Construction and transport, postal and warehousing

Fact pack

2 April 2015

THE BOSTON CONSULTING GROUP

Note to the reader: Context

This material forms one of 13 fact packs produced by BCG in two short engagements

The fact packs draw on a range of sources

- Research and information held within the Department
- Publicly available information and reports
- BCG research and experience
- Discussions within the Department, with a number of BCG experts
- However, within the available time, we were not able to engage with the community and industry

Data availability was highly variable across the industries, regions and cohorts covered

- In some cases good public information (e.g. ABS data) was available
- In others we needed to draw on different (and sometimes inconsistent) sources of varying depth and quality, and to use proxies and other indicators where data was unavailable
- We have made our best efforts within the available time to synthesise the data available and to develop a consistent basis of comparison across industries, regions and cohorts; however, data gaps remain in a number of areas

The objective of the fact packs is to form the starting point for further work by the department

- We have attempted to highlight gaps and questions for further investigation

Industry snapshot

Construction, and transport, postal and warehousing (TPW)

Definition

Includes ABS categories of "Construction" and "Transport, postal and warehousing" (TPW)

Excludes manufacturing associated with construction and transport technologies, or professional services associated with construction

Current status (2012-13)

Metric	Size	Growth (09-14)	Comments/assumptions
GVA	$36.3b	2.3%	Weighted CAGR of Construction and TPW (Construction: 3.1%; TPW: 1.2%)
Employment	395k	1.4%	Weighted CAGR of Construction and TPW (Construction: 2.0%; TPW: 0.4%)
Export revenue	n/a	n/a	Not a tradable good or service

Incremental opportunity (2025)

Metric	Size	Comments/assumptions
GVA	$8.7b-$11.5b	Low case – population growth slowing and adjacent TPW industry decline (50k additional construction jobs; -1k TPW jobs); High case – historic growth (68k additional construction jobs; 8k TPW jobs)
Employment	48k-76k	
Exports	n/a	

Competitiveness

(TPW Only)

+	Access to resources
+	Infrastructure and regulatory costs
+	Scale
+	Market position
~	Innovation

Key

- ++ Significant strength
- \+ Advantaged
- ~ On par globally
- − Disadvantaged
- −− Significant barrier or risk

Executive Summary

Construction and transport, postal and warehousing (TPW)

Construction and TPW industries are major and growing employers in Victoria

- 12% of state GVA, growing slightly faster than state GVA overall (3.1% construction and 1.2% transport)
- 14% combined share of state's employment (~9% construction, ~5% TPW)

Victoria's jobs growth in these sectors is predominantly in construction, driven by buildings

- The number of construction workers has increased by 24,000 over 5 years (but declined 25,000 from 2011 peak)
- Expenditure on buildings outstrips other states, despite lagging engineering construction spend
- Transport GVA is growing in rail, services and warehousing. Road is experiencing a long decline in GVA share
- Construction growth is driven by residential construction, which is highly dependent on immigration. Large increases in foreign investment in residential and commercial are further increasing construction activity

Workers are lower skilled, of varying age, and concentrated slightly more in pockets of Greater Melbourne

- Construction workers are younger, mainly with Cert III/IV qualifications, and concentrated in the suburbs immediately outside Greater Melbourne
- TPW workers are older, predominantly unskilled, and concentrated in the western suburbs close to major transport and shipping infrastructure (Western Ring Road, Port of Melbourne, Tullamarine airport)
- Both represent a considerable proportion of regional employment at 13%

Both industries favour small business operators, with an increase in construction small businesses

- Most businesses have <20 employees and growth has occurred particularly in this range (9% for construction)
- Construction businesses are concentrated on the outskirts of Greater Melbourne, with other pockets in regional growth areas like Geelong, Ballarat and Shepparton

While historic growth has been strong, there are risks for the construction and TPW industries given the dependence on population growth (primarily immigration) and adjacent industries

- ~50% of construction depends on residential and it appears more houses are being built than the population requires
- A fall in infrastructure spend and industry decline adjacent to TPW may reduce scale and magnify job losses
- Unemployment rates as well as wages for construction / TPW workers are higher than most industries, but churn is high
- Low skill level and high wages in construction and TPW places workers at risk for finding comparable employment

Scope

Construction and transport, postal and warehousing (TPW)

Sector definition

This includes the ABS categories of "Construction" and "Transport, postal and warehousing" (TPW)

- Construction includes building construction, construction services, and heavy and civil engineering construction
- Transport, postal and warehousing includes postal and courier pick-up and delivery services, air, space, road, rail and water transport, warehousing and storage services, and transport support services

Notes on exclusions

Construction

- Does not include professional services firms that may provide services to or work in the civil engineering / construction industry
- Does not include any manufacturing related to construction, e.g. heavy equipment
- May include mining construction but does not include broader mining sector

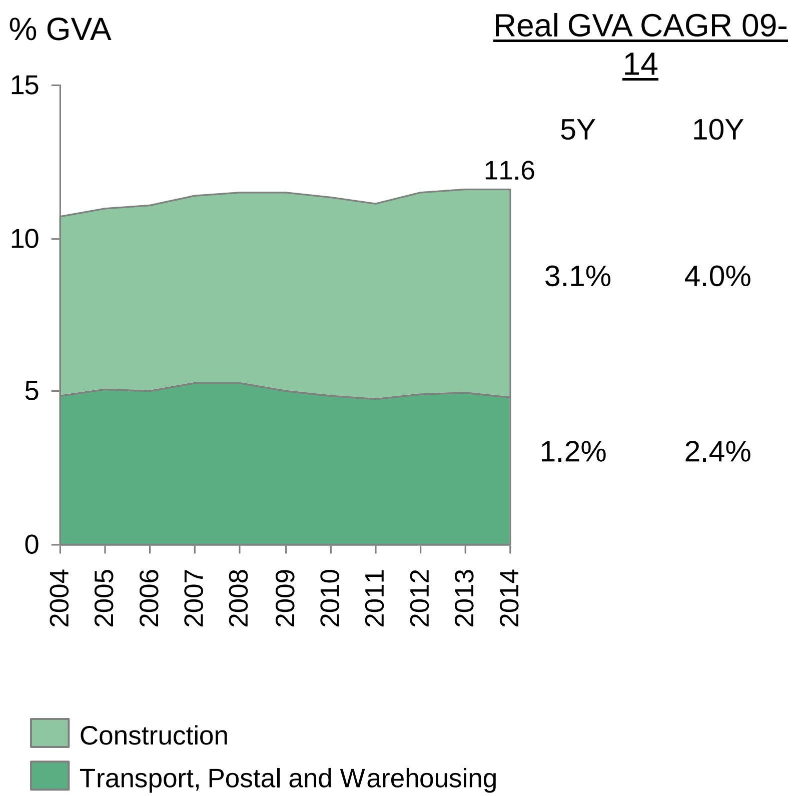
Transport, postal and warehousing

- Does not include any manufacturing related to transport, e.g. automotive, heavy equipment and machinery

Construction and TPW contribute 11.6% GVA and 13.8% employment, with slowing growth in recent years

Construction and TPW large share of GVA but growth rate is slowing

Estimated industry GVA contribution to total GVA, Vic



Significant contributor to state employment, but much lower growth than GVA

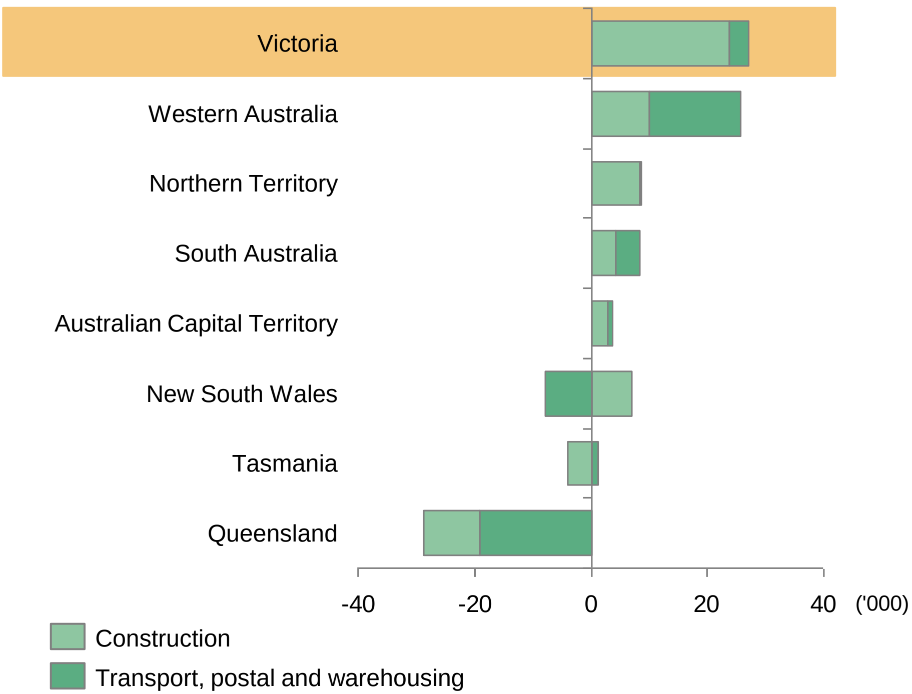
Industry employment as share of total employment, Vic, February quarter

Please note that the total ABS Labour Force estimates are based on a small survey sample and should be interpreted with caution
Source: ABS Cat No. 6291 Labour Force, Australia, Detailed, Quarterly; ABS Cat. No 5220;

Victoria has added more jobs without a significant improvement in GVA share

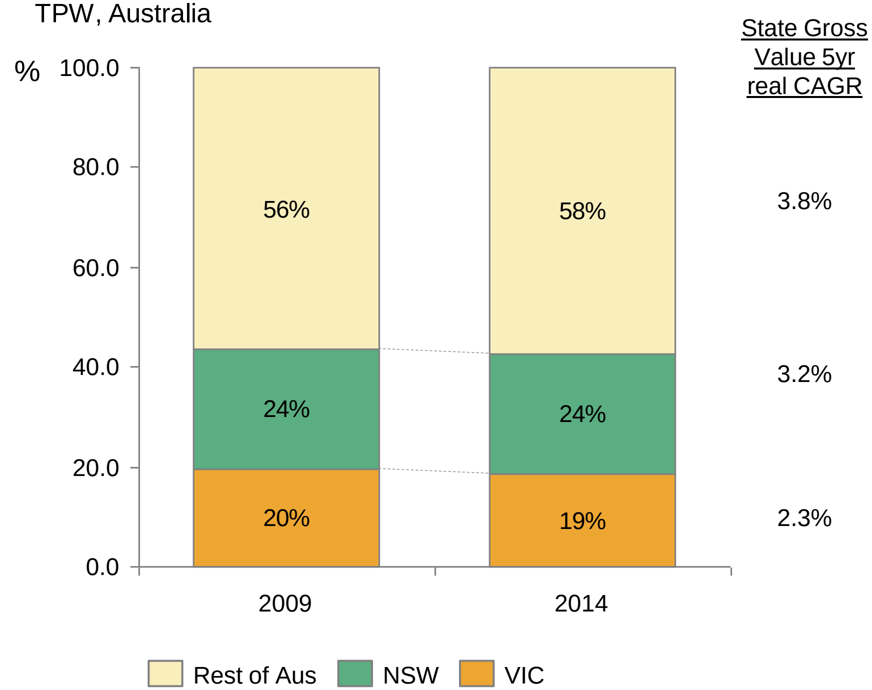
Victoria has experienced most net employment growth, but largely due to construction...

Five years to February 2014, Construction and TPW, employment change by State



...while share in GVA has remained relatively stable

Gross Value Added, Construction and TPW, Australia

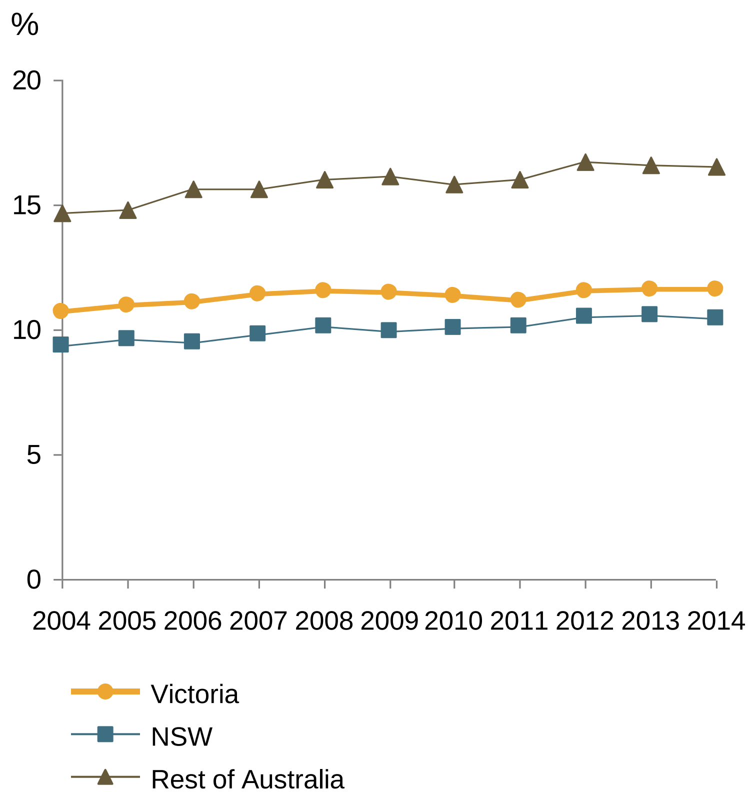


Source: ABS employment data; ABS State accounts 5220.0 Industry value added (Victoria, NSW, Australia)

Construction and TPW are significant for Victoria, but more dominant in other parts of Australia

