



# AUSTRALIAN INFRASTRUCTURE METRIC

September Quarter 2018

The IPA/BIS Oxford Economics *Australian Infrastructure Metric* (the Metric) is the leading indicator of real investment in Australia's civil infrastructure.

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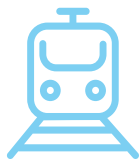


# AGGREGATE TRENDS

## September quarter highlights:



The total civil work won index increased from 60.7 to 93.3



Transport work won rebounded after a slow previous quarter



Utilities and mining sectors both saw a drop in work won

The September 2018 quarter of the *Australian Infrastructure Metric* – produced by Infrastructure Partnerships Australia and BIS Oxford Economics – sees total civil work won increase compared to the June quarter, as transport work won increased significantly.

Figure 1 – Total Civil Work Won Index

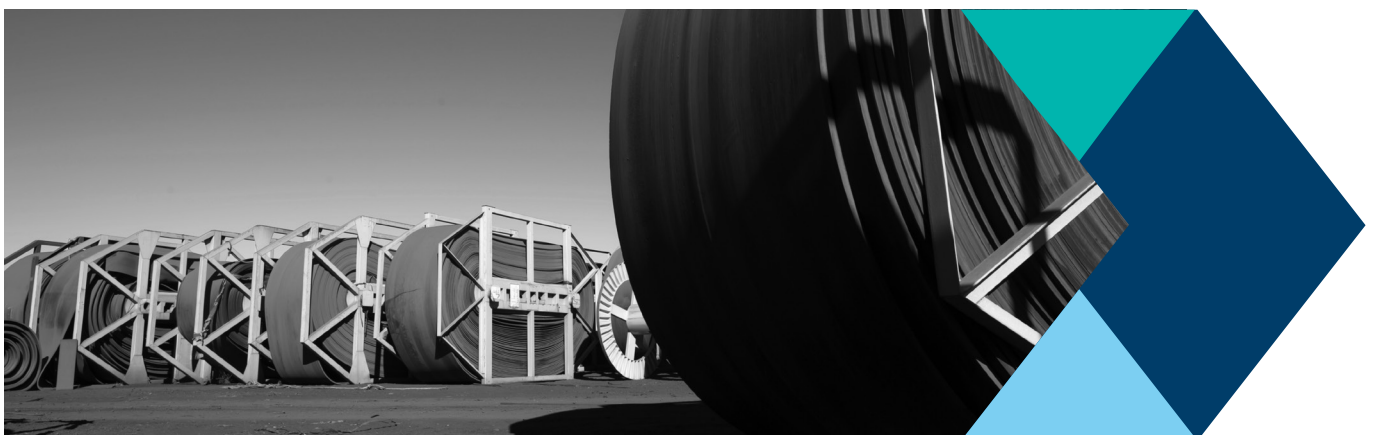
	June 2018 Quarter Index Value	September 2018 Quarter Index Value	Per cent change (four quarter rolling average)	September quarter vs long-run average
<b>TOTAL CIVIL</b>	60.7	<b>93.3</b>	▲ 15.6%	▲ 9.3%
<b>Non-Mining</b>	59.3	<b>132.9</b>	▲ 18.0%	▲ 44.1%
Transport	53.1	<b>192.2</b>	▲ 19.0%	▲ 76.4%
Utilities	65.3	<b>31.3</b>	▲ 17.8%	▼ 44.3%
Mining	63.9	<b>0.7</b>	▼ 2.1%	▼ 98.9%

## Final Edition of the Australian Infrastructure Metric:

The 2018 September Quarter edition will be the final edition of the Metric. We have been publishing the Metric, in partnership with Bis Oxford Economics each quarter since 2012. By surveying close to 20 of Australia's largest civil contractors, the Metric provided an indicator of civil construction activity across transport, utilities and mining. Over the years, the Metric has proved

to be a valuable tool in highlighting key trends in construction activity. However, the need for the Metric has diminished as similar information products have been introduced to the market.

Infrastructure Partnerships Australia and Bis Oxford Economics intend to continue our research partnership to highlight new and emerging issues in the Australian infrastructure market.





