Commonwealth and private sector

<b>Recommendations</b>		<b>Years</b>	<b>Type</b>	<b>Cost and Funding Implications</b>
30	Preserve rail corridor for the Western Sydney Freight Line and site for Eastern Creek Intermodal Terminal	0 – 5	Corridor	Cost of corridor planning is not material. No assessment of land acquisition costs has been made
31	Preserve integrity of Badgerys Creek site for future aviation use	0 – 5	Corridor	Cost neutral
32	Assess passenger travel options at RAAF Base Richmond	0 – 5	Planning	Cost of planning work is not material
33	Moorebank Intermodal Terminal: supporting infrastructure	5 – 10	Program	Estimate of \$300 million
34	Incremental capacity upgrades on freight rail lines in Sydney area	5 – 10	Program	Assume delivery by ARTC based on user funding model
35	Eastern Creek Intermodal Terminal	10 – 20	Major project	Assume delivery by ARTC based on user funding model
36	Develop Western Sydney Regional Airport	10 – 20	Planning	Cost of planning work is not material
<b>Section 10 Regional Transport</b>				
37	Review scope and costs of Pacific Highway duplication and Princes Highway upgrade	0 – 5	Review	Cost of review is not material
38	Freight pinch point program for key road and rail links	0 – 10	Program	Scoping of \$1 billion
39	Bridges for the Bush Program to improve freight productivity	0 – 5	Program	Estimate of \$300 million stages 1 and 2
40	Identify Bells Line of Road/Castlereagh Freeway corridor	0 – 5	Corridor	Cost of corridor planning is not material
41	Coal Community road and rail schemes	0 – 5	Program	Scoping of \$500 million
42	Complete Pacific Highway duplication	5 – 10	Major project	Existing Government commitment
43	Incremental upgrades of Moss Vale to Unanderra freight rail line	5 – 10	Major project	Assume delivery by ARTC based on user funding model
44	Hunter Valley Coal Chain improvements – Liverpool Range	5 – 10	Major project	Assume delivery by ARTC based on user funding model
45	F3 extension to Raymond Terrace	5 – 10	Major project	Scoping of \$900 million
46	Complete Princes Highway duplication to Jervis Bay turnoff	5 – 10	Major project	Existing Government commitment
47	Maldon-Dombarton freight rail line	10 – 20	Major project	Assume delivery by ARTC based on user funding model

## Recommendations

## Years

## Type

## Cost and Funding Implications

### Section 11 Energy

48	Investigate options and strategy for privatisation of networks and Snowy Hydro Limited	0 – 5	Review	Cost of review is not material
49	Upgrade electricity transmission links to strengthen interstate capacity and Sydney supply	5 – 10	Major project	Existing agency program
50	Augment interstate gas transmission network	0 – 20	Major project	Investment to be funded by the private sector

### Section 12 Water

51	Hawkesbury Nepean floodplain: implement mitigation measures	0 – 5	Major project	Scoping of \$500 million, depending on option approved. Costs recoverable through user charges if included in regulated asset base
52	Merge regional water authorities from 105 to around 30	0 – 5	Review	Assume revenue neutrality for Government
53	Water and wastewater upgrades in regional towns to meet national standards	5 – 20	Program	Scoping \$700 million in total, of which \$200 million assumed to be user funded
54	Regional dam construction and safety upgrades	5 – 20	Program	Scoping of \$400 million
55	Augment Hunter region water supply	5 – 10	Major project	Scoping of \$500 million. Costs recoverable through user charges over time
56	Augment Sydney metropolitan water supply	10 – 20	Major project	No reliable cost estimate available until next revision of Metropolitan Water Plan

### Section 13 Health

57	Construct Northern Beaches Healthcare Precinct	0 – 5	Major project	Existing Government commitment
58	Divest non-core assets such as pharmacies and car parks	0 – 5	Asset utilisation	Potential capital savings
59	Trial reconfiguration of existing health centres to support new models of care	0 – 5	Asset utilisation	Cost of trial not material
60	Evaluate provision of new public hospital capacity by private sector providers	0 – 5	Review	Potential capital savings
61	Upgrade and build new healthcare facilities in accordance with projected demand	0 – 20	Program	Existing Government commitment. Program will reflect NSW Health preferred models of care

Recommendations		Years	Type	Cost and Funding Implications
<b>Section 14 Social Infrastructure</b>				
<b>Education</b>				
62	Target provision of 90 percent of new school places on existing school sites	0 – 5	Program	Potential capital savings
63	New classroom design for technology-driven learning	0 – 5	Planning	Cost of concept development is not material
64	Increase shared community use of school assets, including repurposing of assets where appropriate	0 – 5	Asset utilisation	Potential capital savings
65	Combine TAFE and school asset management functions to increase utilisation	5 – 10	Asset utilisation	Potential capital savings
66	Upgrade and build new educational facilities in accordance with projected demand	0 – 20	Program	Existing Government commitment. Program will reflect agency preferred models of learning
<b>Arts, Recreation &amp; the Visitor Economy</b>				
67	Construct the new Sydney International Convention, Exhibition and Entertainment Precinct	0 – 5	Major project	Existing Government commitment
68	Identify strategy to improve asset utilisation at Sydney Olympic Park	0 – 5	Review	Cost of review is not material
69	Investment in Sydney's Arts Ribbon: Opera House, Art Gallery of NSW and Walsh Bay	0 – 20	Program	Government funding constraints will require a staged approach and significant contributions from private sector and Commonwealth. Scoping of \$1 billion, with assumed net State funding of \$600 million
<b>Justice</b>				
70	Reconfigure courthouse assets, with increased use of ICT for less capital intensive delivery	0 – 5	Asset utilisation	Potential capital savings