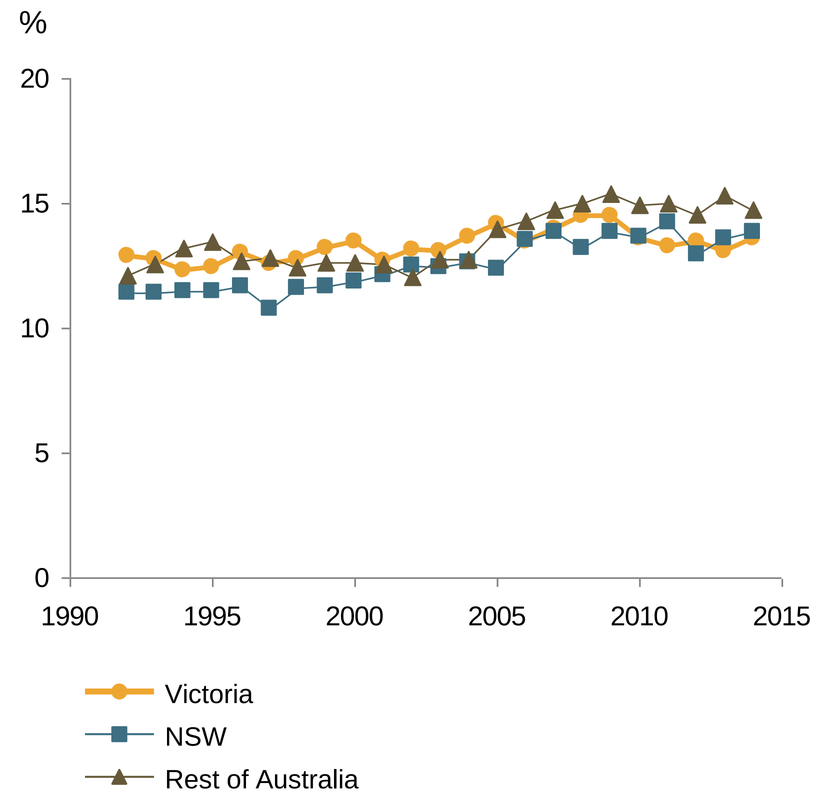
GVA contribution is broadly constant but lower than in rest of Australia

Estimated Construction and TPW GVA contribution to total GVA over time by location



Construction and TPW jobs are as important to Victoria as they were 20 years ago

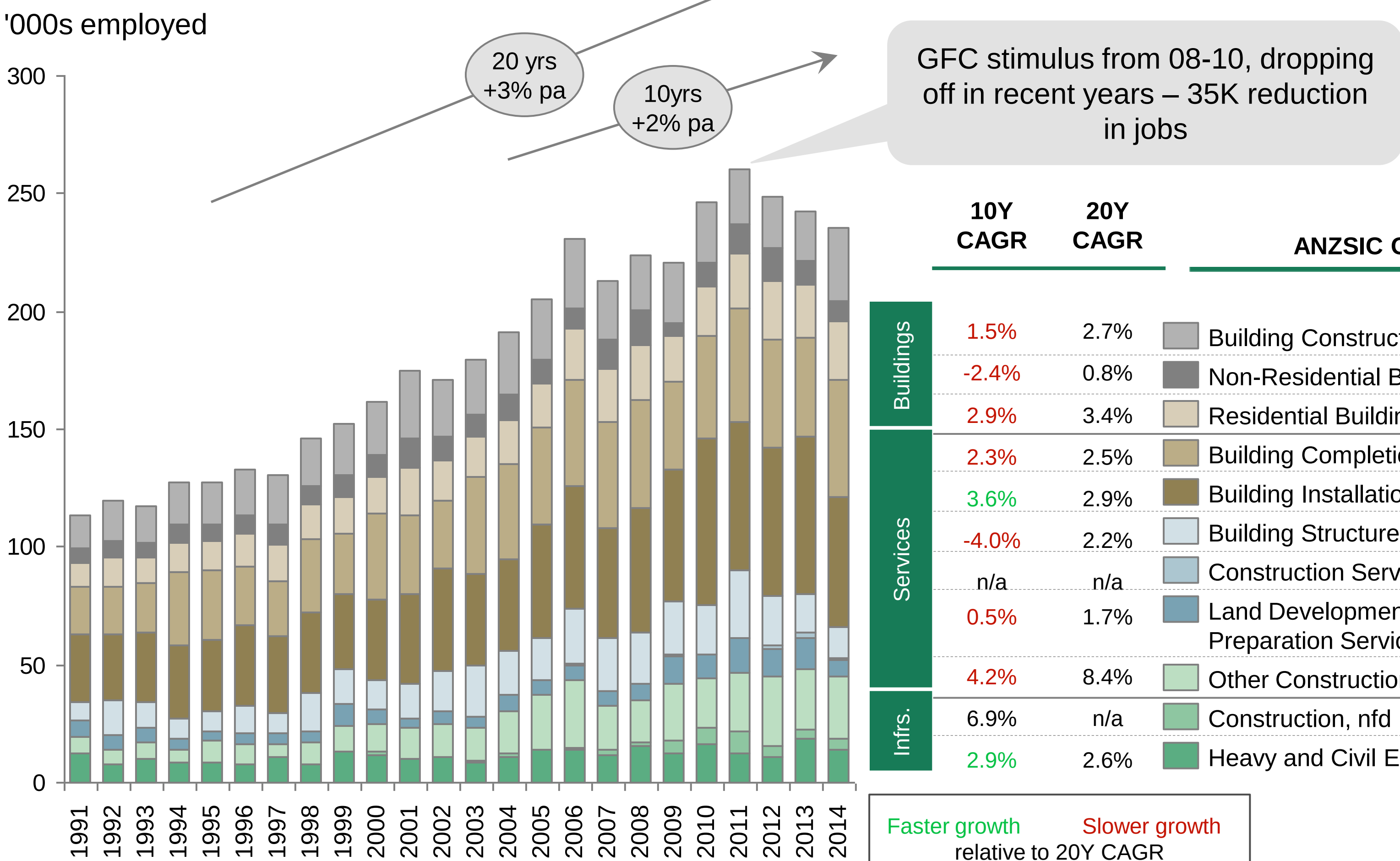
Construction and TPW employment as share of total employment, Vic



Source: ABS Cat. No 5220;

Construction employment growth has slowed, driven by lower growth in building construction

Victorian employment in construction industry by group over time, November Quarter



	10Y CAGR	20Y CAGR	ANZSIC Grouping	Share jobs 2014
Buildings	1.5%	2.7%	Building Construction, nfd	27%
	-2.4%	0.8%	Non-Residential Building Construction	
	2.9%	3.4%	Residential Building Construction	
Services	2.3%	2.5%	Building Completion Services	65%
	3.6%	2.9%	Building Installation Services	
	-4.0%	2.2%	Building Structure Services	
	n/a	n/a	Construction Services, nfd	
	0.5%	1.7%	Land Development and Site Preparation Services	
	4.2%	8.4%	Other Construction Services	
Infrs.	6.9%	n/a	Construction, nfd	8%
	2.9%	2.6%	Heavy and Civil Engineering Construction	

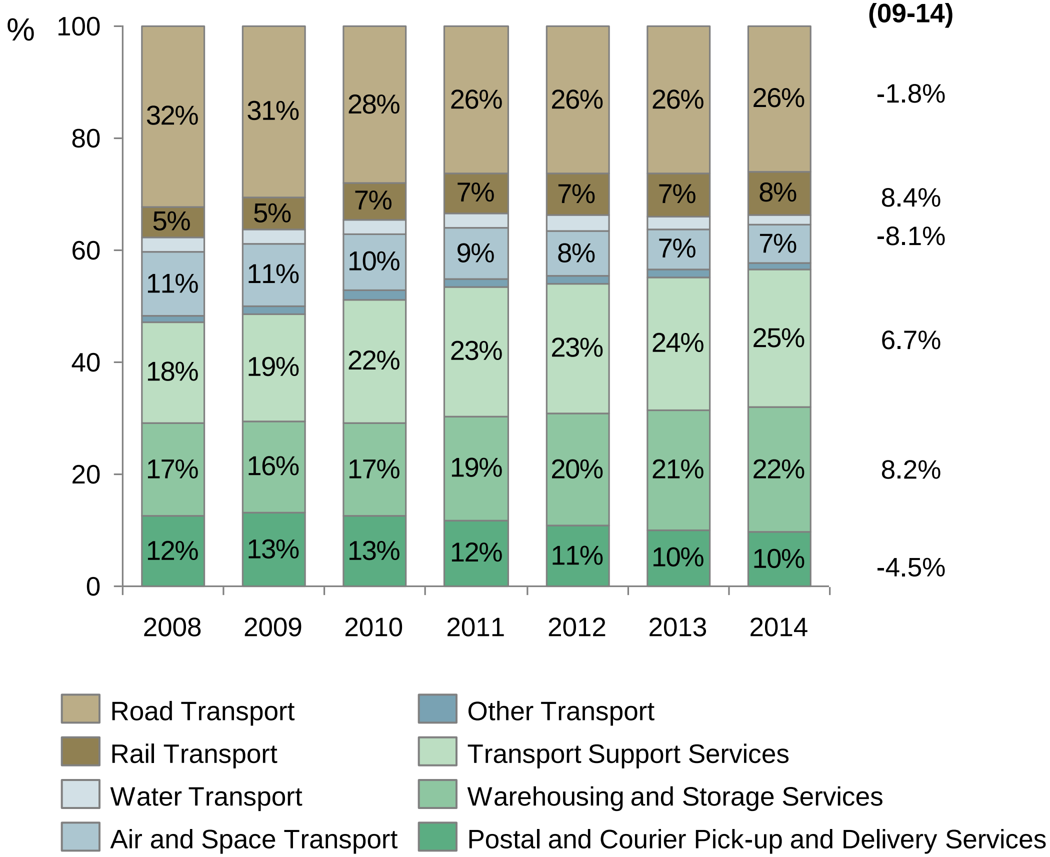
Faster growth Slower growth
relative to 20Y CAGR

Source: ABS detailed labour force statistics, table E06

Transport GVA is shifting from road to services and warehousing, which yield more GVA per person

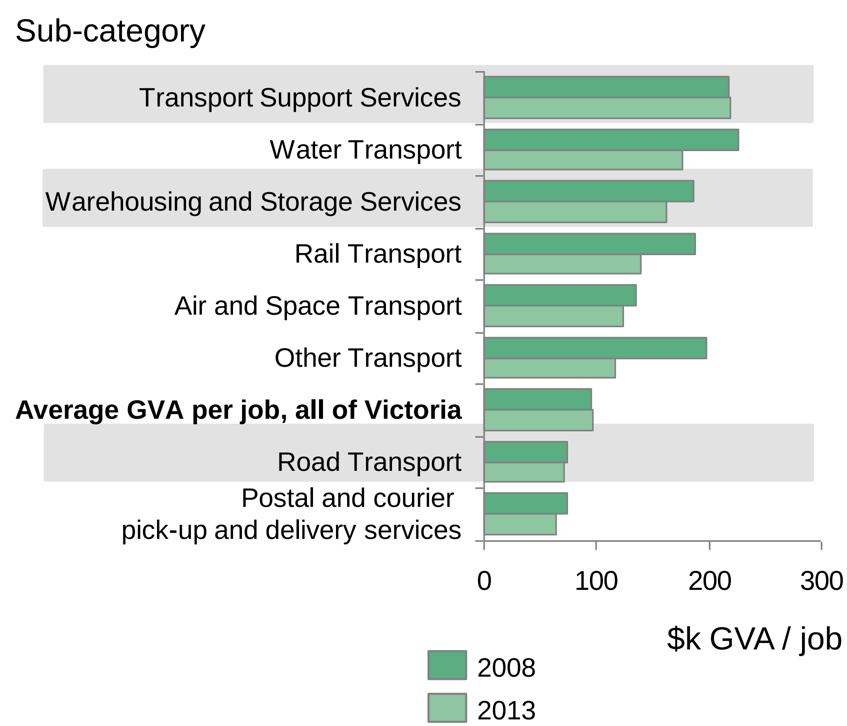
High growth in warehousing and transport services has displaced share of road sector

Victorian TPW GVA share over time by sub-category



Transport workers produce more GVA than other Victorians, but it is declining from 08-13

GVA per person employed, Vic, 2008 and 2013, by subcategory

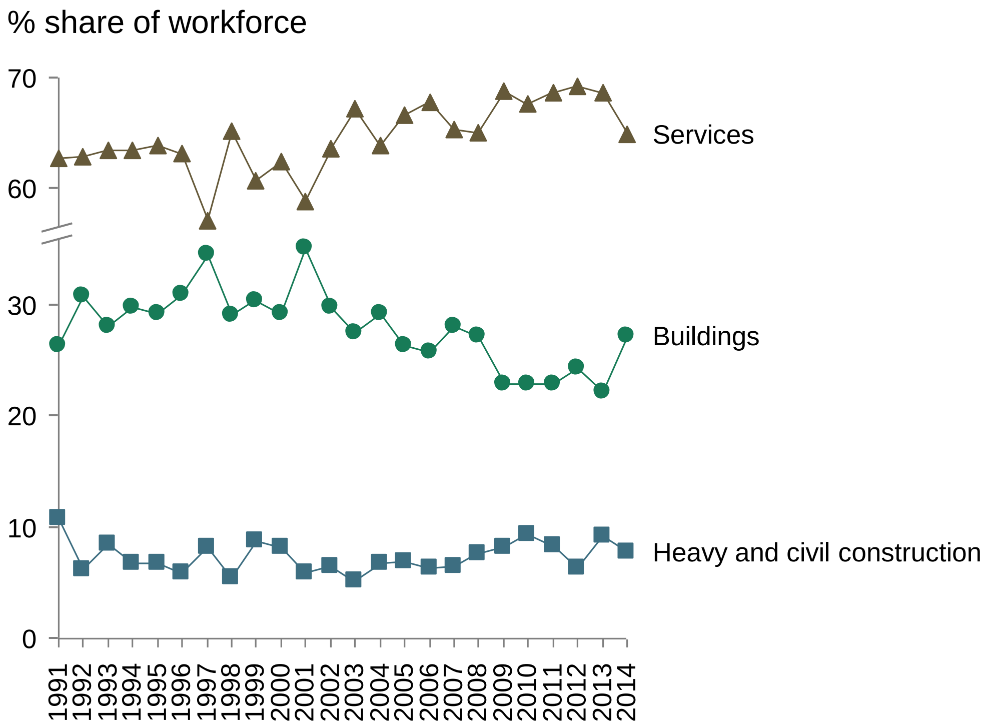


Source: ABS GVA by sub-category time series, Victoria, data sourced by RDV 2014

Low skill workers are flexible to infrastructure and building activity cycles but can affect retention of higher-skilled

Activity cycles see workers move between buildings and services / infrastructure

Share of construction workforce by sub-category, Victoria



Commentary

Residential and commercial building construction is historically driven by economic prosperity and population growth