## September Quarter:

The September quarter saw an increase in the total work won index from 60.7 to 93.3. This is predominantly due to the increase in transport work won, which saw an index reading of 192.2. The mining and utilities sectors both saw significant decreases (see Figure 1).

Last quarter, transport work won made up less than 50 per cent of total work won for the first time since June 2014. As expected, this quarter sees transport return to drive the overall index, with transport making up 88 per cent of all work won this quarter. State and Federal pipelines are heavily skewed towards the transport sector, we expect that transport will continue to represent the bulk of work won in the foreseeable future (see [infrastructurepipeline.org](http://infrastructurepipeline.org) for detailed pipeline information).

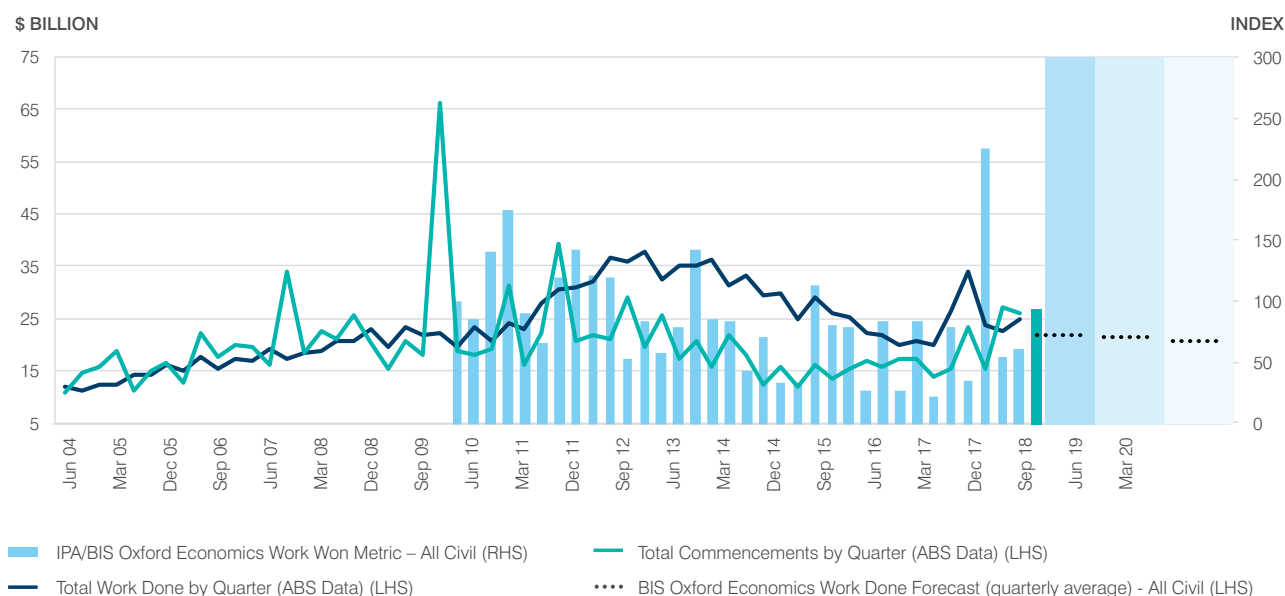
Within transport, the roads and bridges category accounts for the majority of work won this quarter as a result of the contract award of the multi-billion WestConnex Stage 3A.

Figure 2 shows the total civil Metric index against the ABS construction commencements and work done, as well as BIS Oxford Economics forecasts for work done over the upcoming financial years. Transport drives the trends in the work commencements and work done data. The March quarter saw an increase in transport commencements to \$17,217 billion, before dropping to \$5,550 billion in the June quarter. Transport work done has also steadily climbed to \$8,779 in the June quarter, up from \$5,117 in March 2016. These trends are reflected in the total commencements and work done, barring the anomalies caused by the liquidated natural gas imports.

Utilities work won decreased this quarter to an index of 31.3. This low reading is consistent with recent trends in the sector, and the four quarter rolling average has actually increased, as this quarter is significantly higher than the September 2017 quarter. Within utilities, gas pipelines and telecoms continue to record very low levels of work, a trend that continues from the FY2017-18. Utilities made up just nine per cent of total work won this quarter.