**Table 15.3 Summary of Funding Requirements**

Real \$ billion	Indicative Funding Mix			Timing of New Government Funding			
	Total	Users	Government	0-5 Yrs	5-10 Yrs	10-20 Yrs	Total
<b>Roads</b>							
WestConnex	10.0	7.5	2.5	2.0	0.5	-	2.5
Pinch points: Parramatta & other growing centres	0.3	-	0.3	0.3	-	-	0.3
Managed Motorways rollout	0.3	-	0.3	-	0.3	-	0.3
F6 Extension	3.0	2.0	1.0	-	-	1.0	1.0
<b>TOTAL</b>	<b>13.6</b>	<b>9.5</b>	<b>4.1</b>	<b>2.3</b>	<b>0.8</b>	<b>1.0</b>	<b>4.1</b>
<b>Bus and Light Rail</b>							
Anzac Parade Light Rail	0.5	-	0.5	0.5	-	-	0.5
CBD Transit Improvement Plan	2.0	-	2.0	-	2.0	-	2.0
Incremental bus priority measures: Parramatta and corridors	0.2	-	0.2	-	0.2	-	0.2
Northern Beaches Bus Corridor Improvement Plan	0.2	-	0.2	-	0.2	-	0.2
Transitway Parramatta-Epping Macquarie Park	0.4	-	0.4	-	-	0.4	0.4
<b>TOTAL</b>	<b>3.3</b>	<b>-</b>	<b>3.3</b>	<b>0.5</b>	<b>2.4</b>	<b>0.4</b>	<b>3.3</b>
<b>Passenger Rail</b>							
Mainline Acceleration Program (all phases)	1.6	-	1.6	0.1	1.0	0.5	1.6
Unlock City Circle spare capacity	1.0	-	1.0	-	1.0	-	1.0
Rapid transit extension	5.0	-	5.0	-	-	5.0	5.0
<b>TOTAL</b>	<b>7.6</b>	<b>-</b>	<b>7.6</b>	<b>0.1</b>	<b>2.0</b>	<b>5.5</b>	<b>7.6</b>



Real \$ billion	Indicative Funding Mix			Timing of New Government Funding			
	Total	Users	Government	0-5 Yrs	5-10 Yrs	10-20 Yrs	Total
<b>International Gateways</b>							
Port Botany and Sydney Airport pinch points	0.3	-	0.3	0.3	-	-	0.3
Moorebank supporting infrastructure	0.3	-	0.3	-	0.3	-	0.3
<b>TOTAL</b>	<b>0.6</b>	<b>-</b>	<b>0.6</b>	<b>0.3</b>	<b>0.3</b>	<b>-</b>	<b>0.6</b>
<b>Regional Transport</b>							
Regional pinch points	1.0	-	1.0	0.5	0.5	-	1.0
Bridges to the Bush	0.3	-	0.3	0.3	-	-	0.3
Coal Community schemes	0.5	-	0.5	0.5	-	-	0.5
F3 Extension to Raymond Terrace	0.9	-	0.9	-	0.9	-	0.9
<b>TOTAL</b>	<b>2.7</b>	<b>-</b>	<b>2.7</b>	<b>1.3</b>	<b>1.4</b>	<b>-</b>	<b>2.7</b>
<b>Water</b>							
Hawkesbury Nepean flood mitigation	0.5	0.5	-	-	-	-	-
Regional dam construction/upgrades	0.4	-	0.4	-	0.2	0.2	0.4
National standards for regional towns	0.7	0.2	0.5	-	0.2	0.3	0.5
<b>TOTAL</b>	<b>1.6</b>	<b>0.7</b>	<b>0.9</b>	<b>-</b>	<b>0.4</b>	<b>0.5</b>	<b>0.9</b>
<b>Arts, Recreation &amp; Visitor Economy</b>							
Arts Ribbon	1.0	0.4	0.6	0.1	0.2	0.3	0.6
<b>TOTAL</b>	<b>1.0</b>	<b>0.4</b>	<b>0.6</b>	<b>0.1</b>	<b>0.2</b>	<b>0.3</b>	<b>0.6</b>
<b>GRAND TOTAL</b>	<b>30.4</b>	<b>10.6</b>	<b>19.8</b>	<b>4.6</b>	<b>7.5</b>	<b>7.7</b>	<b>19.8</b>

## 15.3 Conclusion

The major projects and programs recommended in the Strategy have been developed to be realistically affordable and capable of being delivered.

The recommended projects (excluding existing Government commitments and projects that are included in agency plans) are estimated to cost \$30 billion over the next 20 years.

After deducting proposed user contributions of over \$10 billion, a Government funding task of \$20 billion remains, of which \$4.6 billion is scheduled to arise in the first five years. This represents around 6 percent of NSW's total capital spending over this period.

Funding mechanisms are discussed in Section 16.

Infrastructure NSW believes that the prioritised pipeline of projects will:

- ensure that infrastructure investment has a direct impact on NSW productivity and economic growth
- improve the utilisation of our existing assets

Deloitte Access Economics has estimated the potential economic benefits from the recommended strategies, measuring the flow-on benefits to productivity, participation and population as outlined in Section 1. Effective implementation of the Strategy could increase the size of the NSW economy by around \$50.8 billion (present value) over the period to 2031, which is an increase in Gross State Product of 2.4 percent.