The workforce is generally flexible, with some loss of higher-skilled workers

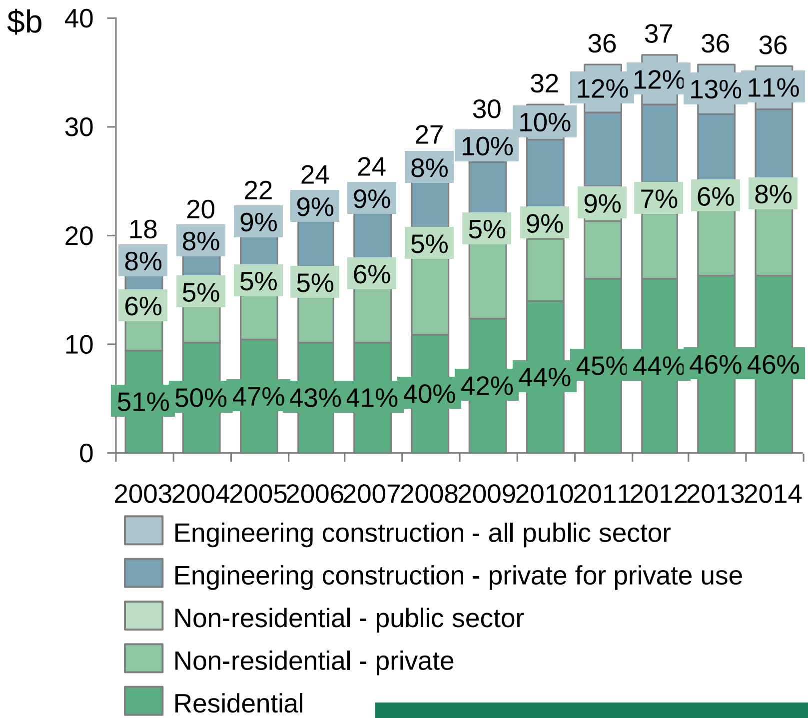
- Lower skilled workforce (particularly labourers) are flexible and sub-contracted for projects, regardless of sub-sector
- More skilled workers cannot transfer easily between industries (buildings vs. infrastructure) and some skills are lost during lower periods of construction activity to other locations (interstate, international), that are difficult to regain

Source: ABS detailed labour force statistics, table E06; BCG expert interviews

Almost half of all construction activity is residential, driven by international migration

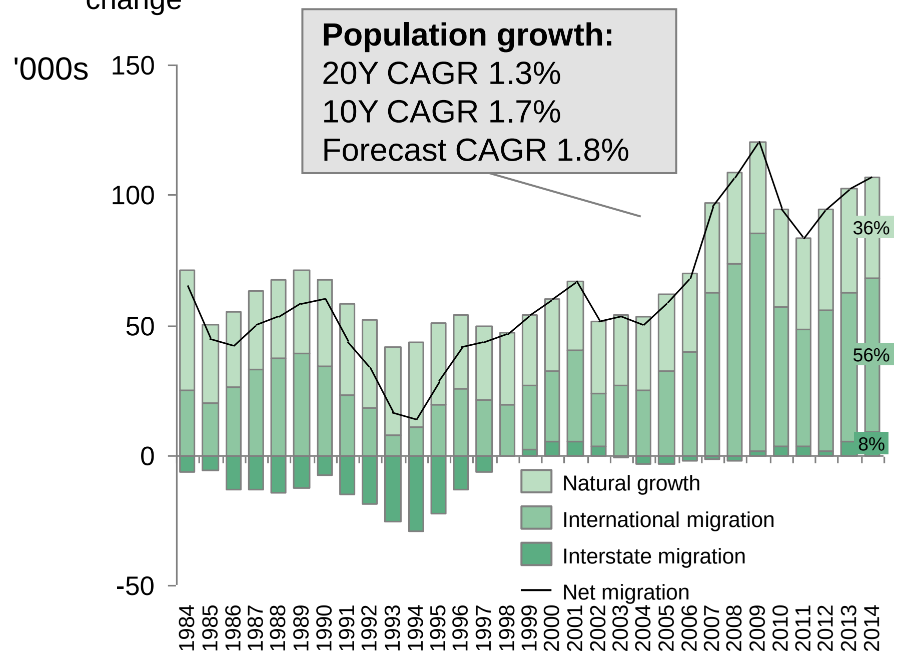
46% of construction value is residential, with 19% under influence by public sector

Value of construction work done by sub-sector, Victoria



Greatest driver of population growth is international migration at 56% of net growth

Net change in Vic. population over 4Q to June, by type of change



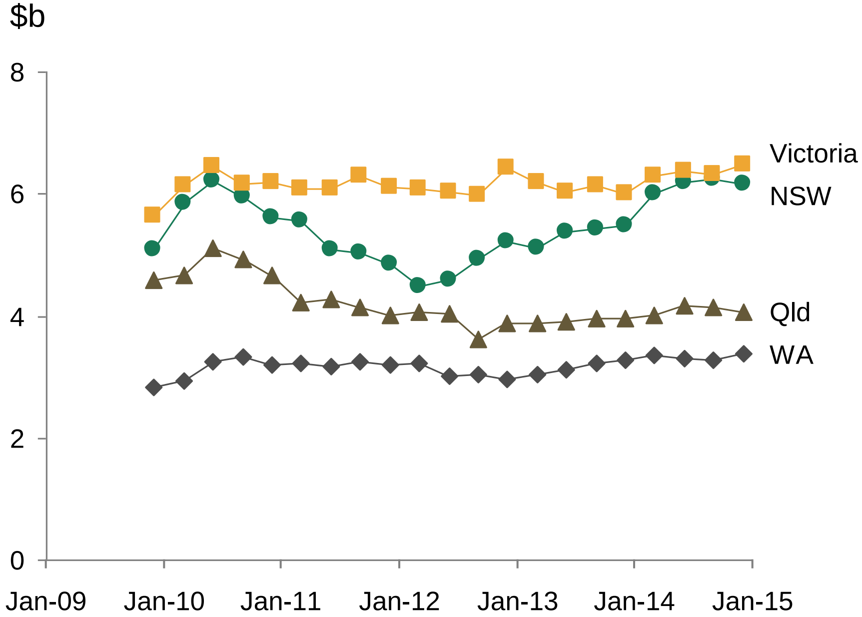
Government's influence on construction low, immigration is the key to maintaining growth

Source: ABS Population data – net population change by category, Victoria; Victorian Department of Planning; ABS Value of Construction work done by type of construction and sector

Victoria has led the way in building construction, but lags on engineering construction

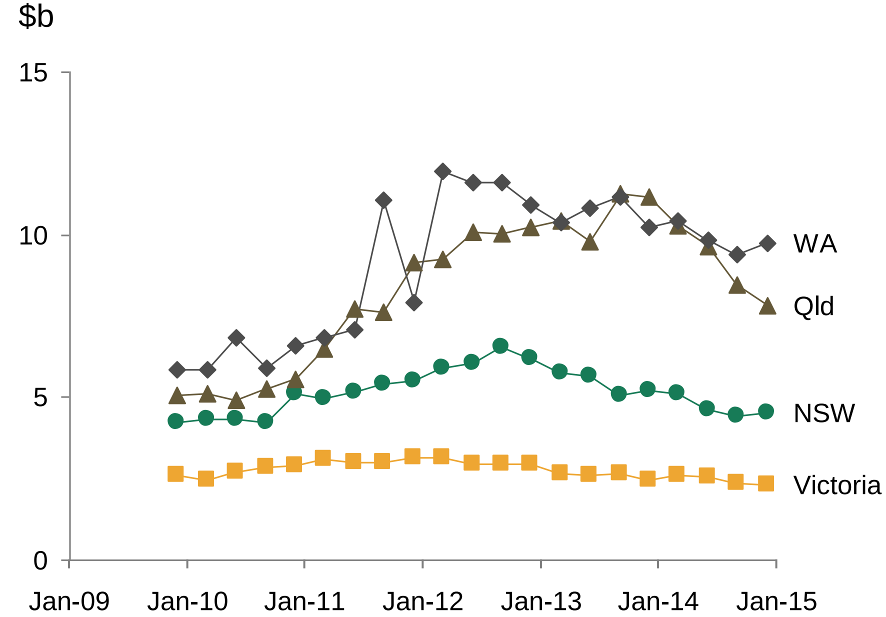
Victoria spends more than any other state on building construction (homes, offices)

Quarterly seasonally adjusted expenditure (chain volume measure) on building construction, by state



Qld and WA dominate engineering construction through resource developments

Quarterly seasonally adjusted expenditure (chain volume measure) on engineering construction, by state



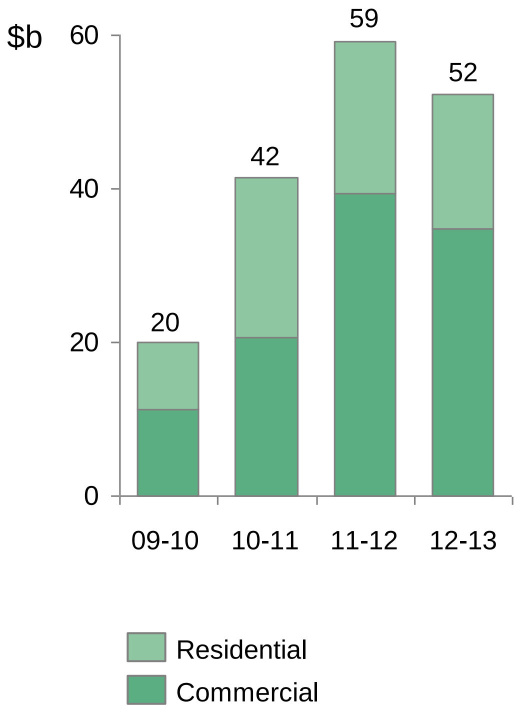
Source: ABS value of construction by state and type of construction

THE BOSTON CONSULTING GROUP

Foreign real estate investment has more than doubled since 2009, contributing to construction growth

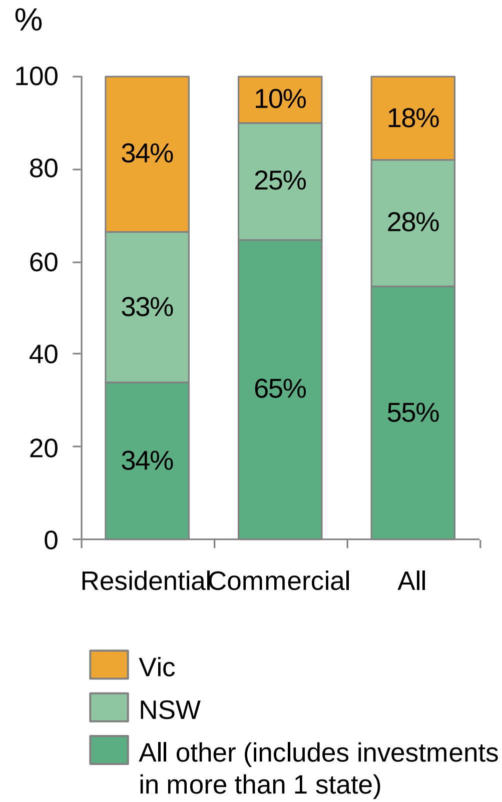
Foreign RE investment has risen significantly but dropped in 2013

Approved foreign investment in Australia for residential and commercial real estate



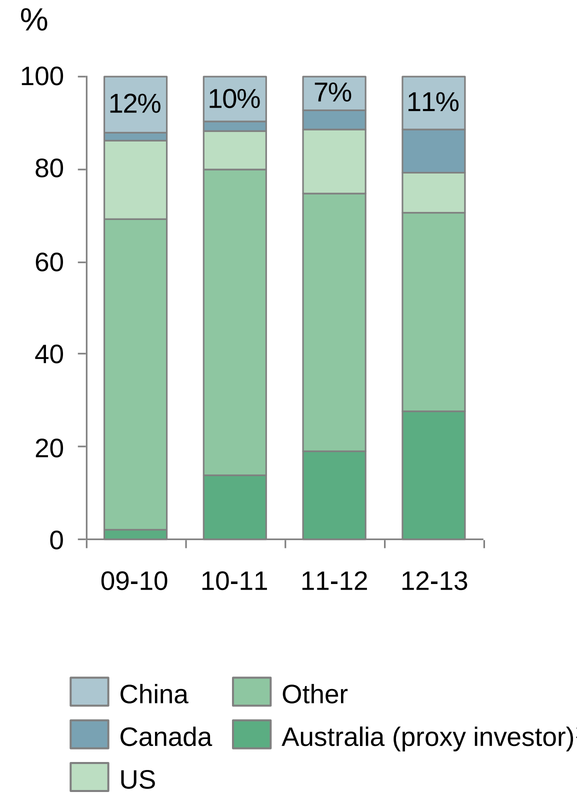
Victoria's share of residential foreign investment is high

State distribution of proposed foreign investment in real estate, 2012-13



Chinese investor share has fluctuated

Foreign investment in real estate by country, % of Australian total



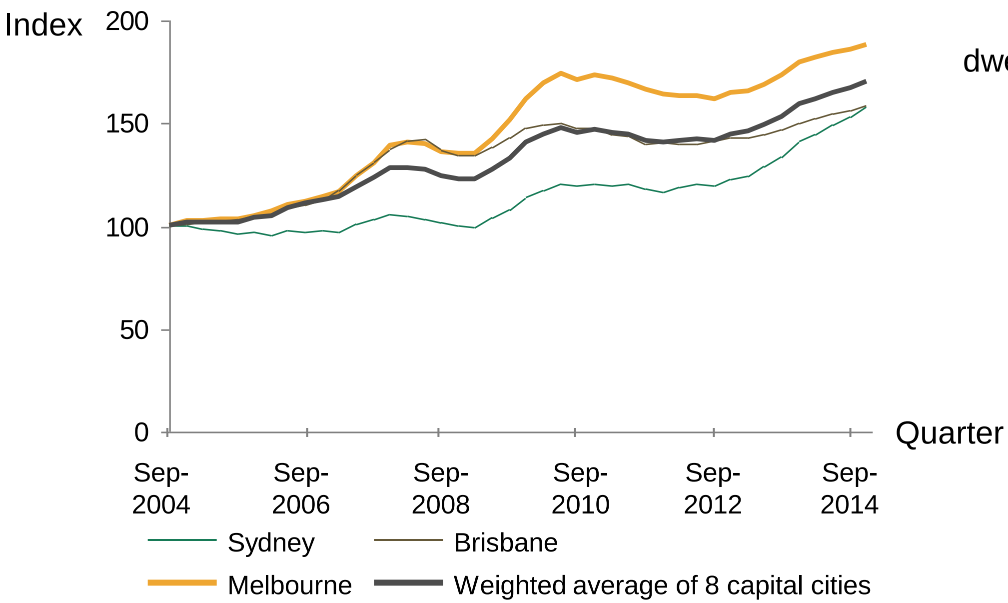
1. Australian controlled investment managers acting on behalf of an investor, or a joint proposed investment with international partners