Mining work won also decreased this quarter to near zero after stronger performance over the past three quarters. However, it is expected that in general, mining activity will increase in the near-term (see Work Done Forecasts section).

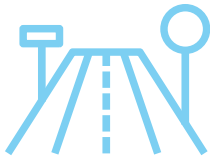
Figure 2 – All Civil Work Won, Commencements and Work Done



# WORK DONE FORECASTS

Measuring work won by civil contractors provides an important indicator of future trends in civil work done (activity) as measured by the Australian Bureau of Statistics (ABS).<sup>1</sup>

## BIS Oxford Economics forecasts:



**Total civil work done** is forecast to be \$88 billion in FY2018-19



**Over the next two years, civil construction work done** is expected to decline marginally

Figure 3 shows BIS Oxford Economics work done forecasts, and the percentage changes year on year. The forecasted decline in construction activity over the next three years predominantly reflects the reduction in work in the utilities sector. The slowing in utilities is due to the completion of the National Broadband Network roll out, as well as a reduction in renewable electricity generation. Investment in renewable generation is expected to be particularly impacted by energy policy uncertainty.

On the other hand, water and transport activity is forecast to increase. Transport construction is expected to remain high, and continue to grow beyond the forecasts as major government projects commence. Railways are expected to overtake roads as the main driver of this growth. Transport work done is forecast to increase by approximately \$1.1 billion from FY2017-18 to FY2018-19 (up four per cent).

Mining and heavy industry construction is also forecast to increase, following the significant expected decrease of 46 per cent in FY2018-19 compared to FY2017-18. Excluding the oil and gas industry,

activity in mining is expected to increase from about \$11 billion in FY2018-19 to a peak of around \$16 billion by FY2020-21. The oil and gas industry is particularly volatile and consists of predominantly imported structures.

Transport and mining pose particular risks to the work done forecasts. Transport activity is largely dependent on government funding, and thus on fiscal capacity: it could increase if the economy and government budgets remain strong, however may be negatively impacted by a global economic slow-down. Mining would be similarly impacted by a slow down in global growth. Electricity generation may increase if Australia's energy policy impasse is resolved, but this seems unlikely in the near term.

Overall, the strong growth in rail, mining, water, as well as very high levels of road construction, is expected to keep labour markets tight. This is expected to produce regional challenges for skills and capacity where the activity is most focused (the eastern states and mining regions).

**Figure 3** – Forecast ABS Work Done, FY2018-19 to FY2020-21 (\$ Million), and Percentage Changes

	2018-19	2019-20	2020-21
<b>Non-Mining</b>	\$66,523 ▲ 1%	\$61,153 ▼ 8%	\$59,780 ▼ 2%
Transport	\$31,113 ▲ 4%	\$29,794 ▼ 4%	\$30,852 ▲ 4%
Utilities	\$30,819 ▲ 2%	\$26,921 ▼ 13%	\$23,990 ▼ 11%
<b>Mining</b>	\$21,488 ▼ 46%	\$24,624 ▲ 15%	\$23,226 ▼ 6%
<b>TOTAL CIVIL</b>	\$88,011 ▼ 17%	\$85,777 ▼ 3%	\$83,007 ▼ 3%

(Source: BIS Oxford Economics/ABS data)

1. Note – Due to a range of factors, such as the time between a contract being signed and work commencing, direct comparisons of work won, as measured by the Metric, and work done, as measured by the Australian Bureau of Statistics (ABS), should be avoided. Rather, trends in work won, as well as trends in work commenced (as measured by the ABS) provide a guide as to future work done levels.

# PROCUREMENT TRENDS

- 89.2 per cent of all contracts won in the last four quarters were either design and construct or construct only (see Figure 4). This is slightly below the long-run average of 92.7 per cent and has decreased since last quarter, predominantly because the share of construct only contracts has decreased
- Design and construct and construct only contracts continue to make up the bulk of the total value of contracts at 66.1 per cent, with design and construct contracts making up 55.4 per cent of the total (Figure 5)
- Utilities has a higher proportion of design, construct and maintain than transport and mining.

Figure 4 – Procurement Type: Four Quarter by Total Volume

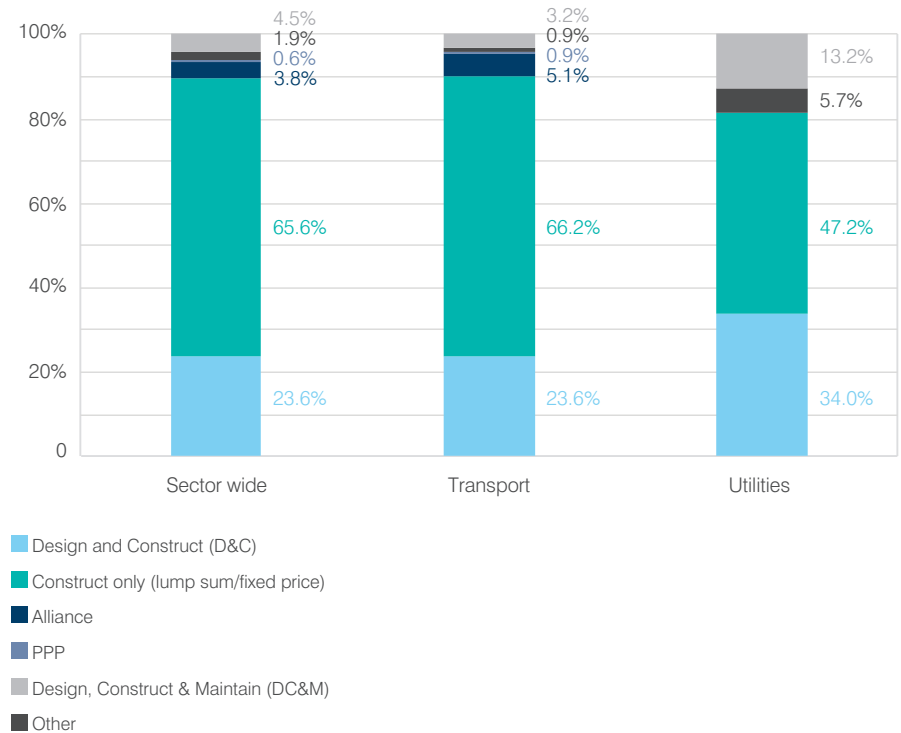
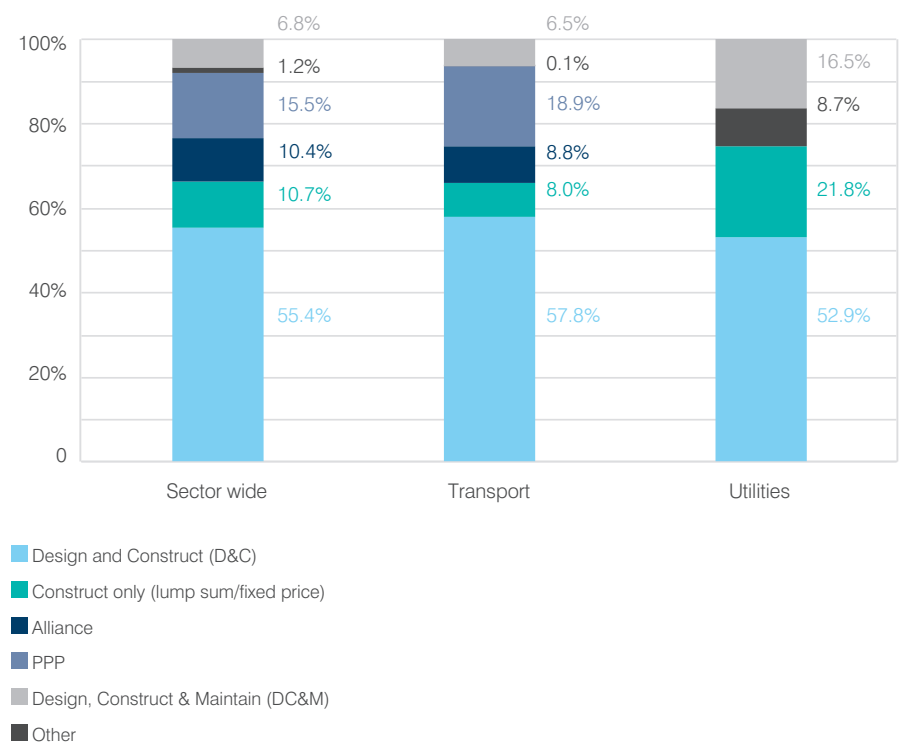