Source: Foreign investment review board annual report 2012-13

Melbourne property prices have risen strongly, despite greater capacity

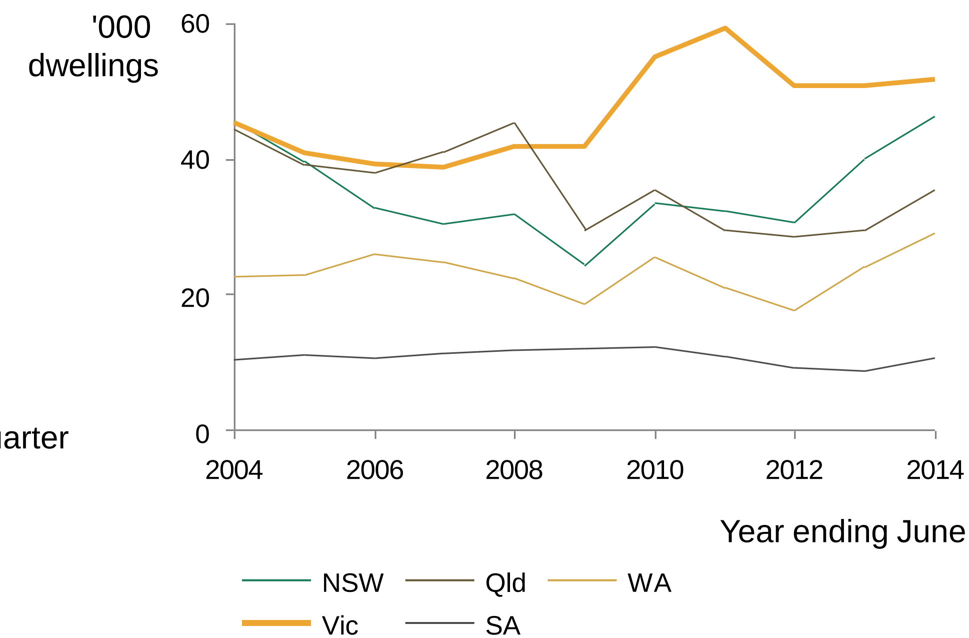
Melbourne's property price has grown more than other cities

Residential quarterly property price index for selected capital cities and average



Victoria has added significant market capacity compared to other states

Commencement of new dwelling construction by quarter, by state



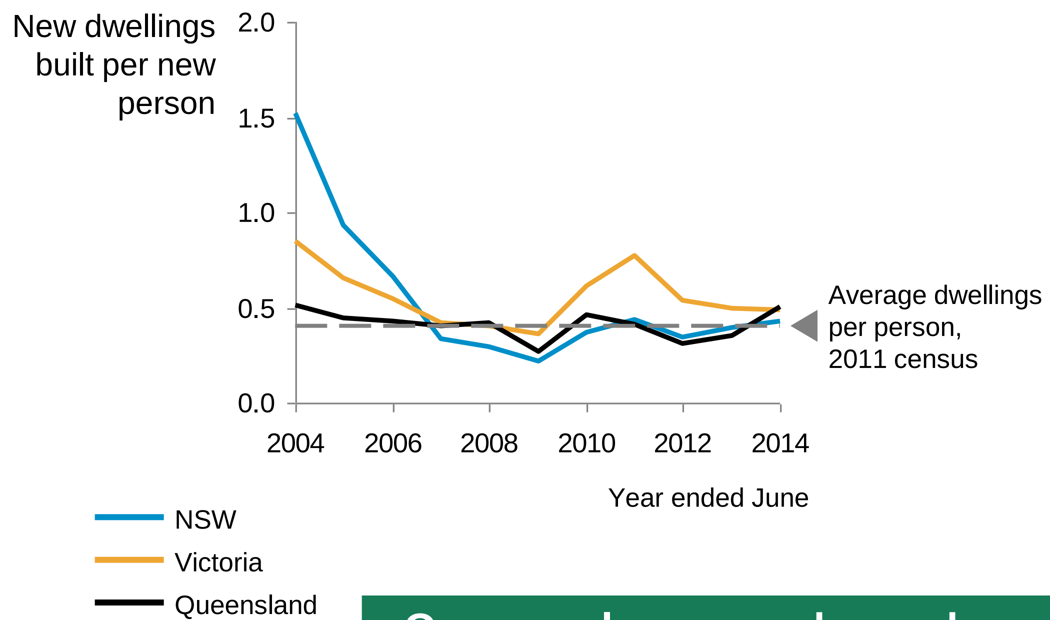
Prices rising in spite of additional housing supply, which could suggest ongoing growth in residential construction

Source: ABS new dwellings construction by state and value of work commenced by dwelling type by state, quarterly release

However, there may be more dwellings being built than the population needs

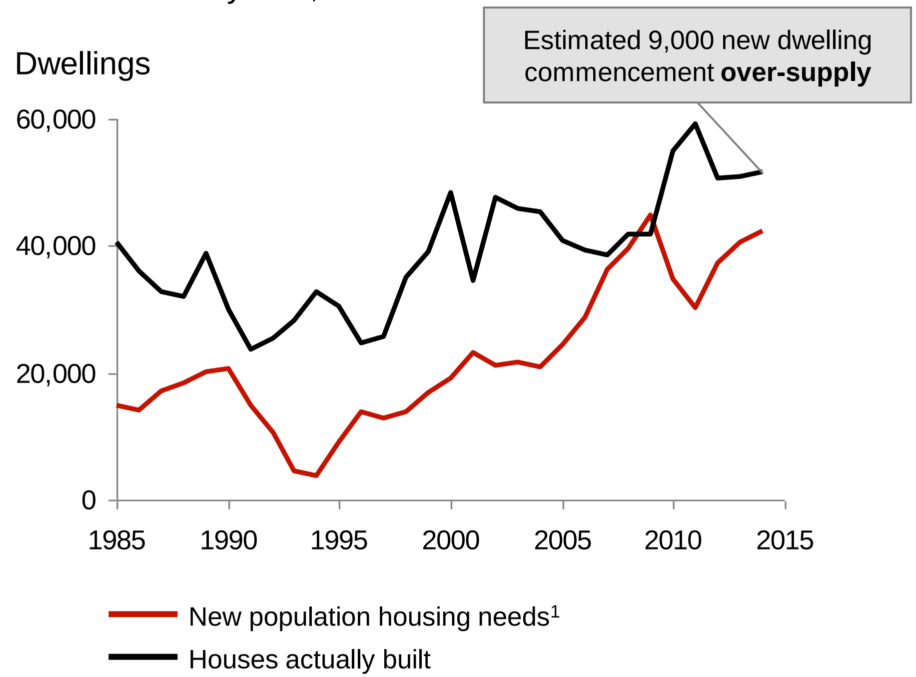
Victoria is providing more dwellings per new person than other large states

Dwelling commencements per net increase in state population by quarter



More houses are being built than new Victorian residents need[2]

Modelled supply needed for new state residents and houses actually built, Victoria over time



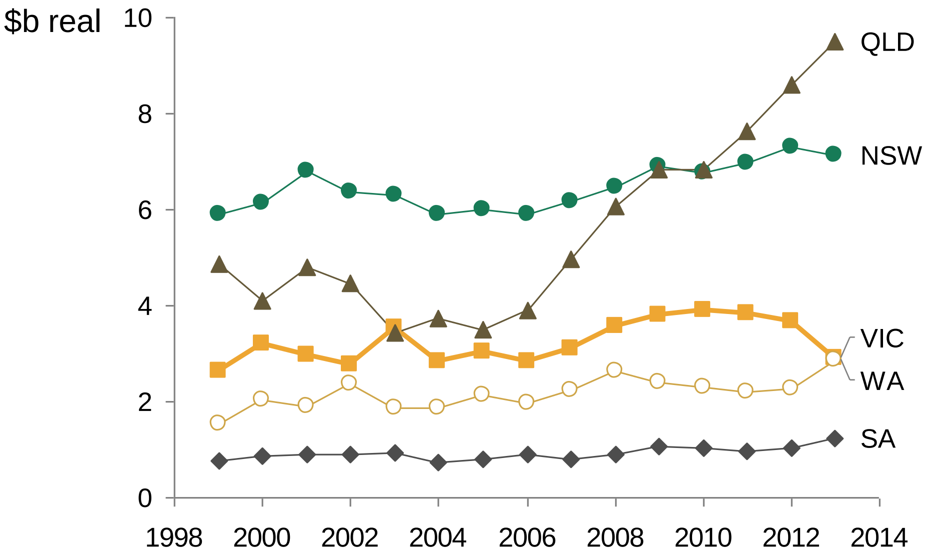
Oversupply may curb new home construction and reduce residential construction jobs

1. Based on using Victorian government's household size estimates and extrapolating for new arrivals to the state – natural growth, interstate migration and international migration (2.53 P/HH in 2011, 2.6 in 2001, 3 in 1985 assumed) 2. Assuming new arrivals have a similar household size demand to current Victorian household size
Source: ABS new dwellings construction by state and value of work commenced by dwelling type by state, quarterly release; State Government of Victoria department of planning modelling of household size – Victoria in Future 2014

Victoria's spend on road infrastructure is declining, as is state government's share of the total spend

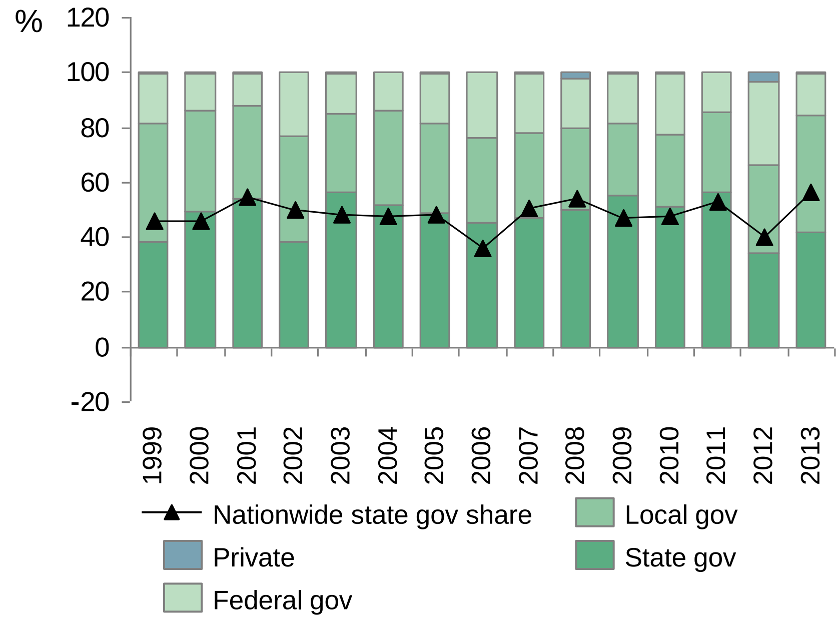
Victoria spends significantly less on road related expenditure than other states...

Total road-related expenditure by all government and private sector, constant 2012-3 prices



...and the state appears to be spending less on road infrastructure in recent years

Victorian expenditure on roads infrastructure by funder, compared to national average of state government share of spend, excludes public non-financial corporations



Ongoing challenge of investing in the right roads infrastructure given the recent decline in state spend/share

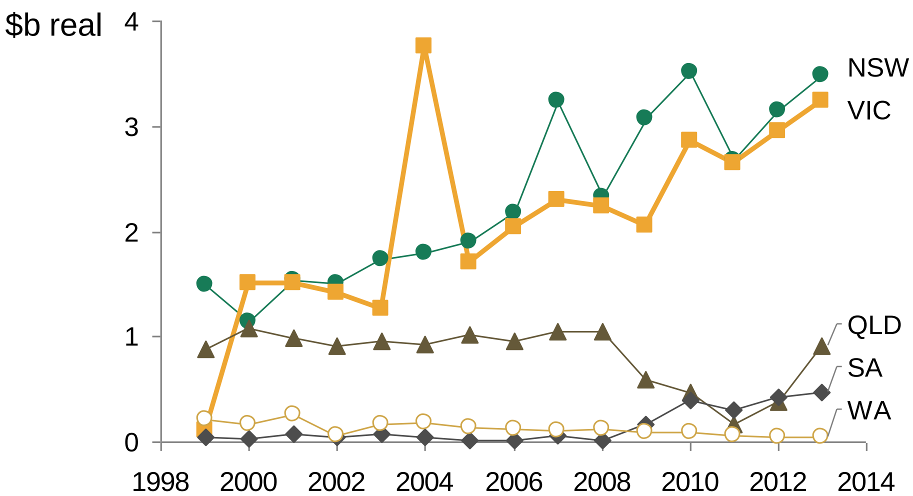
Source: BITRE Table T1.2, Australian Infrastructure Statistics 2014

More is being spent on Victorian rail, but the state share of spend has decreased

Victoria's rail spend is similar to NSW despite smaller population and geography

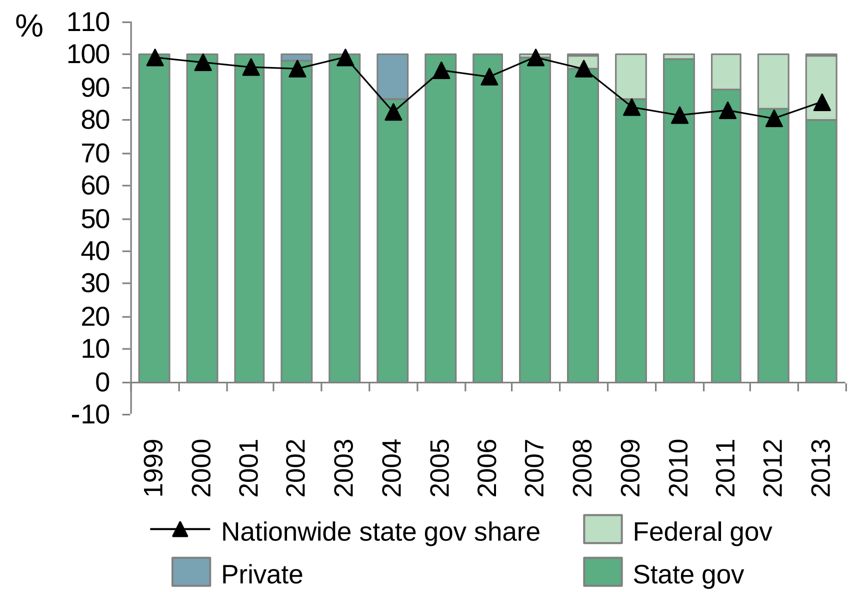
Total rail-related expenditure by all government and private sector, constant 2012-3 prices

Note: excludes public non-financial corps, which raises total spend by ~30%



Majority funded by state but has lowered in recent years, Vic govt funding more than ave.