Figure 5 – Procurement Type: Four Quarter by Total Value



Work Won Survey (METRIC) - Quarter	Mar-10	Jun-10	Sep-10	Dec-10	Mar-11	Jun-11	Sep-11	Dec-11	Mar-12	Jun-12	Sep-12	Dec-12	Mar-13	Jun-13	Sep-13	Dec-13	Mar-14
Roads and Bridges	100.0	140.0	190.2	308.2	60.3	27.1	43.4	101.5	53.5	93.6	45.5	47.1	30.7	65.6	131.7	32.0	135.3
Railways	100.0	197.1	228.2	346.0	23.0	283.4	99.7	405.2	101.4	202.2	131.6	156.7	166.2	363.7	362.8	169.4	17.8
Harbours	100.0	20.4	8.2	74.8	11.2	172.1	32.0	157.8	95.3	44.9	39.3	50.2	17.1	4.4	0.0	15.0	100.8
Total Transport	100.0	121.0	154.2	260.4	43.6	97.9	49.1	158.9	70.1	98.4	56.7	63.9	47.5	95.4	135.5	48.3	110.2
Electricity	100.0	23.9	72.3	78.2	13.6	44.0	6.9	8.8	49.5	12.7	32.8	27.0	10.4	74.9	58.1	20.7	11.9
Water	100.0	104.7	36.7	26.4	24.1	23.8	90.7	53.4	58.3	71.7	24.8	24.5	17.3	14.3	2.4	4.2	17.2
Sewerage	100.0	568.7	0.0	504.9	0.0	708.2	0.0	0.0	427.6	755.9	20.6	2,324.0	1,021.3	618.5	1,856.2	53.8	71.4
Telecommunications	100.0	0.0	0.0	233.8	9.0	341.5	160.8	498.0	415.1	112.2	186.6	74.8	511.1	1,045.9	667.2	0.0	0.0
Gas Pipelines	100.0	11.3	6,695.4	714.9	77.1	63.9	5,118.3	0.0	209.1	2,834.7	0.0	0.0	557.1	0.0	175.1	574.3	744.0
Total Utilities	100.0	61.0	137.7	78.8	18.5	61.7	119.1	60.7	83.3	87.5	39.3	48.7	63.1	118.8	92.9	19.8	23.3
Electricity and Gas Pipelines	100.0	23.6	244.3	94.7	15.3	44.5	139.6	8.6	53.6	86.0	31.9	26.3	24.6	73.0	61.1	35.1	30.9
Total Mining	100.0	56.5	126.7	141.5	223.8	24.5	159.1	149.3	219.9	160.1	58.8	143.2	41.3	16.5	191.5	189.4	104.4
<b>Total Civil Construction</b>	<b>100.0</b>	<b>85.3</b>	<b>141.5</b>	<b>175.2</b>	<b>90.8</b>	<b>66.0</b>	<b>120.4</b>	<b>143.0</b>	<b>121.0</b>	<b>120.2</b>	<b>53.2</b>	<b>84.2</b>	<b>57.2</b>	<b>79.5</b>	<b>143.2</b>	<b>85.5</b>	<b>84.7</b>
<b>Total Non-Mining</b>	<b>100.0</b>	<b>97.6</b>	<b>147.8</b>	<b>189.6</b>	<b>33.8</b>	<b>83.8</b>	<b>103.8</b>	<b>140.2</b>	<b>78.6</b>	<b>103.1</b>	<b>50.8</b>	<b>58.9</b>	<b>64.1</b>	<b>106.5</b>	<b>122.4</b>	<b>40.9</b>	<b>76.3</b>
Work Won Survey (METRIC) - 4 Quarter Average - 2010=100	Mar-10	Jun-10	Sep-10	Dec-10	Mar-11	Jun-11	Sep-11	Dec-11	Mar-12	Jun-12	Sep-12	Dec-12	Mar-13	Jun-13	Sep-13	Dec-13	Mar-14
Roads and Bridges	n/a	n/a	n/a	100.0	94.6	79.4	59.5	31.5	30.5	39.5	39.8	32.5	29.4	25.6	37.2	35.2	49.4
Railways	n/a	n/a	n/a	100.0	91.2	101.1	86.3	93.1	102.1	92.8	96.4	67.9	75.4	93.9	120.4	121.9	104.9
Harbours	n/a	n/a	n/a	100.0	56.3	130.9	142.6	183.4	224.8	162.2	165.8	112.9	74.5	54.6	35.3	18.0	59.1
Total Transport	n/a	n/a	n/a	100.0	91.1	87.5	70.9	55.0	59.1	59.2	60.4	45.5	41.9	41.4	53.8	51.4	61.2
Electricity	n/a	n/a	n/a	100.0	68.5	75.9	52.0	26.7	39.8	28.4	37.9	44.5	30.2	52.9	62.1	59.8	60.4
Water	n/a	n/a	n/a	100.0	71.7	41.5	61.6	71.7	84.5	102.3	77.8	67.0	51.6	30.2	21.8	14.3	14.2
Sewerage	n/a	n/a	n/a	100.0	91.5	103.4	103.4	60.3	96.8	100.9	102.6	300.6	351.2	339.5	495.9	302.5	221.5
Telecommunications	n/a	n/a	n/a	100.0	72.7	175.0	223.2	302.4	424.0	355.3	363.1	236.3	265.1	544.8	688.7	666.3	513.2
Gas Pipelines	n/a	n/a	n/a	100.0	99.7	100.4	79.4	69.9	71.7	108.5	40.5	40.5	45.1	7.4	9.7	17.4	19.9
Total Utilities	n/a	n/a	n/a	100.0	78.4	78.6	73.6	68.8	86.0	92.9	71.8	68.6	63.2	71.5	85.7	78.0	67.5
Electricity and Gas Pipelines	n/a	n/a	n/a	100.0	81.7	86.2	63.6	45.0	53.3	62.2	39.0	42.8	36.5	33.7	40.0	41.9	43.3
Total Mining	n/a	n/a	n/a	100.0	129.1	121.6	129.2	131.1	130.2	162.1	138.5	137.0	95.0	61.1	92.4	103.3	118.2
<b>Total Civil Construction</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>100.0</b>	<b>98.2</b>	<b>94.3</b>	<b>90.1</b>	<b>83.7</b>	<b>89.7</b>	<b>100.5</b>	<b>87.1</b>	<b>75.4</b>	<b>62.7</b>	<b>54.6</b>	<b>72.5</b>	<b>72.8</b>	<b>78.3</b>
<b>Total Non-Mining</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>100.0</b>	<b>87.6</b>	<b>85.0</b>	<b>76.8</b>	<b>67.6</b>	<b>76.0</b>	<b>79.6</b>	<b>69.7</b>	<b>54.5</b>	<b>51.8</b>	<b>52.4</b>	<b>65.8</b>	<b>62.4</b>	<b>64.7</b>

Work Won Survey (METRIC) - Quarter	Jun-14	Sep-14	Dec-14	Mar-15	Jun-15	Sep-15	Dec-15	Mar-16	Jun-16	Sep-16	Dec-16	Mar-17	Jun-17	Sep-17	Dec-17	Mar-18	Jun-18	Sep-18
Roads and Bridges	48.2	64.0	22.8	109.5	274.7	171.3	213.9	49.3	126.0	45.8	118.8	15.6	33.7	74.9	252.8	50.7	67.8	225.5
Railways	6.1	662.5	330.2	35.0	53.9	24.8	11.7	35.7	516.7	144.5	401.2	50.5	931.2	78.5	2,159.7	329.1	68.0	331.6
Harbours	37.9	14.2	0.0	2.8	20.2	10.2	3.0	10.2	33.0	0.0	0.0	0.0	4.8	17.5	0.0	61.1	3.2	11.7
Total Transport	39.6	140.5	62.7	74.2	184.2	113.0	136.1	38.3	162.1	49.8	133.1	17.1	158.8	62.3	475.0	93.9	53.1	192.2
Electricity	50.1	8.8	0.0	0.0	25.7	0.0	11.2	13.2	1.6	0.0	43.4	27.8	33.3	12.1	29.7	0.0	56.6	35.0
Water	15.9	21.8	5.3	3.3	52.4	2.2	6.7	2.9	11.2	7.7	96.6	77.3	8.5	2.3	44.9	5.8	88.6	33.4
Sewerage	626.2	133.1	26.7	104.5	118.5	619.9	345.0	670.2	178.7	49.3	240.3	87.0	125.4	362.7	591.3	290.1	25.6	16.4
Telecommunications	0.0	21.5	12.5	12.4	1,233.0	1,179.3	0.0	0.0	33.5	67.4	357.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gas Pipelines	345.9	212.9	1,603.4	218.4	262.5	1,512.6	3,420.9	350.4	0.0	0.0	111.3	0.0	876.2	0.6	0.0	49.9	0.0	0.0
Total Utilities	41.0	18.9	24.1	6.0	122.7	105.9	55.7	18.0	9.3	8.3	89.8	47.0	32.3	10.0	38.6	5.6	65.3	31.3
Electricity and Gas Pipelines	57.8	14.1	41.6	5.7	31.9	39.3	99.7	22.0	1.5	0.0	45.2	27.1	55.2	11.8	29.0	1.3	55.1	34.1
Total Mining	30.7	18.2	0.0	0.0	0.0	0.3	0.0	19.0	0.4	12.6	4.8	6.7	6.0	3.9	38.6	42.9	63.9	0.7
<b>Total Civil Construction</b>	<b>42.7</b>	<b>70.9</b>	<b>33.5</b>	<b>33.3</b>	<b>112.7</b>	<b>81.2</b>	<b>78.8</b>	<b>27.2</b>	<b>83.3</b>	<b>27.5</b>	<b>83.6</b>	<b>22.4</b>	<b>78.6</b>	<b>34.5</b>	<b>225.5</b>	<b>54.9</b>	<b>60.7</b>	<b>93.3</b>
<b>Total Non-Mining</b>	<b>47.8</b>	<b>93.6</b>	<b>47.9</b>	<b>47.6</b>	<b>161.0</b>	<b>115.9</b>	<b>112.5</b>	<b>30.7</b>	<b>118.8</b>	<b>33.9</b>	<b>117.3</b>	<b>29.1</b>	<b>109.8</b>	<b>47.6</b>	<b>305.6</b>	<b>60.0</b>	<b>59.3</b>	<b>132.9</b>