Victorian expenditure on rail infrastructure by funder, compared to national average of state government share of spend, excludes public non-financial corporations

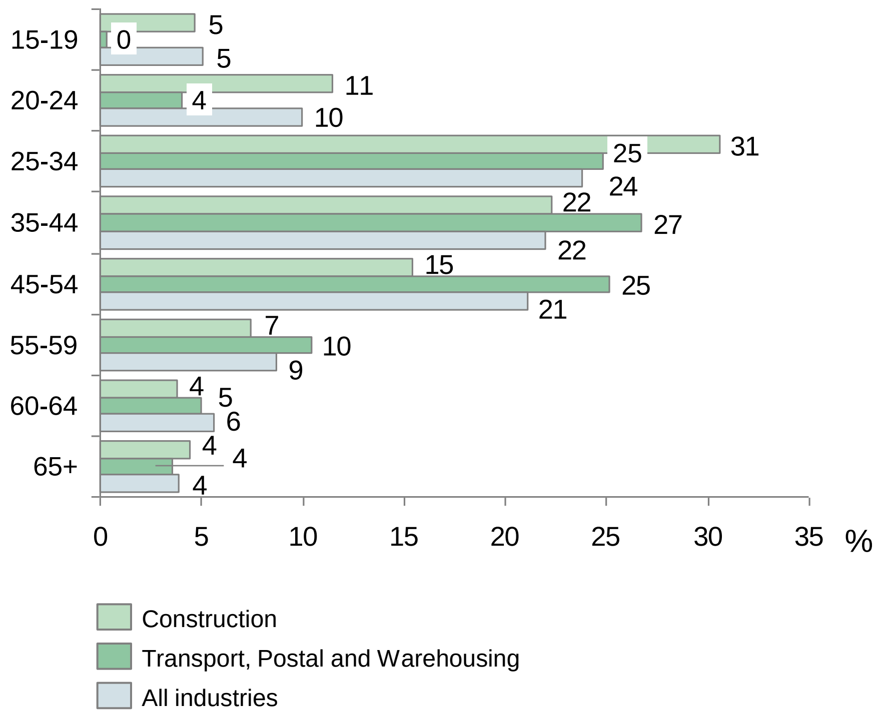


Source: BITRE Table T1.6, Australian Infrastructure Statistics 2014

Construction and TWP have few highly skilled employees, but construction employs more young and trade-qualified people

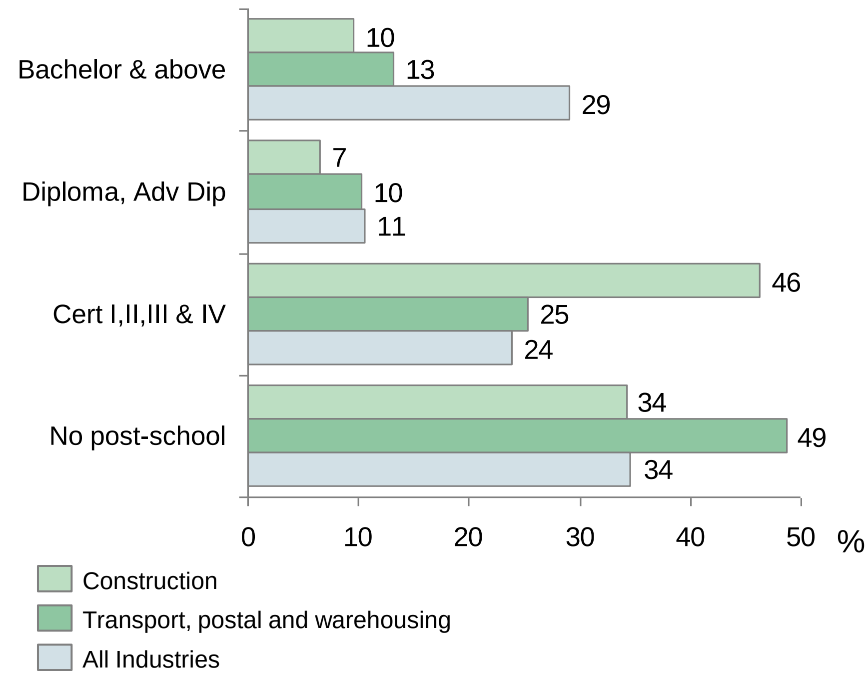
Construction workers tend to be younger, while TPW workers are older than average

Employed persons by age, % share of employment, Vic, November 2014



Construction workers dominated by TAFE qualifications while TPW largely unskilled

Highest educational attainment, % share of employment, Aus, 2013

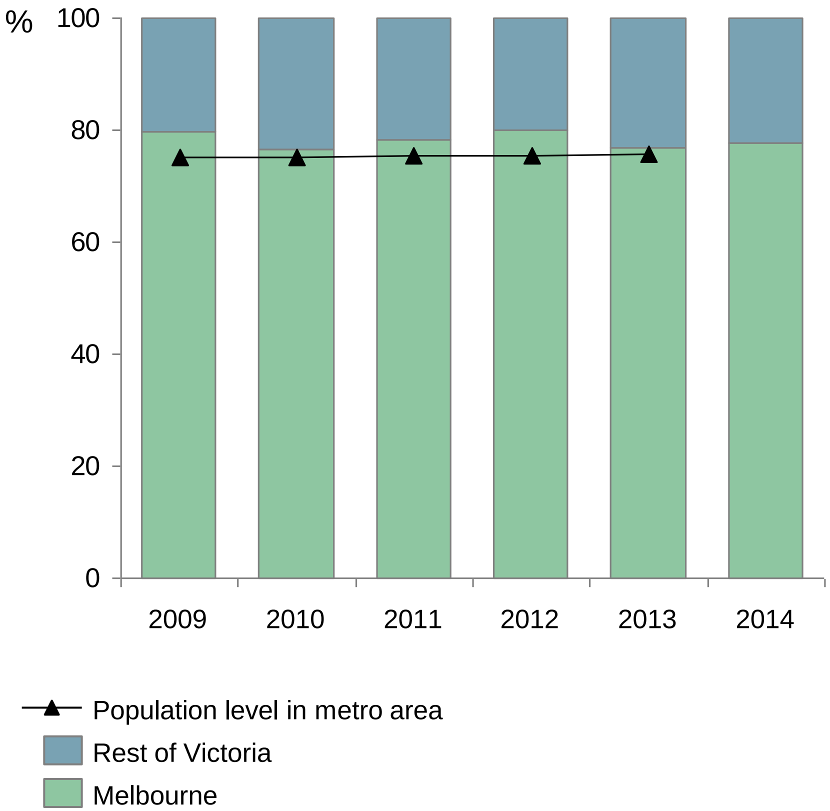


Source: ABS Labour statistics, 6291.0.55.003

Slightly more construction workers live in greater Melbourne, despite strong regional employment

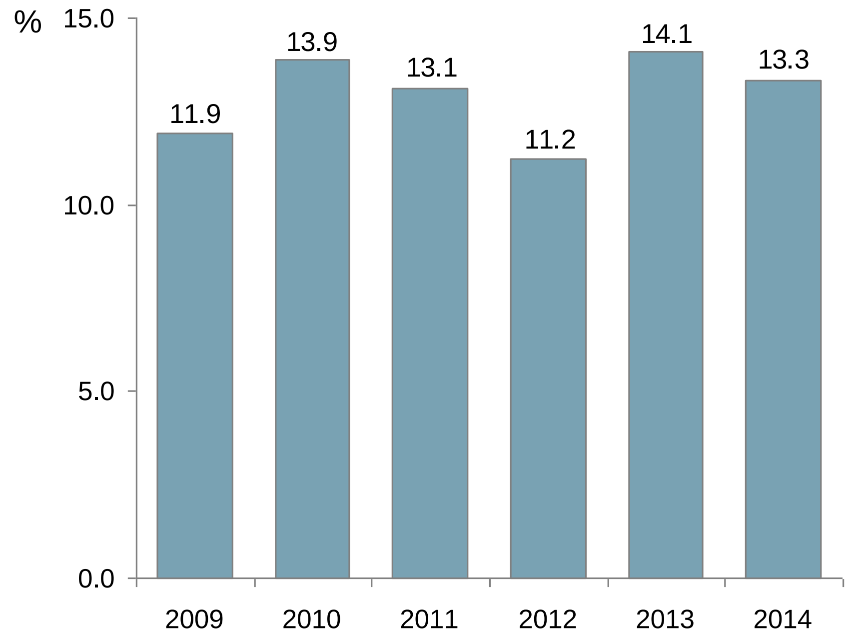
Construction and TPW employment mirrors regional/city split

Employment in Construction and TPW by location, Vic



Construction and TPW accounts for 13% of regional employment

Construction and TPW employment as share of total employment, Regional Victoria

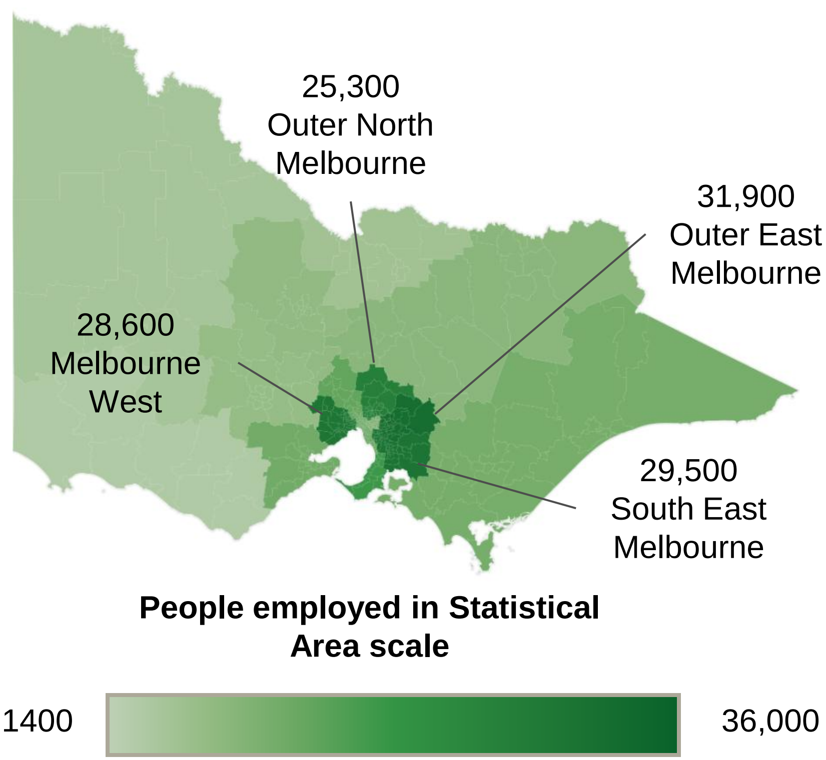


Source: ABS Employment data cube E05 and E03, 2014, 6291

Employment is clustered in Melbourne's outer suburbs

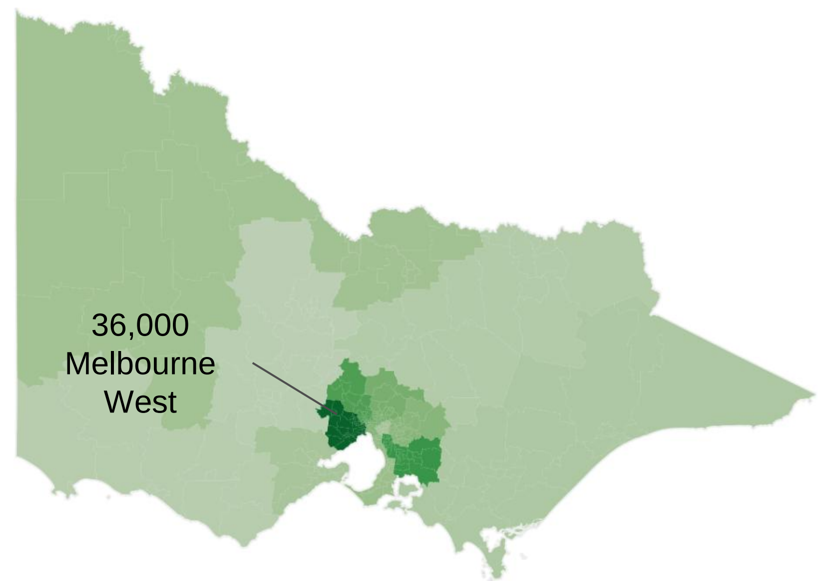
Construction employees dominant in outskirts of Melbourne

Number of people employed in Construction by SA4, November 2014



Largest amount of TPW employees concentrated in Melb West (~25% of total)

Number of people employed in Transport, Postal and Warehousing by SA4, November 2014

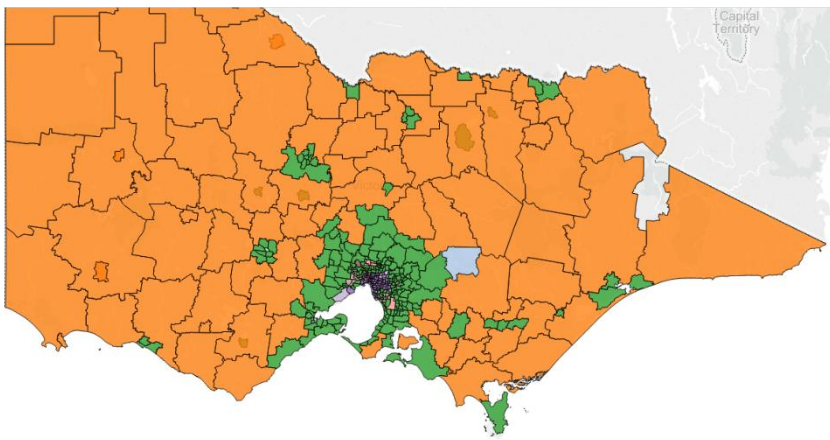


Source: ABS labour force survey, four quarter average for November 2014 SA4 employment by industry, provided by Employment.gov.au

Noticeable pockets of construction and TPW businesses exist on Melbourne's outskirts

Construction businesses are dominant in suburbs on the outskirts of Melbourne and regional pockets