Work Won Survey (METRIC) - 4 Quarter Average - 2010=100	Jun-14	Sep-14	Dec-14	Mar-15	Jun-15	Sep-15	Dec-15	Mar-16	Jun-16	Sep-16	Dec-16	Mar-17	Jun-17	Sep-17	Dec-17	Mar-18	Jun-18	Sep-18
Roads and Bridges	47.0	37.9	36.6	33.1	63.8	78.3	104.2	96.1	75.9	58.9	46.0	41.5	29.0	32.9	51.1	55.8	60.4	80.8
Railways	63.8	98.2	116.7	118.6	124.1	51.0	14.4	14.5	67.6	81.3	126.0	127.7	175.3	167.7	369.5	401.5	302.4	331.5
Harbours	75.6	82.5	75.2	27.0	18.3	16.3	17.8	21.4	27.7	22.7	21.2	16.2	2.4	10.9	10.9	41.0	40.2	37.4
Total Transport	52.5	53.3	55.5	49.9	72.6	68.3	79.8	74.2	70.7	60.8	60.3	57.0	56.5	58.4	112.2	124.3	107.6	128.1
Electricity	51.3	33.4	25.8	21.5	12.6	9.4	13.5	18.3	9.5	9.5	21.2	26.5	38.1	42.5	37.5	27.4	35.9	44.2
Water	14.8	22.1	22.5	17.3	30.9	23.6	24.1	24.0	8.6	10.6	44.2	72.0	71.0	69.0	49.7	23.0	52.9	64.5
Sewerage	222.2	75.4	73.1	75.9	32.6	74.1	101.2	149.4	154.5	105.9	97.0	47.3	42.8	69.5	99.4	116.7	108.2	78.7
Telecommunications	199.9	6.4	10.2	13.9	383.3	730.2	726.4	722.7	363.3	30.2	137.2	137.2	127.2	107.0	0.0	0.0	0.0	0.0
Gas Pipelines	24.5	25.0	38.6	31.6	30.5	47.8	72.0	73.7	70.2	50.1	6.1	1.5	13.1	13.1	11.7	12.3	0.7	0.7
Total Utilities	46.9	27.3	28.5	23.9	45.5	68.5	76.9	80.1	50.0	24.2	33.2	40.9	47.0	47.4	33.9	22.9	31.7	37.3
Electricity and Gas Pipelines	40.0	29.8	31.2	25.8	20.2	25.6	38.2	41.7	35.1	26.6	14.9	16.0	27.6	30.1	26.6	21.0	21.0	25.8
Total Mining	121.5	80.7	36.1	11.5	4.3	0.1	0.1	4.5	4.6	7.5	8.7	5.8	7.1	5.1	13.0	21.5	35.2	34.4
<b>Total Civil Construction</b>	<b>70.9</b>	<b>56.5</b>	<b>46.2</b>	<b>35.9</b>	<b>49.9</b>	<b>52.0</b>	<b>61.0</b>	<b>59.8</b>	<b>53.9</b>	<b>43.2</b>	<b>44.1</b>	<b>43.2</b>	<b>42.3</b>	<b>43.7</b>	<b>71.9</b>	<b>78.4</b>	<b>74.8</b>	<b>86.5</b>
<b>Total Non-Mining</b>	<b>53.7</b>	<b>48.3</b>	<b>49.6</b>	<b>44.3</b>	<b>65.4</b>	<b>69.6</b>	<b>81.7</b>	<b>78.5</b>	<b>70.6</b>	<b>55.3</b>	<b>56.2</b>	<b>55.9</b>	<b>54.2</b>	<b>56.8</b>	<b>92.0</b>	<b>97.8</b>	<b>88.3</b>	<b>104.3</b>