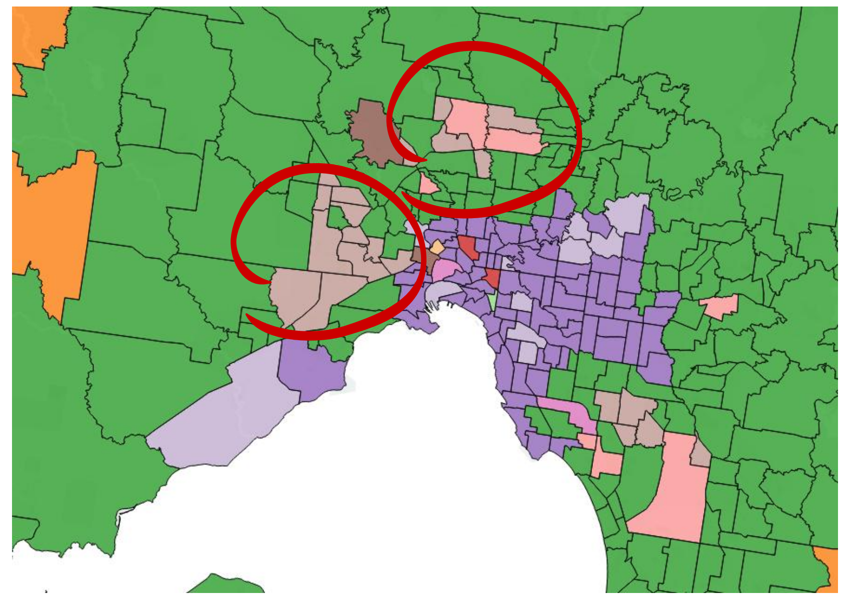
Most dominant industry by SA2, based on number of businesses as a proportion of total businesses in that area, 2012



Top industry name
- Accommodation and Food Services
- Agriculture, Forestry and Fishing
- Arts and Recreation Services
- Construction
- Financial and Insurance Services
- Health Care and Social Assistance
- Manufacturing
- Professional, Scientific and Technical Services
- Rental, Hiring and Real Estate Services
- Retail Trade
- Transport, Postal and Warehousing
- Wholesale Trade

Suburbs where TPW businesses are dominant are concentrated in Melbourne's West and North

Most dominant industry by SA2, based on number of businesses as a proportion of total businesses in that area, 2012

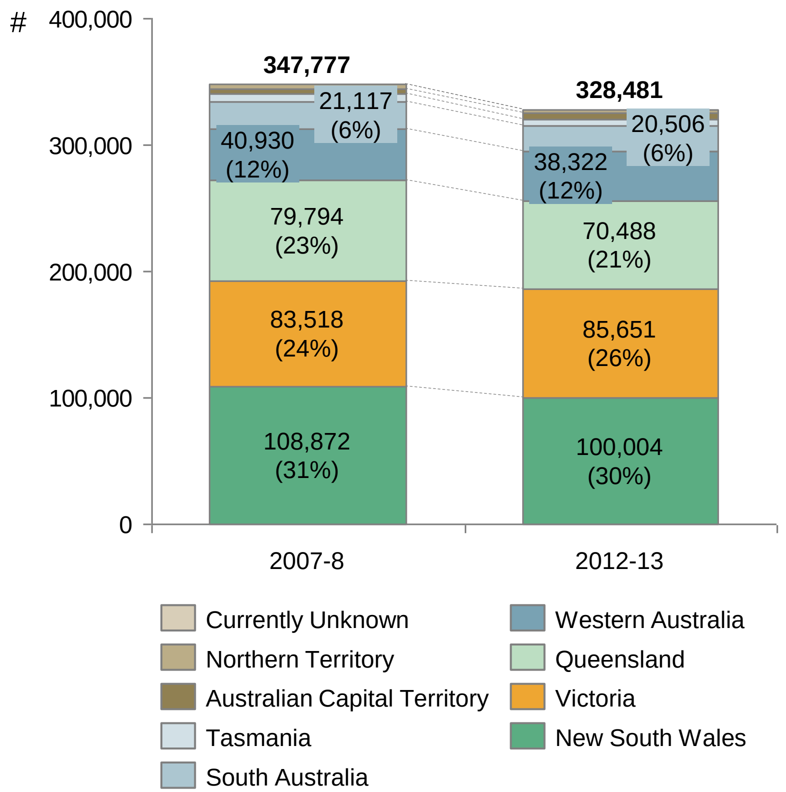


Source: ABS Counts of Australian businesses, 2009-13 by SA2 area and main Industry

Construction is dominated by sole operators and small firms, with small business numbers growing despite national decline

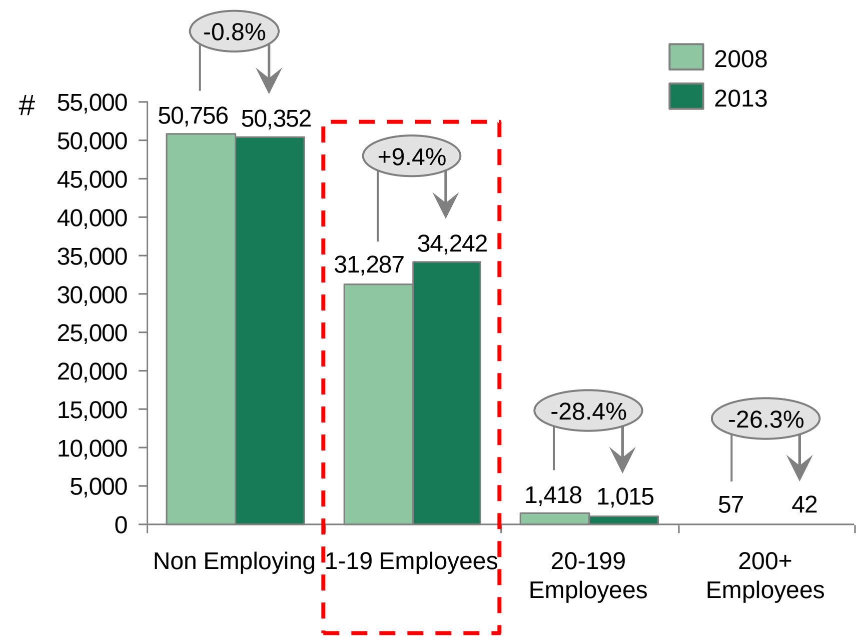
Slight consolidation of businesses across Australia, but not so in Victoria

Number of Construction businesses, Australia



Moderate growth in small businesses, but significant decline in larger businesses

Number of Construction businesses, Victoria, by employment size ranges

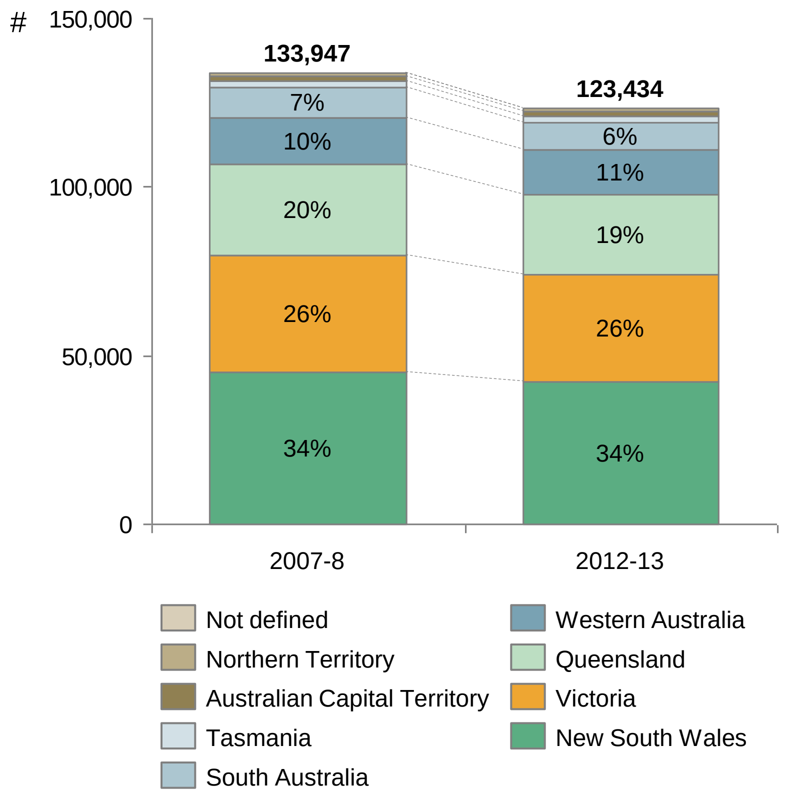


Please note that the total ABS Labour Force estimates are based on a small survey sample and should be interpreted with caution
Source: ABS Cat No. 6291 Labour Force, Australia, Detailed, Quarterly; ABS Cat 8165 counts of Australian businesses, 2013 and 2009; ABS Cat No. 81650 Counts of Australian Businesses, including Entries and Exits, Jun 2009 to Jun 2013

Transport, postal and warehousing businesses are decreasing in Victoria

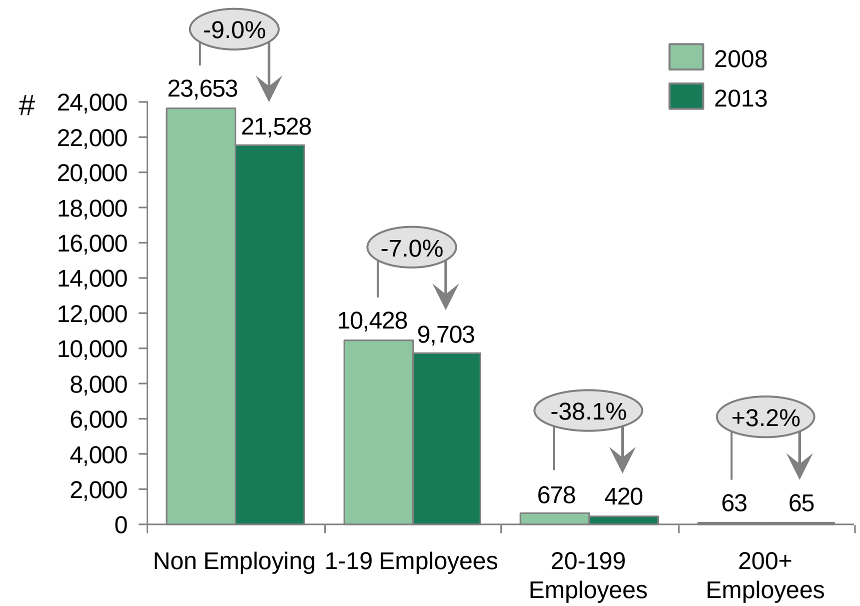
Number of transport, postal and warehousing businesses has reduced

Number of Transport, Postal and Warehousing businesses, Australia



Significant reduction in businesses across medium sized, but still dominated by non-employing

Number of Transport, Postal and Warehousing businesses, Victoria, by employment size ranges

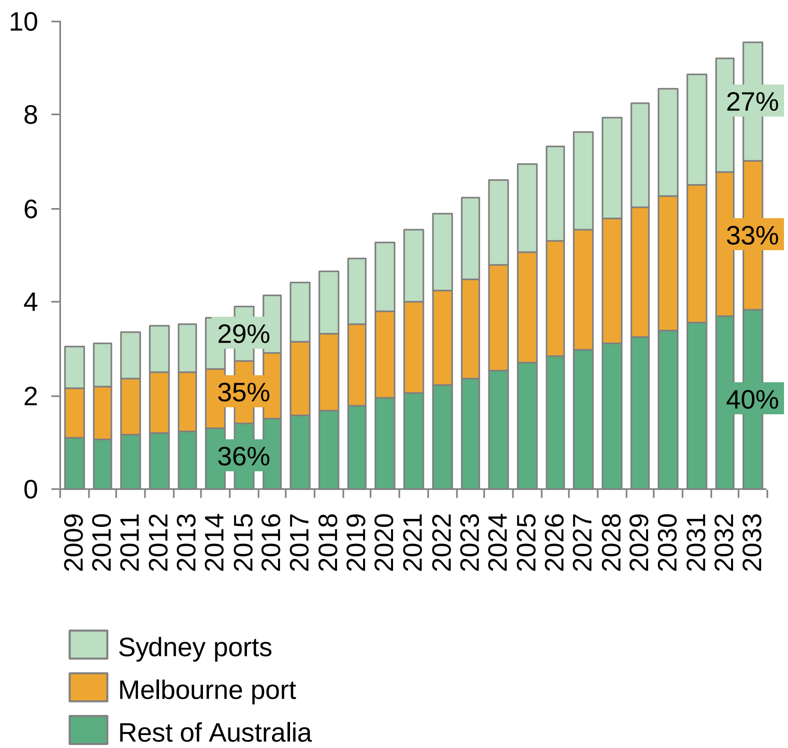


Please note that the total ABS Labour Force estimates are based on a small survey sample and should be interpreted with caution
Source: ABS Cat No. 6291 Labour Force, Australia, Detailed, Quarterly; ABS Cat 8165 counts of Australian businesses, 2013 and 2009; ABS Cat No. 81650 Counts of Australian Businesses, including Entries and Exits, Jun 2009 to Jun 2013

The Port of Melbourne has a strong share of container freight, but is forecast to decline slightly

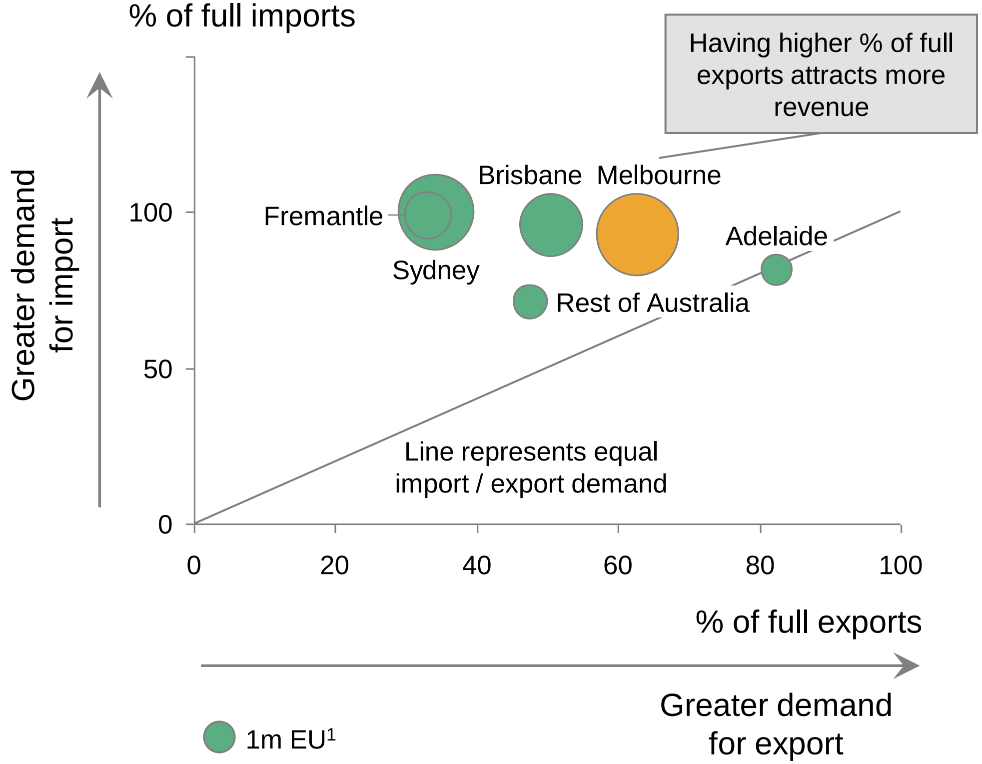
High growth expected in containerised freight, but Melbourne's share to decline