# ABOUT THE INFRASTRUCTURE METRIC

The *Australian Infrastructure Metric* (the Metric) is a major research initiative produced by Infrastructure Partnerships Australia, in collaboration with business research and forecasting firm, BIS Oxford Economics and Australia's major civil contractors.

The Metric captures circa 30 per cent of private construction activity each quarter, using this data to model the work won (contracts signed) each quarter – and forecasting construction activity levels across the coming years.

The Metric provides a robust leading indicator of the strength and direction of the civil construction sector in Australia, increasing community, investor and sponsor certainty about the progress in addressing Australia's infrastructure deficit.

Close to 20 of Australia's largest civil construction companies participate in this quarterly study. By capturing a substantial sample of the work won

by these companies each quarter, the Metric provides a timely indicator of civil construction activity across: Total civil infrastructure investment; civil infrastructure excluding direct mining and heavy industry construction; Transport infrastructure; and Utilities infrastructure.

The Metric also captures the contracting arrangements that are being employed to deliver Australia's infrastructure, allowing for an objective measurement of procurement trends over time.

This Metric edition covers the September 2018 quarter. This will be the final edition of the Metric to be released.

## MARKET SHARE

The Metric is presently capturing around 25 per cent of total civil engineering construction work commenced each quarter, and an average of 30 per cent of total private contract engineering construction (see Figure 6). The sample size varies considerably between sectors and sub-sectors, with the sample size for the transport and mining sectors far outweighing the utilities sector.

Figure 6 – Data Set Market Share

Sector	Total Civil Commencements	Total Private Contract Civil Commencements
Transport	31	43
Utilities	17	26
Mining	30	27
All sectors	25	29

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**Other:** BIS Oxford Economics forecasts for civil construction work done appearing in this report are sourced from: Engineering Construction in Australia; Mining in Australia; and Road Construction in Australia.

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