Containerised exports from Australia by port location



Melbourne will still be the best performing large containerised exporter by 2033

Percentage of full containers imported and exported, by port, forecast in 2033

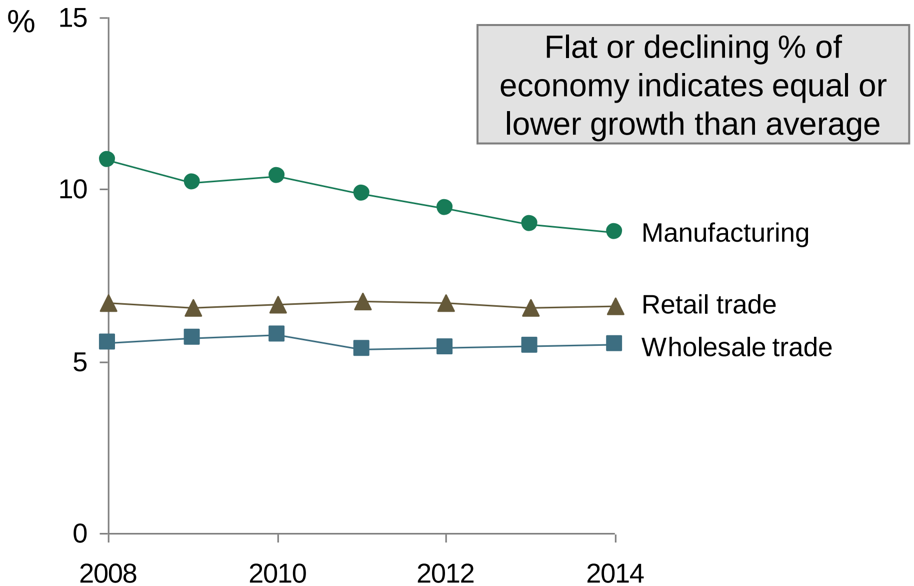


1. "EU" is quoted, elsewhere, reference is made to TEU which are twenty-foot equivalent units, a measure of container size
Source: Containerised and non-containerised trade through Australian ports to 2033, BITRE

TPW jobs may be adversely affected by lower performing adjacent industries and manufacturing decline

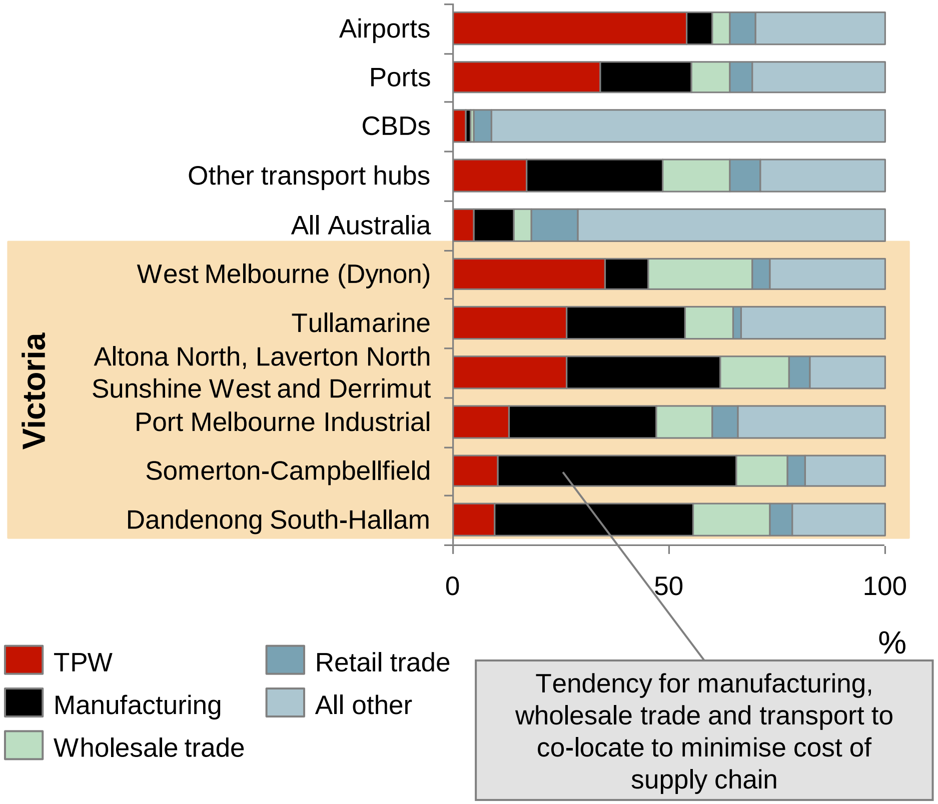
Industries adjacent to transport have not grown relative to the economy in recent years

% GVA of selected industries as % of Industry GVA (excludes dwellings), Victoria



Some Victorian transport hubs connected with manufacturing, which is likely to decline

Employment by industry in selected transport hubs[1] in Australia, 2011

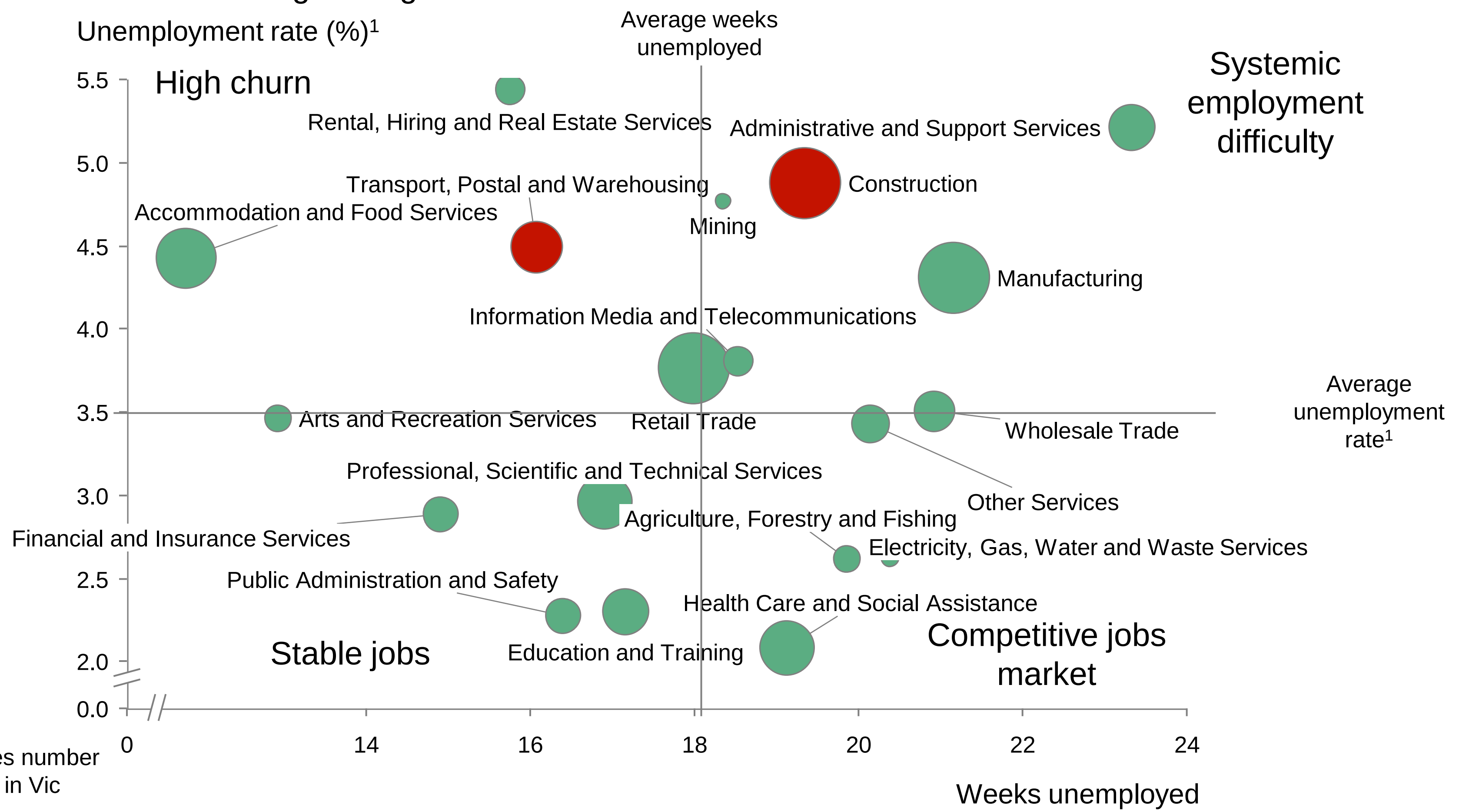


1. Defined as spatial clusters with at least 1500 jobs in TPW industry

Source: IMIS 2011 Victorian department of transport commercial vehicle video study; Aurecon 2014 NSW government Commercial vehicle video study; BITRE Information Sheet 58, Major transport employment hubs, 2014

Construction and TPW workers experience higher rates of unemployment than most other industries

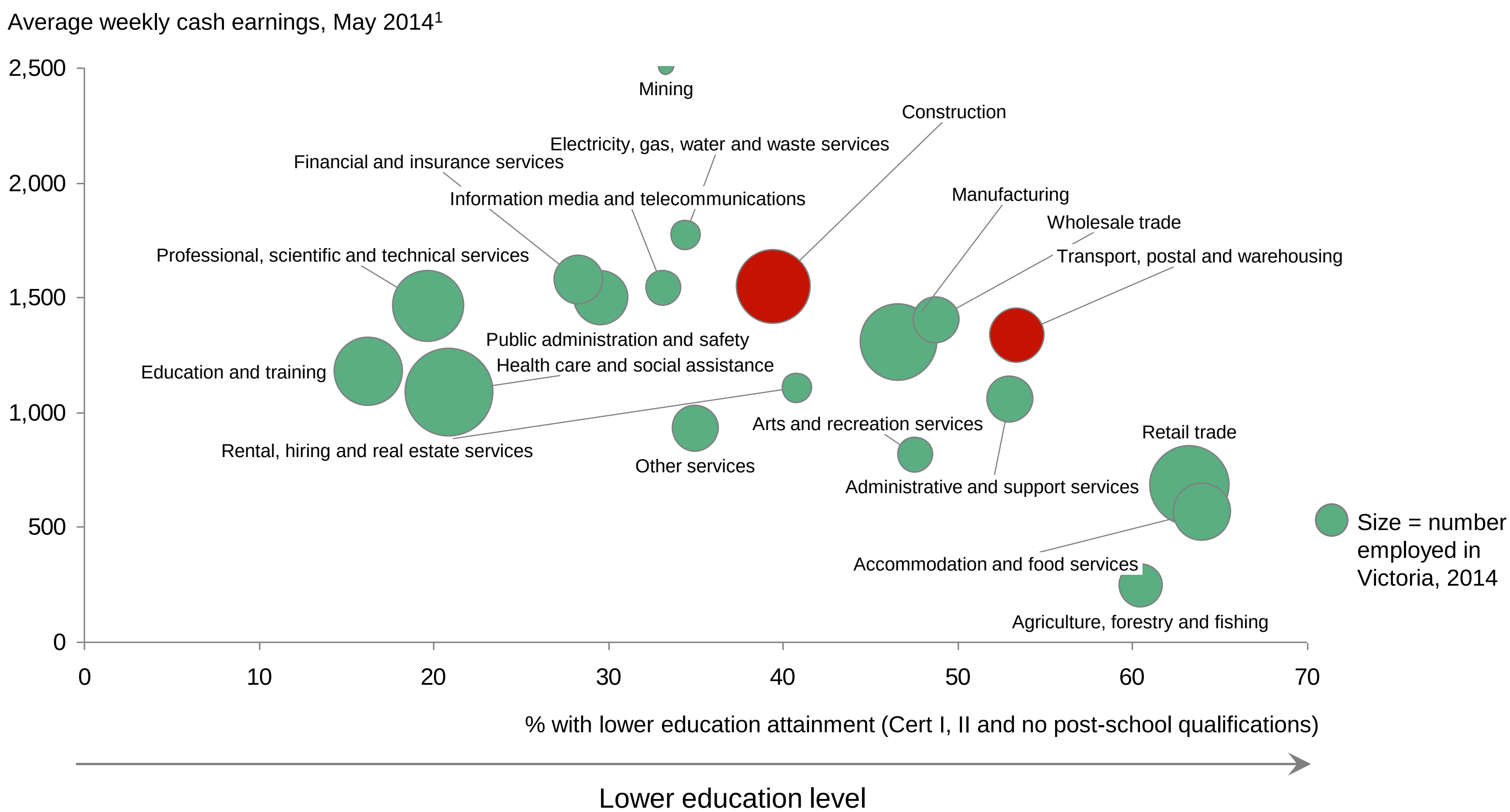
Victorian unemployment and weeks unemployed by industry, rolling average 2013[2]



1. Defined as last industry of employment for unemployed persons, and total employed in sector and unemployed persons as workforce total. Note that this excludes those unemployed for prolonged periods and those who have never worked 2. Using February 2013 – November 2013 4-quarter average
Source: ABS 6291.0.55.003 employment and unemployment data;

Construction workers are amongst highest paid despite moderate skill; lower skilled TPW workers paid less

Earnings and skill level by sector, 2014

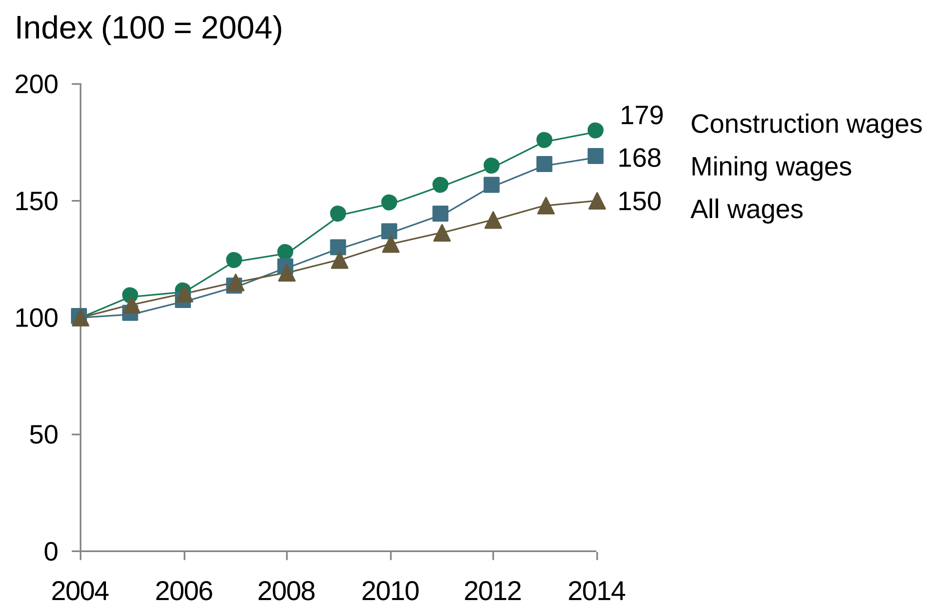


1. Not reported for agriculture, 2012-13 Industry data used instead – wages and salaries per employee divided by weeks per year
Source: ABS 8155.0; ABS 6306; ABS 6227

Construction wages have risen faster than mining wages, possibly to attract and retain workers in the mining boom

Construction wages have risen 79% since 2004, above mining and industry average

Australian wages for selected industries, indexed to November 2004 wage



Commentary

The high wages of the resources boom in WA and Qld attracted people from interstate, causing construction wages to rise in other states to attract and retain workers

It also had an effect of 'unlocking' inter-state construction markets as companies became more national-focused

- Before the mining boom, construction businesses mostly worked in their home states due to good understanding of local legislation and labour laws
- In the mining boom, companies chased opportunities interstate – even if not based in WA and Qld
- As a result, companies became more national-focused and began to bid for interstate construction work , making the industry more competitive and less regional

Rising construction wages are a risk to construction investment through a higher cost base

Source: ABS Weekly earnings by Industry, Australia time series, BCG industry expert

Competitiveness assessment

Transport, postal and warehousing

Competitive advantage

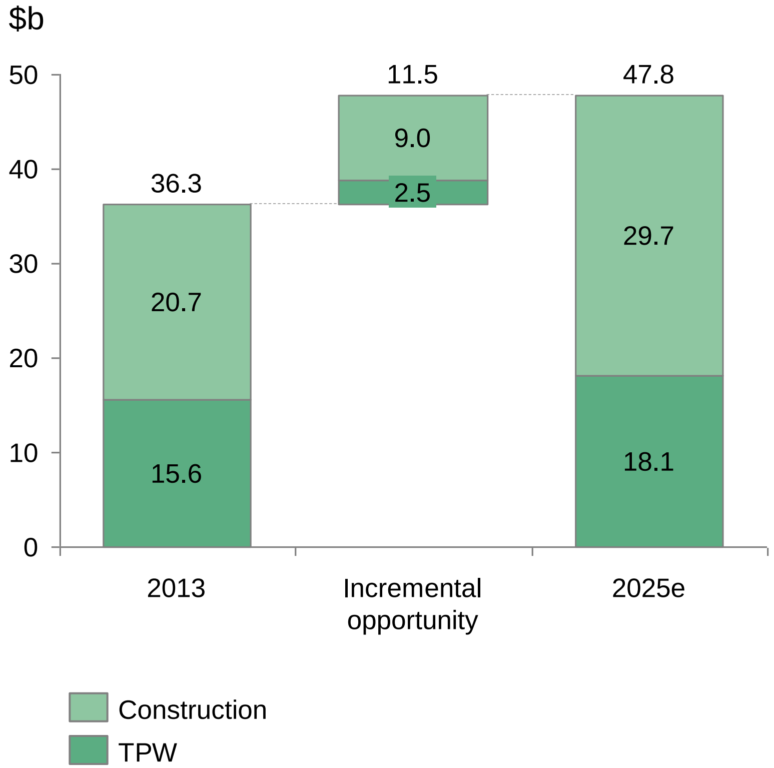
+	**Access to resources**	• Melbourne has attributes which support the transport sector (relatively affordable flat land, close to city with nearby transport infrastructure, e.g. western suburbs of Melbourne) • An older and relatively low skilled workforce provides labour as the sector expands
+	**Infrastructure and regulatory systems**	• A high quality airport, with significant capacity and no curfew, but capacity constraints in travel to / from airport • Australia's largest container port (Port of Melbourne) • Efficient transport supply chains with good road and rail connections to ports, freight precincts and distribution centres – however, some risks from a single arterial road (M1) for freight movement cross city • Large public transport system, but with increasing capacity constraints
+	**Scale**	• Several large-scale transport players are based in Melbourne • Melbourne has the largest containerised port in Australia (though relatively small on a global scale) • A large number of SMEs tend to face challenges reaching scale
+	**Market position**	• Melbourne is recognised as key containerised freight hub and has a high-quality gateway airport • Strong trade relationships with Asia • Recent FTAs with Japan, Korea, and China are opening new trade channels, but non-tariff barriers remain • Key players (eg Toll, Linfox) have strong networks and capability in Asia
~	**Innovation**	

Key ++ Significant strength + Advantaged ~ On par globally – Disadvantaged – – Significant barrier or risk

If historic growth continues, Victoria could see an extra $11.5b GVA and 76k construction and TPW jobs by 2025

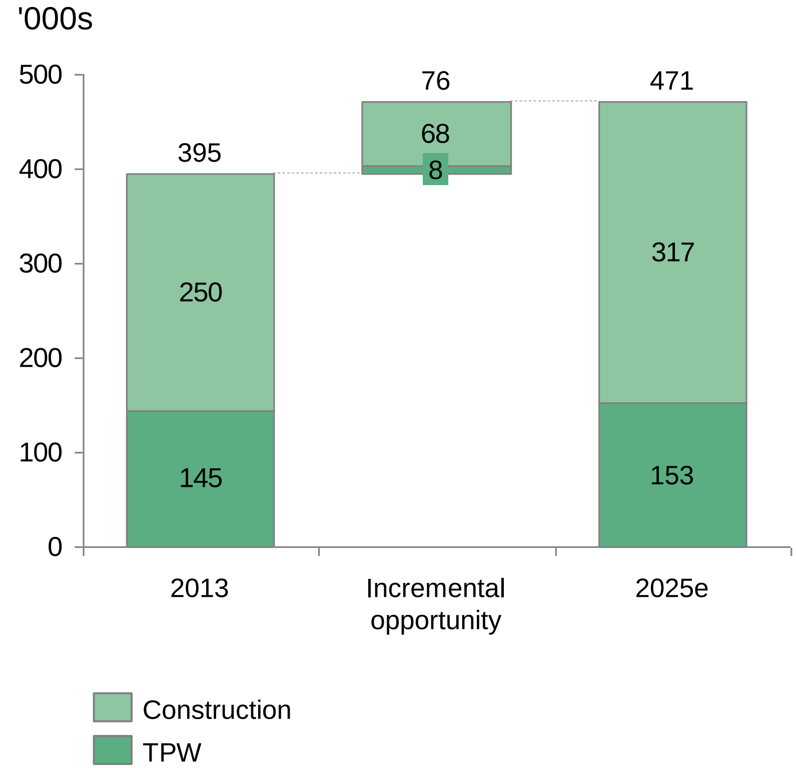
GVA could increase by $11.5b...

Real GVA forecast to 2025, transport and construction, Victoria



...while jobs could rise by 76k

Jobs forecast to 2025, transport and construction, Victoria

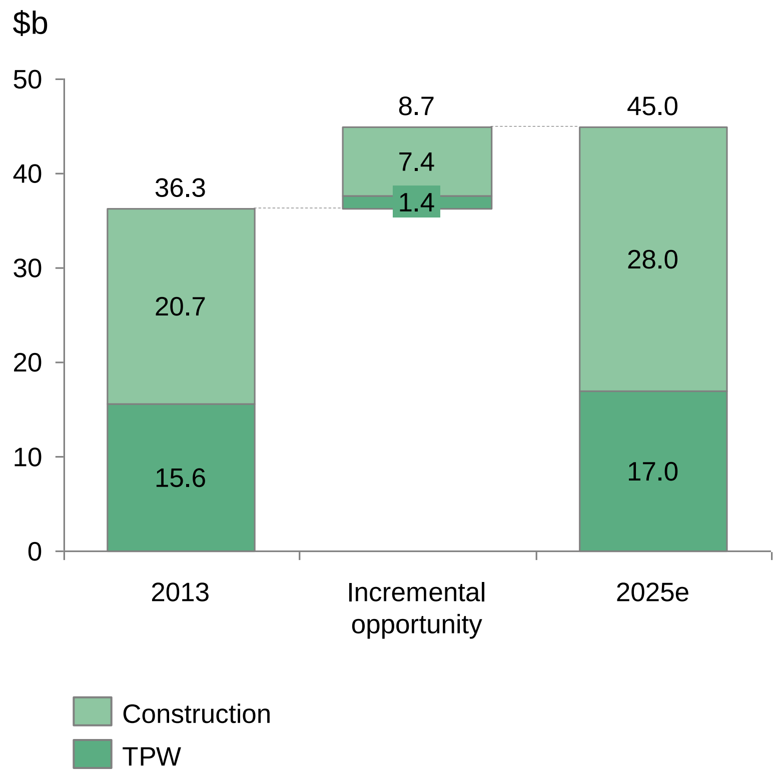


Assumptions: Historic growth rates (09-14) as forecast growth rates, GVA and jobs
Source: BCG analysis

Slower population growth and decline in industries adjacent to TPW would deliver $8.7b more GVA and 48k jobs

GVA growth is dampened if population growth slows and TPW clients decline

Real GVA forecast to 2025, transport and construction, Victoria



This scenario delivers only 48k additional jobs, all in construction

Jobs forecast to 2025, transport and construction, Victoria

Assumptions: Construction - Historic growth rates (09-14), less 0.5% due to potential differential in population growth forecast (forecast is 1.8%; 20Y CAGR is 1.3%); TPW – forecast to grow at combined weighted average of manufacturing, retail and wholesale trade GVA historic (09-14) growth, and jobs forecast to grow in line with historic productivity gains (GVA/worker growth)
Source: BCG analysis

Potential government actions for growth

Construction, and transport, postal and warehousing (TPW)

Challenge	Potential actions
Potential slowing of investment	• Lobbying Commonwealth to ensure continued strong migration flows • Taxation reform, particularly of real estate, for construction industry • Ensure planning frameworks support ongoing development of infrastructure (eg. warehousing) • Ongoing work to ensure growth of international air links
Innovation in the face of high costs	• Explore how ICT/digital technologies can support improvements in sector • Support initiatives to bring construction costs back in line with broader economy
Lack of supporting infrastructure investment	• Investment in core roads infrastructure to ensure capacity growth in freight/transport sector • Targeted state-wide planning and infrastructure investment (e.g. freight road and rail upgrades, and particularly roads)
Limited skill level of workforce	• Targeted initiatives to raise awareness of employment opportunities in the transport sector (for unskilled workers) • Ongoing support for skills development for the construction workforce
Increased competition for import/export hubs	• Ongoing branding and marketing coordination – quality of port, freight and air transport access are strengths which need continued promotion

Questions to be answered

Construction and transport, postal and warehousing (TPW)

Construction industry	• What steps can be taken to ensure skills development in the construction sector? • Are there government initiatives that would increase the efficiency of the construction sector?
Building construction	• What are the key drivers of residential housing over next 5 years and what capacity does Victorian government have to influence them? • What are the implications of resurgent NSW for interstate migration flows? • What are the levers available to influence immigration flows?
Infrastructure construction	• What infrastructure is needed to sustain Victoria's population and businesses? • How will future infrastructure investment be prioritised and funded?
Transport	• How can Melbourne/Victoria maintain a strong position as transport/freight leader in Australia? – What steps can be taken to ensure that core road infrastructure is developed to meet expected levels of demand? Will current government plans meet these needs? – Is there sufficient land available, in the right place, to support ongoing growth? If not, are planning changes needed to support this growth? • How can Victoria encourage more direct flights to Melbourne (transport and tourism benefits)? • Will the current unskilled workforce continue to meet the needs of transport sector? Will broader up-skilling be required?

Disclaimer

The services and materials provided by The Boston Consulting Group (BCG) are subject to BCG's Standard Terms (a copy of which is available upon request) or such other agreement as may have been previously executed by BCG. BCG does not provide legal, accounting, or tax advice. The Client is responsible for obtaining independent advice concerning these matters. This advice may affect the guidance given by BCG. Further, BCG has made no undertaking to update these materials after the date hereof, notwithstanding that such information may become outdated or inaccurate.

The materials contained in this presentation are designed for the sole use by the board of directors or senior management of the Client and solely for the limited purposes described in the presentation. The materials shall not be copied or given to any person or entity other than the Client ("Third Party") without the prior written consent of BCG. These materials serve only as the focus for discussion; they are incomplete without the accompanying oral commentary and may not be relied on as a stand-alone document. Further, Third Parties may not, and it is unreasonable for any Third Party to, rely on these materials for any purpose whatsoever. To the fullest extent permitted by law (and except to the extent otherwise agreed in a signed writing by BCG), BCG shall have no liability whatsoever to any Third Party, and any Third Party hereby waives any rights and claims it may have at any time against BCG with regard to the services, this presentation, or other materials, including the accuracy or completeness thereof. Receipt and review of this document shall be deemed agreement with and consideration for the foregoing.

BCG does not provide fairness opinions or valuations of market transactions, and these materials should not be relied on or construed as such. Further, the financial evaluations, projected market and financial information, and conclusions contained in these materials are based upon standard valuation methodologies, are not definitive forecasts, and are not guaranteed by BCG. BCG has used public and/or confidential data and assumptions provided to BCG by the Client. BCG has not independently verified the data and assumptions used in these analyses. Changes in the underlying data or operating assumptions will clearly impact the analyses and conclusions.

BCG
THE BOSTON CONSULTING GROUP

Thank you

bcg.com | bcgperspectives.com